

A

- some flowcharts would make 3147 clearer
- Good job covering "setup" + website display

DETAILED DESCRIPTION OF THE INVENTION

- some word choices + order choices could be re-thought

Embodiments

[0001] Figure 1 shows an interactive scavenger hunt system 100 that uses QR code scanning or GPS location tracking to complete tasks according to one of the embodiments of the invention. The system includes a server 110, an events database 111, an events manager smartphone 115, a participant smartphone 120, a QR code 121, a GPS location 122, a lighted device 125, a website 130, and an observer smartphone 135.

[0002] In the interactive scavenger hunt system 100, the server 110 communicates with the events manager smartphone 115, the participant smartphone 120, and the lighted device 125 using a wireless network. The events manager smartphone 115 wirelessly communicates with the participant smartphone 120 and the website 130 using a wireless network. The participant smartphone 120 is wirelessly connected to the lighted device 125. The server communicates with the website 130 by electrical connection. The website 130 wirelessly communicates to an observer smartphone 135 by wireless network. The events database 111 is stored in the memory of the server 110. The QR code 121 is captured as an image on the participant smartphone 120 and the GPS location is determined using a GPS receiver that is present in the participant smartphone 120.

task list?
task set?

[0003] An events manager uses the events manager smartphone 115 to initiate a new scavenger hunt by establishing a wireless connection with the server 110. The events manager smartphone 115 is then used to determine the events that are to be completed by the participants of the scavenger hunt. The events manager has the option of choosing from a series of events that is already present on the events database 111, personalizing one of these already present series of events on the database 111, or designing his or her own series of events. The events can require the participant to find and scan a QR code

as shown in Figure 1...

or for the participant to go to a certain location. The series of events that is chosen by the events manager must be completed sequentially in the order that is determined by the events manager.

[0004] After the scavenger hunt has been created by the events manager, the events manager smartphone 115 sends a link to the participant smartphone 120 so that it can be registered. The link includes an identifier that connects it to the part of the database 111 that contains the information for the scavenger hunt that was created by the events manager. When the link is selected on the participant smartphone 120, the participant smartphone 120 wirelessly connects to the server 110 and the participant enters the participant smartphone 120 number so that the server 110 may communicate with the participant smartphone 120 during the scavenger hunt. As part of this process, the participant smartphone downloads an application present on the server 110 that will allow the participant to stay connected to and communicate with the server 110 for the duration of the scavenger hunt. The events manager can monitor the registration process using the events manager smartphone 115 to ensure that the participant has enabled the wireless connection between the participant smartphone 120 and the server 110.

Flow Chart

[0005] The participants complete events either by finding a QR code 121 or by going to a certain location. The participant smartphone 120 is used to take an image of the QR code 121 which is then sent wirelessly to the server 110. The server 110 then sends back to the participant smartphone 120 data that has been determined by the events manager to correspond with the QR code that was found. The data that is sent to the participant smartphone is video, audio, or text. Alternatively, the GPS location 122 of the participant smartphone 120 could be used to complete an event rather than a QR code 121. The

Flow Chart ?

server 110 monitors the GPS location 122 of the participant smartphone 120 and when the location matches one of the stored locations in the events database 111, data set by the events manager that corresponds to that location is sent from the server 110 to the participant smartphone 120. This data could again be video, audio, or text. The data that is sent to the participant smartphone 120 after finding the QR code 121 or arriving at the correct GPS location 122 gives the participant instructions on how to complete the next event.

the device is an event?

[0006] In operation, the lighted device 125 is part of one or more of the events that the participant must complete. Upon the completion of an event, the server 110 sends data to the participant smartphone 120 using the wireless connection. If the lighted device 125 is activated by the specific event, then the participant smartphone 120 will send a wireless signal to the lighted device 125 activate the lights contained within the lighted device 125. The lighted device 125 may also connect directly to the server 110, so that the server does not need to first send data to the participant smartphone 120 containing instructions to activate the lighted device 125, but instead sends this instruction straight to the lighted device 125.

Flow chart

[0007] As the participants are completing events, the memory in the server 110 holds the data that has been transmitted between the server 110 and the participant smartphone 120. This data is then recorded on a website 130 that can be viewed using an internet browser. This website 130 is available to the participant while the participant is engaging in events and after the completion of the scavenger hunt. The server 110 records the data on the website 130 so that the participant's progress may be tracked in real time. It also allows the participant to grant access to the website 130 to outside observers using the observer

*10 or points
Album
Below
in Flowchart
in Figure 1*

*also show
example of
website*


smartphone 135. The observer may further use the observer smartphone 135 to upload text, audio, or video to the website 130. The website 130 also includes a social media function that allows the participant to send updates of his or her progress to a provided social media account.


[0008] In another embodiment of the invention, there are one or more events that require both specific QR code images and specific locations as measured by GPS in order to be completed.

[0009] In another embodiment of the invention, uploaded audio or video from the participant smartphone 120 to the server 110 acts as the trigger for the completion of an event. On the receipt of the uploaded data, the server 110 will return data to the participant smartphone 120 that gives instructions on how to perform the next event. The events manager would be in control of making sure that the uploaded audio or video that was sent to the server 110 by the participant smartphone 120 is the audio or video that the instructions told the participant to send. If the uploaded file is incorrect, then the events manager can notify the participant that he or she needs to finish that event before continuing on to the next event. ✓

[0010] In another embodiment of the invention, the server 110 contains recognition software that allows it to recognize the contents of uploaded audio or video that is sent to the server 110 by one of the participant smartphones 120. The server 110 uses the recognition software to ensure that audio or video that is uploaded is what was asked for in the instructions sent to the participant smartphone 120 on how to complete the event. If the uploaded audio or video is not recognized by the recognition software on the server 110, then the server 110 returns a message to the participant smartphone stating that the

uploaded content is not correct and that the correct audio or video must be uploaded in order to receive the instructions for the next event.

[0011] In another embodiment of the invention, the participant completes an event and gains access to the QR code 121 by performing a specific task that is outlined by the instructions sent by the server 110 to the participant smartphone 120. *One step*  The task could be, for example, talking to a certain individual and saying a specific quote that is detailed in the instructions. After saying these words, the individual will then give the participant the QR code 121 so that the participant may take an image of it with the participant smartphone 120. Another example of the task that must be performed to complete an event may be that the participant must go to a specified store and buy a certain item that contains the QR code 121 that is needed to complete the event.

[0012] In another embodiment of the invention, there are multiple participant smartphones 120. In this case, the events manager 215 sends the registration link from the events manager smartphone 115 to each of the participant smartphones 120. When the participant smartphones 120 are registered on the server 110 by accessing the link provided by the events manager, the participant must indicate their participant smartphone number 120 and also their desired team affiliation. The participants may choose to complete the events together as a single team, or they may choose to have multiple teams that complete the tasks independently or compete against each other to see who can complete the tasks in the shortest amount of time. The events manager uses the events manager smartphone to monitor the registration process to ensure that each participant has signed up for the correct team. The events manager then initiates the beginning of the scavenger hunt once all of the expected participants have registered their 

participant smartphone 120. One of the options available when there are multiple teams competing against one another is to allow for the server 110 to send a message or a video to the other team when one team completes one of the events. This lets the other team know the progress of their opponents as they compete to see who can finish the fastest.

[0013] In another embodiment of the invention, the interactive scavenger hunt system 100 involves a series of events that extends over a long period of time and contains events that do not have to be completed in any preset sequential order. For example, the scavenger hunt may be open for a period of a month and contains 10 different events that the participants may complete. Each event has a point total that is shown to the participants. The participants then have the entire month to complete those events as many times as they choose in order to increase their point total. These events may involve scanning a QR code or may be based on the location of the participant smartphone 120 as determined by the GPS. The participant smartphone 120 will then transmit either the QR code data or the GPS location data to the server 110, and the points will be awarded to that participant. The server 110 will store the point totals for each of the competitors that have registered for that particular scavenger hunt. The winner is the participant that ends up with the highest point total for the announced duration of the scavenger hunt and participants can earn a prize depending on how well they do in the competition.

[0014] Figure 2 shows the registration system 200 for one of the embodiments of the invention. The system for registration includes a server 110 (as shown in Figure 1), a participant smartphone 120 (as shown in Figure 1), an events manager 215, an events manager smartphone 220, and an events link 225.

*Long too much w/ frequent
- Break up + add flowchart for
events functions*

*Separate
Flowchart*

[0015] The events manager 215 wirelessly communicates with the participant smartphone 120 using an events manager smartphone 220. The events manager 215 is also in wireless communication with the server 110 using the events manager smartphone 220. The participant smartphone 120 connects to the server 110 through a wireless network. The server then connects back to the participant smartphone 120 using the same wireless network. The events link 220 is stored on the events manager smartphone 220 under the control of the events manager 215. ✓

[0016] In operation, the events manager 215 sends the events link 220 using the events manager smartphone 220 to the participant smartphone 110. When the operator of the participant smartphone 120 selects the events link 220, it allows the participant smartphone 120 to communicate with the server 110. The events link 220 includes identification for the specific series of events that was selected by the events manager 215. The operator of the participant smartphone 120 can then enter the phone number of the participant smartphone 120 and choose which team and affiliation they would like. The events manager 215 can monitor the application process using the wireless connection with the server 110, so that the events manager 215 can ensure that the participant has registered his or her participant smartphone 120 with the server 110. Once the participant has registered the participant smartphone 210, the events manager 215 will begin the scavenger hunt. ✓

Flow chart

[0017] In another embodiment of the invention, the participant smartphone 120 is instead another kind of portable computing device that is able to communicate through a wireless connection with the events manager 215 and the server 110.

[0018] In another embodiment of the invention, there are multiple participants. Each of the participants has to register his or her own participant smartphone 120 with the server. The participants will be split into teams that compete against each other to see which team can complete all of the events the fastest. When registering the participant smartphone 120, the participant will choose which team he or she would like to be on. The events manager 215 can monitor which participants are on which teams and can ensure that the desired teams are created. ✓

[0019] In another embodiment of the invention, the participants choose a team but not an affiliation. In this embodiment there is no head to head competition between the participants, but all of the participants act together to try to complete the tasks that constitute the scavenger hunt.

[0020] In another embodiment of the invention, the events manager 215 does not send the registration link to the participant smartphone 120 through a wireless connection, but instead the events manager 215 sends the event link through a wired connection.

[0021] In another embodiment of the invention, the participant smartphone 120 connects with the server 110 through a wired connection.

[0022] Figure 3 shows an embodiment of the system used to scan a QR code 330 using a participant smartphone 120 to trigger future instructions to be used for events. This system includes a server 110, server memory 311 for storing data, a QR code database 312, a GPS location database 313 and a server transceiver 314. There is also a participant smartphone 120 that includes a camera 321, a QR code reader 322, a phone transceiver 323, phone memory 324, a GPS receiver 325, and a visual display 326. The system also includes at least one QR code 330. ✓

[0023] A picture of the QR code 330 is taken by the camera 321 on the participant smartphone 120. The participant smartphone 120 is wirelessly connected to the server 610. In turn, the server 110 can transmit data by the same wireless connection back to the participant smartphone 120.

[0024] The server 110 contains server memory 311 which holds a QR code database 312 and a GPS location database 313. It also contains a server transceiver 314.

[0025] The smartphone contains a camera 321, phone memory, and a phone transceiver 323 that allows it to send and receive data from the server transceiver 314. It also contains a QR code reader 322, which is a program that is able to decode the data contained in the QR code 330. The smartphone also has a GPS receiver 325 and a visual display 326 which can display graphics to a user.

[0026] In operation, the camera 321 on the participant smartphone 120 is used to take a picture of a QR code 330 that is found by one of the participants of the scavenger hunt. The QR code reader 322 on the participant smartphone 120 decodes the QR code 330 and puts the data into a form that can be recognized by the server 610. The phone transceiver 323 sends this data wirelessly to the server transceiver 314. The data is then stored in the memory of the server 110, where it is compared to the data already stored in the QR code database 312. When a match is found in the QR code database 312, this match corresponds to video, that was selected by the events manager 215 (as shown in Figure 2), and stored on the server 110. This video is then sent wirelessly from the server 110 using the server transceiver 313 to the participant smartphone 120 using the phone transceiver. The participant smartphone 120 can then display the video data using its visual display 326.



[0027] If the server 110 cannot find a match in the QR code database 613 for the QR code data sent by the participant smartphone 120, then a message will be sent back to the participant smartphone 120 stating that the QR code 330 does not match the code that the server 110 is looking for. This message will also be sent to the participant smartphone 120 if the code that is sent is done out of order and was supposed to be found for an earlier or a later event. ✓

[0028] An event may also be completed when the participant arrives at a predetermined location as measured by the GPS receiver 325 in the participant smartphone 120. The server 110 polls the location of the participant smartphone 120 at set time intervals, and the participant smartphone 120 sends the location to the server 110 using the phone transceiver 323. Also, set locations stored in the phone memory 324 alert the server when one of the set locations has been reached. When it is determined by the GPS receiver 325 that one of these locations is the present location of the participant smartphone 120, the participant smartphone 120 will send the data detailing that location to the server 110 using the phone transceiver 323. The server transceiver 314 receives the location data sent from the phone transceiver 323 and compares this data to the locations stored in the GPS location database 313. A matching location is found in the GPS location database 313, and this location stored in the GPS location database 313 corresponds to video data stored in the server memory 311. The video data is then sent by the server transceiver 314 back to the phone transceiver 323. The visual display 326 then shows this video to the participant and gives instructions on how to perform the next event in the scavenger hunt. ✓

Spent power

[0029] In another embodiment of the invention, the matching QR code or the matching GPS location match in the QR code database 312 or the GPS location database 313 corresponds to audio data that was previously loaded onto the server 110 by the events manager 215. This audio is then sent by the server transceiver 314 to the phone transceiver 323 and then played for the user of the participant smartphone 120. ✓

[0030] In another embodiment of the invention, the QR code match or the GPS match in the QR code database 312 or the GPS location database 313 corresponds to text that was previously loaded onto the server 110 by the events manager 215. This text is then sent by the server transceiver 314 to the phone transceiver 323 and then displayed by the visual display 326 of the participant smartphone 120.

[0031] In another embodiment of the invention, the participant smartphone 120 can be any portable computing device that is able to create an image of a QR code 330 and contains a QR code reader 322. This device must also have a GPS receiver 325 so that it may determine its location, and a transceiver so that it may communicate this information to the server 110. The device then must be able to display the video data or text that is returned by the server 110 or be able to play the audio that is returned by the server 110. ✓

[0032] In another embodiment of the invention, arriving at one of the predetermined locations could trigger anything in the vicinity that can be remotely controlled. The server 110 would have to be wirelessly connected to this remotely controlled object, and instead of sending the corresponding media files to participant smartphone 120 when the current location of the participant smartphone 120 matches a predetermined location stored on the server 110, the server 110 sends the audio or video to the remotely controlled object. For example, if the predetermined location is a specific bar, the server

110 could send video data to a TV in the bar that is able to receive wireless signals. The TV would then play the video to give the participants their directions on how to complete the event or on how to start the next event.

[0033] In another embodiment of the invention, there are multiple participants and multiple participant smartphones 120. These participants are split into one or more teams. There are one or more preset locations stored in the phone memory 324 of all of the participant smartphones 120. When one of the members of a team gets to the predetermined location, that participant smartphone sends a wireless signal to the server 110 and the server 110 returns the corresponding data to all of the members of the team.

[0034] In another embodiment of the invention, all of the members of the team must be at the predetermined location before the server sends the corresponding data to the members of the team. If all of the members of the team are not located within the boundaries of the predetermined location, then the server 110 will not send the media files that correspond with that predetermined location to the participant smartphones 120 of the members of that team.

[0035] Figure 4 shows a system for a lighted device 400 to be taken on the scavenger hunt by the participants. This system for a lighted device 400 includes a device transceiver 405, a microcontroller 410, a USB port 415, a rechargeable battery 420, a first LED light bank 425, a second LED light bank 430, and a third LED light bank 435, a lighted device 125 (as shown in Figure 1), a server 110 (as shown in Figure 1), and a server transceiver 314 (as shown in Figure 3). ✓

[0036] The lighted device 125 wirelessly communicates with the server 110. The wireless signals are sent and received using the device transceiver 405 for the lighted

device 305 and the server transceiver 314 for the server 110. The device transceiver communicates with the microcontroller 410 using an electric connection. The USB port 415 is also electrically connected to the microcontroller 410 and is electrically connected to the rechargeable battery 420. The microcontroller 410 is electrically connected to the first LED light bank 425, the second LED light bank 430, and the third LED light bank 435. The rechargeable battery 420 is electrically connected to and supplies power to the device transceiver 405, the microcontroller 410, the first LED light bank 425, the second LED light bank 430, and the third LED light bank 435.

As described in Flouvent.

[0037] The events manager 215 can make certain events in the scavenger hunt trigger the use of the lighted device 125. This trigger event can be scanning a QR code 330 or based on the GPS location of the participant smartphone 120 as outlined in Figure 6. When the trigger event has been satisfied, the lighted device 125 receives a wireless signal from the server 110. This signal is sent by the server transceiver 314 and received by the device transceiver 405 which then sends the information contained in the signal to the microcontroller 410. This information contains instructions for the microcontroller 410. The microcontroller 410 activates the first LED light bank 425, the second LED light bank 430, and the third LED light bank 435. The first LED light bank 425, the second LED light bank 430, and the third LED light bank 435 can be controlled so that the blink in a pre-programmed pattern or so that they stay solid once activated.

[0038] In another embodiment of the invention, there can be any number of banks of LED lights instead of having to have three separate banks of lights. For example, there could be only one bank of LED lights. Further, the colors of the banks of LED lights do

not have to be the same, but could be any color that is chosen. The color of the lights that are used can also be changed for different systems for lighted devices 400.

[0039] In another embodiment of the invention, not all of the banks of LED lights have to be lighted when a signal is sent from the server 110. For example, the server instructions that are sent to the lighted device 125 could make it so that only the first LED light bank 425 is turned on. Alternatively, the server 110 could instruct the microcontroller 410 to illuminate just the second LED light bank 430 and the third LED light bank 435 and leave the first LED light bank 425 unlit. ✓

[0040] In another embodiment of the invention, the lighted device 125 contains an internal hydraulic system that is remotely controlled using signals from the transceiver of the participant smartphone 120 or by direct connection to the server 110. Data is sent to the device transceiver 405 that activates the hydraulic system allowing the lighted device 125 to change its shape.

[0041] In another embodiment of the invention, the lighted device 125 vibrates upon completion of the triggering event.

[0042] In another embodiment of the invention, the lighted device 125 communicates directly with the participant smartphone 120 using a wireless connection and the device transceiver 405. The server 110 sends a signal to the participant smartphone 120. The participant smartphone 120 then wirelessly relays the signal sent by the server 110 to the lighted device 125. The signal then tells the microcontroller 410 to illuminate the first LED light bank 425, the second LED light bank 430, and the third LED light bank 435. This is an alternate option that may be used instead of direct communication between the ✓

server 110 and the lighted device 125 and may be used if for some reason the server 110 needs to first contact the participant smartphone 120 instead of the lighted device 125.

[0043] In another embodiment of the invention, the lighted device 125 can send data using the cellular transceiver 310 instead of just receive data. It may communicate with either the participant smartphone 120 or it may also communicate with the server 110. ✓


[0044] Figure 4 shows a method to determine scavenger hunt attributes ~~500~~ used by the events manager to configure the events to be completed during the scavenger hunt. The method for designing the scavenger hunt includes a first step 505, a second step 510, a third step 515, a fourth step 520, a fifth step 525, a sixth step 530, a seventh step 535, an eighth step 540, a ninth step 545, a tenth step 550, an eleventh step 555, a decision 660, and a final step 665. *Handwritten: show example in description*

[0045] The first step 505 is to select a title for the scavenger hunt. The title simply acts as an identifier of the series of steps involved in the scavenger hunt and comprises of text inserted by the events manager 215 (as shown in Figure 2). The second step 510 is to set the estimated length of time that it should take to complete all of the tasks. This will serve as a guideline to the participants as to how much time they should expect to devote to completing the scavenger hunt. The third step 515 is for the events manager 215 to set the start location. This can be expressed either as an address or as a GPS location to where the participants should start the scavenger hunt. ✓

[0046] After the details for where the scavenger hunt should start have been input, the fourth step 520 is to enter the event number. This number represents the sequence of the specific event that is being input. The fifth step 525 is to enter the mode of travel to the current event which number was input in the fourth step 520. Inputting the mode of

travel in the fifth step 525 allows for the determination of the travel time. There are three different choices that the events manager 215 can make in the fifth step 525. One choice of travel is by foot. If this is chosen, the travel time is set to a default value of 3 miles per hour. The second possible choice is by car, and if this is chosen, the travel time is determined from an online mapping website. The final possibility allows the events manager 215 to enter his or her own travel time. This value leads to the sixth step 530, which is to record the total travel time as determined by the mode of transportation that was entered in the fifth step 525. The sixth step 530 also depends on the event location which is entered in the eighth step 540.

[0047] Once the travel details have been entered, the seventh step is for the events manager 215 to enter the completion time of the event. This value is an estimation made by the events manager 215. The eighth step 540, as previously mentioned, is to input the event location. This location may be entered by the events manager 215 either as an address or as a GPS location where the event is to take place. The ninth step 545 is to add an event summary. This is a short description of the event in a story-like format that will be used to publish to the website 130. The tenth step 550 is to add a description of the specific event tasks. This is a more detailed description of the event than what is added in the ninth step 545 as the event summary. The eleventh step 555 is to set the event actions. In this step, the events manager 215 decides which specific actions and triggers will take place during the current event. There are several different types of actions which may be chosen. A proximity based action uses GPS sensors to allow for event completion based on location. The action may also be QR Code based and require scanning an appropriate QR code. The events manager 215 may also make the event



time based where completion of the task is triggered by time elapsing from a set event. The action may also be based on the other team or could be initiated by the participants themselves by uploading video or text to the server 110. The final action option is to control the lighted device 125. The possibilities within these actions are shown in further detail in Figure 5.

[0048] The decision 660 is whether the events manager 215 wishes to add another event to the scavenger hunt. If the answer is yes, then the events manager 215 is sent back to the fourth step 520 and prompted to enter the new event number. The events manager 215 will then repeat step four 420 through step eleven 455 and then return to decision 660. If the answer to decision 660 is no, then the events manager is sent to step twelve 465, where the configuration of the scavenger hunt is finished. ✓

[0049] In another embodiment, the method to determine the scavenger hunt attributes 500 is pre-configured so that all of the steps have already been completed. The data used for the each of the steps is stored on the server 110. The events manager 215 just needs to choose from the already configured scavenger hunts and no more action is required.

[0050] In another embodiment, each of the steps and the decision 660 has been pre-configured, but the events manager 215, is allowed to personalize the steps by choosing from a variety of options. The server 110 contains at least two versions for each of the pre-configured scavenger hunts. These versions may differ in the length of time that it takes to complete and can also vary the specific events and actions that are to be performed by the participants. The pre-configured options may be changed depending on the location of the participants and the time of year that the scavenger hunt is performed.

[0051] In another embodiment, the events manager 215 is not required to choose the scavenger hunt attributes 500, but any individual or group of people may choose the scavenger hunt attributes 500.

[0052] In another embodiment of the invention, multiple events can be created so that they may be completed in parallel rather than in sequential order. The instructions for multiple events in the scavenger hunt would be distributed to the participants at the same time. The participants would then be able to choose the order in which they wanted to complete these events instead of being given only one event at a time, and the participant would have to complete that event before moving on to the next one. ✓

[0053] In another embodiment of the invention, it would be possible for the events manager 215 to create an adaptive scavenger hunt. This would allow for different events based on a path that is chosen by the participant. For example, instead of receiving directions for just one event, the participant would get to choose between two or more events to perform. The option that is chosen leads to a series of events that is totally different than the series of events that would follow if one of the other events had been chosen. The events manager 215 would have to create a series of events to follow each choice, but it would be possible that not all of these events would be completed depending on what choices the participant makes.

[0054] Figure 6 shows a method for setting the actions and triggers 600 that take place during the scavenger hunt. This method includes a first decision 610, a first step 611, a second step 612, a third step 613, a second decision 620, a fourth step 621, a fifth step 622, a third decision 630, a sixth step 631, a seventh step 632, a fourth decision 640, an eighth step 641, a fifth decision 650, a ninth step 651, a tenth step 652, a sixth decision ✓

*good job
developing
steps*

In terms of order, would it be easier to explain the invention if Figs 5+6 came earlier?

660, an eleventh step 661, a twelfth step 662, a thirteenth step 663, a fourteenth step 664, a fifteenth step 665, and a sixteenth step 666.

[0055] The first decision 610 that must be made by the events manager 215 is whether the action is going to be proximity based. A proximity based action uses the GPS receiver 325 in the participant smartphone 120. If the answer to the first decision 610 is yes, that the action is going to be proximity based, then the events manager 215 must go to the first step 611. This step requires the input of information regarding the action to be taken when the given proximity is entered by the scavenger hunt participants. The events manager 215 must set the GPS coordinates for the location, and also set the video, audio, and/or text that is to be delivered to the scavenger hunt participants. The second step 612 is for the events manager 215 to input the data for the action to be taken upon leaving the set proximity. This requires setting the GPS location that denotes leaving the proximity and setting the video, audio, and/or text that is delivered to the participants when they reach that location. The third step 613, if desired, is to set the action to be taken after a set period of time at a given location. The events manager 215 inputs the GPS coordinates of the location desired, and then sets the time that must elapse before a chosen video, audio, and/or text is sent to the participants. ✓

[0056] If the answer to the first decision 610 is no, then a second decision 620 must be made where the events manager 215 chooses whether the action is going to be based on the scanning of a QR code. If this answer is yes, then action taken at the QR code must be set by the events manager 215 at step four 621. The events manager 215 sets the code that must be scanned to complete the action, and also sets the video, audio, and/or text that is sent to the participants upon scanning of the code. Then step five 622 is for the ✓

action to be taken at an input time after the QR code has been scanned. The events manager must set the code that must be scanned and set the time that must elapse before the action is sent. Then, the video, audio, or text that is to be sent to the participants is set.

[0057] If the answer to the second decision 620 is no, then a third decision 630 arises where the events manager must choose whether the action is to be strictly time based. A strictly time based action is triggered by time elapsing from a given event. The sixth step 631 is used if the event depends on the amount of time elapsed from the participants reaching a set location. The events manager 215 sets the location using GPS coordinates, sets the time that must elapse before the action occurs, and then sets the video, audio, and/or text that is to be sent to the participants. The seventh step 632 is to set an action that is triggered from time elapsed from the scanning of a QR code. The events manager 215 sets the code that must be scanned, the amount of time to wait from the scanning of the code, and the audio, video, and/or text that is to be sent to the participants.

[0058] If the answer to the third decision 630 is no, then the events manager 215 is led to the fourth decision 640 which asks if the action is to send the other team a new task to complete. If the answer to the fourth decision 640 is yes, then the eighth step 641 is to set the parameters for the event that is to be sent to the participants that are on the other team. To set the parameters, the events manager 215 sets the event that the other team must perform and then sets the video, audio, and/or text that will describe that event.

[0059] If the answer to the fourth decision 640 is no, then a fifth decision 650 must be made on whether the action will be initiated by content uploaded by the participants themselves. If yes, then the ninth step 651 is to set the video, audio, and/or text that is to

be sent to the participant when the participant uploads a video to the server 110. The tenth step 652 is to set the video, audio, and/or text that is to be sent to the participant when the participant uploads text to the server 110.

[0060] If the answer to the fifth decision 650 is no, then the sixth decision 660 must be considered. The sixth decision 660 asks if the action to be taken is to control the lighted device 125. If the answer is yes, then the eleventh step 661 is to set whether LED 1 is to be on or off. The twelfth step 662 is to set whether LED 2 is to be on or off. The thirteenth step 663 is to set whether LED 3 will be on or off. The fourteenth step 664 is to set whether the lighted device 125 will have blinking lights. This can be done by choosing which of LED 1, LED 2, or LED 3 will be blinking and the fifteenth step 665 is to set the sequence in which these lights will blink. The sixteenth step 666 is to set whether the lighted device 125 should have no lights and just be off.

[0061] In another embodiment, the action can be sound based where capturing set audio would allow for the completion of an event rather than having the event by QR code based or proximity based.

[0062] In another embodiment, the events manager 215 is not required to choose the actions and triggers 600 for events, but any individual or group may choose the actions and triggers 600 for events.

[0063] Figure 7 displays a system for a record-keeping website 700 according to one of the embodiments of the invention. The system includes a server 110 (as shown in Figure 1), a website 710, the narrative 711, other team entries 712, additional entries 713, observer entries 714, badges 715, records 716, and a social media website 720.

include sample display from monitor disclosure

[0064] The server 110 is electrically connected to the website 710. The server 110 is also electrically connected to the social media website 720. The narrative 711, other team entries 712, additional entries 713, observer entries 714, badges 715, and the records 716 are all text that is posted on the website 710.

[0065] In operation, the server 110 holds data regarding each individual scavenger hunt in the server memory 311 (as shown in Figure 6). The data that is recorded in the server memory 311 includes the video, audio, and text that is sent to the participant smartphone 120 (as shown in Figure 1) to instruct the participants on how to perform the next event in the scavenger hunt. It also includes any video or audio that is uploaded by the participants in completing an event. The data that is stored on the server 110 is available to post on the website 710 at the same time as that data is sent to or from the participant smartphone 120. The website 710 is accessible by the participants as they are performing events specified in the scavenger hunt and it is also available to other viewers who can track the progress of the participants. ✓

[0066] In operation, the narrative 711 section of the website 710 creates a record of the progress of the participants of the scavenger hunt. Each scavenger hunt event is shown in the narrative in the order in which it was completed by the participants. The narrative 711 includes the background story of the scavenger hunt displayed on the website 710 as text. Additionally, it gives information about the participants, and also about time and location aspects of the scavenger hunt. The information about the participants can include the names of each of the individuals and also their team affiliations. The time and location information includes the location of each of the events as well as the time at which the participants arrived at and left each event location. The narrative 711 also ✓

includes the location and time of the participants at the periodic intervals at which the server 110 polls the location of the participant smartphone 120 determined using the GPS receiver 325. In addition to text describing the events performed by the participants and the periodic time and location data of the participants, the narrative 711 also displays the video, audio, and images that are delivered to the participant smartphone 120 upon the beginning or completion of scavenger hunt events. The goal of the narrative 711 is to provide a historical record of all of the actions of the participants so that they are able to revisit the scavenger hunt once it has been finished, and they can review it at any time they desire. ✓

[0067] In operation, another feature of the website 710 is other team entries 712. The participants on an opposing team may upload messages or pictures to be displayed on the other team's website 710. This allows for more interaction between each of the teams. A similar option is to allow for the participants of the other team to send text, photos, or video straight to the participant smartphone 120 of members of the other team while the scavenger hunt is in operation. This data is delivered to the participant, but is also recorded on the team's website 710. The website 710 also includes the option for the participants to exclude the other team entries 712 so that they cannot be viewed along with the normal entries of the narrative 711. ✓

[0068] In operation, the website 710 also contains space for additional entries 713 made by the team for whom the website 710 is keeping records. The participants on the team can upload their own pictures, comments, and videos to display on the website 710 in addition to those that are already included in the narrative 711. This data can be

uploaded during the scavenger hunt, or could be added later after all of the events have been completed.

[0069] The website 710 can also allow for observer entries 714 that are posted by people who are not participating in the scavenger hunt. The events manager 215 can send a link to desired observers that allows that observer to upload data, like text or video, onto the website 710 while the scavenger hunt is taking place. This allows an observer to provide advice for the participants during the scavenger hunt or to simply make comments. The participants can then view this data by accessing the website 710. Observer entries 714 may also be made after the scavenger hunt has been completed. Observers may make comments on the website 710 and discuss information posted in the narrative 711 and respond to the other team entries 712 and additional entries 713. ✓

[0070] In one embodiment, the website 710 includes a system of badges 715 that are awarded to individual participants for completing scavenger hunts or completing other events. These other events may be specific events that are completed or badges 715 may be awarded for completing multiple events. The badges 715 are represented as icons and may contain a hyperlink that leads the viewer of the website 715 to a description of the badge 715 or lead directly to the specific narrative 711 in which it was earned. The badges 715 act as a reward and to encourage people to participate in more scavenger hunts as people want to build their collection of badges 715. The badges 715 also act as advertising as they will be on display for anyone to view when they visit the website 710. ✓

[0071] In addition to the badges 715, the website 710 can also contain a section for participant records 716. This will be a page on the website 710 that contains statistics about the scavenger hunts that have been completed. For example, the records 716 may

show the fastest completion times for the month in each of the preset scavenger hunts. The records 716 are meant to help retain the consumers that are competitive and will participate in more scavenger hunts in order to build their statistics.

[0072] In operation, the events manager 215 can configure the server 110 to update a social media website 730 upon the completion of events. The events manager 215 or the participants themselves provide their information for access to the social media website 130. This information is stored in the server memory 311 and the server 110 will submit an update to the social media website 730. The social media website 730 will display information about the events that have been completed and a link to the website 710. This will allow participants to display their achievements on their personal social media website 730 page and will also provide for extra advertising and awareness for the company 810 (as shown in Figure 8). ✓

[0073] In another embodiment of the invention, the website 710 is only accessible to the participants in the scavenger hunt and to other viewers who are authorized to access the website 710. Those that are authorized may include just the participants, or could also include those observers that receive a link from the events manager 215. There also remains the option that the website 710 is left open to anyone. ✓

[0074] In another embodiment of the invention, the completion of an event does not update a social media website 720 if there is no social media information provided to the server.

[0075] Figure 8 shows a ~~business method~~ 800 of making money using the interactive scavenger hunt system 100 according to one embodiment of the invention. The business

Floucbout - not a claim

method includes a company 810, consumers 820, businesses 830, sponsorship requiring a visit 831, sponsorship requiring purchase 832, and corporations 840.

[0076] The sponsorships requiring either a visit 831 or a purchase 832 are different options that businesses can choose from. The consumers 820, businesses 830, and corporations 840 all make payments to the company 810 that hosts the scavenger hunts. ✓

[0077] The basic money making model is to charge the consumers 820, the people who are performing the events that have been given in the scavenger hunt. In this model, the consumers 820 pay a fee each time they start a new scavenger hunt.

[0078] The company 810 may also earn money by allowing for sponsorship by area businesses 830 of the predetermined scavenger hunts. A business 830 could choose the option of making a visit 831 to their store as one of the events to be completed by the participants. The business pays a fee to the company 810 to incorporate the visit 831 into a scavenger hunt with the goal of increasing traffic to the site. A business 820 may also pay a fee to have the scavenger hunt require that the participants make a purchase 832 from it in order to complete a task.

[0079] The company 810 may also receive payment from corporations 840 by organizing and designing scavenger hunts specifically for a corporate retreat or event.

[0080] In another embodiment of the invention, participants can make a payment to the company 810 to allow for certain events. For example, a participant could pay extra money to allow for communication with the opposing team. While some communication may be initially allowed, a dollar amount is set for each extra instance of communication, and the participants can choose to pay for as much or as little communication as they would like to have. ✓

[0081] In another embodiment of the invention, interaction with the social media website 720 is integrated into the scavenger hunt. This may be accomplished by not releasing the next set of event instructions to the participants for a set period of time. However, a certain number of comments or acknowledgements of the post on the social media website 720 would allow for this period of time to be reduced. The more comments or acknowledgements that are made, the less time it takes for the participants to get their next set of instructions. This process acts as advertisement as the participants will be incentivized to tell observers to check on their status in order to complete the scavenger hunt more quickly. ✓

[0082] In another embodiment of the invention, the participant smartphone 120 may be any portable computing device that contains a camera for taking an image of a QR code 121 and a GPS receiver 325 that allows it to determine its GPS location 122. The portable computing device must also be able to communicate wirelessly with the server 110 and with the lighted device 125. ✓

[0083] In another embodiment of the invention, any wireless connection can be substituted for a wired connection.

[0084] While particular elements, embodiments, and applications of the present invention have been shown and described, it is understood that the invention is not limited thereto because modifications may be made by those skilled in the art, particularly in light of the foregoing teaching. It is therefore contemplated by the appended claims to cover such modifications and incorporate those features which come within the spirit and scope of the invention.

CLAIMS

1. An image based system comprising:

a portable computing device, wherein said portable computing device includes a QR code reader, a camera, a visual display, and an rf transceiver;

a central server, wherein said server contains a server transceiver and stores at least one preset QR code data sequence and said preset QR code data sequence is associated with a media file;

wherein said server is in wireless connection with said portable computing device using said rf transceiver and said server transceiver;

a QR code, wherein said camera produces an image of said QR code and decodes said QR code using said QR code reader to create QR code data;

wherein said QR code data is sent wirelessly to said server where said QR code data is compared to said preset QR code data; and

when said QR code data matches said preset QR code data, said server wirelessly transmits said associated media file to said portable computing device.

2. The system described in claim 1, wherein said portable computing device is a smartphone.

3. The system described in claim 1, wherein said media file is a video file.

4. The system described in claim 1, wherein said media file is an audio file.

5. The system described in claim 1, wherein said media file is text.

Not Structural?

records?

*- is it displayed?
if not, dont need "visual display"*

6. The system described in claim 1, wherein said associated media file is displayed on said visual display of said portable computing device.

7. A location based system comprising:

a portable computing device, wherein said portable computing device includes a GPS receiver and an rf transceiver;

a central server, wherein said server stores at least one preset location as data in its memory and said preset location corresponds to a media file;

wherein said rf transceiver wirelessly sends location data to said server indicating the location of said portable computing device as calculated by said GPS receiver;

wherein said server compares said received location data to said preset location data; and

when said received location data matches said preset location data, said server transmits said associated media file to said portable computing device.

*- Erata
NO display here*

8. The system described in claim 7, wherein said portable computing device is a smartphone.

9. The system described in claim 7, wherein said media file is a video file.

10. The system described in claim 7, wherein said media file is an audio file.

11. The system described in claim 7, wherein said media file is text.

12. The system described in claim 7, wherein said associated media file is displayed on said visual display of said portable computing device.
13. The system described in claim 7, wherein there is a plurality of said portable computing devices, wherein said location data of all said portable computing devices must be equal to said preset location data before said server transmits said associated media file to said portable computing device.
14. A system comprising:
 - a portable computing device;
 - a central server comprising a server transceiver, wherein said server stores information and wirelessly communicates with said portable computing device said server transceiver;
 - a device containing a device transceiver and a microcontroller, wherein said device communicates wirelessly with said server using said device transceiver; and
 - at least one light within said device, wherein the occurrence of a trigger event causes said server transceiver to send a wireless signal to said device transceiver that instructs said microcontroller to illuminate said light, wherein said trigger event is taking an image of a predetermined QR code using said portable computing device or by said portable computing device detecting a GPS location inside a predetermined area.
15. The system in claim 14, wherein said portable computing device is a smartphone.
16. The system in claim 14, wherein said device further contains a rechargeable battery.

17. The system in claim 14, wherein said device vibrates upon the occurrence of said trigger event.

18. The system in claim 14, wherein said device contains internal hydraulics; and wherein said device changes shape upon occurrence of said trigger event using said internal hydraulics.

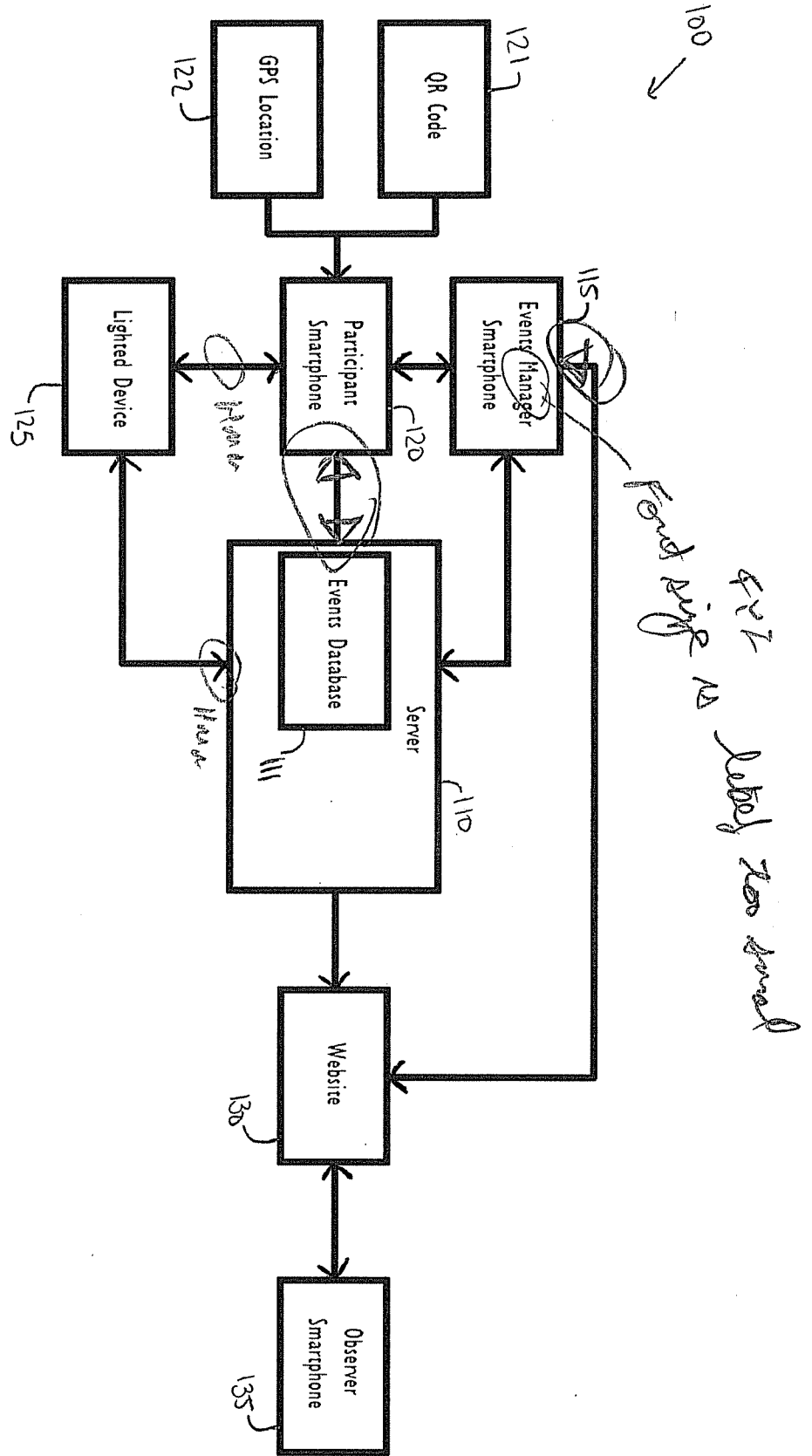


Fig. 1

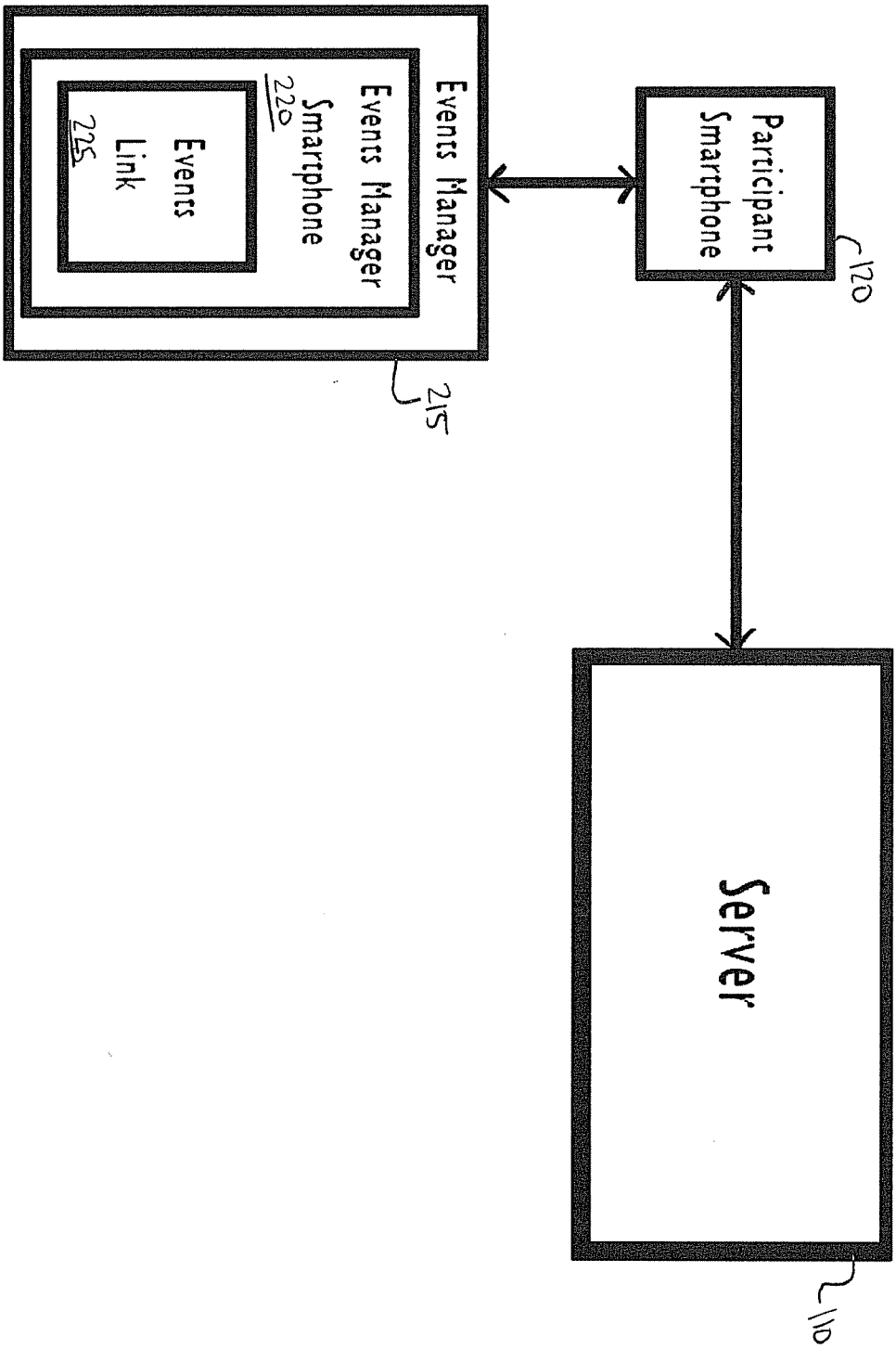


Fig. 2

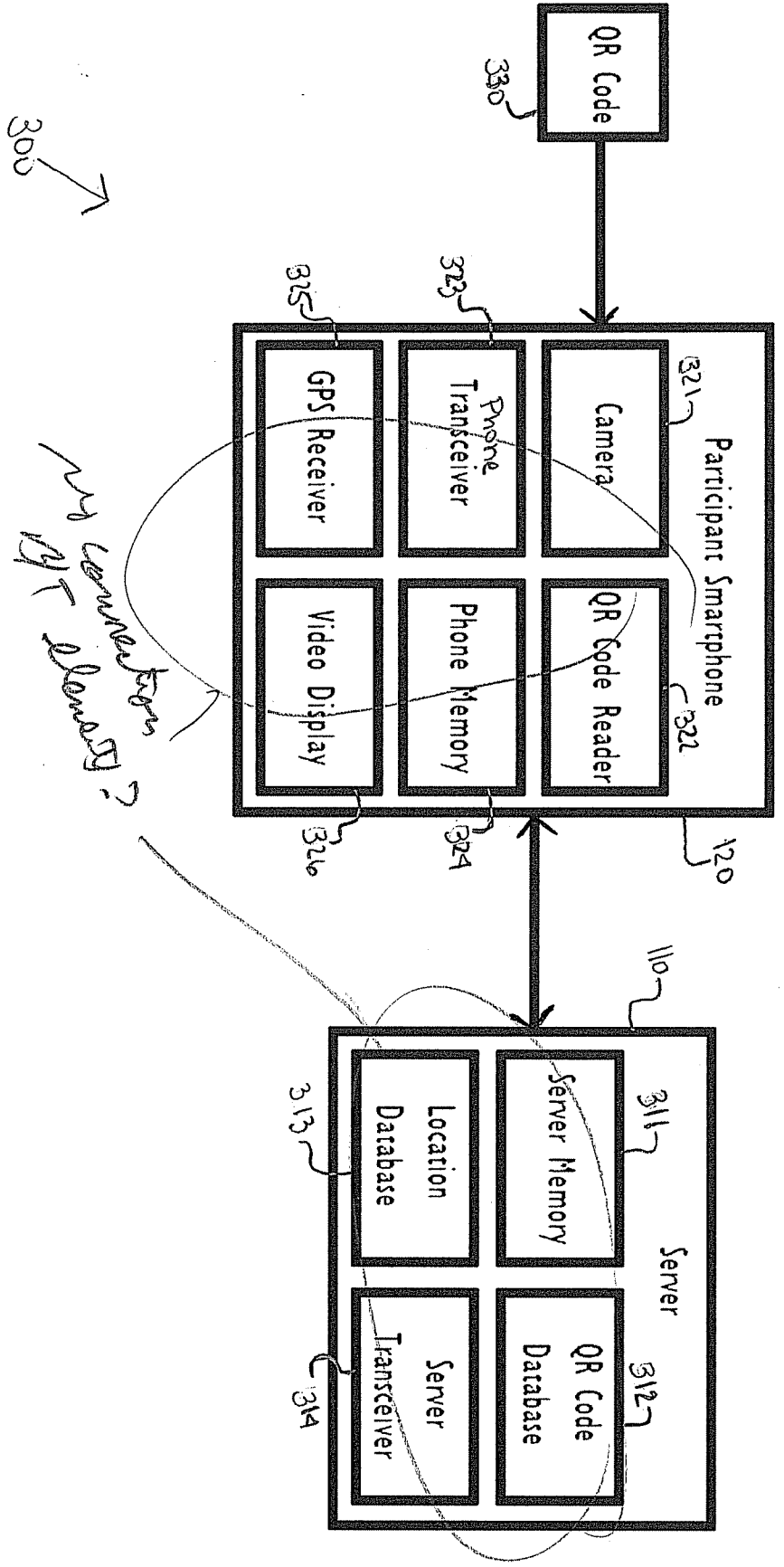
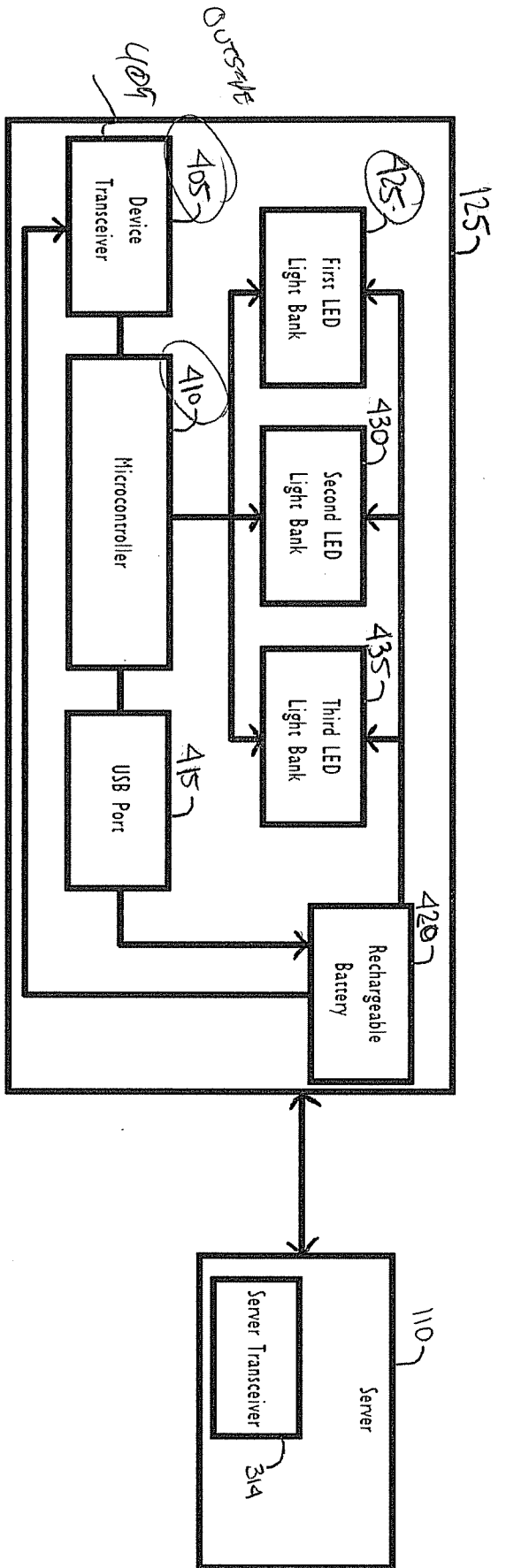


Fig. 3



400 ↗

Fig. 4

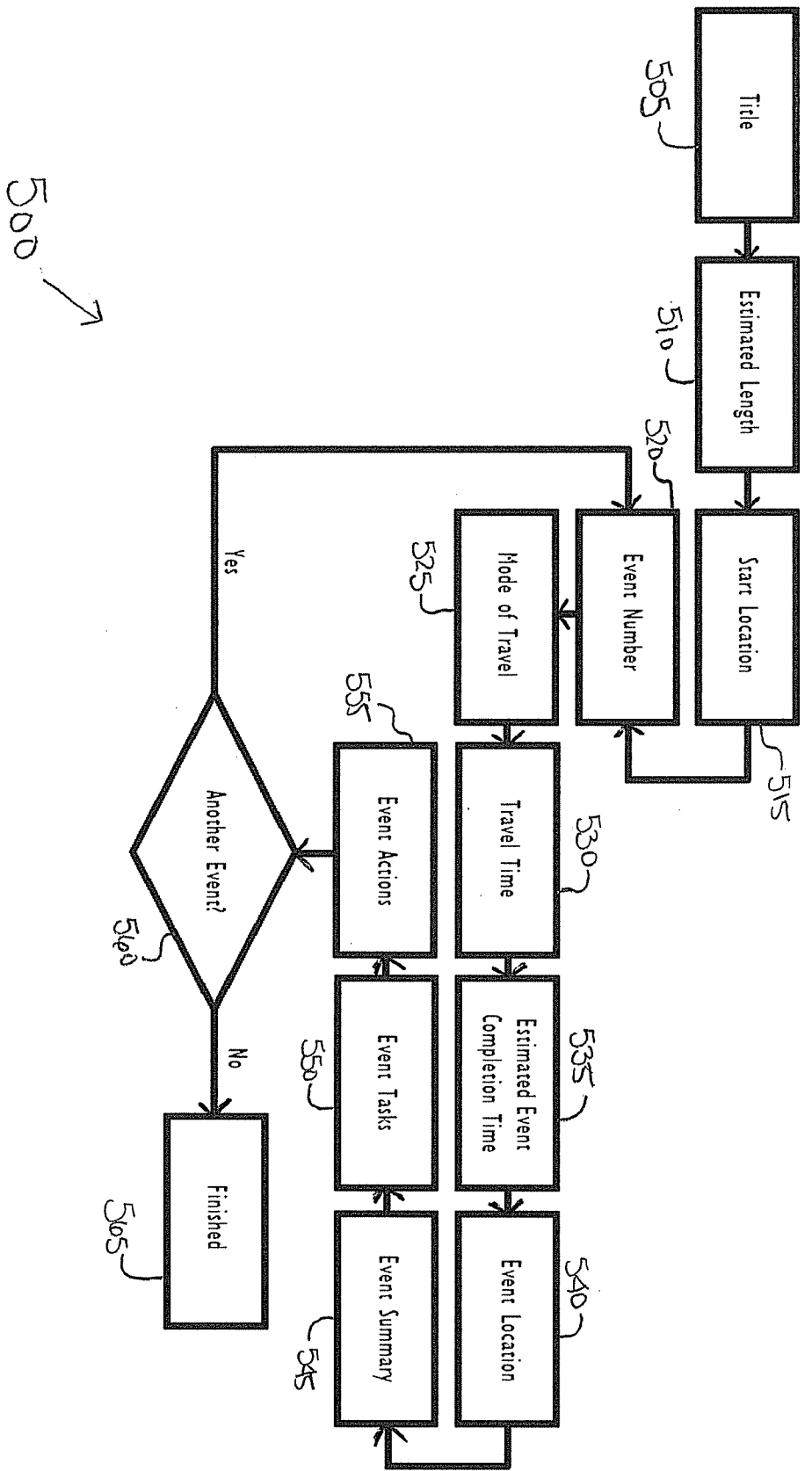
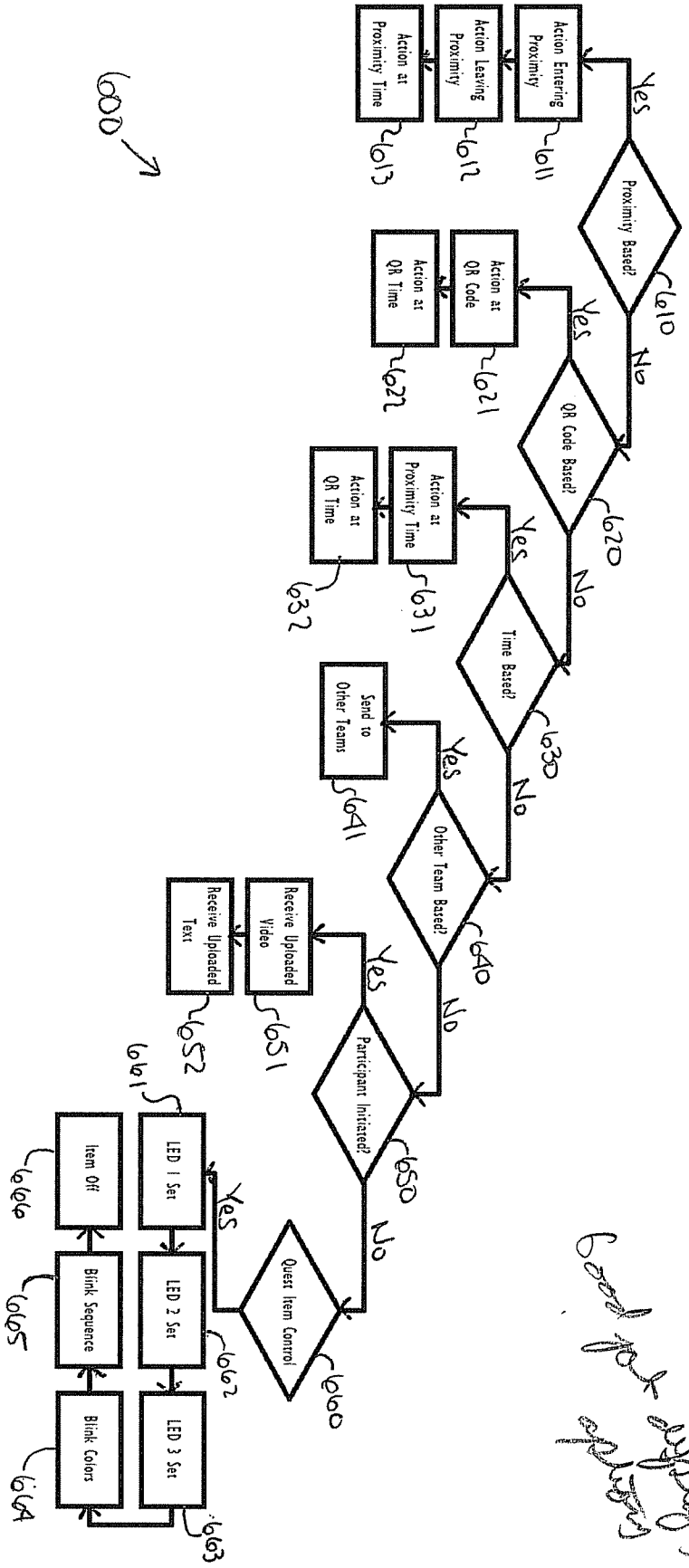


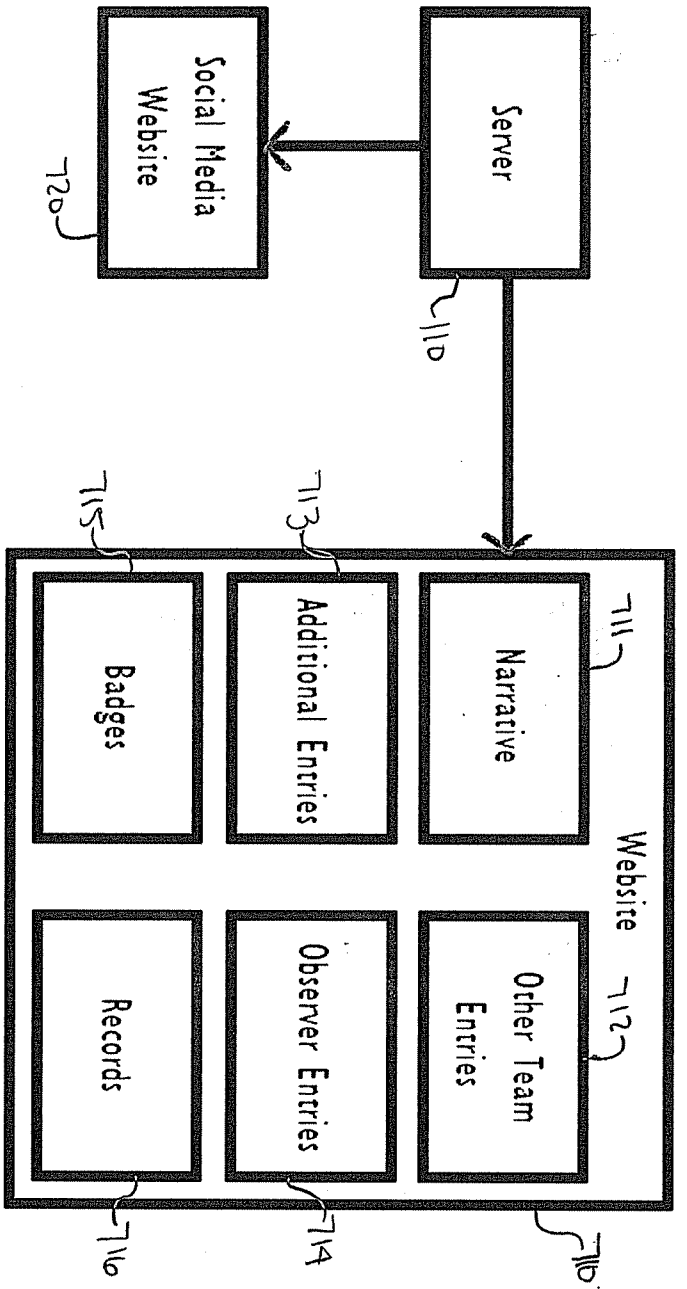
Fig. 5



6000 →

Based on the diagram

Fig. 6



700 ↗

Fig. 7

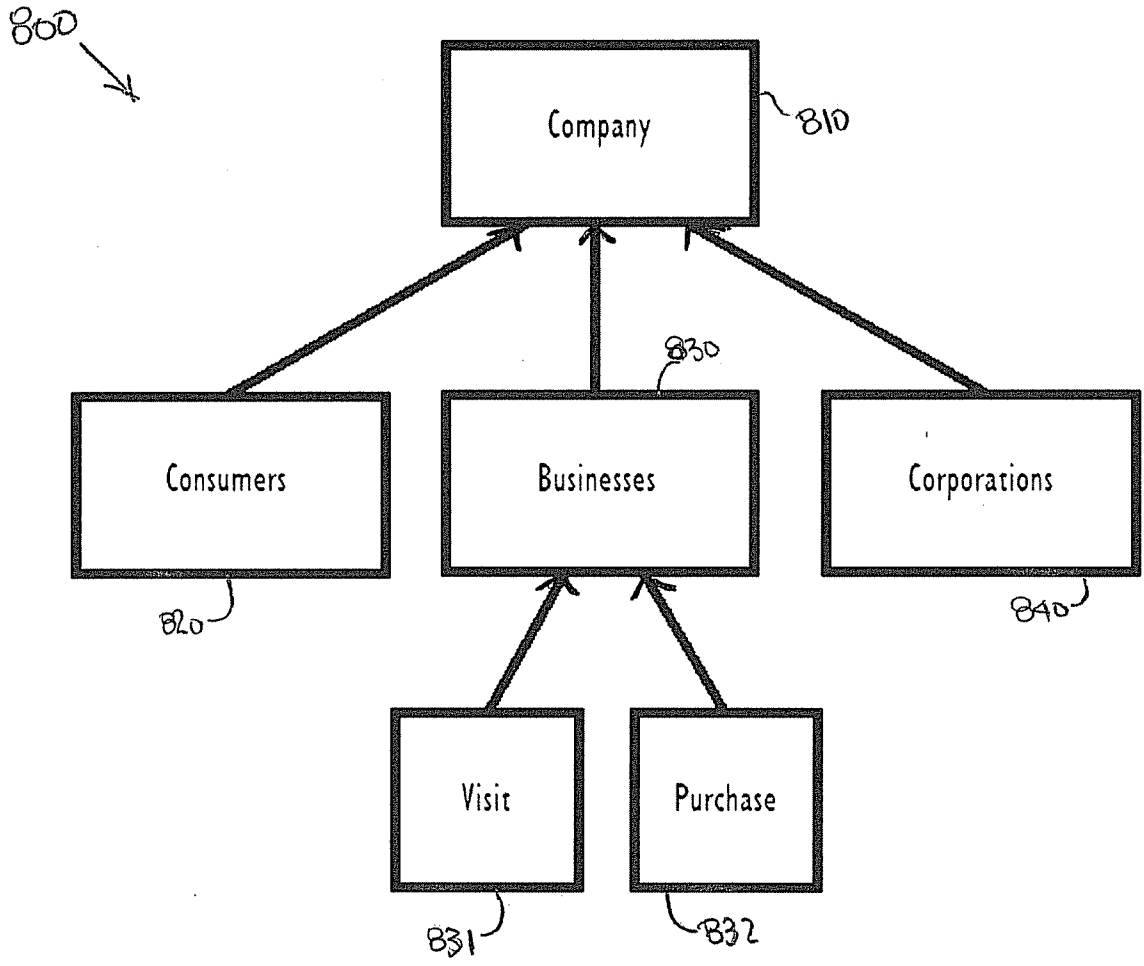


Fig. 8