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(54) **ENTERTAINMENT CENTER TECHNICAL CONFIGURATION AND SYSTEM AND METHOD FOR USE OF SAME**

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G06T 19/00	(2006.01)
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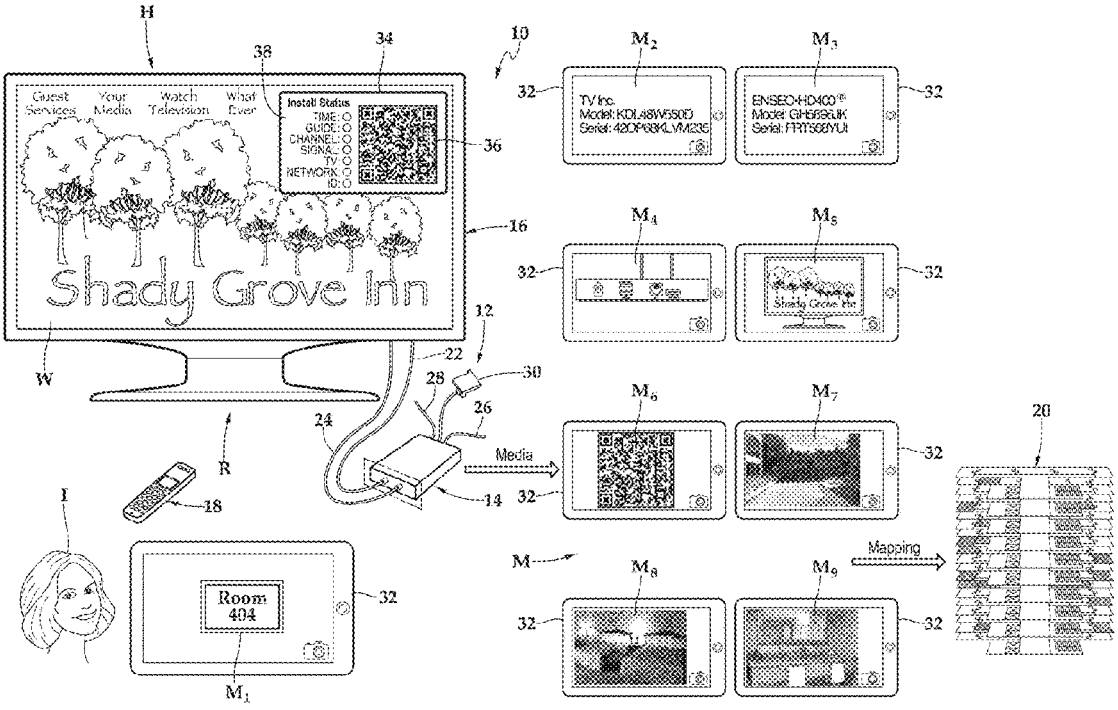
(57) **ABSTRACT**

An entertainment center technical configuration and system and method for use of the same are disclosed. In one embodiment of the system, a remote server receives an installation quality assurance signal from a room within the hospitality establishment to ensure installation quality assurance of the room. Substantially contemporaneously, the server receives from a proximate wireless-enabled interactive programmable device located within the room, images of a unique identifier of the room, a unique identifier of the set-top box, and a physical connection between the set-top box and the display. These images are utilized to establish physical quality assurance of the room. The server may then render a map view of the hospitality establishment based on obtained map data. The map view including a graphical representation of the room annotated with at least one of the images.



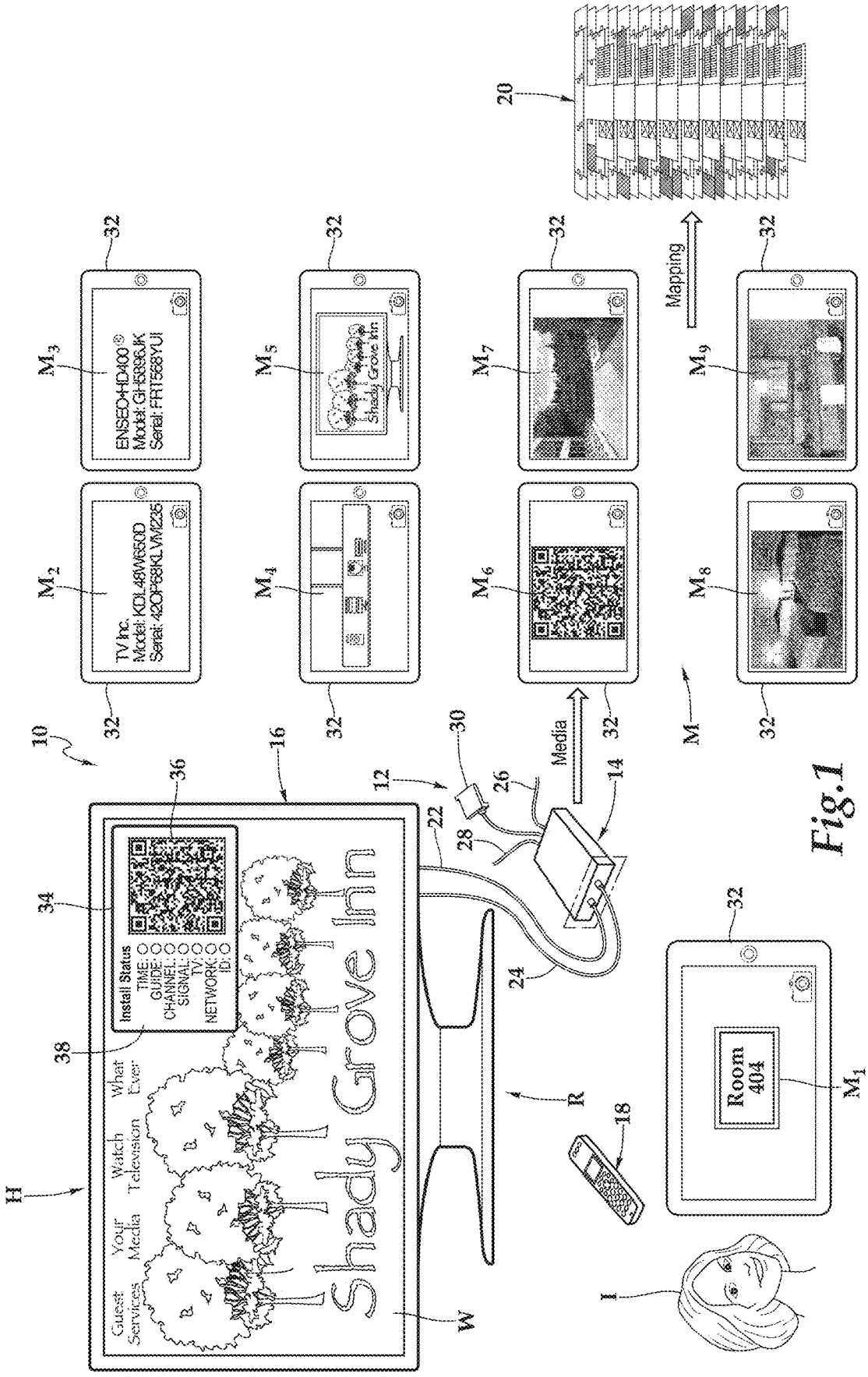

20
Mapping
M3
M2
M5
M4
M7
M6
M9
M8
M
32
Media
10
16
12
30
26
14
22
28
24
36
34
38
Install Status
TIME:
GUIDE:
CHANNEL:
SIGNAL:
TV:
NETWORK:
ID:
Guest Services
Your Media
Watch Television
What Ever
Shady Grove Inn
H
W
R
18
I
Room 404
M1

Fig.1

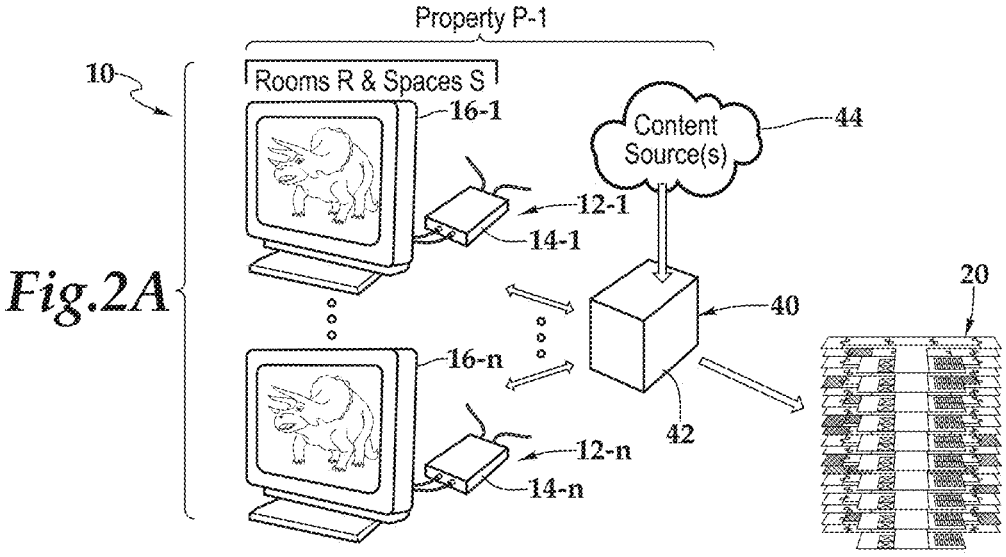
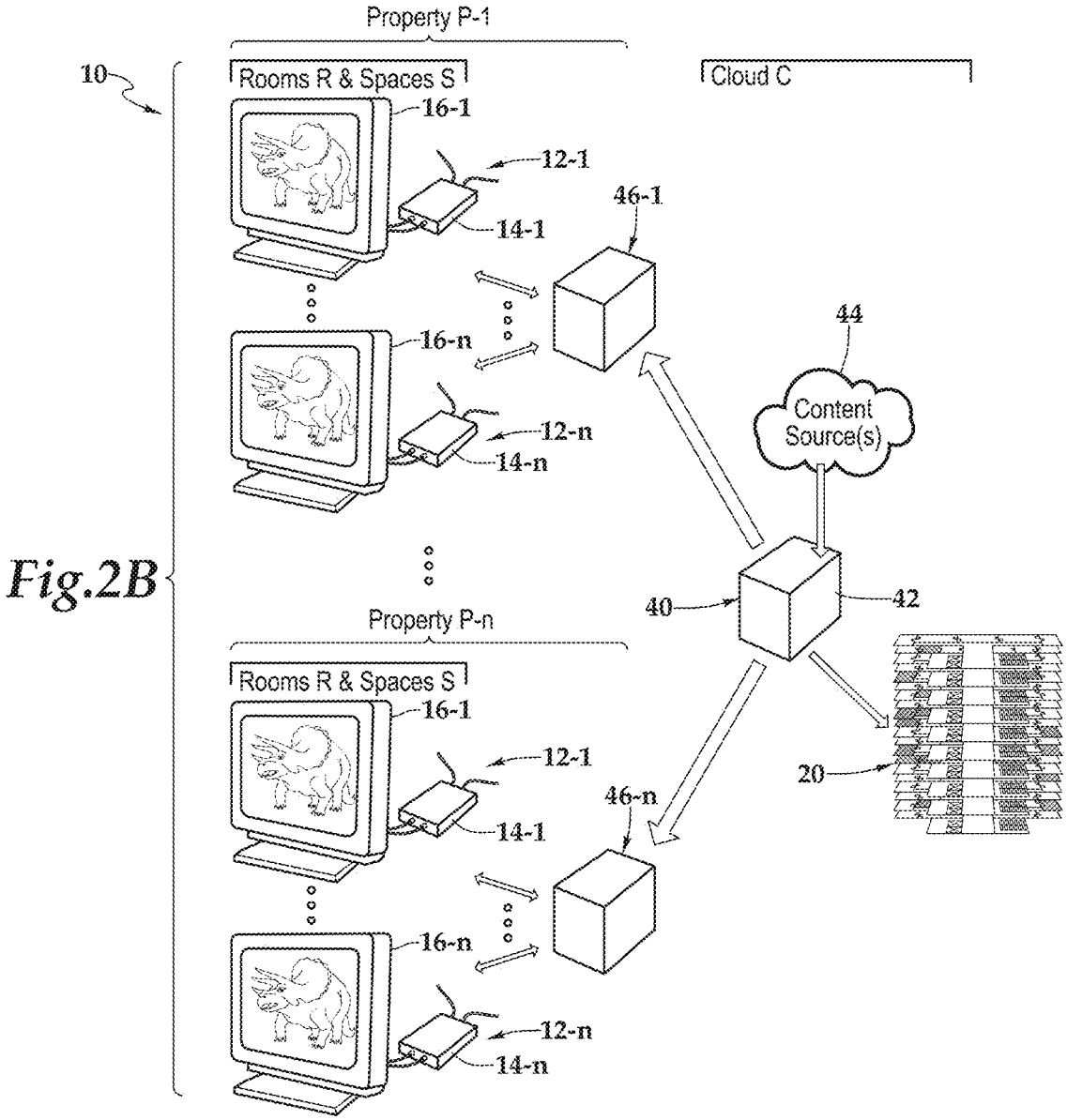

Property P-1
10
Rooms R & Spaces S
16-1
Content Source(s)
44
12-1
14-1
40
20
16-n
42
12-n
14-n

Fig.2A


Property P-1
10
Rooms R & Spaces S
Cloud C
16-1
12-1
46-1
14-1
44
16-n
Content Source(s)
12-n
14-n
40
42
Property P-n
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16-1
12-1
20
46-n
14-1
16-n
12-n
14-n

Fig.2B

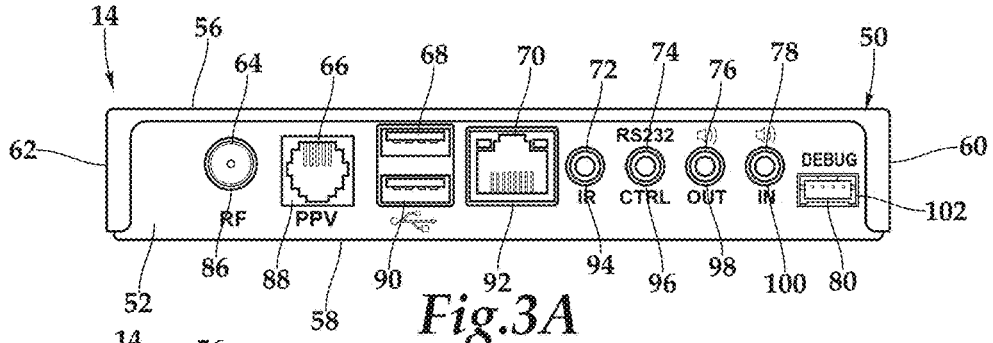

Fig.3A

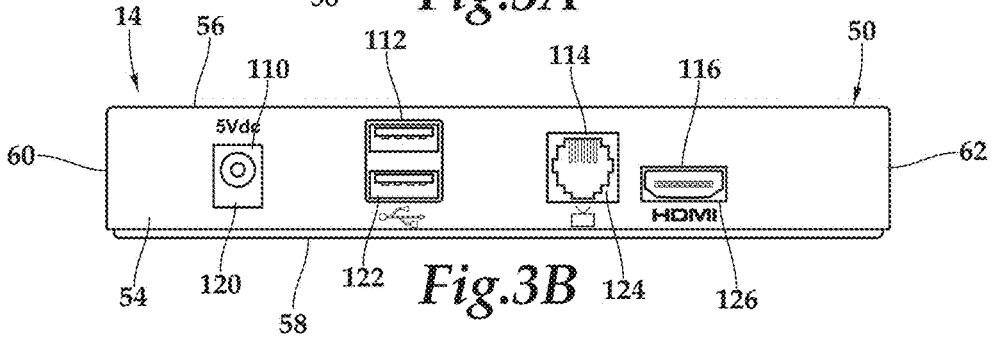

Fig.3B

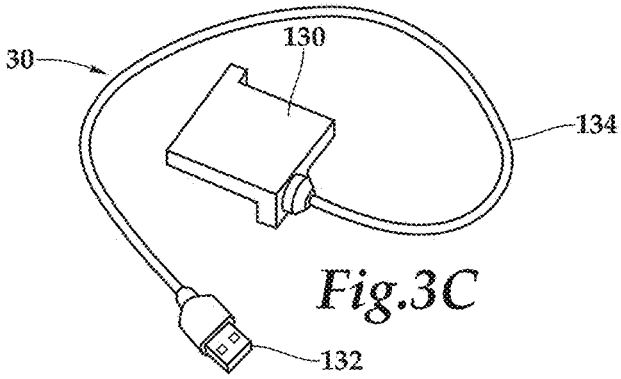

Fig.3C

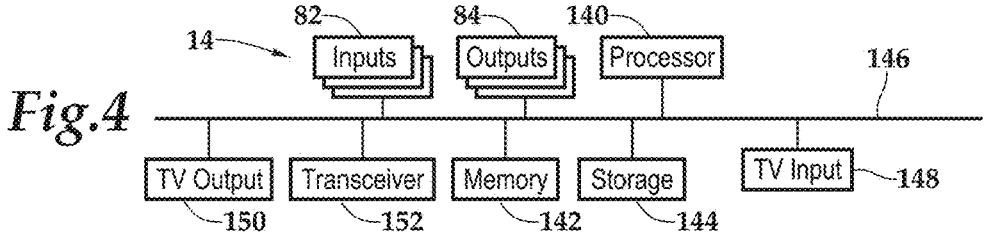

Fig.4

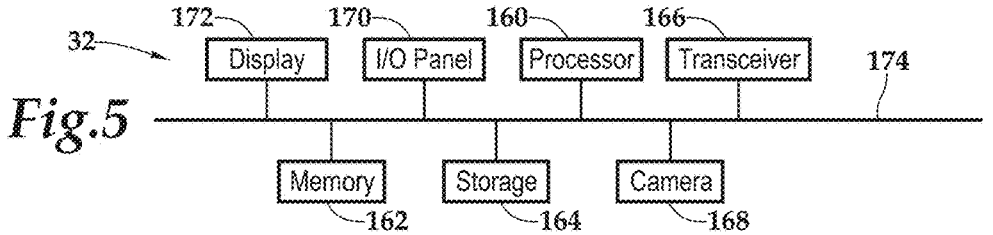

Fig.5

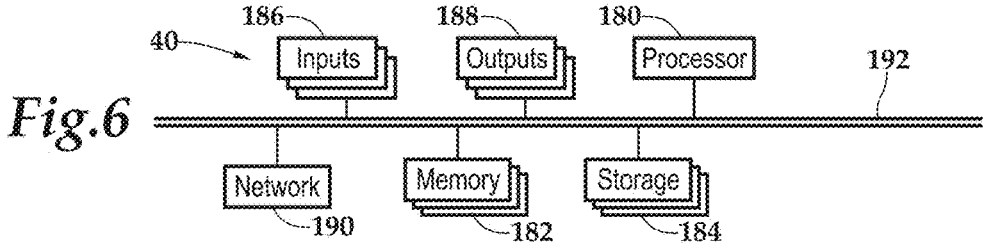

Fig.6

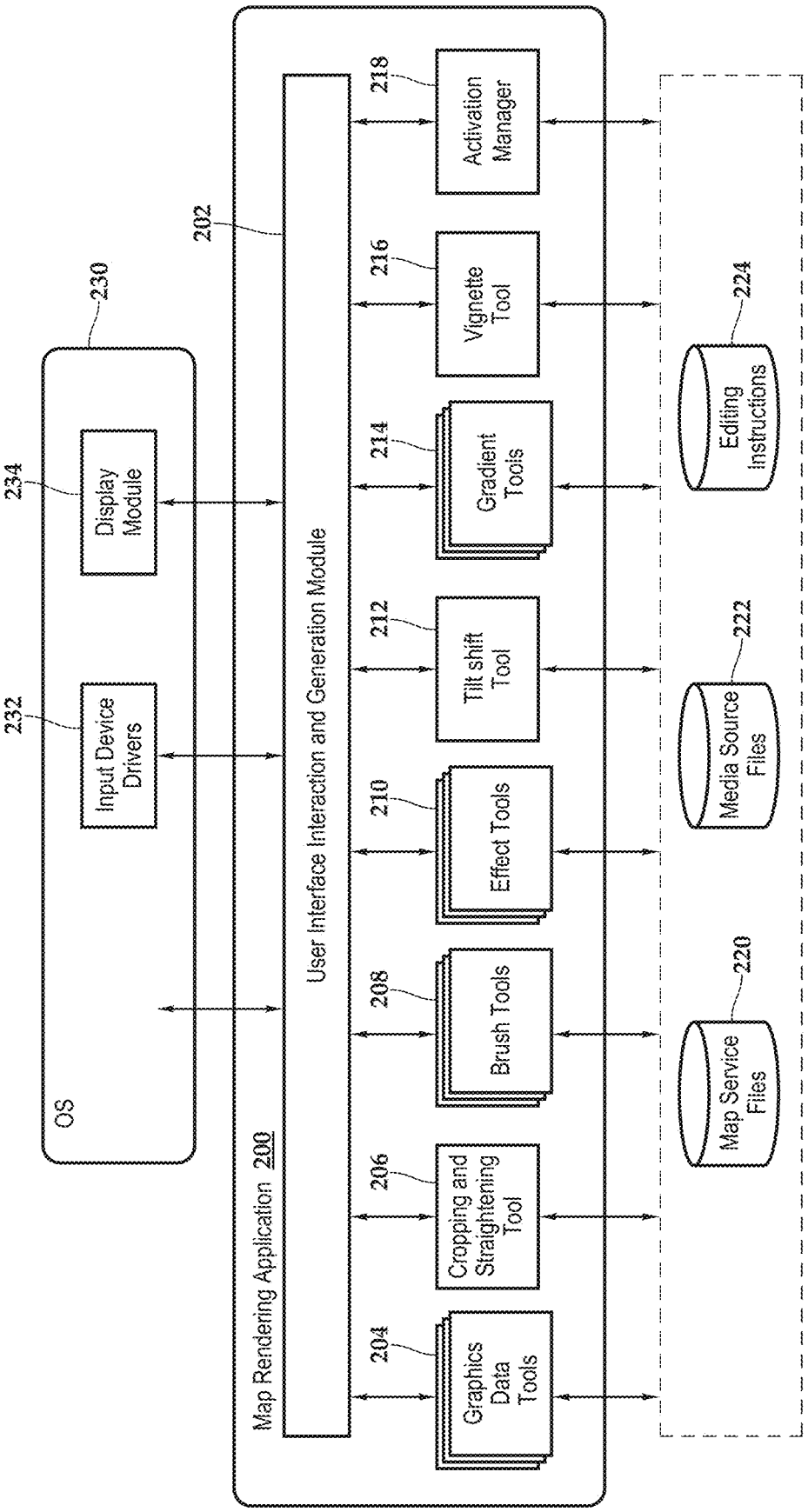
Map Rendering Application 200
202
User Interface Interaction and Generation Module
OS
230
Input Device Drivers
232
Display Module
234
Graphics Data Tools
204
Cropping and Straightening Tool
206
Brush Tools
208
Effect Tools
210
Tilt shift Tool
212
Gradient Tools
214
Vignette Tool
216
Activation Manager
218
Map Service Files
220
Media Source Files
222
Editing Instructions
224

Fig. 7

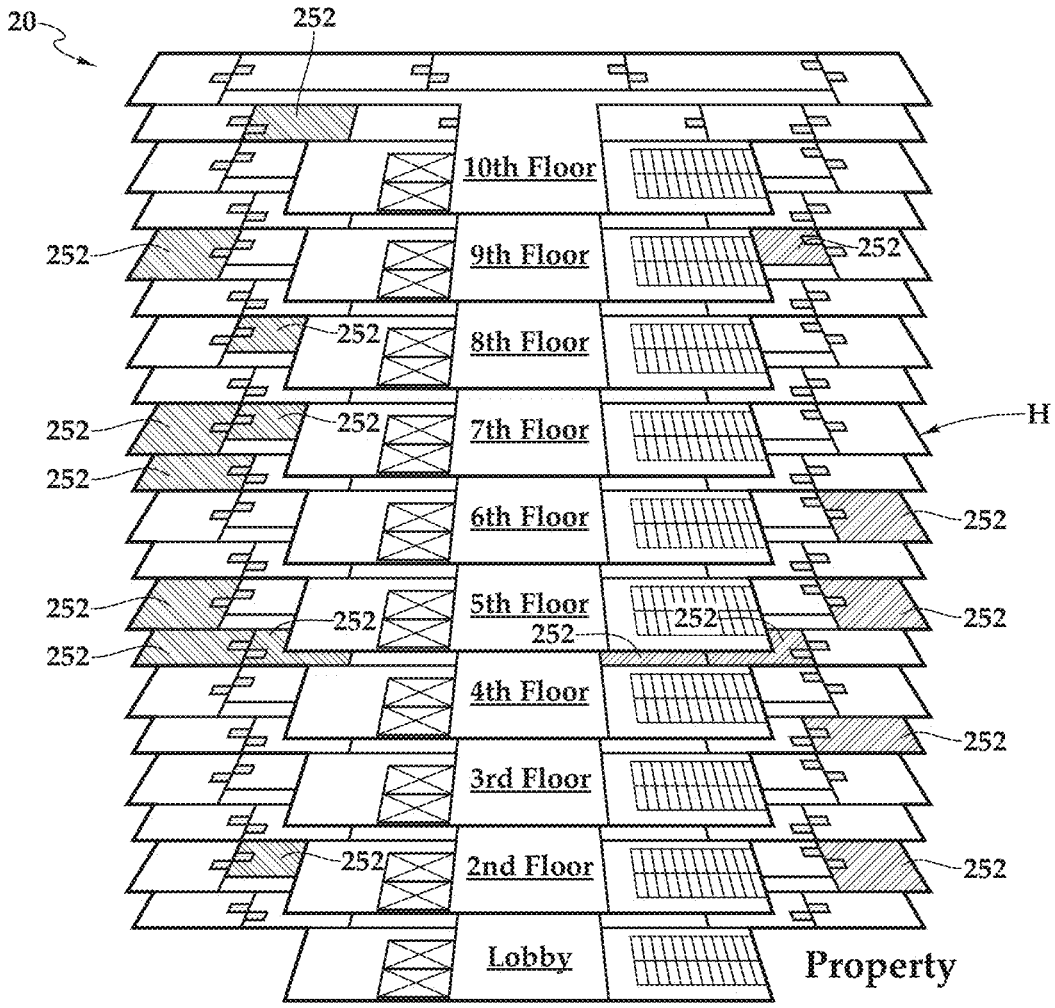
20
252
10th Floor
9th Floor
8th Floor
7th Floor
6th Floor
5th Floor
4th Floor
3rd Floor
2nd Floor
Lobby
Property
H

Fig.8A

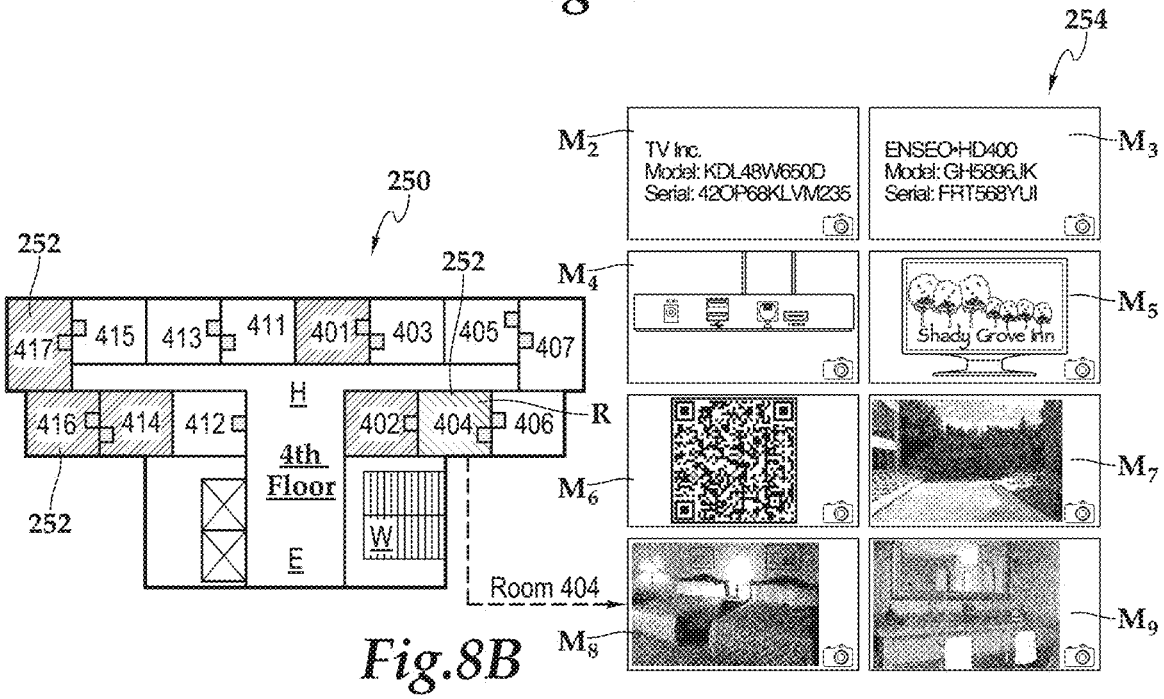
250
252
254
417
415
413
411
401
403
405
407
416
414
412
402
404
406
R
H
4th Floor
W
E
Room 404
M2
TV Inc.
Model: KDL48W650D
Serial: 420P68KLVM235
M3
ENSEO•HD400
Model: GH5896JK
Serial: FRT568YUI
M4
M5
Shady Grove Inn
M6
M7
M8
M9

Fig.8B

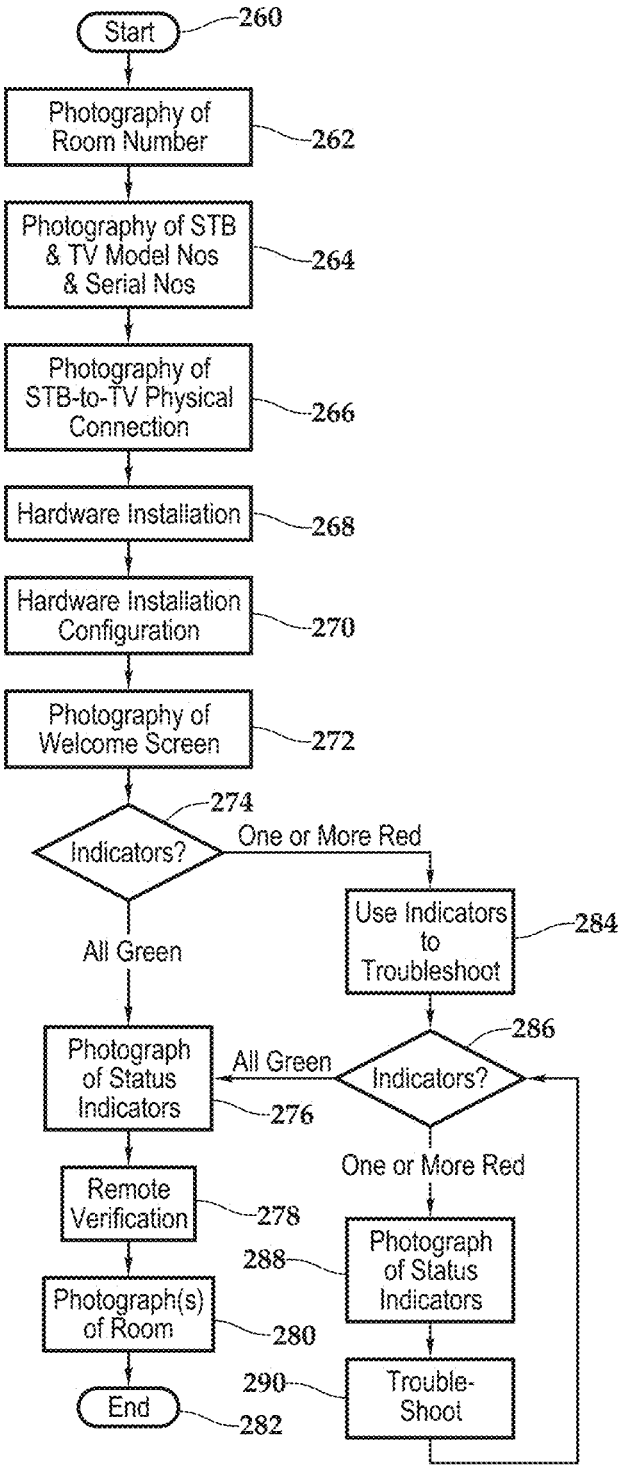
Start
260
Photography of Room Number
262
Photography of STB & TV Model Nos & Serial Nos
264
Photography of STB-to-TV Physical Connection
266
Hardware Installation
268
Hardware Installation Configuration
270
Photography of Welcome Screen
272
274
Indicators?
One or More Red
All Green
Use Indicators to Troubleshoot
284
286
Photograph of Status Indicators
All Green
Indicators?
276
One or More Red
Remote Verification
278
288
Photograph of Status Indicators
Photograph(s) of Room
280
290
Trouble-Shoot
End
282

Fig.9

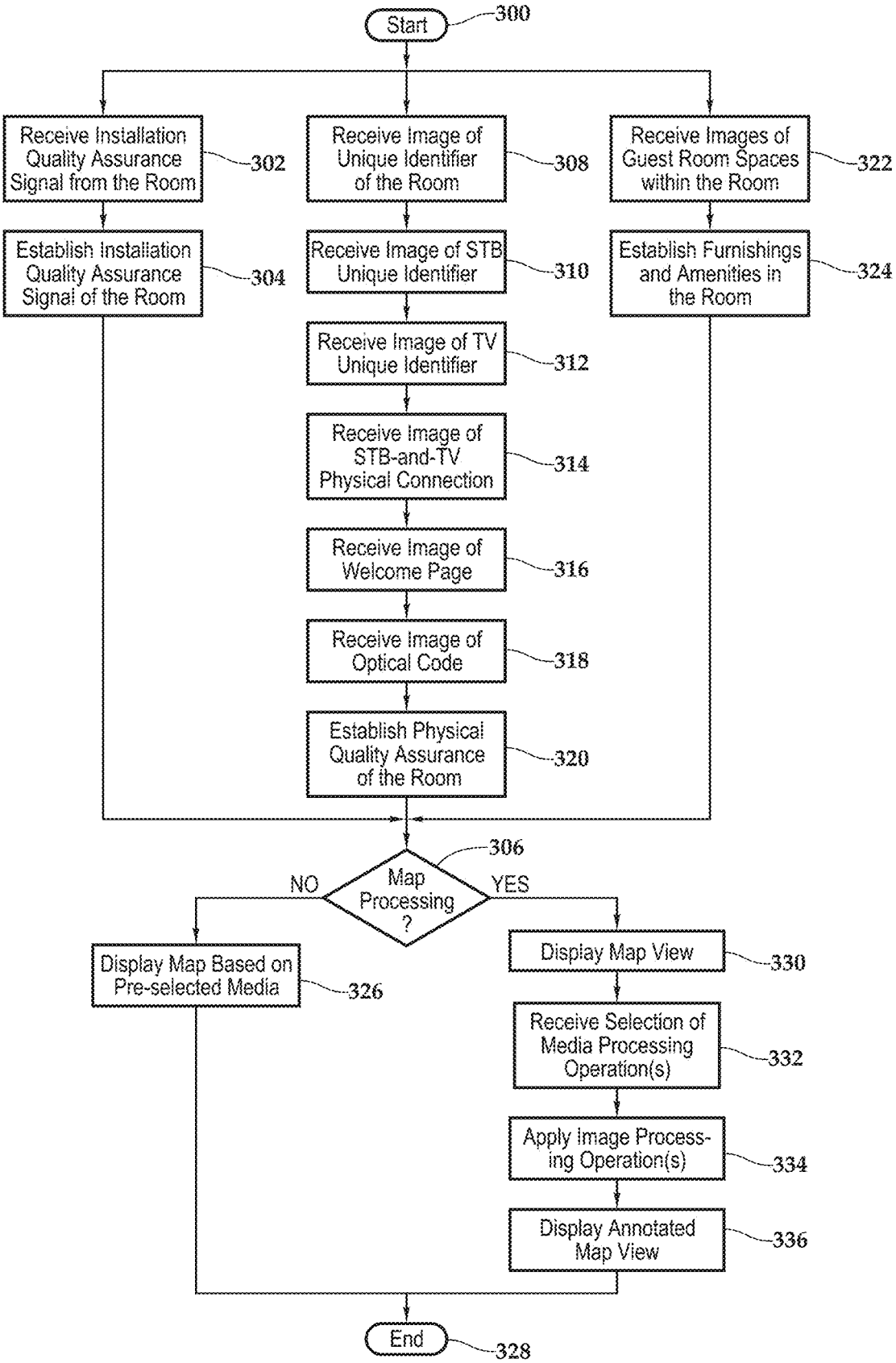
Start
300
Receive Installation Quality Assurance Signal from the Room
302
Establish Installation Quality Assurance Signal of the Room
304
Receive Image of Unique Identifier of the Room
308
Receive Image of STB Unique Identifier
310
Receive Image of TV Unique Identifier
312
Receive Image of STB-and-TV Physical Connection
314
Receive Image of Welcome Page
316
Receive Image of Optical Code
318
Establish Physical Quality Assurance of the Room
320
Receive Images of Guest Room Spaces within the Room
322
Establish Furnishings and Amenities in the Room
324
Map Processing ?
306
NO
YES
Display Map Based on Pre-selected Media
326
Display Map View
330
Receive Selection of Media Processing Operation(s)
332
Apply Image Process-ing Operation(s)
334
Display Annotated Map View
336
End
328

Fig.10

ENTERTAINMENT CENTER TECHNICAL CONFIGURATION AND SYSTEM AND METHOD FOR USE OF SAME

PRIORITY STATEMENT & CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 15/893,389 entitled Entertainment Center Technical Configuration and System and Method for Use of Same", filed on Feb. 9, 2018, in the names of William C. Fang et al., which claims priority from co-pending United States Patent Application No. 62/458,892, entitled "Entertainment Center Technical Configuration and System and Method for Use of Same", filed on Feb. 14, 2017, in the names of William C. Fang et al. This application is also a continuation-in-part of U.S. patent application Ser. No. 15/887,833 entitled "Entertainment Center Technical Configuration and System and Method for Use of Same" and filed on Feb. 2, 2018, in the names of William C. Fang et al; which claims priority from United States Patent Application No. 62/455,819 entitled "Entertainment Center Technical Configuration and System and Method for Use of Same" and filed on Feb. 7, 2017, in the names of William C. Fang et al; all of which are hereby incorporated by reference for all purposes.

[0002] This application is a continuation-in-part of U.S. patent application Ser. No. 17/018,152 entitled "System and Method for Making Reservations in a Hospitality Establishment" and filed on Sep. 11, 2020, in the names of Vanessa Ogle et al., which is a continuation of U.S. patent application Ser. No. 15/955,834 entitled "System and Method for Making Reservations in a Hospitality Establishment" and filed on Apr. 18, 2018, in the names of Vanessa Ogle, et al., now U.S. Pat. No. 10,776,887, issued Sep. 15, 2020; which claims the benefit of United States Patent Application No. 62/486,840 entitled "System and Method for Making Reservations in a Hospitality Establishment" and filed on Apr. 18, 2017, in the names of Vanessa Ogle, et al.; both of which are hereby incorporated by reference, in entirety, for all purposes. U.S. patent application Ser. No. 15/955,839 is also a continuation-in-part of U.S. patent application Ser. No. 15/893,389 entitled "Entertainment Center Technical Configuration and System and Method for Use of Same" and filed on Feb. 9, 2018, in the names of William C. Fang et al.; which claims the benefit of United States Patent Application No. 62/458,892 entitled "Entertainment Center Technical Configuration and System and Method for Use of Same" and filed on Feb. 14, 2017, in the names of William C. Fang et al. U.S. patent application Ser. No. 15/893,389 entitled "Entertainment Center Technical Configuration and System and Method for Use of Same" and filed on Feb. 14, 2017 in the names of William C. Fang et al. is a continuation-in part of U.S. application Ser. No. 15/887,833 entitled Entertainment Center Technical Configuration and System and Method for Use of Same" and filed on Feb. 2, 2018 in the names of William C. Fang et al; which claims the benefit of United States Patent Application No. 62/455,819 entitled Entertainment Center Technical Configuration and System and Method for Use of Same" and filed on Feb. 7, 2017 in the names of William C. Fang et al; all of which are hereby incorporated, in entirety, by reference for all purposes.

TECHNICAL FIELD OF THE INVENTION

[0003] This invention relates, in general, to entertainment centers and, in particular, to entertainment center technical configurations concerning installation, maintenance, and repair configurations, for example, and systems and methods for use of the same that assist an operator with technical tasks.

BACKGROUND OF THE INVENTION

[0004] Without limiting the scope of the present invention, the background will be described in relation to entertainment centers having televisions in the hospitality lodging industry, as an example. During hotel entertainment center installation processes, which includes television and set-top box installation, operators keep track of the progress and problems, if any, of the configuration manually. Such record keeping is difficult and prone to errors. Moreover, unresolved errors may result in multiple trips to the same location to completely troubleshoot a problem. As a result of limitations in existing technology, installation and configuration of televisions and set-top boxes is a frequent complaint and source of aggravation to installation operators and supervisors. Accordingly, there is a need for improved systems and methods for installing entertainment centers, including televisions and set-top boxes.

SUMMARY OF THE INVENTION

[0005] It would be advantageous to introduce systems and methods that further the completion of technical tasks—and other installation, maintenance, and repair tasks in hospitality lodging establishments and other transitory establishments to ensure completion of the tasks and reduce failure. It would also be desirable to enable a computer-based solution that would mitigate the dependency and issues with manually logged and manually verified installations, maintenance, and repair tasks. To better address one or more of these concerns, an entertainment center technical configuration and system and method for use of the same are disclosed. In one embodiment of the system, a remote server receives an installation quality assurance signal from a room within a hospitality establishment to ensure installation quality assurance of the room. Substantially contemporaneously, the server receives from a proximate wireless-enabled interactive programmable device located within the room, images of a unique identifier of the room, a unique identifier of the set-top box, and a physical connection between the set-top box and the display. These images are utilized to establish physical quality assurance of the room. The server may then render a map view of the hospitality establishment based on obtained map data. The map view including a graphical representation of the room annotated with at least one of the images. These and other aspects of the invention will be apparent from and elucidated with reference to the embodiments described hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] For a more complete understanding of the features and advantages of the present invention, reference is now made to the detailed description of the invention along with the accompanying figures in which corresponding numerals in the different figures refer to corresponding parts and in which:

[0007] FIG. **1** is a schematic diagram depicting one embodiment of a system for providing entertainment center technical configuration according to the teachings presented herein;

[0008] FIG. **2**A is a schematic diagram depicting one embodiment of the system of FIG. **1** within an on-property deployment;

[0009] FIG. **2**B is a schematic diagram depicting one embodiment of the system of FIG. **1** within a cloud-computing deployment;

[0010] FIG. **3**A is a wall-facing exterior elevation view of one embodiment of the set-top box depicted in FIG. **1** in further detail;

[0011] FIG. **3**B is a television-facing exterior elevation view of the set-top box depicted in FIG. **1**;

[0012] FIG. **3**C is a front perspective view of a dongle depicted in FIG. **1** in further detail;

[0013] FIG. **4** is a functional block diagram depicting one embodiment of the set-top box presented in FIGS. **3**A and **3**B;

[0014] FIG. **5** is a functional block diagram depicting one embodiment of the proximate wireless-enabled interactive programmable device presented in FIG. **1**;

[0015] FIG. **6** is a functional block diagram depicting one embodiment of a server presented in FIGS. **2**A and **2**B;

[0016] FIG. **7** conceptual module diagram depicting the software architecture of an image viewing, editing, and organization application of some embodiments;

[0017] FIG. **8**A is a schematic diagram depicting one embodiment of a digital representation of a hospitality lodging establishment with entertainment center technical configuration;

[0018] FIG. **8**B is a schematic diagram depicting one embodiment of a digital representation of a floor of the hospitality lodging establishment presented in FIG. **8**A;

[0019] FIG. **9** is a flow chart depicting one embodiment of a method for providing entertainment center technical configuration according to the teachings presented herein; and

[0020] FIG. **10** is a flow chart depicting another embodiment of a method for providing entertainment center technical configuration according to the teachings presented herein.

DETAILED DESCRIPTION OF THE INVENTION

[0021] While the making and using of various embodiments of the present invention are discussed in detail below, it should be appreciated that the present invention provides many applicable inventive concepts, which can be embodied in a wide variety of specific contexts. The specific embodiments discussed herein are merely illustrative of specific ways to make and use the invention, and do not delimit the scope of the present invention.

[0022] Referring initially to FIG. **1**, therein is depicted one embodiment of a system **10** for providing entertainment center technical configuration with a hospitality lodging establishment to an entertainment center **12**. The hospitality lodging establishment, which may be referred to as a hospitality property, may be a furnished multi-family residence, dormitory, lodging establishment, hotel, hospital, or other multi-unit environment. As shown, by way of example and not by way of limitation, the hospitality environment is depicted as a hotel H having various rooms, including room R, and spaces. The entertainment center **12** includes a set-top box **14**, which is communicatively disposed with various amenities associated with the hospitality environment, including a display **16**. As shown, the display **16** is depicted as a television. It should be appreciated however, that the display **16** may also be any electronic visual display device, for example. Entertainment centers, like the entertainment center **12**, may be deployed throughout the rooms and spaces of the hotel H. The entertainment center **12** is depicted as including the set-top box **14**, the display **16**, and a remote control **18**. It should be appreciated however that the entertainment center **12** may include any combination of electronic appliances, components, and devices and, in particular, any combination of electronic appliances, components, and devices found in the hospitality environment. As will be discussed in further detail hereinbelow, a map view **20** of the hospitality establishment H, including room R, may be rendered by the system **10** as part of and following the technical configuration of the entertainment center **12**.

[0023] As shown, with respect to the set-top box **14** and the display **16**, a connection, which is depicted as an HDMI connection **22**, connects the set-top box **14** to the display **16**. Other connections include a power cable **24** coupling the set-top box **14** to a power source, a coaxial cable **26** coupling the set-top box **14** to an external cable source, and a category five (Cat 5) cable **28** coupling the set-top box **14** to an external pay-per-view source at a hotel or other lodging establishment, for example. As shown, the set-top box **14** may include a dongle **30** providing particular technology and functionality extensions thereto. That is, the set-top box **14** may be a set-top box-dongle combination in one embodiment. More generally, it should be appreciated that the cabling connected to the set-top box **14** will depend on the environment and application, and the cabling connections presented in FIG. **1** are depicted for illustrative purposes. Further, it should be appreciated that the positioning of the set-top box **14** will vary depending on environment and application and, with certain functionality, the set-top box **14** may be placed more discretely behind the display **16**. Moreover, it should be appreciated that the set-top box **14** and the display **16** may be at least partially or fully integrated.

[0024] The television remote control **18** includes an array of buttons for adjusting various settings such as television channel and volume and for providing various inputs during the installation, maintenance, or repair of the set-top boxes and the display **16**, as discussed in more detail hereinbelow. In one embodiment, the television remote control **18** may be a consumer infrared (IR), Bluetooth or other wireless-protocol-based device configured as a small wireless handheld object that issues commands from a distance to the set-top box **14** in order to control the display **16** via the set-top box **14**, for example.

[0025] A proximate wireless-enabled interactive programmable device **32** may be a device, including handheld devices, that may be supplied or carried by the guest and may be selected from a range of existing devices, such as, for example iPads®, iPhones®, iPod Touch®, Android® devices, Blackberry® devices, personal computers, laptops, tablet computers, smart phones, and smart watches, for example. As will be discussed in further detail hereinbelow, the proximate wireless-enabled interactive programmable device **32** is utilized by an installation technician I to execute an application providing a user interface guiding the installation technician I on the installation process.

[0026] In one operational embodiment, by way of an application, the proximate wireless-enabled interactive programmable device **32** provides step-by-step installation instructions to the installation technician I while prompting

the installation technician I to use the camera and/or video functionality of the proximate wireless-enabled interactive programmable device **32** to document the work with images, pictures and/or video, for example, which is explained as media M. The installation technician I is prompted to take a picture of the door M_1 of the room at the beginning of the installation to provide for a physical quality check of the location of the installation technician I. In one embodiment, the proximate wireless-enabled interactive programmable device **32** then prompts the installation technician I to capture media M, which may be a photograph or video, for example, of the model and serial number of the display **16** as shown by media M_2. Similarly, the installation technician I is prompted to capture media M_3 of the model and serial number belonging to the set-top box **14**. Following the establishment of physical connections between the components of the entertainment center **12**, such as the set-top box **14** and the display **16**, the installation technician I, following the instructions of the application on the proximate wireless-enabled interactive programmable device **32**, captures media M_4 of the physical connections between the set-top box **14** and the display **16**, for example.

[0027] The entertainment center **12** executes a technical protocol to make the various entertainment center **12** components, including the set-top box **14**, the display **16**, and the remote control **18** ready for use. The installation technician I captures media M_5 of the welcome screen W of the display as a physical quality check. In operation, in one embodiment, the set-top box **14** is able to automatically download software applications, upload software and update content packages, for example. Tracking and installation progress and reporting the trouble items may also be automated by using the hotel network and network connections beyond the hotel, including connections that interact with a cloud server such that information, including substantially real-time information, can be accessed by any members of the installation team and managers.

[0028] As the technical configuration, including the installation progresses, a technical status portal **34** may be shown on the display **16** and include a machine-readable optical label **36**, which may be a Quick Response (QR) code, for example. The diagnostic and troubleshooting functions of the set-top box **14** also may generate the human-readable visual labels **38**, which may correspond to the machine-readable optical label **36**. Both may include specific diagnostic information about the technical protocol, which may relate to installation, maintenance, or repair, for example. The machine-readable optical label **36** may derived from a bitmask such as little Endian.

[0029] Both the machine-readable optical label **36** and the human-readable visual labels **38** may be continuously updated throughout the installation or maintenance or repair process in order to provide the installer or technician with a visual indication of the status and, when necessary, a machine-readable optical code which may be captured and shared via a mobile device, for example, with a remote system for verification or troubleshooting purposes. It should be appreciated that any number or configuration of technical status icons may be presented, including an entire screen of technical status icons or a scrolling feature allowing a defined space to provide many sheets of informative technical status icons. As shown, following the execution of the technical protocol by the set-top box **14**, the application loaded on the proximate wireless-enabled interactive programmable device **32** or, alternatively, the application available via the Internet, for example, prompts the technical installer to capture media M_6 of the machine-readable optical label **36**.

[0030] As presented herein, the same installation, maintenance, and repair information that is typically uploaded or transmitted through a network may be reported directly to the television screen for the technician to view and, optionally, capture via a mobile device as described in further detail hereinbelow. That is, as presented herein, in one embodiment, the set-top box may be considered as having a technical widget functionality that automates functions to be performed during installation, maintenance, and repair. Moreover, at the same time, the set-top box may self-perform various tests on critical aspects of the set-top box and television. The real-time reports which are generated may be transmitted through the hotels infrastructure or alternatively, captured on the television screen in the form of a machine-readable optical label, thereby creating a second, alternative or backchannel of communication for redundant communication during a technical task, such as installation, maintenance, or repair.

[0031] In one embodiment, following the application on the proximate wireless-enabled programmable device **32** guiding the installation technician I through the technical protocol to make the entertainment center **12** ready for use and establishing media relative to the physical quality check, the application on the proximate wireless-enabled programmable device **32** prompts the installation technician I to capture media relative to guest room spaces to establish the furnishing and amenities in the room. By way of example, the proximate wireless-enabled interactive programmable device **32** prompts the installation technician I to capture images of the view from the room, media M_7, the bed or beds in the room, media M_8, and the bathroom, media M_9. It should be appreciated that the teachings presented herein not only apply to installation but maintenance, repair, and other technical tasks as well. In some embodiments of the system **10**, as part of various technical tasks, the media M_1 through M9 are utilized to establish physical quality assurance of the room and a map view **20** of the hospitality establishment H may be rendered based on obtained map data. The map view may include a graphical representation of the room annotated with at least one instance of the media M1 though M_9.

[0032] With reference to FIGS. **2**A and **2**B, in one embodiment, the set-top box **14** sends an installation quality assurance signal relative to the execution of the technical protocol. A remote server **40** receives the installation quality assurance signal from the set-top box **14** and establishes installation quality assurance of the room based on the installation quality assurance signal. As mentioned, substantially contemporaneously with the execution of the technical protocol, the server **40** receives from the proximate wireless-enabled interactive programmable device **32** located within the room, images of a unique identifier of the room M_1, a unique identifier of the display M_2, a unique identifier of the set-top box M_3, a physical connection between the set-top box and the display M_4, the welcome screen on the display M_5, and the machine-readable optical label M_6. These images, media M_1 through M_6, are utilized to establish physical quality assurance of the room. Furthermore, substantially contemporaneously with the execution of the technical protocol, the server **40** receives from the proximate

wireless-enabled interactive programmable device **32** located within the room, images of the view from the room, media M_7, the bed or beds in the room, media M_8, and the bathroom, media M_9. These images, media M_7 through M_9, are utilized to remotely establish the furnishing and amenities in the room and create a virtual interactive experience with the room.

[0033] The server **40** may render a map view **20** of the hospitality establishment based on obtained map data. In some embodiments, the map view **20** may include a graphical representation of one or more rooms of the hospitality establishment that are annotated with data relative to the installation quality assurance, the physical quality assurance, or a combination thereof. More particularly, in some embodiments, the map view may include a graphical representation of one or more rooms of the hospitality establishment annotated with at least one instance of the media M_1 through M_9.

[0034] It should be appreciated that the server **40** may be located on a single property to serve one or more televisions thereon. Further, it should be appreciated that the server **40** may be remotely located to serve multiple properties having multiple televisions. Referring now to FIG. **2**A, the system **10** may be deployed such that the server **40** is co-located on the property P-**1** with the entertainment centers **12-1** . . . **12-***n*, with, in one embodiment, content sources **44** configured to provide sources of content. As shown, each of the entertainment centers **12-1** . . . **12-***n* may respectively include set-top boxes **14-1** . . . **14-***n* and displays **16-1** . . . **16-***n*. As shown, the server **40** includes a housing **42** having a television output and other components therein. The server **40** may render a map view **20** of the hospitality establishment that may be annotated as discussed herein.

[0035] Referring to FIG. **2**B, the system **10** may be deployed such that the server **40**, having the housing **42**, is located remotely within cloud C relative to the entertainment centers **12-1** . . . **12-***n*, which are located at properties P-**1** through P-*n*. As shown, each of the entertainment centers **12-1** . . . **12-***n* may respectively include set-top boxes **14-1** . . . **14-***n* and displays **16-1** . . . **16-***n*. In particular, the server **40**, which receives content from content sources **44**, may be located remotely relative to the entertainment centers **12-1** . . . **12-***n* such that a property headend **46-1** . . . **46-***n* is interposed between the server **40** and the entertainment centers **12-1** . . . **12-***n*. As shown, in this implementation, the property headend **46-1** . . . **46-***n* is co-located with the entertainment centers **12-1** . . . **12-***n* at a respective property, P-**1** through P-n. The server **40** may render a map view **20** of the hospitality establishment that may be annotated as discussed herein.

[0036] Referring to FIG. **3**A, FIG. **3**B, FIG. **3**C, and FIG. **4**, as used herein, set-top boxes, back boxes and set-top/back boxes may be discussed as set-top boxes. By way of example, the set-top box **14** may be a set-top unit that is an information appliance device that generally contains set-top box functionality including having a television-tuner input and displays output through a connection to a display or television set and an external source of signal, turning by way of tuning the source signal into content in a form that can then be displayed on the television screen or other display device. Such set-top boxes are used in cable television, satellite television, and over-the-air television systems, for example.

[0037] The set-top box **14** includes a housing **50** having a rear wall **52**, front wall **54**, top wall **56**, bottom base **58**, and two sidewalls **60**, **62**. It should be appreciated that front wall, rear wall, and side wall are relative terms used for descriptive purposes and the orientation and the nomenclature of the walls may vary depending on application. The front wall includes various ports, ports **64**, **66**, **68**, **70**, **72**, **74**, **76**, **78**, and **80** that provide interfaces for various interfaces, including inputs and outputs. In one implementation, as illustrated, the ports **64** through **80** include inputs **82** and outputs **84** and, more particularly, an RF input **86**, a RJ-45 input **88**, universal serial bus (USB) input/outputs **90**, an Ethernet category 5 (Cat 5) coupling **92**, an internal reset **94**, an RS232 control **96**, an audio out **98**, an audio in **100**, and a debug/maintenance port **102**. The front wall **54** also includes various inputs **82** and outputs **84**. More particularly, ports **110**, **112**, **114**, and **116** include a 5V dc power connection **120**, USB inputs/outputs **122**, an RJ-45 coupling **124**, and an HDMI port **126**. It should be appreciated that the configuration of ports may vary with the set-top box depending on application and context. As previously alluded to, the housing **50** may include a housing-dongle combination including, with respect to the dongle **30**, a unit **130** having a cable **134** with a set-top box connector **132** for selectively coupling with the set-top box **14**.

[0038] Within the housing **50**, a processor **140**, memory **142**, storage **144**, the inputs **82**, and the outputs **84** are interconnected by a bus architecture **146** within a mounting architecture. It should be understood that the processor **140**, memory **142**, storage **144**, the inputs **82**, and the outputs **84** may be entirely contained within the housing **50** or the housing-dongle combination. The processor **140** may process instructions for execution within the computing device, including instructions stored in the memory **142** or in storage **144**. The memory **142** stores information within the computing device. In one implementation, the memory **142** is a volatile memory unit or units. In another implementation, the memory **142** is a non-volatile memory unit or units. Storage **144** provides capacity that is capable of providing mass storage for the set-top box **14**. Various inputs **82** and outputs **84** provide connections to and from the computing device, wherein the inputs **82** are the signals or data received by the set-top box **14**, and the outputs **84** are the signals or data sent from the set-top box **14**.

[0039] A television content signal input **148** and a television output **150** are also secured in the housing **50** in order to receive content from a source in the hospitality property and forward the content, including external content such as cable and satellite and pay-per-view (PPV) programing, to the television located within the hotel room.

[0040] A transceiver **152** is associated with the set-top box **14** and communicatively disposed with the bus **146**. As shown the transceiver **152** may be internal, external, or a combination thereof to the housing. Further, the transceiver **152** may be a transmitter/receiver, receiver, or an antenna for example. Communication between various amenities in the hotel room and the set-top box **14** may be enabled by a variety of wireless methodologies employed by the transceiver **152**, including 802.11, 3G, 4G, Edge, WiFi, ZigBee, near field communications (NFC), Bluetooth low energy and Bluetooth, for example. Also, infrared (IR) may be utilized.

[0041] The memory **142** and storage **144** are accessible to the processor **140** and include processor-executable instructions that, when executed, cause the processor **140** to

execute a series of operations. The processor-executable instructions cause the processor to execute a technical protocol to make the set-top box and the display ready for use and then may cause the processor to send an installation quality assurance signal relative to the execution of the technical protocol. Also, the processor-executable instructions may include instructions to generate a human-readable visual label that contains information about the status of the technical protocol as well as generate a machine-readable optical label that contains information about the status of the technical protocol, the machine-readable optical label includes diagnostic information for escalated and remote trouble shooting about the status of the technical protocol. The processor-executable instructions may cause the processor to forward, via the television output, the output signal including the human-readable visual label and the machine-readable optical label to the television, and dynamically update the human-readable visual label and the machine-readable optical label as the status of the technical protocol changes.

[0042] Referring now to FIG. **5**, the proximate wireless-enabled interactive programmable device **32** may be a wireless communication device of the type including various fixed, mobile, and/or portable devices. To expand rather than limit the previous discussion of the proximate wireless-enabled interactive programmable device **32**, such devices may include, but are not limited to, cellular or mobile telephones, watches, two-way radios, personal digital assistants, digital music players, Global Position System units, and so forth. The proximate wireless-enabled interactive programmable device **32** may include a processor **160**, memory **162**, storage **164**, transceiver **166**, a camera **168**, I/O panel **170**, and a display **172** interconnected by a bus architecture **174**. It should be appreciated that although a particular architecture is presented, other designs and layouts are within the teachings presented herein.

[0043] In one embodiment, the memory **162** and storage **164** are accessible to the processor **160** and include processor-executable instructions that, when executed, cause the processor **160** to execute a series of operations. The processor-executable instructions cause the processor to execute an application providing a user interface guiding the installation technician on the installation process. An installation procedure and diagrams may be displayed by the application one step at a time to guide the installation process. The application prompts the installation technician to use the camera and/or video to document the work-in-progress and completed with pictures and video at particular points in the process or step-by-step, for example.

[0044] Referring now to FIG. **6**, one embodiment of the server **40** as a computing device includes a processor **180**, memory **182**, storage **184**, inputs **186**, outputs **188**, and a network adaptor **190** interconnected with various buses **192** in a common or distributed, for example, mounting architecture. In other implementations, in the computing device, multiple processors and/or multiple buses may be used, as appropriate, along with multiple memories and types of memory. Further still, in other implementations, multiple computing devices may be provided and operations distributed therebetween. The processor **180** may process instructions for execution within the server **40**, including instructions stored in the memory **182** or in storage **184**. The memory **182** stores information within the computing device. In one implementation, the memory **182** is a volatile memory unit or units. In another implementation, the memory **182** is a non-volatile memory unit or units. Storage **184** includes capacity that is capable of providing mass storage for the server **40**. Various inputs **186** and outputs **188** provide connections to and from the server **40**, wherein the inputs **186** are the signals or data received by the server **40**, and the outputs **188** are the signals or data sent from the server **40**. The network adaptor **190** couples the server **40** to a network such that the server **40** may be part of a network of computers, a local area network (LAN), a wide area network (WAN), an intranet, a network of networks, or the Internet, for example.

[0045] The memory **182** and storage **184** are accessible to the processor **180** and include processor-executable instructions that, when executed, cause the processor **180** to execute a series of operations. In one embodiment, the processor-executable instructions cause the processor to receive the installation quality assurance signal from the set-top box prior to establishing installation quality assurance of the room based on the installation quality assurance signal. The processor-executable instructions also cause the processor to, substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room one or more of the following: first media relative to an image of a unique identifier of the room; second media relative to a unique identifier of the set-top box; third media relative to a physical connection between the set-top box and the display; fourth media relative to a unique identifier of the display; fifth media relative to a welcome page on the display; sixth media relative to a machine-readable optical label that contains information about the status of the technical protocol; and seventh media relative to guest room spaces within the room.

[0046] The processor-executable instructions then cause the processor to establish physical quality assurance of the room based on the first, second, third, fourth, fifth, and sixth media. Further, in some embodiments, the processor-executable instructions cause the processor to establish furnishings and amenities in the room based on the seventh media. In some embodiments, the processor-executable instructions cause the processor to render a map view of the hospitality establishment based on obtained map data and the map view may include a graphical representation of the room and other rooms at the hospitality establishment. The processor-executable instructions, when executed, may cause the processor to render a 3-D perspective view of the hospitality establishment, a multi-floor view of the hospitality establishment, a 2-D top plan view of at least a portion the hospitality establishment, or a map view of a floor of the hospitality establishment, for example.

[0047] In some embodiments, the processor-executable instructions cause the processor to at least partially integrate or at least partially combine the at least one of the first, second, third, fourth, fifth, sixth, or seventh, media into the graphical representation of the room. The processor-executable instructions may include processor-executable instructions that, when executed, cause the processor to annotate the graphical representation of the room with data relative to the installation quality assurance or data relative to the physical quality assurance, for example. The processor-executable instructions may also include instructions that cause the processor to implement a map application config-

ured to provide a user interface and obtain instructions from a user on the desired map view and annotations.

[0048] FIG. **7** conceptually illustrates the software architecture of a map rendering application **200** of some embodiments that may render the map view **20** of the hospitality establishment H. In some embodiments, the map rendering application **200** is a stand-alone application or is integrated into another application, while in other embodiments the application might be implemented within an operating system. Furthermore, in some embodiments, the map rendering application **200** is provided as part of a server-based solution or a cloud-based solution. In some such embodiments, the application is provided via a thin client. That is, the application runs on a server while a user interacts with the application via a separate machine remote from the server. In other such embodiments, the application is provided via a thick client. That is, the application is distributed from the server to the client machine and runs on the client machine.

[0049] The map rendering application **200** includes a user interface (UI) interaction and generation module **202**, a graphics data tools **204**, a cropping and straightening tool **206**, brush tools **208**, effect tools **210**, a tilt shift tool **212**, a gradient tool **214**, a vignette tool **216**, and an activation manager **218**. The image editing application has access to map service files **220**, media source files **222**, and editing instructions **224**. In some embodiments, the map service files may be vector graphics data files with texture identifiers or two or three dimensional map image files specified in one or more map tiles that may be raster-based map tiles, for example.

[0050] The media source files **222** store the media content (e.g. text, audio, image, and video content), such as media M_1 through M_9, which may be photographs, images, video files, audio-video files, panoramic photographs, or spherical photographs, for example. The editing instructions **224** store the image editing operations that the map rendering application **200** performed as a set of instructions. The map rendering application **200** uses these set of instructions to generate new images based on the original data stored in the source files. In some embodiments, the map image files and/or media content data are stored as .mov, .avi, .jpg, .png, .gif, pdf, .mp3, .bmp, .wav, .txt, .tiff, etc. files in the map service files **220** and media source files **222**. In some embodiments, storages **220**, **222**, and **224** are all stored in one physical storage. In other embodiments, the storages **220**, **222**, **224** are in separate physical storages, or one of the storages is in one physical storage while the other is in a different physical storage. For instance, the other project data and the source files will often be separated.

[0051] In the illustrated embodiment, FIG. **7** also includes an operating system **230** that includes input device driver(s) **232** and a display module **234**. In some embodiments, as illustrated, the device drivers **232** and display module **234** are part of the operating system **230** even when the image editing application is an application separate from the operating system. The input device drivers **232** may include drivers for translating signals from a keyboard, mouse, touchpad, tablet, touch screen, gyroscope, accelerometer, etc. A user interacts with one or more of these input devices, which send signals to their corresponding device driver. The device driver then translates the signals into user input data that is provided to the UI interaction module **202**.

[0052] The present application describes a graphical user interface that provides users with numerous ways to perform different sets of operations and functionalities. By either executing a pre-determined series of editing instructions on a pre-determined set of media source files or receiving a selection of media processing operations, the present map rendering application **200** provides for a map view of the hospitality establishment with the appropriate annotations.

[0053] Referring now to FIG. **8**A and FIG. **8**B, in one implementation, property monitoring and optimization is provided in the form of a database, or as shown, in the map view **20** of the hospitality establishment H including a graphical presentation **250** of a floor of the hospitality establishment H, wherein particular hotel rooms with technical configuration data in substantially real time permits a user or manager to select the desired information and make optimal technical configuration decisions. In particular, color-coding and hue assignment adds additional understanding and visibility into housekeeping and maintenance conditions as well as use. By way of example and not by way of limitation, the hospitality establishment is graphical depicted as having a lobby and ten floors, which are lobby, 2^{nd} floor, 3rd floor, etc. For each floor, such as the 4^{th} floor, a floor layout is shown with rooms, such as rooms **401** through **407** and **411** through **417**. In FIGS. **8**A and **8**B, by collecting the substantially real time technical configuration information from the field, a map may be shown depicting all rooms with an outstanding technical configuration status **252**, for example. In particular, room **404** from FIG. **1** is highlighted to inspect the technical configuration, including the installation quality assurance and the physical quality assurance. With this information and knowledge of the issue, technical support may appropriately prioritize the requests, handle the requests in an optimal order, and bring all needed equipment. As mentioned, it should be appreciated that other types of databases and charts may be prepared from the substantially real-time information collected. As shown, by way of example, the progress of the technical configuration of Room **404** is being examined wherein the graphical representation of room **404** is annotated with media M_2 through M_9. That is, in some embodiments, once the media or, more specifically, pictures are taken, the pictures are directly uploaded to the server and a database and then associated with the rooms shown on the map view. The installation managers and project managers use the map view to gather real time information about the installation progress and reports on the functional failures from the installation. With the pictures uploaded, the installation managers and project managers are also able to exam the installation workmanship in completed rooms. To view the pictures taken from each room, the map view users can select a room from the map and appropriately click or tap on the rooms and then select the room photos or other image processing operations requested.

[0054] Referring now to FIG. **9**, one embodiment of a method utilizing entertainment centers and particularly set-top boxes with installation, as an example, within the hospitality lodging industry is depicted. It should be appreciated that the methodology presented herein is also applicable to maintenance and repair as well. At block **260**, the methodology is initiated and advanced to block **262** where a photograph of the room number on the door, for example is taken by an installer to remotely establish physical quality assurance. The photograph is forwarded to the remote server. In one implementation, the installation and data collected during the installation is associated with the

installer and the quality of the work performed by the installer and the efficiency of the installer, such as time required to install each room and the number of rooms installed per day, may be collected, evaluated, and graphed. At block **264**, the model and serial numbers of the components of the entertainment center, including the set-top box and the display, are photographed and the photograph is forwarded to the remote server. At block **266**, following the installation technician completing the physical connections within the entertainment center, photographs of the physical connections are captured and the photographs are forwarded to the remote server. At block **268**, the hardware installation begins with the various connections of the set-top box and television being completed. At block **270**, the installation technician initializes the installation configuration of the set-top box by, in one embodiment, actuating a code on a remote control associated with the set-top box. At block **272**, the installation technician is prompted to capture a photograph of a welcome screen on the display to further the remote establishment of physical quality assurance. The photograph is forwarded to the remote server. At decision block **274**, as the installation process progresses, the installer views the television screen for the visual indicators, which, in one implementation, light green or red to show progress on several installation protocol items.

[0055] If the visual indicator lights are all green, then the methodology advances to block **276**, where the installer captures a photograph or image of the machine-readable optical label and forwards the same at block **278** to a verification system, which may be a property server on-site or alternatively, a property management or maintenance server off-site. It should be appreciated that other forms of verification, including communication between any on-site property server or an off-site property management server may also occur with the set-top box as part of the installation process. The transmission of the machine-readable optical code by an alternative route, i.e., mobile device backchannel provides additional verification. At block **280**, the technician is prompted to capture images of the room to establish the amenities and views therein. At block **282**, the methodology ends.

[0056] Returning to decision block **274**, if one or more indicators are red, then the methodology advances to block **284** where the installer uses the indicators to trouble shoot or diagnose the problem. As previously discussed, the indicators may include a QR code, for example, that may be read to provide additional details on the testing, such as functional test results and self-test results. Further, at the block **274**, troubleshooting tips may be provided if there are issues. At decision block **286**, if following diagnostic action, the indicators are all green, then the flow chart advances to previously discussed block **276**. On the other hand, if one or more indicators are still red, then an image or photograph of the machine-readable optical label is captured at block **288** and transmitted at block **290** to provide escalated and remote trouble shooting. As previously discussed, the machine-readable optical label provides diagnostic information, which can be read at the remote location to provide insight into the nature of the problem. Moreover, often during installation and maintenance when issues occur, the set-top box under work may not be in communication with the remote site. Therefore, the methodology presented herein provides an alternative channel of communication of data relevant to the installation issue. Following block **290**, the methodology returns to decision block **286**.

[0057] Referring now to FIG. **10**, another embodiment of a method for providing entertainment center technical configuration is presented. At block **300**, the methodology is initiated and advanced to block **302** where the server receives an installation quality assurance signal from the room via the installer technician and the proximate wireless-enabled interactive programmable device. The installation quality assurance may include, by way of example, at least one task including verifying the room is online; verifying the room has passed a self-test; verifying the room is free of TV connection issues, HDMI connection issues, and TV control connection issues; verifying that the set-top box satisfies RF specifications; verifying that Bluetooth® devices are activated, verifying WiFi devices are activated, and verifying room number match. At block **304**, prior to advancing to map processing decision block **306**, the server utilizes the installation quality assurance signal to establish installation quality assurance in the room. Substantially contemporaneously with the execution of blocks **302** and **304**, at block **308**, the server receives media, which may be a photograph or video, for example, of a unique identifier, such as a room number on a door, of the room. At blocks **310**, **312**, **314**, **316**, and **318**, the server respectively receives media relative to a unique identifier of the set-top box, media relative to a unique identifier of the display, media relative to the physical connection between the set-top-box and the display, media relative to a welcome page on the display, and an image of a machine-readable optical label from the display, for example. At block **320**, the server utilizes the media captured during blocks **310** through **318** to remotely establish physical quality assurance of the room. At block **306**, the methodology advances to the map processing decision block.

[0058] In some embodiments, substantially contemporaneously with the execution of blocks **302** and **304** as well as blocks **308** through **320**, at block **322**, the server receives media relative to guest room spaces within the room. By way of example and not by way of limitation, the media relative to guest room spaces within the room may include audiovisual media such as bathroom area audiovisual media, dressing area audiovisual media, clothes storage area audiovisual media, sleeping area audiovisual media, work area audiovisual media, entry area audiovisual media, window view audiovisual media, and hallway area audiovisual media. At block **324**, the server utilizes the media received at block **322** to establish the furnishing and amenities in the room to create a virtual experience and virtual documentation of the room. The methodology then advances to decision block **306**.

[0059] At decision block **306**, if the map processing including any applied annotations are based on a pre-selected or pre-stored or pre-defined criteria, then the methodology advances to block **326** where the appropriate map view is rendered prior to at block **328**, the methodology ending. On the other hand, at decision block **306**, if user input will be sought on the map view and annotations then the methodology displays the map view at block **330**. Then at block **332**, the server receives selection of media processing operations from the user and then applies the image processing operations at block **334**. The media processing operations may include, for example, selecting the media to be displayed and various luminance and color properties and

such to provide further visibility into the map view. At block **336**, the map view with annotations is rendered prior to the methodology ending at block **328**.

[0060] The order of execution or performance of the methods and data flows illustrated and described herein is not essential, unless otherwise specified. That is, elements of the methods and data flows may be performed in any order, unless otherwise specified, and that the methods may include more or less elements than those disclosed herein. For example, it is contemplated that executing or performing a particular element before, contemporaneously with, or after another element are all possible sequences of execution.

[0061] While this invention has been described with reference to illustrative embodiments, this description is not intended to be construed in a limiting sense. Various modifications and combinations of the illustrative embodiments as well as other embodiments of the invention, will be apparent to persons skilled in the art upon reference to the description. It is, therefore, intended that the appended claims encompass any such modifications or embodiments.

What is claimed is:

1. A system for entertainment center technical configuration, the system comprising:

a set-top box located in a room at a hospitality establishment having a plurality of rooms, the set-top box including:

a housing securing a television input, a television output, a processor, memory, and storage therein,

a busing architecture communicatively interconnecting the television input, the television output, the processor, the memory, and the storage,

the television input configured to receive a source signal from an external source,

the television output configured to forward a fully tuned signal to a display, and

the memory accessible to the processor, the memory including processor-executable instructions that, when executed, cause the processor to:

execute a technical protocol to make the set-top box and the display ready for use,

send an installation quality assurance signal relative to the execution of the technical protocol; and

a server located remote to the room, the server including:

a housing securing inputs, outputs, a processor, memory, and storage therein,

a busing architecture communicatively interconnecting the inputs, outputs, the processor, the memory, and the storage, and

the memory accessible to the processor, the memory including processor-executable instructions that, when executed, cause the processor to:

receive the installation quality assurance signal from the set-top box,

establish installation quality assurance of the room based on the installation quality assurance signal,

substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room, first media relative to an image of a unique identifier of the room, second media relative to a unique identifier of the set-top box, and third media relative to a physical connection between the set-top box and the display,

establish physical quality assurance of the room based on the first, second, and third media,

rendering a map view of the hospitality establishment based on obtained map data, the map view including a graphical representation of the room and a plurality of other rooms at the hospitality establishment, and

annotating the graphical representation of the room with at least one of the first, second, and third media.

2. The system as recited in claim **1**, wherein the hospitality establishment is selected from the group consisting of furnished multi-family residences, dormitories, lodging establishments, hotels, hospitals, and multi-unit environments.

3. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to render a 3-D perspective view of the hospitality establishment.

4. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to render a multi-floor view of the hospitality establishment.

5. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to render a 2-D top plan view of at least a portion the hospitality establishment.

6. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to render a map view of a floor of the hospitality establishment.

7. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to least partially integrate the at least one of the first, second, and third media into the graphical representation of the room.

8. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to at least partially combine the at least one of the first, second, and third media with the graphical representation of the room.

9. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to annotate the graphical representation of the room with data relative to the installation quality assurance.

10. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to annotate the graphical representation of the room with data relative to the physical quality assurance.

11. The set-top box as recited in claim **1**, wherein the proximate wireless-enabled interactive programmable

device comprises a device selected from the group consisting of personal computers, laptops, tablet computers, smart phones, and smart watches.

12. The system as recited in claim **1**, wherein the installation quality assurance further comprises at least one task selected from the group consisting of verifying the room is online; verifying the room has passed a self-test; verifying the room is free of TV connection issues, HDMI connection issues, and TV control connection issues; verifying that the set-top box satisfies RF specifications; verifying that Bluetooth® devices are activated, verifying WiFi devices are activated, and verifying room number match.

13. The system as recited in claim **1**, wherein the first media further comprises an image of a room number on a door of the room.

14. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room, receive fourth media relative to a unique identifier of the display.

15. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room, receive fifth media relative to a welcome page on the display.

16. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room, receive sixth media relative to a machine-readable optical label that contains information about the status of the technical protocol.

17. The system as recited in claim **1**, wherein the processor-executable instructions of the server further comprise processor-executable instructions that, when executed, cause the processor to substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room, receive seventh media relative to guest room spaces within the room.

18. The system as recited in claim **17**, wherein the seventh media relative to guest room spaces within the room further comprises audiovisual media of the room selected from the group consisting of bathroom area audiovisual media, dressing area audiovisual media, clothes storage area audiovisual media, sleeping area audiovisual media, work area audiovisual media, entry area audiovisual media, window view audiovisual media, and hallway area audiovisual media.

19. A system for entertainment center technical configuration, the system comprising:

a set-top box located in a room at a hospitality establishment having a plurality of rooms, the set-top box including:

a housing securing a television input, a television output, a processor, memory, and storage therein,

a busing architecture communicatively interconnecting the television input, the television output, the processor, the memory, and the storage,

the television input configured to receive a source signal from an external source,

the television output configured to forward a fully tuned signal to a display, and

the memory accessible to the processor, the memory including processor-executable instructions that, when executed, cause the processor to:

execute a technical protocol to make the set-top box and the display ready for use,

send an installation quality assurance signal relative to the execution of the technical protocol, generate a human-readable visual label that contains information about the status of the technical protocol;

generate a machine-readable optical label that contains information about the status of the technical protocol, the machine-readable optical label includes diagnostic information for escalated and remote trouble shooting about the status of the technical protocol,

forward, via the television output, the output signal including the human-readable visual label and the machine-readable optical label to the television, and

dynamically update the human-readable visual label and the machine-readable optical label as the status of the technical protocol changes; and

a server located remote to the room, the server including:

a housing securing inputs, outputs, a processor, memory, and storage therein,

a busing architecture communicatively interconnecting the inputs, outputs, the processor, the memory, and the storage, and

the memory accessible to the processor, the memory including processor-executable instructions that, when executed, cause the processor to:

receive the installation quality assurance signal from the set-top box,

establish installation quality assurance of the room based on the installation quality assurance signal,

substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room, first media relative to an image of a unique identifier of the room, second media relative to a unique identifier of the set-top box, and third media relative to a physical connection between the set-top box and the display, receive fourth media relative to a unique identifier of the display, receive fifth media relative to a welcome page on the display, and sixth media relative to a machine-readable optical label that contains information about the status of the technical protocol,

establish physical quality assurance of the room based on the first, second, third, fourth, fifth, and sixth media,

rendering a map view of the hospitality establishment based on obtained map data, the map view including a graphical representation of the room and a plurality of other rooms at the hospitality establishment, and

annotating the graphical representation of the room with at least one of the first, second, third, fourth, fifth, and sixth media.

20. A system for entertainment center technical configuration, the system comprising:

a set-top box located in a room at a hospitality establishment having a plurality of rooms, the set-top box including:

a housing securing a television input, a television output, a processor, memory, and storage therein,

a busing architecture communicatively interconnecting the television input, the television output, the processor, the memory, and the storage,

the television input configured to receive a source signal from an external source,

the television output configured to forward a fully tuned signal to a display, and

the memory accessible to the processor, the memory including processor-executable instructions that, when executed, cause the processor to:

execute a technical protocol to make the set-top box and the display ready for use,

send an installation quality assurance signal relative to the execution of the technical protocol, generate a human-readable visual label that contains information about the status of the technical protocol;

generate a machine-readable optical label that contains information about the status of the technical protocol, the machine-readable optical label includes diagnostic information for escalated and remote trouble shooting about the status of the technical protocol,

forward, via the television output, the output signal including the human-readable visual label and the machine-readable optical label to the television, and

dynamically update the human-readable visual label and the machine-readable optical label as the status of the technical protocol changes; and

a server located remote to the room, the server including:

a housing securing inputs, outputs, a processor, memory, and storage therein,

a busing architecture communicatively interconnecting the inputs, outputs, the processor, the memory, and the storage, and

the memory accessible to the processor, the memory including processor-executable instructions that, when executed, cause the processor to:

receive the installation quality assurance signal from the set-top box,

establish installation quality assurance of the room based on the installation quality assurance signal,

substantially contemporaneously with the execution of the technical protocol to make the set-top box and the display ready for use, receive from a proximate wireless-enabled interactive programmable device located within the room, first media relative to an image of a unique identifier of the room, second media relative to a unique identifier of the set-top box, and third media relative to a physical connection between the set-top box and the display, receive fourth media relative to a unique identifier of the display, receive fifth media relative to a welcome page on the display, sixth media relative to a machine-readable optical label that contains information about the status of the technical protocol, receive seventh media relative to guest room spaces within the room,

establish physical quality assurance of the room based on the first, second, third, fourth, fifth, and sixth media,

establish furnishings and amenities in the room based on the seventh media,

rendering a map view of the hospitality establishment based on obtained map data, the map view including a graphical representation of the room and a plurality of other rooms at the hospitality establishment, and

annotating the graphical representation of the room with at least one of the first, second, third, fourth, fifth, and sixth media.

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