SYSTEM FOR CAPTURING AN IMAGE OF A PERSON

Field of the Invention

The present invention relates to a system for capturing an image of a person. The present invention also relates to a controller system for communicating with the following to capture an image of a person.

Background of Invention

Guest(s) at tourist attractions are usually approached by Guest Associates of the attraction to capture image(s) of them that can be purchased at a later time. At indoor attractions, this is usually done using chroma key compositing whereby the guest(s) is posing in front of a screen of a particular chroma background, e.g. a green screen. The image is then applied with a post-processing technique for compositing two images based on the chroma range. The chroma background is removed and an image, usually of the attraction, is layered behind the guest(s).

Typically, green is chosen as the colour hue as it most distinct from most human skin colours. However, issues arise if the guest(s) is wearing something of a similar hue to the chrome background. This may result in the compositing processing software incorrectly replacing part of the guest(s) garment yielding an unnatural image. In other cases, blue may also be chosen as the colour hue for the background but similar issues may arise. The operator could have two chrome background options and choose the most appropriate one depending on the guest(s). However, this is cumbersome and results in a loss of valuable retail floor area.

Static chroma backgrounds are typically a bright and unnatural colour, as required by the compositing technique. Guests may regard these screens as an eye sore and visually unappealing. This may result in guests having a reduced customer experience and a reduction of enjoyment within the attraction. Additionally, these screens take up valuable advertising or interactive space which may enhance guest experience by engaging them in something more interesting than a static screen.

Typically, employees usually have to approach guests, offer a drawcard to them and entice them to walk over to the photography area. It may be difficult to do so when

the backdrop is a chroma background as guests may deem it dull. Additionally, guests may not be inspired to pose in front of a static background with no visual feedback. They would have to use their own imagination to envision the background consisting of some part of the attraction and to adjust their pose accordingly.

It is generally desirable to overcome or ameliorate one or more of the above described difficulties, or to at least provide a useful alternative.

Summary of Invention

In accordance with the present invention, there is provided a system for capturing an image of a person, including:

(a) display apparatus for displaying a background image;

(b) a digital camera;

(c) a transceiver unit for receiving an activation instruction from a user to capture an image;

(d) a controller system separately along with camera in communication with the display apparatus

wherein the controller system, includes one or more computer processors in communication with computer readable data storage including instructions stored thereon which, when executed, cause the processors to perform the steps of:

(i) receiving a start instruction to capture an image of a person from the transceiver unit;

(ii) sending a first content signal to the display apparatus to display content;

(iii) sending a first flip signal to the display apparatus to display a background image;

(iv) sending a second content signal to the display apparatus to display content;

(V) sending a second flip signal to the display apparatus to display a background image; and

(VI) receiving a process signal from the camera to process an image of the person located in front of the display apparatus

wherein the step of sending a capture signal to the camera is effected after the step of sending the first flip signal and/or the second flip signal to the display apparatus.

Preferably, the background image is chroma. Alternatively, the background image is an image of an attraction.

The controller system preferably performs the step of sending a content signal to the display apparatus to display content, wherein the step of sending a first content signal is performed before the step of sending the flip signal to the display apparatus.

The step of sending a content signal to the display apparatus to display content is preferably performed in response to receiving the content instruction from the transceiver unit or through the transceiver attached to the camera by click button to display content. In addition, after the step of receiving the capture signal from the camera to capture the image of the guest located in front of the display apparatus, the controller system preferably performs the step of sending a second content signal to the display apparatus to display content.

In accordance with the invention, there is also provided a controller system for communicating with the following to capture an image of a person:

(a) display apparatus for displaying a background image;

(b) a digital camera; and

(c) a transceiver unit for receiving an activation instruction from a user to capture an image,

wherein the controller system, includes one or more computer processors in communication with computer readable data storage including instructions stored thereon which, when executed, cause the processors to perform the steps of:

(i) receiving a start instruction to capture an image of a person from the transceiver unit;

(ii) sending a first content signal to the display apparatus to display content;

(iii) sending a flip signal to the display apparatus to display a background image;

(iv) sending a second content signal to the display apparatus to display content;

(V) sending a flip signal to the display apparatus to display a background image; and

(VI) receiving a process signal from the camera to process an image of the person located in front of the display apparatus,

wherein the step of sending a capture signal to the camera is effected after each step of sending the first flip signal and/or the second flip signal to the display apparatus.

Preferably, the background image is chroma. Alternatively, the background image is an image of an attraction.

Preferably, the controller system performs the step of sending a content signal to the display apparatus to display content, wherein the step of sending a first content signal is performed before the step of sending the flip signal to the display apparatus.

Preferably, the step of sending a content signal to the display apparatus to display content is performed in response to receiving the content instruction from the transceiver unit to display content.

Preferably, after the step of sending the capture signal to the camera to capture the image of the person located in front of the display apparatus, the controller system performs the step of sending a second content signal to the display apparatus to display content.

Brief Description of the Drawings

Preferred embodiments of the invention are hereafter described, by way of non-limiting example only, with reference to the accompanying drawings, in which:

Figure 1 is a schematic diagram of a system and its components for capturing an image of a person;

Figure 2a and 2b are exemplary images of the system and its components in use;

Figure 3a is a schematic diagram showing the components of an exemplary embodiment of the controller system of the system shown in Figure 1;

Figure 3b is a schematic diagram showing the components of a claim card of the system shown in Figure 1;

Figure 4 an exemplary embodiment of the transceiver of the system shown in Figure 1;

Figure 5 is a schematic diagram showing the components of an exemplary embodiment of a mobile computer device;

Figure 6 is a flowchart diagram showing the interoperation of the components of the system for a method for capturing an image of a person;

Figure 7 is a flowchart diagram showing the method of capturing an image of a person performed by the controller system of the system shown in Figure 1; and

Figure 8a and b are images showing a typical workflow of the system in operation.

Detailed Description of Embodiments of the Invention

The system 1000 shown in Figure 1 allows an image of a person to be captured. The system 1000 includes one or more of the following:

(a) digital camera 1010;
(b) display apparatus 1006 for displaying a background image; and
(c) controller apparatus 1002 including:
    (i) a transceiver unit 1012, including 1012a for sending instruction to 1012b for sending instruction to the camera 1010 to capture an image and 1012b for receiving an activation instruction from a user to flip to chroma color; and
    (ii) a controller system 1014 separately in communication with display apparatus 1006 and camera 1004.

The components of system 1000 are in communication via the network 1020. The communication network 1020 may include the Internet, telecommunications networks and/or local area networks. For example, the controller apparatus 1002 communicates with the display apparatus 1006 by HDMI cable or Wi-Fi transmission, the controller apparatus 1002 communicates with the camera 1004 by Bluetooth™ or Wi-Fi wireless and the controller system 1014 communicates with the transceiver unit 1012 by RF signal. These communication systems are known in the art and are not discussed in detail.

The system 1000 makes taking images of a person simpler, faster and more convenient. The system provides a way of switching between content and an appropriate background for taking an image. The system allows wireless instructions to be provided to the display apparatus 1006 and the camera 1010 using a transceiver unit 1012. The instructions may be synchronised allowing the content on the display apparatus 1006 to be switched to an appropriate background for a predetermined amount of time for the camera 1010 to capture an image of the person with the appropriate background after which the display apparatus 1006 switches back to displaying the original content. This allows operators to display content such as advertising material and allows effective engaging with their customers. An appropriate background may be a chroma background (e.g. green or blue hues) allowing image compositing technique to be performed on the captured image.

The controller system 1014 preferably includes one or more computer processors in communication with computer readable data storage including instructions stored thereon which, when executed, cause the processors to perform the steps of:

(a) receiving a start instruction to display a background image from the transceiver unit 1012;

(b) sending a flip signal to the display apparatus 1006 to display a background image; and

(c) sending a capture signal to the camera 1004 to capture an image of the person located in front of the display apparatus 1002,

The step of sending the capture signal to the camera 1004 is effected after the step of sending the flip signal to the display apparatus 1006.

Controller Apparatus 1002

The controller apparatus 1002 may comprise a transceiver unit 1012, including 1012a 1012b and 1012c, and a controller system 1014 which are in communication via network 1020. The components of the controller system apparatus 1002 may be in direct communication via network 1020 with the other components of the system 1000 such as the camera 1010 and the display apparatus 1006.

Transceiver Unit 1012

Figure 4 shows the components of a transceiver unit 1012 exemplarily embodied as a transceiver 1012. The transceiver unit 1012 is capable of exchanging signals between devices. The transceiver unit 1012a may be coupled with the camera 1010 to transmit signals to the controller system 1014 coupled to transceiver unit 1012b. For example, the transceiver unit is embodied by a Plus® III Transceiver by PocketWizard or similar devices.

The transceiver 1012 includes a display 018 which may be a liquid-crystal display (LCD), organic light-emitting diode (OLED) display or active-matrix organic light-emitting diode) AMOLED display. The transceiver 1012 preferably communicates with the controller system 1014 wirelessly. Wireless communication may be by radio

frequency (RF) transmission, Bluetooth technology™, infrared or wireless networks (e.g. Wi-Fi). The transceiver 1012 allows the user to transmit instructions to the controller system 1014. The transceiver 1012 has an antenna 019 for wirelessly transmitting data to the receiver of the control system 1014.

In this embodiment, physical buttons are provided (017 and 034). In other exemplary embodiments, the display 018 may be a touchscreen display allowing user input by touch gestures.

In another exemplary embodiment, the transceiver unit 1012 is embodied by a mobile computer device. The mobile computer device may be a mobile computer device such as a smart phone, a personal data assistant (**PDA**), a palm-top computer, and multimedia Internet enabled cellular telephones. For ease of description, the mobile computer device is described below, by way of non-limiting example, with reference to a mobile device in the form of an iPhone ™ manufactured by Apple™, Inc., or one manufactured by LG™, HTC™ and Samsung™, for example.

As shown in Figure 5, the mobile computer device includes the following components in electronic communication via a bus 2006:

(a) a display 2002;
(b) non-volatile (non-transitory) memory 2004;
(c) random access memory ("RAM") 2008;
(d) N processing components 2010;
(e) a transceiver component 2012 that includes N transceivers; and
(f) user controls 2014.

Although the components depicted in Figure 2 represent physical components, Figure 2 is not intended to be a hardware diagram. Thus, many of the components depicted in Figure 2 may be realized by common constructs or distributed among additional physical components. Moreover, it is certainly contemplated that other existing and yet-to-be developed physical components and architectures may be utilized to implement the functional components described with reference to Figure 2.

The display 2002 generally operates to provide a presentation of content to a user, and may be realized by any of a variety of displays (e.g., CRT, LCD, HDMI, micro-

projector and OLED displays).

In general, the non-volatile data storage 2004 (also referred to as non-volatile memory) functions to store (e.g., persistently store) data and executable code.

In some embodiments for example, the non-volatile memory 2004 includes bootloader code, modem software, operating system code, file system code, and code to facilitate the implementation components, well known to those of ordinary skill in the art, which are not depicted nor described for simplicity.

In many implementations, the non-volatile memory 2004 is realized by flash memory (e.g., NAND or ONENAND memory), but it is certainly contemplated that other memory types may be utilized as well. Although it may be possible to execute the code from the non-volatile memory 2004, the executable code in the non-volatile memory 2004 is typically loaded into RAM 2008 and executed by one or more of the N processing components 2010.

The N processing components 2010 in connection with RAM 2008 generally operate to execute the instructions stored in non-volatile memory 2004. As one of ordinarily skill in the art will appreciate, the N processing components 2010 may include a video processor, modem processor, DSP, graphics processing unit (GPU), and other processing components.

The transceiver component 2012 includes N transceiver chains, which may be used for communicating with external devices via wireless networks. Each of the N transceiver chains may represent a transceiver associated with a particular communication scheme. For example, each transceiver may correspond to protocols that are specific to local area networks, cellular networks (e.g., a CDMA network, a GPRS network, a UMTS networks), and other types of communication networks.

The transceiver Mobile pay component 2012 is also adapted to effect contactless payments. For example, the transceiver component 2012 is able to effect contactless payment using Near-Field Communications (NFC) according to the EMV standard. Digital payment methods based on the EMV standard may include Apple Pay™, or MasterPass™, for example.

It should be recognized that Figure 5 is merely exemplary and in one or more exemplary embodiments, the functions described herein may be implemented in hardware, software, firmware, or any combination thereof. If implemented in software, the functions may be stored on or transmitted over as one or more instructions or code encoded on a non-transitory computer-readable medium 2004. Non-transitory computer-readable medium 2004 includes both computer storage medium and communication medium including any medium that facilitates transfer of a computer program from one place to another. A storage medium may be any available medium that can be accessed by a computer.

Controller System 1014

Figure 3a shows an exemplary embodiment of the controller system 1014. The controller system 1014 is in communication with the components of system 1000 by communication network 1020. As shown, the controller system 1014 includes the following:

015 Power Indicator Lamp
016 Power reset switch
017 Transceiver channel button
018 Transceiver status LCD display
019 Transceiver unit antenna
020 Trigger connector
021 DEI switching master circuit board
022 Unit power supply 24volts
023 Unit power supply 12volts
024 Maintains power socket
025 Floor light switching relay
026 Unit Miniature Circuit Breaker
027 Unit main power Contactor
028 Floor light power terminal
029 Mains power input terminal 220voltsAC
030 Ribbon cable
031 Safety instruction label
032 Mains power cable
033 Power switch of transceiver unit

034 Transceiver Ok button
035 Software switching circuit board
038 ABS enclosure
039 Wire glands
040 Master control operation ON LED
041 Din rail for mounting
042 End locks
1012 Transceiver unit

As shown in Figure 3a, the transceiver unit 1012b is coupled to the controller system 1014 by means of a trigger connector 020. The master circuit board 021 receives communication from the camera via the transceiver units 1012a and 1012b. The master circuit board 021 transmits signals to the display apparatus 1006 to display content or background on signal sent from the camera to capture image 1004, by transceiver unit 1012 to flip a video to chroma still background. In the case of a LED floor, the master circuit board 021 upon receipt of signals from the transceiver unit, sends a signal to the switching relay 025.

In another preferred embodiment, the controller system 1014 is, at least in part, provided by a server (not shown). In some embodiments, the system 1014 may comprise multiple servers in communication with each other, for example over a local area network or a wide-area network such as the Internet. As described in the preceding section, the server is able to communicate with other components of the system over the wireless communications network 1020 using standard communication protocols.

The components of the server can be configured in a variety of ways. The components can be implemented entirely by software to be executed on standard computer server hardware, which may comprise one hardware unit or different computer hardware units distributed over various locations, some of which may require the communications network 1020 for communication. A number of the components or parts thereof may also be implemented by application specific integrated circuits (ASICs) or field programmable gate arrays.

The server is a commercially available server computer system based on a 32 bit or a 64 bit Intel architecture, and the processes and/or methods executed or performed by

the server are implemented in the form of programming instructions of one or more software components or modules stored on non-volatile (e.g., hard disk) computer-readable storage associated with the server. At least parts of the software modules could alternatively be implemented as one or more dedicated hardware components, such as application-specific integrated circuits (ASICs) and/or field programmable gate arrays (FPGAs).

Display Apparatus 1006

The display apparatus 1006 is preferably a digital display system capable of displaying digital images and videos. Exemplary embodiments of the display apparatus 1006 include one or more of the following:

(a) a projector and projection screen;
(b) a plasma display;
(c) a liquid-crystal display (LCD);
(d) a electroluminescent display (ELD);
(e) a light-emitting diode (LED) display; and
(f) an organic light-emitting diode (OLED) display.

The display apparatus 1006 is in communication with the controller apparatus 1002 and the components of system 1000 via communication network 1020. Wireless communication may be by radio frequency (RF) transmission, Bluetooth technology™, infrared or wireless networks (e.g. Wi-Fi). The display apparatus 1006 preferably receives display content and instructions from the controller apparatus 1002. The display apparatus 1006 and the controller apparatus 1002 communicates by means of wired or wireless technology. These communication means are known in the art and are not described in further detail.

The display apparatus 1006 may be embodied by a Smart TV comprising computer readable data storage and computer processors which are capable of executing instructions stored thereon. The display apparatus 1006 is preferably capable of storing image(s) and/or video(s) for display. In this exemplary embodiment, the display apparatus 1006 receives instructions from the controller apparatus 1002 to display content, retrieves the content from computer readable data storage and displays the content.

The display apparatus 1006 is preferably configured to display image(s) or video(s) on a loop or on shuffle play.

The display apparatus 1006 can be configured to extend to one or more of the following:

(a) to one or more of the corresponding side walls;
(b) to the floor; and
(c) to the ceiling.

Camera 1004

The camera 1004 is preferably a digital camera. The digital camera 1010 may be embodied by one or more of the following:

(a) a digital single-lens reflex (DSLR) camera;
(b) a mobile computer device capable of capturing images; and
(c) an action camera.
(d) an Android ios camera

The digital camera 1010 is configured to communicate with the controller system 1014 and the components of system 1000 by communication network 1020. Wireless communication may be by radio frequency (RF) transmission, Bluetooth technology™, infrared or wireless networks (e.g. Wi-Fi). The controller system 1014 is configured to transmit instructions to transfer captured image(s) to the server for post production. for example. The digital camera 1010 is preferably further configured to transmit the captured image to computer readable data storage via network 1020. In another embodiment of the digital camera 1010, it is further configured to transmit the captured image to a printing apparatus 1022 for printing.

Printing Apparatus 1022

The printing apparatus 1022 is preferably in communication with the controller apparatus 1002, camera 1004 and the components of system 1000. The printing apparatus 1022 is configured to receive image(s) from either the controller apparatus

1002 or the camera 1004. The image printed by the printing apparatus 1022 is preferably an image composite of the captured image from camera 1010 and a preselected background image.

The printing apparatus 1022 is preferably further configured to receive instructions to print the image(s). These instructions may be transmitted by the controller system 1014 or a mobile computer device 1012c as shown in Figure 5 and described in the section above. In this embodiment including a mobile computer device, the display of the mobile computer device is configured to display the composite image(s). The mobile computer device can be further configured to display one or more of the following:

(a) options of content for display on the display apparatus 1006;
(b) options for chroma backgrounds for display on the display apparatus 1006;
(c) captured image from the camera 1010; and
(d) options to select a background image to replace background of the captured image.

Image Capture Process

The interoperability of the image capture process 6000 across the components of system 1000 is depicted in Figure 6. Figure 7 shows the image capture process 7000 executed by the controller system 1014.

The system 1000 is preferably activated before the operational hours of the attraction. Preferably, the operator triggers the controller apparatus 1002 to switch on by pressing the power switch 026 and reseting the system by pressing the power reset switch 016. The operation of the display apparatus 1006 is preferably tied to the controller apparatus 1002 whereby when the controller apparatus 1002 switches on, the display apparatus 1006 also switches on. In other embodiments, the operator triggers the operation of the components of system 1000 separately.

At step 7002, the controller system 1014 receives content instruction from the transceiver unit 1012 to display content 105 on the display apparatus 1006. The content instruction preferably includes identification of user-selected content to be

displayed. At step 7004, the controller system 1014 retrieves the user-selected content 105 from data storage.

At step 7006, the controller system 1014 sends a first content signal to the display apparatus 1006 to display content 105. At step 6002, the display apparatus receives the content signal including data representing the content 105 to be displayed and instructions to display the content. At step 6004, the display apparatus 1006 displays the content 105 on the display. The content 105 displayed on the display apparatus 1006 includes one or more of the following:

(a) data representing advertising content;
(b) data representing a video; and
(c) data representing one or more images.

The content 105 is preferably displayed on display apparatus 1006 on a loop or on shuffle play.

The controller system 1014 waits until it receives further instructions to capture an image. At step 7008, the controller system 1014 receives a start instruction from the transceiver unit 1012a. The start instruction preferably includes identification of a user-selection background to be displayed on display apparatus 1006 while an image is being captured by the camera. A default background image can be pre-selected and used if no user-selection is specified in the start instruction. Background images include one or more of the following:

(a) chroma image (of various hues); and
(b) an image of an attraction.

At step 7010, the controller system 1014 retrieves the background to be displayed from data storage. At step 7012, the controller system 1014 sends a flip signal to the display apparatus 1006 to display the background for a predetermined amount of time. At step 6008, the display apparatus 1006 receives the flip signal and displays the background on display for a predetermined amount of time.

At step 7014, the controller system 1014 sends a capture signal to the camera 1010 which may be placed at a remote location or in another embodiment, if the camera is

accessible then the camera sends the signal to the controller apparatus 1002 to flip content during capture. After the camera 1010 receives a capture signal, the camera 1010 captures an image of the guest 104 located in front of the display apparatus displaying a background. At step 6010, the camera 1010 receives the capture signal from the controller system 1014 and at step 6012, executes the instruction to capture an image.

After a predetermined amount of time, at step 7016, the controller system 1014 sends a second content signal to the display apparatus 1006 to display content. At step 6014, the display apparatus 1006 flips from displaying the background image to displaying content. The display apparatus 1006 displays the background for a predetermined amount of time allowing the camera enough time to capture an image of the guest in front of the displayed background. This predetermined amount of time is calculated based on the total amount of time it takes for the flip signal to be transmitted to the display apparatus and for the camera to complete the step of capturing an image. This predetermined amount of time is preferably about one second. In another embodiment, the display apparatus 1006 automatically flips back to display content when it detects that the camera has successfully taken a picture. This detection may be triggered by the controller system receiving the captured image from the camera 1004 and sending a content signal to the display apparatus 1006.

In another embodiment, the transceiver unit is further configured to display for user selection, one or more of the following:

(a) options of content for display on the display apparatus;
(b) options for chroma backgrounds for display on the display apparatus;
(c) captured image from the camera; and
(d) options to select a background image to replace background of the captured image.

After the camera 1004 captures the image, the image is preferably transmitted to the controller apparatus 1002. At step 6016, the controller system 1014 performs the steps of:

(a) receiving a captured image from the camera;

(b) making a composite image from the captured image and a preselected background image; and

(c) saving the composite image in data storage.

At step 6018, the controller apparatus saves the composite image in data storage. In another embodiment, the controller apparatus sends the composite image to the printing apparatus 1022 for printing. The step of printing may be initiated by the guest 104 using a claimcard as shown in Figure 3b, for example at retail outlet

Figures 8a and 8b depict an exemplary work flow of an embodiment in operation. In step 1, an employee invites a guest to pose in front of the display apparatus 1006. Once the guest is ready, step 2 is initiated whereby the employee clicks on a button on the transceiver unit 1012 to initiate an image to be captured which corresponds with step 7002 of process 7000. The display apparatus 1006 flips from displaying content to display a background appropriate for capturing an image and after the camera captures the image, the display apparatus 1006 flips back to displaying the content. Process 7000 is performed by the controller system 1014. In step 3, the employee presents the guest with a printed composite image from the printing apparatus 1022.

Throughout this specification, unless the context requires otherwise, the word "comprise", and variations such as "comprises" and "comprising", will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not the exclusion of any other integer or step or group of integers or steps.

The reference to any prior art in this specification is not, and should not be taken as, an acknowledgment or any form of suggestion that the prior art forms part of the common general knowledge.

List of Parts

015 Power Indicator Lamp
016 Power reset switch
017 Transceiver channel button
018 Transceiver status LCD display
019 Transceiver unit antenna

020 Trigger connector
021 DEI switching master circuit board
022 Unit power supply 24volts
023 Unit power supply 12volts
024 Maintains power socket
025 Floor light switching relay
026 Unit Miniature Circuit Breaker
027 Unit main power Contactor
028 Floor light power terminal
029 Mains power input terminal 220voltsAC
030 Ribbon cable
031 Safety instruction label
032 Mains power cable
033 Power switch of transceiver unit
034 Transceiver Ok button
035 Software switching circuit board
038 ABS enclosure
039 Wire glands
040 Master control operation ON LED
041 Din rail for mounting
042 End locks
101 Guest visits the venue
102 Guest
103 Staff approaches guest for the photo shoot
104 Guest posing for photo shoot
105 Video content
106 Photographer
107 Tripod
109 Editing counter
110 Editing staff
111 Final photo display monitor
112 Guest buying the photo
114 LED display module
116 LED floor
117 Acrylic floor platform
118 Preview LED television

119 Preview content
200 Claimcard front side
201 Attraction logo
202 Location name
203 Instruction 1
204 website ID
205 Instruction 2
206 2D Barcode
207 Barcode code
208 Instruction 3
209 QR code
210 Claim card back side
211 Card size
308 Projector screen frame
310 LED floor box
311 Acrylic top
1006 Display screen
1010 DSLR camera
1012 Transceiver unit
1014 Controller system
1016 3M back projection screen
1018 Short throw projector

Claims Defining the Invention

1. A system for capturing an image of a person, including:

(a) display apparatus for displaying a background image;

(b) a digital camera;

(c) a transceiver unit for receiving an activation instruction from a user to capture an image;

(d) a controller system separately along with the camera in communication with the display apparatus,

wherein the controller system, includes one or more computer processors in communication with computer readable data storage including instructions stored thereon which, when executed, cause the processors to perform the steps of:

(i) receiving a start instruction to capture an image of a person from the transceiver unit;

(ii) sending a first content signal to the display apparatus to display content;

(iii) sending a first flip signal to the display apparatus to display a background image;

(iv) sending a second content signal to the display apparatus to display content;

(v) sending a second flip signal to the display apparatus to display a background image; and

(vi) receiving a process signal from the camera to process an image of the person located in front of the display apparatus

wherein the step of sending a capture signal to the camera is effected after the step of sending the first flip signal and/or the second flip signal to the display apparatus.

2. A system claimed in claim 1, wherein the background image is chroma.

3. A system claimed in claim 1, wherein the background image is an image of an attraction.

4. A system claimed in claim 1, wherein the step of sending a content signal to the display apparatus to display content is performed in response to receiving the content instruction from the transceiver unit to display content.

5. A system claimed in claim 1, wherein the controller system pauses for a predetermined amount of time after the step of sending the capture signal to the camera before the controller system performs the step of sending the second content signal to the display apparatus.

6. A system claimed in claim 5, wherein the predetermined amount of time is one second.

7. A system claimed in any one of claims 1 to 6, wherein the first or second content signal generated by the controller system includes one or more of the following:

(a) data representing advertising content;

(b) data representing a video; and

(c) data representing one or more images.

8. A system claimed in any one of claims 1 to 7, wherein the digital camera includes one or more of the following:

(a) a digital single-lens reflex (DSLR) camera;

(b) a mobile computer device capable of capturing images;

(c) an action camera; and

(d) an android ios camera.

9. A system claimed in any one of claims 1 to 8, wherein the display apparatus includes one or more of the following:

(a) a projector and projection screen;

(b) a plasma display;

(c) a liquid-crystal display (LCD);

(d) a electroluminescent display (ELD);

(e) a light-emitting diode (LED) display; and

(f) an organic light-emitting diode (OLED) display.

10. A system claimed in any one of claims 1 to 9, wherein the transceiver unit is configured to display one or more of the following:

(a) options of content for display on the display apparatus;

(b) options for chroma backgrounds for display on the display apparatus;

(c) captured image from the camera; and

(d) options to select a background image to replace background of the captured image.

11. A system claimed in any one of claims 1 to 10, wherein the controller system performs the steps of:

(a) receiving a captured image from the camera;

(b) making a composite image from the captured image and a preselected background image; and

(c) saving the composite image in data storage.

12. A system claimed in claim 11, further including printing apparatus in communication with the controller system, wherein the controller system performs the step of sending the composite image to printing apparatus.

13. A system claimed in claim 12, wherein the printing apparatus includes a display for displaying the composite image and a printer for printing the composite image.

14. A system claimed in claim 13, wherein the display for displaying the composite image is further configured to display one or more of the following:

(a) options of content for display on the display apparatus;

(b) options for chroma backgrounds for display on the display apparatus;

(c) captured image from the camera; and

(d) options to select a background image to replace background of the captured image.

15. A system claimed in any one of claims 1 to 14, wherein the display apparatus extends to one or more of the following:

(a) to one or more of the corresponding side walls;

(b) to the floor; and

(c) to the ceiling.

16. A system claimed in any one of claims 1 to 15, wherein the transceiver unit is a mobile computer device.

17. A controller system for communicating with the following to capture an image of a person:

(a) display apparatus for displaying a background image;

(b) a digital camera; and

(c) a transceiver unit for receiving an activation instruction from a user to capture an image,

wherein the controller system, includes one or more computer processors in communication with computer readable data storage including instructions stored thereon which, when executed, cause the processors to perform the steps of:

(i) receiving a start instruction to capture an image of a person from the transceiver unit;

(ii) sending a first content signal to the display apparatus to display content;

(iii) sending a flip signal to the display apparatus to display a background image;

(iv) sending a second content signal to the display apparatus to display content;

(V) sending a flip signal to the display apparatus to display a background image; and

(VI) receiving a process signal from the camera to process an image of the person located in front of the display apparatus,

wherein the step of sending a capture signal to the camera is effected after each step of sending the first flip signal and/or the second flip signal to the display apparatus.

18. A controller system claimed in claim 17, wherein the background image is chroma.

19. A controller system claimed in claim 17, wherein the background image is an image of an attraction.

20. A controller system claimed in claim 17, wherein the step of sending a content signal to the display apparatus to display content is performed in response to receiving the content instruction from the transceiver unit to display content.

21. A controller system claimed in claim 20, wherein the controller system pauses for a predetermined amount of time after the step of sending the capture signal to the

camera before the controller system performs the step of sending the second content signal to the display apparatus.

22. A controller system claimed in claim 21, wherein the predetermined amount of time is one second.

23. A controller system claimed in any one of claims 17 to 22, wherein the first or second content signal generated by the controller system includes one or more of the following:

(a) data representing advertising content;

(b) data representing a video; and

(c) data representing one or more images.

24. A controller system claimed in any one of claims 17 to 23, wherein the controller system performs the steps of:

(a) receiving a captured image from the camera;

(b) making a composite image from the captured image and a preselected background image; and

(c) saving the composite image in data storage.

25. A controller system claimed in any one of claims 17 to 24, wherein the controller system performs the step of sending the composite image to printing apparatus.

SYSTEM FOR CAPTURING AN IMAGE OF A PERSON

Abstract

A system for capturing an image of a person, including display apparatus for displaying a background image; a digital camera; a transceiver unit for receiving an activation instruction from a user to capture an image; a controller system separately in communication with the display apparatus and the camera, wherein the controller system, includes one or more computer processors in communication with computer readable data storage including instructions stored thereon which, when executed, cause the processors to perform the steps of receiving a start instruction to capture an image of a person from the transceiver unit; sending a flip signal to the display apparatus to display a background image; and sending a capture signal to the camera to capture an image of the person located in front of the display apparatus, wherein the step of sending the capture signal to the camera is effected after the step of sending the flip signal to the display apparatus.

Fig 1.