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(54) SYSTEM AND METHOD OF GENERATING INSTRUCTIONAL INFORMATION FROM GRAPHIC IMAGES AND FONTS FOR USE IN PRODUCING A CRAFT PROJECT

(76) Inventor: **Tina L. Dupuis**, Worcester, MA (US)

Correspondence Address:
GUERIN & RODRIGUEZ, LLP
5 MOUNT ROYAL AVENUE
MOUNT ROYAL OFFICE PARK
MARLBOROUGH, MA 01752 (US)

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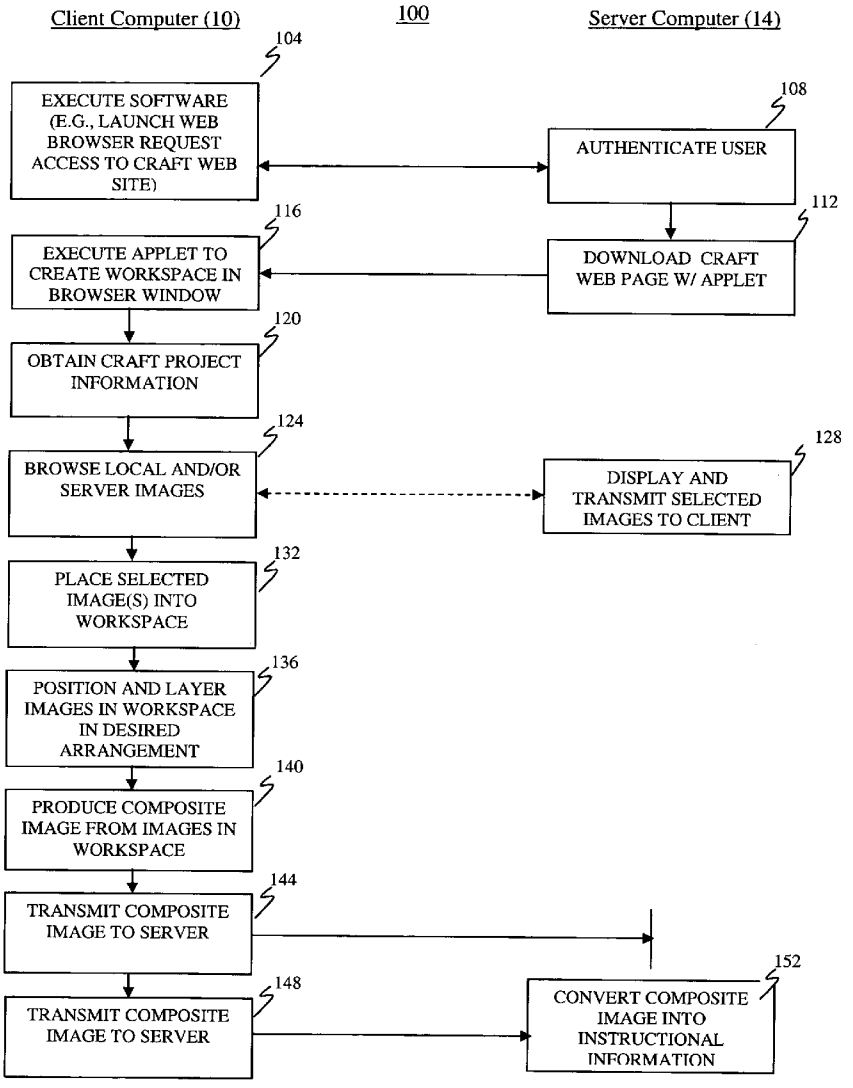
(57) **ABSTRACT**

Described are a system and method of producing a craft project. A client system executing browser software accesses a Web page hosted by the server system. When downloaded from the server system, the Web page produces a graphical workspace on a screen display at the client system. The Web page enables a user of the client system to generate a composite image from a plurality of images. The plurality of images is placed in the graphical workspace for inclusion in the craft project. The client system transmits the composite image to the server system for conversion into instructional information used to produce the craft project.



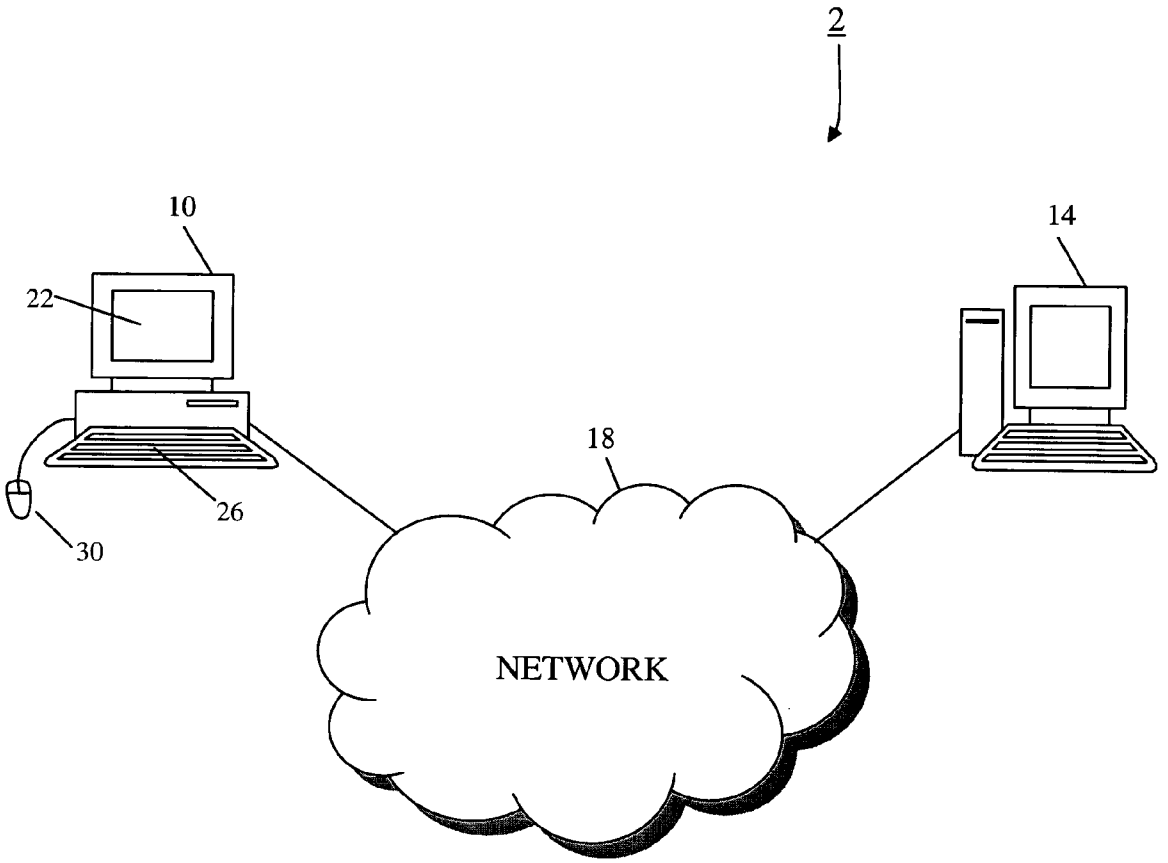


FIG. 1

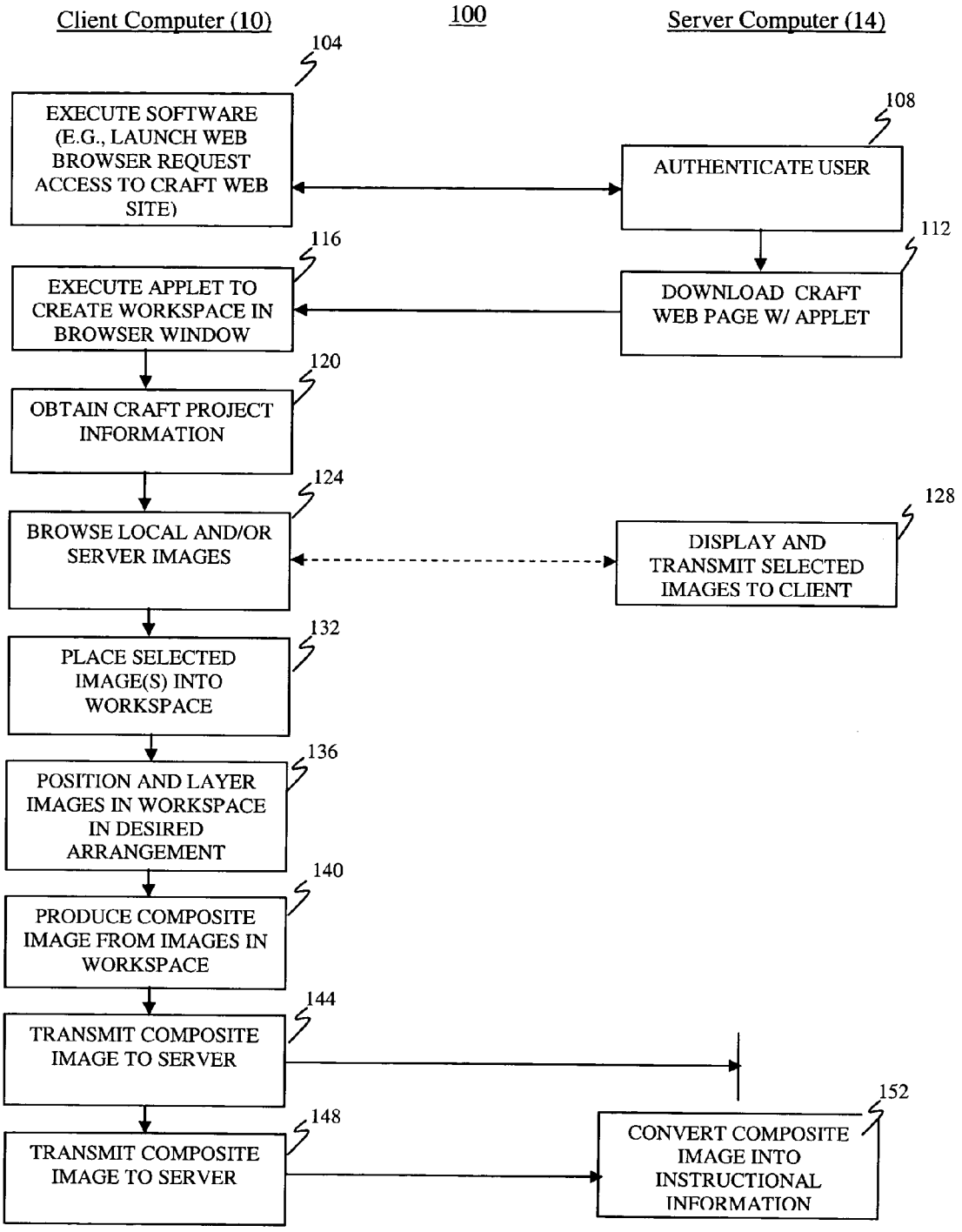

Client Computer (10)
100
Server Computer (14)
104
EXECUTE SOFTWARE (E.G., LAUNCH WEB BROWSER REQUEST ACCESS TO CRAFT WEB SITE)
108
AUTHENTICATE USER
112
DOWNLOAD CRAFT WEB PAGE W/ APPLET
116
EXECUTE APPLET TO CREATE WORKSPACE IN BROWSER WINDOW
120
OBTAIN CRAFT PROJECT INFORMATION
124
BROWSE LOCAL AND/OR SERVER IMAGES
128
DISPLAY AND TRANSMIT SELECTED IMAGES TO CLIENT
132
PLACE SELECTED IMAGE(S) INTO WORKSPACE
136
POSITION AND LAYER IMAGES IN WORKSPACE IN DESIRED ARRANGEMENT
140
PRODUCE COMPOSITE IMAGE FROM IMAGES IN WORKSPACE
144
TRANSMIT COMPOSITE IMAGE TO SERVER
148
TRANSMIT COMPOSITE IMAGE TO SERVER
152
CONVERT COMPOSITE IMAGE INTO INSTRUCTIONAL INFORMATION

FIG. 2

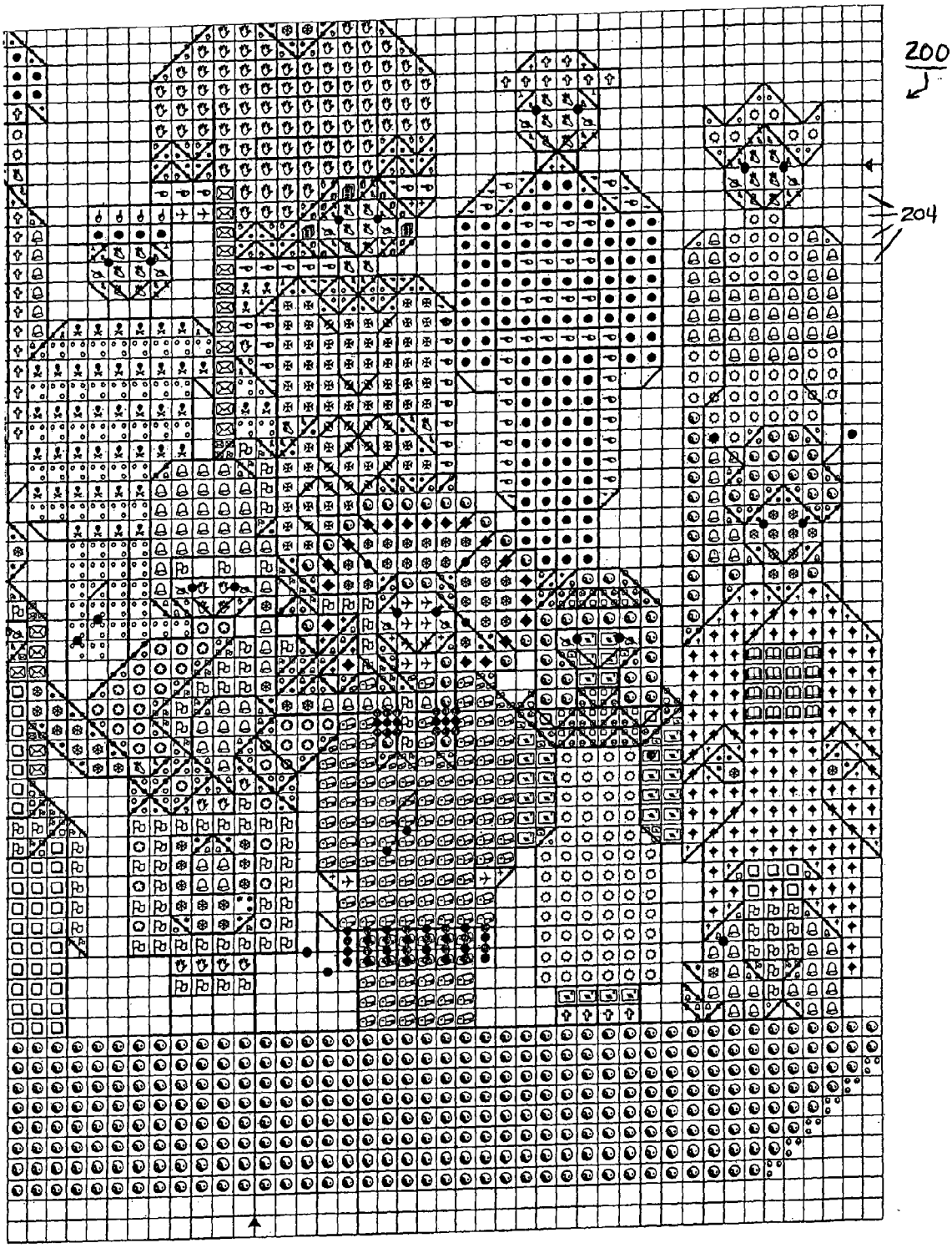


FIG. 3

Fabric: Aida, White
Design Count: 150w x 150h
Design Size: 8.3 x 8.3 in, 18 Count

Stitch Key:

Symbol	Strands	Type	Number	Color
☯	2	DMC	310	Black
●	2	DMC	606	Bright Orange-Red
🔔	2	DMC	318	Steel Grey-LT
🐟	2	DMC	444	Lemon-DK
☼	2	DMC	1	White
🚩	2	DMC	666	Christmas Red-LT
🔨	2	DMC	353	Peach Flesh
✝	2	DMC	317	Pewter Grey
◆	2	DMC	996	Electric Blue-MD
🐎	2	DMC	951	Flesh
❑	2	DMC	307	Lemon
📋	2	DMC	741	Tangerine-MD
❄	2	DMC	712	Cream
⅄	2	DMC	434	Brown-LT
🖐	2	DMC	437	Tan-LT
🚗	2	DMC	422	Hazel Nut Brown-LT
✟	2	DMC	211	Lavender-LT
☹	2	DMC	3348	Yellow Green-LT
⌘	2	DMC	553	Violet
✉	2	DMC	433	Brown-MD
✠	2	DMC	701	Christmas Green-LT
✈	2	DMC	3772	Negro Flesh
✪	2	DMC	3818	Emerald Green-UL VY DK
☠	2	DMC	312	Navy Blue-LT
💻	2	DMC	816	Garnet
✝	2	DMC	372	Mustard-LT
📰	2	DMC	435	Brown-VY LT
🐟	2	DMC	760	Salmon
☺	2	DMC	3755	Baby Blue
🔥	2	DMC	676	Old Gold-LT
📖	2	DMC	550	Violet-VY DK
☮	2	DMC	782	Topaz-DK
🍦	2	DMC	742	Tangerine-LT

FIG. 4

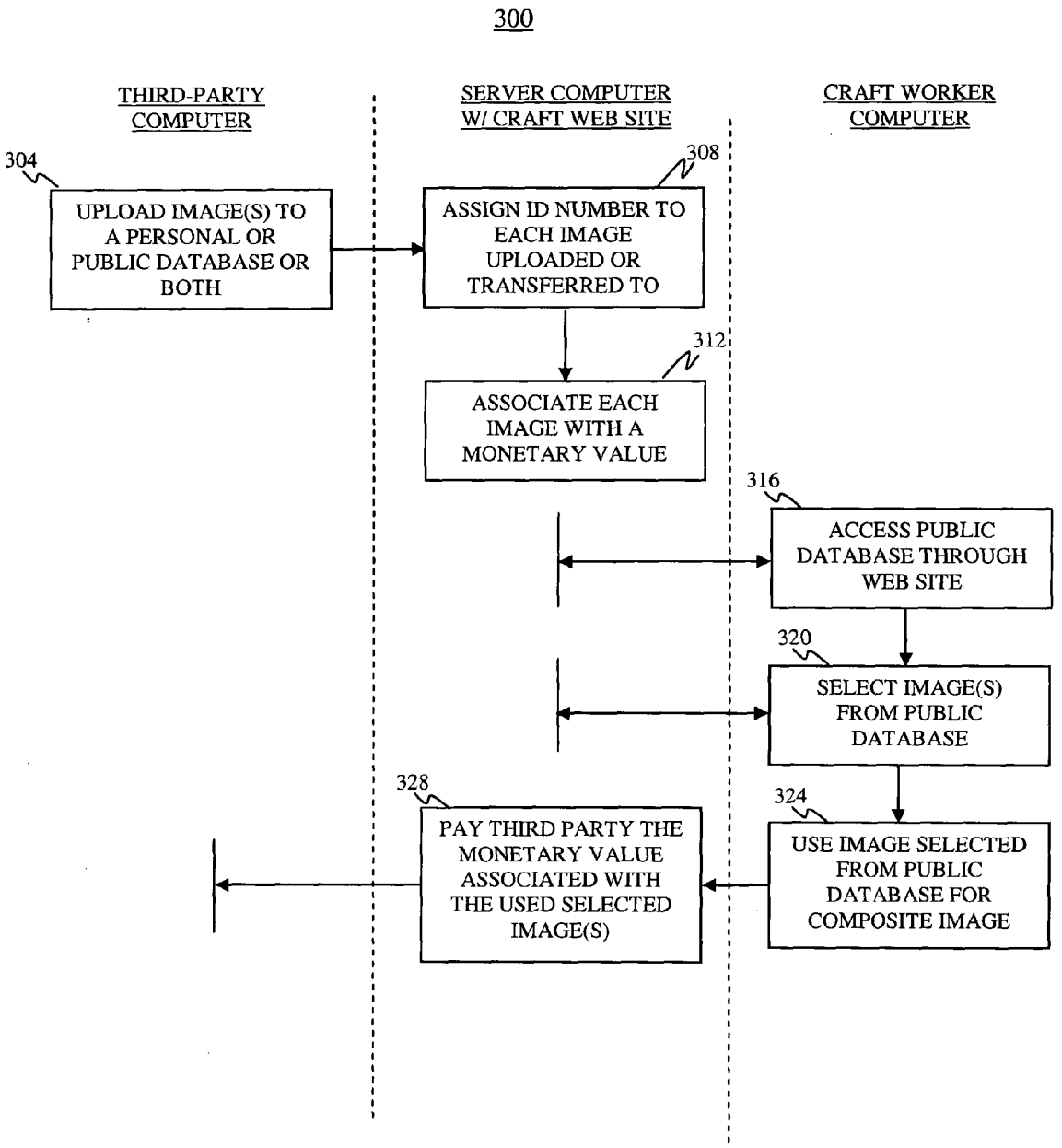

300
THIRD-PARTY COMPUTER
SERVER COMPUTER W/ CRAFT WEB SITE
CRAFT WORKER COMPUTER
304
UPLOAD IMAGE(S) TO A PERSONAL OR PUBLIC DATABASE OR BOTH
308
ASSIGN ID NUMBER TO EACH IMAGE UPLOADED OR TRANSFERRED TO
312
ASSOCIATE EACH IMAGE WITH A MONETARY VALUE
316
ACCESS PUBLIC DATABASE THROUGH WEB SITE
320
SELECT IMAGE(S) FROM PUBLIC DATABASE
324
USE IMAGE SELECTED FROM PUBLIC DATABASE FOR COMPOSITE IMAGE
328
PAY THIRD PARTY THE MONETARY VALUE ASSOCIATED WITH THE USED SELECTED IMAGE(S)

FIG. 5

SYSTEM AND METHOD OF GENERATING INSTRUCTIONAL INFORMATION FROM GRAPHIC IMAGES AND FONTS FOR USE IN PRODUCING A CRAFT PROJECT

RELATED APPLICATIONS

[0001] This application claims the benefit of the filing date of co-pending U.S. Provisional Application Serial No. 60/319,819, filed Dec. 28, 2002, titled "Process for Creating Instructional Needle Craft Patterns for the Completion of Needlepoint Projects," the entirety of which provisional application is incorporated by reference herein.

FIELD OF THE INVENTION

[0002] The invention relates generally to computerized processes for generating instructional information to be used in the production of craft projects. More specifically, the invention relates to computerized processes for converting computerized images into this instructional information.

BACKGROUND

[0003] Needlecraft workers interested in designing their own needlecraft projects in time past used graph paper to provide a grid of squares within which to represent the desired project. Each square on the graph paper represented a position in the pattern and became associated with a color. The needlecraft worker also needed to consider the dimensions of the finished needlecraft project, the thread colors, corresponding manufacturer thread numbers, the type of cloth for sewing, and the number of stitches per inch of the cloth. The needlecraft worker also associated a different symbol with each color represented in an image and inscribed one of the symbols in each position in the grid. The process was manually intensive, time consuming, and unable to provide the needlecraft worker with an accurate view of the finished pattern used for the completion of the project.

[0004] Computers and software now automate the task of needlecraft pattern generation. Various commercially available software programs produce needlecraft patterns from computerized images. Nonetheless, such software programs typically limit the number of images from which a pattern can be produced to one. These software programs also tend to limit the number of colors used to 200 or less per pattern. This limitation can affect the final result of the sewn project. The typical needlecraft worker, however, can rarely find a single image that contains all of the desired subject matter and in the desired arrangement. More commonly, needlecraft workers find desirable subject matter in multiple images and prefer to produce the desired needlecraft pattern from a combination of these images.

[0005] To use multiple images, however, the needlecraft worker often needs an additional program, such as an image editor, to produce the single image that can then be converted into a needlecraft pattern using the conventional software described above. The image editing programs are an added expense, complicate the process, and make the process more time consuming. These drawbacks, consequently, discourage the use of such programs, especially by non-professional needlecraft workers who are primarily unsophisticated hobbyists with little or no inclination to use such sophisticated image-editing software. Thus there remains a need for a system and method of generating a needlecraft pattern from multiple graphic images that avoid the drawbacks of the aforementioned solutions.

SUMMARY

[0006] In one aspect, the invention features a method for producing a craft project. A graphical workspace is displayed on a display screen. A plurality of images is placed in the graphical workspace for inclusion in the craft project. A composite image is produced from the plurality of images in the workspace, and the composite image is converted into instructional information used to produce the craft project.

[0007] In another aspect, the invention features a method for producing a craft project. A Web page is transmitted to a client system. The Web page produces a graphical workspace on a display screen of the client system and enables a user of the client system to produce a composite image from a plurality of images. The composite image is received from the client system over a network and converted into instructional information for use in generating the craft project.

[0008] In yet another aspect, the invention features a network comprising a client system connected to a server system. The client system executes browser software for accessing a Web page hosted by the server system. The Web page produces a graphical workspace on a screen display at the client system when downloaded from the server system. The Web page enables a user of the client system to generate a composite image from a plurality of images placed into the graphical workspace by the user. The client system transmits the composite image to the server system for conversion into instructional information for producing the craft project.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The above and further advantages of this invention may be better understood by referring to the following description in conjunction with the accompanying drawings, in which like numerals indicate like structural elements and features in various figures. The drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the invention.

[0010] **FIG. 1** is a block diagram of an embodiment of a computer environment in which to practice the invention, the computer environment having a client system in communication with a server system over a network.

[0011] **FIG. 2** is a flow diagram of an embodiment of a process for producing instructional information for a craft project in accordance with the principles of the invention.

[0012] **FIG. 3** is a diagram of an embodiment of instructional information including a grid representation of a needlecraft pattern produced in accordance with the principles of the invention.

[0013] **FIG. 4** is an example of instructional information used to assist a needlecraft worker in the manual or machine-operated sewing of the needlecraft project onto a piece of material.

[0014] **FIG. 5** is a flow diagram of an embodiment of a process of making images and fonts available for use in producing instructional information for use in craft projects for a price in accordance with the principles of the invention.

DETAILED DESCRIPTION

[0015] **FIG. 1** shows an embodiment of a computing environment **2** in which customized instructional information for use in craft projects is produced in accordance with the principles of the invention. Craft workers use instructional information in a variety of craft projects, such as bead-working, embroidery, cross-stitching, crewel, and needlepoint. In general, the instructional information serves as guidance or instructions for manual or automatic production of the craft project on a piece of material (e.g., cloth, bead strings). In some embodiments, the instructional information is printed or displayed and used by a craft worker as a template or design that is to be produced on a piece of material. In other embodiments, the instructional information is stored in a file format that is downloaded or installed on a programmable sewing or embroidery machine. The instructional information thus programs the machine to produce a likeness of a craft project on the piece of material. Whether printed, displayed, or stored in a file format, the instructional information determines the positions for each colored thread to be sewn onto the material or for each colored bead to be placed on a string.

[0016] The computing environment **2** includes a first computing system **10** (hereafter, client) in communication with a second computing system **14** (hereafter, server) over a communications network **18**. Although the client **10** and server **14** are shown to be external to the network **18**, it is to be understood that either or both the client **10** and the server **14** can be included in the network **18**. The network **18** can be a large international network (e.g., the Internet or the World Wide Web) or a small local area network (LAN). The client and server **10**, **14** can connect to the network **18** through a variety of connections including standard telephone lines, LAN or WAN links (e.g., T1, T3, 56 kb, X.25), broadband connections (ISDN, Frame Relay, ATM), and wireless connections. Connections are established using one or more of a variety of communication protocols (e.g., HTTP, TCP/IP, Ethernet, and direct asynchronous connections). Other client and server systems (not shown) can also be connected to the network **18** without departing from the principles of the invention.

[0017] In general, the client **10** is a processor-based device (e.g., a personal computer, Macintosh computer, workstation, personal digital assistant, and network terminal) with a graphically driven user interface, a display screen **22**, a keyboard **26**, an input or pointing device (e.g., a mouse, trackball, touch-pad, touch-screen, etc) **30**, and persistent storage (not shown) for storing data and software programs. One software program stored in the persistent storage is browser software, e.g., but not limited to, NETSCAPE NAVIGATOR™ and MICROSOFT INTERNET EXPLORER™. The operating system of the client **10** can be one of a variety of platforms including but not limited to WINDOWS 3.x, WINDOWS 95, WINDOWS 98, WINDOWS NT 3.51, WINDOWS NT 4.0, Macintosh, UNIX, Linux, and WINDOWS CE for windows-based terminals. The client **10** can also include a modem (not shown) for communicating with an Internet service provider (ISP) on the network **18**.

[0018] The server **14** is, in general, a conventional computing device that maintains one or more Web sites and includes memory for storing text files, graphics files, and executable scripts (e.g., applets) collectively stored and accessed as Web pages. An example file format for implementing Web pages is the Hypertext Markup Language or HTML. The server **14** also includes communications capabilities for receiving requests from the client **10** to access a stored Web page and for transmitting information related to the accessed Web page to the client **10** in reply. The server **14** can support a variety of operating system platforms, such as, for example, WINDOWS 3.x, WINDOWS 95, WINDOWS 98, WINDOWS NT 3.51, WINDOWS NT 4.0, WINDOWS CE for windows-based terminals, Macintosh, Java, and Unix. An ISP or business association can maintain and operate the server **14**.

[0019] In brief overview, the invention features an automated method for generating instructional information (for producing a craft project) from multiple digital images. As used herein, images include fonts, text, symbols, and other types of special characters, such as Greek alphabets. Generation of the instructional information can occur entirely on the client **10**, entirely on the server **14**, or in part on the client **10** and in part on the server **14**. For embodiments in which the generation of instructional information involves the server **14**, in whole or in part, the server **14** maintains a Web site having one or more Web pages that facilitate the design of the craft project. Available for use in the generation of the instructional information, a variety of computerized images reside on the server **14**, stored in private and public databases. A private database is accessible by that client user only to whom that database is assigned; a public database is accessible to each client user who accesses the Web site of the invention.

[0020] **FIG. 2** shows an embodiment of a process **100** for designing a custom craft project. Reference is made to the computing environment **2** of **FIG. 1**. In brief overview, a craft worker operating the client **10** executes (step **104**) software that produces a graphical workspace on the display screen **22**. The workspace includes an area of pixels (e.g., an array of pixels) within which the craft project is designed. Initially, the color of all pixels in the workspace is white. The size of the workspace accommodates a portion of or the entire craft project. In one embodiment, executing the software includes launching the browser software to access Web pages over the network **18** from the server **14** using the Universal Resource Locator (URL) of the needlecraft Web site hosted by the server **14**.

[0021] In one embodiment, the craft worker logs in to a user-specific "area" of the server **14**. To log in, the client **10** exchanges information (e.g., username and password) with the server **14** to authenticate (step **108**) the craft worker. When the user is authenticated, the server **14** sends (step **112**) a Web page to the client **10** that includes at least one applet used to produce instructional information for customized craft projects.

[0022] In step **116**, the browser executing on the client **10** translates text files and any accompanying graphics files and applets of the downloaded Web page, and displays the results on the screen **22**. Execution of one applet produces the graphical workspace within a browser window displayed on the screen **22**. In one embodiment, the applet is written in JAVA™.

[0023] The executing software requests (step **120**) project design information from the craft worker provides. For a

needlecraft project, examples of project design information include the type of material or cloth, the color of thread or floss currently possessed by the craft worker and desired to be used in the needlecraft project, and the manufacturer or supplier number (or other identifier) associated with such thread. The type of material determines the number of stitches per inch. Various types of materials and methods of sewing can be used without departing from the principles of the invention. The software sets a size limitation for the needlecraft project by requiring the user to provide dimensions or to select preset dimensions. The dimensions can be defined in terms of counts (i.e., stitches per inch.) In another embodiment, the dimensions are freeform, that is, the software sets no limits to the size of the needlecraft project. The software determines the dimensions of the needlecraft project from the images placed in the workspace by the craft worker.

[0024] The craft worker then previews and selects (step **124**) a plurality of graphic images for inclusion in the craft project. File formats for images that can be used in the present invention include, but are not limited to, Graphics Interchange Format (.gif)), Joint Photographic Experts Group (.jpg), Tag Image File Format (.tif), and bitmap (.bmp). Images for use can reside in various locales: at the client **10** (e.g., on the hard drive or on a CD); at the server **14** (e.g., in his or her private database, in the public database, in a retailer-provided database); at another server with which the server **14** can communicate to obtain images; or at any combination of the client **10** and servers. The databases from which to select images can appear in the same window as the workspace or, if not in the same window, in a concurrently visible window as the window with the workspace.

[0025] The craft worker can preview an image without selecting it. To select a particular image, the craft worker highlights the image (by using a preview function or by hyper-linking its filename) and can use a variety of ways to select the image such as clicking a "Select" graphical button using the input device **30**, pressing a "hot key" on the keyboard **26**, "double-clicking" on the filename of the image, or "dragging and dropping" the selected image into the workspace. These operations generally result in storing the selected image into memory of the client **14**. When a selected image resides at the server **14** (or at a server accessible to the server **14**), the server **14** sends (step **128**) the image to the client **14** over the network **18**. Once the craft worker has obtained the selected images from the server **14** the client **10** does not need to remain connected to the server **14** to produce the composite image. In one embodiment, the "session" of the craft worker on the server **14** terminates.

[0026] One or more of the selecting operations can also result in automatically placing (i.e., displaying) the selected image in the workspace. In step **132**, the craft worker places two or more of the selected images into the workspace. Any number of images can be placed into the workspace. When an image is placed into the workspace, a layer number (e.g., a z-depth value) becomes associated with the image. Each image is associated with a link, which, when activated, allows the user to select and independently move that image up or down in the layers of images without affecting the other images. In one embodiment, the image being placed into the workspace is automatically assigned the top layer, and the layer values assigned to the other images in the workspace are incremented (i.e., become lower layers). To move a top-layered image to a lower-level layer, the Web site has a directional button that allows the craft worker to move the top image down through the layers of images to the desired position.

[0027] Each image placed into the workspace covers a plurality of workspace pixels, and thus each workspace pixel becomes associated with the pixel value of the topmost image covering that pixel. Images that are too large for the workspace (i.e., the pixel dimensions exceed the pixel dimensions of the workspace) can be cropped or scaled to fit. Many, if not all, images have "white space" around or outside the subject matter of the image. The white space can obscure pixels of images at lower levels. The present invention causes the white space to be, in effect, transparent, so that the pixel colors of lower level images below that white space become part of the composite image; that is, this surrounding white space does not become part of the composite image.

[0028] Once an image is in the workspace, the craft worker can manipulate (step **136**) the image in a variety of ways, e.g., resize, flip, and place in back, place in front to produce a desired arrangement. The image can also be removed from the workspace. The layered arrangement of images in the workspace represents a composite image to be used to produce the instructional information for producing the customized craft project.

[0029] Once the layered arrangement satisfies the craft worker, the craft worker produces (step **140**) a composite image by merging all of the selected images placed in the workspace. This operation can occur by activating, for example, a graphical button displayed on the screen **22**. The composite image can be stored locally on the client **10** or sent (step **144**) to the server **14** (i.e., uploaded) for storage in a private or public database. The Web page displayed at the client **10** includes a graphical button for initiating "save" operations.

[0030] To produce a craft project from the composite image (stored locally at the client **10** or stored previously (in step **144**) at the server **14**), the craft worker activates (step **148**) another graphical button. The composite image passes (step **148**) to the server **14** (if not already there). If, at the time of transferring the composite image, the previous session between the client **10** and server **14** has terminated, the server **14** authenticates the client **10**, as described above in connection with step **108**, to initiate a new session.

[0031] The server **14** then performs (step **152**) a conversion process that transforms the composite image into instructional information that aids the craft worker in producing the craft project on a piece of material (e.g., cloth, bead string).

[0032] **FIG. 3** shows an embodiment of instructional information useful in the production of a needlecraft project. The instructional information includes a grid representation **200** of a needlecraft pattern having an array of grid elements **204**. Each grid element **204** is mapped to one of the pixels in the composite image. One or more grid elements **204** can be mapped to the same composite image pixel. Each grid element **204** is assigned the color of the composite image pixel to which that grid element is mapped. The particular arrangement of assigned colors in the grid representation **200** produces a likeness of the composite image. The con-

version process maps each assigned color to the nearest thread color (e.g., for a given thread manufacturer).

[0033] In one embodiment, the grid representation **200** includes machine-readable instructions that direct processor-based means (e.g., a programmable sewing machine, a programmable embroidery machine) to produce the needlecraft pattern on a piece of material. In one embodiment, the instructional information includes printed or displayed symbols in the each of the grid elements **204**. Each symbol is associated with a particular color. The location of symbols in the array of grid elements indicates where each color is to be sewn. It is to be understood that other embodiments of the conversion process can produce representations of needlecraft patterns that have formats different than that of a grid.

[0034] The instructional information is transferred into a file format that the craft worker can store in a personal database on the client **10** for immediate printing. This file can also be transferred to and displayed on other types of electronic devices, such as personal digital assistants (PDAs) and hand-held PCs. For embodiments in which the instructional information includes machine-readable instructions, the file can be installed on a processor-based (i.e., programmable) sewing or embroidery machine. The machine is thus configured to produce the corresponding craft project on a piece of material.

[0035] In an alternative embodiment of the process, the executing software is a program installed or running at the client **10** that facilitates the generation of the instructional information without any need for communicating with the server **14**. In yet other embodiments, for example, in thin client computing environments, the execution of the process **100** occurs entirely on the server **14** and the graphical results are displayed at the client **10**.

[0036] **FIG. 4** shows another example of instructional information, in table format, for assisting a needlecraft worker in the sewing of the needlecraft project. Typically, this type of instructional information supplements the grid representation **200** described above. The instructional information provides a cross-reference for each color symbol, the number of strands of thread for that particular color used in the needlecraft project, the type of thread (i.e., manufacturer), the manufacturer number of the thread, and the name of the color.

[0037] The conversion process also determines from the needlecraft-worker-supplied information whether the worker personally owns any of the color threads. If a match is found, the instructional information indicates which colors of thread are used in the needlecraft project that the needlecraft worker already owns. Thus, these colors of thread are not necessary to buy to sew the project. Conversely, the instructional information shows those colors of thread that the needlecraft worker does not currently own, and thus alerts the needlecraft worker as to which color threads to buy. In one embodiment, a manager of the craft Web site provides needlecraft kits to needlecraft workers who produce composite images at the Web site. The manager can use the instructional information to determine which colors of thread to send needlecraft workers in order to complete their needlecraft project.

[0038] **FIG. 5** shows an embodiment of a process **300** of providing images on the server **14** for possible use in the construction of customized craft projects and associated monetary compensation. In step **304**, a third-party computer user logs on to the server **14** and gains access to his or her user-specific area of the server **14**. The third-party user then performs one or more of the following operations: 1) transmitting (i.e., uploads) one or more images to his or her own personal database; 2) uploading one or more images to the public database; and 3) transferring images from his or her own personal database to the public database. The manager of the server **14** can set time limits for keeping images in the private and public databases.

[0039] When uploading images to the server **14**, the third-party user provides information regarding each uploaded image, such as a key word or words describing the image and the dimensions of the image (e.g., 50 pixels by 50 pixels). In one embodiment, the public database includes a plurality of predefined folders into which third-party users can place images. As an example of a hierarchy of folders, consider a "dolls" folder with sub-folders that divide dolls into particular colors or pixel dimensions. In another embodiment, the third-party user uploads a folder of images, the folder containing a plurality of images of a particular class or subject matter (e.g., dolls, animals, and people). Preferably, each image in a particular folder has the same pixel dimensions, the same subject matter, or both. Also, the third-party user provides the descriptive information once for the folder, when uploading a folder to the server **14**, and not for each image in the folder.

[0040] Images placed in the public database are available to other visitors of the Web site who can select and use such images for a fee or for free. Images in the personal database are not shareable with others until the third-party user transfers them to the public database. The third-party user can sell individual or groups of images.

[0041] At step **308**, the server **14** assigns an identification number to each image placed in the public database. The identification number directly or indirectly identifies the third-party that provided the image. At step **312**, the server **14** assigns a monetary value to the image, the price being set by the third-party who provided the image. Some images in the public database may have no cost associated therewith.

[0042] In like manner described above, a craft worker logs on to (step **316**) the needlecraft Web site on the server **14** and searches for images to use in the needlecraft project. The craft worker searches for and selects (step **320**) images to use and places the selected images into the workspace. The search can occur using one or more of the following manners: by a keyword search, by searching through a third-party's images, by searching through images in the public database, by posting a message on a message board for exchanging images with other users of the Web site, and by searching through their own personal image database.

[0043] Selecting images from a third-party is analogous to placing that image in a shopping cart. The craft worker can select images from a plurality of third parties (i.e., have a plurality of shopping carts, one for each third party). If the composite image contains images taken from the public database that were placed in the public database by a third-party and associated with a monetary value, the craft worker pays the monetary value associated with that image. In one embodiment, the craft worker purchases those images downloaded from the server **14** to the client system of the

craft worker. In another embodiment, those images remaining in the workspace are purchased at the moment of converting the composite image into the instructional information used to produce the craft project. If the craft worker desires to lease a single image or group of images from a third party, those images are transferred into the personal database of the craft worker. A leasing fee is charged to the craft worker when the transfer is made. The lease can be for a limited time, for limited usage, or for unlimited usage. The server **14** ensures that the terms of the lease are upheld, e.g., by removing the image or group of images from the personal database when the lease expires. The server **14** also ensures that leased images cannot be downloaded from a personal database to the client computer so that the server **14** maintains control of the leased image and can thereby uphold the terms of the lease.

[**0044**] An online payment service, such as PAYPAL™, can be used to pay each third party for their images that are leased, downloaded, or used in the needlecraft project. Alternatively, the server **14** tracks the purchases, and the manager of the Web site pays each third party on a periodic schedule or when the sales of the third party reach a predefined threshold.

[**0045**] The craft worker can manipulate each image in a variety of ways, e.g., resize, flip, and place in back, place in front, and remove the image from the workspace. When satisfied with the selection and arrangement of images within the workspace, after the images are merged into a composite image, the craft worker converts (step **324**) the composite image in the workspace into instructional information as described above.

[**0046**] The present invention may be implemented as one or more computer-readable software programs embodied on or in one or more articles of manufacture. The article of manufacture can be, for example, any one or a combination of a floppy disk, a hard disk, a hard-disk drive, a CD, a DVD, a FLASH memory card, an EEPROM, and EPROM, a PROM, a RAM, a ROM, or a magnetic tape. In general, any standard or proprietary, programming or interpretive language can be used to produce the computer-readable software programs. Examples of such languages include C, C++, Pascal, JAVA, BASIC, Visual Basic, and Visual C++. The software programs may be stored on or in one or more articles of manufacture as source code, object code, interpretive code, or executable code.

[**0047**] While the invention has been shown and described with reference to specific preferred embodiments, it should be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention as defined by the following claims. For example, the principles of the invention apply also to the craft of bead-working. Instead of producing instructional information for generating neddlecraft patterns for use in needlecraft projects, the craft Web site described above can be configured to assist a craft worker in developing instructional information for producing braids made of beads. This instructional information provides the appropriate instructions and identifies the needed materials to construct the braids. These instructions and materials can be sent to the craft worker in a kit as described above.

What is claimed is:

1. A method for producing a craft project, the method comprising:

displaying a graphical workspace on a display screen;

placing a plurality of images in the graphical workspace for inclusion in the craft project;

producing a composite image from the plurality of images in the workspace; and

converting the composite image into instructional information used to produce the craft project.

2. The method of claim 1, wherein the craft project is bead-working.

3. The method of claim 1, wherein the craft project is sewing a likeness of a needlecraft pattern onto a piece of material.

4. The method of claim 1, wherein the instructional information includes a needlecraft pattern having a plurality of thread positions, and wherein the step of converting includes mapping each thread position to a pixel of the composite image and associating that thread position with a color of that pixel.

5. The method of claim 4, wherein the step of converting includes mapping each thread position to a thread type based on the color associated with that thread position.

6. The method of claim 1, wherein instructional information includes symbols that are assigned to thread colors and associated with thread positions in a needlecraft pattern.

7. The method of claim 1, wherein the instructional information indicates which of those threads that are part of the craft project correspond to threads currently possessed by a craft worker.

8. The method of claim 1, further comprising accessing by a client system at a server system a Web page with an applet that produces the graphical workspace when the Web page is displayed at the client system.

9. The method of claim 1, further comprising associating a third-party identifier and a monetary value with one of the images of the plurality of images, and paying the monetary value to a third party identified by the identifier if the one image is selected for inclusion in the craft project.

10. The method of claim 1, further comprising associating a third-party identifier and a monetary value with one of the images of the plurality of images, and paying the monetary value to a third party identified by the identifier if the one image is transmitted to a client system.

11. The method of claim 1, further comprising transmitting an image from a client system to a publicly accessible database managed by a server system for possible inclusion in the craft project.

12. The method of claim 1, wherein the instructional information includes machine-readable instructions that direct sewing means to produce a likeness of a needlecraft pattern on a piece of material.

13. A method for producing a craft project, the method comprising:

transmitting a Web page to a client system, the Web page producing a graphical workspace on a display screen of the client system and enabling a user of the client system to produce a composite image from a plurality of images;

receiving the composite image from the client system over a network; and

converting the composite image into instructional information for use in generating the craft project.

14. The method of claim 13, further comprising charging a financial account of a user of the client system to pay a party that provided an image transmitted to the client system for inclusion in the craft project.

15. The method of claim 13, further comprising charging a financial account of a user of the client system to pay a party that provided an image included in the composite image.

16. The method of claim 13, wherein the instructional information includes machine-readable instructions that direct sewing means to produce a likeness of a needlecraft pattern on a piece of material.

17. A network comprising a client system connected to a server system, the client system executing browser software for accessing a Web page hosted by the server system, the Web page producing a graphical workspace on a screen display at the client system when downloaded from the server system, the Web page enabling a user of the client system to generate a composite image from a plurality of images placed into the graphical workspace by the user, the client system transmitting the composite image to the server system for conversion into instructional information for producing a craft project.

18. The network of claim 17, wherein the server system includes memory for storing images in private and public databases.

19. The network of claim 17, wherein one or more of the images stored in a public database at the server system are associated with a third party and are assigned a monetary value.

20. The network of claim 17, wherein the instructional information includes machine-readable instructions that direct sewing means to produce a likeness of a needlecraft pattern on a piece of material.

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