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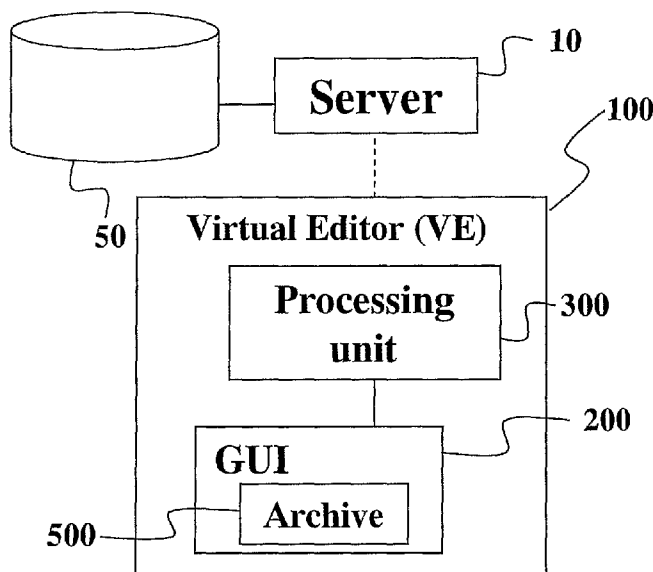
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(54) Title: A METHOD FOR INTERACTIVE COMMENTING ON MEDIA FILES



(57) Abstract: A system and a method to support editing, commenting, sharing and displaying of multimedia source files. The system may comprise a virtual editor (VE) which may be a software tool that includes a processing unit and a Graphical User Interface (GUI). The VE may allow at least one user to comment and edit at least one source file, save comments and editing related data as a data version file and play the source file according to the data stored in the version file - to allow displaying of the edited and commented version. The system may further allow a multiplicity of users to create a multiplicity of version files that comprise editing data and commenting data created by the user wherein the VE may display the source file according to the edited and commented version of the user.

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A METHOD FOR INTERACTIVE COMMENTING ON MEDIA FILES

FIELD OF THE INVENTION

[0001] The present invention generally relates to the field of software programs.
5 More particularly, the present invention relates to the field of software programs for multimedia editing.

BACKGROUND OF THE INVENTION

[0002] The process of commenting, editing and reviewing multimedia content
10 (hereinafter referred to as 'media file') is becoming more and more complicated today. A post-production stage of a new multimedia production involves many professionals and clients (all of which are hereinafter referred to as 'users') that are usually located in different places, using separate computers. Under these circumstances, sharing a new version of a media file, and allowing each and every
15 user that is involved in the making to add a comment or review comments made by other users - becomes a real challenge.

[0003] Generally, each new version of a media file needs to be approved by a series of users and finally by the client. This means that each user has to receive the material, review it, and finally approve it. Currently, the client usually watches the
20 media file and comments on it separately from the media file. The video/audio is viewed/heard using a player and comments regarding the material are reported back on a different file and /or media than the original file used to actually playing the media file.

[0004] It is important to note that currently the process of reviewing the media file
25 and writing the comments is done separately with no connection to the video/audio files themselves. In other words, a user, whether it is a client or a professional working on the media file production may write his or her comments on a different file not linked in any way to the media file itself. This way of commenting may be particularly cumbersome for large projects involving complicated media files or many
30 users involved in the making.

[0005] Additionally, once the editing of a digital media file is completed the users usually need to save the entire media file or at least some of the media segments (which are a sequence of movie frames comprising of at least one frame), as the

version edited by each user. Editing a media file refers to at least one of editing activities of such files known in the art such as, for example, cutting of segments from the file and changing of the segments order, adding features to the frames, changing audio features etc. To continue editing the last version the user or other users are usually required repeating the same editing procedure – editing the last version and saving the last edition as a new media file. This procedure may be inefficient, time and memory consuming having to download and save big media files. Furthermore, this technique does not facilitate a multiplicity of end user – using a multiplicity of computing and editing devices – to comment and edit the same original media file approximately at the same time while using the same original media file without having to download the entire or at least part of the file.

[0006] Moreover, as these media files are usually regarded as confidential material, it would be advantageous to have a method that enables sharing these media files in a secured manner while allowing users to comment on them.

SUMMARY OF THE INVENTION

[0007] The present invention discloses a novel system and a method that support editing, commenting, segmenting, sharing and displaying of multimedia source files. The system may comprise a virtual editor (VE) which is a software tool such as a client application that may include a processing unit and a Graphical User Interface (GUI) enabling the user to activate various editing, commenting, graphical, audio and video activities upon a media file. The VE may be a stand-alone architecture or a web based architecture comprising of at least one web-managing server.

[0008] According to some embodiments of the present invention, the VE may allow at least one user to comment and edit at least one source media file defined herein as "source file", save comments and editing related data as a version file and use the version file and the source file to display the edited and commented version.

[0009] Additionally, the system may further comprise at least one server and at least one database to allow a multiplicity of users, using a multiplicity of VE applications, to edit and comment the same source file and save different version files. This may facilitate in allowing the users to manipulate the same source and display different editing and commenting versions of this source, while the source file is substantially unchanged.

[0010] The source file may be any multimedia file such as, for example, an audio/video file that comprises video segments comprised of at least one video frame along with audio data accompanying the frames. A segment may be defined by the system as a unit comprised of at least one frame - where the user may graphically select the segment, relate at least one comment to the segment and edit the segment.

[0011] According to some embodiments of the present invention, the user may select segments and frames of the source file and insert comments that are related to those frames. The location of those frames in the source file may be saved in the version file. Additionally, the user may select video frames, duplicate them, place them in a desirable order and save the data relating to said selected frames in the edited version file. The editing and commenting data - saved in the version file may contain graphical instructions regarding the way the comments or other additional features may be presented when the version is played. The playing of the version may require both the version file - containing the "playing data" and the source file - containing the segments.

[0012] According to embodiments of the present invention, to play the user's version, the VE may retrieve the version file. The VE may "read" the editing and commenting data saved in the version file and use at least part of this data to (i) retrieve the original source file or files from which the actual segments need to be downloaded, (ii) locate only the selected segments according to the editing data and (iii) play the version according to at least some of the editing and / or commenting data retrieved from the version file using the segments from the source file(s).

[0013] The present invention is an efficient way in saving, retrieving and sharing media files for creation of edited version. The version files comprise very little electronic data compared to the data that needs to be handled when saving a media file such as, for example, a video film file comprising the data of each video and audio frame of the film. Using embodiments of the invention may facilitate a multiplicity of users working on the same original raw material (the same source file(s)) review comments and editing versions of several users regarding the same original file without having to save each editing version as a media file – but rather as compact smaller-sized version (data) files.

BRIEF DESCRIPTION OF DRAWINGS

[0014] The subject matter regarded as the invention will become more clearly understood in light of the ensuing description of embodiments herein, given by way of example and for purposes of illustrative discussion of the present invention only, with
5 reference to the accompanying drawings, wherein

Fig. 1 schematically illustrates a system for interactive virtual editing, according to some embodiments of the present invention.

Fig. 2 schematically illustrates a multiplicity of users with connected to at least one server, according to some embodiments of the present invention.

10 Fig. 3 is a flowchart that schematically illustrates a method for interactive editing of media files, according to some embodiments of the present invention.

Fig. 4 schematically illustrates a mane page of Graphical User Interface of a virtual editing system, according to some embodiments of the present
15 invention.

Fig. 5 schematically illustrates a multiplicity of source files' segments edited into a multiplicity of different versions, according to some embodiments of the present invention.

20 [0015] The drawings together with the description make apparent to those skilled in the art how the invention may be embodied in practice.

[0016] An embodiment is an example or implementation of the inventions. The various appearances of "one embodiment," "an embodiment" or "some embodiments" do not necessarily all refer to the same embodiments. Although various features of the
25 invention may be described in the context of a single embodiment, the features may also be provided separately or in any suitable combination. Conversely, although the invention may be described herein in the context of separate embodiments for clarity, the invention may also be implemented in a single embodiment

DETAILED DESCRIPTION OF SOME EMBODIMENTS OF THE INVENTION

[0017] The present invention provides a new system and method for interactive commenting, editing, segmenting, and reviewing digital multimedia files, such as audio/video files. The present invention may facilitate the sharing of media files' versions between users that may be involved in the making of that file, or between users that are defined by the system as authorized to work and review the file.

[0018] In the following description, the term 'media file' shall be used to describe any form of a multimedia file in any format that currently exists and/or may be used in the future and therefore is not limited to media files as such. For example, the multimedia files may be video, audio, video and audio files in any known in the art format.

[0019] The media files may be in the form of any combination between digital images and sound such as video clips, animation, trailers etc. Wherein the object of comments and editing may be either the image or the sound accompanying it. Commenting may be aimed at a specific segment 41 of the media file. A comment may also relate to another comment.

[0020] While the description below contains many specifications, these should not be construed as limitations on the scope of the invention, but rather as exemplifications of the preferred embodiments. Those skilled in the art will envision other possible variations that are within its scope. Accordingly, the scope of the invention should be determined not by the embodiment illustrated, but by the appended claims and their legal equivalents.

[0021] Reference in the specification to "one embodiment", "an embodiment", "some embodiments" or "other embodiments" means that a particular feature, structure, or characteristic described in connection with the embodiments is included in at least one embodiments, but not necessarily all embodiments, of the inventions. It is understood that the phraseology and terminology employed herein is not to be construed as limiting and are for descriptive purpose only.

[0022] The principles and uses of the teachings of the present invention may be better understood with reference to the accompanying description, figures and examples. It is to be understood that the details set forth herein do not construe a limitation to an application of the invention. Furthermore, it is to be understood that the invention can be carried out or practiced in various ways and that the invention can be implemented in embodiments other than the ones outlined in the description below.

[0023] It is to be understood that the terms "including", "comprising", "consisting" and grammatical variants thereof do not preclude the addition of one or more components, features, steps, or integers or groups thereof and that the terms are to be construed as specifying components, features, steps or integers. The phrase "consisting essentially of", and grammatical variants thereof, when used herein is not to be construed as excluding additional components, steps, features, integers or groups thereof but rather that the additional features, integers, steps, components or groups thereof do not materially alter the basic and novel characteristics of the claimed composition, device or method.

[0024] If the specification or claims refer to "an additional" element, that does not preclude there being more than one of the additional element. It is to be understood that where the claims or specification refer to "a" or "an" element, such reference is not to be construed that there is only one of that element. It is to be understood that where the specification states that a component, feature, structure, or characteristic "may", "might", "can" or "could" be included, that particular component, feature, structure, or characteristic is not required to be included.

[0025] Where applicable, although state diagrams, flow diagrams or both may be used to describe embodiments, the invention is not limited to those diagrams or to the

corresponding descriptions. For example, flow need not move through each illustrated box or state, or in exactly the same order as illustrated and described.

[0026] Methods of the present invention may be implemented by performing or completing manually, automatically, or a combination thereof, selected steps or tasks.

5 The term "method" refers to manners, means, techniques and procedures for accomplishing a given task including, but not limited to, those manners, means, techniques and procedures either known to, or readily developed from known manners, means, techniques and procedures by practitioners of the art to which the invention belongs. The descriptions, examples, methods and materials presented in the
10 claims and the specification are not to be construed as limiting but rather as illustrative only.

[0027] Meanings of technical and scientific terms used herein are to be commonly understood as by one of ordinary skill in the art to which the invention belongs, unless otherwise defined. The present invention can be implemented in the testing or practice
15 with methods and materials equivalent or similar to those described herein.

[0028] Any publications, including patents, patent applications and articles, referenced or mentioned in this specification are herein incorporated in their entirety into the specification, to the same extent as if each individual publication was specifically and individually indicated to be incorporated herein. In addition, citation
20 or identification of any reference in the description of some embodiments of the invention shall not be construed as an admission that such reference is available as prior art to the present invention.

[0029] Fig. 1 schematically illustrates a system for interactive virtual editing and commenting, according to some embodiments of the present invention. The system
25 may comprise a virtual editor (VE) 100, which may be a software program -

preferably but not necessarily a client application – that may include a processing unit **300** and a Graphical User Interface (GUI) **200** that may include an archive **500**.

[0030] Additionally, according to embodiments of the present invention, VE **100** may further comprise a server **10**, which may be a remote server connected to a multiplicity of users and a database **50** that may enable storing of media files, commenting data and editing data.

[0031] According to embodiments of the present invention, VE **100** may enable the user to retrieve at least parts of a source file (which may be a media file), add comments within the video segments **41** and edit the segments **41**, using GUI **200** tools. The system may enable the user to store the commenting data and the editing data related to the edited version created by the user as a data file defined as the version file. The version file may allow playing of the user's version of the source file (which is the original media file) by playing the source file according to instructions and activities dictated by the version file. The version file may be played with any media player as a regular media file.

[0032] The editing data may be the location and length of the source file's segments-sequences and the commenting data – may be the location (segment-wise) and content of the comments. The "version data" may contain all data required to play the user's version of the source file along with the user's comments on the source file. The version file or data does not contain the actual segments **41** of the source file – only the data required to play the source file according to the user's desired version.

[0033] The data of a user's version may be any data that relates to the edited version created by a user or users. The version data may be used by VE **100**, using processing unit **300**, to retrieve segments **41** from a media source file or from a multiplicity of media source files – in order to play and display the user's version. For example, the version data of a certain user's version may comprise:

- the user's details (name, hour of editing, date, etc.),
- the media files' locators – meaning the information needed in order to retrieve the media source files;
- the content of the comments, the position of each comment in the original segments **41** (meaning the location of the commented segments **41** in the original file or files), the displaying features of the comments (text / audio graphical/voice display features and the like),

- the editing sequences – meaning the order at which each chosen segment **41** is set to be played by the user (where the segments **41** may be chosen from different media files or from a single media file).

[0034] According to some embodiments of the present invention, VE **100** may enable retrieving the version data from database **50** and / or from any other source – such as, for example, the user's personal computer, the internet and the like. The retrieval of a chosen version file may be carried out using archive **500**.

[0035] According to some embodiments of the present invention, VE **100** may play the user's version by using the version data to select and sort the frames and fragments of the original file or files. This may avoid the need in copying an entirely new media file that comprises the user's edited and commented version, comprising the entire media segments **41**, but rather use a substantially smaller data file and the source file to display the final multimedia display of the version.

[0036] According to some embodiments of the present invention, VE **100** may be modified to use at least one media playing ("player") software or hardware and at least one media file format. VE **100** may be designed and programmed to allow the use of more than one media-formats and media players.

[0037] Fig. 2 schematically illustrates a multiplicity of users with VEs **100** connected to at least one shared server **10** that may be connected to at least one source of database **50**. Each user may retrieve the same media file and create his/her own version file saved in database **50**, which is usually a much smaller file comprising less electronic data than a media file. Instead of creating an entirely new edited media file for each user -each user's VE **100** archive **500** may be updated from database **50** regarding the new version files created by all the users – saving up time consuming loadings of a multiplicity of media files, whenever a user wishes to view a multiplicity of users' editing ideas and comments regarding the same original media file.

[0038] Fig. 3 is a flowchart that schematically illustrates a method for interactive editing and commenting of source files, according to some embodiments of the present invention. The method comprises the steps of:

- retrieving at least one source file **30** using archive **500**; where the source file may be retrieved from database **50** or any other source;
- playing the retrieved file **31**, using media player and GUI **200**;
- editing segments **41** of the file **32** using GUI **200** – where the user may choose segments **41** from the source file – to be saved in the user's version file: the

user may determine the order and times at which said segments **41** will be played in his version, additional feature inserted to the segments **41** (such as cartoon or audio additions, for example);

- if the user wishes to add comments – GUI **200** may allow him to add content comments within locations (of the segments **41**) in the source file that are chosen by the user **34**;
- storing the editing data **35** into the version file, where the data may be saved in database **50**, the user's computer, and the like.
- if the user chooses another source file **35** – steps **30-35** may be repeated;
- displaying the version file **37** – where once the version file is created – the system may enable any of the system's users to retrieve this version file as a source file, playing the file, editing and commenting the file.

[0039] According to embodiments of the present invention, using a version file as a source file may require processing unit **300** to read editing data (including the source files' locators) and retrieve the sources of media files accordingly. If the source file is a version file then processing unit **300** may be enabled to read editing data within editing data in order to control the playing of the last-retrieved version's and the editing features and comments upon at least one original file. To facilitate the reading of data and translating said data in order to execute the displaying and playing of the last version – processing unit **300** may be set to save data in a way that it can translate said data into machine commands.

[0040] According to embodiments of the present invention, depending on predefined settings of the system, the comments may be text comments (for example, typed in a special comment box by the user), voice comments (recoded into the segments **41**), both text and voice comments. Additionally or alternatively, the comments may include graphical elements. For example, a voice comment may be accompanied by a short cartoon that may be selected out of library of cartoons using, for example, GUI **200** tool-bar.

[0041] According to embodiments of the present invention, the comments may be displayed along with and upon the segments **41** that are associated with the comments. For example, a text comment that relates to a certain segments **41** of the source file may be displayed (when the version file is played) on the screen along with the relevant segments **41**. The user may manipulate the comments, using GUI **200**

tools to be displayed according to chosen options and in chosen places along the played version.

[0042] Additionally, the user or several users editing the same source file may comment the same segment **41**, where VE **100** may allow distinguishing different users commenting and creating the same version or creating a version upon former users' versions. For example, a first user may create a version file that comprises his text comments to be displayed in specific chosen segments **41**; Once retrieving and playing the first user's version his comments may appear along with an identifier (e.g. "[Joe comm. 1]") the second user commenting upon the same version may be then indicated by the system (e.g. "[Miriam comm. 2]") and so forth, so that the last version may contain all comments of the relevant users as well as indicators that allow the viewer to distinguish between the commentators.

[0043] According to additional embodiments of the present invention, GUI **200** may comprise other tools to help the users to make the most of the editing and commenting process. For example, a user may send a specific comment by email to another user/s, export the comments into, for example, Extensible Markup Language (XML) format and/or a standard file, get a filtered print of the comments, convert comments into specific tasks and link a specific comment to a specific file.

[0044] Additionally, the system may enable adding multimedia-additions to the edited version. "Multimedia-additions" may be any graphically pre-designed icon, clip, animation and the like that can be added to the edited version. The system may allow choosing multimedia-additions out of preset additions-archive that may be seated on the user's computer, the internet, an additional database/s and the like.

[0045] Fig. 4 schematically illustrates a mane page of GUI **200**, according to some embodiments of the present invention. GUI **200** may comprise

- a display screen **250** that allows displaying video streams,
- a multimedia player toolbar **260** that includes control options to enable controlling over the display of the video streams; for example, a stop button, a play button, a volume button and the like,
- a comments display field **220** where the user may view all previous comments relating to the segment **41** at which the film has been stopped,
- a comments field **230** – in which the user may insert his comments;

- an editing toolbar **210** that allows selecting, cutting and copying of a segment **41**, defining of selected segments **41** and placing said segments **41** at desirable order; and
- a comments toolbar **240** that allows adding, deleting, and viewing of comments – where said viewing may be of any of the user's comments relating to the viewed file / segment **41**.

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[0046] According to preferable embodiments of the present invention, the source files may be in the form of encrypted files in order to enhance security and privacy. For example, the user may watch a video source file by using the control buttons of multimedia player toolbar **260** wherein the source file is played on screen **250**. At any given moment, the user may stop the video by using the control buttons of multimedia player toolbar **260** and type down his or her comments in comments field **230**. The added comments may appear immediately in the comments display field **220**, with additional information such as the user's name, the date and time of the added comment etc. In case a comment has already been made about the specific video segment **41**, the new comment may be concatenated to the previous one in a hierarchal way.

20
[0047] The user may additionally run the source file forward and backward frame-by-frame by using control buttons of comments toolbar **240** in search for a specific video segment **41** that the user wishes to comment about. Similarly, the user may delete a comment and/or review other users' comments.

[0048] Additionally, a user may retrieve all the comments made on the entire video clip pressing the dedicated button on the comments toolbar **240**. In this option, VE**100** may retrieve the data from the version files saved in database **50**.

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[0049] According to embodiments of the present invention, the comments toolbar **240** may allow users to respond to existing comments, where each existing comment may be indicated according to the user who inserted the existing comment. Additionally or alternatively, the responses may be sorted according to a predefined hierarchy such as, for example, according to the commenting time.

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[0050] According to some embodiment of the invention, the source file may be in a form of encrypted files, in order to enhance security (as usually required in the applications of the present invention). The source file protection may include the following features: controlling and monitoring users' viewing rights, applying various

levels of file encryption, achieving enhanced security in the form of Internet Protocol (IP) Identification (ID), notifying whenever a certain source file has been viewed etc.

[0051] However, the present invention is not limited to encrypted file and may accommodate any widely used formats.

5 [0052] According to some embodiments of the present invention, the commenting data may be saved separately from the editing data on a dedicated file and combined with the source file by means of a software tools or through being embedded into the source file itself.

[0053] According to some embodiment of the present invention, the user may
10 browse between comments already attached to the source file. Browsing may be achieved by pressing dedicate buttons of comments toolbar **240**. Alternatively, a user may see all the comments written to a specific source file, preferable concentrated in comments field **220**. Additionally, when browsing between comments that are displayed in comments field **220** – the screen may automatically play, freeze or
15 display the relevant segment **41** related to the selected comment. For example, a double clicking on a comment may automatically play the relevant segment **41** and exhibit the text comment upon the screen on top of the played segments **41**.

[0054] According to some embodiment of the present invention, the system may include security means. For example, predefined administrators may manage the
20 sharing of the source files in database **50** and determine access authorization to certain source files, according to predefined authorization regulations, for example according to password and user name entered by authorized users. Furthermore, both the administration of the system may approve or reject comments and manage versions of source files and version files and/or version data.

25 [0055] The management and administration of the commenting and editing process may facilitate the following aspects: preparing a web version and managing uploads to the web, preparing and monitoring a check list for project approval, managing the internal review process and project contacts and coordinating a multiple users discussion. The using of a web server **10** may allow (1) the ability to manage a
30 multiplicity of editing and commenting projects; (2) The ability to manage a multiplicity of discussions (meaning commenting) per a single media source file; (3) the ability to manage a multiplicity of versions and allocating of statuses to a multiplicity of users; and (4) allowing easy transmission of version files to be viewed by a multiplicity of users, using the same source files.

[0056] Additionally or alternatively, the user may navigate on the source file frame-by-frame in search for an object to comment about, using GUI **200**.

[0057] Additionally or alternatively, the user may comment choosing from a predefined list of pre-phrased comments using comments toolbar **240**.

5 [0058] Additionally or alternatively, users may be enabled to view on line commenting of other users of the same source file.

[0059] According to embodiments of the present invention, the on-line capabilities may include chatting and using Voice over Internet Protocol (VoIP), video conference or text chat to interactively discuss and/or create at least one version.

10 [0060] .According to embodiments of the present invention, server **10** may enable to perform the following activities:

- synchronizing with web browser and email software,
- receiving newly written comments,
- receiving security information, for example, regarding unauthorized users that
- 15 viewed or accessed media files,
- transmitting information to users,
- facilitating integration, versioning and document management, writing feedback to the software provider and any other features deriving from the connection via server **50** to many other users that are known in the art.

20 [0061] Additionally or alternatively, the editing and commenting may be carried out upon video-audio streams of a source file – where the source file is displayed online (e.g. through the transmission or broadcasting of the streams or the digital packages of the movie). While the commenting and marking of segments **41** for editing may be carried out online and may be shared between several users of VE **100** where the

25 system enables viewing comments from the users online.

[0062] According to embodiments of the invention, GUI **200**, using processing unit **300**, may allow playing the user's version (including the comments) by playing the source file according to the version data from the version file. The version data may be related to a multiplicity of media source files, where the data may include the

30 information regarding the retrieval of the video source files. Additionally, each version file may be considered by the system as a "source" (like the media files) from which the system displays the edited and commented video clip. This means, that the system may allow re-editing and re-creating of a version file using other version files

(rather than only using other media files). In this case, VE 100 may retrieve the original media files of the source file along with the associated version files - all combined into a single "new source file".

[0063] Fig. 5 schematically illustrates a multiplicity of source files' segments 41 edited into a multiplicity of different versions 50, according to some embodiments of the present invention. In the example, illustrated in Fig. 5 there are three different sources 40 of media files comprising different segments 41, where the selected segments 41 are indicated by numbers - to distinguish them. In a first version 50 the user has selected segment 1 of source 1, segment 2 of source 1 segment 3 of source 2 segment 4 of source 2, segment 5 of source 2, and segment 6 of source 3 respectively. The version file may now save the data of the pointers 51 indicating the location of each selected segment 41 in each source 40. In version two 50 the sequence that has been selected may be, for example, segment 1 of source 1, segment 3 of source 2 segment 5 of source 2 segment 6 of source 3, segment 4 of source 2, and segment 2 of source 1 respectively..

[0064] Additionally or alternatively, another version file may use a multiplicity of old version files, as illustrated in Fig. 5 in version three 50. The user may now select segments 41 out of an "old version file" now serving as a source 40. The new segments may now be ordered alphabetically, for the sake of illustration. The third version 50, according to this example, has the selection of the segment sequel of ACDBA, which stand for the segment A from version 1, the segment C from version 2, the segment D from version 2, The segment B from s version 1, and the segment A from s version 1, respectively. The pointers 51 of version three 50 may now be used to indicate the order of the segments-sequel of the old version files. To play the actual version the original source files may still be required and therefore automatically retrieved.

[0065] According to some embodiments of the present invention, the GUI **200** may allow integrating the version file and the media source file and saving said integration as an "integrated file" to allow a user that does not have an access to the source files to play the version. To do the GUI **200** may include, for example, an "integration
5 button" that allows the user to execute the integration. The system may define the last version created as the "new version file".

[0066] According to some embodiments of the present invention, the processing unit **300** may allow tracking the original segments **41** originating from the original media sources **40** by tracking back the pointers **51** of each segment for all old versions
10 **50** associated with the original sources **40**.

[0067] While the invention has been described with respect to a limited number of embodiments, these should not be construed as limitations on the scope of the invention, but rather as exemplifications of some of the preferred embodiments. Those skilled in the art will envision other possible variations, modifications, and
15 applications that are also within the scope of the invention. Accordingly, the scope of the invention should not be limited by what has thus far been described, but by the appended claims and their legal equivalents.

What is claimed is:

1. An interactive editing system to support editing, segmenting, commenting, sharing and displaying of multimedia source files between a multiplicity of users, said system comprising at least one server, at least one database and a virtual editor (VE) which is a software tool that includes: a processing unit and a Graphical User Interface (GUI); wherein said system allows at least one user to create at least one version file that comprises editing data and commenting data created by the user, wherein to play the version – the media source file is played according to the comments and editing data stored in the version file..
2. The system of claim 1 wherein the source file is a media file that comprises segments comprised of at least one frame.
3. The system of claim 2 enables the user to select segments of the source file and insert comments that are related to said segments wherein said comments and segments' location in the source file are saved in the version file as a commenting data.
4. The system of claim 3 wherein said GUI further enabling the user to select segments, duplicate them, place them in a desirable order and save the data relating to said selected segments as editing data in the version file, wherein the commenting data and the editing data relating to the same at least one source file, along with other data relating to the user and the source file - are defined as the version data.
5. The system of claim 1 wherein said GUI further comprising of an archive that enables the user to retrieve data and multimedia files.
6. The system of claim 1 wherein said GUI further enabling the user to insert text comments, voice comments and graphical and animated comments.
7. The system of claim 1 wherein said GUI further enabling the user to insert and record online comments.

8. The system of claim 1 wherein the GUI comprises:
 - a display screen that allows displaying video streams,
 - a multimedia player toolbar that includes control options to enable controlling over the display of the video streams;
 - a comments field – to allow inserting comments within the segments;
 - a comments display field - to allow displaying of the users' comments;,
 - an editing toolbar that allows selecting, cutting and copying of segments, defining of selected segments and placing said segments in a desirable order; and
 - a comments toolbar that allows adding, deleting, sending and viewing user's comments relating to each segment.
9. The system of claim 8 wherein the comments toolbar further allows users to respond to existing comments, where each existing comment is indicated according to the user who inserted said comment and wherein the responses are sorted according to a predefined hierarchy.
10. The system of claim 1 wherein the GUI further enabling integrating the version file and the media source file and saving said integration as an integrated file.
11. The system of claim 1 wherein the source file is an encrypted file.
12. The system of claim 1 enables a multiplicity of users to comment online using a multiplicity of Virtual Editors and at least one shared source file.
13. The system of claim 12 wherein the GUI further allows users to view online comments that are written by a multiplicity of users wherein said comments relate to the same at least one source file.
14. The system of claim 1 wherein a new version file is associated with at least one source file, wherein said source file is at least one old version file associated with at least one source.
15. The system of claim 14 wherein the processing unit enables indicating at least one segment defined as a segment in the old version as a pointer, to allow the new version to be played according to the segments' definitions of the old version.

16. The system of claim 15 wherein the processing unit allows tracking the original segments originating from the original media sources by tracking back the pointers of each segment for all old versions associated with the original sources.
17. A method to support editing, commenting, segmenting, sharing and displaying of at least part of at least one multimedia source file, using a virtual editor (VE), which is a software tool that includes: a processing unit and a Graphical User Interface (GUI), said method comprising the steps of:
- retrieving at least one source file;
 - selecting of segments, wherein said GUI allows the user to select segments of the source file ;
 - adding editing pointers to the source file's selected segments, wherein said pointers represent the sequence of the selected segments from the source file;
 - adding content comments relating to the source file;
 - saving the editing and comments related data as a version file;
- wherein said data saved in the version file enables displaying the source file according to the commenting and editing data of the version file.
18. The method of claim 17 wherein said source file is a video file that comprises video segments comprised of at least one video frame.
19. The method of claim 18 wherein editing the source file is carried out by selecting desirable segments of the source file, sorting the selected segments in a desirable order and saving the locations of said selected segments in the source file and the locations of said segment.
20. The method of claim 19 wherein adding comments is carried out by attaching each comment to a segment that is selected to be commented.

21. The method of claim 17 wherein displaying of the edited and commented version is carried out by using
- the location of the selected segments in the source file,
 - the location and order of the selected segments in the edited version,
 - the content of the comments and
 - the location of the comments in the source file
- wherein said locations and data are used to retrieve and display said segments and comments from the source file according to the locations and contents indicated in the version file.
22. The method of claim 17 wherein the source file is retrieved from at least one database using at least one remote server.
23. The method of claim 22 wherein the remote server allows a multiplicity of users, using a multiplicity of VE applications, to edit and comment the same source file and save different version files that allow manipulating the same source and displaying of different editing and commenting versions while the source file is substantially unchanged.
24. The method of claim 17 wherein the commenting is carried out by inserting text comments attached to the source file's segments.
25. The method of claim 17 wherein the commenting is carried out by inserting voice comments attached to the source file's segments.
26. The method of claim 17 wherein the user navigates on the displayed source file frame-by-frame, pauses the display at a chosen segment and inserts a comment that is associated with the selected segment position.

27. A system to support commenting, sharing and displaying of multimedia source files, said system comprising at least one server, at least one database and a virtual editor (VE) which is a software tool that includes: a processing unit and a Graphical User Interface (GUI); wherein said system allows at least one user to create at least one version file that comprises commenting data created by the user wherein the VE uses the data in the version file to display the source file according to the commented version of the user.
28. The system of claim 27 wherein the multimedia source files comprise video segments that include at least one video frame and wherein said system enables the user to insert text comments and associate said comments with selected segments.
29. The system of claim 28 further enables playing the version of the source file where the comments are displayed along with the comments' associated segments.
30. A virtual editor (VE) which is a stand-alone software tool that includes: a processing unit and a Graphical User Interface (GUI); wherein said system allows at least one user to create at least one version file that comprises editing data and commenting data created by the user wherein the version file and the source media file are used in order to play the edited and commented version.

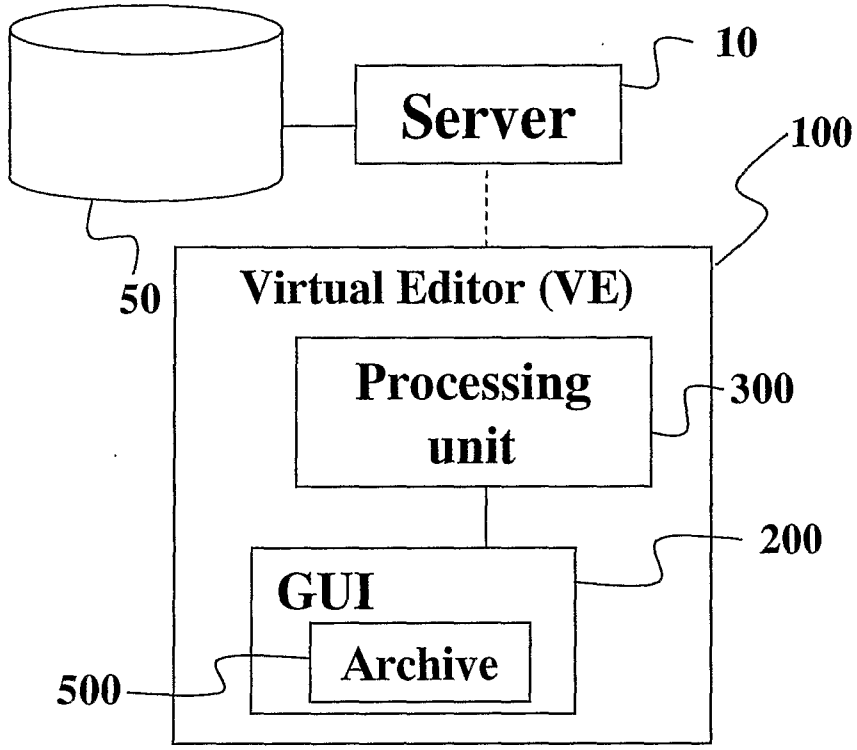


Fig. 1

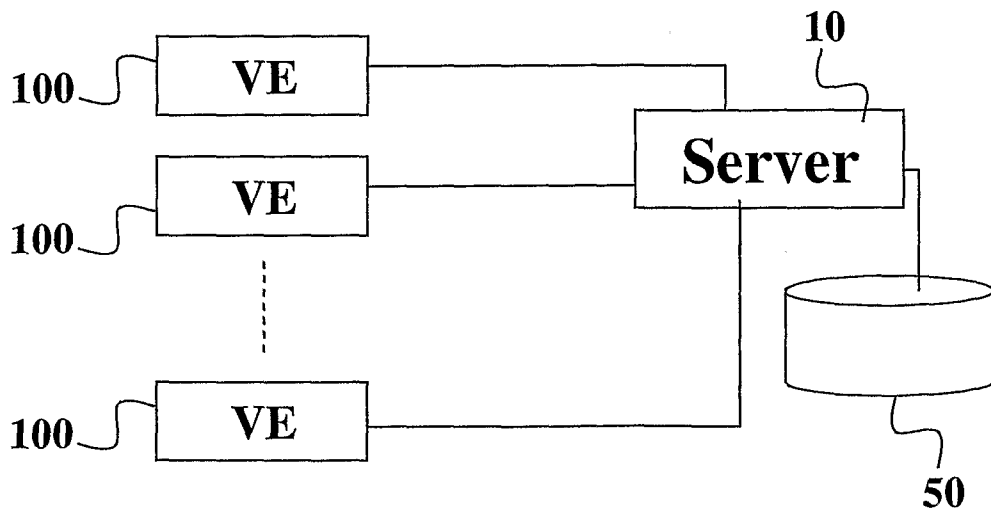


Fig. 2

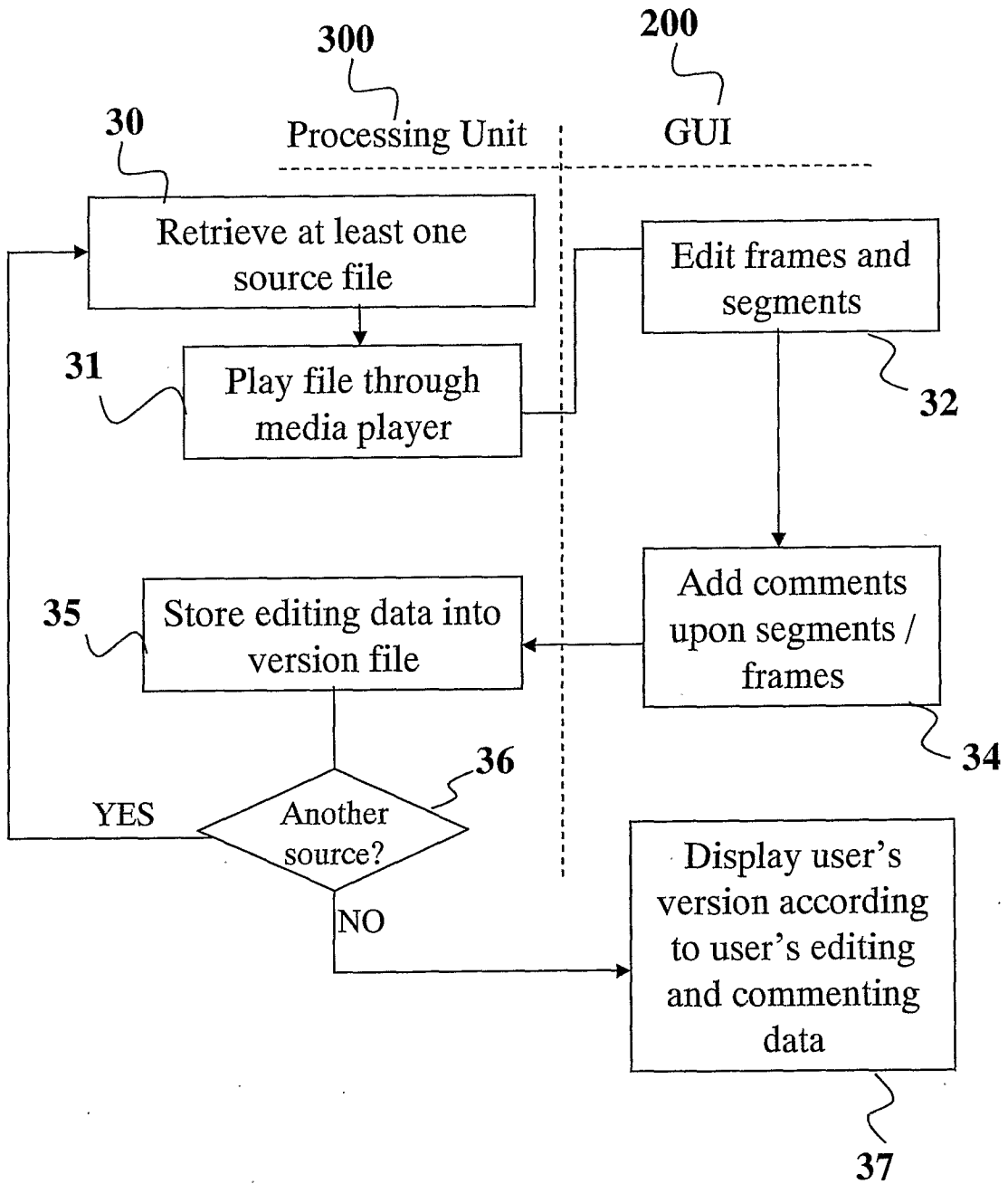


Fig. 3

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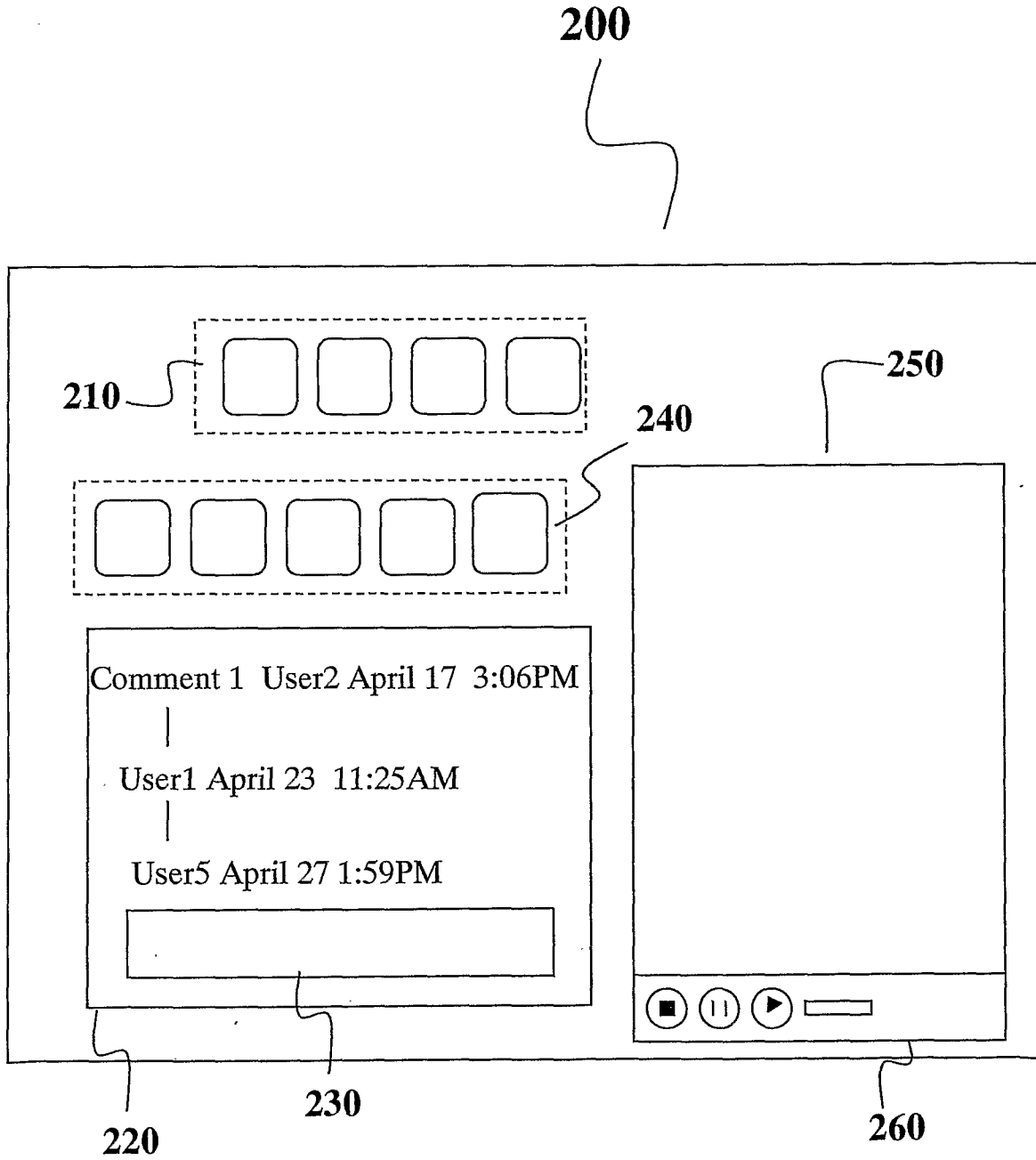


Fig. 4

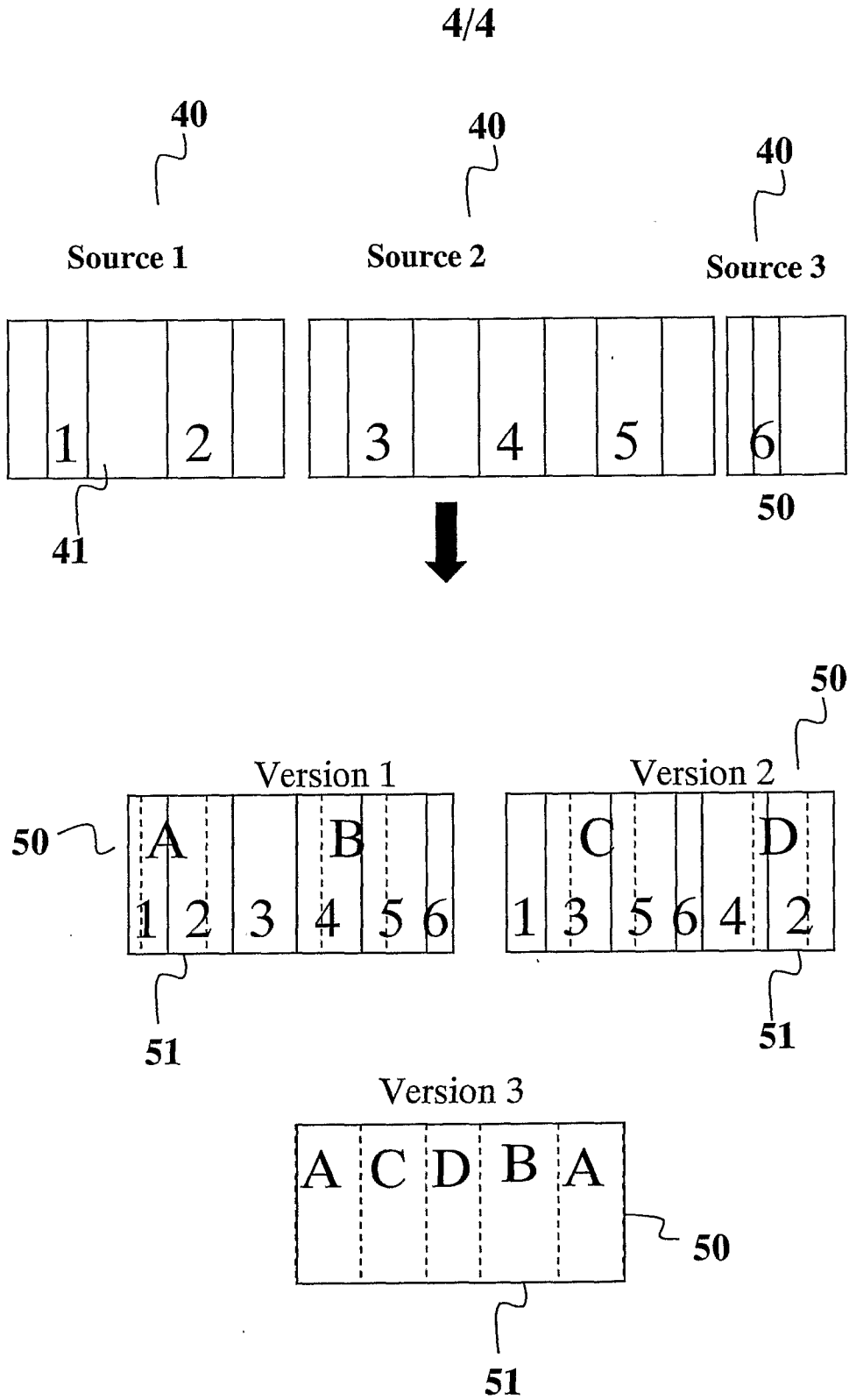


Fig. 5