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(54) Title: DIGITAL IMAGING METHOD AND APPARATUS

(57) **Abstract:** An apparatus and method for electronically creating combined digital images of a person and incorporating them into a series of site-specific background images or film clips making it appear as if the user were actually a part of the original imaging sequence. As to housing, camera, processor, output devices, control boards, cables, currency machine; see patent # 6, 507, 361. In one embodiment the camera can move to take the images from different angles and in an alternative embodiment there are multiple cameras situated such that they sequentially capture and store a series of images to be incorporated into the product. An alternative housing apparatus is in a booth for automatically producing an imaging sequence of a self- portrait of the user integrated into a stored background or film clip, including a cash or credit card receiving device, a computer triggered by cash or credit received in the device, a movable digital camera or video camera to view the user, a video monitor for self viewing, and the possibility of one located outside the booth for advertising or amusement purposes. A series of stored digital imaging movie clips for selective withdrawal by the user where the captured sequence of the user is automatically integrated into stock stored movie clips and can be either output in an e-mail message posted to a board with a link to user's choice of e-mail friends' addresses for retrieval or a direct link to friend's and family's e-mail addresses or an output device with hard copy of personalized sequence to CD ROM or Video or hard copy print of a still image.



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PATENT COOPERATION TREATY APPLICATION
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Invention:
DIGITAL IMAGING METHOD AND APPARATUS

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2 **Description**

3 **CROSS REFERENCE TO RELATED APPLICATIONS**

4 This application claims priority from provisional
5 patent application Serial No. 60/703746 filed July 29,
6 2005.

7 **TECHNICAL FIELD**

8 This Invention pertains to the field of digital
9 imaging. More particularly, the invention pertains to an
10 apparatus for electronically producing souvenir still
11 images, film clips or video games incorporating the user
12 into the stored background or sequential series of
13 backgrounds, or video games.

14 **REFERENCE TO COMPUTER PROGRAM LISTING APPENDIX**

15 Applicant incorporates by reference the materials on
16 the enclosed two CD-ROMs, said materials described as
17 follows:

18 The files contained on the enclosed CD-Rom's (Copy 1
19 and Copy 2 - These discs are identical) are as follows:

```
1  =====
2      NAME                      SIZE      Creation Date
3      flash_decompiler.exe      3595 KB      6/8/2005 02:03:38 PM a
4      magnet.swf                131 KB      6/8/2005 03:11:14 PM a
5      magnet24.flas             1139 KB      6/8/2005 01:46:08 PM a
6      magnetmancontent.swf      50 KB       5/29/2003 02:46:30 AM a
7      magnetmancontent2.flas    819 KB      5/29/2003 02:46:26 AM a
8      princesscontent.swf       77 KB       6/16/2003 01:31:48 PM a
9      princesscontent2.flas     710 KB      6/16/2003 01:19:50 PM a
10     sweetpeacontent.swf        105 KB      6/8/2005 01:46:54 PM a
11     sweetpeacontent2.flas      443 KB      5/29/2003 02:38:46 AM a
12     ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
13     9 file(s)
14     Total files size: 7 MB; 7072 KB; 7241776 Bytes
15     ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
16     Machine Format: IBM-PC
17     Operating System: Windows XP
18     Copy 1 and Copy 2 are Windows XP based CD-Rom(s). The file
19     labeled flash_decompiler.exe is a "viewer" that when loaded
20     and installed will allow the four (4) files labeled ".swf"
```

1 to be interpreted. The ".swf" files are Shockwave format.
2 The four (4) files labeled ".fla" are Flash MX 2004
3 "actionscript" files.

4 BACKGROUND OF THE INVENTION

5 In the field of personalized portraits it is known to
6 provide a painted backdrop for an individual to stand
7 before, whose picture is taken with a camera so that the
8 end result is a photograph where the person's image is
9 superimposed against the backdrop. Similarly, it is known
10 to create an image of a user digitally using a computer and
11 stored digital images (See U.S. Patent 6,507,361). It is
12 known in the field that videos can be taken where the user
13 stands in a booth and performs for a few minutes while a
14 video recorder records the user's voice and actions.
15 Finally, it is known in the field that in home set-ups an
16 operator can capture the image of themselves, or a
17 customer's image can be manually inserted, through the use
18 of a digital camera or scanner and standard imaging
19 software cut and paste processes, placed as a single image
20 to be merged into either a still or film clip in a single

1 pose, cut out, pasted on a standard generic body that is
2 one size and one skin tone.

3 These previously known methods present a number of
4 problems. In the first instance the camera must be loaded
5 and the film processed, there are lighting challenges and
6 the user does not have the ability to preview and edit the
7 final product before printing it. Secondly, the user has
8 only the option of selecting one of a series of still
9 images where the choices are limited. Thirdly, where the
10 user stands in the booth and has their image continually
11 recorded for several minutes, the user feels awkward, it is
12 boring and therefore does not have the mass appeal that is
13 desirous of a professional video tape, resulting in an
14 amateurish product. Finally, regarding the in-home video
15 games, the user must purchase costly equipment and
16 integrate their image on their own with a stock one sized
17 body producing an unnatural and undesirable end product
18 where every user (whether a seven year-old boy or a 50
19 year-old woman) will have the same size and shape of body
20 attached to their head. The cost of the necessary

1 equipment alone places the product outside the realm of
2 mass marketing.

3 On another subject, many travelers desire to
4 communicate with their friends and relatives during their
5 travels. Some are desirous of retaining souvenirs. Many
6 wish to send a photograph of themselves in front of various
7 national treasures or historical monuments, or take home
8 videos of the same tourist attractions with a different
9 user over and over again.

10 SUMMARY OF THE INVENTION

11 This invention comprises a novel apparatus and method
12 for taking a single or series of multiple images of the
13 user for a short period of time and integrating it or them
14 into a plurality of background options chosen by the user
15 for a souvenir. The stored images may be either realistic
16 looking or illustrated – lending an amusement quality to
17 the product. The self-portrait film clip or still image is
18 available for viewing after a brief interlude.

19 The user is instructed through a series of directives
20 while the camera records the user alone with the monitor

1 screen and/or digital recorded voice annunciations such
2 directives as "smile", "wave", "look to your left", "look
3 surprised", "look frightened" or such other actions as may
4 be dictated by the souvenir item. After or before the
5 short film clip is captured, the user may select a
6 particular series of images or still image for
7 incorporation into the montage. The background or series
8 of backgrounds may be chosen from a plurality of pre-
9 selected stored backgrounds that may be indigenous to the
10 area where the apparatus is located so as to eliminate the
11 necessity of the user's physical presence at the location
12 shown in said background or said backgrounds. For example,
13 if a user is in a booth in San Francisco the user may
14 select a series of events where the user appears to be
15 inside the open window of a helicopter over San Francisco
16 (Figure 1, upper right-hand quadrant-helicopter with boy
17 inside) viewing the Golden Gate Bridge from the helicopter
18 (Figure 1, upper left-hand quadrant) or in a San Francisco
19 Cable Car (Figure 1, lower-left quadrant - cable car with
20 boy inside window) looking at the "Painted Ladies" row of

1 houses. The invention will utilize a portion of such
2 original custom film clip placed either by the "video
3 window" method or by "chromakey" -- both methods are known
4 by those skilled in art. The helicopter will take off and
5 you will see a series of shots taken from the perspective
6 of the user sitting inside the helicopter and the
7 customer's image will not be displayed during this time
8 period and the film will discuss (narrate) what is taking
9 place in the San Francisco image -- what the observer is
10 seeing, then the film may cut to a rickshaw with the user
11 inside it in the Chinatown area of San Francisco, or inside
12 a cable car window or on the BART [Bay Area Rapid Transit]
13 transportation system (Figure 2, upper left quadrant - boy
14 in BART train), where the user's image is placed sitting
15 down on the train and the multiples layers of imaging allow
16 the stored film clip of a thief to run past the user, steal
17 a shopping bag placed on the ground in front of the user
18 and run out the other end of the car. As another example,
19 if the user chooses to be an astronaut, then the user's
20 likeness is inserted into the proper location in the

1 appropriate stored image and another diaphanous layer is
2 placed on top of the user's image making it appear as
3 though the user was wearing a spacesuit with glass on the
4 user's face (Figure 2, upper right quadrant, boy in
5 spacesuit). Similarly, the user may be placed in a small
6 trailer of a current or classic movie, such as the "Wizard
7 of Oz" (Figure 2, lower right quadrant - boy standing
8 beside or interacting with Dorothy, the tin man, the Lion
9 or the Scare Crow). In the case of video games (see the
10 Computer Program Listing Appendix - video kid game), the
11 user will have multiple images of themselves placed into
12 existing or new video games where the size of the generic
13 body will be selected for age and/or gender
14 appropriateness. The user will leave the booth or the
15 stand-in-front-of kiosk with a customized video game where
16 they, as the star, can run and jump and interact like other
17 super stars in a video game, but this one is of the user.

18 Another embodiment shows multiple users of varying
19 numbers composing a group photo, such as "Olde Time" Photos
20 where the user can select not only the age and gender

1 appropriate generic body size but can select and change
2 various outfits or articles of clothing for selection and
3 display, changing their mind and outfits as they please a
4 number of times (Figure 2, lower left quadrant - image of
5 boy in safari suit with hat or, upper right quadrant - boy
6 in space suit). The next user will be added to the
7 assemblage, one at a time, eliminating the need to work
8 together and the machine will assemble the various
9 individual shots into a composite for output by printer or
10 for e-mail posting on a board or individual e-mail as
11 selected by the user.

12 BRIEF DESCRIPTION OF THE DRAWINGS

13 Figure 1 is four still images from an exemplary
14 souvenir video clip with the user's face incorporated in
15 two of the four images.

16 Figure 2 is four still images from four different
17 souvenir products, each with the user's face incorporated
18 in the image.

19 Figure 3 is a screen shot from an exemplary souvenir
20 video game.

1 Figures 4, 5, 6 and 7 are screen shots from software
2 of a type used to create images with face photos.

3 Figure 8 is a screen shot from an exemplary souvenir
4 video game with the user's face incorporated into the
5 character that is played in the video game.

6 Figures 9 & 10 are screen shots from an exemplary
7 souvenir video game.

8 Figure 11 is a system diagram for a kiosk or other
9 station for taking a series of pictures of the user and for
10 creating and delivering the souvenir media product which
11 incorporates therein one or more of the pictures of the
12 user.

13 Figure 12 is a scene sequence.

14 Figure 13 is camera system taking a picture of a user.

15 Figure 14 is a system diagram for a multi-player
16 online game system which morphs the face and other body
17 characteristics of the characters for in one or more games
18 incorporates

19 Figure 15 is a screen shot from a 3D face image
20 program.

1 Figures 16 and 17 are screen shots from a 3D face
2 image program for the frontal view.

3 Figure 18 is a screen shot from a 3D face image
4 program for a left profile image.

5 DETAILED DESCRIPTION OF THE INVENTION

6 An improved imaging apparatus for still, moving or
7 video games is provided by the present invention. Either a
8 booth or a portable apparatus (such as, but not limited to
9 those apparatuses shown in U.S. Patents 5,343,386 and
10 6,507,361, all and both of said U.S. Patents being
11 incorporated herein by reference) is used for forming on a
12 substrate, by e-mail, onto a CD, DVD, Videocassette or
13 video game cartridge the electronic image of a person in
14 predetermined background surroundings, which apparatus 100
15 have a housing made of suitable material such as fiberglass
16 that also has an opening. This apparatus 100 is convenient
17 for such locations as shopping malls, amusement parks, toy
18 stores or scenic locations in a national park.

19 The housing 101 can be mounted on a counter top or
20 another convenient surface. Alternatively, a base 102 can

1 be attached to the housing 101 for supporting the housing
2 above the ground, or in the case of a booth, placed on the
3 ground.

4 Also, a still or video camera 103 is mounted on the
5 housing 101 and can be moved up or down by the user 105 or
6 by other computer control means for capturing multiple
7 angles of the user 105 for incorporation into pre-selected
8 slots in the video or video game (for instance if a
9 particular scene requires a profile of the user or in the
10 video game, or, if the user is running away from the
11 camera, a shot of the back of the head is appropriate).
12 Similarly, in certain machines 100 it may be desirable for
13 the camera 103 to take limited angles and provide a generic
14 stored back of the user's head based on hair color and
15 length and style as sampled from the first full face shot
16 of user.

17 The camera 103 is manually directed to find the
18 eye level 106 of the user 105 and the chin level 107 or top
19 of the head level 108 as a second indicator to allow the
20 sizing software 200 controlling the apparatus to

1 automatically size by measuring the distance, calculating
2 the necessary size changes for proportional incorporation
3 into a user selected age and gender appropriate body thus
4 giving the appearance of the actual user while only
5 actually using either a portion of the body (such as the
6 face and hair) or in certain circumstances, the entire,
7 face, hair and body may be used to incorporate into either
8 a traveling video or vacation video or movie clip. The
9 monitor 150 can indicate an "eye level" 158 which the user
10 105 can align to as the camera 103 displays the live image
11 of the face of the user 105 on the monitor 150. While
12 holding that position, the user 105 can use the control
13 buttons 170 to move a chin line 159 to align with the live
14 image of the user's face chin, thus providing the sizing
15 software 200 with the necessary input to determine the eye-
16 to-chin distance 110 and thus size the face of the user 105
17 for the souvenir made by the media maker. The still photos
18 with various outfit choices, and combinations of users are
19 incorporated into a final output collaged composite group
20 photo or into the "Video Kid" video game (again, see

1 Computer Program Listing Appendix).

2 The distance 110 between the eye level 106 and chin
3 level 107 is the more preferred embodiment for sizing the
4 head appropriately for incorporation with the stored
5 generic pre-selected body because various hair styles are
6 bigger than others and consequentially provide a less
7 accurate sizing mechanism.

8 The camera 103 includes a lens 111 which defines the
9 field of view 112 and the camera 103 is mounted in the
10 housing 101 with the field of view 112 of the lens 111
11 oriented toward the opening. Multiple light sources 120
12 are mounted on the housing 101 and are spaced apart from
13 each other for illuminating the person 105 from various
14 angles for flattering lighting that coincide with the
15 lighting of the stored generic body to provide a natural
16 look in the final product.

17 As envisioned by the present invention, a souvenir
18 media maker 300 (whether an electronic printer, a CD ROM,
19 DVD, or video recorder or a custom video game cartridge
20 recorder) may be mounted on or to the apparatus 100 that is

1 electronically connected to the camera 103. Furthermore,
2 an appropriately programmed microprocessor 400 may be
3 attached for the apparatus 100 for controlling the
4 aforementioned devices.

5 In the embodiment of the present invention, a pre-
6 selected area of the background may be left blank for
7 incorporation of the user 105. Regions within the field of
8 view 112 of the lens 111 are either suppressed by the
9 digital imaging board 250 that appear to be behind the
10 stored background image by video window technology or
11 through chromakey process where the user 105 appears in
12 front of the stored primary background image, but multiple
13 layers may be added in front of either the primary stored
14 background, the user, or other stored foreground images.

15 As an alternative embodiment, the microprocessor 400
16 is a personal computer and contains an electronic memory.
17 A plurality of predetermined background images 500 may be
18 stored in the memory of the computer 400. In accordance
19 with the chromakey embodiment the person 105 stands in
20 front of a background of a suitable color (see Figure 1

1 from US Patent 6,507,361) and the person 105 is imaged by
2 the camera 103. The person's image is transmitted from the
3 camera 103 to the computer 400 which removes the person's
4 image from the solid colored background and electronically
5 sizes and/ superimposes or superimposes only with or
6 without skin matching of the stored image to the user's
7 image onto a selectable predetermined background video
8 sequence or video game sequence which is stored in the
9 computer's memory. A single booth or stand-in-front-of-
10 kiosk may contain the "Olde Time" photo hard output device
11 for postcards or souvenir cards or a video, or a CD, DVD or
12 a video, video game cartridge or any combination thereof in
13 a single housing 100.

14 Alternatively, the process is a non-chroma-key method
15 where video windows are used. The camera 103 captures and
16 sends the user's image and a pre-selected area of the
17 background, either a solid surface 116, such as white, in
18 back of the booth, behind the user, a curtain 116 that is
19 slidably hung behind the user in the stand-in-front-of
20 kiosk, or just the ambient background 116 that appears

1 fuzzy and out-of-focus. The camera 103 captures and sends
2 this part of the image to either the microprocessor 400 or
3 computer 400, or printer 300 where the imaging board 250
4 combines the image with the stored, user-selected image 515
5 or sequence of images 510 to an output device 300. In the
6 case of the video game or the live video clips, various
7 segments of the captured user frames 521, 522, 523, 524 are
8 sent to selected locations 520 on the clip 510. For
9 example, a profile 117 of the user 105 may be sent to a
10 scene where the "Video Kid" (as created in the Computer
11 Program Listing Appendix) is running past the front of the
12 frame 551, or a smiling, waving scene is sent to a segment
13 where the user 105 is in a cable car in San Francisco 522,
14 556 moving across the video screen as if they are waving to
15 the observer. In the case of the "Olde Time" photos the
16 user 105 selects an outfit and the software places the
17 outfit on the user's live "real time" image appropriately
18 sized 561. The user can change the outfits, hats, blouse,
19 and other components one at a time until satisfied and then
20 freeze the final selection (see Figures 4, 5 and 6); and

1 then the next user to be incorporated into the group photo
2 takes their turn in front of the camera 103 and so on until
3 all of the user's selected for incorporation into the group
4 shot have completed the process and then the computer will
5 place the individuals appropriately for viewing, for
6 instance placing the smaller user's in the front for
7 optimum viewing by the observer/recipient.

8 The present invention may also advantageously include
9 a video monitor 150 that is mounted on the housing 100 and
10 which is electronically connected to the camera 103, for
11 displaying an image of the user 105 so that the user may
12 alter the user's pose as desired prior to freezing the
13 portrait. The freezing of the portrait may be automatic
14 with a user overriding for a final veto, a user-selected
15 freeze button as part of the control keys 170, or merely a
16 count down (which can be shown on the monitor 150) with an
17 automatic freeze of the customer 105.

18 Alternatively, a camera 103 may be mounted behind a
19 two-way mirror (NOT SHOWN) for posing and the customer 105
20 may pose without the aid of a monitor to lower the cost of

1 the unit 100.

2 Additionally, a currency and credit card/ATM acceptor
3 180 can be attached to the apparatus and operatively
4 engaged, with the camera 103 and media maker 300 (whether
5 printer, CD ROM, DVD, Video Cassette recorder, or video
6 game cartridge recorder) to activate them upon insertion of
7 an appropriate amount of currency into the acceptor 180.
8 Additionally a phone line 410 or cable connection 410 may
9 be used to enable the sending of e-mail.

10 A library of directives 600 are available for each of
11 the available film clips 500. The user 105 is instructed
12 through a series of directives 610 while the camera 103
13 records the user 105 alone with the monitor screen 150
14 and/or digital recorded voice annunciations such directives
15 as "smile", "wave", "look to your left", "look surprised",
16 "look frightened" or such other actions as may be dictated
17 by the souvenir item. After or before the short film clip
18 is captured, the user 105 may select a particular series of
19 images or still image for incorporation into the montage.
20 The background or series of backgrounds may be chosen from

1 a plurality of pre-selected stored backgrounds that may be
2 indigenous to the area where the apparatus is located so as
3 to eliminate the necessity of the user's physical presence
4 at the location shown in said background or said
5 backgrounds. For example, if a user is in a booth in San
6 Francisco the user 105 may select a series of events where
7 the user 105 appears to be inside the open window of a
8 helicopter over San Francisco 570 (Figure 1, upper right-
9 hand quadrant-helicopter with boy inside) viewing the
10 Golden Gate Bridge from the helicopter 571 (Figure 1, upper
11 left-hand quadrant) or in a San Francisco Cable Car 572
12 (Figure 1, lower-left quadrant - cable car with boy inside
13 window) looking at the "Painted Ladies" row of houses 573.

14 The helicopter will take off and you will see a series
15 of shots 571, 573 taken from the perspective of the user
16 105 sitting inside the helicopter and the customer's image
17 520 will not be displayed during this time period and the
18 film will discuss (narrate) what is taking place in the San
19 Francisco image - what the observer is seeing, then the
20 film may cut to a rickshaw with the user inside it in the

1 Chinatown area of San Francisco, or inside a cable car
2 window or on the BART [Bay Area Rapid Transit]
3 transportation system 574 (Figure 2, upper left quadrant -
4 boy in BART train), where the user's image is placed
5 sitting down on the train and the multiples layers of
6 imaging allow the stored film clip of a thief to run past
7 the user 105, steal a shopping bag placed on the ground in
8 front of the user 105 and run out the other end of the car.
9 As another example, if the user 105 chooses to be an
10 astronaut, then the user's likeness is inserted into the
11 proper location in the appropriate stored image 501, 502,
12 503, etc and another diaphanous layer is placed on top of
13 the user's image making it appear as though the user was
14 wearing a spacesuit with glass on the user's face 575
15 (Figure 2, upper right quadrant, boy in spacesuit).
16 Similarly, the user 105 may be placed in a small trailer of
17 a current or classic movie, such as the "Wizard of Oz" 576
18 (Figure 2, lower right quadrant - boy standing beside or
19 interacting with Dorothy, the tin man, the Lion or the
20 Scare Crow). In the case of video games (see the Computer

1 Program Listing Appendix - video kid game), the user will
2 have multiple images of themselves placed into existing or
3 new video games where the size of the generic body will be
4 selected for age and/or gender appropriateness. The user
5 105 will leave the booth 100 or the stand-in-front-of kiosk
6 100 with a customized video game where they, as the star,
7 can run and jump and interact like other super stars in a
8 video game, but this one is of the user 105.

9 Personalized Enhanced Game Play

10 With reference to Figure 14, Personalized Enhanced Game
11 Play ("PEGP") can be used in either a home computer game or
12 in a kiosk. PEGP can be used in either an existing game
13 replacing the main character or other characters or in a
14 game designed specifically for a custom "Video Kid" player.
15 The user 105 (whether an "X-Box user or other video game
16 user) has access to the internet 450 (either through the
17 user's computer or, if at a kiosk 100, the kiosk 100 has
18 such access 450). The user takes his/her own picture or
19 uses a stored image 1001 from a store of images 1000. The
20 user 105 uses his own computer or stands in a kiosk 100.

1 The image is stored on a server 2000 - where it uploads
2 photos through website. There is account information 2500 -
3 - log in information where it is stored. The video game
4 (which may be selected from a library of video games 2700
5 (whether "X-Box" or other) has a feature that accepts
6 "Video Kid" features. The game server 2000 uploads photos
7 (in a most preferred embodiment, three photos from various
8 orientations) on to the live game server 2000. The game
9 server 2000 creates a 3D image map in their system using 3D
10 face model software 2600 ("Face-Gen" or other similar
11 software) and the video game 2710 allows integration of the
12 user's 3D image into the game. The final product 2800 is
13 stored on the game server 2000. After faces have been
14 uploaded to a customized version of the video game (whether
15 "X-Box" or other) that is capable of "Video-Kid"
16 interactivity, the user will have availability (for
17 example, a box in place on the user interface to "check
18 here" if "Video Kid" player). The user may be required to
19 pay extra points (for example, extra "Microsoft points") to
20 use "Video Kid" features, or pays extra for the ability to

1 use "Video Kid" features. Through the Kiosk 100 the user
2 can pay to use "Video Kid" on own game cartridges. It is
3 envisioned that "Video Kid" games for young people will
4 have wholesome but interesting, non-violent games that
5 parents will approve of for their children to play.
6 There can be multiple players, user 1 1101, user 2 1102
7 etc. to user X 1103 on the same game—such as during set up
8 choose Player "A" or Player "B".
9 Through the processing software the user will interact with
10 the software by using a "Face-Gen" type software with 3-D
11 map geometry.
12 After the 3-D image of the user is generated it is saved
13 2800 and becomes a part of the game. An existing game like
14 "X-Box" can save the preferences to hard drive.
15 "Video Kid" saves to removable media or under preferences
16 on "X-Box" or other similar systems.
17 The video game 2710 is built to accept 3-D. A simple
18 version in 2-D can be used for hand held low resolution
19 video games with still shots of user with fewer mapping
20 points - such as location of chin and eyes only.

1 It is important to use a camera with flash or appropriate
2 lighting to avoid shadows on the face.

3 When you use 3-D Geometry the texture is applied.

4 Hairstyle choices are provided separately but may be part
5 of initial software. Hairstyles may be user's or provided
6 separately as generic choices.

7 The 3-D game is image mapped. The game manufacturer loads
8 the customized "Video Kid" image map 2800 and incorporates
9 into their game 2710.

10 In one embodiment the user can go to the game
11 manufacturer's website—such as "X-box" and process the
12 "Face-Gen" software 2600 there. The user 105 uploads
13 his/her own face through the internet 450 by existing
14 scanned or digital photo or live camera. This can take
15 place in either a home environment or kiosk. The user
16 would locate the points on the face mapping software to
17 match the user. In the first step the whole map is
18 initially moved to roughly correspond with the chin and
19 nose and ears. The second step involves individual
20 placement of each mapping point to exactly map the user's

1 face for incorporation into the video game. After user
2 completes the process the software is downloaded back to
3 "X-Box" "preferences" where it completes the process of
4 making a 3-D model and making it "Video-Kid" game ready to
5 attach to a generic body.
6 Different body types can be made available such as but not
7 limited to adult- large, adult-small frame, adult female or
8 teenager male. The Game manufacturer will have the
9 software on their website to upload photos and perform
10 "Face-Gen" type mapping to customize faces for
11 incorporation into game (see Figures 15 through 18).
12 As in Figure 17, the eyes will be lined up, the generic
13 face will be morphed to incorporate the user's face. A
14 front image (Figures 16 & 17) is required with the side
15 views optional. (See www.facegen.com). Cingular Versions
16 Inc. Version 3.12-Use Software Developer kit through them
17 for "Face-Gen" software. To use:
18 Points align-Click and drag points.
19 Close up -Fine tune.-Move individually-click on each point.
20 The game can be X Box 360, Play Station 3 or other.

1 For hand held device this invention will use memory card in
2 game (so the game must store personal information).
3 Three phases for software building "Video Kid" Builds and
4 makes available front end that passes to server. The
5 Software, if process is handled by location, needs to
6 locate the customized images and load into application with
7 mapping points and send back to server. "Video Kid" Writes
8 and makes available software instruction to Backend and
9 makes interface that manipulates photos. The software that
10 is capable of uploading images and storing on server
11 software will be written and available through "video Kid".
12 Then need to take and hook back into server with faces that
13 are "Video Kid" ready and place into "Video Kid" modified
14 game.
15 Complexions can be modified to make user older or younger
16 or various complexion shades through "Face-Gen"-- bodies
17 will match complexion shades.
18 There is a hair choice option--known choices, short, long,
19 color straight, curly, wavy, bald. Eventually user's hair
20 may be a part of face mapping.

1 Voices for game are male, female, child, etc. --when
2 necessary. Male female are also possible choices.
3 The games can be played over the internet, on a cell phone
4 or via satellite connectivity.
5 Additional game features are: at game (whether "X-Box" or
6 other) home page—enter through "Update" where add the
7 "Video Kid" capability. "Demos" would demonstrate what
8 will happen. "Trailers" would also demonstrate capability.
9 "Enter Character Name" would save customization so that
10 multiple players could use a single machine. "Video Kid"
11 face saved to game under "Character Name" after first use.
12 If multiple plays—Player 1, Player 2, player.preset saved.
13 So, for example, the user can thus insert their own
14 likeness into a game cartridge in the photo booth/kiosk 100
15 (as described herein or as equipped as described in US
16 Patent 6,507,361) and thus leave with a game cartridge to
17 play in their game (whether X-Box, game boy, Play Station,
18 etc. or equivalent). It can be 3-D or 2-D. The software
19 dictates where the head is placed in each frame (See Figure
20 12 as well as Figures 4, 5, 6 and 8) and the pose such as

1 full frontal, side, back, etc. The software can
2 accommodate for different body size and basic body type
3 (e.g., whether chubby and 11 year old male, thin 8 year old
4 male, petite 5 year old female or tall and thin 40 year old
5 male), the head will be the appropriate size for the body.

6

7 A further understanding of the nature and advantages
8 of the invention herein may be realized by reference to the
9 other materials describer herein, attached hereto or
10 incorporated by reference.

CLAIMS

1
2
3 1. An apparatus for personalizing an electronic game
4 with an image of a user comprising:
5 a computer system comprised of imaging software,
6 sizing software, game personalizing software, a camera, a
7 monitor and an electronic game cartridge recorder
8 wherein said imaging software is operable to image a
9 plurality of profiles of a head-portion of said user by
10 capturing images from said camera when said user is posing
11 before said camera;
12 wherein said sizing software is operable to size said
13 profiles by said user responding to commands from said
14 sizing software to determine a distance between an eye
15 level and a chin level of said user and to create sized
16 profiles for an electronic game;
17 wherein said game personalizing software is operable
18 to map said sized profiles into a character played in said
19 electronic game and to create a personalized character
20 profile; and,
21 wherein said computer system is operable to write said
22 personalized character profile to an electronic game
23

1

2 cartridge inserted in said electronic game cartridge

3 recorder.

4

5 2. The apparatus of claim 1 wherein said electronic

6 game is stored on said electronic game cartridge before

7 insertion in said electronic game recorder.

8

9 3. The apparatus of claim 1 wherein said electronic

10 game is stored on said computer system and wherein said

11 computer systems is operable to write said electronic game

12 to said electronic game cartridge inserted in said

13 electronic game cartridge recorder.

14

15 4. An apparatus for creating a souvenir

16 incorporating an image of a user in a video clip

17 comprising:

18 a computer system comprised of imaging software,

19 sizing software, video clip personalizing software, a

20 camera, a monitor and a video device recorder

21 wherein said imaging software is operable to image a

22 plurality of profiles of a head-portion of said user by

1
2 capturing images from said camera when said user is posing
3 before said camera;
4 wherein said sizing software is operable to size said
5 profiles by said user responding to commands from said
6 sizing software to determine a distance between an eye
7 level and a chin level of said user;
8 wherein said video clip personalizing software maps
9 said sized profiles into a plurality of scenes in pre-
10 specified places in said scenes in said video clip to
11 create a personalized video clip;
12 wherein said computer system is operable to write said
13 personalized video clip to receptive media inserted in said
14 video device recorder.

15
16 5. The apparatus of claim 4 wherein said video clip
17 is stored on said computer system.

18
19 6. The apparatus of claim 5 wherein said video clip
20 is selected from a library of video clips stored on said
21 computer system.

22

1

2 7. An online game system for a user played over a
3 network comprising:

4 a computer system comprised of a game server, 3D face
5 modeling software, a database of software games, and a
6 network connection

7 wherein said game server is operable to receive a
8 plurality of coordinated facial images of said user via
9 said network and to process said facial images by said 3D
10 face modeling software to create a personalized character
11 profile for each game in said database of software games;
12 and,

13 wherein said game server is operable to permit said
14 user to select a game from said database of games and to
15 play said game over said network using said personalized
16 character profile.

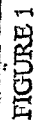




FIGURE 2

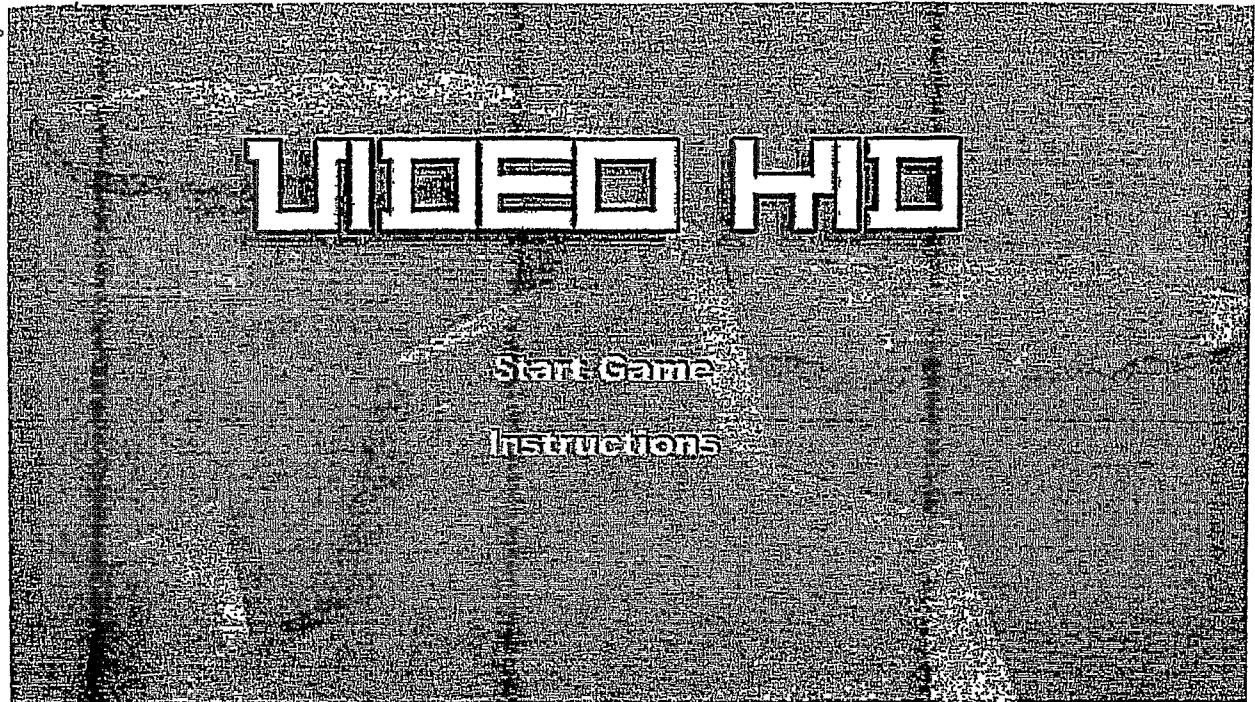


FIGURE 3

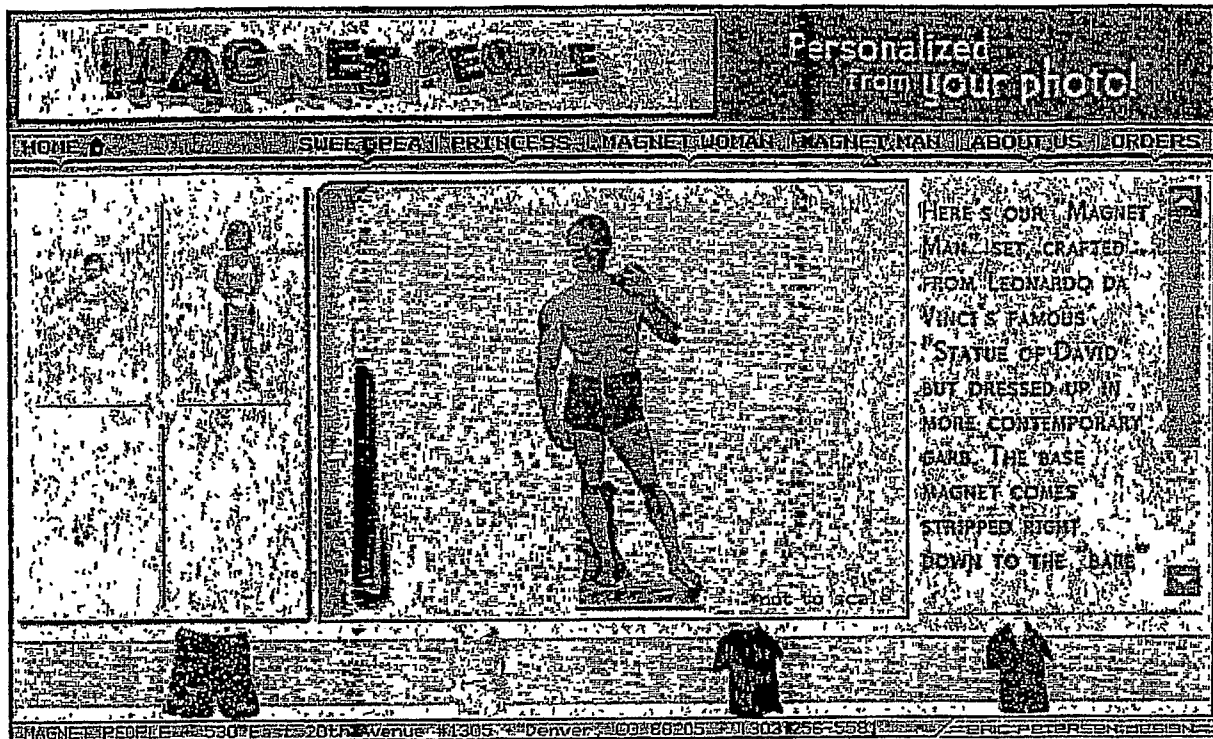


FIGURE 4

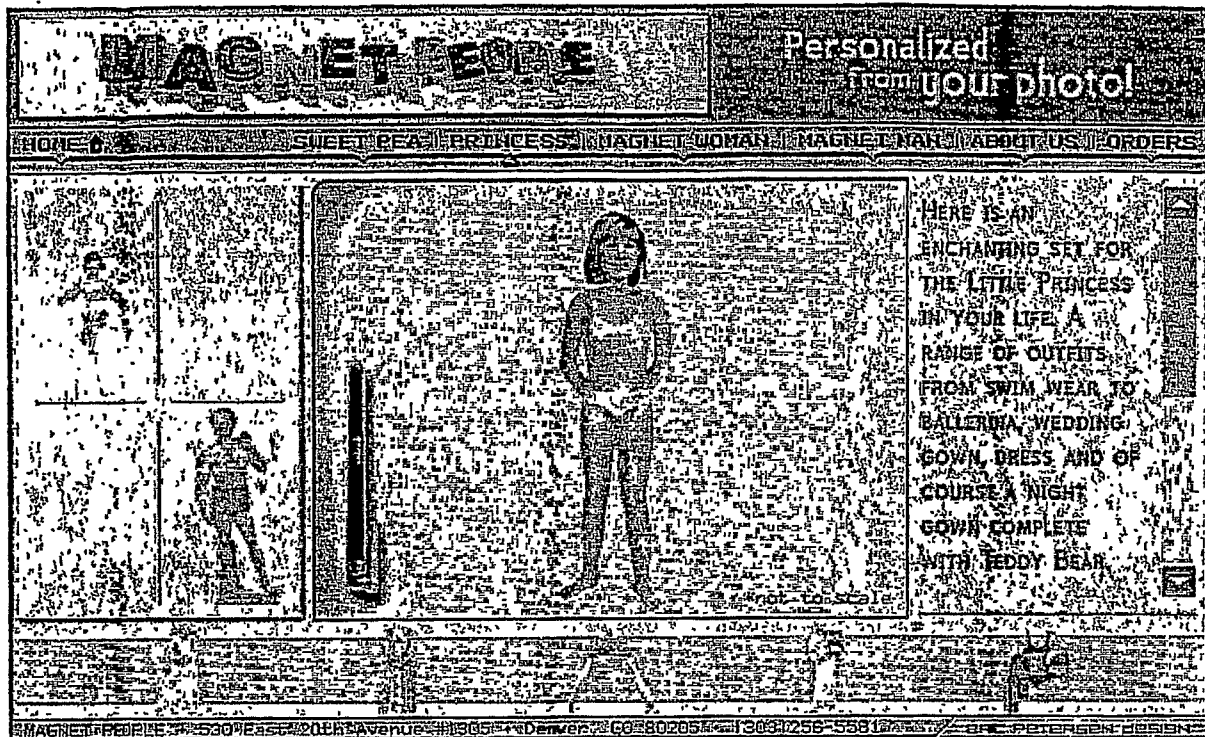


FIGURE 5



FIGURE 6

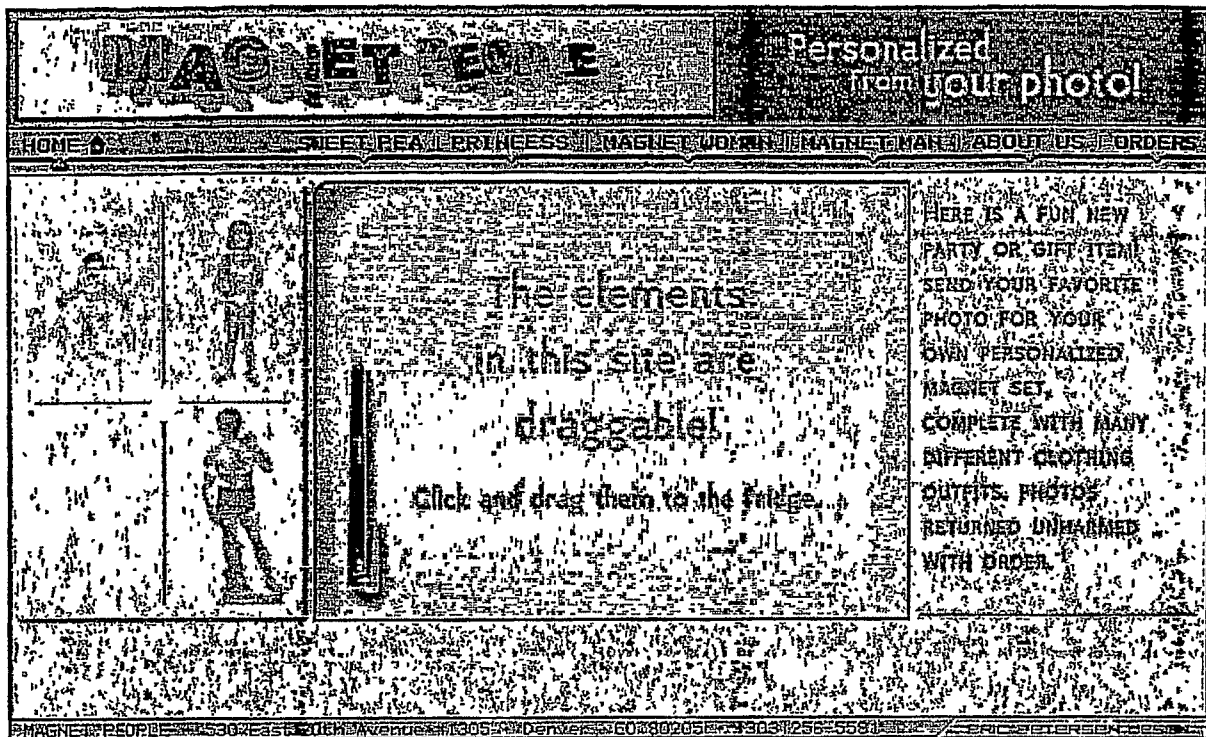


FIGURE 7

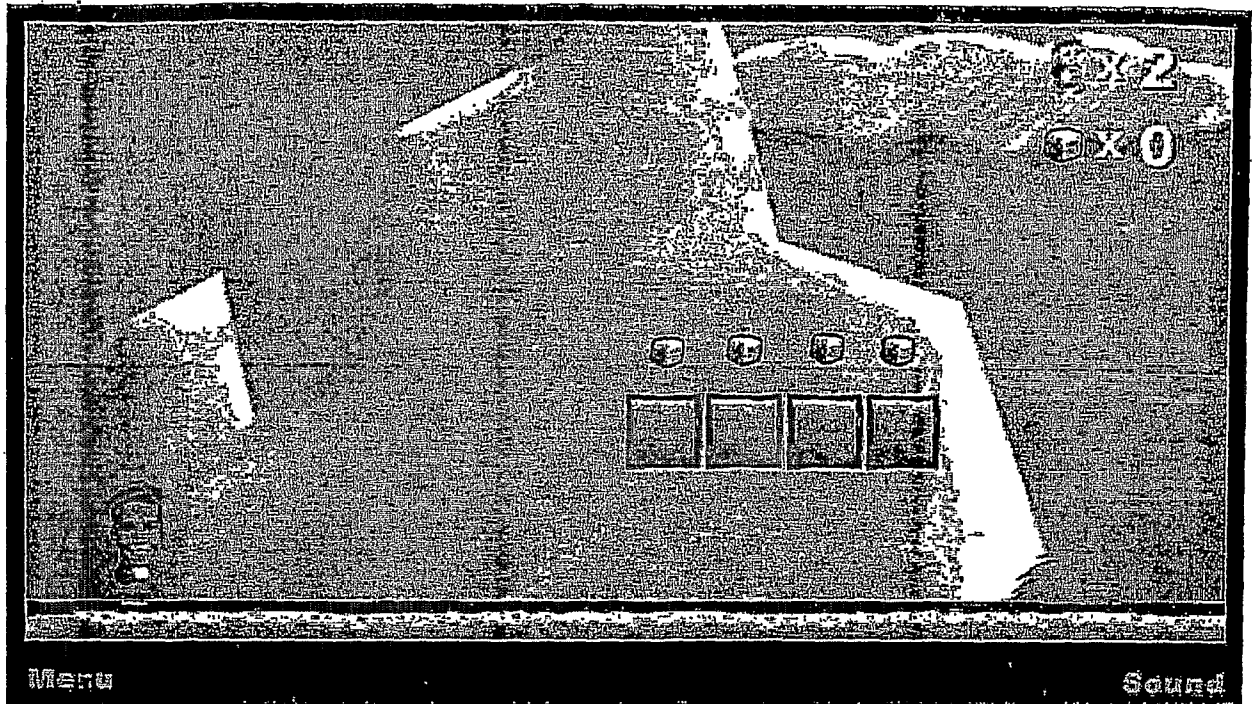


FIGURE 8

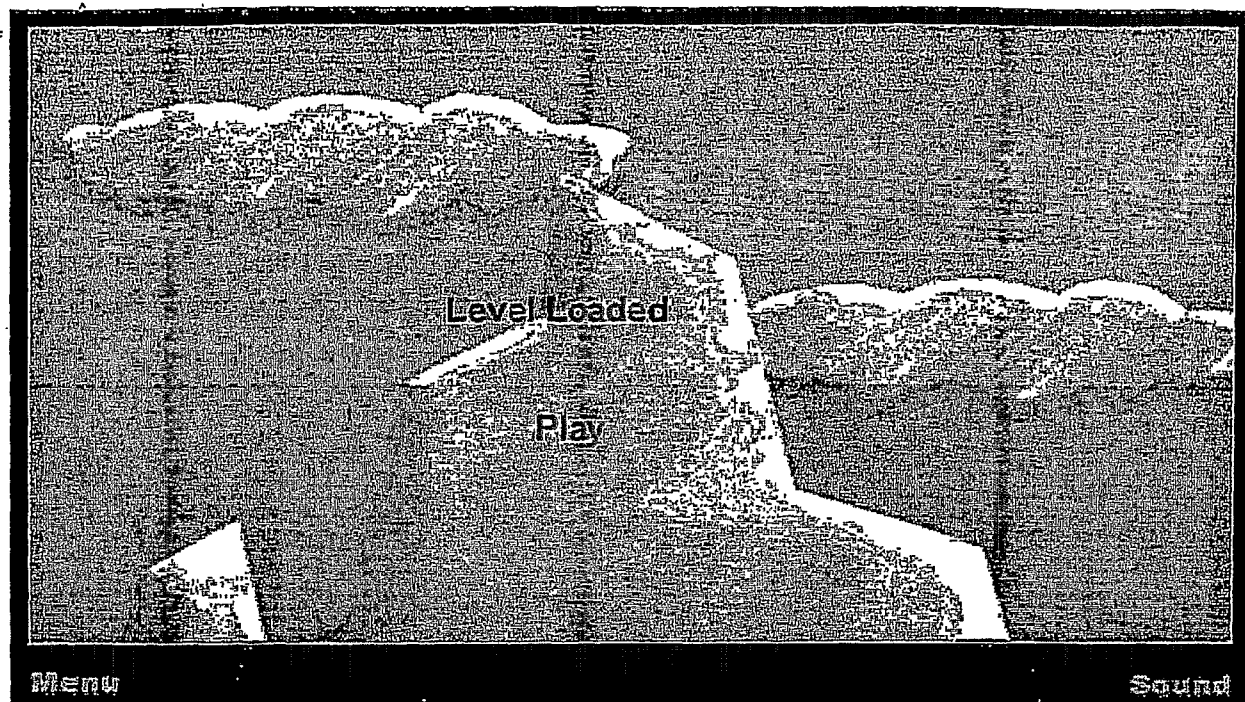


FIGURE 9

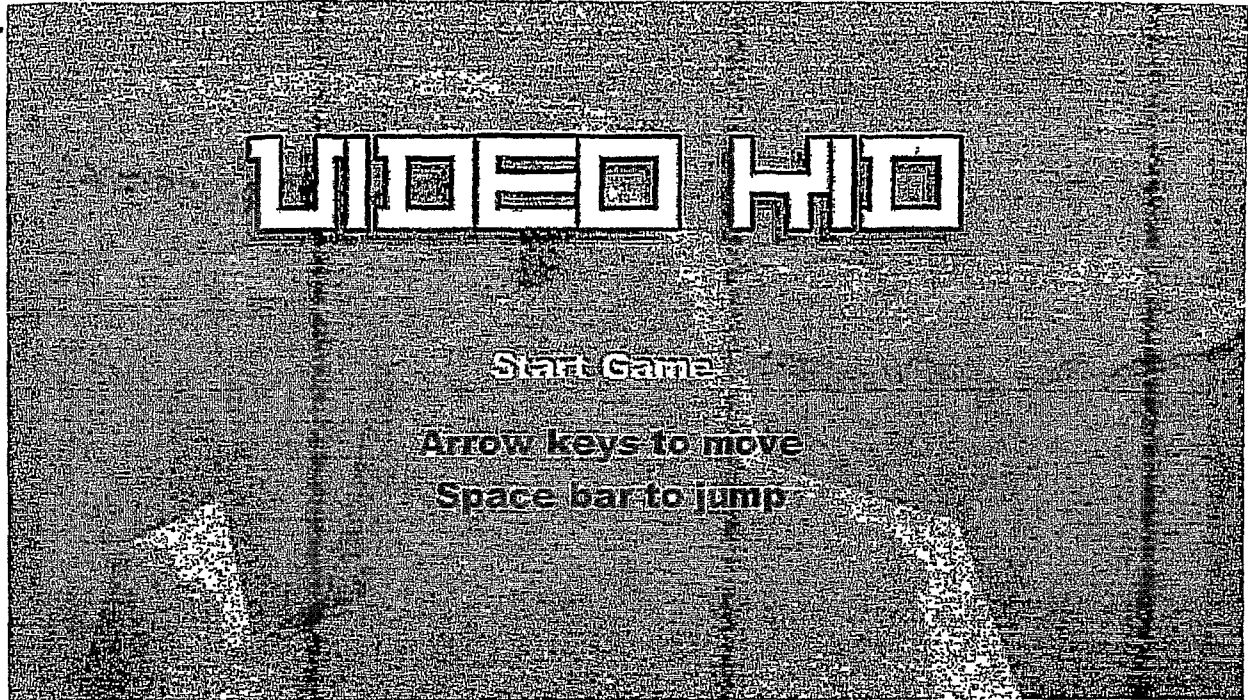


FIGURE 10

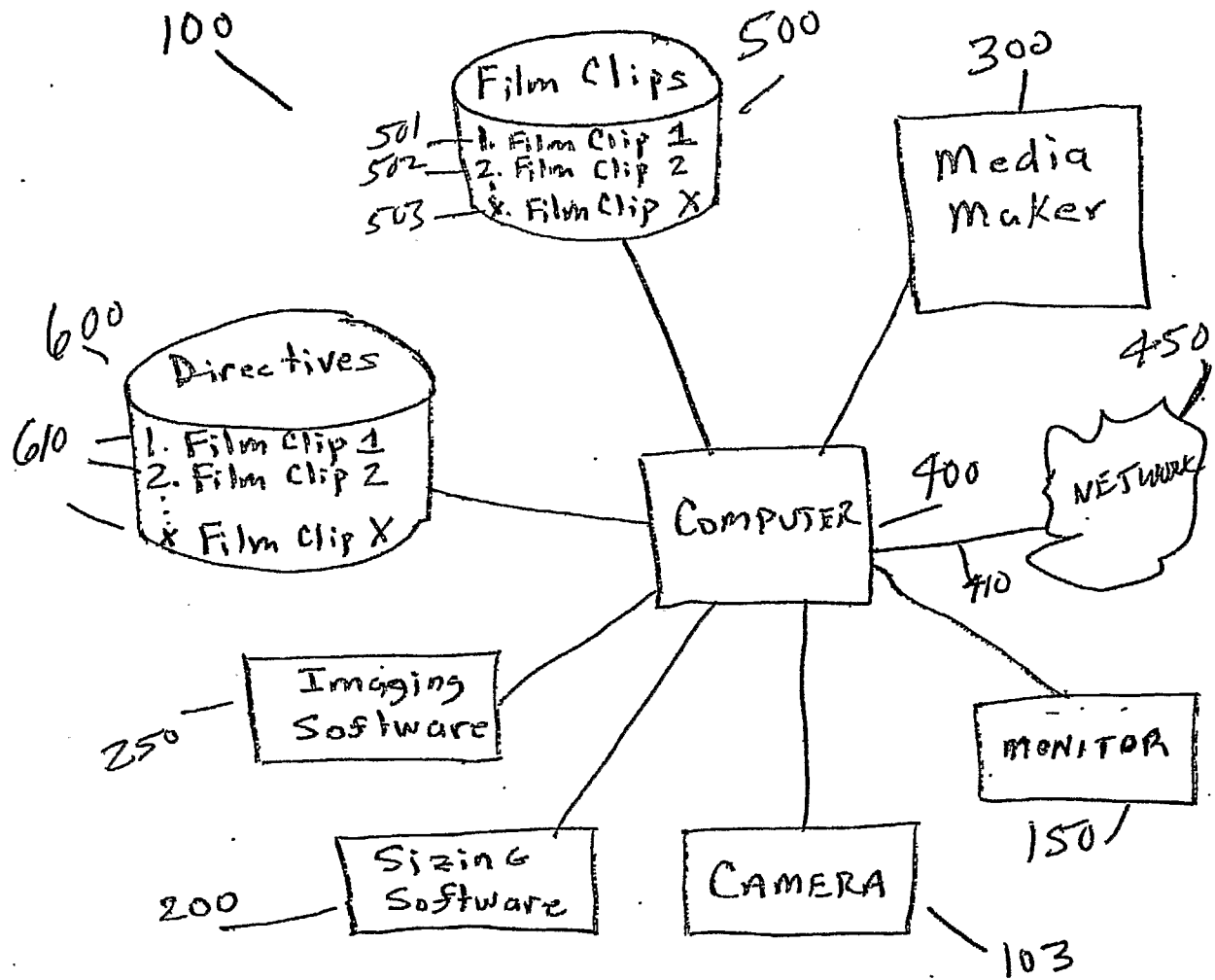


Figure 11

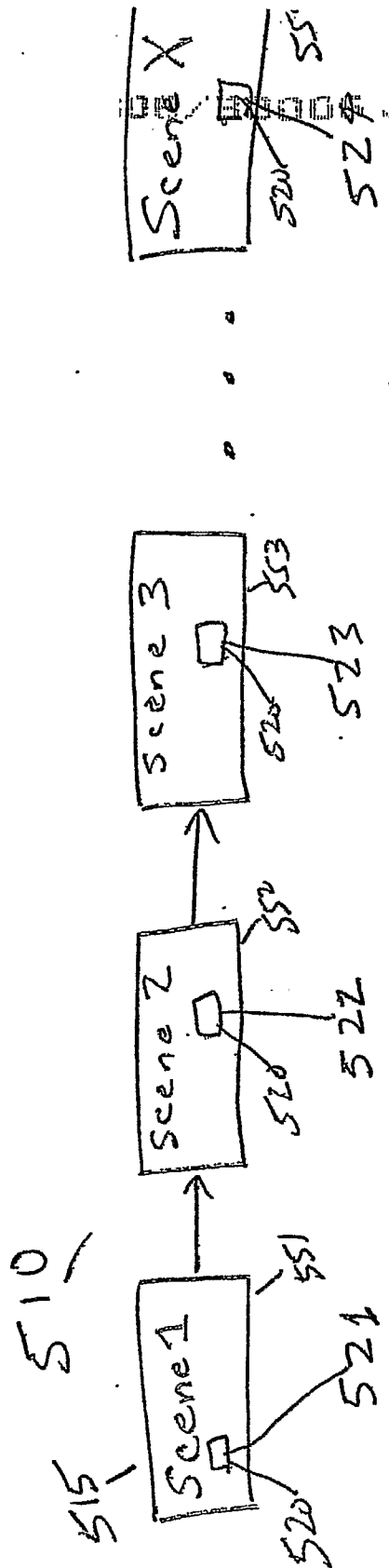


Figure 12

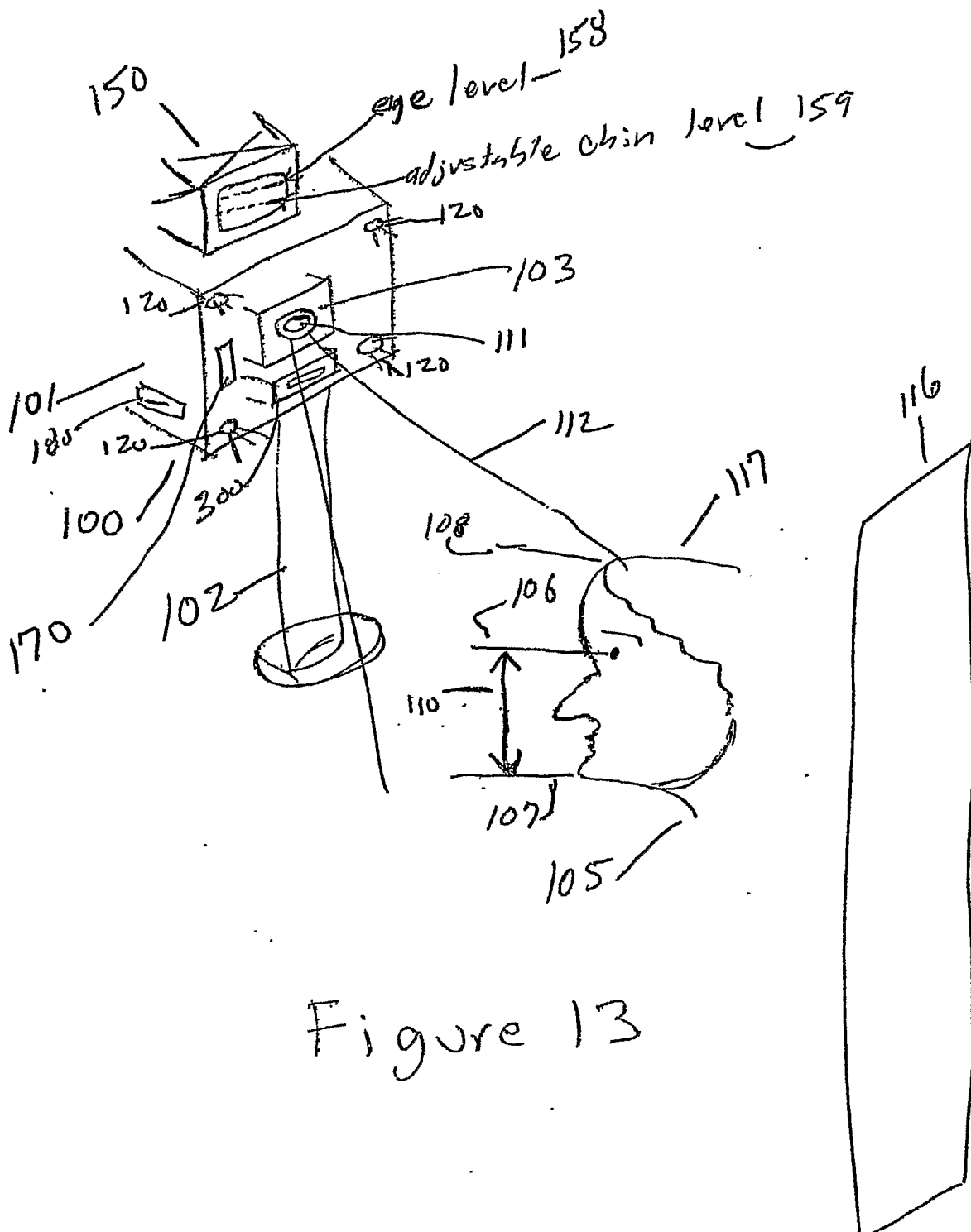


Figure 13

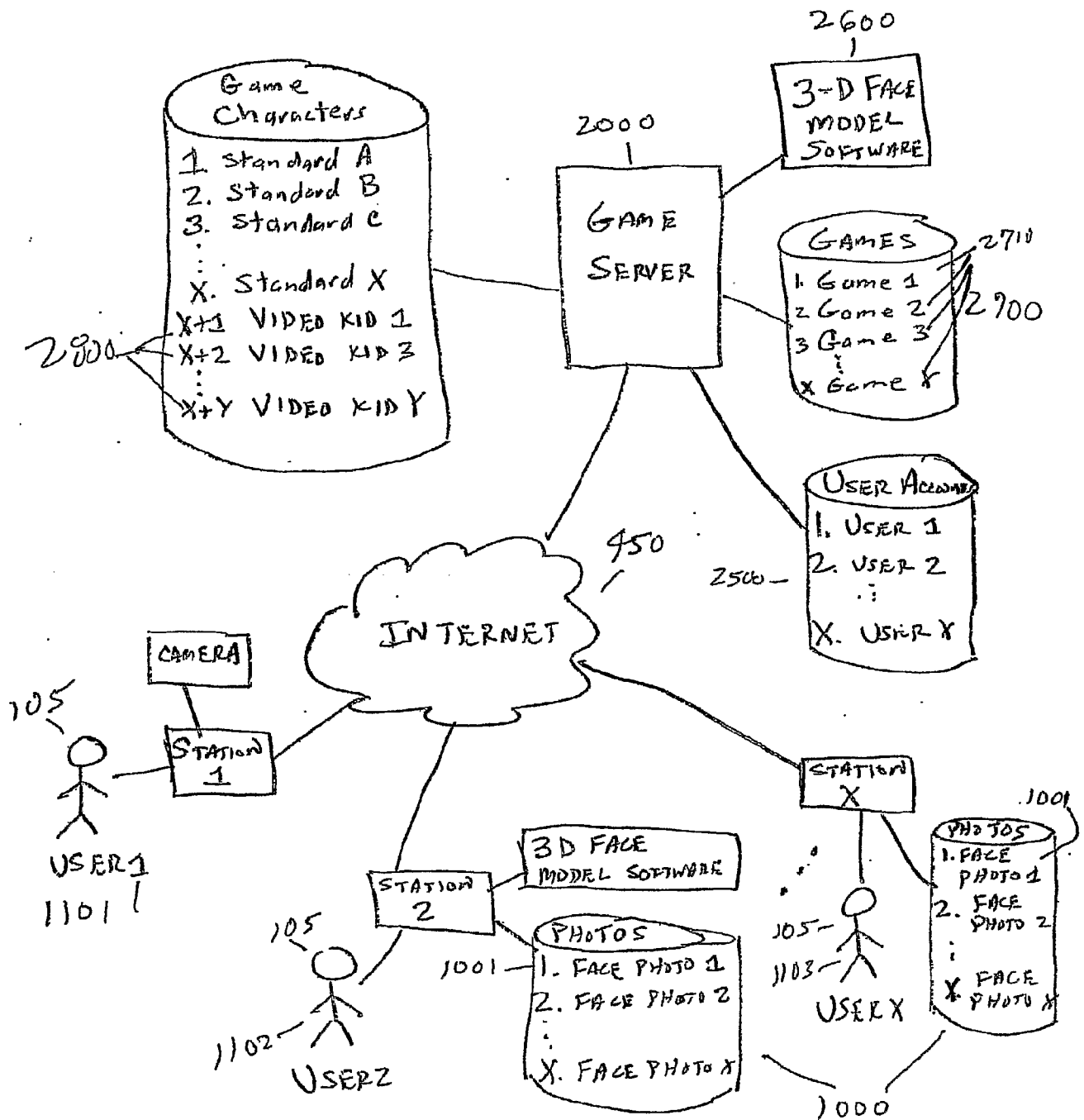


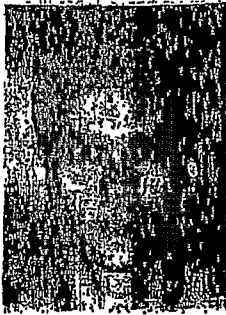
FIGURE 14

Generate | View | Camera | Shape | Texture | Genetic | Tween | Morph | PhotoFit |

FaceGen PhotoFit

Step 2 - Select The Image File(s):

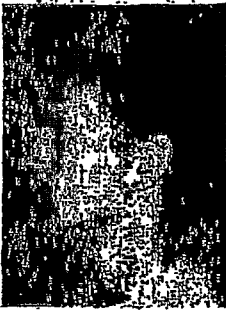
Frontal Image (Required)



Load

Cancel

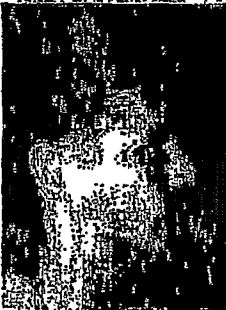
Left Profile (Optional)



Load

Cancel

Right Profile (Optional)



Not
Loaded

Load

Cancel

Next

examples

on

left. User

Figure 15

Generate | View | Camera | Shape | Texture | Genetic | Tween | Morph | PhotoFit |

FaceGen PhotoFit

Step 3 - Assign Feature Points (Frontal Image)

1. Use the rotate buttons to ensure the image is upright.
 2. Assign feature points as shown on the right.
- If the face is very small in the image, assign the points anyway - you'll get another chance to refine them. Use the right mouse button to scale all the points. The left mouse button will move all the points if it is not positioned over a specific point.



Rotate Left

Rotate Right

Step One
mapping
points in
place.

Reset

Back

Next

Figure 16

Generate | View | Camera | Shape | Texture | Genetic | Tween | Morph | PhotoFit |

FaceGen PhotoFit

Step 3 - Assign Feature Points (Frontal Image)

1. Use the rotate buttons to ensure the image is upright.
2. Assign feature points as shown on the right.

If the face is very small in the image, assign the points anyway - you'll get another chance to refine them. Use the right mouse button to scale all the points. The left mouse button will move all the points if it is not positioned over a specific point.



example.

Step One
mapping points
not moved

Rotate Right

Reset

Back

Next

Figure 17

File | View | Camera | Shape | Texture | Genetic | Tween | Morph | PhotoFit |

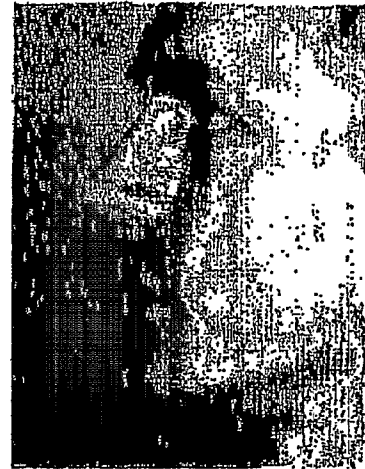
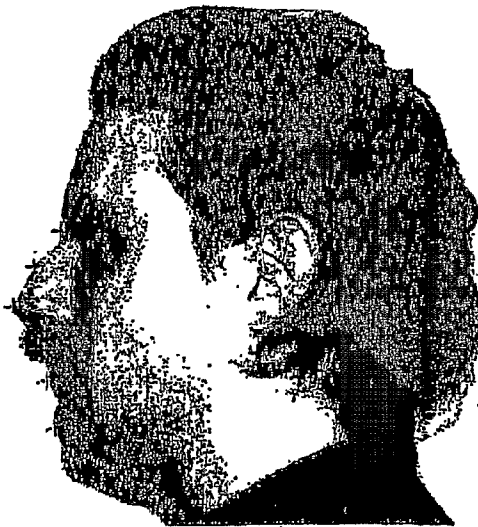
FaceGen PhotoFit

Step 3 - Assign Feature Points (Left Profile Image)

1. Use the rotate buttons to ensure the image is upright.

2. Assign feature points as shown on the right.

If the face is very small in the image, assign the points anyway - you'll get another chance to refine them. Use the right mouse button to scale all the points. The left mouse button will move all the points if it is not positioned over a specific point.



Rotate Left

Rotate Right

Reset

Final Step
mapping in
place.

Final Step for
user.

Figure 18