Exemplary embodiments provide a technique that processes captured images derived from selected targeted objects in a field of view. The captured images may be transferred via a communication link to a storage location for future availability. A possible aspect may provide a cross-reference association between saved multiple exposures having different quality characteristics. In some instances, an identifier record is provided to enable future accessibility to selected captured data by one or more authorized parties or approved devices or authorized recipients. In some embodiments, the captured data may include both a video data stream and one or more still image frames derived from related fields of view. Stored versions of the captured images may be provided in original or altered form to be incorporated in a composite visual work.
accepting first data representing a first imagery aspect of an object, wherein the first data includes first bracketing data characterized by a first bracketing parameter, and second data representing a second imagery aspect of the object, wherein the second data includes second bracketing data characterized by a second bracketing parameter.

combining at least a portion of the first data and at least a portion of the second data.

deriving third data from the combining at least a portion of the first data and at least a portion of the second data.
FIG. 6

accepting first data representing a first imagery aspect of an object, wherein the first data includes first bracketing data characterized by a first bracketing parameter, and second data representing a second imagery aspect of the object, wherein the second data includes second bracketing data characterized by a second bracketing parameter

301 wherein the first bracketing parameter and/or the second bracketing parameter include an f-stop setting of a sensor

304 wherein the first bracketing parameter and/or the second bracketing parameter include a frequency and/or a wavelength setting of a sensor

308 wherein the first bracketing parameter and/or the second bracketing parameter include a white balance setting of a sensor

302 wherein the first bracketing parameter and/or the second bracketing parameter include an exposure setting of a sensor

306 wherein the first bracketing parameter and/or the second bracketing parameter include a focus setting of a sensor

309 wherein the first bracketing parameter and/or the second bracketing parameter include a flash setting of a sensor
FIG. 7

- Deriving third data from the combining at least a portion of the first data and at least a portion of the second data.
- Deriving third data representing an object.
- Comparing at least a portion of the first data with at least a portion of the second data.
- Applying a mathematical algorithm to at least a portion of the first data and at least a portion of the second data.
FIG. 8

1100

Saving a digital image in a form in a user-accessible storage medium.

1110

1120

Alterning the form of the saved digital image if a condition is met.

1122

Compressing the saved digital image.

1124

Reducing a resolution of the saved digital image.

1126

Reducing a resolution of the saved digital image sufficiently to meet a selected objective.

1128

Aggregating the saved digital image with another digital image.

1132

Archiving the saved digital image to another digital storage medium.

1134

Deleting the saved digital image.

1136

Cropping the saved digital image.

1138

Transferring the saved digital image to another user-accessible medium.

1142

Altering the form of the saved digital image if the saved digital image includes a presence of a subject.

1144

Altering the form of the saved digital image if the saved digital image does not include a presence of a selected subject.

1146

Altering the form of the saved digital image if the saved digital image includes a selected subject having a presence in at least one other digital image saved in the digital storage medium.

1148

Altering the form of the saved digital image if the saved digital image includes a selected subject absent from at least one other digital image saved in the digital storage medium.
FIG. 12

1500

receiving data at a separate storage facility via a communication link from one or more transmitting devices, which data includes selected captured data

1501

1502

maintaining some or all of the selected captured data at the separate storage facility as a saved version that is stored in accordance with a safekeeping arrangement

1503

confirming a storage access protocol wherein an identifier record provides a specified identification of an applicable storage organization category

1504

enabling restricted future access to the saved version of the selected captured data in accordance with the safekeeping arrangement by providing an operable coupling between the identifier record and the applicable storage organization category of the separate storage facility
FIG. 13

1505 receiving data at a separate storage facility via a communication link from one or more transmitting devices, which data includes selected captured data

1501 maintaining some or all of the selected captured data at the separate storage facility as a saved version that is stored in accordance with a safekeeping arrangement

1503 confirming a storage access protocol wherein an identifier record provides a specified identification of an applicable storage organization category

1504 enabling restricted future access to the saved version of the selected captured data in accordance with the safekeeping arrangement by providing an operable coupling between the identifier record and the applicable storage organization category of the separate storage facility

1506 establishing the identifier record generated by a transmitting device

1507 establishing the identifier record generated by the separate storage facility

1509 providing the future access via a communication channel with an authorized user associated with a transmitting device or other approved device

1510 providing the future access via a communication channel with an authorized third party

1512 activating the future access in response to a recognizable query from a transmitting device or other approved device

1513 activating the future access in response to a recognizable query from an authorized user associated with a transmitting device or from an authorized user associated with an approved device

1514 activating the future access in response to a recognizable query from an authorized third party
FIG. 15

1530 maintaining some or all of the selected captured data at the separate storage facility as a saved version that is stored in accordance with a safekeeping arrangement

1531 implementing a storage format for the saved version of the selected captured data based on substantially non-altered data components

1532 implementing a storage format for the saved version of the selected captured data based on regenerated or transformed data components

1533 providing an exemplar or abbreviation or indicia that is recognized by an authorized party and that is operably coupled to the identifier record to facilitate a storage management task concerning the saved version of the selected captured data

1534 providing one or more of the following type of exemplar or abbreviation or indicia: symbol, code, name, title, icon, date, excerpt, characteristic, form, alternate format, listing, reorganization, aggregation, summary, reduction, representation, sample, thumbnail, image, preview, group specimen, sub-group element, unique, non-unique, arbitrary, global, semantic, public, private, encoded

1535 enabling restricted future access to the saved version of the selected captured data in accordance with the safekeeping arrangement by providing an operable coupling between the identifier record and the applicable storage organization category of the separate storage facility

1536 processing the storage management task initiated by one or more of the following: owner of separate storage facility, operator of separate storage facility, transmitting device user, transmitting device, authorized party, approved device, recipient party

1537 processing the selected captured data to accomplish an allocation of the selected captured data among one or more storage organization categories, which allocation is determined by the authorized user associated with a transmitting device

1538 processing the selected captured data to accomplish an allocation of the selected captured data among one or more storage organization categories, which allocation is determined by an entity responsible for the separate storage facility
FIG. 16

receiving data at a separate storage facility via a communication link from one or more transmitting devices, which data includes selected captured data

maintaining some or all of the selected captured data at the separate storage facility as a saved version that is stored in accordance with a safekeeping arrangement

confirming a storage access protocol wherein an identifier record provides a specified identification of an applicable storage organization category

implementing one or more of the following types of storage organization guidelines to facilitate future access by an authorized party or approved device or recipient party: original high resolution, permanent high resolution, temporary high resolution, lower resolution, temporary lower resolution, permanent lower resolution, deleted high resolution, deleted lower resolution, deleted content, included content, excluded content, subject matter, event, author, creator, participant, redundancy, repetition, quality, size, resolution, fidelity, tagged, preview, sample, group, sub-group, composite group, individual, personage, entity, item, content, composition, summary, augmentation, attribute, content category, frequency, inventory

enabling restricted future access to the saved version of the selected captured data in accordance with the safekeeping arrangement by providing an operable coupling between the identifier record and the applicable storage organization category of the separate storage facility

providing the different storage organization categories based at least in part on one or more of the following type of parameters: temporal, available device memory, available storage location memory, user selected, device limitation, storage location requirement, and recipient choice

receiving the selected captured data at one or more of the following types of storage facilities: backup, archive, removable, rewritable, permanent, server, base station, network storage, web site, central, integrated, distributed, dispersed, fragmented, non-altered, transformed, encoded, bitmap, compression, volatile, replicated, third party, storefront, mobile, vehicle, residence, office, shared, proprietary, and rights-managed
FIG. 17

1501 receiving data at a separate storage facility via a communication link from one or more transmitting devices, which data includes selected captured data

1502 maintaining some or all of the selected captured data at the separate storage facility as a saved version that is stored in accordance with a safekeeping arrangement

1503 confirming a storage access protocol wherein an identifier record provides a specified identification of an applicable storage organization category

1504 providing one or more of the following types of identifier records to facilitate access to the saved version of the selected captured data: exemplar, abbreviation, indicia, symbol, code, name, title, icon, date, excerpt, characteristic, form, alternate format, listing, reorganization, aggregation, summary, reduction, representation, sample, thumbnail, image, preview, group specimen, sub-group element, unique, non-unique, arbitrary, global, semantic, public, private, and encoded

1505 enabling an authorized party or approved device or recipient party to locate the saved version and/or execute a storage management task concerning the saved version of the selected captured data by reference to the identifier record

1506 receiving one or more of the following types of selected captured data at the separate storage location: text, image, graphics, voice, music, sound, audio, video, audio/visual, monochrome, color, data log, measurement, instruction, biomedical, financial, sensor, environmental, personal, public, transactional, shopping, commercial, security, automotive, device-diagnostic, game, virtual world

1507 receiving some or all of the selected captured data to be saved at the separate storage location based at least in part on a set of rules configured by an authorized user associated with the transmitting device

1508 receiving one or more of the following types of selected captured data at the separate storage location: still image, image stream, and combination of still image and image stream
provide a computer program product having one or more computer programs for executing the following process:

retaining at a separate storage facility for future availability some selected captured data having a given quality characteristic, which selected captured data is received via a communication link with a capturing device.

implementing a storage protocol for keeping a saved version of the selected captured data at the separate storage facility, which storage protocol includes different organization categories.

providing an identifier record that is operably coupled to one or more of the different organization categories.

enabling future accessibility by an authorized user or approved device or recipient party to the selected captured data pursuant to the storage protocol.
FIG. 20

1650. Providing a separate storage facility that receives selected captured data via a communication link from at least one transmitting capture device, which capture device includes local memory capacity.

1651. Maintaining some or all of the selected captured data at the separate storage facility as an inventory data version that is stored in accordance with a safekeeping arrangement.

1652. Providing different status categories to identify the inventory data version of the selected captured data.

1653. Establishing future accessibility guidelines in accordance with the safekeeping arrangement to control back and forth data transferability between the separate storage facility and an external unit.

1654. Implementing the future accessibility guidelines based on an applicable attribute associated with the external unit.
maintaining some or all of the selected captured data at the separate storage facility as an inventory data version that is stored in accordance with a safekeeping arrangement

providing different status categories to identify the inventory data version of the selected captured data

establishing future accessibility guidelines in accordance with the safekeeping arrangement to control back and forth data transferability between the separate storage facility and an external unit

establishing programmed guidelines that require no user intervention for transferring certain selected captured data from the at least one transmitting capture device to the separate storage facility

implementing the future accessibility guidelines based on an applicable attribute associated with the external unit

providing an external unit that also functions as a transmitting capture device

establishing flexible guidelines that allow user intervention for determining whether to transfer certain selected captured data to the separate storage facility

establishing flexible guidelines that allow user intervention for determining whether to redirect certain selected inventory data versions from the separate storage facility to an external unit

establishing flexible guidelines that allow user intervention for determining whether to redirect certain selected inventory data versions from the separate storage facility to an authorized recipient party
FIG. 22

- Maintaining some or all of the selected captured data at the separate storage facility as an inventory data version that is stored in accordance with a safekeeping arrangement.

- Providing different status categories to identify the inventory data version of the selected captured data.

- Establishing future accessibility guidelines in accordance with the safekeeping arrangement to control back and forth data transferability between the separate storage facility and an external unit.

- Implementing the future accessibility guidelines based on an applicable attribute associated with the external unit.

- Transferring selected captured data from the external unit to the separate storage facility based on insufficient local memory capacity of the external unit.

- Transferring selected captured data having a particular quality characteristic from an external unit to the separate storage facility based on a deficient operational quality capability of the external unit.

- Transferring selected captured data from an external unit to the separate storage facility based on a failure to obtain confirmation of an authorized user at the external unit.

- Transferring an inventory data version having a particular quality characteristic from the separate storage facility to an external unit based on a matching operational quality capability of the external unit.

- Transferring an inventory data version from the separate storage facility to an external unit based on an identity confirmation of an authorized user at the approved external unit.
FIG. 23

1680 maintaining some or all of the selected captured data at the separate storage facility as an inventory data version that is stored in accordance with a safekeeping arrangement

1652 providing different status categories to identify the inventory data version of the selected captured data

1653 establishing future accessibility guidelines in accordance with the safekeeping arrangement to control back and forth data transferability between the separate storage facility and an external unit

1654 implementing the future accessibility guidelines based on an applicable attribute associated with the external unit

1655 transferring selected captured data from an external unit to the separate storage facility based on confirmation of the external unit's location in a restricted area

1682 preventing transfer of an inventory data version from the separate storage facility to an external unit based on a failure to obtain confirmation of an authorized user at the external unit

1683 preventing transfer of an inventory data version from the separate storage facility to an external unit based on confirmation of the external unit's location in a restricted area

1656 providing topical and sub-topical categories for grouping inventory data versions

1684 establishing a guideline for redirecting certain inventory data versions to an authorized recipient party

1685 incorporating certain inventory data versions in more than one status category

1686 establishing a guideline for redirecting certain inventory data versions to an approved device.
FIG. 24

- maintaining some or all of the selected captured data at the separate storage facility as an inventory data version that is stored in accordance with a safekeeping arrangement
- providing different status categories to identify the inventory data version of the selected captured data
  - providing different quality characteristic categories for grouping inventory data versions
  - establishing future accessibility guidelines in accordance with the safekeeping arrangement to control back and forth data transferability between the separate storage facility and an external unit
  - implementing the future accessibility guidelines based on an applicable attribute associated with the external unit
  - providing an identifier record operably coupled to one or more status categories of inventory data versions
  - changing a status category of inventory data versions based on a lack of usage over a period of time
  - enabling access to the identifier record by an authorized user or approved device or recipient party to accomplish a storage management task regarding the selected captured data
  - enabling access to the identifier record by an owner or operator of the separate storage facility to accomplish a storage management task regarding the selected captured data
  - changing a status category of inventory data versions based on instructions from an authorized user
  - enabling a storage management task initiated from an external unit to cause selected captured data to be off-loaded to the separate storage facility, or to cause inventory data versions to be down-loaded to an external unit, or to cause certain inventory data versions to be redirected to an authorized recipient party
  - enabling a storage management task initiated from the separate storage facility to cause selected captured data to be off-loaded to the separate storage facility, or to cause inventory data versions to be down-loaded to an external unit, or to cause certain inventory data versions to be redirected to an authorized recipient party
FIG. 26

providing a separate storage facility that receives selected captured data via a communication link from at least one transmitting capture device, which capture device includes local memory capacity

maintaining some or all of the selected captured data at the separate storage facility as an inventory data version that is stored in accordance with a safekeeping arrangement

providing different status categories to identify the inventory data version of the selected captured data

establishing future accessibility guidelines in accordance with the safekeeping arrangement to control back and forth data transferability between the separate storage facility and an external unit

implementing the future accessibility guidelines based on an applicable attribute associated with the external unit

enabling a programmed selection of the captured data to be saved on storage media at the separate storage location based at least in part on making the captured data available for processing prior to a transfer from the at least one transmitting capture device

making a selection of the captured data to be saved on storage media at the storage location based at least in part on a set of rules configured by an owner or operator of the separate storage location

employing one or more of the following features for making the captured data available to an authorized party prior to the transferring: printout, screen display, viewfinder display, display monitor, thumbnail display, removable memory, device memory, audio, tactile, alert, notification, transmittal to other device, instructional

maintaining the selected captured data at the separate storage facility in accordance with a quality downgrade schedule
provide a computer program product having one or more computer programs for executing the following process:

1. Receiving selected captured data at a separate storage facility via a communication link from a transmitting capture device.

2. Providing status categories to identify an inventory data version of the selected captured data.

3. Implementing a safekeeping arrangement for restricted back and forth transferability between the separate storage facility and an approved external unit.

4. Evaluating one or more applicable attributes associated with the external unit as a basis for downloading a particular inventory data version of the selected captured data to the approved external unit.
FIG. 28

1715 - 1725

coordinating contemporaneous operation of a video capture module and a still image capture module,

1727

operating a video capture module having specified quality parameters to generate a video data stream derived from a particular field of view

1728

also operating a still image capture module to generate one or more still image frames derived from a related field of view, wherein the still image capture module includes dissimilar quality capabilities compared to the video capture module;

1729

allowing ongoing capture of a video data stream incorporated in a video image format and also facilitating periodic capture of one or more still image frames incorporated in a still image format, wherein the video image format and the still image format include one or more different features, respectively
providing a video capture module with specified quality parameters

capturing a video data stream incorporated in a video mode format, which video data stream is derived from a particular field of view of the video capture module

providing a still image capture module with given quality capabilities

enabling coordinated operation of the video capture module and the still image capture module regarding their respective fields of view

activating the still image capture module to periodically capture one or more still image frames incorporated in a still mode format that includes one or more different features as compared to the video mode format
FIG. 30

providing a video capture module with specified quality parameters

providing a still image capture module with given quality capabilities

enabling coordinated operation of the video capture module and still image capture module regarding their respective fields of view

activating the still image capture module to periodically capture one or more still image frames incorporated in a still mode format that includes one or more different features as compared to the video mode format

storing the one or more still image frames as a digital object associated with a stored version of the video data stream

incorporating one or more of the following different quality capabilities in the still image capture module: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, preview display, post-capture display, high Q storage media, low Q storage media, removable storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, volatile memory, permanent memory, post-capture editing, meta-data

storing the one or more still image frames as a digital object distinct from a stored version of the video data stream

providing a tag that identifies at least one video frame captured at approximately the same time as the one or more still image frames.
FIG. 31

- Providing a video capture module with specified quality parameters
- Capturing a video data stream incorporated in a video mode format, which video data stream is derived from a particular field of view of the video capture module
- Providing a still image capture module with given quality capabilities
- Enabling coordinated operation of the video capture module and still image capture module regarding their respective fields of view
- Incorporating at least one given quality capability in the still image capture module, which given quality capability has an operational range of variable image capture attributes that is different as compared to an operational range of corresponding variable video capture attributes

- Activating the still image capture module to periodically capture one or more still image frames incorporated in a still mode format that includes one or more different features as compared to the video mode format

- Providing a shutter speed interval for the still image capture module that is different from a concurrent frame frequency interval for the video capture module

- Providing the shutter speed interval that is greater than the concurrent frame frequency interval for the video capture module

- Enabling a manually actuated shutter to periodically capture the one or more still image frames

- Enabling an activation control for the manually actuated shutter, which activation control is located remotely from the still image module

- Incorporating the given quality capability having the operational range of variable image capture attributes that is partially overlapping with the operational range of corresponding variable video capture attributes
FIG. 32

1731 providing a video capture module with specified quality parameters

1732 capturing a video data stream incorporated in a video mode format, which video data stream is derived from a particular field of view of the video capture module

1733 providing a still image capture module with given quality capabilities

1736 activating the still image capture module to periodically capture one or more still image frames incorporated in a still mode format that includes one or more different features as compared to the video mode format

1760

1761 incorporating in the video capture module a default quality parameter that cannot be altered

1763 enabling programmed or automated selection of an optional quality parameter incorporated in the video capture module

1762 enabling user selection of an optional quality parameter incorporated in the video capture module

1764 incorporating in the still image capture module a default quality capability that cannot be altered

1766 enabling programmed or automated selection of an optional quality capability incorporated in the still image capture module

1765 enabling user selection of an optional quality capability incorporated in the still image capture module

1767 providing a user-actuated selection of a variable image capture attribute of the one or more still image frames

1768 providing a programmed or automated selection of a variable image capture attribute of the one or more still image frames

1769 enabling a display of thumbnail exemplars of the one or more still image frames
FIG. 34

providing a video capture module with specified quality parameters

activating the still image capture module to periodically capture one or more still image frames incorporated in a still mode format.

obtaining a still mode format having one or more of the following type of different visual elements as compared to the video mode format: aspect ratio, color space, resolution, dynamic range, pixel depth.

enabling programmed or automated selection of one or more types of different visual elements included in the still mode format

incorporating in the still mode format a default visual element that cannot be altered.
FIG. 36

operating a video capture module having specified quality parameters to generate a video data stream derived from a particular field of view

also operating a still image capture module to generate one or more still image frames derived from a related field of view, wherein the still image capture module includes dissimilar quality capabilities compared to the video capture module

allowing ongoing capture of a video data stream incorporated in a video image format and also facilitating periodic capture of one or more still image frames incorporated in a still image format, wherein the video image format and the still image format include one or more different features, respectively

enabling user selection or programmed selection or automatic selection of an optional quality parameter incorporated in the video capture module

enabling user coordination or programmed coordination or automated coordination of the related fields of view of the video capture module and the still image capture module

selectively activating one or more of the following features in either the still image capture module or in the video capture module: zoom in, zoom out, close-up, distant, fixed field of view, variable field of view, wide angle view, diminished angle view, ancillary device, added filter, omitted filter, ancillary illumination, higher quality image, lower quality image, high resolution capture, high resolution storage, low resolution capture, low resolution storage, ID indicia, wireless transfer, hardcopy output, thumbnail display, sensor, monitor, detector

selectively activating a still image capture feature that is not concurrently activated in the video capture module

selectively activating a video capture feature that is not concurrently activated in the still image capture module
provide a computer program product having instructions for executing the following process:

- providing coordinated operation of a video capture module having specified quality parameters with operation of a still image capture module having dissimilar quality capabilities as compared to the video capture module,

- allowing ongoing capture of a video data stream incorporated in a video image format and derived from a particular field of view,

- facilitating periodic capture of one or more still image frames incorporated in a still image format and derived from a related field of view, wherein the video image format and the still image format include one or more different features, respectively.
creating a video data stream derived from a field of view of a video capture component

capturing one or more still image frames derived from a related field of view of a still image capture component, wherein the one or more still image frames include different quality characteristics compared to the video data stream

providing a cross-reference association between the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame
obtaining a portion of video data stream derived from a field of view of a video capture component

initiating a capture of one or more still image frames derived from a related field of view of a still image capture component

generating a stored version of the captured still image frames, which stored version includes different quality characteristics compared to a stored version of the video data stream

providing a cross-reference association between the stored versions of the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame
FIG. 43

1930 creating a video data stream derived from a field of view of a video capture component

1931 coordinating the creating of the video data stream with the capturing one or more still image frames to facilitate establishing an identifier tag as at least a partial basis for implementing the cross-reference association

1933 establishing one or more of the following types of identifier tags: time stamp, date stamp, background, view location, project name, topic, client, video component, still component, component specification, storage media, storage location, component operator, participant, indicia ID, sequence numeral, thumbnail link, index listing, acronym, abbreviation, pointer link, hyper-link, icon, barcode

1934 establishing a default identifier tag that cannot be altered

1935 enabling a programmed or automated coordination of the related fields of view of the video capture component and the still image capture component

1936 enabling user selection of the identifier tag

1937 enabling programmed or automated selection of the identifier tag

1938 providing a cross-reference association between the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame

1939 allowing a user-actuated override to change the programmed or automated coordination of the related fields of view

1940 capturing one or more still image frames derived from a related field of view of a still image capture component, wherein the one or more still image frames include different quality characteristics compared to the video data stream
FIG. 45

1950

creating a video data stream derived from a field of view of a video capture component

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1912

capturing one or more still image frames derived from a related field of view of a still image capture component, wherein the one or more still image frames include different quality characteristics compared to the video data stream

1913

providing a cross-reference association between the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame

1951

incorporating a cross-reference still image identifier with one or more given still image frames to facilitate one or more of the following types of future accessibility: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, add identifier

1953

storing the given still image frames in localized media integrated with or operably coupled to the still image capture component

1954

storing the given still image frames in removable media that can be transported

1956

storing the given still image frames in a remote storage location separate and apart from the still image capture component

1957

storing the given still image frames in the remote storage location owned or operated by a third party.
FIG. 46

Creating a video data stream derived from a field of view of a video capture component

Capturing one or more still image frames derived from a related field of view of a still image capture component, wherein the one or more still image frames include different quality characteristics compared to the video data stream

Allowing selection of a close-up zoom field of view for the still image capture component without causing a same close-up field of view for the video capture component

Allowing selection of an enlarged or diminished field of view for the still image capture component without causing a same enlarged or diminished field of view for the video capture component

Providing a cross-reference association between the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame

Incorporating in the still image capture component one or more quality capabilities that are different from specified quality parameters of the video capture component

Incorporating one or more of the following different quality capabilities in the still image capture component: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, preview display, post-capture display, high Q storage media, low Q storage media, removable storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, volatile memory, permanent memory, post-capture editing, meta-data
FIG. 47

creating a video data stream derived from a field of view of a video capture component

capturing one or more still image frames derived from a related field of view of a still image capture component, wherein the one or more still image frames include different quality characteristics compared to the video data stream

providing a still mode format having one or more of the following type of different visual elements as compared to the video mode format: aspect ratio, color space, color value, color intensity, image intensity, resolution, pixel density, dynamic range, pixel depth

providing a cross-reference association between the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame

enabling user-actuated coordination of the related fields of view of the video capture component and the still image capture component

incorporating a cross-reference identifier with the display of thumbnail exemplars to provide a reference link to both a portion of a stored video data stream and a stored correlated still image frame

activating an ancillary component prior to or concurrently with activating a shutter to assist in generating the one or more still image frames

activating one or more of the following type of ancillary components: flash illuminator, infrared illuminator, ultraviolet illuminator, light meter, exposure controller, time stamp, date stamp, ID indicia, zoom lens actuator, sensor, monitor, detector
FIG. 48

Creating a video data stream derived from a field of view of a video capture component.

Capturing one or more still image frames derived from a related field of view of a still image capture component, wherein the one or more still image frames include different quality characteristics compared to the video data stream.

Providing a cross-reference association between the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame.

Activating an ancillary module approximately concurrently with capturing the one or more still image frames.

Activating an ancillary module prior to capturing the one or more still image frames.

Initiating the capturing of one or more still image frames in response to an output of the ancillary module.

Initiating the capturing of one or more still image frames in response to field of view information detected or sensed by the ancillary module.

Selectively activating one or more of the following features associated with the still image capture component in response to an output of an ancillary module: zoom in, zoom out, close-up, distant, fixed field of view, variable field of view, wide angle view, narrow angle view, diminished field of view, add filter, omit filter, shutter speed, exposure parameter, supplemental illumination, higher quality image, lower quality image, higher resolution capture, higher resolution storage, lower resolution capture, lower resolution storage, ID indicia, wireless transfer, hardcopy output, thumbnail display.
FIG. 49

obtaining a portion of video data stream derived from a field of view of a video capture component

initiating a capture of one or more still image frames derived from a related field of view of a still image capture component

initiating the capture in response to an activation event associated with the related field of view of the video capture component

1991

generating a stored version of the captured still image frames, which stored version includes different quality characteristics compared to a stored version of the video data stream

1917

providing a cross-reference association between the stored versions of the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame

1918

obtaining the portion in response to an activation event associated with the related field of view of the still image capture component

1993

1996

creating a record associated with the stored version of the still image frames indicating a causation basis for initiating the capture of such one or more still image frames

obtaining the portion in response to one or more of the following type of activation events: ancillary module output, monitored field of view participant, monitored field of view activity, sensed field of view condition, user selection, programmed selection, automated selection, temporal schedule

1994

1997

creating a record associated with the stored version of the video data stream indicating a causation basis for obtaining such portion of the video data stream
provide a computer program product having instructions for executing the following process

obtaining a portion of video data stream derived from a field of view of a video capture component

initiating a capture of one or more still image frames derived from a related field of view of a still image capture component

generating a stored version of the captured still image frames, which stored version includes different quality characteristics compared to a stored version of the video data stream

providing a cross-reference association between the stored versions of the video data stream and the one or more still image frames to facilitate future accessibility to the stored version of a portion of the video data stream and/or to the stored version of a particular correlated still image frame
creating a visual display that represents a field of view of an image capture device

providing a user-interface that enables an identification of one or more targeted objects that may be incorporated in the field of view

enabling a user to make a selection from among the at least one or more targeted objects, which selection is identified as a point of interest via the user-interface

initiating operation of the image capture device for taking multiple exposures of the selection, including providing a different quality characteristic for each exposure

creating a stored version of each of the multiple exposures
FIG. 53

creating a visual display that represents a field of view of an image capture device

providing a user-interface that enables an identification of one or more targeted objects that may be incorporated in the field of view

enabling a user to make a selection from among the at least one or more targeted objects, which selection is identified as a point of interest via the user-interface

initiating operation of the image capture device for taking multiple exposures of the selection, including providing a different quality characteristic for each exposure

enabling the user to make the selection of two or more different targeted objects incorporated in the same field of view

enabling user-actuated coordination of related fields of view of the image capture device for obtaining the multiple exposures of the selection

obtaining multiple still image exposures of the selection

obtaining multiple video image exposures of the selection

incorporating the selection as a component element in a composite work

incorporating the selection as a component element in a composite video image frame

incorporating the selection as a component element in a composite still image frame

obtaining at least one still image exposure and at least one video image exposure of the selection
FIG. 54

creating a visual display that represents a field of view of an image capture device

providing a user-interface that enables an identification of one or more targeted objects that may be incorporated in the field of view

enabling a user to make a selection from among the at least one or more targeted objects, which selection is identified as a point of interest via the user-interface

initiating operation of the image capture device for taking multiple exposures of the selection, including providing a different quality characteristic for each exposure

providing a cross-reference association between the multiple exposures, which cross-reference association facilitates future user accessibility for incorporating one of the multiple exposures of the selection as a component element in a composite work

establishing the cross-reference association contemporaneously with taking the multiple exposures of the selection

establishing an identifier tag as at least a partial basis for implementing the cross-reference association

establishing one or more of the following types of identifier tags: time stamp, date stamp, background, view location, project name, topic, client, video component, still component, component specification, storage media, storage location, component operator, participant, indicia ID, sequence numeral, thumbnail link, index listing, acronym, abbreviation, pointer link, hyper-link, icon, barcode

obtaining multiple video image exposures of the selection incorporating a cross-reference identifier with the multiple exposures to facilitate one or more of the following type of accessibility: view, display, forward, create thumbnail; retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, add identifier, access right, usage right, limited license, transfer of rights, ownership assignment
FIG. 55

Creating a visual display that represents a field of view of an image capture device

Providing a user-interface that enables an identification of one or more targeted objects that may be incorporated in the field of view

Enabling a user to make a selection from among the at least one or more targeted objects, which selection is identified as a point of interest via the user-interface

Initiating operation of the image capture device for taking multiple exposures of the selection, including providing a different quality characteristic for each exposure

Providing a cross-reference association between the multiple exposures, which cross-reference association facilitates future user accessibility for incorporating one of the multiple exposures of the selection as a component element in a composite work

Creating a stored version of each of the multiple exposures

Creating an altered form of the stored version of one or more of the multiple exposures

Storing one of more versions of the multiple exposures in a local storage location and in a remote storage location with respect to the image capture device

Storing the multiple exposures in a remote storage location separate and apart from the image capture device

Storing the multiple exposures in localized media integrated with or operably coupled to the image capture device

Storing the multiple exposures in removable media that can be transported separate and apart from the image capture device

Implementing one or more of the following type of alteration techniques: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, grayscale implementation
FIG. 56

providing a user-interface that enables an identification of one or more targeted objects that may be incorporated in the field of view

creating a visual display that represents a field of view of an image capture device

activating a still image capture device approximately concurrently with activating a video image capture device to obtain the multiple exposures of the selection

providing one or more of the following type of features in order to obtain multiple exposures having different quality characteristics: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, wavelength setting, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, preview display, post-capture display, high Q storage media, low Q storage media, removable storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, volatile memory, permanent memory, post-capture editing, meta-data

enabling a user to make a selection from among the at least one or more targeted objects, which selection is identified as a point of interest via the user-interface

initiating operation of the image capture device for taking multiple exposures of the selection, including providing a different quality characteristic for each exposure

enabling a programmed or automated coordination of related fields of view of the image capture device for obtaining the multiple exposures of the selection

creating a stored version of each of the multiple exposures

allowing a user-actuated override to change the programmed or automated coordination of the related fields of view

incorporating one or more of the following type of different quality attributes in the stored version of the multiple exposures: aspect ratio, color space, color value, color intensity, image intensity, resolution, pixel density, dynamic range, pixel depth, shutter speed, exposure frequency, fidelity, obfuscation level, object deletion, object substitution, transformation
FIG. 57

creating a visual display that represents a field of view of an image capture device

2062

providing a user-interface that enables an identification of one or more targeted objects that may be incorporated in the field of view

2063

enabling a user to make a selection from among the at least one or more targeted objects, which selection is identified as a point of interest via the user-interface

2064

initiating operation of the image capture device for taking multiple exposures of the selection, including providing a different quality characteristic for each exposure

2061

selectively activating one or more of the following features associated with the image capture device in order to obtain multiple exposures with different qualities: zoom in, zoom out, close-up, distant, fixed field of view, variable field of view, wide angle view, narrow angle view, diminished field of view, add filter, omit filter, shutter speed, exposure parameter, supplemental illumination, higher quality image, lower quality image, higher resolution capture, higher resolution storage, lower resolution capture, lower resolution storage, ID indicia, wireless transfer, hardcopy output, thumbnail display

2060

activating one or more of the following type of ancillary image capture features: flash illuminator, infrared illuminator, ultraviolet illuminator, light meter, exposure controller, time stamp, date stamp, ID indicia, zoom lens actuator, sensor, monitor, detector

2111

providing one or more different quality characteristics that are at least partially determined by a privacy right attribute associated with the targeted object

2116

providing one or more different quality characteristics that are at least partially determined by a usage right attribute associated with the targeted object

2117

providing one or more different quality characteristics that are at least partially determined by a proprietary right attribute associated with the targeted object

2118

facilitating the selection or identification of the targeted object as the point of interest with one or more of the following techniques: pull-down menu, cursor placement, directional pointer, area outline, area fill, object labeling, screen touching, voice activation, identifier tag, editing code, manual activation, bodily movement, device movement, gesture, motion sensor, item naming, item confirmation, preview selection, usage right attribute, and usage right recognition.
providing a computer program product having one or more computer programs for executing a process

the process creates a visual display that represents a field of view of an image capture device

the process provides a user-interface that enables an identification of possible targeted objects that may be incorporated in the field of view

the process enables a user to make a selection of one or more particular targeted objects, which selection is identified as a point of interest via the user-interface

the process initiates operation of the image capture device for taking multiple exposures of the selection, wherein each exposure has at least one different quality characteristic
obtaining access to a collection of captured images

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work

providing an input technique that enables an identification of the user's selection of the possible component element

establishing a record of the selection made by the user, which record facilitates future availability of the selection
FIG. 63

obtaining access to a collection of captured images

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work

providing an input technique that enables an identification of the user's selection of the possible component element

establishing a record of the selection made by the user, which record facilitates future availability of the selection

obtaining retrieval of a particular version of the selection of the possible component element

incorporating in the composite work the particular version of the selection of the possible component element in the composite work

obtaining the retrieval of the particular version, which retrieval is based at least in part on a cross-reference association between multiple exposures of the same or similar various visual elements

incorporating in the composite work an original captured version of the selection of the possible component element

providing a display of two or more captured images to facilitate the selection of the possible component element to be incorporated in the composite work
FIG. 64

2300

provide a composite image selection method

2286

obtaining access to a collection of captured images

2281

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection

2282

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work

2301

implementing an adjacent display of the two or more captured images

2302

implementing a sequential display of the two or more captured images

2303

implementing the display of two or more captured images each having a same type of various visual elements

2304

implementing the display of two or more captured images each having a different type of various visual elements

2305

implementing the display of two or more captured still image frames or video image frames having related fields of view of the same various visual elements

2306

implementing the display of two or more captured images having one or more of the following related fields of view of the same various visual elements: zoom in, zoom out, close-up, distant, wide angle, narrow angle, frontal, partial right, partial left, upper vantage point, lower vantage point, overlapping, fragmented, variable view, still image view, video image view, simultaneous, time delayed

2307

implementing the display of two or more captured still images

2308

implementing the display of two or more captured video frame images
FIG. 65

provide a composite image selection method

obtaining access to a collection of captured images

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work

providing a display of two or more captured images to facilitate the selection of the possible component element to be incorporated in the composite work

implementing the display of two or more captured images each having a different quality characteristic

implementing the display of two or more captured images that include captured still images and captured video frame images

implementing the display of captured images having one or more of the following type of different quality characteristics for the same various visual elements: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, wavelength setting, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, video frame frequency, post-capture alteration, high Q storage media, low Q storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, post-capture editing, meta-data

implementing the display of captured images having one or more of the following type of different quality attributes: aspect ratio, color space, color value, color intensity, image intensity, resolution, pixel density, dynamic range, pixel depth, shutter speed, exposure frequency, fidelity, obfuscation level, object deletion, object substitution, transformation
FIG. 66

obtaining access to a collection of captured images

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work

providing an input technique that enables an identification of the user's selection of the possible component element

enabling the user to activate a screen indicator for identifying the various visual elements to be incorporated as a possible component element in the composite work

implementing the display of an enlarged representation of the various visual elements of the captured image in the collection

implementing via the computerized user-interface a retrieval and display of the same or similar various visual elements from multiple captured images of the collection prior to the selection of the possible component element to be incorporated in the composite work

implementing a simultaneous display of different combinations of multiple captured images for comparison prior to the selection of the possible component element to be incorporated in the composite work

implementing a tentative assembly of the composite work that includes the possible component element

enabling the user to activate the screen indicator includes one or more of the following techniques: pull-down menu, cursor placement, directional pointer, area outline, area fill, object boundary, object labeling, manual screen touching, voice activation, identifier tag, editing code, item naming, item confirmation, preview selection, usage right permission, and usage right recognition
FIG. 67

obtaining access to a collection of captured images

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work

providing an input technique that enables an identification of the user's selection of the possible component element

establishing a record of the selection made by the user, which record facilitates future availability of the selection

implementing a tentative assembly of the composite work that includes the possible component element

implementing a completed assembly of the composite work that includes the possible component element

enabling one or more of the following type of operations regarding the tentative assembly of the composite work: element positioning, element orientation, element dimensions, substitution of different element, addition of new element, deletion of element, element combinations, grouping relationship, element spacing, and altered element

implementing a user-accessible display of the tentative assembly of the composite work

incorporating the combination of two or more possible component elements in the completed assembly of a composite video image frame

creating a stored version of the completed assembly of the composite work

incorporating the combination of two or more possible component elements in the completed assembly of a composite video image frame
FIG. 68

obtaining access to a collection of captured images

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work

providing an input technique that enables an identification of the user’s selection of the possible component element

establishing a record of the selection made by the user, which record facilitates future availability of the selection

transferring an altered form of the possible component to a storage module for future reference

incorporating an original captured version of the possible component element in the completed assembly of the composite work

implementing a completed assembly of the composite work that includes the possible component element

creating an altered form of the possible component element

implementing one or more of the following type of alteration techniques: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, and grayscale implementation
FIG. 69

2350 identifying a collection of captured images

2352 associating rights-related information with one or more component elements of the captured images

2353 presenting a representation of at least one of the captured images for viewing by a user

2354 enabling compliance with the rights-related information in connection with a selection of a component element of the captured images for incorporation in a composite work
FIG. 70

identifying a collection of captured images

associating rights-related information with one or more component elements of the captured images

presenting a representation of at least one of the captured images for viewing by a user

enabling compliance with the rights-related information in connection with a selection of a component element of the captured images for incorporation in a composite work

confirming the selection of the specified component element of the captured images for incorporation in a composite work

providing a cross-reference between the rights-related information and its associated component element of the captured images

providing user accessibility to the rights-related information in connection with the selection of the specified component element for incorporation in the composite work

incorporating an identifier tag with the associated component of the captured images to facilitate one or more of the following type of accessibility: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, add identifier, access right, usage right, limited license, transfer of rights, and ownership assignment

incorporating in the composite work the selected component element of the captured images

making a record that identifies the rights-related information associated with the selected specified component element, which record is operatively coupled with the composite work that incorporates the selection of the specified component
providing a computer program product having one or more computer programs for executing a process

the process displays a representation of one or more captured images

the process provides a user-interface with accessibility to the representation of the captured images in order to facilitate a user's selection of a specified visual component to be incorporated in a composite work

the process provides an input technique that enables identification of the user's selection of the specified visual component

the process establishes a record of the user's selection of the specified visual component
FIG. 72

USER-INTERFACE DISPLAY

2380

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SELECTOR POINTER

2399

ENLARGEMENT OPTION

2382a

2386

SEQUENTIAL SCROLLING

2389

X-REFERENCE ASSOCIATION

2390

2391

IDENTIFIER TAG

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2393

2397

2395

2395a

COMPOSITE IMAGE SELECTIVITY

PRIORITY CLAIM, CROSS-REFERENCE TO RELATED APPLICATION, AND INCORPORATION BY REFERENCE

[0001] The present application is related to and claims the benefit of the earliest available effective filing date(s) from the following listed application(s) (the “Related Applications”) (e.g., claims earliest available priority dates for other than provisional patent applications or claims benefits under 35 USC § 119(c) for provisional patent applications, for any and all parent, grandparent, great-grandparent, etc. applications of the Related Application(s)).

Related Applications

[0002] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled ESTIMATING SHARED IMAGE DEVICE OPERATIONAL CAPABILITIES OR RESOURCES, naming Edward K. Y. Jung, Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed Jun. 2, 2005, Ser. No. 11/143,970, which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date;

[0003] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled SHARED IMAGE DEVICE DESIGNATION, naming Edward K. Y. Jung, Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed Jul. 26, 2005, Ser. No. 11/190,516, which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date;

[0004] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled SAVED-IMAGE MANAGEMENT, naming Royce A. Levien, Robert W. Lord, and Mark A. Malamud, as inventors, filed Oct. 31, 2005, Ser. No. 11/263,587, which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled CONDITIONAL ALTERATION OF A SAVED IMAGE, naming Royce A. Levien, Robert W. Lord, and Mark A. Malamud, as inventors, filed Nov. 1, 2005, Ser. No. 11/264,701 which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0005] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled IMAGERY PROCESSING, naming Edward K. Y. Jung, Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed Feb. 28, 2006, Ser. No. 11/364,496 which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0006] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled DATA MANAGEMENT OF A DATA STREAM, naming Edward K. Y. Jung, Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed Mar. 15, 2006, Ser. No. 11/376,627 which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0007] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled STORAGE ACCESS TECHNIQUE FOR CAPTURED DATA, naming Royce A. Levien, Robert W. Lord, and Mark A. Malamud as inventors, filed Apr. 3, 2006, Ser. No. 11/397,357 which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0008] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled THIRD PARTY STORAGE OF CAPTURED DATA, naming Royce A. Levien, Robert W. Lord, and Mark A. Malamud as inventors, filed Apr. 13, 2006, Ser. No. 11/404,104 which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0009] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled DATA STORAGE USAGE PROTOCOL, naming Royce A. Levien, Robert W. Lord, and Mark A. Malamud as inventors, filed Apr. 14, 2006, Ser. No. 11/404,381 which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0010] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled DEGRADATION/PRESERVATION MANAGEMENT OF CAPTURED DATA, naming Edward K. Y. Jung, Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed May 15, 2006, Ser. No. 11/434,568, which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0011] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled DUAL MODE IMAGE CAPTURE TECHNIQUE, naming Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed May 19, 2006, Ser. No. 11/437,284, which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0012] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled ENHANCED
VIDEO/STILL IMAGE CORRELATION, naming Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed 23 May 2006, Ser. No. 11/440,409, which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0013] For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation in part of U.S. patent application entitled CAPTURING SELECTED IMAGE OBJECTS, naming Edward K. Y. Jung, Royce A. Levien, Robert W. Lord, Mark A. Malamud, and John D. Rinaldo, Jr. as inventors, filed 18 Aug. 2006, Ser. No. 11/440,409, which is currently co-pending, or is an application of which a currently co-pending application listed as a Related Application is entitled to the benefit of the filing date.

[0014] All subject matter of the Related Applications and of any and all parent, grandparent, great-grandparent, etc. applications of the Related Applications is incorporated herein by reference to the extent such subject matter is not inconsistent herewith.

SUMMARY

[0015] Various possible system embodiment implementations are disclosed herein. For example an exemplary image access system may include a computerized user-interface for facilitating selection of one or more visual components to be incorporated in a composite work, a data record that includes an identification of one or more captured images having a possible visual component available for display and retrieval, a display module operatively coupled with the computerized user-interface to enable viewing of a representation of the possible visual component, and a processing module for accomplishing retrieval of a selected visual component for incorporation in the composite work.

[0016] Some exemplary methods of composite image selection may include obtaining access to a collection of captured images, providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection, and allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work. Related aspects may include providing an input technique that enables an identification of the user’s selection of the possible component element; and establishing a record of the selection made by the user, which record facilitates future availability of the selection.

[0017] Another exemplary method of creating a composite visual work may include identifying a collection of captured images, associating rights-related information with one or more component elements of the captured images, presenting a representation of at least one of the captured images for viewing by a user, and enabling compliance with the rights-related information in connection with a selection of a specified component element of the captured images for incorporation in a composite work.

[0018] An exemplary computer program product may include one or more computer programs for executing a process that includes displaying a representation of one or more captured images, providing a user-interface with accessibility to the representation of the captured images in order to facilitate a user’s selection of a specified visual component to be incorporated in a composite work, providing an input technique that enables identification of the user’s selection of the specified visual component, and establishing a record of the user’s selection of the specified visual component.

[0019] A computer program product embodiment may include storage media and/or signal communication media for encoding instructions for executing the process.

[0020] The foregoing summary is illustrative only and is not intended to be in any way limiting. In addition to the illustrative aspects, embodiments, and features described above, further aspects, embodiments, and features will become apparent by reference to the drawings and the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. 1 illustrates the exemplary system that includes a thin computing device that may interface with an electronic device.

[0022] FIG. 2 illustrates an exemplary system in which embodiments may be implemented.

[0023] FIG. 3 illustrates an exemplary system in which embodiments may be implemented.

[0024] FIG. 4 depicts one implementation of an exemplary environment in which the methods and systems described herein may be represented.

[0025] FIG. 5 depicts a high-level flowchart of an exemplary operational process.

[0026] FIG. 6 shows several alternative implementations of the high-level flowchart of FIG. 5;

[0027] FIG. 7 shows several other alternative implementations of the high-level flowchart of FIG. 5;

[0028] FIG. 8 shows additional alternative implementation features regarding saved digital images.

[0029] FIG. 9 is a schematic block diagram showing exemplary data storage communication embodiments.

[0030] FIG. 10 schematically illustrates other possible features incorporated in an exemplary separate storage facility/location.

[0031] FIG. 11 schematically illustrates other possible features incorporated in an exemplary capture/transmitting device.

[0032] FIG. 12 is a high level flow chart showing another exemplary data storage access embodiment.

[0033] FIGS. 13-17 are detailed flow charts illustrating additional exemplary embodiments.

[0034] FIG. 18 illustrates another exemplary computer program product embodiment.

[0035] FIG. 19 is a schematic block diagram showing exemplary embodiments for a capture device and a separate data storage facility.
FIG. 20 is a high level flow chart showing a further exemplary process embodiment.

FIGS. 21-26 are detailed flow charts illustrating other exemplary embodiments.

FIG. 27 illustrates a further exemplary computer program product embodiment.

FIGS. 28-29 are high level flow charts showing additional exemplary process embodiments.

FIGS. 30-36 are detailed flow charts illustrating further exemplary embodiments.

FIG. 37 illustrates another exemplary computer program product embodiment.

FIG. 38 shows a schematic diagram for an exemplary system embodiment incorporating video and still image modules.

FIG. 39 is a schematic block diagram for an exemplary system for capturing both still image frames and video data streams.

FIGS. 40-41 are high level flow charts showing further exemplary process embodiments.

FIGS. 42-49 are detailed flow charts illustrating other exemplary embodiments.

FIG. 50 illustrates a further exemplary computer program product embodiment.

FIG. 51 is a schematic block diagram illustrating various exemplary embodiments for correlating captured video streams and still images.

FIG. 52 is a high level flow chart illustrating another exemplary process embodiment.

FIGS. 53-57 are detailed flow charts depicting other exemplary embodiments.

FIG. 58 illustrates an additional exemplary computer program product embodiment.

FIG. 59 is a schematic block diagram showing various exemplary implementation features for capturing multiple exposures.

FIG. 60 is a schematic diagram illustrating exemplary components that may be used for capturing and processing multiple exposures.

FIG. 61 is a diagrammatic representation of exemplary embodiment features for retrieval of captured image elements to be incorporated in a composite visual work.

FIG. 62 is a high level flow chart illustrating a further exemplary process embodiment.

FIGS. 63-68 are detailed flow charts showing other exemplary embodiments.

FIG. 69 is a high level flow chart illustrating another exemplary process embodiment.

FIG. 70 is a detailed flow chart depicting additional exemplary embodiment features.

FIG. 71 illustrates an exemplary computer program product embodiment.

FIG. 72 is a schematic diagram showing exemplary features incorporated in a user-interface display embodiment.

FIG. 73 is a schematic block diagram illustrating exemplary embodiment features for a composite image selection system.

DETAILED DESCRIPTION

In the following detailed description, reference is made to the accompanying drawings, which form a part hereof. In the drawings, similar symbols typically identify similar components, unless context dictates otherwise. The illustrative embodiments described in the detailed description, drawings, and claims are not meant to be limiting. Other embodiments may be utilized, and other changes may be made, without departing from the spirit or scope of the subject matter presented here.

FIG. 1 provides a brief, general description of an illustrative and/or suitable exemplary environment in which embodiments may be implemented. In FIG. 1, as in the other figures, the figure is an example of an environment and does not suggest any limitation as to the structure, scope of use, or functionality of an embodiment. An embodiment should not be interpreted as having any dependency or requirement relating to any one or combination of components illustrated in an exemplary environment. For example, in certain instances, elements of an environment and/or a method may be deemed not necessary and omitted. In other instances, other elements may be deemed necessary and added.

FIG. 1 illustrates the exemplary system that includes a thin computing device 20 that may interface with an electronic device (not shown). The electronic device may include one or more functional elements 51. For example, the electronic device may include any item having electrical and/or electronic components playing a role in a functionality of the item, such as a limited resource computing device, a game console, a digital camera, a cell phone, a printer, a refrigerator, a car, and an airplane. The thin computing device includes a processing unit 21, a system memory 22, and a system bus 23 that couples various system components including the system memory to the processing unit. The system bus may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. The system memory includes read-only memory (ROM) 24 and random access memory (RAM) 25. A basic input/output system (BIOS) 26, containing the basic routines that help to transfer information between subcomponents within the thin computing device, such as during start-up, is stored in the ROM. A number of program modules may be stored in the ROM and/or RAM, including an operating system 28, one or more application programs 29, other program modules 30, and program data 31.

A user may enter commands and information into the computing device 20 through user input devices, such as a number of switches and buttons, illustrated as hardware buttons 44, which may be associated with the electronic device and connected via a suitable interface 45. Input devices may further include a touch-sensitive display screen 32 with suitable input detection circuitry 33. The output circuitry of the touch-sensitive display screen is connected to the system bus 23 via a video driver 37. Other input
devices may include a microphone 34 connected through a suitable audio interface 35, and a physical hardware keyboard (not shown). In addition to the display 32, the computing device 20 may include other peripheral output devices, such as at least one speaker 38.

[0065] Other external input or output devices 39, such as a joystick, game pad, satellite dish, scanner, an external computer readable medium, or the like may be connected to the processing unit 21 through a USB port 40 and USB port interface 41, to the system bus 23. Alternatively, the other external input and output devices 39 may be connected by other interfaces, such as a parallel port, game port or other port. The computing device 20 may further include or be capable of connecting to a flash card memory (not shown) through an appropriate connection port (not shown). The computing device may further include or be capable of a connection with a network through a network port 42 and network interface 43, and/or through wireless port 46 and corresponding wireless interface 47. Such a connection may be provided to facilitate communication with other peripheral devices, including other computers, printers, and so on (not shown). It will be appreciated that the various components and connections shown are exemplary and other components and means of establishing communications links may be used.

[0066] The computing device 20 may be designed to include a user interface having a character, key-based, other user data input via the touch sensitive display 32 using a stylus (not shown). Moreover, the user interface is not limited to an actual touch-sensitive panel arranged for directly receiving input, but may alternatively or in addition respond to another input device, such as the microphone 34. For example, spoken words may be received at the microphone 34 and recognized. Alternatively, the computing device may be designed to include a user interface having a physical keyboard (not shown).

[0067] The device functional elements 51 are typically application specific and related to a function of the electronic device. The device functional elements are driven by a device functional element(s) interface 50, which coupled with the system bus 23. A functional element may typically perform a single well-defined task with little or no user configuration or setup, such as a refrigerator keeping food cold, a cell phone connecting with an appropriate tower and transceiving voice or data information, and/or a camera capturing and saving an image.

[0068] In the description that follows, certain embodiments may be described with reference to acts and symbolic representations of operations that are performed by one or more computing devices, such as the thin computing device 20 of FIG. 1. As such, it will be understood that such acts and operations, which are at times referred to as being computer-executed, include the manipulation by the processing unit of the computer of electrical signals representing data in a structured form. This manipulation transforms the data or maintains them at locations in the memory system of the computer, which reconfigures or otherwise alters the operation of the computer in a manner well understood by those skilled in the art. The data structures in which data is maintained are physical locations of the memory that have particular properties defined by the format of the data. However, while an embodiment is being described in the foregoing context, it is not meant to be limiting as those of skill in the art will appreciate that the acts and operations described hereinafter may also be implemented in hardware.

[0069] Embodiments may be described in a general context of computer-executable instructions, such as program modules, being executed by a computer. Generally, program modules include routines, programs, objects, components, data structures, etc., that perform particular tasks or implement particular abstract data types. An embodiment may also be practiced in a distributed computing environment where tasks are performed by remote processing devices that are linked through a communications network. In a distributed computing environment, program modules may be located in both local and remote computer storage media including memory storage devices.

[0070] Embodiments may be implemented with numerous other general-purpose or special-purpose computing devices, computing system environments, and/or configurations. Examples of well-known computing systems, environments, and/or configurations that may be suitable for use with an embodiment include, but are not limited to, personal computers, handheld or laptop devices, personal digital assistants, multiprocessor systems, microprocessor-based systems, set top boxes, programmable consumer electronics, network, minicomputers, server computers, game server computers, web server computers, mainframe computers, and distributed computing environments that include any of the above systems or devices.

[0071] FIG. 2 illustrates an exemplary system 200 in which embodiments may be implemented. The system includes a digital camera 210 having image capture and image storage functionality. The digital camera 210 includes a computing device (not shown), such as the thin computing device 20 described in conjunction with FIG. 1, that is operable to interact with functional elements of the digital camera. The digital camera also includes a plurality of user interfaces 220. The plurality of interfaces 220 includes a display 232. In alternative embodiments, the display may provide a textual, a visual display, and/or a graphical display. In a further embodiment, the display may include touch screen functionality operable to accept a user input. The plurality of user interfaces of the camera also includes a microphone 234, a speaker 238, and a plurality of buttons 244A-244E. One or more of the tangible buttons may include a light emitter, such as a light emitting device 246. Further, one or more of the tangible buttons 244A-244E may include a vibrator operable to provide a tactile display. The display 232 and the tangible buttons 244A-244E may have any functionality appropriate to the digital camera. For example, the button 244E may be assigned to operate a camera element, such as a shutter function. The button 244A may be assigned an “enter” function, and buttons 244B and 244C may be respectively assigned a scroll up and scroll down function relative to a menu displayed on the display 232. The button 244D may be assigned to operate another camera element, such as a zoom function. The digital camera also includes context sensors 250, which may be selected, for example, to produce relevant information about an environment extrinsic to the digital camera. The context sensors are illustrated as an external temperature sensor 252 and a light intensity sensor.
The digital camera further includes a USB port 240, a network port 242, and/or a wireless port (not shown).

In addition, the digital camera 210 includes a lens (not shown) and an image acquisition module (not shown). The image acquisition module controls the lens, a shutter, an aperture, and/or other elements necessary to capture an image through the lens. In an embodiment, capturing images using digital cameras or camcorders may be equated with photography as performed by conventional film cameras. A captured image may be processed, stored, viewed, and/or distributed by the digital camera. The digital camera also includes a system memory (not shown), such as the system memory 22 of the thin computing device 20 of FIG. 1. The system memory includes saved operating systems and programs necessary to operate the digital camera. In addition, the digital camera may include a computer readable media (not shown), such as the computer readable medium described in conjunction with FIG. 3 below.

The digital camera 210 includes operability to receive a user input through an interface of the plurality of interfaces 220. For example, in an embodiment, detecting a user touch to the button 244D may be received as an instruction and/or a selection. Another detected user touch to another user interface of the plurality of user interfaces 220 may be received as another instruction and/or a selection. The user touch may be detected by a user interface physically incorporated in the aspect of the digital camera 210 or proximate thereto. In an alternative embodiment, a user input may be received by detecting a signal responsive to a sound or voice received by the microphone 234. For example, a detection and recognition of a signal responsive to a spoken command to the microphone 234 may be received as an instruction to activate a program associated with the digital camera. Further, a detection of a signal responsive to a sound or voice may be received by the microphone 234.

FIG. 3 illustrates an exemplary system 300 in which embodiments may be implemented. The system includes a digital camera 310. The digital camera includes an image acquisition module 320 operable to capture an image, an image management module 330, and a computer readable medium, illustrated as computer readable media 340.

In an embodiment, the digital camera 310 may include a computing device (not expressly shown) that handles any required processing. For example, the computing device may include at least a part of the system described in conjunction with FIG. 1, including the thin computing device 20, that may interface with at least one functional element of the digital camera. In an embodiment, the digital camera may include a processing unit, illustrated as a processing unit 350, and a system memory 355, which may be substantially similar to the processing unit 21 and the system memory 22 respectively of FIG. 1. In another embodiment, the digital camera may include at least a part of the exemplary system 200 and/or the digital camera 210 described in conjunction with FIG. 2.

The image management module 330 includes an operability to save a captured image at a resolution in the computer readable medium 340 and in a user-accessible form. In an embodiment, the operability to save a captured image at a resolution in the computer readable medium 340 and in a user-accessible form includes an operability to save a captured image in a format at least substantially suitable for presentation by a visual display of the digital camera 310, such as a display screen. For example, the operability to save a captured image at a resolution in the computer readable medium and in a user-accessible form may include an operability to save a captured image at a resolution in a JPEG format, a GIF format, a TIFF format, or a PDF format. In another embodiment, the operability to save the captured image at a resolution in the computer readable medium and in a user-accessible format includes an operability to save the captured image at a resolution in the computer readable medium after data representative of the captured image has been decoded and processed from a raw format. Typically, the raw data is decoded and/or processed from a raw format, i.e., raw image data, into a JPEG format, a GIF format, a TIFF format, or a PDF format. In a further embodiment, the operability to save the captured image at a resolution in the computer readable medium and in a user-accessible format includes an operability to save the captured image in a form accessible to a user of the digital camera in the computer readable medium. For example, the form accessible to a user of the digital camera may include a JPEG format, a GIF format, a TIFF format, a PDF format, or a raw format where the digital camera allows a user access to a saved captured image in a raw format.

In an embodiment, an “image” may include a full image. In another embodiment, an “image” may include a portion of an image, a segment of a full image, a thumbnail of an image, and/or an icon that pertains to an image. Another embodiment of an “image” may include a photograph and/or a digital image that can be captured by an image capture device such as, for example, the digital camera 310. Certain embodiments of a streaming image may include a video that may be captured by the digital camera, such as, for example, a digital camcorder camera.

The term “resolution” may include an indication of a measurement of image detail, such as may be expressed as pixels per inch, dots per inch, or samples per inch, etc. In certain embodiments, a file size of an image is a function of its resolution, and in certain embodiments of relatively limited storage-capability cameras, relatively few high-resolution images can be saved.

In another embodiment, a “user-accessible form” may include at least one of a location in the computer readable medium that allows a user to access a file saved therein, a file formatted to allow a user of the digital camera 310 to view and/or manipulate the captured image, a property of the captured image written to the computer readable medium, and/or an organization of the computer readable medium that allows a user to access a file saved therein. For example, data indicative of the captured image written to a hard drive in a JPEG format generally allows a user to view and/or manipulate the captured image. In an embodiment, a user-accessible storage medium may include all or any portion of any computer readable storage medium that allows a user, typically through a user interface, to act with respect to and/or interact with the image, such as viewing the image, manipulating the image, and/or directing the image to another location.

The image management module 330 also includes an operability to decrease the resolution of the saved cap-
In an embodiment, the condition may include a condition corresponding in part or whole to a state of the computer readable medium, a presence and/or absence of a predetermined content of the saved captured image, a characteristic of the saved image, an image storage administrative criterion, and/or a temporal criterion. In a further embodiment, a condition does not include an automatic or standing condition that normally occurs upon completion of processing, for example, completion of decoding raw image data into a more machine usable and/or user viewable format.

Examples of decreasing a resolution of a saved captured image include, but are not limited to, changing a resolution of a saved captured image, resampling a saved captured image, adjusting an exposure of a saved captured image, adjusting some image content of a saved captured image, and/or adjusting image composition of a saved captured image. As described within this document, certain embodiments of the decreasing a resolution of a saved captured image are configurable to decrease the resolution of the image such as by utilizing pixel-combination and/or combination of multiple images. The decreasing a resolution of a saved captured image may include altering image intensity and/or color values. The decreasing a resolution of a saved captured image may in certain embodiments, but not others, be equated to sizing the resolution of an image downward, and may other embodiments be implemented by removing pixels from the saved captured image. The decreasing a resolution of a saved captured image may pertain in certain embodiments, but not others, to altering the color values and/or the color intensities of a particular image. The decreasing a resolution of a saved captured image may pertain to decreasing the density of the pixels forming the image. During a resolution decreasing process, in certain embodiments of a display or projector, a footprint of pixels may be suitably altered to effectively change the resolution of the at least one image.

In an embodiment, the computer readable media 340 may include a variety of computer readable media products. The computer readable media may include any storage media accessible by a computing device, and includes both removable and non-removable media. By way of example, and not of limitation, computer-readable media may include any computer storage media. Computer storage media includes removable and non-removable media implemented in any method or technology for storage of information such as computer-readable instructions, data structures, program modules, or other data. Computer storage media may include, but are not limited to, magnetic devices, such as magnetic disk storage, magnetic cassettes, magnetic tape, or other magnetic storage devices; optical devices, such as CD-ROM, digital versatile disks (DVD), or other optical disk storage; memory cards, such as flash memory card; and/or any other medium which may be used to store the captured information and which can be accessed by a computing device. Combinations of any of the above may also include within the scope of a computer-readable medium.

FIG. 3 illustrates an embodiment where the computer readable media 340 includes at least one instance of a computer readable medium. Illustrated instances of a computer readable medium include a computer storage device 348, a non-removable non-volatile medium 346, and/or a removable non-volatile medium 344. In an embodiment, the computer storage device may include any device capable of storing data, such as, for example, a mass storage device, a disk drive, and/or a tape drive. In another embodiment, the non-removable non-volatile medium may include a non-volatile magnetic disk or other medium. In a further embodiment, the removable non-volatile medium may include an optical disk such as a CD ROM, magnetic tape cassettes, flash memory cards, DVDs, and/or digital video tape.

In an embodiment, the computer readable medium 340 includes a non-volatile computer storage device. In another embodiment, the computer readable medium includes a non-removable computer readable medium. In a further embodiment, the computer readable medium includes a removable non-volatile computer readable medium.

In an embodiment, the image acquisition module 320 operable to capture an image includes an image acquisition module operable to capture a still image, an image stream, and/or a combination of a still image and an image stream. In another embodiment, the image acquisition module operable to capture an image includes an image acquisition module operable to capture at least one of a visual image, an audio image, and/or a combination of a visual image and an audio image. In a further embodiment, the image acquisition module operable to capture an image includes an image acquisition module operable to capture an image in response to a received instruction from another digital device. The received instruction from another digital device may include an instruction received from another digital camera. The received instruction may direct capture of the image, or may include data responsive to which the image acquisition module captures the image.

In an embodiment, the image management module 330 operable to save a captured image at a resolution in a computer readable medium and in a user-accessible form includes an image management module operable to save a captured image at a resolution in the computer readable medium and in a user-accessible album of images stored in a computer readable medium. In another embodiment, the image management module operable to save a captured image at a resolution in a computer readable medium includes an image management module operable to save a captured image at a resolution in the computer readable medium and in a user-accessible collection of images stored in a computer readable medium. In a further embodiment, the image management module operable to save a captured image at a resolution in the computer readable medium and in a user-accessible form includes an image management module operable to save a captured image at a resolution in a user-accessible data structure.

In an embodiment, the image management module 330 operable to decrease the resolution of the saved captured image in the computer readable medium if a condition is met includes an image management module operable to decrease the resolution of the saved captured image in the computer readable medium using a lossy compression algorithm if a condition is met. In another embodiment, the image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a condition is met includes an image management module...
In a further embodiment, the image management module 330 operable to decrease the resolution of the saved captured image in the computer readable medium if a condition is met includes an image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a time value is inside a preselected time window. In an embodiment, the image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a condition is met includes an image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a condition is met where the condition corresponds to at least one of a storage space availability in the computer readable medium, a user established parameter, a preselected content of the image, and/or a parameter established by a storage management algorithm. In another embodiment, the image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a condition is met includes an image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a condition independent of the operation to save a captured image at a resolution in the computer readable medium is met. In a further embodiment, the image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a condition is met includes an image management module operable to decrease the resolution of the saved captured image in the computer readable medium if a condition responsive to an examination of at least one other captured image saved in the computer readable medium is met. For example, a condition responsive to an examination of at least one other captured image saved in the computer readable medium may include examining a content and/or context of the at least one or more other saved captured images for a repetition and/or duplication. If at least one other saved captured image is examined and found to be repetitive and/or duplicative of the saved captured image, the condition would be met and the image management module would operate to reduce the resolution of the saved captured image. In an alternative embodiment, the image management module may include an operability to reduce the resolution of the at least one other saved image in response to the condition being met.

In an embodiment, the image management module 330 may further include an image management module operable to further decrease the resolution of the captured image saved in the computer readable medium if another condition is met.

FIG. 4 depicts one implementation of an exemplary environment in which the methods and systems described herein may be represented. In the depicted exemplary environment 100, are illustrated a variety of exemplary sensors: a digital video camera 102 operated by one or more users represented by user 104; a digital video camera 106 used in conjunction with a digital still camera 108, both operated by one or more users represented by user 110; and a sensor suite 112 comprising more than one sensor represented by sensor 114 and sensor 116 (wherein the sensors 114 and 116 may be but need not be physically co-located, and may be but need not be of the same type, e.g., sensor 114 may be an infrared device and sensor 116 may be a radar device), the sensor suite being operated by one or more users represented by user 118. The exemplary sensors represent a variety of devices for the detection and/or the recording and/or the transmission of imagery aspects, e.g., images, including but not limited to digital video cameras, digital still cameras, digital sensor (e.g. CCD or CMOS) arrays, and radar sets. The exemplary users 104, 110, and/or 118 may, for example, operate the exemplary sensors manually or may supervise and/or monitor their automatic operation. The exemplary users 104, 110, and/or 118 may operate the exemplary sensors in physical proximity to the sensors or remotely. The exemplary sensors may also operate autonomously without exemplary users 104, 110, and/or 118.

The exemplary sensors may be used to detect and/or record and/or transmit images of a wide variety of objects, represented in FIG. 4 by exemplary objects, a sphere 120 and a cube 122. The sphere 120 and the cube 122 are representative of any objects or groups of object, images of which may be detectable and/or recordable and/or transmissible by the exemplary sensors, including but not limited to persons, animals, buildings, roads, automobiles, trucks, aircraft, ships, spacecraft, landscape and/or seascape features, vegetation, and/or celestial objects. When used together in any given example herein, the exemplary sphere 120 and the exemplary cube 122 generally represent two distinct objects which may or may not be of the same or of a similar type, except where otherwise required by the context, e.g., a sphere 120 and a cube 122 used together in an example may represent a first particular object and a second particular object, e.g., a particular person and a particular building, or a particular first aircraft and a particular second aircraft, respectively. When used alone in any given example herein, the designated exemplary object, e.g., the sphere 120 or the cube 122, generally represents the same object, except where otherwise required by the context, e.g., a sphere 120 used alone in an example generally represents a single object, e.g., a single building, and a cube 122 used alone generally represents a single object, e.g., a particular person.

Each of the exemplary sensors may detect and/or record and/or transmit images of the exemplary objects in a variety of combinations and sequences. For instance, the digital video camera 102 may detect and/or record and/or transmit an image of the sphere 120 and then an image of the cube 122 sequentially, in either order; and/or, the digital video camera 106 may detect and/or record and/or transmit a single image of the sphere 120 and the cube 122 together.

Similarly, the digital video camera 106 may detect and/or record and/or transmit an image of the sphere 120 and of the cube 122 sequentially, in either order, and/or of the sphere 120 and the cube 122 together, before, after, partially simultaneously with, or simultaneously with an operation of the digital still camera 108. The digital still camera 108 may detect and/or record and/or transmit an image of the sphere 120 and of the cube 122 sequentially, in either order, and/or of the sphere 120 and the cube 122 together, before, after,
partially simultaneously with, or simultaneously with an operation of the digital video camera 106.

[0094] Similarly, the sensor 114 and the sensor 116 of the sensor suite 112 may detect and/or record and/or transmit an image of the sphere 120 and then of the cube 122 sequentially, in either order, and/or of the sphere 120 and the cube 122 together, before, after, partially simultaneously with, or simultaneously with respect to each other.

[0095] Such images may be recorded and/or transmitted via a computer or computers represented by the network 124 and/or directly to a processor 126 and/or processing logic 128, which accept data representing imagery aspects of the exemplary objects. The processor 126 represents one or more processors that may be, for example, one or more computers, including but not limited to one or more laptop computers, desktop computers, and/or other types of computers. The processing logic may be software and/or hardware and/or firmware associated with the processor 126 and capable of accepting and/or processing data representing imagery aspects of the exemplary objects from the exemplary sensors. Such processing may include but is not limited to comparing at least a portion of the data from one sensor with at least a portion of the data from the other sensor, and/or applying a mathematical algorithm to at least a portion of the data from one sensor with at least a portion of the data from the other sensor. Such processing may also include, but is not limited to, deriving third data from the combining at least a portion of the data from one sensor with at least a portion of the data from another sensor.

[0096] The exemplary sensors may be capable of detecting and/or recording and/or transmitting one or more imagery aspects of the exemplary objects, the one or more imagery aspects being defined in part, but not exclusively, by exemplary parameters such as focal length, aperture (f-stop being one parameter for denoting aperture), f-stop, shutter speed, sensor sensitivity (such as film sensitivity (e.g., film speed) and/or digital sensor sensitivity), exposure (which may be varied by varying, e.g., shutter speed and/or aperture), frequency and/or wavelength, focus, depth of field, white balance (and/or white point, color temperature, and/or micro reciprocal degree or “mired”), and/or flash. Some or all of the parameters that may define at least in part imagery aspects may have further defining parameters. For example, a frequency and/or wavelength parameter may be associated with one or more bandwidth parameters; and a flash parameter may be associated with one or more parameters for, e.g., duration, intensity, and/or special distribution. Note that although certain examples herein discuss bracketing and/or imagery aspects and/or exemplary parameters in the context of more or less “still” images for sake of clarity, techniques described herein are also applicable to streams of images, such as would typically be produced by digital video cameras 102/106 and thus the use of such, and other, exemplary terms herein are meant to encompass both still and video bracketing/imagery aspects/parameters/etc. unless context dictates otherwise. For instance, the bracketing might include bracketing over, say, 20 frames of video.

[0097] Each of the exemplary sensors may detect and/or record and/or transmit one or more imagery aspects of an exemplary object at more than one setting of each of the available parameters, thereby bracketing the exemplary object. Generally, “bracketing” includes the imagery technique of making several images of the same object or objects using different settings, typically with a single imagery device such as digital video camera 106. For example, the digital video camera 106 may detect and/or record and/or transmit a series of imagery aspects of the cube 122 at a number of different f-stops; before, after, partially simultaneously with, and/or simultaneously with that series of imagery aspects, another digital video camera 106 and/or another type of sensor, such as sensor 114 may detect and/or record and/or transmit a series of imagery aspects of the sphere 120 and of the cube 122 at a number of different white balances. The processor 126 and/or the processing logic 128 may then accept, via the network 124 or directly, data representing the imagery aspects detected and/or recorded and/or transmitted by the digital video cameras 106 or by the digital video camera 106 and the sensor 114. The processor 126 and/or the processing logic 128 may then combine at least a portion of the data from one of the sensors with at least a portion of the data from the other sensor, e.g., comparing the data from the two sensors. For example, deriving an identity of color and orientation from the bracketing imagery aspect data of two cubes 122 from digital video camera 106 and sensor 114.

[0098] Those skilled in the art will appreciate that the explicitly described examples involving the exemplary sensors (the digital video camera 102, the digital video camera 106, the digital still camera 108, and the sensor suite 112 including sensor 114 and sensor 116), the exemplary users (users 104, 110, and 118), the exemplary objects (the sphere 120 and the cube 122), the network 124, the exemplary processor 126, and the exemplary processing logic 128 constitute only a few of the various aspects illustrated by FIG. 4.

[0099] FIGS. 5-8 are a series of flowcharts depicting exemplary implementations of processes. For ease of understanding, the flowcharts are organized such that the initial flowcharts present implementations via an overall “big picture” viewpoint and thereafter the following flowcharts present alternate implementations and/or expansions of the “big picture” flowcharts as either sub-steps or additional steps building on one or more earlier-presented flowcharts. Those having skill in the art will appreciate that the style of presentation utilized herein (e.g., beginning with a presentation of a flowchart(s) presenting an overall view and thereafter providing additions to and/or further details in subsequent flowcharts) generally allows for a rapid and easy understanding of the various process implementations. In addition, those skilled in the art will further appreciate that the style of presentation used herein also lends itself well to modular and/or object-oriented program design paradigms.

[0100] FIG. 5 depicts a high-level flowchart of an exemplary operational process. Operation 201 shows accepting first data representing a first imagery aspect of an object, wherein the first data includes first bracketing data characterized by a first bracketing parameter, and second data representing a second imagery aspect of the object, wherein the second data includes second bracketing data characterized by a second bracketing parameter (e.g., accepting, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different f-stops using a digital still camera 108 and data representing an imagery aspect of the sphere 120 including
a set of bracketing images taken at different frequencies using digital video camera 106).

[0101] Operation 202 depicts combining at least a portion of the first data and at least a portion of the second data (e.g., combining, via a processor 126 and hardware/software/firmware of processing logic 128, the data representing the imagery aspect of the sphere 120) and data representing the imagery aspect of the sphere 120).

[0102] Operation 204 depicts an optional process component that includes deriving third data from the combining at least a portion of the first data and at least a portion of the second data (e.g., deriving, via a processor 126 and hardware/software/firmware of processing logic 128, using character and pattern recognition algorithms, a probable identification of a cube 122 as a specific cube of interest from combining data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different white balances using a digital video camera 106 with data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different white balances using digital still camera 108; or, e.g., deriving, via a processor 126 and hardware/software/firmware of processing logic 128, using parallax, a distance of a sphere 120 by combining data representing an imagery aspect of the sphere 120 including a set of bracketing images taken at different focuses using a sensor 114 of a sensor suite 112 and data representing an imagery aspect of the sphere 120 including a set of bracketing images taken at different focuses using a sensor 116 of a sensor suite 112).

[0103] FIG. 6 shows several alternative implementations of the high-level flowchart of FIG. 5. Previously described operation 201 may include one or more of the following operations: 301, 302, 304, 306, 308, and/or 309.

[0104] Operation 301 shows an aspect wherein the first bracketing parameter and/or the second bracketing parameter include an f-stop setting of a sensor (e.g., accepting, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different f-stops using a sensor 114 of a sensor suite 112 and data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different f-stops using a sensor 116 of a sensor suite 112).

[0105] Operation 302 depicts an aspect wherein the first bracketing parameter and/or the second bracketing parameter include an exposure setting of a sensor (e.g., accepting, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different exposures using a digital video camera 106 and data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different exposures using a still video camera 108).

[0106] Operation 304 illustrates an aspect wherein the first bracketing parameter and/or the second bracketing parameter include a frequency and/or a wavelength setting of a sensor (e.g., accepting, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different wavelengths using a digital video camera 102 and data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different wavelengths using a digital video camera 102).

[0107] Operation 306 shows an aspect wherein the first bracketing parameter and/or the second bracketing parameter include a focus setting of a sensor (e.g., accepting, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different focuses of a sensor 114 of a sensor suite 112 and data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different focuses of a sensor 116 of a sensor suite 112).

[0108] Operation 308 illustrates an aspect wherein the first bracketing parameter and/or the second bracketing parameter include a white balance setting of a sensor (e.g., accepting, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different white balances using a digital video camera 106 and data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different white balances using a digital video camera 102).

[0109] Operation 309 depicts an aspect wherein the first bracketing parameter and/or the second bracketing parameter include a flash setting of a sensor (e.g., accepting, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different flash settings using a digital video camera 106 and data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different flash settings using a still video camera 108).

[0110] FIG. 7 shows several other alternative implementations of the high-level flowchart of FIG. 5. Previously described operation 202 may include one or more of the following operations: 400 and/or 402.

[0111] Operation 400 shows an aspect comparing at least a portion of the first data with at least a portion of the second data (e.g., comparing, via a processor 126 and hardware/software/firmware of processing logic 128, data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different exposure settings using a digital still camera 108, as when, e.g., a comparison of apparent spatial orientation or orientations of the cube 122 in f-stop bracketing images to apparent spatial orientations or orientations of the cube 122 in exposure bracketing images may be useful in estimating a single spatial orientation characterization for the cube 122).

[0112] Operation 402 depicts an aspect applying a mathematical algorithm to at least a portion of the first data and at least a portion of the second data (e.g., applying an algorithm, via a processor 126 and hardware/software/firmware of processing logic 128, for edge detection, such as a “Laplacian-of-Gaussians” (“LOG”) filter and/or a PLUS filter, and/or by registration accomplished by applying known techniques to data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different white balances using a sensor 116 of a sensor suite
112 and to data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different flashes using digital still camera 108).

[0113] As further depicted in FIG. 7, previously described operation 204 may include one or more of the following operations: 404, 406, 408 and/or 410.

[0114] Operation 404 shows deriving third data representing an object identification of the object (e.g., deriving, via a processor 126 and hardware/software/firmware of processing logic 128, from combining a result of a noise reduction algorithm applied to data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different f-stops using a sensor 114 of sensor suite 112 and a result of a comparable noise reduction algorithm applied to data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different exposures using a sensor 116 of sensor suite 112, an identification of the sphere 120 as a specific sphere 120 of interest, as when, e.g., the noise reduction algorithm or algorithms yield resulting images of unique surface features of the sphere 120, permitting identification of the sphere 120 with respect to a reference image or description of the sphere 120 with a characterize degree of confidence).

[0115] Operation 406 depicts deriving third data representing an object designation of the object (e.g., deriving, via a processor 126 and hardware/software/firmware of processing logic 128, from combining data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different white balances using a digital video camera 102 and data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different exposures using a digital video camera 102 and then applying a character-recognition algorithm to the combination, a designation of the cube 122 with a distinguishing label for reference, as when, e.g., the character-recognition algorithm or algorithms recognize a serial number painted on the cube 122, allowing designation of the cube 122 with a unique distinguishing label with a characterize degree of confidence).

[0116] Operation 408 illustrates deriving third data representing a spatial position of the object (e.g., deriving, via a processor 126 and hardware/software/firmware of processing logic 128, from combining a result of applying a range-determination algorithm to data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different focuses using a sensor 114 of sensor suite 112 (where the spatial position and orientation of the sensor 114 are known or can be derived) and a result of applying a range-determination algorithm to data representing an imagery aspect of a sphere 120 including a set of bracketing images taken at different frequencies using a sensor 116 of sensor suite 112, a distance of the sphere 120 from the sensor suite 112 (where the spatial position and orientation of the sensor 116 are known or can be derived)).

[0117] Operation 410 shows (deriving third data representing an edge and/or a boundary and/or an outline of the object (e.g., deriving, via a processor 126 and hardware/software/firmware of processing logic 128, from combining a result of applying an edge detection algorithm, such as a “Laplacian-of-Gaussians” (“LoG”) filter and/or a PLUS filter, to data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different f-stops using a digital video camera 102 and a result of applying a comparable edge detection algorithm to data representing an imagery aspect of a cube 122 including a set of bracketing images taken at different focuses using a digital video camera 102, an edge of the cube 122 at which the image of the cube 122 and one or more background items and/or one or more foreground items are contiguous).

[0118] FIG. 8 illustrates an exemplary operational flow 1100 in which embodiments may be implemented. After a start operation, the exemplary operational flow moves to a hold operation 1110. The hold operation saves a digital image in a form in a user-accessible storage medium. A change operation 1120 alters the form of the saved digital image if a condition is met. The operational flow may then proceed directly or indirectly to an end operation. As shown in FIG. 8, the change operation 1120 may include one or more additional exemplary operations such as operations 1122, 1124, 1126, 1128, 1132, 1134, 1136, 1138, 142, 1144, 1146 and/or operation 1148.

[0119] As further depicted in FIG. 8, if a condition is met, the operation 1122 compresses the saved digital image. If a condition is met, the operation 1124 reduces a resolution of the saved digital image. If a condition is met, the operation 1126 reduces a resolution of the saved digital image sufficiently to meet a selected objective. For example, the selected objective may include a preselected objective or a substantially contemporaneously selected objective. By way of another example, a selected objective may include constructing a panorama that includes the digital image, creating a high dynamic range composite that includes the digital image, and/or a selected depth of field. If a condition is met, the operation 1128 aggregates the saved digital image with another digital image.

[0120] As additionally illustrated in FIG. 8, if a condition is met, the operation 1132 archives the saved digital image to another user-accessible storage medium. If a condition is met, the operation 1134 deletes the saved digital image. If a condition is met, the operation 1136 crops the saved digital image. If a condition is met, the operation 1138 transfers the saved digital image to another user-accessible storage medium.

[0121] As depicted in other illustrated examples, if a condition is met, the operation 1142 alters the form of the saved digital image if the saved digital image includes a presence of a selected subject. If a condition is met, the operation 1144 alters the form of the saved digital image if the saved digital image does not include a presence of a selected subject. If a condition is met, the operation 1146 alters the form of the saved digital image if the saved digital image includes a presence of a selected subject having a presence in at least one other digital image saved in the user-accessible storage medium. For example, a presence of a selected subject may include a selected frequency of a presence of a selected subject. If a condition is met, the operation 1148 alters the form of the saved digital image if the saved digital image includes a selected subject absent from at least one other digital image saved in the user-accessible storage medium.

[0122] The schematic block diagram of FIG. 9 illustrates various features of exemplary embodiments including separate storage location 1335, original source capture device 1340, intermediate source capture device 1345, and capture
& access device 1350. A system implementation may include various combinations of features shown in FIG. 9. For example, original source capture device 1340 associated with user 1341 may have capability for transferring selected captured data via communication link 1342 to separate storage location 1335. A wireless communication link 1343 may also be used for such transfer to separate storage location 1335.

[0123] The intermediate source capture device 1345 associated with user 1346 is shown receiving data inputs 1347, 1348 and may have capability for transferring selected capture data via communication link 1349 to separate storage location 1335. The hybrid capture/access device 1350 associated with one or more users 1351 may have capability for both transferring selected captured data to separate storage location 1335 as well as accessing saved versions of the selected captured data available at the separate storage location (see bidirectional communication link 1352).

[0124] In some instances a designated device may be approved for implementing a transfer and/or access to the separate storage location 1335. In other instances an authorized party (e.g., user associated with the capture device or with access device, authorized third party, etc.) may be authorized for implementing a transfer and/or access from many types of designated devices to the separate storage location 1335.

[0125] The schematic diagram of FIG. 9 shows exemplary system embodiment components that may include access device 1355, approved access device 1360, approved automated access device 1365, and approved access device 1370.

[0126] Possible aspects may include an authorized party 1356 associated with access device 1355 having a communication link 1357 via cable to separate storage location 1335. Another possible aspect may include a third party 1361 associated with approved access device 1360 having a communication link 1362 via dial-up line to separate storage location 1335. A further possible aspect may include the approved automated access device 1365 having a wireless communication link 1366 to separate storage location 1335.

[0127] Another possible aspect may include multiple entities such as authorized party 1371, authorized party 1372, and third party 1373 associated with approved access device 1370 having a communication link 1374 (e.g., radio signal, television signal, etc.) via satellite 1375 to separate storage location 1335.

[0128] Referring to the schematic block diagram of FIG. 10, various exemplary embodiment features related to separate storage location 1380 may include a separate storage interface 1382 that has possible communication links with capture device 1384, capture & access device 1385, access device 1386, authorized party 1387 and third party 1388. In some implementations a data recipient 1389 may be connected via a distribution link to the separate storage interface 1382.

[0129] An exemplary data storage module 1390 may include one or more saved data versions 1392, non-altered data components 1393, modified data components 1394, transformed data 1396, and regenerated data 1397. An illustrated possible feature may include centralized storage media 1400, and in some instances active data storage files 1402 and archived data storage files 1404. Further aspects in some implementations may include distributed storage media 1406 and removable storage media 1408.

[0130] Processing of data may be accomplished by an exemplary computerized storage system 1410 incorporated as an integral part of the separate storage location 1380 or remotely linked to the separate storage location 1380. The computerized storage system 1410 may include processor 1412, controller 1414, one or more applications 1416, and memory 1418.

[0131] Additional types of storage-related modules may include identifier records 1420, storage protocol 1422, storage organization categories 1424, storage management algorithm 1426, and storage management tasks 1428.

[0132] Referring to the schematic block diagram of FIG. 11, exemplary embodiment features incorporated in a capture device 1430 include user interface 1432 for authorized users 1434, 1436 as well as for authorized party 1438. In some instances such user interface 1432 may also be available to an owner or operator of a separate storage location 1440 that is linked (see 1446) to the capture device 1430.

[0133] Other communication links to the capture device 1430 may include an input channel for original captured data 1442, and another input channel for transmitted captured data 1444.

[0134] It will be understood that various functional aspects may be incorporated with the capture device and/or with the separate storage location. Accordingly the illustrated embodiment features of FIG. 11 may include previously described identifier records 1420, storage protocol 1422, storage organization categories 1424, storage management algorithm 1426, and storage management tasks 1428.

[0135] Of course it will be understood that the various exemplary type of records and data files are disclosed herein for purposes of illustration only and are not intended to be limiting. Some of the specified file parameters and records may not be included in certain implementations, and additional types of file parameters and records may be desirable additions in other implementations.

[0136] A computer apparatus 1450 incorporated in the capture device 1430, or in some instances remotely linked to the capture device 1430, may include processor 1452, controller 1454, one or more applications 1456, and memory 1458. Additional aspects operably coupled with the capture device 1430 may include integrated storage media 1460, temporary storage 1466, distributed storage media 1462, and removable storage media 1464.

[0137] Further types of data storage files may include actual captured data 1467, modified captured data 1468, one or more data exemplars 1472, one or more data samples 1474, and in some instances various transformed data excerpts 1476. Depending on the circumstances additional aspects may include data selection rules 1478, and a data selection program 1479 to process the captured data and facilitate a determination of which captured data will be immediately or ultimately transferred to the separate storage location. It will be understood that various records may be maintained at the transmitting device and/or at a destination storage facility to identify which individual or groups of
captured data have been transferred, and in some instances providing addition details regarding the nature (e.g., resolution, future access limitations, etc.) of the selected captured data that has been transferred.

[0138] It will be further understood that aspects of such data selection rules 1478 or data selection program 1479 may be incorporated at the destination storage facility or at the transmitting device in order to achieve efficient and desirable transfer results. Some embodiments may provide somewhat sophisticated rules, including an ability to detect redundancies and carry out selection policies and goals. For example, a storage algorithm regarding soccer match data may seek to transfer at least one high resolution shot of each goal attempted or made, as well as limiting transferred spectator images to not more than ten per match and limiting transferred action player images to not more than fifty per match. Similarly a policy guideline may provide predetermined limits regarding transferred audiovisual data for each soccer match. Of course, availability of local storage capacity associated with the transmitting device may result in temporary (or perhaps long term) retention policies regarding certain types of captured data (current topical interest, additional time for pre-transfer review, etc.).

[0139] As disclosed herein, some exemplary system embodiments and computer program implementations may provide one or more program applications that include encoded process instructions for implementing a storage management algorithm that allows accessibility by a particular device to selected captured data having a quality parameter that is within an operational capability range of the particular device. Another possible implementation may provide one or more program applications that include encoded process instructions for implementing a storage management algorithm that retains for future accessibility the selected captured data having a quality parameter that exceeds an operational capability of a transmitting device.

[0140] Additional exemplary system embodiments and computer program implementations may provide one or more program applications that include encoded process instructions for implementing a storage management algorithm that facilitates accessibility to the different storage organization categories based on one or more of the following parameters: creator, participant, originator, source, owner, proprietary, public domain, goal, subject matter, event, established policy, selected policy, custom policy, redundancy, variety, resolution, reproduction, replication, captured quality, device quality, captured fidelity, device fidelity, commercial value, personal value, expected future use, recipient, required access frequency, expected access frequency, potential distribution, taxonomy, common theme, tag, classification, device capability, device attribute, device parameter, storage capability, storage attribute, storage parameter, device setting, user task, device context, user context, device history, and user history.

[0141] Other exemplary system embodiments may provide data storage files that include a saved version of selected captured data received from one or more of the following types of transmitting devices: still camera, audio recorder, digital audio recorder, audio-visual recorder, video recorder, digital video recorder, video camera, video/still camera, data recorder, telephone, cell phone, transceiver, PDA, computer, server, printer, fax, multi-function device, scanner, copier, surveillance camera, data sensor, mote, distributed imaging element, ingested sensor, medical sensor, medical imaging, health-monitoring device, traffic management device, media library, media player, vehicle sensor, vehicular device, environmental sensor, implanted device, mobile unit, fixed unit, integral, applied device, worn device, remote, radio, communication unit, scheduler, private, public, shared, residential, business, and office.

[0142] Additional possible system features may provide one or more transmitting devices for transferring the selected captured data via a communication link to the data storage files at a separate storage facility. Further possible system aspects may include one or more transmitting devices configured to implement transferring of the selected captured data based on one or more of the following criteria: rule, user input, user state, configuration, commercial, personal, context, space, device memory, device capability, bandwidth, separate storage memory, separate storage capability, separate storage accessibility, cost, task, preference, storage protocol, security, privacy, affiliation, and membership.

[0143] In some instances an exemplary implementation may include one or more transmitting devices that are owned or controlled by an entity that is an owner or operator of the separate storage facility.

[0144] Further exemplary system embodiments may provide one or more transmitting devices that include a portable transmitting device having one or more of the following storage capabilities: dedicated wireless link to remote storage, non-dedicated wireless link to remote storage, wireless link to multiple remote storage units, volatile memory, permanent memory, rewritable memory, internal memory, removable memory, backup memory, distributed memory, flash memory, and memory card.

[0145] Additional process components incorporated in a computer program product may include retaining at a separate storage facility for future availability some selected captured data having a given quality characteristic, which selected captured data is received via a communication link with a capturing device. A related incorporated process component may include retaining for future availability one or more of the following types of selected captured data: real-time, time-delayed, original, copied, scanned, faxed, sensed, detected, derived, computed, modified, composite, enhanced, reduced, filtered, edited, condensed, compressed, compiled, retransmitted, forwarded, stored, cached, prefetched, processed, raw, live, batched, and uploaded.

[0146] Other process components incorporated in a computer program product may include enabling future accessibility by an authorized user or approved device or recipient party to the selected captured data pursuant to the storage protocol. A related incorporated process component may include providing one or more of the following parameters associated with or incorporated in an identity record to facilitate the future accessibility: exemplar, abbreviation, indicia, symbol, code, name, title, icon, date, excerpt, characteristic, form, alternate format, listing, reorganization, aggregation, summary, reduction, representation, sample, thumbnail, image, preview, group specimen, sub-group element, unique, non-unique, arbitrary, global, semantic, public, private, and encoded.

[0147] A further process component incorporated in a computer program product may include providing an iden-
ifier record that is operably coupled to one or more of the different organization categories. In some implementations, an incorporated process feature related to the identifier record may include providing the identifier record at the separate storage facility. Another possible incorporated process feature related to the identifier record may include providing the identifier record at the capturing device or other approved device.

[0148] Referring to the high level flow chart of FIG. 12, an exemplary process embodiment 1500 for managing data storage may include receiving data at a separate storage facility via a communication link from one or more transmitting devices, which data includes selected captured data (block 1501); maintaining some or all of the selected captured data at the separate storage facility as a saved version that is stored in accordance with a safekeeping arrangement (block 1502); and confirming a storage access protocol wherein an identifier record provides a specified identification of an applicable storage organization category (block 1503). A further possible process feature may include enabling restricted future access to the saved version of the selected captured data in accordance with the safekeeping arrangement by providing an operable coupling between the identifier record and the applicable storage organization category of the separate storage facility (block 1504).

[0149] Additional exemplary process embodiments 1505 are shown in FIG. 13 which illustrates previously described components 1501, 1502, 1503, 1504 along with other possible features such as establishing an identifier record generated by a transmitting device (block 1506), and establishing an identifier record generated by the separate storage facility (block 1507). A further possible aspect related to restricted future access to the saved version of selected captured data may include providing such future access via a communication channel with a transmitting device or other approved device (block 1508).

[0150] It will be understood that some implementations may provide an authentication relationship between a collection of identifier records and an approved device (e.g., capture device, transmitting device, personal mobile device, etc.). Data security may then be accomplished by providing limited login rights, lockout schemes, or other restricted device usage techniques. The pertinent identifier record(s) can be activated pursuant to specified device interaction with the separate storage facility.

[0151] Some implementations may include providing the future access via a communication channel with an authorized user associated with a transmitting device or other device (block 1509). Another possible feature may include providing the future access via a communication channel with an authorized third party (block 1511).

[0152] It will be understood that some embodiments may provide an authentication relationship between a collection of identifier records and an authorized user or authorized third party. This results in future access to the separate storage facility becoming potentially more global. For example, such an authorized user or authorized third party who moves to any appropriate convenient device can generate or acquire the pertinent identifier record(s) necessary for activating a management task (e.g., retrieval, reorganization, status change, distribution authorization, etc.). In other words, such an appropriate convenient device temporarily becomes an "approved device" so long as its user qualifies as an "authorized user" or authorized third party.

[0153] Additional possible aspects illustrated in FIG. 13 include activating the future access in response to a recognizable query from a transmitting device or other approved device (block 1512). A further possible aspect includes activating the future access in response to a recognizable query from an authorized user associated with a transmitting device or from an authorized user associated with an approved device (block 1513). Yet another possible feature may include activating the future access in response to a recognizable query from an authorized third party (block 1514).

[0154] The exemplary embodiments 1515 shown in FIG. 14 show previously disclosed process components 1501, 1502, 1503 along with various possible fee arrangements. For example, some implementations may include providing restricted availability to the selected captured data based on a fee schedule (block 1516), and in some instances providing the fee schedule that includes a fee allocation paid to an entity responsible for the separate storage facility (block 1517). Another possible aspect may include providing the fee schedule that includes a fee allocation paid by an authorized user (block 1518).

[0155] Additional process components may include receiving selected captured data having a given quality characteristic (block 1519), maintaining some or all of the selected captured data without a significant loss of the given quality characteristic (block 1521), and receiving selected captured data having a modified quality characteristic that was changed from a previous given quality characteristic (block 1522).

[0156] Further illustrated exemplary features in FIG. 14 include maintaining the selected captured data at the separate storage facility in accordance with a quality downgrade schedule (block 1526), and maintaining the captured data at the separate storage facility in a format that enables automatic retrieval of the saved version pursuant to the storage access protocol (block 1527).

[0157] Other possible aspects may include maintaining the captured data at the separate storage facility in a format that enables distribution of the saved version to one or more third party recipients pursuant to the storage access protocol (block 1528), and providing restricted availability to the selected captured data based on a fee schedule that includes a fee allocation paid by a third party recipient (block 1529).

[0158] The detailed flow chart of FIG. 15 illustrates various exemplary embodiment features 1530 including previously described components 1502, 1503, 1504 along with various possible aspects relating to the saved version of the selected captured data. For example, some embodiments may include implementing a storage format for the saved version of the selected captured data based on substantially non-altered data components (block 1531). Other embodiments may include implementing a storage format for the saved version of the selected captured data based on regenerated or transformed data components (block 1532).

[0159] Additional process components may include providing an exemplar or abbreviation or indicia that is recognized by an authorized party and that is operably coupled to the identifier record to facilitate a storage management task.
concerning the saved version of the selected captured data (block 1533). A related aspect may include processing a storage management task initiated by one or more of the following: owner of separate storage facility, operator of separate storage facility, transmitting device user, transmitting device, authorized party, approved device, and recipient party (block 1534). Further related aspects may include providing one or more of the following type of exemplar or abbreviation or indicia: symbol, code, name, title, icon, date, excerpt, characteristic, form, alternate format, listing, reorganization, aggregation, summary, reduction, representation, sample, thumbnail, image, preview, group specimen, sub-group element, unique, non-unique, arbitrary, global, semantic, public, private, and encoded (block 1536).

[0160] Other possible aspects illustrated in FIG. 15 include processing the selected captured data to accomplish an allocation of the selected captured data among one or more storage organization categories, which allocation is determined by the authorized user associated with a transmitting device (block 1537) or by an entity responsible for the separate storage facility (block 1538).

[0161] Referring to the exemplary embodiment features 1540 shown FIG. 16, previously described process features 1501, 1502, 1503, 1504 may in some instances also include receiving the selected captured data at one or more of the following types of storage facilities: backup, archive, removable, rewritable, permanent, server, base station, network storage, web site, central, integrated, distributed, dispersed, fragmented, non-altered, transformed, encoded, bitmap, compression, volatile, replicated, third party, storefront, mobile, vehicle, residence, office, shared, proprietary, and rights-managed (block 1541).

[0162] Additional possible aspects may include implementing one or more of the following types of storage organization guidelines to facilitate future access by an authorized party or approved device or recipient party: original high resolution, permanent high resolution, temporary high resolution, temporary lower resolution, permanent lower resolution, deleted high resolution, deleted lower resolution, deleted content, included content, subject matter, event, author, creator, participant, redundancy, repetition, quality, size, resolution, fidelity, tagged, preview, sample, group, sub-group, composite group, individual, personage, entity, item, content, composition, summary, augmentation, attribute, content category, frequency, and inventory (block 1542).

[0163] Another exemplary feature may include providing the different storage organization categories based at least in part on one or more of the following type of parameters: temporal, available device memory, available storage location memory, user selected, device limitation, storage location requirement, and recipient choice (block 1543).

[0164] The exemplary detailed embodiments 1545 shown in FIG. 17 include previously described process features 1501, 1502, 1503 along with other possible aspects. For example, some implementations may provide one or more of the following types of identifier records to facilitate access to the saved version of the selected captured data: exemplar, abbreviation, indicia, symbol, code, name, title, icon, date, excerpt, characteristic, form, alternate format, listing, reorganization, aggregation, summary, reduction, representation, sample, thumbnail, image, preview, group specimen, sub-group element, unique, non-unique, arbitrary, global, semantic, public, private, and encoded (block 1546).

[0165] Another possible aspect relating to an identifier record may include enabling an authorized party or approved device or recipient party to locate the saved version and/or execute a storage management task concerning the saved version of the selected captured data by reference to the identifier record (block 1547). It will be understood that in some embodiments the identifier record is operably coupled with a recognizable element that an authorized user can “look at” or authorized device can detect (e.g., identify) in order to locate selected captured data and/or execute a storage management task. However in other embodiments such a recognizable element (e.g., representative sample, thumbnail, exemplar, topical pointer, etc.) may directly function as the identifier record that is operably coupled to the separate storage facility.

[0166] Further possible features may include receiving one or more of the following types of selected captured data at the separate storage location: text, image, graphics, voice, music, sound, audio, video, audio/visual, monochrome, color, data log, measurement, instruction, biomedical, financial, sensor, environmental, personal, public, transaction, shopping, commercial, security, automotive, device-diagnostic, game, and virtual world (block 1551).

[0167] FIG. 17 also illustrates other possible aspects including receiving one or more of the following types of selected captured data at the separate storage location: still image, image stream, and combination of still image and image stream (block 1552). Yet another possible aspect may include receiving some or all of the selected captured data to be saved at the separate storage location based at least in part on a set of rules configured by an authorized user associated with the transmitting device (block 1553).

[0168] The exemplary embodiment 1555 shown in FIG. 18 illustrates a computer program product having one or more computer programs for executing a process (block 1556). Such a process may include retaining at a separate storage facility for future availability some selected captured data having a given quality characteristic, which selected captured data is received via a communication link with a capturing device (block 1557); and implementing a storage protocol for keeping a saved version of the selected captured data at the separate storage facility, which storage protocol includes different organization categories (block 1558).

[0169] Further possible programmed process components may include providing an identifier record that is operably coupled to one or more of the different organization categories (block 1559), and enabling future accessibility by an authorized user or approved device or recipient party to the selected captured data pursuant to the storage protocol (block 1561).

[0170] Referring to the schematic block diagram of FIG. 19, one or more exemplary capture devices 1565 may provide data storage files 1570 that store captured data in both long term memory 1571 and temporary memory 1572. An exemplary data management technique may include representative thumbnails 1573 and other exemplars 1574 that serve as an identifier link (e.g., directly and/or through an identifier record) to different categories of captured data. Visual access to the captured data as well as to the thumb-
nails 1573 and exemplars 1574 may be provided to a device user in various ways such as by viewer 1576.

[0171] As disclosed herein, a particular process for choosing selected captured data to be transferred to a separate storage facility 1567 may be accomplished by a program control module 1575 and/or by manual control 1577. Various types of transferability communication channels 1569 may be used that incorporate short and long distance communication media connections (e.g., Internet, wireless, cable, LAN, WAN, etc.) in order to provide periodic back and forth transfers between an approved external unit such as capture device 1565 and one or more separate storage facilities such as 1567.

[0172] In some exemplary implementations, various storage management functions may be performed at the separate storage facility 1567 under control of an owner/operator 1568 or in some instances under remote control by an approved device or authorized user 1566. Accordingly the illustrated separate storage facility embodiment 1567 includes data storage files 1580 with long term memory 1581 and temporary memory 1582 that store inventory data versions of the selected captured data received from a transmitting capture device 1565.

[0173] An exemplary data management technique at the separate storage facility 1567 may include representative thumbnails 1583 and other exemplars 1584 that serve as an identifying link (e.g., directly and/or through an identifier record) to different categories of stored inventory data versions (e.g., replicated, enhanced quality, downgraded quality, transformed, regenerated, etc.). Visual access to the inventory data versions as well as to thumbnails 1583 and exemplars 1584 may be provided in various ways such as by monitor 1586. Transferability management is shown to be subject to instructions from program control module 1588 as well as by manual control 1587.

[0174] It will be understood that a particular separate data storage facility may have numerous authorized users and designated devices providing selected captured data under different safekeeping arrangements and related fee schedules. These same authorized users and designated devices as well as other patrons may be subject to additional accessibility guidelines and related fee schedules. Accordingly the illustrated examples are not intended to be limiting, and it is understood that changes may be made to accommodate the needs and desires of all different types of users and patrons.

[0175] The high level flow chart of FIG. 20 illustrates an exemplary process embodiment 1650 for a data storage protocol technique that includes providing a separate storage facility that receives selected captured data via a communication link from at least one transmitting capture device, which capture device includes local memory capacity (block 1651); maintaining some or all of the selected captured data at the separate storage facility as an inventory data version that is stored in accordance with a safekeeping arrangement (block 1652); and providing different status categories to identify the inventory data version of the selected captured data (block 1653). Additional possible process features may include establishing future accessibility guidelines in accordance with the safekeeping arrangement to control back and forth data transferability between the separate storage facility and an external unit (block 1654), and implementing the future accessibility guidelines based on an applicable attribute associated with the external unit (block 1655).

[0176] Additional exemplary embodiment features 1660 are disclosed in FIG. 21 including previously described process components 1652, 1653, 1654, 1655 in combination with providing an external unit that also functions as a transmitting capture device (block 1661). Other possible aspect may include establishing programmed guidelines that require no user intervention for transferring certain selected captured data from the at least one transmitting capture device to the separate storage facility (block 1662), and establishing programmed guidelines that require no user intervention for transferring certain selected inventory data versions from the separate storage facility to an approved external unit (block 1663).

[0177] Further possible implementations may include establishing flexible guidelines that allow user intervention for determining whether to transfer certain selected captured data from the at least one transmitting capture device to the separate storage facility (block 1666), establishing flexible guidelines that allow user intervention for determining whether to transfer certain selected inventory data versions from the separate storage facility to an external unit (block 1667), and establishing flexible guidelines that allow user intervention for determining whether to redirect certain selected inventory data versions from the separate storage facility to an authorized recipient party (block 1668).

[0178] The more detailed flow chart of FIG. 22 discloses various exemplary embodiment components 1670 including previously described process features 1652, 1653, 1654, 1655 in combination with other possible features including transferring an inventory data version of the selected captured data from the separate storage facility to an external unit based on unused local memory capacity of the external unit (block 1671), transferring selected captured data from the external unit to the separate storage facility based on insufficient local memory capacity of the external unit (block 1672).

[0179] Other exemplary implementation features may include transferring an inventory data version of the separate storage facility to an external unit based on a particular quality characteristic from the separate storage facility to an external unit based on a matching operational quality capability of the external unit (block 1673), and transferring selected captured data having a particular quality characteristic from an external unit to the separate storage facility based on a deficient operational quality capability of the external unit (block 1674).

[0180] Additional aspects may include transferring an inventory data version from the separate storage facility to an external unit based on an identity confirmation of an authorized user at the approved external unit (block 1676), transferring captured data from an external unit to the separate storage facility based on a failure to obtain confirmation of an authorized user at the external unit (block 1677).

[0181] The illustrative features 1680 shown in FIG. 23 include previously discussed process components 1652, 1653, 1654, 1655 along with other possible data transfer options. For example, some implementations may include preventing transfer of an inventory data version from the separate storage facility to an external unit based on a failure to obtain confirmation of an authorized user at the external unit (block 1681), transferring selected captured data from
an external unit to the separate storage facility based on confirmation of the external unit’s location in a restricted area (block 1682).

[0182] Further exemplary features may include preventing transfer of an inventory data version from the separate storage facility to an external unit based on confirmation of the external unit’s location in a restricted area (block 1683), establishing a guideline for redirecting certain inventory data versions to an authorized recipient party (block 1684), and establishing a guideline for redirecting certain inventory data versions to an approved device (block 1686).

[0183] FIG. 23 also discloses other possible aspects including providing top and sub-topical categories for grouping inventory data versions (block 1687), and incorporating certain inventory data versions in more than one status category (block 1688).

[0184] Referring to the detailed exemplary embodiments 1690 shown in FIG. 24, the previous discussed process components 1652, 1653, 1654, 1655 may further include providing different quality characteristic categories for grouping inventory data versions (block 1691). Other possible process components may include changing a status category of inventory data versions based on a lack of usage over a period of time (block 1692), and changing a status category of inventory data versions based on instructions from an authorized user (block 1693).

[0185] Another possible aspect may include providing an identifier record operably coupled to one or more status categories of inventory data versions (block 1695). A further related aspect may include enabling access to the identifier record by an authorized user or approved device or recipient party to accomplish a storage management task regarding the selected captured data (block 1696). Other possible implementation features may include enabling a storage management task initiated from an external unit to cause selected captured data to be off-loaded to the separate storage facility, or to cause inventory data versions to be down-loaded to an external unit, or to cause certain inventory data versions to be redirected to an authorized recipient party (block 1697).

[0186] FIG. 24 also shows an exemplary aspect that includes enabling access to the identifier record by an owner or operator of the separate storage facility to accomplish a storage management task regarding the selected captured data (block 1698). Further possible aspects may include enabling a storage management task initiated from the separate storage facility to cause selected captured data to be off-loaded to the separate storage facility, or to cause inventory data versions to be down-loaded to an external unit, or to cause certain inventory data versions to be redirected to an authorized recipient party (block 1699).

[0187] The detailed exemplary embodiment features 1700 shown in FIG. 25 include previously discussed process components 1651, 1652, 1653, 1654 along with another aspect that may include changing a status category of inventory data versions based on a relinquishment or waiver by an authorized user associated with the at least one transmitting capture device (block 1701). Further possible implementation features may include providing restricted availability to the inventory data versions based on a fee schedule (block 1702), and providing the fee schedule that includes a fee allocation paid to an entity responsible for the separate storage facility (block 1703).

[0188] FIG. 25 also shows additional exemplary aspects including receiving selected captured data having a given quality characteristic (block 1706), maintaining some or all of the selected captured data without a significant loss of the given quality characteristic (block 1707), and receiving captured selected data having a modified quality characteristic that was changed from a previous given quality characteristic (block 1708).

[0189] The various exemplary embodiment features 1710 of FIG. 26 may include previously discussed process components 1651, 1652, 1653, 1654, 1655 as well as maintaining the selected captured data at the separate storage facility in accordance with a quality downgrade schedule (block 1711). A further possible aspect may include enabling a programmed selection of the captured data to be saved on storage media at the separate storage location based at least in part on making the captured data available for processing prior to a transfer from the at least one transmitting capture device (block 1716).

[0190] Further possible implementation features may include making a selection of the captured data to be saved on storage media at the storage location based at least in part on a set of rules configured by an owner or operator of the separate storage location (block 1717). Other possible features may include employing one or more of the following features for making the captured data available to an authorized party prior to the transferring: printout, screen display, viewfinder display, display monitor, thumbnail display, removable memory, device memory, audio, tactile, alert, notification, transmittal to other device, and instructional (block 1718).

[0191] Referring to FIG. 27, an exemplary computer program product embodiment 1720 provides a computer program product having one or more computer programs for executing a process (block 1721). An exemplary process may include receiving selected captured data at a separate storage facility via a communication link from a transmitting capture device (block 1722), providing status categories to identify an inventory data version of the selected captured data (block 1723), implementing a safekeeping arrangement for restricted back and forth transferability between the separate storage facility and an approved external unit (block 1724), and evaluating one or more applicable attributes associated with the external unit as a basis for downloading a particular inventory data version of the selected captured data to the approved external unit (block 1726).

[0192] Examples of back and forth transferability may involve replacing a thumbnail representation on a capture/access device with high resolution quality photographs retrieved from the separate storage facility. Another example may involve replacing an entire collection of recent photographs held in local memory of a user’s capture/access device that are organized by a “date categorization” scheme with topical thumbnails organized by topics that are pertinent to a currently active project. As part of the replacement, the remaining non-topical recent photos may be transferred to the remote storage location for safekeeping and future accessibility.

[0193] Another possible example may involve prefetching from the separate storage facility previously archived high
quality resolution images in anticipation of an upcoming event. A further example may involve using an external unit such as a mobile telephone to select certain individual or collective archived image data in remote archived storage, and initiate a redirection (e.g., distribution) of an enhanced transformed high quality resolution version that is matched to a high quality capability external unit of an approved recipient.

[0194] Referring to the exemplary dual mode capture embodiment 1715 of FIG. 28, process components may include coordinating contemporaneous operation of a video capture module and a still image capture module (block 1725); operating a video capture module having specified quality parameters to generate a video data stream derived from a particular field of view (block 1727); and also operating a still image capture module to generate one or more still image frames derived from a related field of view, wherein the still image capture module includes dissimilar quality capabilities compared to the video capture module (block 1728). A further related process component may include allowing ongoing capture of a video data stream incorporated in a video image format and also facilitating periodic capture of one or more still image frames incorporated in a still image format, wherein the video image format and the still image format include one or more different features, respectively (block 1729).

[0195] FIG. 29 illustrates another exemplary image capture technique embodiment 1730 that may include providing a video capture module with specified quality parameters (block 1731), capturing a video data stream incorporated in a video mode format, which video data stream is derived from a particular field of view of the video capture module (block 1732), providing a still image capture module with given quality capabilities (block 1733), and enabling coordinated operation of the video capture module and the still image capture module regarding their respective fields of view (block 1734). A further possible aspect may include activating the still image capture module to periodically capture one or more still image frames incorporated in a still mode format that includes one or more different features as compared to the video mode format (block 1736).

[0196] Referring to the exemplary embodiments 1740 illustrated in FIG. 30, a possible technique may include previously described process features 1731, 1732, 1733, 1734, 1736 along with providing a tag that identifies at least one video frame captured at approximately the same time as the one or more still image frames (block 1743). Other possible implementation features may include storing the one or more still image frames as a digital object associated with a stored version of the video data stream (block 1741) or a digital object distinct from a stored version of the video data stream (block 1741).

[0197] Further exemplary aspects may include incorporating in the still image capture module one or more quality capabilities that are different from the specified quality parameters of the video capture module (block 1746). Other related aspects may include incorporating one or more of the following different quality capabilities in the still image capture module: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, preview display, post-capture display, high quality storage media, low quality storage media, removable storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, volatile memory, permanent memory, post-capture editing, and meta-data (block 1747).

[0198] The various exemplary embodiments 1750 of FIG. 31 may include previously described features 1731, 1732, 1733, 1734, 1736 along with aspects related to quality capabilities of the still image capture module. For example, some implementations may include incorporating at least one given still image quality capability having an operational range of variable image capture attributes that is different as compared to an operational range of corresponding variable video capture attributes (block 1751). Other implementations may include incorporating the given still image quality capability having the operational range of variable image capture attributes that is partially overlapping with the operational range of corresponding variable video capture attributes (block 1752).

[0199] Additional possible implementation features may include activating a shutter based on a user-selected schedule (block 1753), and activating a shutter based on a programmed or automated schedule (block 1754). Other possible features may include providing a shutter speed interval for the still image capture module that is different from a concurrent frame frequency interval for the video capture module (block 1756), and providing the shutter speed interval that is greater than the concurrent frame frequency interval for the video capture module (block 1757).

[0200] As shown in FIG. 31, other related aspects may include enabling a manually actuated shutter to periodically capture the one or more still image frames (block 1758) and enabling an activation control for the manually actuated shutter, which activation control is located remotely from the still image module (block 1759).

[0201] The various exemplary embodiments 1760 illustrated in FIG. 32 include previously described process components 1731, 1732, 1733, 1736 along with possible aspect of incorporating in the video capture module a default quality parameter that cannot be altered (block 1761), and incorporating in the image capture module a default quality capability that cannot be altered (block 1764).

[0202] Further exemplary aspects may include enabling user selection of an optional quality parameter incorporated in the video capture module (block 1762), and enabling programmed or automated selection of an optional quality parameter incorporated in the video capture module (block 1763). Additional process features may include enabling user selection of an optional quality capability incorporated in the still image capture module (block 1765), and enabling programmed or automated selection of an optional quality capability incorporated in the still image capture module (block 1766).

[0203] Other possible implementation features shown in FIG. 32 include providing a user-actuated selection of a variable image capture attribute of the one or more still image frames (block 1767), and providing a programmed or...
automated selection of a variable image capture attribute of the one or more still image frames (block 1768). An additional possible feature may include enabling a display of thumbnail exemplars of the one or more still image frames (block 1769).

[0204] The exemplary embodiments 1770 shown in FIG. 33 include previously described process features 1731, 1732, 1733, 1734 along with a possibility of activating the still image capture module to periodically capture one or more still image frames incorporated in a still mode format (block 1785).

[0205] Other possible process features may include enabling a programmed or automated coordination of the respective fields of view of the video capture module and the still image capture module (block 1771), allowing a user-actuated override to change the programmed or automated coordination of the respective fields of view (block 1772), and enabling user-actuated coordination of the respective fields of view of the video capture module and the still image capture module (block 1773).

[0206] Further exemplary implementation features may include allowing selection of a zoom close-up field of view for the still image capture module without causing a same close-up field of view for the video capture module (block 1776), and incorporating in the close-up field of view for the still image capture module at least a portion of a concurrent field of view for the video capture module (block 1777).

[0207] Other possible aspects illustrated in FIG. 33 include allowing selection of a zoom distant field of view for the still image capture module without causing a same distant field of view for the video capture module (block 1781), and incorporating in the distant field of view for the still image capture module at least a portion of a concurrent field of view for the video capture module (block 1782).

[0208] Additional possible aspects may include allowing selection of a wide angle or narrow angle field of view for the still image capture module without causing a same wide angle or narrow angle field of view for the video capture module (block 1783), and incorporating in such field of view for the still image capture module at least a portion of a concurrent field of view for the video capture module (block 1784).

[0209] The various process embodiments 1785 illustrated in FIG. 34 include previously described features 1731, 1732, 1733, 1734, 1735 along with possible aspects pertaining to coordination between capturing the video data stream and capturing the still image frames. For example, a possible aspect may include capturing the sequence of video frames without interruption during a same time period when capturing the still image frames (block 1791). Other possible aspects may include activating an ancillary device approximately concurrently with capturing the one or more still image frames (block 1792), and deactivating the video capture device during an activation interval for the ancillary device (block 1793).

[0210] Additional implementation features may include obtaining a still mode format having one or more of the following type of different visual elements as compared to the video mode format: aspect ratio, color space, resolution, dynamic range, and pixel depth (block 1786). Another possible feature includes incorporating in the still mode format a default visual element that cannot be altered (block 1787).

[0211] Further possible features may include enabling programmed or automated selection of one or more types of different visual elements included in the still mode format (block 1788). Another possible feature may include enabling user-actuated selection of one or more types of different visual elements included in the still mode format (block 1789).

[0212] As shown in FIG. 35, exemplary process embodiments 1795 may include previously described features 1731, 1732, 1733, 1734, 1736 along with various possible aspects relating to capturing the video data stream or the still image frames. For example, a possible aspect may include positioning a first lens of the still image capture module in relative alignment with a second lens of the video capture module (block 1796).

[0213] Other possible aspects may include positioning the first lens in an adjustable alignment relative to the second lens (block 1797), and providing an adjustable zoom feature for the first lens to capturing one or more close-up or distant still image frames (block 1798). Yet another possible aspect may include providing a shared lens for use by both the still image capture module and the video capture module (block 1799).

[0214] Further possible features shown in FIG. 35 include automatically activating an ancillary device at approximately the same time as activating a shutter to assist in generating the one or more still image frames (block 1801), and sensing a lack of satisfactory natural light exposure as a basis for automatically activating the ancillary device (block 1802). An additional possible feature may include automatically activating one or more of the following type of ancillary devices: flash illuminator, infrared illuminator, ultraviolet illuminator, light meter, exposure controller, time stamp, date stamp, ID indicia, zoom lens actuator, sensor, monitor, and detector (block 1803).

[0215] The various exemplary data capture embodiments 1805 of FIG. 36 include previously described process components 1727, 1728, 1729 in combination with other possible features including enabling user selection or programmed selection or automatic selection of an optional quality parameter incorporated in the video capture module (block 1806) and in the still image capture module (block 1807). Other possible implementation features may include enabling user coordination or programmed coordination or automated coordination of the related fields of view of the video capture module and the still image capture module (block 1808).

[0216] FIG. 36 illustrates additional possible aspects including selectively activating a still image capture feature that is not concurrently activated in the video capture module (block 1812), and selectively activating a video capture feature that is not concurrently activated in the still image module (block 1813).

[0217] Other possible aspects may include selectively activating one or more of the following features in either the still image capture module or in the video capture module: zoom in, zoom out, close-up, distant, fixed field of view, variable field of view, wide angle view, diminished angle
view, ancillary device, added filter, omitted filter, ancillary illumination, higher quality image, lower quality image, high resolution capture, high resolution storage, low resolution capture, low resolution storage, ID indicia, wireless transfer, hardcopy output, thumbnail display, sensor, monitor, and detector (block 1811).

[0218] Referring to the exemplary embodiment 1815 of FIG. 37, a computer program product implementation may have instructions for executing a process that includes providing operation control of a video capture module having specified quality parameters with operation of a still image capture module having dissimilar quality capabilities as compared to the video capture module (block 1817); allowing ongoing capture of a video data stream incorporated in a video image format and derived from a particular field of view (block 1818); and facilitating periodic capture of one or more still image frames incorporated in a still image format and derived from a related field of view, wherein the video image format and the still image format include one or more different features, respectively (block 1819).

[0219] It will be understood that various process aspects as disclosed herein may be incorporated as instructions in one or more computer programs. For example, such exemplary instructions may include implementation of one or more of the following dissimilar quality capabilities of the still image capture module: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, grayscale, ambient light sensor, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, preview display, post-capture display, high quality storage module, low quality storage module, removable storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, volatile memory, permanent memory, post-capture editing, and meta-data.

[0220] Additional exemplary instructions may include implementation of one or more of the following different features of the still image format: aspect ratio, color space, resolution, dynamic range, and pixel depth.

[0221] Referring to the schematic diagram of FIG. 38, an exemplary data capture system embodiment may include a fixed alignment video camera module 1820 having a wide field of view 1822 that encompasses vehicle 1824 at different locations (see phantom position 1824a), and that also encompasses persons 1826, 1828 at varied locations. The system may further include an adjustable alignment still image camera module 1830 having a narrow field of view 1832 shown directed at vehicle 1824. An alignment change of still image camera module 1830 (see variable phantom alignment 1834) enables the still image camera module to have an adjusted field of view directed at persons 1826, 1828.

[0222] It will be understood that various possible control implementations may be used to coordinate operation of video camera module 1820 with operation of still image camera module 1830, and the illustrated implementation of FIG. 38 is by way of example only and is not intended to be limiting. A user/operator 1838 in some instances may have selective operational control 1839 of the still image camera module. In some instances selective operation control of the video camera module 1820 may be provided by user/operator 1838 or another user operator (not shown). Similar type of user selected operational control of ancillary device 1840 may also be provided.

[0223] The exemplary system embodiment of FIG. 38 may also include ancillary device 1840, control unit 1850 and program 1855. The control unit may be operably coupled to video camera module 1820 via 1851, and to still image camera module via 1852, and to ancillary device 1840 via 1853, and to program via 1854, and to user/operator 1838 via 1858. Accordingly it will be understood that automated or programmed control may be available for operation of video camera module 1820, still camera module 1830, and ancillary device 1840.

[0224] It will be understood that ancillary device 1840 may include various auxiliary features related to capturing the video data stream as well as capturing the still image frames. As shown schematically in FIG. 38, the ancillary device 1840 may in some exemplary implementations provide supplemental illumination (see directional arrows 1842) of vehicle 1824 to facilitate a desirable quality capture of individual still image frames as well as in some instances a desirable quality capture of a video data stream. In other exemplary implementations the ancillary device 1840 may be used to detect movement (see directional arrows 1842) of vehicle 1824 to a new location 1824a, which movement may have a possible causal effect on operation of the still image camera module 1830 as well as a possible causal effect on operation of the video camera module 1820. Such examples are by way of illustration and are not intended to be limiting.

[0225] Referring to the schematic block diagram of FIG. 39, another possible data capture system embodiment may include video capture module 1860 having specified video quality parameters 1862, video display 1864, manual control 1866, and controller 1868. A photosensor 1870 may be configured to receive a captured video stream 1871 through dedicated video lens 1872. In some implementations the video capture module may be configured to receive video data elements from a captured video still data stream 1903 passing through shared lenses 1904 and directional mirror 1902 via communication link 1906 to photosensor 1870.

[0226] The captured video data stream may be incorporated in a particular video format that is saved by data storage media 1874 in temporary memory 1876 or long term memory 1878 for future availability and processing.

[0227] The exemplary data capture system embodiment of FIG. 39 may also include still image capture module 1880 having given quality capabilities 1882, still display 1884, manual control 1886, and controller 1888. A photosensor 1890 may be configured to receive captured still image frames 1891 through dedicated still lens 1892. In some implementations the still image capture module may be configured to receive still image data elements from a captured video still data stream 1903 passing through shared lenses 1904 and directional mirror 1902 via communication link 1908 to photosensor 1890.

[0228] The captured still image frames may be incorporated in a particular still image format that is saved by data storage media 1894 in temporary memory 1896 or long term memory 1898 for future availability and processing.
It will be understood that in addition to coordination of the disclosed capturing techniques for generating video and still data from related fields of view, the various system and process components may also facilitate initial and ongoing correlation between captured versions (e.g., stored, edited, regenerated, combined, collated, etc.) of the video data stream and captured versions (e.g., stored, edited, regenerated, collated, etc.) of the still image frames.

It will be understood from the disclosures herein that an exemplary embodiment for implementing a dual mode data capture system may include various lens arrangements, including one or more shared lenses for capturing both the video data stream and the still image frames. Other embodiments may provide a first lens for capturing the video data stream and a second lens for capturing the still image frames.

Other system aspects that may be incorporated in a dual mode data capture system may include one or more given quality capabilities of the still image capture module that are different from the specified quality parameters of the video capture module.

The exemplary embodiment shown in the high level flow chart of FIG. 40 discloses a method of image capture correlation including creating a video data stream derived from a field of view of a video capture component (block 1911); capturing one or more still image frames derived from a related field of view of a still image capture component, wherein the one or more still image frames include different quality characteristics compared to the video data stream (block 1912); and providing a cross-reference association between the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame (block 1913).

Another exemplary process embodiment illustrated in FIG. 41 discloses an image capture correlation method that includes obtaining a portion of video data stream derived from a field of view of a video capture component (block 1916); initiating a capture of one or more still image frames derived from a related field of view of a still image capture component (block 1917); generating a stored version of the captured still image frames, which stored version includes different quality characteristics compared to a stored version of the video data stream (block 1918); and providing a cross-reference association between the stored versions of the video data stream and the one or more still image frames, which cross-reference association facilitates future accessibility between a portion of the video data stream and a particular correlated still image frame (block 1919).

Referring to the various exemplary embodiments of FIG. 42, previously described process components may be combined with other features relating to quality characteristics and cross-reference associations. For example, a possible aspect may include capturing one or more still image frames having different quality characteristics generated as a result of a given quality capability of the still image capture device (block 2121). Another possible aspect may include capturing one or more still image frames having different quality characteristics generated as a result of a different format feature generated by the still image capture component (block 2122).

Further possible features may include establishing the cross-reference association contemporaneously with creating the video data stream (block 2123); capturing the video data stream (block 2124). Some implementation features may include establishing the cross-reference association with the still image frame (block 2125), and in other instances subsequent to the capturing of the correlated still image frame (block 2126).

Further possible features may include establishing the cross-reference association contemporaneously with capturing the correlated still image frame (block 2127), and storing the one or more still image frames (block 2128) and a digital object associated with the stored video data stream (block 2129).

The additional exemplary embodiments shown in FIG. 43 may include previously described process components along with possible aspects relating to an identifier tag. For example, a possible aspect may include coordinating the video data stream with the capturing of one or more still image frames to facilitate establishing an identifier tag as a partial basis for implementing the cross-reference association (block 2311). A further possible aspect may include establishing an identifier tag that identifies at least one video frame created at approximately the same time as the capturing of the correlated still image frame (block 2312).

Additional implementation features may include establishing one or more of the following types of identifier tags: time stamp, date stamp, background, view location, project name, topic, client, video component, still component, component specification, storage media, storage location, component operator, participant, indicia ID, sequence numeral, thumbnail link, index listing, acronym, abbreviation, pointer link, hyper-link, icon, and barcode (block 2313).

Further possible features shown in FIG. 43 include establishing a default identifier tag that cannot be altered (block 2334), enabling user selection of the identifier tag (block 2336), and enabling programmed or automated selection of the identifier tag (block 2337).

Other exemplary features may include enabling a programmed or automated coordination of the related fields of view of the video capture component and the still image capture component (block 2338), and allowing a user-actuated override to change the programmed or automated coordination of the related fields of view (block 2339).

The various exemplary process embodiments of FIG. 44 may include previously described process features along with further possible accessibility aspects including incorporating a cross-reference video identifier with a specified stored portion of the video data stream to facilitate one or more of the following types of future accessibility: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, and add identifier (block 2411).

Additional possible aspects may include enabling accessibility to the specified stored portion of the video data
Further possible features may include storing the specified stored portion of the video data stream in a remote storage location separate and apart from the video capture component (block 1946), and storing the specified stored portion in the remote storage location owned or operated by a third party (block 1947).

The embodiments 1950 shown in FIG. 45 include various possible implementation features relating to a still image identifier in combination with previously described process features 1911, 1912, 1913. Such exemplary implementation may include incorporating a cross-reference still image identifier with one or more given still image frames to facilitate one or more of the following types of future accessibility: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, and add identifier (block 1951).

Other storage accessibility aspects may include enabling accessibility to the given still image frames in response to a communication that includes the cross-reference still image identifier (block 1952), and storing the given still image frames in localized media integrated with or operably coupled to the still image capture component (block 1953). Another possible aspect may include storing the given still image frames in removable media that can be transported separate and apart from the still image capture component (block 1954).

Further possible implementation features may include storing the given still image frames in a remote storage location separate and apart from the still image capture component (block 1956), and storing the given still image frames in the remote storage location owned or operated by a third party (block 1957).

The exemplary embodiments 1960 of FIG. 46 may include previously described process components 1911, 1912, 1913 in combination with incorporating in the still image capture component one or more quality capabilities that are different from specified quality parameters of the video capture component (block 1961). A related aspect may include incorporating one or more of the following different quality capabilities in the still image capture component: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, preview display, post-capture display, high Q storage media, low Q storage media, removable storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, volatile memory, permanent memory, post-capture editing, and meta-data (block 1962).

Further possible aspects may include allowing selection of a close-up zoom field of view for the still image capture component without causing a same close-up field of view for the video capture component (block 1966), allowing selection of a distant zoom field of view for the still image capture component without causing a same distant field of view for the video capture component (block 1967), and allowing selection of an enlarged or diminished field of view for the still image capture component without causing a same enlarged or diminished field of view for the video capture component (block 1968).

The detailed exemplary embodiments 1970 of FIG. 47 may include previously described process components 1911, 1912, 1913 along with other possible features such as providing a still mode format having one or more of the following type of different visual elements as compared to the video mode format: aspect ratio, color space, color value, color intensity, image intensity, resolution, pixel density, dynamic range, and pixel depth (block 1971).

Another possible aspect may include providing a shutter speed interval for the still image capture component that is different from a concurrent frame frequency interval for the video capture component (block 1972). A further exemplary aspect may include enabling user-actuated coordination of the related fields of view of the video capture component and the still image capture component (block 1973).

Additional exemplary features shown in FIG. 47 include enabling display of a thumbnail exemplar that incorporates a cross-reference still image identifier (block 1974), and enabling display of a thumbnail exemplar that incorporates a cross-reference video identifier (block 1976). A related possible feature may include incorporating a cross-reference identifier with the display of thumbnail exemplars to provide a reference link to both a portion of a stored video data stream and a stored correlated still image frame (block 1977).

Further aspects relating to an ancillary component may include activating an ancillary component prior to or concurrently with activating a shutter to assist in generating the one or more still image frames (block 1978). A related aspect may include activating one or more of the following type of ancillary components: flash illuminator, infrared illuminator, ultraviolet illuminator, light meter, exposure controller, time stamp, date stamp, ID indicia, zoom lens actuator, sensor, monitor, and detector (block 1979).

The detailed exemplary embodiments 1980 of FIG. 48 disclose other possibilities for implementing an image capture correlation method. Such possibilities may include previously described process components 1911, 1912, 1913 along with various aspects related to an ancillary module. For example, further exemplary aspects may include activating an ancillary module approximately concurrently with capturing the one or more still image frames (block 1981), and deactivating the video capture component during an activation interval for the ancillary module (block 1981).

Other possible features may include activating an ancillary module prior to capturing the one or more still image frames (block 1983), initiating the capturing of one or more still image frames in response to an output of the ancillary module (block 1984), and initiating the capturing
of one or more still image frames in response to field of view information detected or sensed by the ancillary module (block 1986).

[0255] Yet another exemplary aspect may include selectively activating one or more of the following features associated with the still image capture component in response to an output of an ancillary module: zoom in, zoom out, close-up, distant, fixed field of view, variable field of view, wide angle view, narrow angle view, diminished field of view, add filter, omit filter, shutter speed, exposure parameter, supplemental illumination, higher quality image, lower quality image, higher resolution capture, higher resolution storage, lower resolution capture, lower resolution storage, ID indicia, wireless transfer, hardcopy output, and thumbnail display (block 1987).

[0256] The exemplary embodiments 1990 of FIG. 49 may include previously described features 1916, 1917, 1918, 1919 as well as a possibility of initiating the capture of a still image in frame in response to an activation event associated with the related field of view of the video capture component (block 1991). A further related aspect may include initiating such capture in response to one or more of the following type of activation events: ancillary module output, monitored field of view participant, monitored field of view activity, sensed field of view condition, user selection, programmed selection, automated selection, and temporal schedule (block 1992).

[0257] Further disclosed exemplary features may include obtaining a portion of the video data stream in response to an activation event associated with the related field of view of the still image capture component (block 1993), and obtaining a portion of the video data stream in response to one or more of the following type of activation events: ancillary module output, monitored field of view participant, monitored field of view activity, sensed field of view condition, user selection, programmed selection, automated selection, and temporal schedule (block 1994).

[0258] Other possible implementation features shown in FIG. 49 include creating a record associated with the stored version of the still image frames indicating a causation basis for initiating the capture of such still image frames (block 1996), and creating a record associated with the stored version of the video data stream indicating a causation basis for obtaining the video data stream portion (block 1997).

[0259] An exemplary embodiment 2000 shown in FIG. 50 discloses a computer program product having instructions for executing a process (block 2001) that may include obtaining a portion of video data stream derived from a field of view of a video capture component (block 2002); initiating a capture of one or more still image frames derived from a related field of view of a still image capture component (block 2003); and generating a stored version of the captured still image frames, which stored version includes different quality characteristics compared to a stored version of the video data stream (block 2004).

[0260] A further possible process feature may include providing a cross-reference association between the stored versions of the video data stream and the one or more still image frames to facilitate future accessibility to the stored version of a portion of the video data stream and/or to the stored version of a particular correlated still image frame (block 2005).

[0261] It will be understood that various process features may be implemented in a computer program product. For example, process instructions may include enabling the cross-reference association to facilitate one or more of the following types of future accessibility to the stored versions of the video data stream and/or the one or more still image frames: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify cross-reference identifier, delete cross-reference identifier, and add cross-reference identifier.

[0262] Additional exemplary process instructions may include selectively activating a still image capture feature that is not concurrently activated in the video capture module. Further exemplary process instructions may include selectively activating a video capture feature that is not concurrently activated in the still image capture module.

[0263] Referring to the schematic block diagram of FIG. 51, an exemplary image capture system embodiment includes a stored version of video data stream 2010 and a stored version of still image frames 2015.

[0264] Various types of correlation features are illustrated in the embodiments shown in FIG. 51. For example, a bidirectional correlation 2012 may be provided between a stored video stream portion 2011 and a stored version of a particular still image frame 2016. This exemplary embodiment provides a cross-reference (x-reference) identifier tag 2017 associated with the stored still image frame (or frames), which identifier tag may include one or more identifier attributes 2018. A similar or different identifier tag (not shown) may also be associated with the correlated video stream portion 2011.

[0265] In another example, a bidirectional correlation 2022 may be provided between a stored still image frame 2021 and a stored version of a video stream portion 2023. This exemplary embodiment includes a cross-reference (x-reference) identifier tag 2024 associated with the stored video stream portion (or individual video frame), which identifier tag may include one or more identifier attributes 2025. A similar or different identifier tag (not shown) may also be associated with the correlated still image frame 2021.

[0266] In a further example, a correlation 2031 may provide a cross-reference association (e.g., communication link, ID indicia, etc.) between a cross-reference video identifier 2030 and a stored video stream portion 2032 that is illustrated schematically as four sequential video frames.

[0267] In yet another example, a correlation 2036 may provide a cross-reference association between a cross-reference still image identifier 2035 and one or more stored image frames 2037 illustrated schematically as a single still frame.

[0268] In an additional example, a first correlation 2041 may provide a cross-reference association between a cross-reference dual identifier 2040 and a video stream portion 2042 illustrated schematically as three non-sequential video frames. In this instance a second correlation 2043 may provide a cross-reference association between the same cross-reference dual identifier 2040 and one or more still image frames 2044 illustrated schematically as three still
frames. Of course such dual identifiers may also be incorporated in other exemplary embodiments.

[0269] Other possible exemplary embodiments may include a thumbnail identifier 2046 having a temporary correlation linkage (shown in phantom as 2047) with stored video data streams. The temporary correlation linkage 2047 may be capable of modification to provide correlation linkage to new or previously stored versions of captured video data streams. A further exemplary thumbnail identifier 2048 may also include different types of correlation linkages (shown in phantom as 2049) with stored still image frames. Of course such variable or temporary or changeable or updateable correlation features may be incorporated in other exemplary embodiments.

[0270] It will be understood that some x-reference identifiers may include a fixed default identifier (e.g., non- alterable) or may be subject to limited access (e.g., encoded, password protected, etc.) or may be accessible without restriction depending on the circumstances. The exemplary embodiments are disclosed for purposes of illustration only and are not intended to be limiting.

[0271] Referring to the exemplary process embodiment 2060 of FIG. 52, various possible aspects of an image capturing method are illustrated including creating a visual display that represents a field of view of an image capture device (block 2061); providing a user-interface that enables an identification of one or more targeted objects that may be incorporated in the field of view (block 2062); and enabling a user to make a selection from among the at least one or more targeted objects, which selection is identified as a point of interest via the user-interface (block 2063). Other aspects may include initiating operation of the image capture device for taking multiple exposures of the selection, including providing a different quality characteristic for each exposure (block 2064); and creating a stored version of each of the multiple exposures (block 2065).

[0272] The exemplary embodiment features 2070 illustrated in FIG. 53 include the previously described process components 2061, 2062, 2063, 2064 in combination with various possible aspects relating to selection of targeted objects. For example, an implementation feature may include enabling the user to make the selection of two or more different targeted objects incorporated in the same field of view (block 2071). Other possible aspects may include obtaining multiple still image exposures (block 2072) and multiple video image exposures (block 2073) of the selection.

[0273] Another exemplary feature may include enabling user-actuated coordination of the related fields of view of the image capture device for obtaining the multiple exposures of the selection (block 2078).

[0274] Additional possible aspects shown in FIG. 53 may include obtaining at least one still image exposure and at least one video image exposure of the selection (block 2074). Further possible implementation features may include incorporating the selection of targeted objects as a component element in a composite work (block 2075), incorporating the selection as a component element in a composite video image frame (block 2076), and incorporating the selection of targeted objects as a component element in a composite still image frame (block 2077).

[0275] It is to be noted that various image capture systems and methods have been suggested as a basis for constructing composite images. In that regard, see the subject matter of the following commonly assigned related applications which are incorporated herein by reference: U.S. Ser. No. 10/754,431 filed 21 Jun. 2004, entitled IMAGE CORRECTION USING INDIRECT MANIPULATION OF MICROBOXES IN A MICROBOX ARRAY, issued 22 Nov. 2005 as U.S. Pat. No. 6,967,780; and U.S. Ser. No. 10/785,697 filed 24 Feb. 2004, entitled VOLUMETRIC IMAGE USING “VIRTUAL” LENSLETS, published 25 Aug. 2005 as publication No. 2005/0185062.

[0276] The exemplary process features 2080 illustrated in FIG. 54 include previously described process components 2061, 2062, 2063, 2064 in combination with providing a cross-reference association between the multiple exposures, which cross-reference association facilitates future user accessibility for incorporating one of the multiple exposures of the selection as a component element in a composite work (block 2081).

[0277] Other possible cross-reference features shown in FIG. 54 may include establishing the cross-reference association contemporaneously with taking the multiple exposures of the selection (block 2082), establishing the cross-reference association subsequent to taking the multiple exposures of the selection (block 2083), and establishing an identifier tag as at least a partial basis for implementing the cross-reference association (block 2084).

[0278] An additional aspect may include establishing one or more of the following types of identifier tags: time stamp, date stamp, background, view location, project name, topic, client, video component, still component, component specification, storage media, storage location, component operator, participant, indicia ID, sequence number, thumbnail link, index listing, acronym, abbreviation, pointer link, hyperlink, icon, and barcode (block 2086).

[0279] A further aspect may include incorporating a cross-reference identifier with the multiple exposures to facilitate one or more of the following types of accessibility: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, add identifier, access right, usage right, limited license, transfer of rights, and ownership assignment (block 2087).

[0280] Referring to FIG. 55, exemplary process embodiments 2090 may include previously described features 2061, 2062, 2063, 2064, 2065 along with various storage implementation features. For example, possible aspects may include storing the multiple exposures in localized media integrated with or operably coupled to the image capture device (block 2091), storing the multiple exposures in removable media that can be transported separate and apart from the image capture device (block 2092), and storing the multiple exposures in a remote storage location separate and apart from the image capture device (block 2093).

[0281] An additional possible aspect may include storing one of more versions of the multiple exposures in a local storage location and in a remote storage location with respect to the image capture device (block 2094). A further
possible implementation feature may include creating an altered form of the stored version of one or more of the multiple exposures (block 2096).

[0282] Another possible feature may include implementing one or more of the following type of alteration techniques: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, and grayscale implementation (block 2097).

[0283] The illustrated embodiment features 2100 of FIG. 56 include previously described aspects 2061, 2062, 2063, 2064, 2065 in combination with providing one or more of the following type of features in order to obtain multiple exposures having different quality characteristics: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, wavelength setting, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, preview display, post-capture display, high Q storage media, low Q storage media, removable storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, volatile memory, permanent memory, post-capture editing, and meta-data (block 2101).

[0284] Additional exemplary features may include enabling a programmed or automated coordination of related fields of view of the image capture device for obtaining the multiple exposures of the selection (block 2102), and allowing a user-acted override to change the programmed or automated coordination of the related fields of view (block 2103).

[0285] Another implementation feature may include incorporating one or more of the following type of different quality attributes in the stored version of the multiple exposures: aspect ratio, color space, color value, color intensity, image intensity, resolution, pixel density, dynamic range, pixel depth, shutter speed, exposure frequency, fidelity, obfuscation level, object deletion, object substitution, and transformation (block 2104). Another implementation feature may include activating a still image capture device approximately concurrently with activating a video image capture device to obtain the multiple exposures of the selection (block 2106).

[0286] The flow chart features 2110 shown in FIG. 57 include previously described process components 2061, 2062, 2063, 2064 along with selectively activating one or more of the following features associated with the image capture device in order to obtain multiple exposures with different qualities: zoom in, zoom out, close-up, distant, fixed field of view, variable field of view, wide angle view, narrow angle view, diminished field of view, add filter, omit filter, shutter speed, exposure parameter, supplemental illumination, higher quality image, lower quality image, higher resolution capture, higher resolution storage, lower resolution capture, lower resolution storage, ID indicia, wireless transfer, hardcopy output, and thumbnail display (block 2112).

[0287] Further exemplary features may include activating one or more of the following type of ancillary image capture features: flash illuminator, infrared illuminator, ultraviolet illuminator, light meter, exposure controller, time stamp, date stamp, ID indicia, zoom lens actuator, sensor, monitor, and detector (block 2113). Other possible aspects may include facilitating the selection or identification of the targeted object as the point of interest with one or more of the following techniques: pull-down menu, cursor placement, directional pointer, area outline, area fill, object labeling, screen touching, voice activation, identifier tag, editing code, manual activation, body movement, device movement, gesture, motion sensor, item naming, item confirmation, preview selection, usage right attribute, and usage right recognition (block 2114).

[0288] Additional exemplary features shown in FIG. 57 include providing one or more different quality characteristics that are at least partially determined by a usage right attribute associated with the targeted object (block 2116), and providing one or more different quality characteristics that are at least partially determined by a privacy right attribute associated with the targeted object (block 2117). Another exemplary feature may include providing one or more different quality characteristics that are at least partially determined by a proprietary right attribute associated with the targeted object (block 2118).

[0289] The high level flow chart of FIG. 58 illustrates an exemplary embodiment 2120 that includes a computer program product having one or more computer programs for executing a process (block 2121). A possible encoded process may include creating a visual display that represents a field of view of an image capture device (block 2122); providing a user-interface that enables an identification of possible targeted objects that may be incorporated in the field of view (block 2123); and enabling a user to make a selection of one or more particular targeted objects, which selection is identified as a point of interest via the user-interface (block 2124). A further exemplary encoded process aspect may include initiating operation of the image capture device for taking multiple exposures of the selection, wherein each exposure has at least one different quality characteristic (block 2125).

[0290] Various other aspects may be incorporated as part of a computer program product, including instructions for creating a data record that identifies the selection of one or more targeted objects as the point of interest. Other exemplary aspects may include encoded instructions for creating a stored version of the multiple exposures of the selection for future reference, and encoded instructions for enabling access and retrieval of visual elements incorporated in the stored version of the multiple exposures for incorporation in a composite work. It will be understood that storage media and/or signal communication media may incorporate encoded instructions for executing many types of process features.

[0291] The schematic block diagram embodiment features of FIG. 59 include image capture module 2130 and user interface 2131 that are configured for operative coupling with various types of component features for selection and capturing of multiple exposures of targeted objects. For example, illustrated exemplary components may include still image component 2132, video image component 2133, and data record 2134 as well as processor 2135 and controller 2136. Additional exemplary components may further
include storage media 2137, one or more application programs 2138, one or more ancillary components 2139, and selector component 2140.

[0292] The exemplary embodiment features of image capture module 2130 may have capability for a wide angle field of view 2150 that covers many possible target objects. FIG. 59 shows a fixed field of view 2150 that is directed toward a targeted stationary background of trees 2151, 2152, 2153, 2154 (shown in bold outline). Such targeting may exclude other objects such as person 2155 who is shown to be outside the field of view boundaries. Of course person 2155 may from time to time wander in and out of the fixed field of view 2150, and may therefore be captured by still image component 2132 or video image component 2133.

[0293] FIG. 59 also shows another field of view 2160 that is capable of different alignments. For example, if vehicle 2161 (shown in bold outline) is selected as a targeted object, than one or more image capture components such as still image component 2132 or video image component 2133 may be subject to automatic or programmed or user-activated control to keep such targeted object within its field of view 2160. In other words, the targeted vehicle 2161 would remain within the desired field of view even though driver 2162 might exit the vehicle 2161 and leave it unoccupied. However, if the vehicle were occupied by an additional passenger 2163 and driven by driver 2162 to a new location (e.g., see vehicle 2161a outlined in bold phantom), the applicable image capture component would have capability to change its alignment direction (see arrows 2164) in order to keep the targeted vehicle within its field of view 2160.

[0294] It will be understood that driver 2162 or passenger 2163 are also possible target objects, and may be targeted by different image capture components depending on the circumstances. The exemplary target objects shown are by way of illustration only and are not intended to be limiting.

[0295] FIG. 59 shows a further field of view 2170 that is capable of wide or narrow boundaries (see arrow 2174) as well as different alignment positions. For example, if person 2171 (shown in bold outline) is selected as a target object, then one or more image capture components may be configured to keep such targeted object within its field of view 2170. A smaller object such as head 2172 may also be selected as a target object, and a narrower field of view (see dotted boundary 2173) combined with a zoom-in close up lens may be desirable in some circumstances.

[0296] In the event the targeted object such as person 2171 or head 2172 is relocated (see 2171a and 2172a shown in bold phantom outline), the applicable capture component can be re-aligned to keep the targeted object within the appropriate field of view.

[0297] Of course in some instances another image capture component (e.g., wide angle fixed field of view) could initiate coverage of a targeted object, thereby providing transfer capability between two image capture devices or alternatively simultaneous coverage (e.g. different angles, different focus, different resolution, etc.) of the same targeted object.

[0298] Referring to the schematic diagram of FIG. 60, a representation of exemplary embodiment features shows user interface 2180 operatively coupled to various image capture devices such as panorama capture component 2175, close-up capture component 2176, audio-visual capture component 2177, hi-frequency capture component 2178, and hi-resolution capture component 2179.

[0299] The user interface 2180 may include selector component 2181 and a targeted selections identity list 2182. Another possible feature may include field of view preview 2184 that visually shows or otherwise identifies possible targeted objects 2185. The field of view preview may also show or otherwise identify targeted objects already selected such as a targeted background 2186, targeted person 2187, targeted group 2188, and targeted vehicle 2189.

[0300] Output images from the various capture components 2175, 2176, 2177, 2178, 2179 may be sent temporarily to a store buffer 2200 to await further processing, or in some instances may be sent directly to a computerized processing module 2190. Such processing may include providing some form of cross-reference association between different exposures of the same objects or related objects or unrelated objects or specified visual elements thereof. In some instances it may be desirable to make certain possible image alterations 2198 of captured exposures in accordance with quality standards, storage limitations, future usage expectations, and the like. Such editing may be accomplished by the computerized processing module 2190 or by a separate image alteration module 2199.

[0301] Some or all of the multiple still exposures 2192 in original or altered form may be transferred via communication link 2191 to be saved on local and/or remote storage media for future reference. Similarly some or all of the multiple video exposures 2202 in original or altered form may be transferred via communication link 2201 to be saved on local and/or remote storage media for future reference.

[0302] Of course it will be understood that original or altered still/video image exposures may be stored together, or separately, or intermixed in various types of temporary or long-term storage arrangements. In that regard the exemplary processing, editing, and storage embodiments are provided by way of illustration and are not intended to be limiting.

[0303] As shown in FIG. 60, future usage of the still image multiple exposures 2192, may be accomplished via access interface 2210. For example, an authorized user of access interface 2210 can use communication link 2211 for purposes of search and retrieval 2213 of stored versions 2193, 2194, 2195, 2196. Searching of group still image categories or individual still image frames may be facilitated by an identification scheme based on cross-reference identifier tags 2197.

[0304] Similarly future usage of the video image multiple exposures 2202 may be accomplished via access interface 2210. For example, an authorized user of access interface 2210 can use communication link 2212 for purposes of search and retrieval 2213 of stored versions 2203, 2204, 2205, 2206. Searching of group video image categories or individual video image frames may be facilitated by an identification scheme based on cross-reference identifier tags 2207.

[0305] A further possible implementation feature may include an image alteration module 2215 linked to the access interface 2210 in order to provide an optional choice of obtaining a particular modification of an exposure image (see arrow 2216).
It will be understood from the exemplary embodiment features disclosed herein that some system implementations may provide a still image capture component for taking multiple still image frames of the designated targeted object, wherein the multiple still image frames each have different quality characteristics. A related system implementation may provide a video capture component for taking a stream of multiple video frames of the designated targeted object, wherein the multiple video frames each have different quality characteristics.

Further possible system implementation may include a still image capture component for taking multiple still image frames of the designated targeted object; and a video capture component for taking a stream of multiple video frames of the designated targeted object, wherein the multiple video frames each have different quality characteristics compared to the multiple still image frames.

In some instances an exemplary system implementation may incorporate storage media that includes one or more of the following type of cross-reference associations between the multiple exposures of the designated targeted object: time stamp, date stamp, background, view location, project name, topic, client, video component, still component, component specification, storage media, storage location, component operator, participant, indicia ID, sequence numeral, thumbnail link, index listing, acronym, abbreviation, pointer link, hyper-link, icon, and barcode.

Further possible system implementation may provide an interface linked to the storage media to enable access and retrieval of visual elements incorporated in the stored version of the multiple exposures of the designated object for incorporation in a composite work. In some instances the composite work may include a composite still image frame or a composite video image frame.

An exemplary system embodiment may include a controller configuration for programmed or automated activation of the image capture module to take multiple exposures of the designated targeted object. In some instances the controller configuration may provide for user-activation of the image capture module to take multiple exposures of the designated object.

Another possible system feature may include a controller configuration to take multiple exposures of the designated targeted object based on different fields of view of the image capture module. A further possible system feature may provide an image capture module that includes one or more of the following component features for taking multiple exposures having different quality characteristics: zoom in, zoom out, close-up, distant, fixed field of view, variable field of view, wide angle view, narrow angle view, diminished field of view, add filter, omit filter, shutter speed, exposure parameter, supplemental illumination, higher quality image, lower quality image, higher resolution capture, higher resolution storage, lower resolution capture, lower resolution storage, ID indicia, wireless transfer, hardcopy output, and thumbnail display.

Additional system features may include a controller configuration for incorporating one or more of the following type of different quality attributes in the stored version of the multiple exposures: aspect ratio, color space, color value, color intensity, image intensity, resolution, pixel density, dynamic range, pixel depth, shutter speed, exposure frequency, fidelity, obfuscation level, object deletion, object substitution, and transformation.

Further possible system features may include a controller configuration to create an altered form of one or more multiple exposures to be retained by the storage media, which altered form is a modified version of the multiple exposures initially captured by the image capture module. In some instances an exemplary system may include a controller configuration for implementing one or more of the following alteration techniques for creating the altered form of the one or more multiple exposures to be retained by the storage media: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, and grayscale implementation.

Further possible system implementation features may include one or more ancillary components for providing input information to the controller based on a monitored or sensed or detected event in the field of view of the image capture module regarding the designated target object, wherein said controller activates the image capture module in response to the input.

Fig. 61 is a schematic representing showing a possible exemplary technique for using the temporarily stored exposure versions from store buffer 220 or the longer term storage media versions of multiple exposures 2192, 2202 (see Fig. 60) to create a composite visual work 2270.

For example, a still image exposure 2230 may include a still frame with targeted visual element 2231 (e.g., seven point symbol with interior design) having a particular set of quality characteristics. A video frame exposure 2240 may include a video frame with a same or related targeted visual element 2241 (e.g., larger bold-outlined seven point symbol) having a different set of quality characteristics. Pursuant to a search and retrieval operation exemplified by communication link arrow 2244, an altered version 2241a (e.g., further enlarged seven point symbol with superimposed element 2266) derived from video frame exposure 2240 has been chosen to be incorporated into the composite visual work 2270.

As a further example, a still image exposure 2250 may include a still frame with targeted visual element 2251 (e.g., bold outlined X-shaped symbol) having a particular set of quality characteristics. Another still image exposure 2260 may include a same or related targeted visual element 2261 (e.g., X-shaped symbol with interior design) having a different set of quality characteristics. Pursuant to a search and retrieval operation exemplified by communication link arrow 2263, an unchanged version 2261a taken from still image exposure 2260 has been chosen to be incorporated into the composite visual work 2270.

As an additional example, a still image exposure 2250 may include a still frame with targeted visual element 2252 (e.g., triangle symbol) having a particular set of quality characteristics. A video frame exposure 2260 may include a video frame with a same or related targeted visual element 2241 (e.g., bold outlined triangle symbol) having a different set of quality characteristics. Pursuant to a search and retrieval operation exemplified by communication link
arrow 2263, an unchanged version 2262a as well as an altered version 2262b (e.g., rotated enlarged bold outlined triangle symbol) derived from video frame exposure 2243 have both been chosen to be incorporated into the composite visual work 2270.

[0319] As yet another example, a still image exposure 2230 may include a still frame with targeted (or in some instances untargeted) group visual elements 2231, 2232, 2233 having a particular set of quality characteristics. Another image exposure of this same or related group of visual elements may be unavailable. Pursuant to a search and retrieval operation exemplified by communication link arrow 2244, an unchanged version 2231a, 2232a, 2233a derived from still frame exposure 2230 has been chosen to be incorporated into the composite visual work 2270.

[0320] It is to be noted that other collections of captured images may be available (see communication link arrows 2234, 2253) for search and retrieval of related or unrelated visual elements to be considered for incorporation in the composite visual work 2270. For example, the grouping 2265 of visual elements (e.g., five point stars) as well as individual visual element 2267 (e.g., five point star) shown to be included in composite visual work 2270 may have been part of existing default elements, or may have been obtained from other collections of captured images.

[0321] Of course the geometric visual elements depicted in FIG. 61 are not intended to be attractive or aesthetic, but are merely illustrative symbols that represent the countless visual objects and/or portions thereof that can be targeted, captured, saved, altered, and in some instances ultimately incorporated in a composite visual work.

[0322] It will be understood that composite visual work 2270 may constitute a tentative composite display subject to further evaluation, deletions, substitution, reorientation, additions, modification, etc. In some instances it may constitute a completed composite display to be exhibited, distributed, reproduced, etc. Of course retrieved visual elements may be incorporated in the composite visual work 2270 in their original form as distinct elements, or otherwise incorporated as aggregated elements that may be superimposed, altered, transformed, cropped, fragmented, etc. or otherwise modified in ways that are impossible to enumerate.

[0323] Referring to the exemplary embodiment 2280 disclosed in the high level flow chart of FIG. 62, exemplary process features for a composite image selection method may include obtaining access to a collection of captured images, (block 2281), providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection (block 2282), allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work (block 2283), and providing an input technique that enables an identification of the user's selection of the possible component element (block 2284). An additional possible aspect may include establishing a record of the selection made by the user, which record facilitates future availability of the selection (block 2285).

[0324] Additional exemplary embodiment features 2290 shown in FIG. 63 may include previously described process components 2281, 2282, 2283, 2284, 2285 along with obtaining retrieval of a particular version of the selection of the possible component element (block 2291), and incorporating in the composite work the particular version of the selection of the possible component element in the composite work (block 2292). Another possible aspect may include obtaining the retrieval of the particular version, which retrieval is based at least in part on a cross-reference association between multiple exposures of the same or similar various visual elements (block 2293).

[0325] Additional possible implementation features may include incorporating in the composite work an original captured version (block 2294) as well as a modified version of the selection of the possible component element (block 2296). Other possible features may include providing a display of two or more captured images to facilitate the selection of the possible component image to be incorporated in the composite work (block 2297).

[0326] Referring to FIG. 64, exemplary embodiments 2300 may provide a composite image selection method 2286 that includes previously described process components 2281, 2282, 2283, 2297 in combination with other display aspects. For example, possible aspects may include implementing an adjacent display (block 2301) and in some instances a sequential display (block 2302) of the two or more captured images.

[0327] Other possible features may include implementing the display of two or more captured images each having a same type of various visual elements (block 2303), and implementing the display of two or more captured images each having a different type of various visual elements (block 2304). Additional implementation features may include implementing the display of two or more captured still image frames or video image frames having related fields of view of the same various visual elements (block 2305).

[0328] Further exemplary disclosed features in FIG. 64 include implementing the display of two or more captured images having one or more of the following related fields of view of the same various visual elements: zoom in, zoom out, close-up, distant, wide angle, narrow angle, frontal, partial right, partial left, upper vantage point, lower vantage point, overlapping, fragmented, variable view, still image view, video image view, simultaneous, and time delayed (block 2306). Other possible aspects may include implementing the display of two or more captured still images (block 2307), and implementing the display of two or more captured video frame images (block 2308).

[0329] As shown in the exemplary embodiments 2310 of FIG. 65, possible aspect may include previously described process components 2286, 2281, 2282, 2283 in combination with implementing the display of two or more captured images that include captured still images and captured video frame images (block 2311). A further possible aspect may include implementing the display of two or more captured images each having a different quality characteristic (block 2312).

[0330] Other possible process features may include implementing the display of captured images having one or more of the following type of different quality attributes: aspect ratio, color space, color value, color intensity, image inten-
sity, resolution, pixel density, dynamic range, pixel depth, shutter speed, exposure frequency, fidelity, obfuscation level, object deletion, object substitution, and transformation (block 2313).

[0331] Additional aspects illustrated in FIG. 65 may include implementing the display of two or more captured images having one or more of the following type of different quality characteristics for the same various visual elements: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, wavelength setting, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, video frame frequency, post-capture alteration, high Q storage media, low Q storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, post-capture editing, and meta-data (block 2314).

[0332] As shown in the detailed exemplary embodiments 2320 of FIG. 66, possible process components may include previously described features 2281, 2282, 2283, 2284 along with further examples of possible display features such as implementing the display of an enlarged representation of the various visual elements of the captured image in the collection (block 2321).

[0333] Another possible aspect may include implementing via the computerized user-interface a retrieval and display of the same or similar various visual elements from multiple captured images of the collection prior to the selection of the possible component element to be incorporated in the composite work (block 2322). A further possible aspect may include implementing a simultaneous display of different combinations of multiple captured images for comparison prior to the selection of the possible component element to be incorporated in the composite work (block 2323).

[0334] Some exemplary embodiments may enable the user to activate a screen indicator for identifying the various visual elements to be incorporated as a possible component element in the composite work (block 2324). Other possible features may enable the user to activate the screen indicator includes one or more of the following techniques: pull-down menu, cursor placement, directional pointer, area outline, area fill, object boundary, object labeling, manual screen touching, voice activation, identifier tag, editing code, item naming, item confirmation, preview selection, usage right permission, and usage right recognition (block 2326).

[0335] FIG. 66 also illustrates an exemplary feature that implements a tentative assembly of the composite work that includes the possible component element (block 2327).

[0336] The exemplary embodiments 2330 of FIG. 67 may include previously described process components 2281, 2282, 2283, 2284, 2285 along with possible aspects regarding assembly of a composite work. For example, the previously described feature that implements the tentative assembly of the composite work (block 2327) may include some instances further include enabling one or more of the following type of operations regarding the tentative assembly of the composite work: element positioning, element orientation, element dimensions, substitution of different element, addition of new element, deletion of element, element combinations, grouping relationship, element spacing, and altered element (block 2331). Another related aspect may include implementing a user-accessible display of the tentative assembly of the composite work (block 2332).

[0337] Other possible aspects shown in FIG. 67 may include implementing a completed assembly of the composite work that includes the possible component element (block 2333). Further implementation features may include incorporating the combination of two or more possible component elements in a completed assembly of a composite video image frame (block 2334) as well as in a completed assembly of a composite still image frame (block 2336). An additional exemplary feature may include creating a stored version of the completed assembly of the composite work (block 2337).

[0338] Referring to the flow chart of FIG. 68, various exemplary embodiments 2340 may include previously described features 2281, 2282, 2283, 2284, 2285 along with creating an altered form of the possible component element (block 2341), and incorporating the altered form of the possible component element in the completed assembly of the composite work (block 2342). A related feature may include implementing one or more of the following type of alteration techniques: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, and gray-scale implementation (block 2343).

[0339] Some implementations may include incorporating an original captured version of the possible component element in the completed assembly of the composite work (block 2344). Other possible aspects may include transferring an original captured version of the possible component element to a storage module for future reference (block 2347), and in some instances transferring an altered form of the possible component to a storage module for future reference (block 2346).

[0340] The high level flow chart of FIG. 69 illustrates an exemplary embodiment 2350 for creating a composite visual work, including identifying a collection of captured images (block 2351), associating rights-related information with one or more component elements of the captured images (block 2352), presenting a representation of at least one of the captured images for viewing by a user (block 2353), and enabling compliance with the rights-related information in connection with a selection of a specified component element of the captured images for incorporation in a composite work (block 2354).

[0341] Referring to the exemplary embodiment features 2360 of FIG. 70, previously described process components 2351, 2352, 2353, 2354 may be combined with confirming the selection of the specified component element of the captured images for incorporation in a composite work (block 2361), and making a record to identify the specified component element selected for incorporation in a composite work (block 2362).

[0342] Additional possible aspects may include providing a cross-reference between the rights-related information and its associated component element of the captured images (block 2363), and providing user accessibility to the rights-
related information in connection with the selection of the specified component element for incorporation in the composite work (block 2364).

[0343] Further possible implementation features shown in FIG. 70 may include incorporating in the composite work the selected component element of the captured images (block 2366); and making a record that identifies the rights-related information associated with the selected specified component element, which record is operatively coupled with the composite work that incorporates the selection (block 2367).

[0344] Another possible aspect may include incorporating an identifier tag with the associated component of the captured images to facilitate one or more of the following type of accessibility: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, add identifier, access right, usage right, limited license, transfer of rights, and ownership assignment (block 2368).

[0345] The flow chart of FIG. 71 illustrates an exemplary embodiment 2370 for a computer program product having one or more computer programs for executing a process (block 2371), wherein possible process components may include displaying a representation of one or more captured images (block 2372), and providing a user-interface with accessibility to the representation of the captured images in order to facilitate a user’s selection of a specified visual component to be incorporated in a composite work (block 2373). Other possible process components may include providing an input technique that enables identification of the user’s selection of the specified visual component (block 2374), and establishing a record of the user’s selection of the specified visual component (block 2376).

[0346] Other examples of exemplary process features that may be incorporated in a computer program product include establishing the record include creating a stored version of the specified component of the captured images, and enabling access and retrieval of the stored version of the specified visual component for incorporation in a composite work.

[0347] Additional computer program process features may include providing accessibility via a user-interface to a representation of the captured images with one or more of the following techniques to facilitate the user’s selection of a specified visual component to be incorporated in a composite work: pull-down menu, cursor placement, directional pointer, area outline, area fill, object labeling, screen touching, voice activation, identifier tag, editing code, manual activation, bodily movement, device movement, gesture, motion sensor, item naming, item confirmation, preview selection, usage right attribute, and usage right recognition.

[0348] Other possible computer program components may include storage media and/or signal communication media for encoding instructions for executing the process.

[0349] A schematic representation of an exemplary embodiment illustrated in FIG. 72 includes a user-interface display 2380 capable of various functions related to selection and usage of visual component for incorporation in a composite visual work. For example, selected representa-

tions 2381, 2382, 2383 of various available multiple exposures may include different quality attributes of a specified visual object (e.g., shown symbolically as a tri-band design). An adjacent display of representations 2381, 2382, 2383 as shown in FIG. 72 may facilitate a user’s confirmation of a visual component for incorporation in a composite visual work. In some instances an enlargement option such as indicated by 2382a may facilitate a close-up inspection of the quality characteristics of representation 2382.

[0350] As another example, selected representations 2385, 2386, 2387 of various available multiple exposures may include different quality attributes of a specified group of visual objects (e.g., shown symbolically as five point stars). A sequential display (e.g., see scrolling arrows 2389) of representations 2385, 2386, 2387 as shown in FIG. 72 may facilitate a user’s confirmation of a visual component for incorporation in a composite visual work. It will be noted that such representations of visual image components may have differently sized dimensions and may require further scrolling (see non-viewable portion 2388) in order to view the entire visual image component.

[0351] A further example in FIG. 72 shows an adjacent combination display of four representations 2390, 2391, 2392, 2393 selected from various unrelated multiple exposures of different visual objects. It will be understood that the visual components included in the representation 2390, 2391, 2392, 2393 may be original captured images as well as modified images. For example, the close-up image of 2392 may have originally been part of a captured distance view of the same person.

[0352] A search and retrieval operation may be facilitated by a cross-reference association 2396 correlated with an individual exposure or group of exposures. Similarly a search and retrieval operation may also be facilitated by an identifier tag 2397 correlated with an individual exposure or group of exposures. In some instances a particular visual object originally captured in one exposure may also appear in another exposure (see female person 2395 shown in representation 2391 and also shown as 2395a in representation 2385). This could be the result of original exposures taken from different fields of view, or perhaps is a result of an alteration of an original exposure (e.g., an aggregation of different combinations of visual objects).

[0353] It will be understood that various input techniques may be used to search, retrieve, manipulate, and ultimately confirm a selection of a particular visual component for incorporation in a composite visual work. In that regard, selector pointer 2399 may be user-activated as shown in FIG. 72 to select representation 2381 as a specified visual component for tentative or final incorporation in a composite work.

[0354] Of course the visual representations depicted in FIG. 72 are intended only for purposes of illustration and are not intended to be limiting. The different orientations, size scaling, stick figures, exaggerated features, etc. are provided as symbolic examples of the many quality characteristics of diverse types of visual objects (e.g., persons, flora, fauna, background, buildings, vehicles, abstractions, etc.) that can be included in the subject matter of captured exposures.

[0355] Referring to the schematic block diagram of FIG. 73, an exemplary embodiment of a computerized user-
interface 2400 may include a display module 2405 capable of providing some or all of the various display functions shown in FIG. 72. For example, display module 2405 may include a selection module 2402, and representations of possible visual components 2410 to be considered for selection. Possible available exposures may include captured images 2411 as well as altered images 2412.

[0356] Of course it will be understood that selection module 2402 may include various input techniques such as selection pointer 2399 as well as many other possible input selection techniques. For example, one or more of the following techniques may be implemented to facilitate the user’s selection of the specified visual component to be incorporated in a tentative or final composite work: pull-down menu, cursor placement, directional pointer, area outline, area fill, object labeling, screen touching, voice activation, identifier tag, editing code, manual activation, bodily movement, device movement, gesture, motion sensor, item naming, item confirmation, preview selection, usage right attribute, and usage right recognition.

[0357] Additional possible operational aspects that may be incorporated in display module 2405 include facilitating a tentative assembly of a composite work 2406 as well as a completed assembly of a composite work 2407. In that regard, a robust display module may enable substitution, deletion, addition, modification, as well as various other types of manipulation of individual or group visual components in order to achieve a desired composite visual appearance.

[0358] Operational functions of the computerized user-interface 2400 may be accomplished by various hardware and/or software modules such as processor 2414, controller 2415, and one or more applications 2416. Additional possible components may include local storage 2417, image data records 2418 and a listing of user access permissions 2419.

[0359] In some implementations an image alteration module 2420 may be operably coupled to the computerized user-interface 2400 for purposes of creating a modified version of the possible visual component available for incorporation in the composite work. An exemplary embodiment of an image alteration module 2420 may include various processing configurations for implementing one or more of the following alteration techniques: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, and grayscale implementation.

[0360] Some embodiments may provide direct or network access via wire communication link 2425 or via wireless communication link 2426 to remote storage 2430. It will be understood that such communication links 2425, 2426 enable access and retrieval of selected visual components incorporated in the stored version of the multiple exposures for incorporation in a composite still image frame or a composite video image frame.

[0361] Possible data records maintained in remote storage 2430 may include captured video image exposure 2431 as well as stored versions of video image frames 2432. Other possible data records maintained in remote storage 2430 may include captured still image exposures 2433 as well as stored versions of still image frames 2434.

[0362] Additional types of possible information to be maintained in remote storage 2430 may include cross-reference records 2436 between multiple exposures of same or similar visual objects as well as cross-reference records for diverse groupings of video and/or still image exposures. In that regard, stored versions of captured images may include one or more of the following type of cross-reference associations between the multiple exposures of visual objects: time stamp, date stamp, background, view location, project name, topic, client, video component, still component, component specification, storage media, storage location, component operator, participant, indicia ID, sequence numeral, thumbnail link, index listing, acronym, abbreviation, pointer link, hyper-link, icon, and barcode.

[0363] Additional types of data records maintained in remote storage 2430 may include rights-related information associated with various image exposures as well as visual components thereof. For example the stored version of the captured images may include usage requirements regarding one or more of the following type of different quality characteristics: privacy right, proprietary right, restricted usage right, distribution right, ownership transfer, and license right.

[0364] Of course the illustrated storage locations are provided by way of example only, and storage functions can be shared between different local and remote storage modules or provided exclusively by a single storage unit, or in some instances may be implemented in removable/transpontable storage media depending on the circumstances.

[0365] Some system embodiments may provide storage media for retaining a stored version of the one or more captured images for future reference, wherein the stored version includes a cross-reference association between multiple exposures having different quality characteristics of related visual objects.

[0366] Various types of operational features disclosed herein may be implemented in exemplary image capture system embodiments. For example, an exemplary system feature may include one or more ancillary components for helping to provide different types of enhanced still or video images derived from a field of view for the image capture module. Other possible system features may include one or more ancillary components for providing input information to a controller module based on a monitored or sensed or detected event in a fixed or variable field of view of the video capture component or of the still image capture component.

[0367] Further possible system features may include control means for implementing user coordination or programmed coordination or automated coordination of the related fields of view of the video capture component and the still image capture component.

[0368] It will be understood by those skilled in the art that the various components and elements disclosed in the block diagrams herein as well as the various steps and sub-steps disclosed in the flow charts herein may be incorporated together in different claimed combinations in order to enhance possible benefits and advantages.

[0369] The exemplary system, apparatus, and computer program product embodiments disclosed herein including
FIGS. 1-4 and FIGS. 9-11 and FIG. 19 and FIGS. 38-39 and FIG. 51 and FIGS. 59-61 and FIGS. 72-73 along with other components, devices, know-how, skill and techniques that are known in the art have the capability of implementing and practicing the methods and processes shown in FIGS. 5-8 and FIGS. 12-18 and FIGS. 20-37 and FIGS. 40-50 and FIGS. 52-58 and FIGS. 62-71. It is to be understood that the methods and processes can be incorporated in one or more different types of computer program products with a carrier medium having program instructions encoded thereon. However it is to be further understood by those skilled in the art that other systems, apparatus and technology may be used to implement and practice such methods and processes.

[0370] Those skilled in the art will also recognize that the various aspects of the embodiments for methods, processes, apparatus and systems as described herein can be implemented, individually and/or collectively, by a wide range of hardware, software, firmware, or any combination thereof.

[0371] It will be understood that variations may be incorporated in the methods, systems and program products disclosed herein for determining what data to transfer to the separate storage location, and what data to be retained by the capture device. Some predetermined guidelines or real-time decisions may be employed to determine how and whether to organize and reorganize the transferred data as well as how and whether to organize and reorganize the retained data. Possible factors may include rule guidelines, user input, context at the capture (e.g., transferring) device and/or at the separate storage location. Other types of factors may include space, bandwidth, device capabilities, accessibility of remote storage, cost task, preferences, etc.

[0372] It will be further understood that a possible return transfer (e.g., retrieval, etc.) from the separate storage location back to the capture device or other designated device (e.g., another device being used by an authorized user or other authorized third party) may depend on various factors such as freed-up or added device storage, bandwidth opportunities, tasks, context, etc.

[0373] Various computer program product embodiments and process components may include allowing accessibility to the selected captured data by an authorized party, as well as accessibility to the selected captured data by a designated device. Other possible features may include storage media or communication media for encoding process instructions.

[0374] It will be understood from the illustrative examples herein that a technique as disclosed herein processes captured data on a device, wherein selected captured data of a given quality resolution is transferred via a communication link to a separate storage location for future availability. A storage protocol may include different storage organization categories. A possible aspect includes an identifier record to enable future accessibility to selected captured data by one or more authorized parties or approved devices or authorized recipients. In some embodiments the captured data may include both a video data stream and one or more still image frames having different quality characteristics and/or formats. Initial and ongoing coordination as well as correlation may be facilitated between video and still image data derived from related fields of view.

[0375] Further exemplary embodiments provide a technique that processes captured images derived from selected targeted objects in a field of view. The captured images may be transferred via a communication link to a storage location for future availability. A possible aspect may provide a cross-reference association between saved multiple exposures having different quality characteristics. In some instances an identifier record is provided to enable future accessibility to selected captured data by one or more authorized parties or approved devices or authorized recipients. In some embodiments the captured data may include both a video data stream and one or more still image frames derived from related fields of view. Stored versions of the captured images may be provided in original or altered form to be incorporated in a composite visual work.

[0376] Those having skill in the art will recognize that the state of the art has progressed to the point where there is little distinction left between hardware and software implementations of aspects of systems; the use of hardware or software is generally (but not always, in that in certain contexts the choice between hardware and software can become significant) a design choice representing cost versus efficiency tradeoffs. Those having skill in the art will appreciate that there are various vehicles by which processes and/or systems and/or other technologies described herein can be effected (e.g., hardware, software, and/or firmware), and that the preferred vehicle may vary with the context in which the processes and/or systems and/or other technologies are deployed. For example, if an implementer determines that speed and accuracy are paramount, the implementer may opt for a mainly hardware and firmware vehicle. Alternatively, if flexibility is paramount, the implementer may opt for a mainly software implementation; or, yet again alternatively, the implementer may opt for some combination of hardware, software, and/or firmware. Hence, there are several possible vehicles by which the processes and/or devices and/or other technologies described herein may be effected, none of which is inherently superior to the other in that any vehicle to be utilized is a choice dependent upon the context in which the vehicle may be deployed and the specific concerns (e.g., speed, flexibility, or predictability) of the implementer, any of which may vary. Those skilled in the art will recognize that optical aspects of implementations will require optically-oriented hardware, software, and/or firmware.

[0377] The foregoing detailed description has set forth various embodiments of the devices and/or processes via the use of block diagrams, flow diagrams, operation diagrams, flowcharts, illustrations, and/or examples. Insofar as such block diagrams, operation diagrams, flowcharts, illustrations, and/or examples contain one or more functions and/or operations, it will be understood by those within the art that each function and/or operation within such block diagrams, operation diagrams, flowcharts, illustrations, or examples can be implemented, individually and/or collectively, by a wide range of hardware, software, firmware, or virtually any combination thereof. In one embodiment, several portions of the subject matter described herein may be implemented via Application Specific Integrated Circuits (ASICs), Field Programmable Gate Arrays (FPGAs), digital signal processors (DSPs), or other integrated formats. However, those skilled in the art will recognize that some aspects of the embodiments disclosed herein, in whole or in part, can be equivalently implemented in standard integrated circuits, as one or more computer programs running on one or more computers (e.g., as one or more programs running on one or more
computer systems), as one or more programs running on one or more processors (e.g., as one or more programs running on one or more microprocessors), as firmware, or as virtually any combination thereof; and that designing the circuitry and/or writing the code for the software and/or firmware would be well within the skill of one of skill in the art in light of this disclosure. In addition, those skilled in the art will appreciate that the mechanisms of the subject matter described herein are capable of being distributed as a program product in a variety of forms, and that an illustrative embodiment of the subject matter described herein applies equally regardless of the particular type of signal bearing media used to actually carry out the distribution. Examples of a signal bearing media include, but are not limited to, the following: recordable type media such as floppy disks, hard disk drives, CD ROMs, digital tape, and computer memory; and

transmission type media such as digital and analog communication links using TDM or IP based communication links (e.g., packet links).

It will be understood by those within the art that, in general, terms used herein, and especially in the appended claims (e.g., bodies of the appended claims) are generally intended as “open” terms (e.g., the term “including” should be interpreted as “including but not limited to,” the term “having” should be interpreted as “having at least,” the term “includes” should be interpreted as “includes but is not limited to,” etc.). It will be further understood by those within the art that if a specific number of an introduced claim recitation is intended, such an intent will be explicitly recited in the claim, and in the absence of such recitation no such intent is present. For example, as an aid to understanding, the following appended claims may contain usage of the introductory phrases “at least one” and “one or more” to introduce claim recitations. However, the use of such phrases should not be construed to imply that the introduction of a claim recitation by the indefinite articles “a” or “an” limits any particular claim containing such introduced claim recitation to inventions containing only one such recitation, even when the same claim includes the introductory phrases “one or more” or “at least one” and indefinite articles such as “a” or “an” (e.g., “a” and/or “an” should typically be interpreted to mean “at least one” or “one or more”); the same holds true for the use of definite articles used to introduce claim recitations. In addition, even if a specific number of an introduced claim recitation is explicitly recited, those skilled in the art will recognize that such recitation should typically be interpreted to mean at least the recited number (e.g., the bare recitation of “two recitations” without other modifiers, typically means at least two recitations, or two or more recitations). Furthermore, in those instances where a convention analogous to “at least one of A, B, and C, etc.” is used, in general such a construction is intended in the sense one having skill in the art would understand the convention (e.g., “a system having at least one of A, B, and C” would include but not be limited to systems that have A alone, B alone, A and B together, A and C together, B and C together, and/or A, B, and C together, etc.).

The herein described aspects depict different components contained within, or connected with, different other components. It is to be understood that such depicted architectures are merely exemplary, and that in fact many other architectures can be implemented which achieve the same functionality. In a conceptual sense, any arrangement of components to achieve the same functionality is effectively “associated” such that the desired functionality is achieved. Hence, any two components herein combined to achieve a particular functionality can be seen as “associated with” each other such that the desired functionality is achieved, irrespective of architectures or intermedial components. Likewise, any two components so associated can also be viewed as being “operably connected,” or “operably coupled,” to each other to achieve the desired functionality. Any two components capable of being so associated can also be viewed as being “operably coupleable” to each other to achieve the desired functionality. Specific examples of operably coupleable include but are not limited to physically mateable and/or physically interacting components and/or wirelessly interactable and/or wirelessly interacting components.

As a further definition of “open” terms in the present specification and claims, it will be understood that usage of a language construction “A or B” is generally interpreted as a non-exclusive “open term” meaning: A alone, B alone, A and B together.

While various aspects and embodiments have been disclosed herein, other aspects and embodiments will be apparent to those skilled in the art. The various aspects and embodiments disclosed herein are for purposes of illustration and are not intended to be limiting, with the true scope and spirit being indicated by the following claims.

1. A composite image selection method comprising:

obtaining access to a collection of captured images;

providing a computerized user-interface that is capable of display of a representation of various visual elements that are part of a captured image from the collection;

allowing a user to have viewing access to the display of the representation in order to make a selection of a possible component element to be incorporated as part of a composite work;

providing an input technique that enables an identification of the user’s selection of the possible component element; and

establishing a record of the selection made by the user, which record facilitates future availability of the selection.

2. The method of claim 1 further comprising:

obtaining retrieval of a particular version of the selection of the possible component element.

3. The method of claim 2 further comprising:

incorporating in the composite work the particular version of the selection of the possible component element in the composite work.

4. The method of claim 2 wherein said obtaining retrieval of the particular version of the selection includes:
obtaining the retrieval of the particular version, which retrieval is based at least in part on a cross-reference association between multiple exposures of the same or similar various visual elements.

5. The method of claim 1 further comprising:

incorporating in the composite work an original captured version of the selection of the possible component element.

6. The method of claim 1 further comprising:

incorporating in the composite work a modified version of the selection of the possible component element.

7. The method of claim 1 wherein said providing the user-interface includes:

providing a display of two or more captured images to facilitate the selection of the possible component element to be incorporated in the composite work.

8. The method of claim 7 wherein said providing the display of two or more captured images includes:

implementing an adjacent display of the two or more captured images.

9. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing a sequential display of the two or more captured images.

10. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured images each having a same type of various visual elements.

11. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured images each having a different type of various visual elements.

12. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured still image frames or video image frames having related fields of view of the same various visual elements.

13. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured images having one or more of the following related fields of view of the same various visual elements: zoom in, zoom out, close-up, distant, wide angle, narrow angle, frontal, partial right, partial left, upper vantage point, lower vantage point, overlapping, fragmented, variable view, still image view, video image view, simultaneous, and time delayed.

14. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured still images.

15. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured video frame images.

16. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured images that include captured still images and captured video frame images.

17. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured images each having a different quality characteristic.

18. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of captured images having one or more of the following type of different quality attributes: aspect ratio, color space, color value, color intensity, image intensity, resolution, pixel density, dynamic range, pixel depth, shutter speed, exposure frequency, fidelity, obfuscation level, object deletion, object substitution, and transformation.

19. The method of claim 7 wherein said providing the display of the two or more captured images includes:

implementing the display of two or more captured images having one or more of the following quality characteristics for the same various visual elements: color balance, white balance, color space, depth of field, pixel capture resolution, pixel storage resolution, capture quality, storage quality, gray scale, ambient light sensor, wavelength setting, infra-red illumination, flash illumination, aperture opening, focal point, filter, shutter speed, automated shutter, manual shutter, still frame frequency, video frame frequency, post-capture alteration, high Q storage media, low Q storage media, programmed quality attribute, automated quality attribute, user-selected quality attribute, ownership right, transfer right, post-capture editing, and meta-data.

20. The method of claim 1 wherein said providing the computerized user-interface includes:

implementing the display of an enlarged representation of the various visual elements of the captured image in the collection.

21. The method of claim 1 wherein said providing the computerized user-interface includes:

implementing via the computerized user-interface a retrieval and display of the same or similar various visual elements from multiple captured images of the collection prior to the selection of the possible component element to be incorporated in the composite work.

22. The method of claim 21 wherein said implementing the display of the multiple captured images includes:

implementing a simultaneous display of different combinations of multiple captured images for comparison prior to the selection of the possible component element to be incorporated in the composite work.

23. The method of claim 1 wherein said providing an input technique that enables an identification of the user's selection includes:

enabling the user to activate a screen indicator for identifying the various visual elements to be incorporated as a possible component element in the composite work.

24. The method of claim 23 wherein said enabling the user to activate the screen indicator includes one or more of the following techniques: pull-down menu, cursor placement,
directional pointer, area outline, area fill, object boundary, object labeling, manual screen touching, voice activation, identifier tag, editing code, item naming, item confirmation, preview selection, usage right permission, and usage right recognition.

25. The method of claim 1 further comprising:
   implementing a tentative assembly of the composite work that includes the possible component element.

26. The method of claim 25 wherein said implementing the tentative assembly includes:
   enabling one or more of the following type of operations regarding the tentative assembly of the composite work: element positioning, element orientation, element dimensions, substitution of different element, addition of new element, deletion of element, element combinations, grouping relationship, element spacing, and altered element.

27. The method of claim 25 further comprising:
   implementing a user-accessible display of the tentative assembly of the composite work.

28. The method of claim 1 further comprising:
   implementing a completed assembly of the composite work that includes the possible component element.

29. The method of claim 28 further comprising:
   incorporating the combination of two or more possible component elements in a completed assembly of a composite video image frame.

30. The method of claim 28 further comprising:
   incorporating the combination of two or more possible component elements in a completed assembly of a composite still image frame.

31. The method of claim 28 further comprising:
   creating a stored version of the completed assembly of the composite work.

32. The method of claim 28 further comprising:
   incorporating an original captured version of the possible component element in the completed assembly of the composite work.

33. The method of claim 28 further comprising:
   creating an altered form of the possible component element; and
   incorporating the altered form of the possible component element in the completed assembly of the composite work.

34. The method of claim 33 wherein said creating an altered form of the possible component includes:
   implementing one or more of the following type of alteration techniques: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, and gray-scale implementation.

35. The method of claim 1 wherein said establishing the record includes:
   transferring an altered form of the possible component to a storage module for future reference.

36. The method of claim 1 wherein said establishing the record includes:
   transferring an original captured version of the possible component element to a storage module for future reference.

37-44. (canceled)

45. A computer program product having one or more computer programs for executing the following process:
   displaying a representation of one or more captured images;
   providing a user-interface with accessibility to the representation of the captured images in order to facilitate a user’s selection of a specified visual component to be incorporated in a composite work;
   providing an input technique that enables identification of the user’s selection of the specified visual component; and
   establishing a record of the user’s selection of the specified visual component.

46. The computer program product of claim 45 wherein said process component establishing the record includes:
   creating a stored version of the specified component of the captured images.

47. The computer program product of claim 45, wherein the process further includes:
   enabling access and retrieval of the stored version of the specified visual component for incorporation in a composite work.

48. The computer program product of claim 45 wherein said process component providing a user-interface with accessibility to the representation of the captured images includes:
   providing one or more of the following techniques via the user interface to facilitate the user’s selection of a specified visual component to be incorporated in a composite work: pull-down menu, cursor placement, directional pointer, area outline, area fill, object labeling, screen touching, voice activation, identifier tag, editing code, manual activation, bodily movement, device movement, gesture, motion sensor, item naming, item confirmation, preview selection, usage right attribute, and usage right recognition.

49. The computer program product of claim 45 further comprising:
   storage media and/or signal communication media for encoding instructions for executing the process.

50. An image access system comprising:
   a computerized user-interface for facilitating selection of one or more visual components to be incorporated in a composite work;
   a data record that includes an identification of one or more captured images having a possible visual component available for display and retrieval;
   a display module operatively coupled with the computerized user-interface to enable viewing of a representation of the possible visual component; and
a processing module for accomplishing retrieval of a selected visual component for incorporation in the composite work.

51. The system of claim 50 further comprising:
storage media for retaining a stored version of the one or more captured images for future reference, wherein the stored version includes a cross-reference association between multiple exposures having different quality characteristics of related visual objects.

52. The system of claim 51 wherein the stored version of the captured images includes one or more of the following different quality characteristics: privacy right, proprietary right, restricted usage right, distribution right, ownership transfer, and license right.

53. The system of claim 51 wherein the stored versions of the captured images include one or more of the following type of cross-reference associations between the multiple exposures of the related visual objects: time stamp, date stamp, background, view location, project name, topic, client, video component, still component, component specification, storage media, storage location, component operator, participant, indicia ID, sequence numeral, thumbnail link, index listing, acronym, abbreviation, pointer link, hyper-link, icon, and barcode.

54. The system of claim 51 wherein said processing module includes an access link to the storage media to enable access and retrieval of selected visual components incorporated in the stored version of the multiple exposures for incorporation in a composite still image frame or a composite video image frame.

55. The system of claim 50 further comprising:
an alteration module for creating a modified version of the possible visual component available for incorporation in the composite work.

56. The system of claim 55 wherein said alteration module includes:
a processing configuration for implementing one or more of the following alteration techniques: data compression, resolution enhancement, reduced resolution, increased resolution, object obfuscation, object deletion, object addition, object substitution, algorithmic processing, image aggregation, cropping, color balancing, colorizing, and grayscale implementation.

57. The system of claim 50 wherein said computerized user-interface includes:
an interface configuration that provides one or more of the following techniques to facilitate the user’s selection of the specified visual component to be incorporated in a tentative or final composite work: pull-down menu, cursor placement, directional pointer, area outline, area fill, object labeling, screen touching, voice activation, identifier tag, editing code, manual activation, bodily movement, device movement, gesture, motion sensor, item naming, item confirmation, preview selection, usage right attribute, and usage right recognition.

58. The system of claim 50 further comprising:
storage media for retaining a stored version of the one or more captured images for future reference, wherein the stored version includes multiple exposures of one or more of the following type of visual objects: same objects, related objects, unrelated objects, and specified visual elements.

59. The system of claim 50 wherein said processing module includes:
a processing module for accomplishing retrieval of an original or altered version of the possible visual component to be available for incorporation in the composite work.

60. The system of claim 50 wherein said computerized user-interface includes:
an interface configuration that provides accessibility to an identifier tag associated with the possible visual component of the captured images to facilitate one or more of the following: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, add identifier, access right, usage right, limited license, transfer of rights, and ownership assignment.

61. The system of claim 50 wherein said display module includes:
a display module that is capable of implementing viewing access to a representation of two or more captured still images frames or captured video images having related fields of view of one or more various visual elements.

62. The system of claim 50 wherein said computerized user-interface is operatively coupled with the display module to implement a user-accessible display of a tentative assembly or completed assembly of the composite work.

63. The system of claim 50 further comprising:
a storage module for retaining a stored version of the composite work.

64. The computer program product of claim 45 wherein said process further includes:
associating one or more of the following different quality characteristics with the specified visual component: privacy right, proprietary right, restricted usage right, distribution right, ownership transfer, and license right.

65. The computer program product of claim 45 wherein said process further includes:
providing an identifier tag associated with the specified visual component of the captured images to facilitate one or more of the following: view, display, forward, create thumbnail, retrieve, copy, edit, change resolution, increase resolution, decrease resolution, change format, combine images, distribute, delete, print, collate, restricted access, access security, modify identifier, delete identifier, add identifier, access right, usage right, limited license, transfer of rights, and ownership assignment.

66. The computer program product of claim 45 wherein said process feature displaying the representation of one or more captured images includes:

displaying multiple exposures of one or more of the following type of visual objects: same objects, related objects, unrelated objects, and specified visual elements.