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(54) **INTERACTIVE AMUSEMENT RIDE**

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**EP 3 983 100 B1**

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## Description

### BACKGROUND

#### Field

**[0001]** The present disclosure relates generally to amusement rides, and more particularly, to control of amusement rides.

#### Introduction

**[0002]** Various amusement rides have been created to provide passengers with unique motion and visual experiences, including roller coasters, theme rides, and simulators. Amusement rides typically have the limitation of being a fixed ride experience, with changes to the ride being made only at great expense. As a result, passengers can become familiar with the ride, which limits the excitement of the user experience.

**[0003]** There is a need to improve the user experience of amusement rides, and hence, the excitement of the ride. US9358473 discloses an interactive amusement attraction. US2009/234666 discloses a method and system for providing interactivity based on sensor measurements. US9463379 discloses a ride vehicle mounted interactive game system.

### SUMMARY

**[0004]** The following presents a simplified summary of one or more aspects in order to provide a basic understanding of such aspects. This summary is not an extensive overview of all contemplated aspects, and is intended to neither identify key or critical elements of all aspects nor delineate the scope of any or all aspects. Its sole purpose is to present some concepts of one or more aspects in a simplified form as a prelude to the more detailed description that is presented later.

**[0005]** Amusement rides typically have the limitation of being a fixed ride experience, with changes to the ride being made only at great expense. As a result, passengers can become familiar with the ride, which limits the excitement of the user experience. There is a need to improve the user experience of amusement rides.

**[0006]** The present disclosure provides a solution to meet this need by providing increased variability through an interactive amusement ride which changes the user experience based on user interaction. The invention provides a method of operating an amusement ride according to claim 1 and an apparatus for operating an amusement ride according to claim 13.

**[0007]** By enabling the amusement ride to change the ride experience based on rider interaction and/or rider reaction, an amusement ride system of the present disclosure may be able to increase the variability, and hence, the excitement of the ride as compared to a ride with a fixed ride experience. The following description

and the annexed drawings set forth in detail certain illustrative features of the one or more aspects. These features are indicative, however, of but a few of the various ways in which the principles of various aspects may be employed, and this description is intended to include all such aspects and their equivalents.

### BRIEF DESCRIPTION OF THE DRAWINGS

10 **[0008]**

FIG. 1 is a diagram illustrating an example of an amusement ride in accordance with certain aspects of the disclosure.

15 FIG. 2 is a diagram illustrating the example amusement ride of FIG. 1.

FIG. 3 is a diagram illustrating another example of an amusement ride in accordance with certain aspects of the disclosure.

20 FIG. 4 is a diagram illustrating the example amusement ride of FIG. 3.

FIG. 5 is block diagram of a controller for an amusement ride in accordance with certain aspects of the disclosure.

25 FIG. 6 is a flowchart of a method of operating an amusement ride.

FIG. 7 is a conceptual data flow diagram illustrating the data flow between different means/components in an example apparatus.

30 FIG. 8 is a diagram illustrating an example of a hardware implementation for an apparatus employing a processing system.

35 FIG. 9 is a diagram illustrating an example of an amusement ride in accordance with certain aspects of the disclosure.

### DETAILED DESCRIPTION

**[0009]** The detailed description set forth below in connection with the appended drawings is intended as a description of various configurations and is not intended to represent the only configurations in which the concepts described herein may be practiced. The detailed description includes specific details for the purpose of providing a thorough understanding of various concepts. However, it will be apparent to those skilled in the art that these concepts may be practiced without these specific details. In some instances, well known structures and components are shown in block diagram form in order to avoid obscuring such concepts.

50 **[0010]** Several aspects of amusement ride systems will now be presented with reference to various apparatus and methods. These apparatus and methods will be described in the following detailed description and illustrated in the accompanying drawings by various blocks, components, circuits, processes, algorithms, etc. (collectively referred to as "elements"). Some of these elements may be implemented using electronic hardware, compu-

ter software, or any combination thereof. Whether such elements are implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system.

**[0011]** By way of example, a control element, or any portion of such an element, or any combination of such elements may be implemented as a "processing system" that includes one or more processors. Examples of processors include microprocessors, microcontrollers, graphics processing units (GPUs), central processing units (CPUs), application processors, digital signal processors (DSPs), reduced instruction set computing (RISC) processors, systems on a chip (SoC), baseband processors, field programmable gate arrays (FPGAs), programmable logic devices (PLDs), state machines, gated logic, discrete hardware circuits, and other suitable hardware configured to perform the various functionality described throughout this disclosure. One or more processors in the processing system may execute software. Software shall be construed broadly to mean instructions, instruction sets, code, code segments, program code, programs, subprograms, software components, applications, software applications, software packages, routines, subroutines, objects, executables, threads of execution, procedures, functions, etc., whether referred to as software, firmware, middleware, microcode, hardware description language, or otherwise.

**[0012]** Accordingly, in one or more example embodiments, the functions described may be implemented in hardware, software, or any combination thereof. If implemented in software, the functions may be stored on or encoded as one or more instructions or code on a computer-readable medium. Computer-readable media includes computer storage media. Storage media may be any available media that can be accessed by a computer. By way of example, and not limitation, such computer-readable media can comprise a random-access memory (RAM), a read-only memory (ROM), an electrically erasable programmable ROM (EEPROM), optical disk storage, magnetic disk storage, other magnetic storage devices, combinations of the aforementioned types of computer-readable media, or any other medium that can be used to store computer executable code in the form of instructions or data structures that can be accessed by a computer.

**[0013]** Amusement rides typically have the limitation of being a fixed ride experience, with changes to the ride being made only at great expense. As a result, passengers can become familiar with the ride, which limits the excitement of the ride. Aspects presented herein improve the user experience of amusement rides in order by incorporating variability and user interaction. Hence, the excitement of the ride and a user's involvement with a ride can be increased without incurring a great expense to update the ride. Furthermore, the ride may continually vary so that the motion is unique to currently monitored user motion, audio, etc.

**[0014]** The present disclosure provides aspects of an

interactive amusement ride that changes the user experience based on user interaction. In one aspect, a controller for the amusement ride receives user information from one or more users riding in a passenger seating area. The user information is received using one or more sensors. The controller then determines whether the user information meets at least one criterion, for example, a time, a threshold number of gestures, a threshold audio level, and/or other user information. The controller subsequently controls the amusement ride, for example by moving the passenger seating area, based on the determination.

**[0015]** Thus, by enabling the amusement ride to change the ride experience based on rider interaction and/or rider reaction, an amusement ride system of the present disclosure may be able to increase the variability, and hence, the excitement of the ride as compared to a ride with a fixed ride experience without incurring a great expense to update the ride, e.g., as described below in connection with any of FIGs. 1-9.

**[0016]** FIGs. 1-4 illustrate example amusement rides 100/100'. In one aspect, the amusement ride 100 may comprise a tower 102 including a passenger seating area 104 movably connected to the tower 102, as illustrated in FIGs. 1 and 2. Although a seating area is illustrated for multiple passengers, aspects presented herein may similarly be applied for a seating area may be provided for one or more passengers. For example, the passenger seating area 104 may move up/down relative to the tower 102, side-to-side relative to the tower 102, around the tower 102, toward/away from the tower, and/or rotate relative to the tower 102. One example of a tower is a drop tower in which the passenger seating area 104 is raised up along the tower and then drops to a lower position relative to the tower. In another aspect, the amusement ride 100' may comprise a plurality of towers 302 (e.g. drop towers) each including a passenger seating area 304a, 304b movably connected to their respective tower 302a, 302b, as illustrated in FIGs. 3 and 4. Aspects described in connection with FIGs. 1, 2, and 9 can similarly be applied to the amusement ride described in connection with either of FIGs. 3 and 4. Similarly, aspects described in connection with FIGs. 3 and 4 may similarly be applied to the amusement rides described in connection with any of FIGs. 1, 2, and 9. The passenger seating area 104, 304a,b may receive passengers or riders, and may comprise a vessel, a gondola, or other vehicle or conveyance that can seat one or more passengers or riders. As used herein, the passengers or riders of amusement ride 100/100', as well as people waiting to use the amusement ride (e.g. in a queue 305, see FIG. 3) will be collectively referred to as "users" 106, 306a,b of the amusement ride 100/100'. Moreover, although the amusement rides 100/100' of FIGs. 1-4 are illustrated as drop towers, aspects presented herein are not limited to use with a tower or to use with a drop tower. Other amusement rides may similarly incorporate the user interaction and ride variability presented herein while maintaining

the spirit and scope of the present disclosure.

**[0017]** The passenger seating area 104, 304a,b may be connected to/coupled to each tower 102/302a,b such that the passenger seating area can move along multiple axes x, y, and z (see FIGs. 1 and 4). In one aspect, the passenger seating area 104, 304a,b may translate vertically up or down the tower 102/302a,b with respect to the ground along the y-axis. In such case, the passenger seating area 104, 304a,b may ascend at highest to a predetermined position, referred to as the highest point of movement 108, 308 or highest stroke of the passenger seating area 104, 304a,b. In another aspect, the passenger seating area 104, 304a,b may rotate along either the x-axis, y-axis, or z-axis at any position where the passenger seating area 104, 304a,b is disposed along the y-axis. In this way, the passenger seating 104, 304a,b area may be able to ascend, descend, and rotate in multiple directions on the tower 102/302a,b.

**[0018]** In one aspect, the amusement ride 100/100' may receive a signal from one or more sensors 110, 310a,b which monitor audio levels, motion, etc. from the users 106, 306a,b (e.g. user information 112, 312a,b). The user information 112, 312a,b may include, for example, user gestures (e.g. hand, arm, or leg waving, blinking, winking, smiling, frowning, sticking tongue out, etc.) and user sounds (e.g. talking, screaming, etc.). The sensors 110, 310a,b may be located inside or on the passenger seating area 104, 304a,b; on the tower(s) 102, 302a,b; on the ground; on an opposite tower; on a structure separate from the amusement ride; or any other location where the sensors can detect the user information. For example, the one or more sensors 110, 310a,b may include a camera 110a connected to the passenger seating area 104, 304a,b or tower 102, 302a,b which may capture images or video of users 106, 306a,b in the passenger seating area. In another example, the one or more sensors 110, 310a,b may include an audio sensor 110b (e.g. a microphone) connected to the passenger seating area 104, 304a,b or tower 102, 302a,b which may capture audio of users 106, 306a,b in the passenger seating area. The camera and/or microphone may in some aspects be on the ground to capture images, video, and/or audio of users 305 waiting to use the amusement ride (see FIG. 3). The amusement ride 100/100' may also include other sensors 110, 310a,b (e.g. accelerometers, photosensors, gyroscopes, speedometers, positioning sensors, proximity sensors, etc.) in addition to/alternatively to the camera and/or microphone.

**[0019]** The amusement ride 100/100' includes a controller 114, 314. Generally, the controller 114, 314 may control general functions of the amusement ride 100/100', for example, activating and deactivating various features of the amusement ride and moving the passenger seating area 104, 304a,b. However, in various aspects of the present disclosure, the controller 114, 314 may also control the amusement ride 100/100' based on information received regarding user interactions, for example, the controller 114, 314 may activate/deactivate

features of the amusement ride and/or move the passenger seating area 104, 304a,b in response to users 106, 306a,b waving their hands, screaming, and the like. In particular, the controller 114, 314 may control the one or more sensors 110, 310a,b to receive user information 112, 312a,b, determine whether the user information meets at least one or more criterion 116, 316 (discussed below), and control the amusement ride to perform one or more actions 118, 318 based on the determination. The controller 114, 314 may communicate with the amusement ride 100/100' via a wired connection or a wireless connection. While FIGs. 1 and 3 illustrate controller 114, 314 as being remote from the amusement ride, the controller may be comprised in the amusement ride.

**[0020]** When users ride the passenger seating area 104, 304a,b to an upper position on the tower 102, 302a,b (e.g. the highest point of movement 108, 308 or any other location), the passenger seating area 104, 304a,b may drop to a lower position based on whether one or more criteria 316 are met. In one aspect, the criteria 116, 316 may include time, and the controller 114, 314 may control the passenger seating area 104, 304a,b to drop after a predetermined amount of time has elapsed. For example, the passenger seating area of tower 102/302a,b may drop after twenty seconds or any other amount of time. However, to increase user anticipation and prevent the a fixed user experience in which the passenger seating area always drops after the same amount of time has elapsed, an actual amount of time to drop may depend on user interaction with the amusement ride 100/100'. For example, the controller 114, 314 may control the passenger seating area 104, 304a,b to drop earlier than the predetermined amount of time or later than the predetermined amount of time based on other criteria 116, 316 such as a threshold number of gestures, a threshold audio level, or other user information. The controller 114, 314 may also control other aspects of the amusement ride 100/100' based on this criteria. The controller 114, 314 may determine whether the criteria 116, 316 are met by processing the user information detected by the one or more sensors 110, 310a,b.

**[0021]** In one aspect, the criteria 116, 316 for amusement ride 100/100' may include a threshold number of gestures (e.g. a number of waving hands, arms, and/or legs, or a number of rapid blinks, winks, smiles, frowns, tongues out, etc.), and the controller 114, 314 may control the amusement ride based on whether a number of user gestures in user information 112, 312a,b exceed the threshold number of gestures. For example, a threshold number of gestures may be half the number of users 106, 306a,b in the predetermined passenger seating area 104, 304a,b. Thus, if the controller 114, 314 determines that all users, most users, or a certain amount of users 106, 306a,b in the passenger seating area 104, 304a,b are waving their hands, the controller may perform one or more actions 118, 318 (e.g. rotating the passenger seating area 104, 304a,b). In contrast, if the controller

114, 314 determines that only a third of the users 106, 306a,b are waving their hands, the controller may perform one or more different actions 118, 318 (e.g. dropping the passenger seating area 104, 304a,b). The controller 114, 314 may accomplish the determination, for example, by obtaining images or video captured by a camera connected to tower 102/302 or via a different motion sensor, performing image or facial recognition on the users 106, 306a,b in the images or video, counting the number of waving hands detected in the images, and comparing that number against the threshold number of gestures. Other determination methods may be used according to one of ordinary skill in the art.

**[0022]** In another aspect, the criteria 116, 316 for amusement ride 100/100' may include a threshold audio level (e.g. above 60 dB or a level typically associated with yelling, screaming, etc.), and the controller 114, 314 may control the amusement ride based on whether an audio level of user sounds in user information 112, 312a,b exceeds the threshold. For example, a threshold audio level may be 65 dB or another level generally associated with loud laughter, rather than normal conversation. In such example, if the controller 114, 314 determines that the users 106, 306a,b in the passenger seating area 104, 304a,b are shouting, the controller may perform one or more actions 118, 318 (e.g. rotating the passenger seating area). In contrast, if the controller 114, 314 determines that the users 106, 306a,b are not shouting, the controller may perform one or more different actions 118, 318 (e.g. dropping the passenger seating area). The controller 114, 314 may accomplish the determination, for example, by obtaining the decibel level of audio captured by a microphone connected to tower 102, 302a,b, and comparing the decibel level with the threshold audio level. Other determination methods may be used according to one of ordinary skill in the art.

**[0023]** Various actions that the controller 114, 314 may perform may include, but are not limited to, dropping the passenger seating area 104, 304a,b at a later time than the predetermined amount of time (e.g. thirty seconds instead of twenty seconds), dropping the passenger seating area 104, 304a,b at an earlier time than the predetermined amount of time (e.g. ten seconds instead of twenty seconds), rotating the passenger seating area 104, 304a,b along one axis, rotating the passenger seating area 104, 304a,b, along a different axis. As another example, the controller 114, 314 may control other variations of a ride such as water shooting at users or refraining from water shooting users 106, 306a,b, blowing air at users 106,306a,b with one or more fans, emitting light at users 106,306a,b (e.g. strobe lights, lasers, etc.), blowing smoke, bubbles or water at users 106, 306a,b, raising or lowering the passenger seating area 104, 304a,b, increasing/decreasing the speed of movement of the passenger seating area 104, 304a,b, vibrating the passenger seating area 104, 304a,b, and the like based on information from sensors. As another example, the controller 114, 314 may output different audio/video sig-

nals based on information from the sensors, e.g., playing different video or audio through a speaker 120, 320a,b and/or a display 122, 322a,b, and the like. Any combination of such variations of an amusement ride may be controlled in response to information from the sensors.

**[0024]** In a further aspect referring to FIGs. 3 and 4, the criteria for amusement ride 100/100' may include other user information, and the controller may control the amusement ride based on the other user information. In one aspect, the other user information may be user information from users in other passenger seating areas. For example, FIGs. 3 and 4 illustrate a plurality of towers 302, 302b each including passenger seating areas 304a, 304b for a first group of users 306a and a second group of users 306b which face each other. The one or more sensors 310a, 310b connected to each tower 302a, 302b may receive user information 312a, 312b from each group of users, including first user information 312a associated with users on the first tower 302a, and second user information 312b associated with users on the second tower 302b. While the two seating areas 304a, 304b are illustrated as being located on separate towers, multiple seating areas may also be provided on a single tower.

**[0025]** Still referring to FIGs. 3 and 4, the controller 314 may control each tower 302a, 302b, or each user seating area 304a, 304b of the amusement ride 100' based on the user information 312a, 312b associated with the other tower. For example, the controller 314 may control aspects of the first or second tower 302a, 302b based on whether a number of gestures in the first user information 312a exceed a number of gestures in the second user information 312b. The controller 314 may similarly control aspects of the first or second tower 302a, 302b based on whether an audio level of user sounds in the first user information 312a exceed an audio level of user sounds in the second user information 312b. Similarly, the controller 314 may control aspects of the first or second tower 302a, 302b based on whether a number of gestures in the second user information 312b exceed a number of gestures in the first user information 312a. The controller 314 may similarly control aspects of the first or second tower 302a, 302b based on whether an audio level of user sounds in the second user information 312b exceed an audio level of user sounds in the first user information 312a. Thus, the control of the respective seating areas may be controlled based on a comparison of audio/motion/etc. levels between the different seating areas rather than comparison to a set threshold.

**[0026]** Thus, for example, if the controller 314 determines that more users 306a in the first passenger seating area 304a are waving their arms and/or shouting than users 306b in the second passenger seating area 304b, the controller 314 may perform one or more actions 318a,b with respect to each tower 302a, 302b (e.g. activating a display 322a on the first tower and dropping the second passenger seating area 304b). In contrast, if the controller 314 determines that more users 306b in the

second passenger seating area 304b are waving their arms and/or shouting than users in the first passenger seating area 304a, the controller 314 may perform one or more different actions 318a,b with respect to each tower 302a,b (e.g. activating a display 322b on the second tower 302b and dropping the first passenger seating area 304a). The controller 314 may accomplish the determination, for example, by obtaining images or video captured by different cameras connected to towers 302a/302b and associated with each passenger seating area 304a,304b, performing image or facial recognition on the users 306a,b in the images or video, counting the number of waving hands detected in each passenger seating area 304a,304b, and comparing the numbers against each other to determine which is greater. Alternatively or additionally, the controller 314 may accomplish the determination by, for example, obtaining the decibel level of audio captured by microphones connected to towers 302a/302b and associated with each passenger seating area 304a,304b, and comparing the decibel levels against each other to determine which is greater. Other determination methods may be used according to one of ordinary skill in the art.

**[0027]** In another aspect with respect to the other user information criteria 316 for amusement ride 100/100', the other user information may be visiting user information 325 from users queued or waiting for the amusement ride 100/100' or from users near the amusement ride 100/100', and the controller 114, 314 may control the amusement ride based on this visiting user information 325. For example, FIGs. 3 and 4 illustrates queued users 305 waiting in one or more lines for the plurality of towers 302a,b and visiting users 307 near but not in line for the plurality of towers 302 a,b. The controller 314 may control one or more sensors (not shown) on the ground or otherwise within detection range of these users 305, 307 to receive user information from the queued users and visiting users (herein referred to as "visiting user information 325").

**[0028]** The controller 314 may control either tower 302a, 302b of the amusement ride 100' based on the visiting user information 325. For example, the queued users 305 and/or visiting users 307 may compete with the users 306a,b in the first and/or second passenger seating areas 304a,b. In such case, the controller 314 may control aspects of the first or second tower 302a,b based on whether a number of gestures in the first or second user information 312a,b exceed a number of gestures in the visiting user information 325. The controller 314 may similarly control aspects of the first or second tower 302a,b based on whether an audio level of user sounds in the first or second user information 312a, 312b exceed an audio level of user sounds in the visiting user information 325.

**[0029]** Thus, for example, if the controller 314 determines that more queued users 305 and/or visiting users 307 are determined to be waving their arms and/or shouting than users 306a,b in either the first or second pas-

senger seating areas 304a,b, the controller 314 may perform one or more actions 318a,b with respect to either tower 302a,b (e.g. activating a display 322a,b on the first or second tower and dropping the first or second passenger seating area 304a,b prior to the predetermined amount of time). The controller 314 may accomplish the determination, for example, by obtaining images or video captured by different cameras connected to towers 302a/302b and associated with each passenger seating area 304a,b, obtaining images or video captured by a camera facing the queued users 305 or visiting users 307, performing image or facial recognition on the users 305, 306a,b, 307 in the images or video, counting the number of waving hands detected in each passenger seating area and from the queued users, and comparing the numbers against each other to determine which are greater. Alternatively or additionally, the controller 314 may accomplish the determination, for example, by obtaining the decibel level of audio captured by microphones connected to towers 302a/302b and associated with each passenger seating area 304a,b, obtaining the decibel level of audio captured by a microphone facing the queued users 305 and/or visiting users 307, and comparing the decibel levels against each other to determine which are greater. Other determination methods may be used according to one of ordinary skill in the art.

**[0030]** In another example, the queued users 305 and/or visiting users 307 may help the users 306a,b in the first and/or second passenger seating areas 304a,b, for example, by gesturing or shouting with the users 306a,b in the passenger seating areas 304a,b. For example, the controller 314 may control aspects of the first or second tower 302a,b based on whether a number of gestures in the first user information 312a and visiting user information 325 exceed a number of gestures in the second user information 312b. The controller 314 may similarly control aspects of the first or second tower 302a,b based on whether an audio level of user sounds in the first user information 312a and visiting user information 325 exceed an audio level of user sounds in the second user information 312b. Similarly, the controller 314 may control aspects of the first or second tower 302a, 302b based on whether a number of gestures in the second user information 312b and visiting user information 325 exceed a number of gestures in the first user information 312a. The controller 314 may similarly control aspects of the first or second tower 302a,b based on whether an audio level of user sounds in the second user information 312b and visiting user information 325 exceed an audio level of user sounds in the first user information 312a.

**[0031]** Thus, for example, if the controller 314 determines that more users 306a in the first passenger seating area 304a combined with the queued users 305 and/or visiting users 307 are waving their arms and/or shouting than users 306b in the second passenger seating area 304b, the controller 314 may perform one or more actions 318a,b with respect to each tower 302a,b (e.g. activating

a display 322a on the first tower 302a and dropping the second passenger seating area 304b). In contrast, if the controller 314 determines that more users 306b in the second passenger seating area 304b combined with the queued users 305 and/or visiting users 307 are waving their arms and/or shouting than users 306a in the first passenger seating area 304a, the controller 314 may perform one or more different actions 318a,b with respect to each tower 302a,b (e.g. activating a display 322b on the second tower 302b and dropping the first passenger seating area 304a). The controller 314 may accomplish the determination as described above.

**[0032]** In other aspects, the amusement ride 100/100' may include one or more speakers 120, 320a,b and/or displays 122, 322a,b connected to the tower 102/302a,b, for example, at or near the top of the tower 102/302a,b or at a highest point of movement 108, 308 of the passenger seating area 104/304a,b. For instance, a display 322a,b in the form of a large screen may be placed on top of each tower 302a,b as shown in FIG. 3, a display 122 in the form of an extra-large screen may be connected in front of the tower 102 as shown in FIG. 2. The display 122, 322a,b may alternatively be placed in any other location. In another example, a display 324a in the form of a long screen may be placed on a side of each tower 102, 302a,302b, for example as shown in FIG. 3.

**[0033]** In another aspect, the controller 114, 314 may control the speakers 120/320a,b and/or displays 122/322a,b, 324a,b to provide user information 112/312a,b, 325 to the users. For instance, the controller 114, 314 may control the display(s) 122/322a,b, 324a,b to portray visual representations of the user information 112/312a,b, 325 (e.g. user gestures and/or sounds) as they are being received. Thus, FIG. 3 illustrates the user sounds 326a from the first passenger seating area 304a (and nearby queued users 305 and/or visiting users 307) being dynamically displayed in the form of a volume chart on a side of the first tower 302a, and the user sounds 326b from the second passenger seating area 304b (and nearby queued users 305 and/or visiting users 307) being dynamically displayed in the form of a volume chart on a side of the second tower 302b. In this example, FIG. 4 illustrates the users 306a of the first tower 302a screaming 328 louder than the users 306b of the second tower 302b (in this case with the help 330 of queued users 305 and/or visiting users 307).

**[0034]** In a further aspect, the controller 114, 314 may control the speakers 120/320a,b and/or displays 122/322a,b, 324a,b to provide other information to users (e.g. win/loss information, instructions, advertisements, and the like). For example, as illustrated in FIG. 3, the controller 314 may determine that user gestures and/or user sounds in the first user information 312a (whether or not combined with visiting user information 325) exceed the user gestures and/or user sounds in the second user information 312b. Consequently, the controller 314 may control the second passenger seating area 304b to drop prior to the first passenger seating area 304a. Ac-

cordingly, the controller 314 may control the speakers 320a,b and/or displays 322a,b, 324a,b to provide information to the second set of users 306b relating to the determination, in this case that they lost the competition (e.g. FIG. 3 illustrates the display 322a states "LOSE"). Similarly, the controller 314 may control the speakers and/or displays to provide information to the first set of users 306a relating to the determination (e.g. controlling the display 322b to state "WIN"). "Lose" and "win" are merely examples of visual content that may be displayed to indicate that motion, sound, or other criteria are met based on user interaction with the ride.

**[0035]** In another aspect, the controller 114, 314 may control the speakers 120/320a,b and/or displays 122/322a,b, 324a,b to provide user instructions 132/332 regarding how the users 106/306a,b may interact with the amusement ride. For example, the controller 114, 314 may indicate to users 106/306a,b, via audio output from the speakers 120/320a,b or image/video output from the displays 122/322a,b, 324a,b, instructions to provide user information 112, 312a,b such as one or more user gestures or user sounds. For instance, the user instructions 132/332 may inform users in the passenger seating area 104/304a,b to look at a camera mounted to a display (e.g. display 122) and all wave their hands in the air after a countdown. Alternatively or additionally, the user instructions 132/332 may inform users in the passenger seating area 104/304a,b to all scream into a microphone at the same time. The controller 114, 314 may then perform one or more actions 118, 318a,b, for example dropping the passenger seating area 104/304a,b, based on the user information 112/312a,b and the criteria 116, 316 as described above.

**[0036]** In further aspects, the controller 114, 314 may be configured to activate the speakers 120/320a,b and/or displays 122/322a,b, 324a,b and provide the user instructions 132, 332 based on the location of the passenger seating area 104/304a,b (e.g. its highest point of movement 108, 308). For example, the one or more sensors 110/310a,b on the tower 102/302a,b may include an accelerometer, and the controller 114, 314 may activate a speaker and/or display and provide the user instructions 132, 332 when the accelerometer detects that the passenger seating area 104, 304a,b has stopped accelerating (e.g. it has reached its highest point of movement 108, 308 at zero acceleration). Alternatively or additionally, the one or more sensors 110, 310a,b may include a photosensor positioned at the highest point of movement 108, 308, and the controller 114, 314 may activate a speaker and/or display and provide the user instructions 132, 332 when the passenger seating area 104, 304a,b blocks the photosensor from light. Other sensors may be used, and other methods of determining the location of the passenger seating area may be known to one of ordinary skill in the art.

**[0037]** In other aspects, during one operation of the amusement ride 100/100', the controller 114, 314 may repeatedly request user information 112, 312a,b, 325,

determine whether the user information meets the aforementioned criteria 116, 316, and control the amusement ride (for example, to perform actions 118, 318a,b such as movement of the passenger seating area) accordingly. For example, the user instructions 132, 332 may indicate for the users 106, 306a,b to repeatedly provide user information based on a game, and the passenger seating area 104, 304a,b may drop multiple times until the game is over. Various examples of gamification are described below, although the amusement ride 100/100' is not limited to these examples.

**[0038]** In one example, referring to FIGs. 1 and 2, the amusement ride 100 may include a pool at a base 134 of the tower 102. The users 106 may be instructed visually and/or audibly (via the speaker 120 and/or display 122) the criteria 116 of the game. For instance, the criteria may require the users to all raise their hands, then drop their hands, then scream, and then be quiet, and repeat the steps multiple times with the order of steps changing randomly (akin to Simon Says). The users in the passenger seating area 104 may then play the game, while their gestures and sounds (e.g. the user information 112) are being monitored using the one or more sensors 110 (e.g. camera, microphone, etc.). If the controller 114 determines that the user information 112 failed to meet at least one criteria 116 (e.g. somebody raised their hands at the wrong time, screamed when they were supposed to be quiet, etc.), the controller 114 may control the passenger seating area 104 to descend into the pool, creating a wave splashing the users in the passenger seating area and possibly other users (e.g. users 305 in FIG. 3) in a queue for the amusement ride 100. The controller 114 may then control the passenger seating area 104 to raise back to the highest point of movement 108, and replay the game for the users one or more times.

**[0039]** In another example, referring to FIG. 3 and 4, the amusement ride 100' may include at least two groups of users 306a, 306b competing against each other in their respective passenger seating areas 304a, 304b. The users may be instructed visually and/or audibly (via, for example, the speaker 320a,b and/or display 322a,b) the criteria 316 of the game. For instance, the criteria may require users to all raise their hands, then drop their hands, then scream, and then be quiet, and repeat the steps multiple times with the order of steps changing randomly (akin to Simon Says). The users in each passenger seating area 304a,b may then play the game, while their gestures and sounds (e.g. the user information 312a,b) are being monitored using the one or more sensors 310a, 310b (e.g. cameras, microphones, etc.). If the controller 314 determines that the first user information 312a failed to meet at least one criteria 316 prior to the second user information 312b (e.g. somebody in the first passenger seating area 304a raised their hands at the wrong time, screamed when they were supposed to be quiet, etc. before someone erred in the second passenger seating area), the controller 314 may control the first passenger seating area 304a to drop first, being the loser of the

round. Alternatively, if the controller 314 determines that the second user information 312b failed to meet at least one criteria 316 prior to the first user information 312a (e.g. somebody in the second passenger seating area 304b raised their hands at the wrong time, screamed when they were supposed to be quiet, etc. before someone erred in the first passenger seating area), the controller 314 may control the second passenger seating area 304b to drop first, being the loser of the round. The controller 314 may then control either the first or second passenger seating area to raise back to the highest point of movement 308, and replay the game one or more times.

**[0040]** In additional aspects, particularly in examples of competition between users in multiple passenger seating areas such as shown in FIGs. 3 and 4, the controller 314 may accumulate different point values 334 for the users. The point values 334 may be associated with each tower 302a,b or passenger seating area 304a,b in response to repeatedly determining whether user information 312a,b meets at least one criteria 316. For example, the controller 314 may accumulate a first number of points (not shown) associated with the first passenger seating area 304a corresponding to a number of times the controller first moves the second passenger seating area 304b. Similarly, the controller 314 may accumulate a second number of points (not shown) associated with the second passenger seating area 304b corresponding to a number of times the controller first moves the first passenger seating area 304a. The controller 314 may then provide the point values to the users via the speakers 320a,b and/or displays 322a,b, 324a,b.

**[0041]** Thus, in the immediate gamification example above, when the controller 314 drops the second passenger seating area 304b, being the loser of the round, the controller 314 may accumulate one or more points 334 for the first passenger seating area 304a to signify their win. Similarly, when the controller 314 drops the first passenger seating area 304a, being the loser of the round, the controller 314 may accumulate one or more points 334 for the second passenger seating area 304b to signify their win. The speaker(s) 320a,b and/or displays 322a,b, 324a,b may inform the users 306a,b of the total accumulated points for each passenger seating area during the game (e.g. a single operation of the amusement ride 100').

**[0042]** Using the technique(s) described above in connection with FIGs. 1-4, an amusement ride system 100/100' of the present disclosure may be able to increase the variability, and hence, the excitement of the ride as compared to a ride with a fixed ride experience without incurring a great expense to update the ride by updating and changing the amusement ride interactions.

**[0043]** FIG. 5 is block diagram of an example controller 500 in accordance with certain aspects of the disclosure. The controller may correspond to, e.g., the controller 114, 314, the apparatus 702/702'. In certain aspects, the controller may be associated with an amusement ride sys-

tem.

**[0044]** As shown in FIG. 5, the controller 500 may include a processing element, such as processor(s) 502, which may execute program instructions for the controller 500. The controller 500 may also include audio / display circuitry 504 which may perform audio processing and/or graphics processing and provide audio signals, audio packets, and/or display signals to the audio / display 542 (e.g., speaker(s) 120, 320a,b, displays 122, 322a,b, 324a,b, etc.). The processor 502 can be associated with a memory 506 that stores program codes and data. The memory 506 may be referred to as a computer-readable medium. The processor (s) 502 may also be coupled to a memory management unit (MMU) 540, which may be configured to receive addresses from the processor(s) 502 and translate the addresses to address locations in the memory (e.g., memory 506, ROM 508, Flash memory 510) and/or to address locations in other circuits or devices, such as the audio / display circuitry 504, wired/wireless communication circuitry 530 connector interface 520, and/or audio / display 542. The MMU 540 may be configured to perform memory protection and page table translation or set up. In some embodiments, the MMU 540 may be included as a portion of the processor(s) 502.

**[0045]** As shown, the processor (s) 502 may be coupled to various other circuits of the controller 500. For example, the controller 500 may include various types of memory 506, a connector interface 520 (e.g., for coupling to a computer system), the audio / display 542, and wired or wireless communication circuitry 530 (e.g., for Wi-Fi, Bluetooth®, Bluetooth Low Energy®, cellular, etc.) for communicating via a transceiver 550 with the one or more sensors, the passenger seating areas, the speakers/displays, and other components of the amusement ride.

**[0046]** In certain aspects, the controller 500 may include hardware and software components (a processing element, e.g. processor 502) configured to receive user information from one or more users on the amusement ride using one or more sensors, determine whether the user information meets at least one criterion, and control the amusement ride based on the determination using the techniques described above in connection with any of FIGs. 1-4. The controller 500 may be configured to implement part or all of the techniques described above, e.g., by executing program instructions stored on a memory medium (e.g., a non-transitory computer-readable memory medium, e.g. memory 506) and/or through hardware or firmware operation. In other embodiments, the techniques described above may be at least partially implemented by a programmable hardware element, such as an field programmable gate array (FPGA), and/or an application specific integrated circuit (ASIC).

**[0047]** FIG. 6 is a flowchart 600 of a method of operating an amusement ride. The method may be performed by a controller (e.g., controller 114, 314, 500, the apparatus 702/702'). Optional aspects are indicated with dashed lines. The method increases the variability, and hence, the excitement of the ride as compared to a ride

with a fixed ride experience without incurring a great expense to update the ride by updating and changing the amusement ride interactions.

**[0048]** In one aspect, the amusement ride comprises a tower including a passenger seating area. For example, FIGs. 1 and 2 illustrate an amusement ride 100 comprising a tower 102 including a passenger seating area 104. In another aspect, the amusement ride comprises a first tower including a first passenger seating area and a second tower including a second passenger seating area, the first passenger seating area and the second passenger seating area facing each other. For example, FIGs. 3 and 4 illustrate an amusement ride 100' comprising a first tower 302a including a first passenger seating area 304a, and a second tower 302b including a second passenger seating area 304b. The first and second passenger seating areas 304a,b may face each other, as shown in FIG. 4.

**[0049]** At 602, the controller receives user information from one or more users on the amusement ride using one or more sensors. In various aspects, the one or more sensors comprise one or more of a camera, and a microphone, and the user information comprises at least one of user gestures and user sounds. For example, referring to FIGs. 1-4, the controller 114, 314 may receive user information 112, 312a/b from one or more users 106, 306a,b, 305 using one or more sensors 110, 310a,b. The user information 112, 312a,b may include, for example, user gestures (e.g. hand, arm, or leg waving, blinking, winking, smiling, frowning, etc.) and user sounds (e.g. talking, screaming, etc.). The sensors 110, 310a,b may be located inside or on the passenger seating area 104, 304a,b, on the tower(s) 102, 302a,b, on the ground, or anywhere else where the sensors can detect the user information. For example, the one or more sensors 110, 310a,b may include a camera connected to the passenger seating area 104, 304a,b or tower 102, 302a,b which may capture images or video of users 106, 306a,b in the passenger seating area. In another example, the one or more sensors 110, 310a,b may include a microphone connected to the passenger seating area 104, 304a,b or tower 102, 302a,b which may capture audio of users 106, 306a,b in the passenger seating area.

**[0050]** In one aspect, the user information comprises first user information and second user information, where the first user information is received from one or more users in the first passenger seating area, and the second user information is received from one or more users in the second passenger seating area. The first user information and second user information each comprises at least one of user gestures and user sounds. For example, referring to FIGs. 3 and 4, the one or more sensors 310a, 310b connected to each tower 302a, 302b may receive user information 312a, 312b from each group of users, including first user information 312a associated with users in the first passenger seating area 304a, and second user information 312b associated with users in the second passenger seating area 304b.

**[0051]** At 604, the controller provides user instructions on one or more of a speaker or a display connected to the amusement ride. The user information is received based on the user instructions. For example, referring to FIGs. 1 - 4, the controller 114, 314 may provide user instructions 132/332 (e.g. via speakers 120/320a,b and/or displays 122/322a,b, 324a,b) for users 106, 306a,b to provide user information 112, 312a,b such as one or more user gestures or user sounds. For instance, the user instructions 132/332 may inform users in the passenger seating area 104/304a,b to look at a camera mounted to a display (e.g. display 122) and all wave their hands in the air after a countdown. Alternatively or additionally, the user instructions 132/332 may inform users in the passenger seating area 104/304a,b to all scream into a microphone at the same time.

**[0052]** In one aspect, the user instructions are provided based on the location of the one or more users relative to the amusement ride. For example, referring to FIGs. 1-4, the controller 114, 314 may activate a speaker and/or display and provide the user instructions 132, 332 when an accelerometer detects that the passenger seating area 104, 304a,b has stopped accelerating (e.g. it has reached its highest point of movement 108, 308 at zero acceleration). Alternatively or additionally, the controller 114, 314 may activate a speaker and/or display and provide the user instructions 132, 332 when the passenger seating area 104, 304a,b blocks a photosensor from light.

**[0053]** At 606, the controller displays a visual representation of the user sounds from the one or more users in the first passenger seating area and the second passenger seating area on a display of the first tower and the second tower. For example, as illustrated in FIG. 3, the controller may display, via display 324a,b, the user sounds 326a from the first passenger seating area 304a on a side of the first tower 302a, and the user sounds 326b from the second passenger seating area 304b on a side of the second tower 302b. In this example, FIG. 4 illustrates the users 306a of the first tower 302a screaming 328 louder than the users 306b of the second tower 302b.

**[0054]** At 608, the controller determines whether the user information meets at least one criterion. In one aspect, the at least one criterion comprises at least one of a threshold number of gestures or a threshold audio level, and the user information is determined to meet the at least one criterion when one or more of the user gestures exceed the threshold number of gestures or the user sounds exceed the threshold audio level. Referring to FIGs. 1-4, for example, the criteria 116, 316 for amusement ride 100/100' may include a threshold number of gestures (e.g. half the number of users 106, 306a,b in the predetermined passenger seating area 104, 304a,b), and/or a threshold audio level (e.g. above 60 dB or a level typically associated with yelling, screaming, etc.). For instance, if the controller 114, 314 determines that only a third of the users 106, 306a,b are waving their hands or shouting, the controller may perform one or

more actions 118, 318 (e.g. dropping the passenger seating area 104, 304a,b) differently than if the controller determined that all the users 106, 306a,b, were waving their hands or shouting. The controller 114, 314 may accomplish the visual determination, for example, by obtaining images or video captured by a camera connected to tower 102/302, performing image or facial recognition on the users 106, 306a,b in the images or video, counting the number of waving hands detected in the images, and comparing that number against the threshold number of gestures. The controller 114, 314 may accomplish the audio determination, for example, by obtaining the decibel level of audio captured by a microphone connected to tower 102, 302a,b, and comparing the decibel level with the threshold audio level. Other determination methods may be used according to one of ordinary skill in the art.

**[0055]** In one aspect where the user information comprises first user information and second user information, the first user information is determined to meet the at least one criterion when one or more of the user gestures or user sounds of the first user information respectively exceed the one or more of the user gestures or the user sounds of the second user information. Similarly, the second user information is determined to meet the at least one criterion when one or more of the user gestures or user sounds of the second user information respectively exceed the one or more of the user gestures or the user sounds of the first user information. For example, referring to FIGs. 3 and 4, if the controller 314 determines that more users 306a in the first passenger seating area 304a are waving their arms and/or shouting than users 306b in the second passenger seating area 304b, the controller 314 may perform one or more actions 318a,b with respect to each tower 302a, 302b (e.g. activating a display 322a on the first tower and dropping the second passenger seating area 304b). In contrast, if the controller 314 determines that more users 306b in the second passenger seating area 304b are waving their arms and/or shouting than users in the first passenger seating area 304a, the controller 314 may perform one or more different actions 318a,b with respect to each tower 302a,b (e.g. activating a display 322b on the second tower 302b and dropping the first passenger seating area 304a). The controller 314 may accomplish the determination as described above.

**[0056]** At 610, the controller controls the amusement ride based on the determination at 608. For example, referring to FIG. 1-4, various actions that the controller 114, 314 may perform may include, but are not limited to, dropping the passenger seating area 104, 304a,b at a later time than the predetermined amount of time (e.g. thirty seconds instead of twenty seconds), dropping the passenger seating area 104, 304a,b at an earlier time than the predetermined amount of time (e.g. ten seconds instead of twenty seconds), rotating the passenger seating area 104, 304a,b along one axis, rotating the passenger seating area 104, 304a,b, along a different axis,

water shooting or refraining from water shooting users 106, 306a,b, playing different video or audio through a speaker 120, 320a,b and/or a display 122, 322a,b, and the like.

**[0057]** In one aspect, the amusement ride further may comprise a pool 140 (e.g., as illustrated for ride 100" in FIG. 9) at a base of the tower, and the amusement ride may be controlled to descend the passenger seating area into the pool 140 based on the determination at 608. For example, referring to FIGs. 1 and 2, the amusement ride 100 may include a pool at a base 134 of the tower 102. If the controller 114 determines that the user information 112 failed to meet at least one criteria 116 (e.g. somebody raised their hands at the wrong time, screamed when they were supposed to be quiet, etc.), the controller 114 may control the passenger seating area 104 to descend into the pool, creating a wave splashing the users in the passenger seating area and possibly other users (e.g. users 305 in FIG. 3) in a queue for the amusement ride 100.

**[0058]** In another aspect, the amusement ride may be controlled to move a first passenger seating area prior to moving a second passenger seating area in response to the determination at 608. Similarly, the amusement ride may be controlled to move the second passenger seating area prior to moving the first passenger seating area in response to the determination at 608. For example, referring to the example of FIGs. 3 and 4, if the controller 314 determines that the first user information 312a failed to meet at least one criteria 316 prior to the second user information 312b (e.g. somebody in the first passenger seating area 304a raised their hands at the wrong time, screamed when they were supposed to be quiet, etc. before someone erred in the second passenger seating area), the controller 314 may control the first passenger seating area 304a to drop before the second passenger seating area 304b. Alternatively, if the controller 314 determines that the second user information 312b failed to meet at least one criteria 316 prior to the first user information 312a (e.g. somebody in the second passenger seating area 304b raised their hands at the wrong time, screamed when they were supposed to be quiet, etc. before someone erred in the first passenger seating area), the controller 314 may control the second passenger seating area 304b to drop before the first passenger seating area 304a.

**[0059]** In another aspect, the user information further comprises visiting user information from one or more queued users waiting outside the first passenger seating area and the second passenger seating area or visiting users near the first tower and/or second tower. The visiting user information comprises at least one of user gestures and user sounds. For example, FIGs. 3 and 4 illustrate queued users 305 waiting in one or more lines for the plurality of towers 302a,b and visiting users 307 near but not in line for the plurality of towers 302a,b, and the controller 314 may control one or more sensors on the ground or otherwise within detection range of these users

305, 307 to receive visiting user information 325. The visiting user information 325 may include user gestures (e.g. hand or arm waving) and/or user sounds (e.g. screaming or shouting).

**[0060]** In this aspect, the amusement ride may be controlled to move one or more of the first passenger seating area and the second passenger seating area based on the visiting user information. For example, referring again to FIGs. 3 and 4, the queued users 305 and/or visiting users 307 may compete with the users in the first and/or second passenger seating areas 304a,b. In another example, the queued users 305 and/or visiting users 307 may help the users 306a,b in the first and/or second passenger seating areas 304a,b, for example, by gesturing or shouting with the users 306a,b in the passenger seating areas 304a,b. In the former example, the controller 314 may drop the first or second passenger seating area 304a,b after determining whether a number of gestures in the first or second user information 312a,b exceed a number of gestures in the visiting user information 325, and/or after determining whether an audio level of user sounds in the first or second user information 312a, 312b exceed an audio level of user sounds in the visiting user information 325. In the latter example, the controller 314 may drop the first or second passenger seating area 304a,b after determining whether a number of gestures in the first user information 312a and visiting user information 325 exceed a number of gestures in the second user information 312b, and/or after determining whether an audio level of user sounds in the first user information 312a and visiting user information 325 exceed an audio level of user sounds in the second user information 312b.

**[0061]** In various aspects, the receiving, determining, and controlling steps are repeated multiple times in a single operation of the amusement ride. For example, referring to FIGs. 1-4, during one operation of the amusement ride 100/100', the controller 114, 314 may repeatedly request user information 112, 312a,b, 325, determine whether the user information meets the aforementioned criteria 116, 316, and control the amusement ride (for example, to perform actions 118, 318a,b such as movement of the passenger seating area) accordingly. The user instructions 132, 332 may indicate for the users 106, 306a,b to repeatedly provide user information based on a game, and the passenger seating area 104, 304a,b may drop multiple times until the game is over.

**[0062]** At 612, the controller accumulates a first number of points corresponding to a number of times the amusement ride is controlled to move the second passenger seating area prior to moving the first passenger seating area. Similarly at 614, the controller accumulates a second number of points corresponding to a number of times the amusement ride is controlled to move the first passenger seating area prior to moving the second passenger seating area. For example, as shown in FIGs. 3 and 4, the controller 314 may accumulate different point values 334 for the users 306a,b. The controller 314 may accumulate a first number of points associated with the

first passenger seating area 304a corresponding to a number of times the second passenger seating area 304b drops first. Similarly, the controller 314 may accumulate a second number of points associated with the second passenger seating area 304b corresponding to a number of times the first passenger seating area 304a drops first.

**[0063]** At 616, the controller provides the first number of points and the second number of points to the one or more users on one or more of a speaker or a display for the first tower and the second tower. For example, while accumulating the points at 612 and 614, the controller 314 may provide the point values to the users via the speakers 320a,b and/or displays 322a,b, 324a,b.

**[0064]** In one aspect, the amusement ride further may comprise a pool 140 (e.g., as illustrated for ride 100" in FIG. 9) at a base of the tower, and the amusement ride may be controlled to descend the passenger seating area into the pool 140 based on the determination at 608.

**[0065]** FIG. 7 is a conceptual data flow diagram 700 illustrating the data flow between different means/components in an example apparatus 702. The apparatus may be a controller (e.g., controller 114, 314, 500) in communication with various components of the amusement ride 750 (e.g. amusement ride 100/100', including for example, one or more sensors 110, 310a,b, passenger seating areas 104, 304a,b, speakers 120, 320a,b, and/or displays 122, 322a,b, 324a,b). Alternatively, the apparatus may comprise an entire amusement ride. Furthermore, although sensor(s) 751 and amusement ride 750 are illustrated as separate components than apparatus 702, the sensor(s) 751 and passenger seating area may be comprised in apparatus 702 when the apparatus corresponds to the entire amusement ride.

**[0066]** The apparatus 702 includes a reception component 704 which is configured to receive user information (e.g. user information 112, 312a,b, 325) from one or more users (e.g. users 106, 306a, 306b, 305) on the amusement ride via one or more sensors 751 (e.g. sensors 110, 310a,b). The apparatus 702 also includes a determination component 706 which is configured to determine whether the user information received via the reception component 704 meets at least one criterion (e.g. criteria 116, 316). The apparatus 702 further includes an action component 708 which is configured to control the amusement ride 750 based on the determination identified by the determination component 706. The action component 708 sends a command, via a transmission component 710, to perform one or more actions (e.g. actions 118, 318) to the amusement ride 750. Various actions that the controller 114, 314 may perform may include, but are not limited to, dropping the passenger seating area 104, 304a,b at a later time than the predetermined amount of time (e.g. thirty seconds instead of twenty seconds), dropping the passenger seating area 104, 304a,b at an earlier time than the predetermined amount of time (e.g. ten seconds instead of twenty seconds), rotating the passenger seating area

104, 304a,b along one axis, rotating the passenger seating area 104, 304a,b, along a different axis, water shooting or refraining from water shooting users 106, 306a,b, playing different video or audio through a speaker 120, 320a,b and/or a display 122, 322a,b, and the like.

**[0067]** The apparatus 702 further includes a user instructions component 712 which is configured to provide user instructions (e.g. user instructions 132, 332) on one or more of a speaker (e.g. speakers 120, 320a,b) or a display (e.g. displays 122, 322a,b, 324a,b) connected to the amusement ride. For instance, the user instructions may inform users in the passenger seating area to look at a camera mounted to a display and all wave their hands in the air after a countdown. Alternatively or additionally, the user instructions may inform users in the passenger seating area to all scream into a microphone at the same time. The user instructions component 712 sends the user instructions, via the transmitting component 710, to the amusement ride 750 to be played on the speakers and/or displays.

**[0068]** The apparatus 702 also includes a point accumulation component 714 which is configured to accumulate a first number of points (e.g. points 334) corresponding to a number of times the amusement ride is controlled to move the second passenger seating area (e.g. passenger seating area 304b) prior to moving the first passenger seating area (e.g. passenger seating area 304a). The point accumulation component 714 is also configured to accumulate a second number of points (e.g. points 334) corresponding to a number of times the amusement ride is controlled to move the first passenger seating area (e.g. passenger seating area 304a) prior to moving the second passenger seating area (e.g. passenger seating area 304b). The point accumulation component 714 may base its calculation from the determination identified by the determination component 706. The point accumulation component 714 subsequently provides the first number of points and the second number of points to the one or more users, via the transmission component 710, on one or more of speaker (e.g. speakers 120, 320a,b) or a display (e.g. displays 122, 322a,b, 324a,b) for the first tower (e.g. tower 302a) and the second tower (e.g. tower 302b).

**[0069]** The apparatus further includes an output component 716 which is configured to display a visual representation of the user sounds (e.g. user sounds 326a,b) from the one or more users in the first passenger seating area and the second passenger seating area on a display (e.g. display 324a,b) of the first tower and the second tower. The output component 716 sends the visual representation (e.g. display/audio) to the amusement ride 750 (e.g. to display 324a,b) via the transmission component 710.

**[0070]** The transmission component 710 is configured to send the amusement ride 750 the actions from the action component 708, the user instructions from the user instruction component 712, the accumulated points from the points accumulation component 714, and the dis-

play/audio from the output component 716.

**[0071]** The apparatus may include additional components that are configured to perform each of the blocks of the algorithm in the aforementioned flowchart of FIG. 6, and/or aspects described in connection with FIGs. 1-4 and 9. As such, each block in the aforementioned flowchart of FIG. 6 may be performed by a component and the apparatus may include one or more of those components. The components may be one or more hardware components specifically configured to carry out the stated processes/algorithm, implemented by a processor configured to perform the stated processes/algorithm, stored within a computer-readable medium for implementation by a processor, or some combination thereof.

**[0072]** FIG. 8 is a diagram 800 illustrating an example of a hardware implementation for an apparatus 702' employing a processing system 814. The processing system 814 may be implemented with a bus architecture, represented generally by the bus 824. The bus 824 may include any number of interconnecting buses and bridges depending on the specific application of the processing system 814 and the overall design constraints. The bus 824 links together various circuits including one or more processors and/or hardware components, represented by the processor 804, the components 704, 706, 708, 710, 712, 714, and 716, and the computer-readable medium / memory 806. The bus 824 may also link various other circuits such as timing sources, peripherals, voltage regulators, and power management circuits, which are well known in the art, and therefore, will not be described any further.

**[0073]** The processing system 814 may be coupled to a passenger seating area 810 of an amusement ride, for example. The coupling may be wired or wireless. Thus, the processing system may be coupled to a transceiver, e.g., for wireless communication. The processing system 814 receives a signal (e.g. from sensor(s) 811 at the amusement ride), extracts information from the received signal, and provides the extracted information to the processing system 814, specifically the reception component 704. In addition, the processing system 814 generates a signal to be applied (e.g. for sending to the amusement ride) based on the received information, and may provide the signal (e.g., for control of passenger seating area), e.g., via a transmission component 710. The processing system 814 includes a processor 804 coupled to a computer-readable medium / memory 806. The processor 804 is responsible for general processing, including the execution of software stored on the computer-readable medium / memory 806. The software, when executed by the processor 804, causes the processing system 814 to perform the various functions described supra for any particular apparatus. The computer-readable medium / memory 806 may also be used for storing data that is manipulated by the processor 804 when executing software. The processing system 814 further includes at least one of the components 704, 706, 708, 710, 712, 714, and 716. The components may be

software components running in the processor 804, resident/stored in the computer readable medium / memory 806, one or more hardware components coupled to the processor 804, or some combination thereof.

**[0074]** In certain configurations, the apparatus 702/702' for operation of an amusement ride may include means for receiving user information from one or more users on the amusement ride using one or more sensors; means for determining whether the user information meets at least one criterion; and means for controlling the amusement ride based on the determination. The aforementioned means may be one or more of the aforementioned components of the apparatus 702 and/or the processing system 814 of the apparatus 702' configured to perform the functions recited by the aforementioned means.

**[0075]** It is understood that the specific order or hierarchy of blocks in the processes / flowcharts disclosed is an illustration of example approaches. Based upon design preferences, it is understood that the specific order or hierarchy of blocks in the processes / flowcharts may be rearranged. Further, some blocks may be combined or omitted. The accompanying method claims present elements of the various blocks in a sample order, and are not meant to be limited to the specific order or hierarchy presented.

**[0076]** The previous description is provided to enable any person skilled in the art to practice the various aspects described herein. Various modifications to these aspects will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other aspects. Thus, the claims are not intended to be limited to the aspects shown herein, but is to be accorded the full scope consistent with the language claims, wherein reference to an element in the singular is not intended to mean "one and only one" unless specifically so stated, but rather "one or more." The word "exemplary" is used herein to mean "serving as an example, instance, or illustration." Any aspect described herein as "exemplary" is not necessarily to be construed as preferred or advantageous over other aspects. Unless specifically stated otherwise, the term "some" refers to one or more. Combinations such as "at least one of A, B, or C," "one or more of A, B, or C," "at least one of A, B, and C," "one or more of A, B, and C," and "A, B, C, or any combination thereof" include any combination of A, B, and/or C, and may include multiples of A, multiples of B, or multiples of C. Specifically, combinations such as "at least one of A, B, or C," "one or more of A, B, or C," "at least one of A, B, and C," "one or more of A, B, and C," and "A, B, C, or any combination thereof" may be A only, B only, C only, A and B, A and C, B and C, or A and B and C, where any such combinations may contain one or more member or members of A, B, or C. The scope of the invention is defined by the appended claims.

Claims

1. A method of operating an amusement ride (100), comprising: receiving user information (112) from one or more users (106) at the amusement ride using one or more sensors (110), wherein the user information comprises at least one of user gestures and user sounds; determining whether the user information meets at least one criterion (116); and controlling the amusement ride based on the determination, **characterized in that:**

the amusement ride comprises a first tower (102) including a first passenger seating area (304a) and a second tower (302b) including a second passenger seating area (304b), the first passenger seating area and the second passenger seating area facing each other; the user information comprises first user information and second user information (312b), the first user information received from one or more users in the first passenger seating area and the second user information received from one or more users in the second passenger seating area, the first user information and second user information each comprising at least one of user gestures and user sounds; and the first user information is determined to meet the at least one criterion when one or more of the user gestures or user sounds of the first user information respectively exceed the one or more of the user gestures or the user sounds of the second user information; and wherein the amusement ride is controlled to move the first passenger seating area prior to moving the second passenger seating area in response to the determination.

2. The method of claim 1, further comprising: providing user instructions (132) on one or more of a speaker (120) or a display (122) connected to the amusement ride; and wherein the user information is received based on the user instructions.

3. The method of claim 2, wherein the user instructions are provided based on the location of the one or more users relative to the amusement ride (100).

4. The method of claim 1, wherein the one or more sensors (110) comprise one or more of a camera, and a microphone.

5. The method of claim 1, wherein the at least one criterion (116) compris-

es at least one of a threshold number of gestures or a threshold audio level; and wherein the user information is determined to meet the at least one criterion when one or more of the user gestures exceed the threshold number of gestures or the user sounds exceed the threshold audio level.

6. The method of claim 5, wherein the amusement ride further comprises a pool (140) at a base of the tower, wherein the amusement ride is controlled to descend the passenger seating area into the pool based on the determination.

7. The method of claim 1, wherein the second user information is determined to meet the at least one criterion when one or more of the user gestures or user sounds of the second user information respectively exceed the one or more of the user gestures or the user sounds of the first user information; and wherein the amusement ride (100) is controlled to move the second passenger seating area prior to moving the first passenger seating area in response to the determination.

8. The method of claim 7, wherein the receiving, determining, and controlling steps are repeated multiple times in a single operation of the amusement ride (100).

9. The method of claim 8, further comprising: accumulating a first number of points corresponding to a number of times the amusement ride (100) is controlled to move the second passenger seating area prior to moving the first passenger seating area; and accumulating a second number of points corresponding to a number of times the amusement ride is controlled to move the first passenger seating area prior to moving the second passenger seating area.

10. The method of claim 9, further comprising: providing the first number of points and the second number of points to the one or more users on one or more of a speaker (120) or a display (122) for the first tower and the second tower.

11. The method of claim 1, further comprising: displaying a visual representation of the user sounds from the one or more users in the first passenger seating area (304a) and the second passenger seating area (304b) on a display of the first tower and the second tower.

12. The method of claim 1, wherein the user information further comprises visiting user information from one

or more queued users (305) waiting outside the first passenger seating area and the second passenger seating area or from one or more visiting users near the first tower and the second tower, wherein the amusement ride is controlled to move one or more of the first passenger seating area and the second passenger seating area based on the visiting user information, and wherein the visiting user information comprises at least one of user gestures and user sounds.

13. An apparatus (500) for operating an amusement ride (100), comprising:

means for receiving user information (112) from one or more users (106) at the amusement ride using one or more sensors (110), wherein the user information comprises at least one of user gestures and user sounds;

means for determining whether the user information meets at least one criterion (116); and means for controlling the amusement ride based on the determination, **characterized in that:**

the amusement ride comprises a first tower (102) including a first passenger seating area (304a) and a second tower (302b) including a second passenger seating area (304b), the first passenger seating area and the second passenger seating area facing each other;

the user information comprises first user information and second user information (312b), the first user information received from one or more users in the first passenger seating area and the second user information received from one or more users in the second passenger seating area, the first user information and second user information each comprising at least one of user gestures and user sounds; and

the first user information is determined to meet the at least one criterion when one or more of the user gestures or user sounds of the first user information respectively exceed the one or more of the user gestures or the user sounds of the second user information; and wherein the amusement ride is controlled to move the first passenger seating area prior to moving the second passenger seating area in response to the determination.

14. The apparatus of claim 13, comprising:

a memory (506); and at least one processor (502) coupled to the memory, wherein the means for receiving user

information and the means for determining and the means for controlling are provided as the at least one processor, said at least one processor being configured to:

receive user information from one or more users at the amusement ride using one or more sensors, wherein the user information comprises at least one of user gestures and user sounds; determine whether the user information meets at least one criterion; and control the amusement ride based on the determination.

15. The apparatus of claim 13 or 14, wherein the one or more sensors (110) comprise one or more of a camera, and a microphone.

#### Patentansprüche

1. Verfahren zum Betreiben eines Fahrgeschäfts (100), aufweisend: Empfangen von Benutzerinformation (112) von einem oder mehreren Benutzern (106) an dem Fahrgeschäft unter Verwendung eines oder mehrerer Sensoren (110), wobei die Benutzerinformation mindestens eines von Benutzergeräten und Benutzergeräuschen umfassen;

Feststellen, ob die Benutzerinformation mindestens ein Kriterium (116) erfüllen; und Steuern des Fahrgeschäfts auf Grundlage der Bestimmung, **dadurch gekennzeichnet, dass:**

das Fahrgeschäft einen ersten Turm (102) mit einem ersten Passagiersitzbereich (304a) und einen zweiten Turm (302b) mit einem zweiten Passagiersitzbereich (304b) aufweist, wobei der erste Passagiersitzbereich und der zweite Passagiersitzbereich einander gegenüberliegen;

wobei die Benutzerinformation erste Benutzerinformation und zweite Benutzerinformation (312b) umfasst, wobei die erste Benutzerinformation von einem oder mehreren Benutzern im ersten Passagiersitzbereich empfangen wird und die zweite Benutzerinformation von einem oder mehreren Benutzern im zweiten Passagiersitzbereich empfangen wird, wobei die erste Benutzerinformation und die zweite Benutzerinformation jeweils mindestens eines von Benutzergeräten und Benutzergeräuschen umfassen; und

wobei die erste Benutzerinformation bestimmt wird, das mindestens ein Kriterium zu erfüllen, wenn eines oder mehrere von

- Benutzergesten oder Benutzergeräuschen der zweiten Benutzerinformation entsprechend mindestens eines oder mehreres von Benutzergesten oder Benutzergeräusche der zweiten Benutzerinformation überschreitet; und wobei das Fahrgeschäft gesteuert wird, um den ersten Passagiersitzbereich vor dem Bewegen des zweiten Passagiersitzbereich zu bewegen als Reaktion auf die Bestimmung.
2. Verfahren nach Anspruch 1, weiterhin aufweisend:
- Bereitstellung von Benutzeranweisungen (132) an einem oder mehreren von einem Lautsprecher (120) oder einem Display (122), die mit dem Fahrgeschäft verbunden sind; und wobei die Benutzerinformation basierend auf den Benutzeranweisungen empfangen werden.
3. Verfahren gemäß Anspruch 2, wobei die Benutzeranweisungen basierend auf dem Standort des einen oder der mehreren Benutzer relativ zum Fahrgeschäft (100) bereitgestellt werden.
4. Verfahren nach Anspruch 1, wobei die einen oder mehrere Sensoren (110) eines oder mehreres von einer Kamera und einem Mikrofon umfassen.
5. Verfahren nach Anspruch 1,
- wobei das mindestens eine Kriterium (116) mindestens eines von einer Schwellenanzahl von Gesten oder einer Schwellenaudiolautstärke umfasst; und wobei die Benutzerinformation bestimmt wird, das mindestens eine Kriterium zu erfüllen, wenn eine oder mehreres von die Benutzergesten überschreiten die Schwellenanzahl von Gesten oder die Benutzergeräusche überschreiten die Schwellenaudiolautstärke erfüllt ist.
6. Verfahren nach Anspruch 5, wobei das Fahrgeschäft außerdem ein Becken (140) an einer Basis des Turms aufweist, wobei das Fahrgeschäft gesteuert wird, den Passagiersitzbereich in das Becken basierend auf der Bestimmung abzusenken.
7. Verfahren nach Anspruch 1, wobei die zweiten Benutzerinformation bestimmt wird, das mindestens eine Kriterium zu erfüllen, wenn eines oder mehreres von den Benutzergesten oder den Benutzergeräusche der zweiten Benutzerinformation entsprechend die eine oder mehrere von der Benutzergesten oder Benutzergeräusche der ersten Benutzerinformation überschreitet; und wobei das Fahrgeschäft (100) gesteuert wird, um den zweiten Passagiersitzbereich vor dem Bewegen des ersten Passagiersitzbereiches zu bewegen als Reaktion auf die Bestimmung.
8. Verfahren gemäß Anspruch 7, wobei die Schritte des Empfangens, Bestimmens und Steuerns in einem einzigen Vorgang des Fahrgeschäfts (100) mehrmals wiederholt werden.
9. Verfahren nach Anspruch 8, weiterhin aufweisend:
- Sammeln einer ersten Anzahl von Punkten, die der Häufigkeit entspricht, mit der das Fahrgeschäfts (100) gesteuert wird, den zweiten Passagiersitzbereich vor dem Bewegen des ersten Passagiersitzbereichs zu bewegen; und Sammeln einer zweiten Anzahl von Punkten, die der Häufigkeit entspricht, mit der das Fahrgeschäft gesteuert wird, den ersten Passagiersitzbereich vor dem Bewegen des zweiten Passagiersitzbereichs zu bewegen.
10. Verfahren nach Anspruch 9, weiterhin aufweisend: Bereitstellen der ersten Anzahl von Punkten und der zweiten Anzahl von Punkten für einen oder mehrere Benutzer auf einem oder mehreren von einem Lautsprecher (120) oder einem Display (122) für den ersten Turm und den zweiten Turm.
11. Verfahren nach Anspruch 1, weiterhin aufweisend: Anzeigen einer visuellen Darstellung der Benutzergeräusche von dem einen oder den mehreren Benutzern im ersten Passagiersitzbereich (304a) und im zweiten Passagiersitzbereich (304b) auf einem Display des ersten Turms und des zweiten Turms.
12. Verfahren nach Anspruch 1, wobei die Benutzerinformation außerdem Besuchsbenutzerinformation von einem oder mehreren in der Warteschlange befindlichen Benutzern (305) umfassen, die außerhalb des ersten Passagiersitzbereichs und des zweiten Passagiersitzbereichs warten, oder von einem oder mehreren Besuchsbenutzern in der Nähe des ersten Turms und des zweiten Turms, wobei das Fahrgeschäft gesteuert wird, eines oder mehreres von dem ersten Passagiersitzbereich und dem zweiten Passagiersitzbereich auf der Grundlage der Besuchsbenutzerinformation zu bewegen, und wobei die Besuchsbenutzerinformation mindestens eines von Benutzergesten und Benutzergeräusche umfasst.
13. Vorrichtung (500) zum Betreiben eines Fahrgeschäfts (100), aufweisend:
- Mittel zum Empfangen von Benutzerinformation (112) von einem oder mehreren Benutzern (106) des Fahrgeschäfts unter Verwendung eines oder mehrerer Sensoren (110), wobei die Benutzerinformation mindestens eines von Be-

nutzergesten und Benutzergeräusche umfasst; Mittel zum Bestimmen, ob die Benutzerinformation das mindestens eine Kriterium (116) erfüllt; und  
 Mittel zum Steuern des Fahrgeschäfts auf der Grundlage der Feststellung, **dadurch gekennzeichnet, dass:**

das Fahrgeschäft einen ersten Turm (102) mit einem ersten Passagiersitzbereich (304a) und einen zweiten Turm (302b) mit einem zweiten Passagiersitzbereich (304b) aufweist, wobei der erste Passagiersitzbereich und der zweite Passagiersitzbereich einander gegenüberliegen;  
 wobei die Benutzerinformation erste Benutzerinformation und zweite Benutzerinformation (312b) umfasst, wobei die erste Benutzerinformation von einem oder mehreren Benutzern im ersten Passagiersitzbereich empfangen wird und die zweite Benutzerinformation von einem oder mehreren Benutzern im zweiten Passagiersitzbereich empfangen wird, wobei die erste Benutzerinformation und die zweite Benutzerinformation jeweils mindestens eines von Benutzergesten und Benutzergeräusche umfassen; und  
 wobei die erste Benutzerinformation bestimmt wird, das mindestens eine Kriterium zu erfüllen, wenn eines oder mehrere von Benutzergesten oder Benutzergeräuschen der ersten Benutzerinformation entsprechend mindestens eines oder mehrere von Benutzergesten oder Benutzergeräusche der zweiten Benutzerinformation überschreitet; und wobei das Fahrgeschäft gesteuert wird, um den ersten Passagiersitzbereich vor dem Bewegen des zweiten Passagiersitzbereich zu bewegen als Reaktion auf die Bestimmung.

**14.** Vorrichtung gemäß Anspruch 13, umfassend:

einen Speicher (506); und  
 mindestens eine Recheneinheit (502), die mit dem Speicher verbunden ist, wobei das Mittel zum Empfangen von Benutzerinformation und das Mittel zum Bestimmen und das Mittel zum Steuern bereitgestellt sind als die mindestens eine Recheneinheit, wobei die mindestens eine Recheneinheit konfiguriert ist zum:

Empfangen von Benutzerinformation von einem oder mehreren Benutzern an dem Fahrgeschäft unter Verwendung eines oder mehrerer Sensoren, wobei die Benutzerinformation mindestens eines von Benutzer-

gesten und Benutzergeräusche umfasst; Bestimmen, ob die Benutzerinformation mindestens ein Kriterium erfüllt; und Steuern des Fahrgeschäftes auf Grundlage der Bestimmung.

- 15.** Vorrichtung nach einem der Ansprüche 13 oder 14, wobei der eine oder die mehreren Sensoren (110) eines oder mehrerer von einer Kamera und einem Mikrofon umfassen.

**Revendications**

- 1.** Procédé d'exploitation d'un manège (100), comprenant les étapes consistant à : recevoir des informations d'utilisateur (112) d'un ou plusieurs utilisateurs (106) du manège à l'aide d'un ou plusieurs capteurs (110), dans lequel les informations d'utilisateur comprend au moins un élément parmi des gestes d'utilisateur et des sons d'utilisateur ;  
 déterminer si les informations d'utilisateur répondent à au moins un critère (116) ; et contrôler le manège sur la base de la détermination, **caractérisé en ce que :**

le manège comprend une première tour (102) comprenant une première zone d'assise de passagers (304a) et une seconde tour (302b) comprenant une seconde zone d'assise de passagers (304b), la première zone d'assise de passagers et la seconde zone d'assise de passagers se faisant face l'une à l'autre ;  
 les informations d'utilisateur comprennent les premières informations d'utilisateur et les secondes informations d'utilisateur (312b), les premières informations d'utilisateur provenant d'un ou plusieurs utilisateurs de la première zone d'assise de passagers et les secondes informations d'utilisateur reçues provenant d'un ou de plusieurs utilisateurs de la seconde zone d'assise de passagers, les premières informations d'utilisateur et les secondes informations d'utilisateur comprenant chacune au moins un élément parmi les gestes d'utilisateur et des sons d'utilisateur ; et  
 il est déterminé que les premières informations d'utilisateur satisfont audit au moins un critère lorsqu'un ou plusieurs des gestes d'utilisateur ou des sons d'utilisateur des premières informations d'utilisateur dépassent respectivement un ou plusieurs des gestes d'utilisateur ou des sons d'utilisateur des secondes informations d'utilisateur ; et dans lequel le manège est commandé pour déplacer la première zone d'assise de passagers avant de déplacer la seconde zone d'assise de passagers en réponse à la détermination.

2. Procédé selon la revendication 1, comprenant en outre les étapes consistant à :
- fournir des instructions d'utilisateur (132) sur un ou plusieurs haut-parleurs (120) ou un écran (122) connectés au manège ; et dans lequel les informations d'utilisateur sont reçues sur la base des instructions d'utilisateur.
3. Procédé de la revendication 2, dans lequel les instructions d'utilisateur sont fournies en fonction de l'emplacement dudit ou desdits utilisateurs par rapport au manège (100).
4. Procédé de la revendication 1, dans lequel le ou les capteurs (110) comprennent un ou plusieurs éléments parmi une caméra et un microphone.
5. Procédé de la revendication 1, dans lequel ledit au moins un critère (116) comprend au moins un des éléments suivants : un nombre seuil de gestes ou un niveau audio seuil ; et dans lequel les informations d'utilisateur sont jugées conformes à au moins un critère lorsqu'un ou plusieurs des gestes d'utilisateur dépassent le nombre seuil de gestes ou que les sons d'utilisateur dépassent le niveau audio seuil.
6. Procédé de la revendication 5, dans lequel le manège comprend en outre une piscine (140) à la base de la tour, dans lequel le manège est commandé pour descendre la zone d'assise de passagers dans la piscine en fonction de la détermination.
7. Procédé de la revendication 1, dans lequel il est déterminé que les secondes informations d'utilisateur répondent audit au moins un critère lorsqu'un ou plusieurs des gestes d'utilisateur ou sons d'utilisateur des secondes informations d'utilisateur dépassent respectivement ledit ou lesdits gestes d'utilisateur ou sons d'utilisateur des premières informations d'utilisateur ; et dans lequel le manège (100) est commandé pour déplacer la seconde zone d'assise de passagers avant de déplacer la première zone d'assise de passagers en réponse à la détermination.
8. Procédé de la revendication 7, dans lequel les étapes consistant à recevoir, déterminer, et contrôler sont répétées plusieurs fois au cours d'une seule opération du manège (100).
9. Procédé de la revendication 8, comprenant en outre les étapes consistant à :
- accumuler un premier nombre de points correspondant au nombre de fois où le manège (100) est commandé pour déplacer la seconde zone d'assise de passagers avant de déplacer la première zone d'assise de passagers ; et accumuler un second nombre de points correspondant au nombre de fois le manège est commandé pour déplacer la première zone d'assise de passagers avant de déplacer la seconde zone d'assise de passagers.
10. Procédé de la revendication 9, comprenant en outre l'étape consistant à : fournir le premier nombre de points et le second nombre de points audit ou auxdits utilisateurs sur un ou plusieurs haut-parleurs (120) ou un écran (122) pour la première tour et la seconde tour.
11. Procédé de la revendication 1, comprenant en outre les étapes consistant à : afficher une représentation visuelle des sons d'utilisateurs provenant dudit ou desdits utilisateurs dans la première zone d'assise de passagers (304a) et la seconde zone d'assise de passagers (304b) sur un écran de la première tour et de la seconde tour.
12. Procédé de la revendication 1, dans lequel les informations d'utilisateur comprennent en outre des informations d'utilisateur visiteur provenant d'un ou plusieurs utilisateurs en file d'attente (305) qui attendent à l'extérieur de la première zone d'assise de passagers et de la seconde zone d'assise de passagers ou d'un ou plusieurs utilisateurs visiteurs près de la première tour et de la seconde tour, dans lequel le manège est commandé pour déplacer une ou plusieurs desdites premières zone d'assise de passagers et des secondes zone d'assise de passagers en fonction des informations d'utilisateur visiteur, et dans lequel les informations d'utilisateur visiteur comprennent au moins un élément parmi des gestes d'utilisateur et des sons d'utilisateur.
13. Appareil (500) pour faire fonctionner un manège (100), comprenant : des moyens pour recevoir des informations d'utilisateur (112) d'un ou plusieurs utilisateurs (106) du manège à l'aide d'un ou plusieurs capteurs (110), dans lequel les informations d'utilisateur comprennent au moins un élément parmi des gestes d'utilisateur et des sons d'utilisateur ; des moyens pour déterminer si les informations d'utilisateur répondent à au moins un critère (116) ; et des moyens pour contrôler le manège en fonction de la détermination, **caractérisé en ce que** :
- le manège comprend une première tour (102) comprenant une première zone d'as-

sise de passagers (304a) et une seconde  
 tour (302b) comprenant une seconde zone  
 d'assise de passagers (304b), la première  
 zone d'assise de passagers et la seconde  
 zone d'assise de passagers se faisant face 5  
 l'une à l'autre ;  
 les informations d'utilisateur comprennent  
 les premières informations d'utilisateur et  
 les secondes informations d'utilisateur  
 (312b), les premières informations d'utilisa- 10  
 teur provenant d'un ou de plusieurs utiliza-  
 teurs de la première zone d'assise de pas-  
 sagers et les secondes informations d'utili-  
 sateur provenant d'un ou de plusieurs utili- 15  
 sateurs de la seconde zone d'assise de pas-  
 sagers, les premières informations d'utilisa-  
 teur et les secondes informations d'utilisa-  
 teur comprenant chacune au moins un élé-  
 ment parmi des gestes d'utilisateur et des 20  
 sons d'utilisateur ; et  
 les premières informations d'utilisateur sont  
 jugées conformes audit au moins un critère  
 lorsqu'un ou plusieurs des gestes d'utilisa-  
 teur ou des sons d'utilisateur des premières 25  
 informations d'utilisateur dépassent res-  
 pectivement ledit ou lesdits éléments parmi  
 des gestes d'utilisateur ou des sons d'utili-  
 sateur des secondes informations  
 d'utilisateur ; et dans lequel le manège est 30  
 commandé pour déplacer la première zone  
 d'assise de passagers avant de déplacer la  
 seconde zone d'assise de passagers en ré-  
 sponse à la détermination.

**14.** Appareil de la revendication 13, comprenant : 35

une mémoire (506) ; et  
 au moins un processeur (502) couplé à la mé-  
 moire, dans lequel les moyens de réception des  
 informations d'utilisateur et les moyens de dé- 40  
 termination et de contrôle sont fournis en tant  
 que ledit au moins un processeur, ledit au moins  
 un processeur étant configuré pour :

recevoir des informations d'utilisateur d'un 45  
 ou plusieurs utilisateurs du manège à l'aide  
 d'un ou plusieurs capteurs, dans lequel les  
 informations d'utilisateur comprennent au  
 moins un élément parmi des gestes d'utili-  
 sateur et des sons d'utilisateur ; 50  
 déterminer si les informations d'utilisateur  
 satisfont à au moins un critère ; et contrôler  
 le manège en fonction de la détermination.

**15.** Appareil de la revendication 13 ou 14, dans lequel 55  
 le ou les capteurs (110) comprennent au moins une  
 caméra et un microphone.

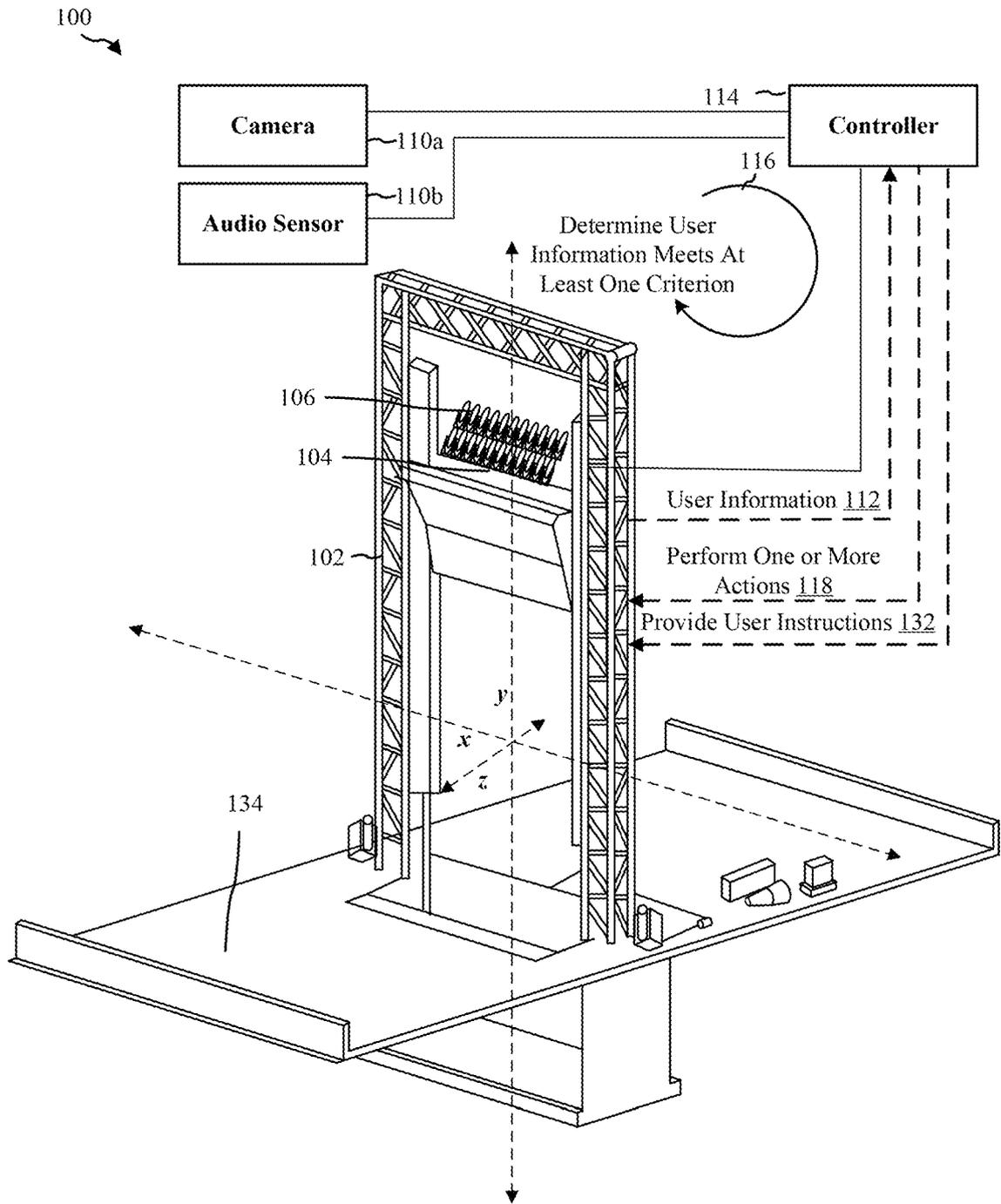
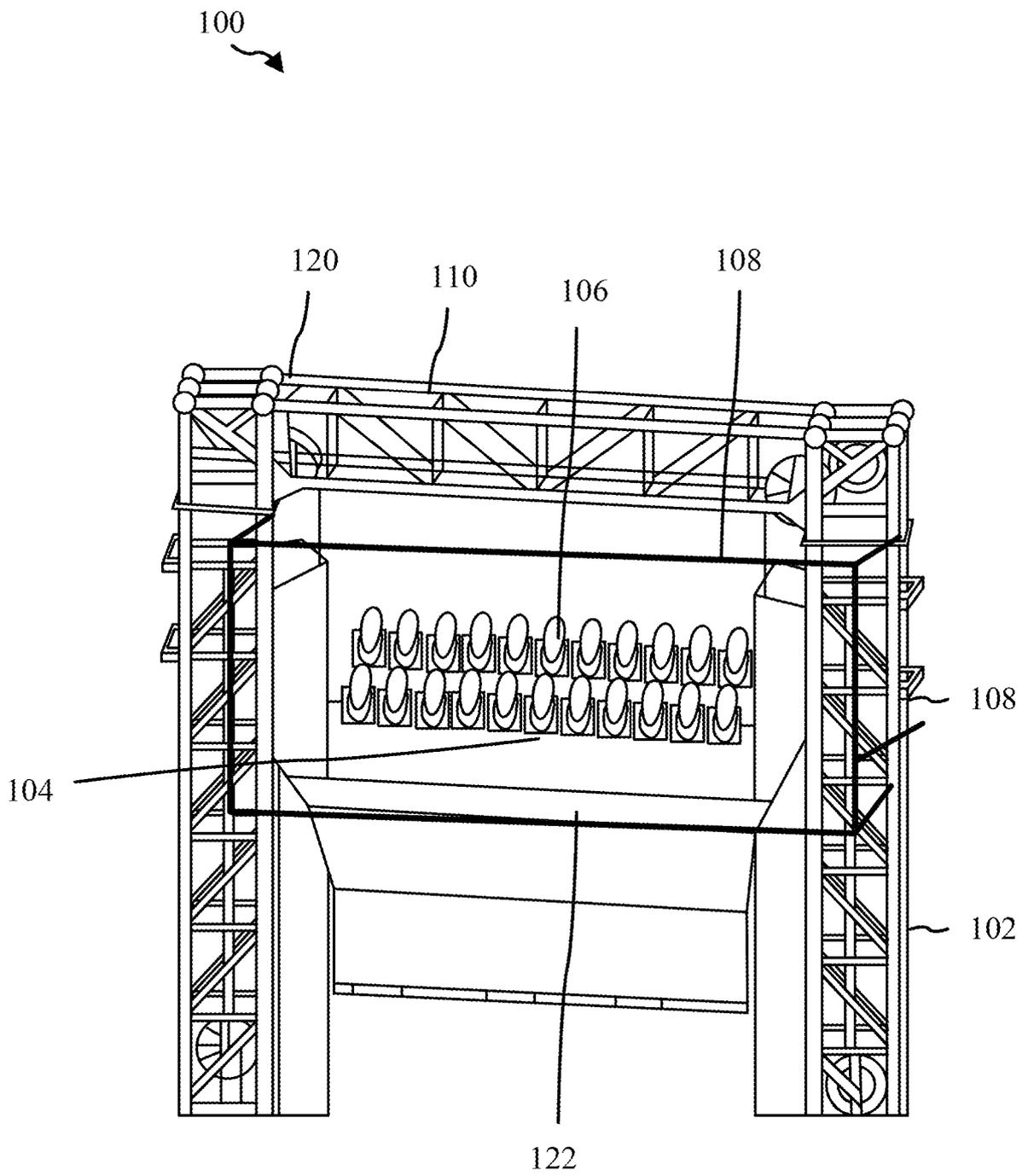
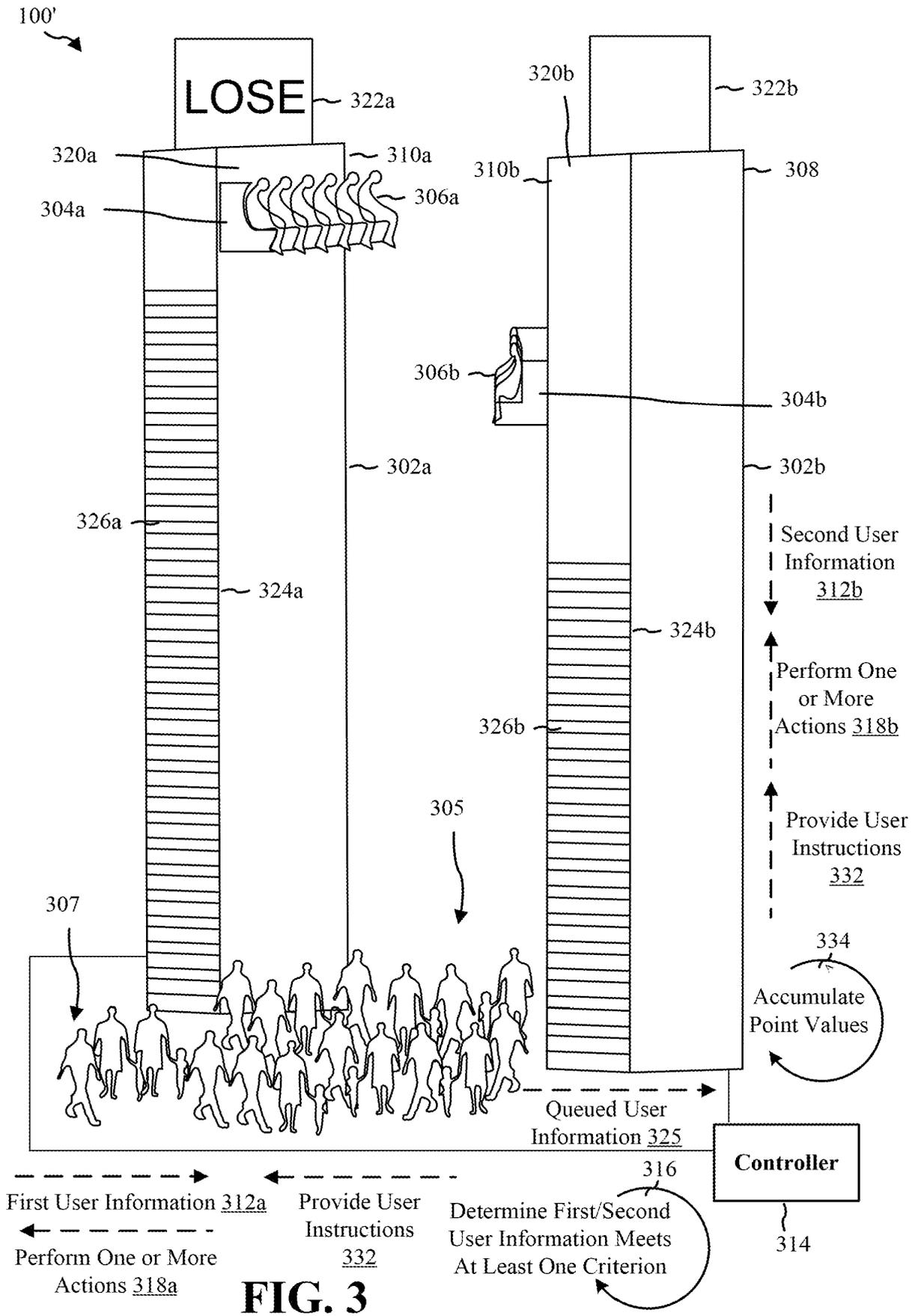


FIG. 1



**FIG. 2**



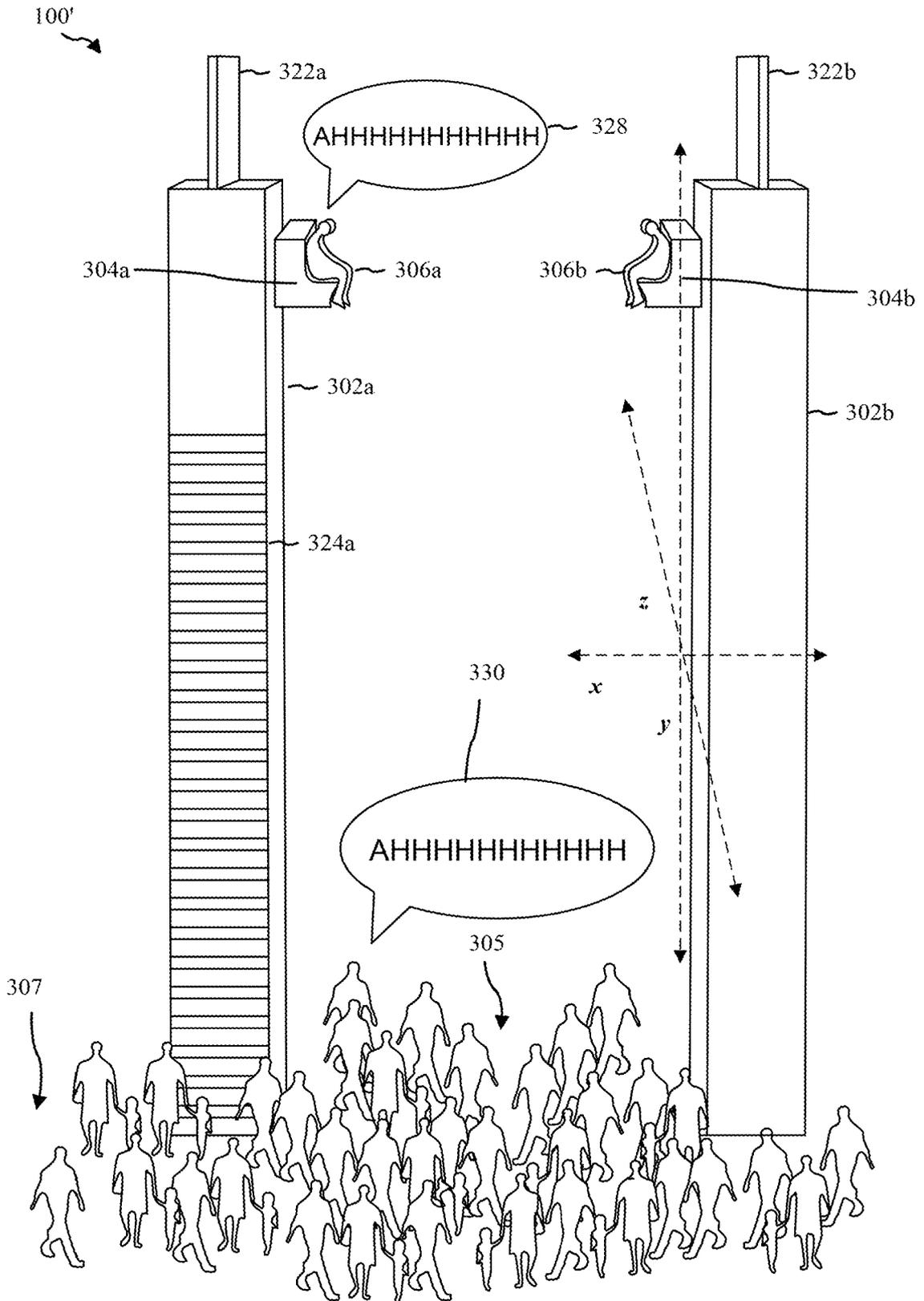
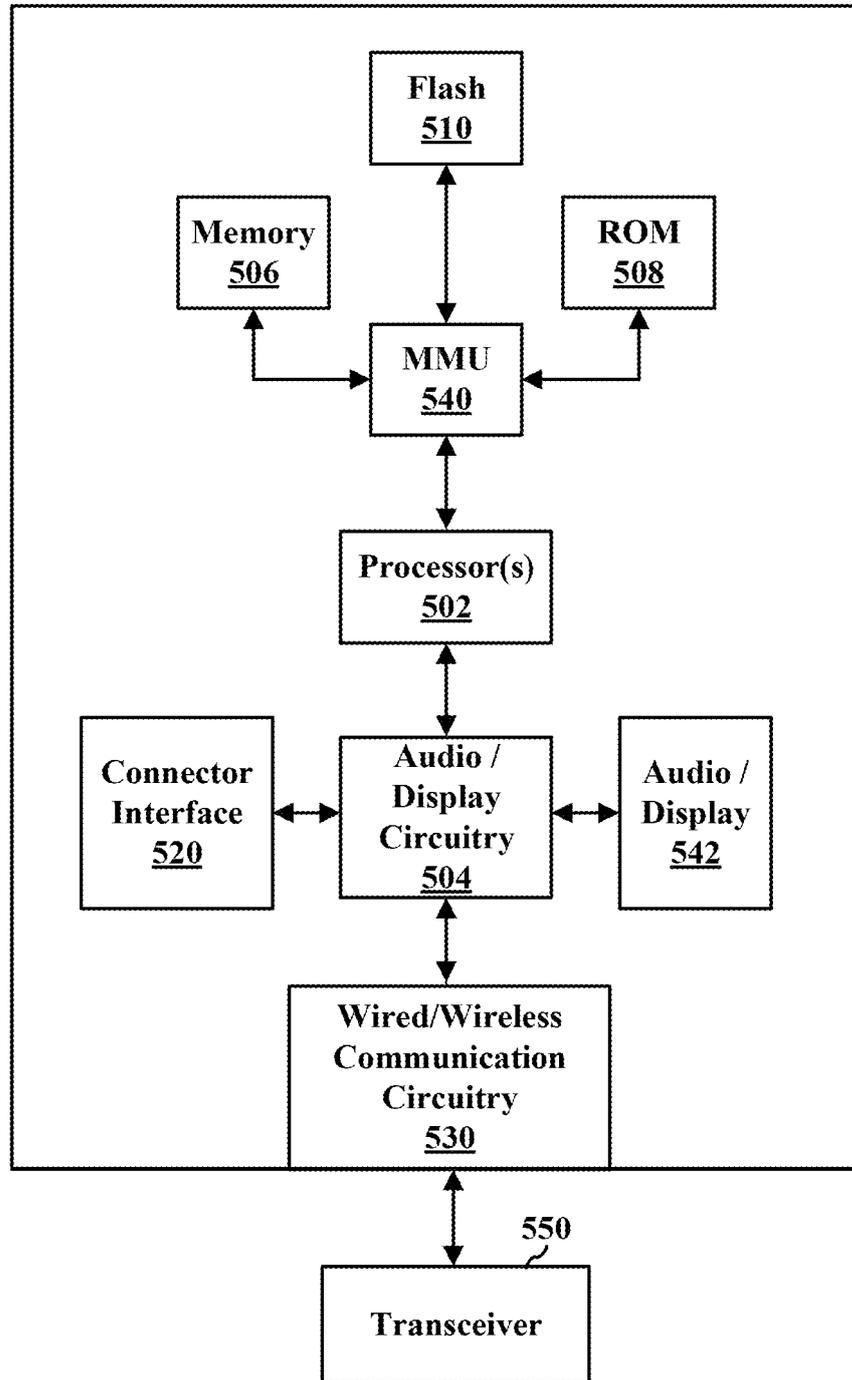
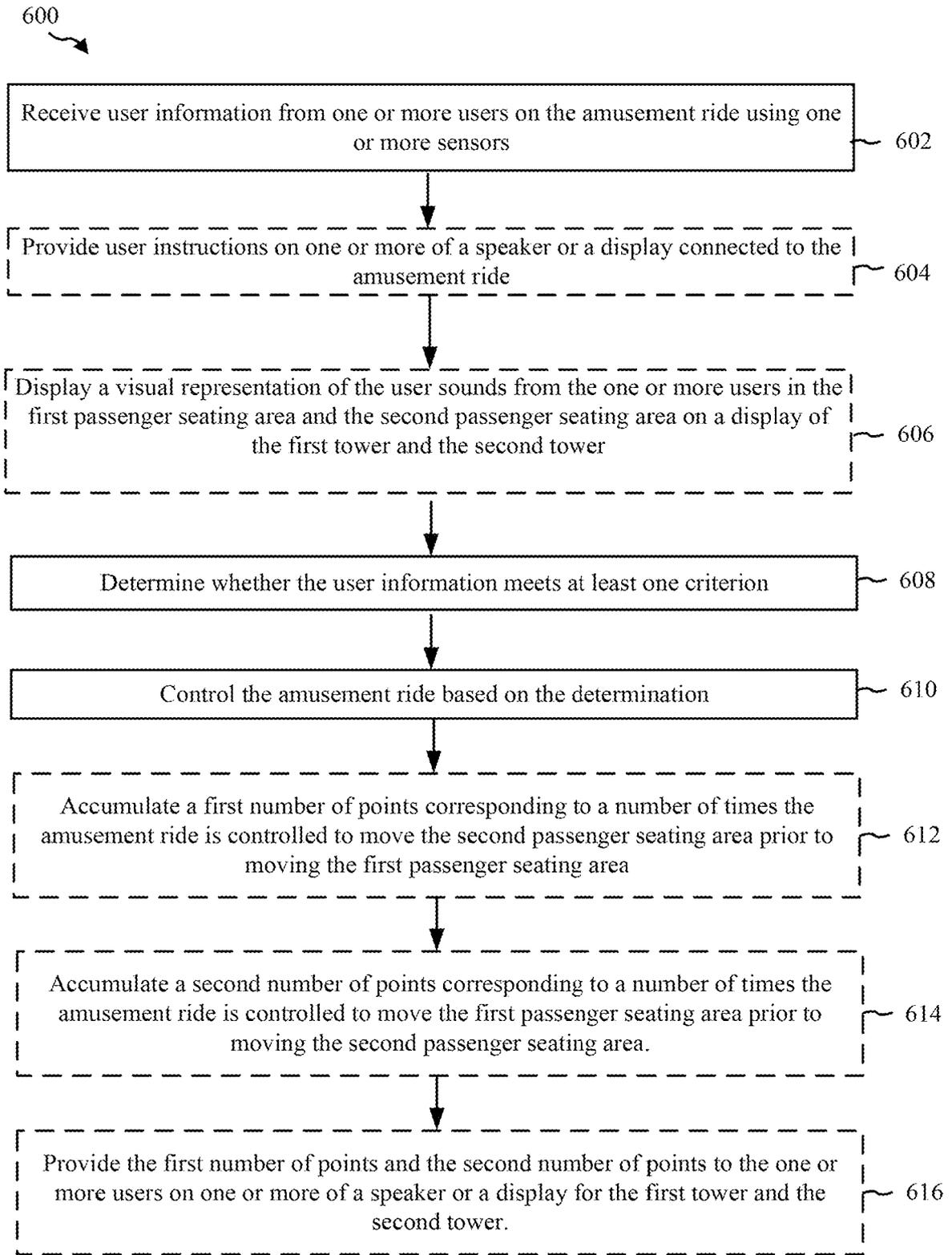


FIG. 4

500 ↗



**FIG. 5**



**FIG. 6**

700 ↗

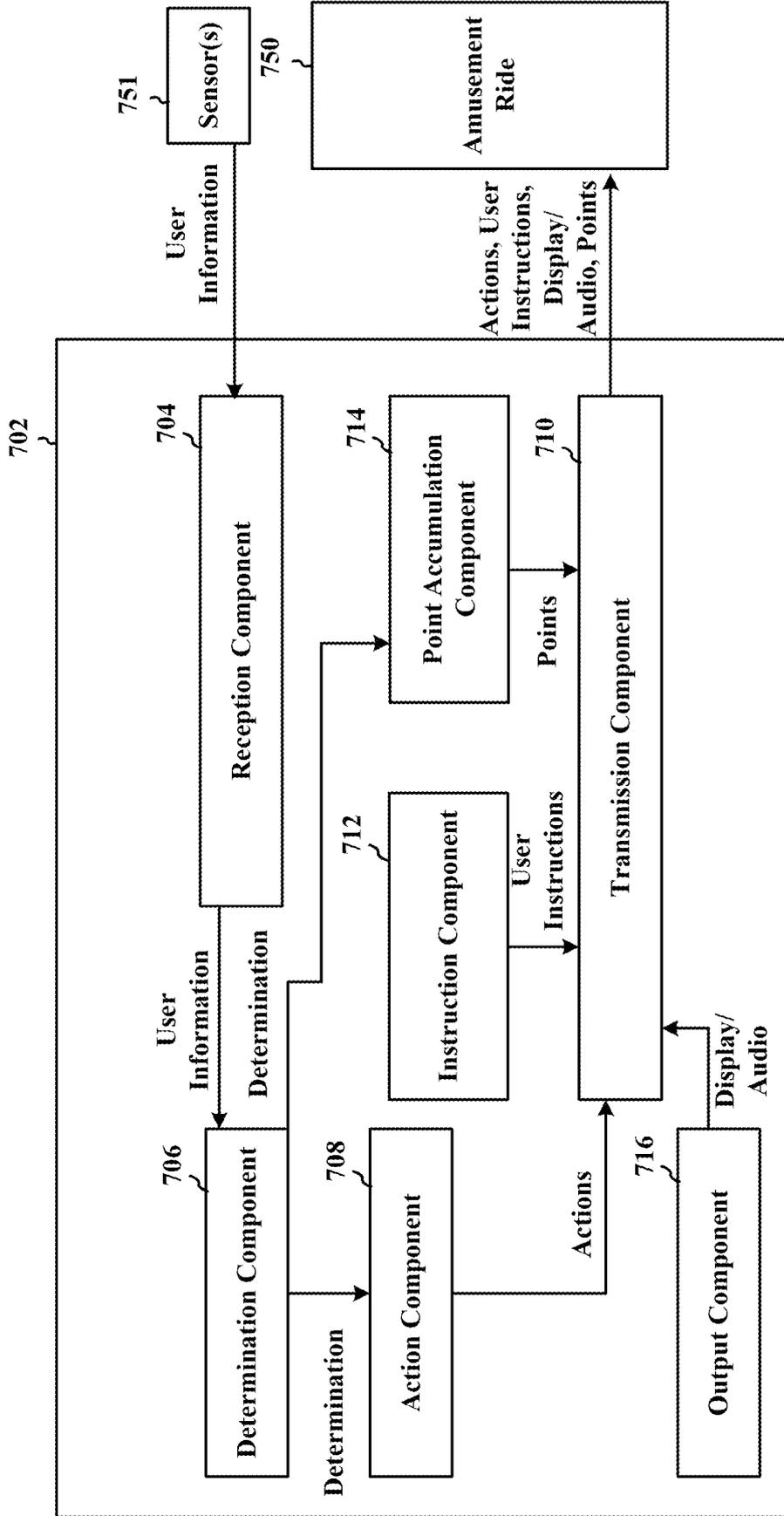


FIG. 7

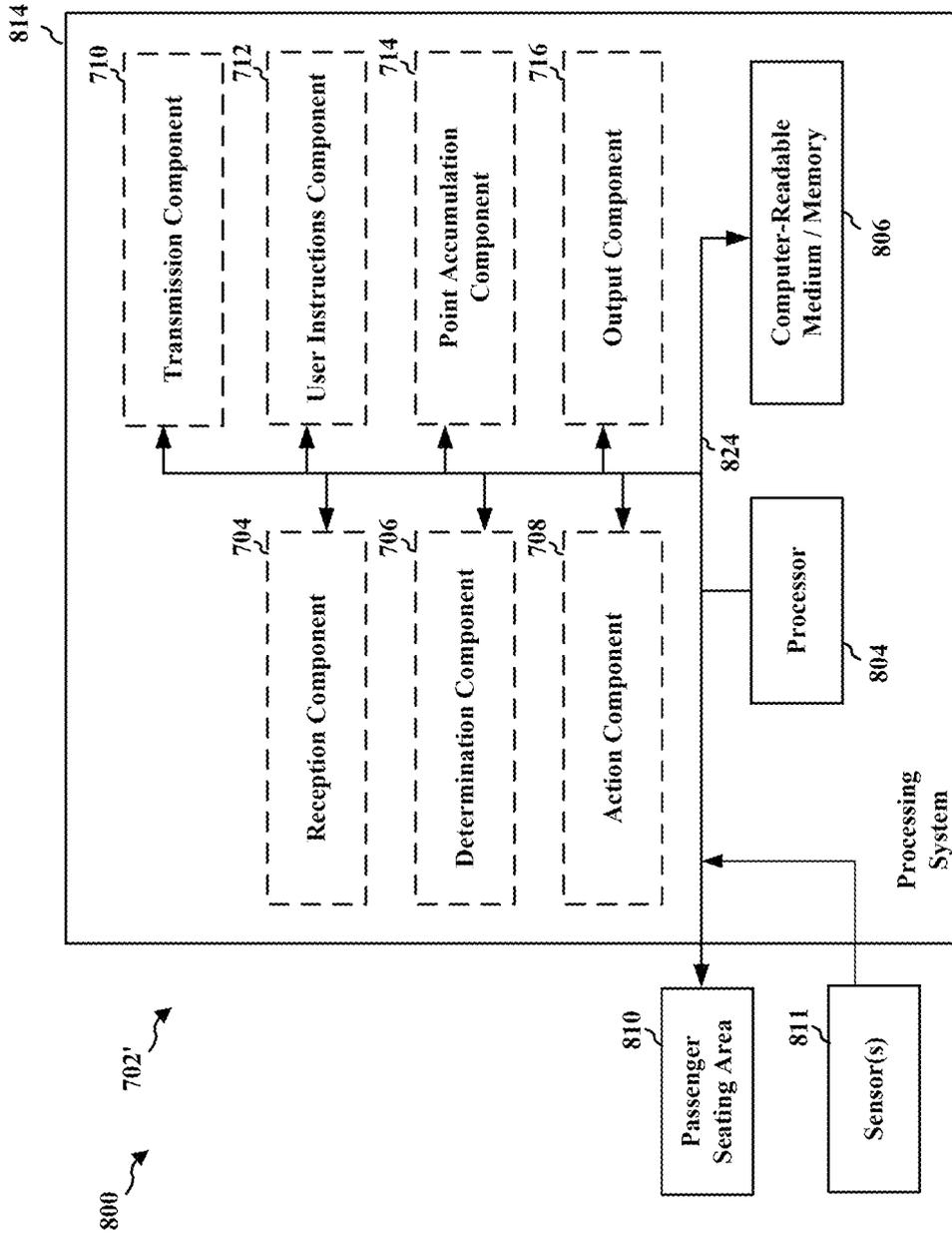


FIG. 8

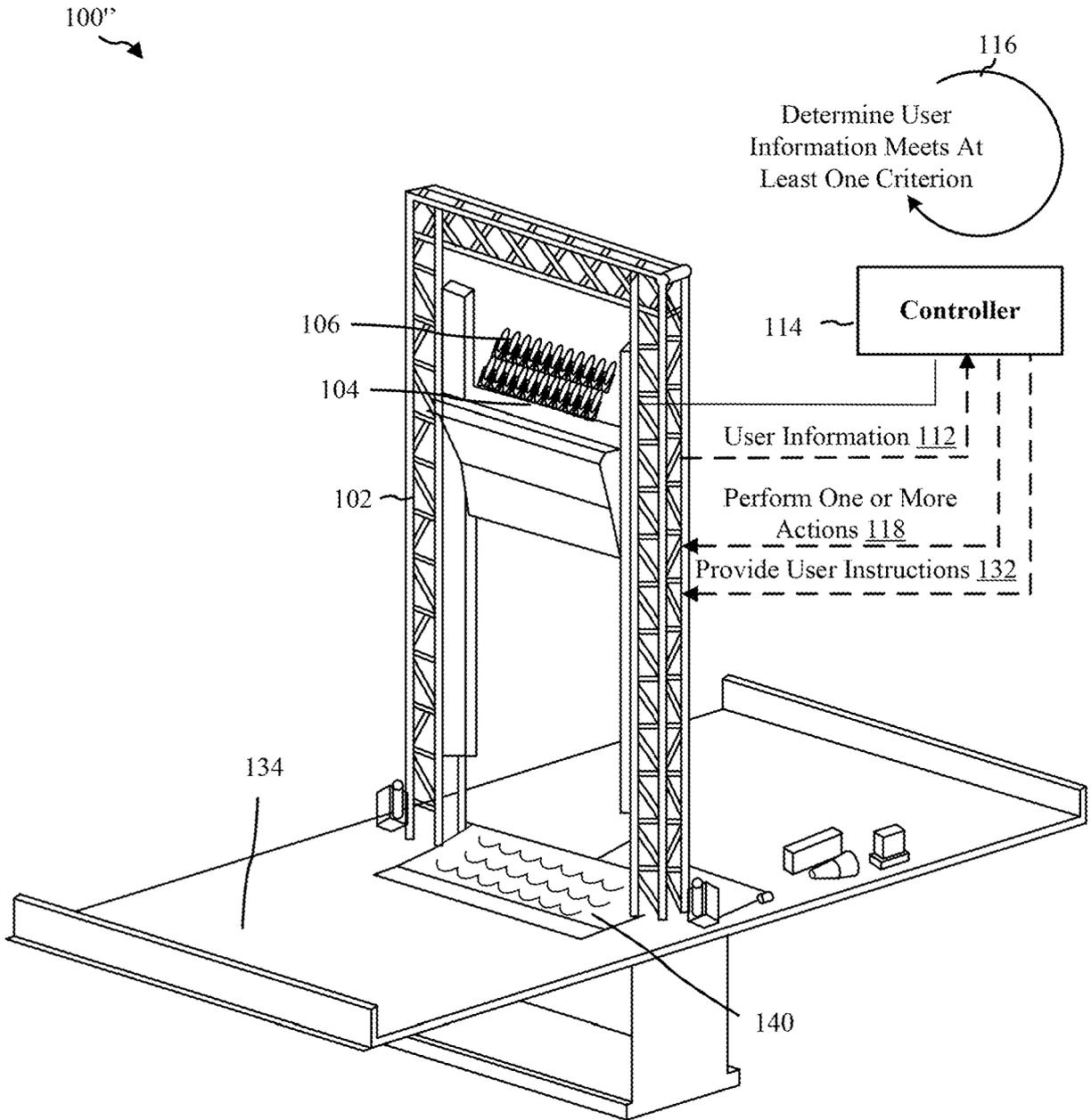


FIG. 9

**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

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