SYSTEM AND METHOD FOR CROWD MANAGEMENT AND MAINTENANCE OPERATIONS

BACKGROUND

[0001] The present disclosure relates generally to the field of amusement parks. More specifically, embodiments of the present disclosure relate to methods and equipment utilized to manage crowd control and maintenance of equipment associated with amusement park experiences.

[0002] In recent years, theme parks and amusement parks have become more popular and accessible, thereby increasing the average number of patrons that visit the theme parks each day. The expansion of parks with additional and more complex attractions (e.g., rides, restaurants, shops, and shows) generally provides an amusement park with additional capacity to handle a larger number of guests. However, the additional attractions also typically provide potential guests with an incentive to visit the amusement park. Thus, while a particular amusement park may add additional capacity, the additional capacity does not always result in an increased ability for guests to participate in park entertainment (e.g., shopping, viewing shows, riding rides) or reduced wait times for attractions. This is because there is often a corresponding increase in attendance. While guests have desired bigger, better, and more elaborate attractions, they also expect a positive overall experience. Providing a positive overall experience for amusement park guests entails addressing certain issues related to controlling the crowds and wait times associated with certain attractions. Indeed, it is now recognized that park guests can be deterred from returning to a particular amusement park due to negative experiences with large crowds resulting in longer wait times. Accordingly, it is now recognized that it is desirable to improve amusement park crowd control systems and methods. Moreover, the increase in guest traffic can cause equipment associated with the attraction to require service more frequently than usual. As such, it may be beneficial to improve park maintenance systems and methods.

BRIEF DESCRIPTION

[0003] Certain embodiments commensurate in scope with the originally claimed subject matter are summarized below. These embodiments are not intended to limit the scope of the disclosure, but rather these embodiments are intended only to provide a brief summary of certain disclosed embodiments. Indeed, the present disclosure may encompass a variety of forms that may be similar to or different from the embodiments set forth below.

[0004] In accordance with one embodiment, a crowd management system includes at least one local controller associated with an attraction area of an individual attraction within a theme park. The crowd management system includes a transceiver of the at least one local controller, where the transceiver receives guests data via wireless signals from guest-associated devices within a detection range of the at least one local controller. The crowd management system includes a remote central controller in communication with the at least one local controller. The remote central controller receives the guest data from the at least one local controller and determines one or more crowd metrics of the individual attraction based on the received guest data. The remote central controller generates an activity command based on the determined one or more crowd metrics. The remote central controller transmits the activity command to at least one guest-associated device of the guest-associated devices.

[0005] In accordance with an embodiment, a crowd management system includes a plurality of local controllers associated with respective attractions within a theme park. The system includes a central controller in communication with the plurality of local controllers, where the central controller receives communications from the plurality of local controllers, where the communications comprise guest population information based on detection of wireless guest devices in proximity of the respective attractions. The central controller determines one or more crowd metrics of the respective attractions based on the determined communications, where the crowd metrics include guest population information based on detection of wireless guest devices in proximity of the

respective attractions. The central controller generates an activity command for an individual guest based on the one or more crowd metrics, and transmits the activity command to a device associated with the individual guest.

[0006] In accordance with one embodiment, a system includes interactive equipment elements of an individual attraction within a theme park. The interactive equipment elements include one or more sensors and a controller to receive data from the one or more sensors. The data includes information indicative of guest interactions with the interactive equipment elements. The controller determines one or more maintenance-related metrics of the interactive equipment elements based on the received data. The controller generates a maintenance command for the interactive equipment elements based on the one or more maintenance-related metrics and deactivates the interactive equipment elements based on the maintenance command. The controller may activate different interactive equipment elements upon deactivating the interactive equipment elements.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] These and other features, aspects, and advantages of the present disclosure will become better understood when the following detailed description is read with reference to the accompanying drawings in which like characters represent like parts throughout the drawings, wherein:

[0008] FIG. 1 is a flow diagram of a method using a crowd management system in accordance with present embodiments;

[0009] FIG. 2 is a schematic view of a theme park including a crowd management system in accordance with present embodiments;

[0010] FIG. 3 is a schematic view of a crowded area of the theme park utilizing the crowd management system in accordance with present embodiments;

[0011] FIG. 4 is a schematic view of a less crowded area of the theme park utilizing the crowd management system in accordance with present embodiments;

[0012] FIG. 5 is a schematic view of an attraction including dynamically activated interactive equipment elements in accordance with present embodiments;

[0013] FIG. 6 is a schematic representation of an active wearable in accordance with present embodiments; and

[0014] FIG. 7 is a block diagram of a control system that may be implemented to manage crowds in a theme park and/or maintenance of the equipment in the theme park in accordance with present embodiments.

DETAILED DESCRIPTION

[0015] Presently disclosed embodiments facilitate virtual crowd management within a theme park. A virtual crowd management system as provided herein manages guest population between and within various attractions of the theme park to limit or eliminate large crowds waiting in a line or waiting to access features at a given attraction, such as a ride. For example, when a particular ride or region of a park is too crowded, all or some guests in the crowded area may receive notifications that new rewards or features are available in another section of the park. These messages incentivize users to redistribute within the park to decrease the guest population in the crowded area and to provide increased enjoyment. Further, the disclosed techniques may be used to manage interactive equipment elements within the amusement park. In one embodiment, interactive equipment elements may be dynamically activated as an incentive to move guests to new locations within the park and/or within a particular attraction. Further, interactive equipment elements may be controlled to be less active or responsive when in a crowded area. In this manner, guests lose interest in particular interactive equipment elements as the surrounding area becomes more crowded, thus creating a feedback loop to cause a local decrease in crowding around the interactive element.

[0016] In certain embodiments, the disclosed techniques include a controller (e.g., remote central controller) that assesses metrics of guest population and distribution (e.g., crowd metrics) and sends messages or other notifications to the guests that incentivize desired guest distribution, e.g., notifications relating to activity sequences to be performed by the guest that incentivize the guest to leave a crowded attraction. The system receives various inputs from local controllers associated with the attraction(s) and/or the guests that are used to dynamically manage the crowds and/or the interactive equipment. In certain embodiments, crowd management is managed in part via guest devices such as active wearables (e.g., bracelets, wearable tags, necklaces or badges) that are carried by or associated with the guests and that interact with various attractions, and which signal the guest to leave the attraction, go to different areas of the attraction, or go to different areas of the park. In other embodiments, the crowd management can be managed via an application on the guests' mobile devices.

[0017] The signals may also be used by the controller to gather data about the maintenance of equipment associated with the given attraction and output a maintenance request to a display or operator when the equipment needs servicing. The controller may be configured to communicate with a maintenance controller, or the controller may monitor and control maintenance of the equipment. For example, maintenance of the equipment may be monitored via sensors such as impact sensors, accelerometers, time of operation sensors, piezosensors, optical sensors, or any other suitable sensors to monitor the equipment associated with the attraction, e.g., interactive equipment elements. The sensors may output signals to indicate how long the attraction has been interacted with, how long the attraction has been on or in use, to indicate wear on a portion of the attraction, and so forth. When the remote central controller determines that the equipment has reached a maintenance threshold (e.g., an upper operating limit, been in service too long), the remote central controller may alert an operator or output a message to a display that service or maintenance operations should be performed.

[0018] FIG. 1 is a flow diagram of a method using a crowd management system in accordance with present techniques. The method 10 initiates by receiving and/or providing (block 12) user identification information for guests and detecting (block 14) entry of the guest when the guest enters the amusement park. Once in the park, the method 10 includes receiving (block 16) one or more signals about the guests, such as data associated with the guests and collected or provided as part of the credential information. The data may be provided via the local controller and/or the guest's associate device (e.g., active wearable) and may include information such as the guest's position or location. The method 10 may include determining (block 18) a crowd metric of or in an individual attraction, such as when an attraction wait time is above a threshold. The method 10 includes generating (block 20) an activity command based on the one or more crowd metrics. In some embodiments, the activity command may include a message or notification to the individual guest to go to a different attraction of the respective attractions. The method 10 may include transmitting (block 22) the activity command to the guest associated device or an application on the guest's mobile device. Details of the aspects of the method 10 will be discussed in further detail below with respect to related system features.

[0019] FIG. 2 is a schematic view of a theme park including a crowd management system in accordance with present techniques. The system 100 includes a remote central control system 102, monitoring sensors 104, a wireless communication system 106, a local control system 107, system displays 108, active wearables 110 (e.g., a bracelet including accessible data and communication features) and other components that coordinate in accordance with present embodiments, as will be described in detail below. Certain aspects of the system 100 will be referenced with respect to the part they play in the method 10 illustrated by FIG. 1. Specifically, it should be noted that present embodiments facilitate crowd management such that amusement park guests 120 can be directed or incentivized to enter a particular region or attraction in the park. Present embodiments may function to encourage participation in other areas of an amusement

park, such as dining, shopping, and other entertainment venues (e.g., rides, shows) in other regions of the park.

[0020] As generally represented by block 14 of method 10, when guests 120 arrive at a ticketing location (e.g., guest service counter, park gate), the guests 120 may be provided with entry credentials (e.g., tickets or active wearables 110) among other items, such as a park map. Informational media (e.g., audio, video) and instructional signage may be present at all such ticketing locations. While certain disclosed embodiments are discussed in the context of guest-associated devices such as active wearables 110, it should be understood that guest-associated devices may also include guest mobile devices (e.g., smart phones). In some instances, guests 120 may have obtained entry credentials prior to arrival and may skip acquiring such credentials at the ticketing location. The entry credentials may be tied to user identification information provided by each guest (represented by block 12) or a guest profile.

[0021] As generally represented by block 16 of method 10, the remote central controller 102 operates to receive signals about the guests 120 from the user's associated device (e.g., the active wearable 110). The signals may include guest identification information and/or information about the location of the guests 120 as determined via signals output from the user's associate device (e.g., the active wearable 110). Other information about the guests 120 may be output from an attraction 148, including the wait time of the guest 120 in an area of the park, the number of times the guest 120 attempted to interact with an attraction, and so forth as determined by the guest's interactions with one or more interactive equipment elements. As a specific example, when the guest 120 has attempted to interact with a particular attraction 148, such as by repeatedly making physical contact with an interactive equipment element of the attraction 148, the active wearable 110 and/or the interactive equipment element may provide signals to a local controller 107 that in turn are passed to the remote central controller 102 to indicate this.

[0022] As generally represented by block 18, the method 10 may include determining when the number of guests 120 and/or an anticipated wait time for the attraction 148 is above a threshold. For example, the active wearable 110 may output signals to the remote central controller 102 that indicate that the guest 120 has been waiting in the area of the attraction for more than a threshold amount of time (e.g., over 30 minutes). Wait time may be determined from guest location information and guest identification information as determined via signals from one or more active wearable sensors 109 (e.g., readers, wireless communication beacons) positioned at the attraction and configured to receive identification signals from each active wearable 110 in range. For example, when an active wearable 110 having a particular guest identification number is determined to be in range of a particular active wearable sensor 109, an average wait time may be estimated. In one example, the average wait time may be determined by comparing a previous position of the guest 120 to a new position of the guest 120 to determine how long the guest 120 remained located near the attraction 148.

[0023] As generally represented by block 20, the method 10 may include initiating an activity command when the attraction wait times or other crowd management metrics exceed a threshold. As generally represented by block 22, the method 10 may include transmitting the activity command to the guest device (e.g., the active wearable 110). Present embodiments may function to encourage participation of the guests 120 in other areas of the park. For example, the activity command may request that the guest 120 leave from the ride the guest is waiting in line for to go to another area of the park to complete an activity (e.g., ride a different ride). Upon completing the activity command (e.g., one or more tasks), the guest 120 may be rewarded by being offered an enhanced user experience when the guest 120 returns to the ride for which the guest 120 was originally waiting. Once the guest 120 has completed a task associated with the activity command, the guest 120 can mark the task complete on the active wearable 110 by interacting with the display of the active wearable (e.g., marking the task complete). When the guest 120 marks the task complete, the remote central controller 102 receives a signal from the active wearable 110 that the guest 120 has completed the task. As such,

the remote central controller 102 is alerted to the possibility that the guest 120 may be ready to return to the original attraction. In some embodiments, the remote central controller 102 may determine that the crowd in the area of the first attraction 148 (i.e., the pond attraction 148) is still too great and the associated wait time is too long. In response, the remote central controller 102 may output another activity command (e.g., another task) to encourage the guest 120 to complete another task. The activity command may be further understood with reference to FIGS. 3-4

[0024] FIG. 3 is a schematic view of a crowded area of the theme park utilizing the crowd management system 100 in accordance with present techniques. As discussed above, the theme park includes various attractions (e.g., rides). Certain attractions or rides may attract greater interest at a given time. In the illustrated example, the attraction 148 has attracted a large number of guests 120 in an area 149 of the park. The active wearables 110 worn by the guests 120 output respective signals to the remote central controller 102, which assembles information from the signals to indicate the number of guests in the area, the length of the time guests spend in the area, and so forth. Other signals may be received by the remote central controller 102 as well.

[0025] For example, the remote central controller 102 may receive signals from the attraction 148 (e.g., sensors 104 associated with the attraction 148). The sensors 104 may include impact sensors, accelerometers, time of operation sensors, piezosensors, optical sensors, cameras, microphones, or any other suitable sensor to monitor the attraction. The sensors 104 may be associated with interactive equipment elements 147 (shown here as duck feed dispensing stations) and may output signals to indicate how long the attraction has been interacted with, how long the attraction has been on or in use, how many actuations each interactive equipment element 147 has experienced to indicate wear on a portion of the attraction, and so forth. When the remote central controller 102 determines that an individual interactive equipment element 147 has reached an upper operating limit, been in service too long, etc., the remote central controller 102 may alert an operator 128 (see FIG. 102) or output a message to the display 108 that service or

maintenance operations should be performed. While the depicted interactive equipment element 147 is shown as a duck feed dispenser (e.g., that dispenses a portion of feed upon a guest 120 actuating a button), it should be understood that the interactive equipment element 147 may be configured according to the attraction narrative and may be configured to release an item, provide a special effect, generate a guest reward (e.g., that is in turn associated with a guest profile), etc. Further, the actuation or interaction with the interactive equipment element 147 may be a physical touch, a sensed stylet movement, a sensed audio or visual guest action, etc. In one embodiment, the one or more sensors 104 may include a RFID reader that senses guest proximity to the interactive equipment element 147, whereby the remote central controller 102 and/or the local controller 104 logs proximity as a successful guest interaction. However, to enhance guest immersion and enjoyment, the interactive equipment element 147 may also include mechanical or electronic responses to the successful interaction. In this manner, guests 120 of different physical strength or abilities are nonetheless able to achieve successful interactions with the interactive equipment element 147.

[0026] The remote central controller 102 may dynamically adjust configurations for certain attractions that are pushed down to each local controller 107 and active wearable 110. By adjusting the configuration for the attractions, the remote central controller 102 may control the flow of guest traffic to reduce the congestion in the area. Similarly, the remote central controller 102 may control the flow of guest traffic to reduce the number of users that interact with the attraction when the attraction has been interacted with more than is desired. For example, if physical contact has been made with a certain interactive equipment element 147 by a single user for longer than is desired, the remote central controller 102 may initiate a cool-down activity command. The cool-down activity command may be received by the local controller 107 to reduce the output of the affected attraction. In response, the interactive equipment element 147 may stop outputting a response to reduce the interaction with the guest 120. For example, the interactive equipment element 147 may stop lighting up, making noise, giving points, or otherwise generating a reaction in response to the interaction with the guest. In other words, the

attraction may reduce the desired response to the guest 120 to encourage the guest 120 to stop interacting with the interactive equipment element 147 of the attraction 148.

[0027] In another example, when the remote central controller 102 determines that a crowd metric for a given attraction 148 indicates undesired crowding, the remote central controller 102 may initiate the activity command. The activity command may include requesting that the guest 120 complete an activity, requesting that the guest 120 complete a certain number of tasks from a task list, complete certain tasks in a sequence, and so forth. In the illustrated example, the remote central controller 102 may determine via crowd metrics gathered by the active wearables 110 associated with the guests that the crowd gathered at the attraction 148 (e.g., a pond attraction for feeding ducks) is too large. That is, in one embodiment, a crowd metric is guest density at a particular area 149 or attraction 148, which may be assessed based upon determining a number of detected active wearable signals associated with individual guests 120 generated within the area 149 or at the attraction 148 at a particular time and comparing the number to a threshold. When the estimated number of guests 120 in the area 149 is above the threshold, the crowd metric may be indicative of undesired crowding. In such embodiments, the activity commands may be sent to one or more guest devices (e.g., active wearables 110) determined to be in the crowded area 149 or attraction 148 to encourage the respective guests 120 to leave and go to other areas 149 or attractions 148. Conversely, sparsely populated areas 149 or attractions 148 may trigger activity commands based on crowd metrics indicative of low guest density. Such activity commands may be sent to guests 120 that are not in the sparsely populated areas 149 or attractions 148 but that are located elsewhere in the park. Other crowd metrics may be wait time for an attraction 148, crowd density around a particular interactive equipment element 147, etc. In other words, the remote central controller 102 may generally monitor the attractions 148 with higher crowd densities and the sparsely populated areas 149 at the same time to determine which areas of the theme park the guests 120 may be shifted to.

[0028] In order to shift the guests 120 to sparsely populated areas 149, the remote central controller 102 may initiate the activity command based on the crowd metrics to change a game configuration associated with an individual attraction 148, e.g., the pond attraction. The activity command may include transmitting the activity command to the guest-associate devices (e.g., the active wearables 110) to encourage the guests to move to another attraction (e.g., a horse attraction) to control the flow of guest traffic and reduce the pond attraction traffic, as explained further with reference to FIG. 4.

[0029] FIG. 4 is a schematic view of a less crowded area 151 of the theme park utilizing the crowd management system in accordance with present techniques. In the illustrated example, the activity command has been pushed down from the remote central controller 102 to the local controller 107 and thereby the active wearable 110 associated with the guest 120. As described above, the activity command may include requesting that that the guest 120 complete an activity, requesting that the guest 120 complete a certain number of tasks from a task list, complete certain tasks in a sequence, and so forth. In the illustrated embodiment, the activity command includes requesting that the guest 120 leave the pond attraction (FIG. 3) to visit a horse attraction 150 to alleviate congestion at the pond attraction 148. By following the activity command, the guest 120 may be offered an enhanced user experience when the guest 120 returns to the original attraction (i.e., the pond attraction 148) as explained further below.

[0030] Returning to the discussion of the activity command, the guest 120 may be signaled via the activity command output to the active wearable 110 to interact with the horse attraction 150. In the illustrated example, the guest 120 is instructed to complete the task of feeding the horse an apple. Once the guest 120 has completed this task of the activity command, the guest 120 can mark the task complete on the active wearable 110 by interacting with the display of the active wearable (e.g., marking the task complete). When the guest 120 marks the task complete, the remote central controller 102 receives a signal from the active wearable 110 associated with the guest that the guest 120 has completed the task. As such, the remote central controller 102 is alerted to the possibility

that the guest 120 may return to the original attraction (i.e., the pond attraction 148). In some embodiments, the remote central controller 102 may determine that the crowd in the area of the first attraction 148 (i.e., the pond attraction 148) is still too great and the associated wait time is too long. In response, the remote central controller 102 may encourage the guest 120 to complete another task. For example, the remote central controller 102 may output another activity command to instruct the guest 120 to complete another task to continue to keep the guest 120 occupied and reduce the congestion in the area of the original attraction (i.e., the pond attraction 148). In some embodiments, the activity command may include only one task for the guest 120 to complete. In other embodiments, the activity sequence may require that the guest 120 complete a certain number of tasks from a task list or complete certain tasks in a sequence. Upon completion of the activity sequence, the guest 120 will be instructed to return to the original attraction (i.e., the pond attraction 148). By completing the activity sequence, the guest 120 may be offered an enhanced user experience (e.g., a unique virtual aspect of the attraction may be enabled). For example, the guest 120 may be offered access to a private area of the pond 152, more food to feed the ducks, and so forth. By completing the activity sequence, the guest 120 will have contributed to a reduction of congestion in the area of the original attraction (i.e., the pond attraction 148).

[0031] FIG. 5 is a schematic representation of an attraction including an active subset of interactive equipment elements 147a and an inactive subset of interactive equipment elements 147b. In the depicted embodiment, the interactive equipment elements 147 may be generally of the same type, e.g., configured as a wall 300 including interactive panels 302, the interactive panels 302, when active, displaying a chicken egg 304 for an egg collecting feature of the attraction 148. The interactive panels 302 may be configured to be pressed to permit the guest 120 to virtually collect the displayed egg 304. As provided herein, the collection may be logged to or associated with the guest identification of the guest device in proximity to the individual interactive panel 302. For example, the interactive panel 302 may include a RFID reader that reads identification information of the guest device e.g., the active wearable 110. Upon a successful interaction, the active

wearable 110 may also light up or otherwise indicate that the interaction is complete to encourage the guest 120 to move on and allow other guests 120 to interact with the wall 300. In one embodiment, the interactive panel 302, once actuated, will go dark or will no longer display the egg 304, indicating that it has been collected. In response, the controller 302 may then provide activation instructions to one of an inactive subset of interactive equipment elements 147b, which may then dynamically become part of the active subset and may start displaying the egg 304. In this manner, the active subset and the inactive subset may change members dynamically and in response to guest actions. Further, the dynamic adjustment may encourage guests to fan out along the wall 300 to reduce crowding, as new eggs 304 may randomly appear at any time. In addition, the dynamic reconfiguration may mask any nonfunctional or maintenance-queued interactive equipment elements 147 by providing alternate options for the guests 120.

[0032] FIG. 6 is a schematic representation of a guest device configured as the active wearable 110 in accordance with present embodiments. In the illustrated embodiment, the active wearable 110 includes a housing 400 in the form of a bracelet. However, in other embodiments, it may include a necklace, a headband, a ring, or other conveniently wearable item. A device 402 may be embedded in the housing 400. The device 402 may include several separate or unified components that perform certain functions. In the illustrated embodiment, the device 402 includes a memory/identifier 404, a power module 406, a display 408, an indicator 410, a transmitter 412, and a receiver 414. In some embodiments, the memory/identifier 404 may include a simple identifier (e.g., an RFID tag), which the remote central controller 102 associates with a guest 120. In operation, the device 402 may operate to at least receive information from the remote central controller 102 to provide the guest 120 with information (e.g., the activity command). Specifically, the device 402 may communicate with the remote central controller 102 via the communication system 106. In some embodiments, this may include communication from the device 402 to the remote central controller 102. However, in other embodiments, detecting the device 402 throughout the park area using the monitoring sensors 104 (e.g., proximity sensors) and analyzing such data with the

remote central controller 102 may provide information related to the device 402 (e.g., number of users 120 in the vicinity of the attraction, wait times experienced by the user 120 associated with the device 402). The active wearable 110 may include one or more lights or other indicators that may flash or light up in response to successful interactions with interactive equipment elements 147, e.g., in response to wireless signals from the controller 102 indicative of the successful interaction.

[0033] FIG. 7 is a block diagram of a control system 600 that may be implemented to manage crowds in a theme park and/or maintenance of the equipment in the theme park. The system 600 includes the remote central controller 102 in communication with one or more local controllers 107. The local controllers 107 may be co-located with a given attraction or located within a certain radius of the attraction. Each local controller 107 may receive signals from the active wearables 110 associated with respective guests 120. That is, in certain embodiments, each local controller 107 may monitor the number of guests in the vicinity of the attraction. One or both of the remote central controller 102 and the local controllers 107 may include communications circuitry (e.g., communications circuitry 604 or 606), such as antennas, radio transceiver circuits, and signal processing hardware and/or software (e.g., hardware or software filters, A/D converters, multiplexers amplifiers), or a combination thereof, and that may be configured to communicate over wired or wireless communication paths via IR wireless communication, satellite communication, broadcast radio, Microwave radio, Bluetooth, Zigbee, Wifi, UHF, NFC, etc. Such communication may also include intermediate communications devices, such as radio towers. In one embodiment, the communication between the remote central controller 102 and the local controller 107 is wired. The system 600 may also include the interactive equipment element 147, which also may include communications circuitry 602 and one or more sensors 104 as provided herein. The communication between the interactive equipment element 147 and the local controller 107 may be wired or wireless. In addition, the local controller 107 may be in communication with additional readers or other guest device detectors 609 that monitor

guest position and identity to determine crowd metrics. Such detectors may include communication circuitry 611 as provided herein.

[0034] In addition, one or both of the remote central controller 102 and the local controller 107 may include a display 615, a memory device (e.g., memory device 608 or 610) for storing instructions executable by a processor (e.g., processor 612 or 614) to perform the methods and control actions described herein. For example, the processor 612 may execute instructions for crowd management based on inputs from the local controller 107 as well as data on guest entry into a ride and guest exit from a park. Additional inputs may include a guest location within the park or how long the guest has been in the vicinity of the attraction. For example, an activity command may be generated and output to the user's active wearable based at least in part on the guest's location relative to the attraction, as determined via wireless signal or global positioning system (GPS) information from the guest active wearable. The system 600 may store guest locations during a park visit to create an accessible log of guest locations within the park for use in determining which guests will be incentivized to leave an attraction and later return for an enhanced user experience. If the guest is estimated to be located within a first distance relative to the attraction for a first time, a message with the status of his or her wait time is sent to the active wearable (e.g., "20 MINUTES UNTIL DUCK FEEDING"), which accounts for the user being one of the first guests to arrive at the attraction. If the guest instead arrived later to the attraction when the crowds are larger than an acceptable threshold upper limit, the activity command may be generated (e.g., "FEED THE HORSE AT HORSE RIDE ATTRACTION TO RECEIVE A BETTER DUCK FEEDING EXPERIENCE WHEN YOU RETURN") to account for the crowd in the vicinity and increased wait time for the attraction 148. In this manner, guests that arrived later to the attraction may be incentivized to return to the attraction later when the the crowds have dispersed or the crowds have reduced to an acceptable amount.

[0035] The processor may include one or more processing devices, and the memory may include one or more tangible, non-transitory, machine-readable media. By way of

example, such machine-readable media can include RAM, ROM, EPROM, EEPROM, or optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to carry or store desired program code in the form of machine-executable instructions or data structures and which can be accessed by the processor or by other processor-based devices (e.g., mobile devices). For example, the remote central controller 102 and the local controller 107 may be accessed by an operator interface 620, e.g., a computer-based workstation or a mobile device, and/or may include an input/output interface 616.

[0036] The remote central controller 102 may, in certain embodiments, dynamically present ride options to each guest via the active wearable 110 to encourage the guest 120 to first access historically less-crowded attractions so that the user can have an enhanced experience when he accesses the more-crowded attractions.

[0037] While only certain features of the present embodiments have been illustrated and described herein, many modifications and changes will occur to those skilled in the art. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the true spirit of the present disclosure. Further, it should be understood that certain elements of the disclosed embodiments may be combined or exchanged with one another.

CLAIMS:

1. A crowd management system, comprising:

at least one local controller associated with an attraction area of an individual attraction within a theme park;

a transceiver of the at least one local controller, wherein the transceiver is configured to receive guest data via wireless signals from guest-associated devices within a detection range of the at least one local controller;

a plurality of interactive equipment elements associated with the individual attraction comprising active and inactive interactive equipment elements, wherein an active interactive equipment element of the plurality of interactive equipment elements is configured to:

sense,

via a sensor,

physical contact with the active interactive equipment element; read, via an RFID reader, an identification of a guest device in proximity to the active interactive equipment during the physical contact; and

generate a signal indicative of the interaction that associates the guest device with the physical interaction; and

a remote central controller in communication with the at least one local controller, wherein the remote central controller is configured to:

receive the guest data from the at least one local controller and the signal indicative of the physical contact from the active interactive equipment element, determine one or more crowd metrics of the individual attraction based on the received guest data and the signal from the active interactive equipment element, select one or more inactive interactive equipment elements of the plurality of interactive equipment elements based on the crowd metrics; and activate the selected inactive interactive equipment elements of the plurality of interactive equipment elements.

2. The crowd management system of claim 1, wherein the at least one local controller is located in an area proximate to the individual attraction, wherein the individual attraction is a ride.

3. The crowd management system of claim 1, wherein the remote central controller is configured to dynamically activate the selected inactive interactive equipment elements in response to the received guest data.

4. The crowd management system of claim 1, wherein the remote central controller is configured to use the one or more crowd metrics to determine a population of guests in the attraction

area is above a threshold.

5. The crowd management system of claim 1, wherein the remote central controller is configured to dim the active interactive equipment element after the physical interaction with the active interactive equipment element exceeds a threshold.

6. The crowd management system of claim 1, wherein the remote central controller is configured to estimate a location of an individual guest device within the theme park based on one or more radio frequency signals from the individual guest device.

7. The crowd management system of claim 1, wherein the remote central controller is configured to control an illumination intensity of the individual interactive equipment element.

8. The crowd management system of claim 1, wherein the remote central controller is configured to select additional inactive interactive equipment elements to activate based on part on the crowd metrics.

9. The crowd management system of claim 1, wherein the remote central controller is configured to deactivate a particular active interactive equipment elements in response to the particular active interactive equipment element being queued for maintenance.

10. The crowd management system of claim 1, wherein the guest-associated devices comprise wearable devices.

11. A crowd management system, comprising:

a plurality of local controllers associated with respective attractions within a theme park;

a first plurality of interactive equipment elements associated with a first attraction of the respective attractions, an individual interactive equipment element of the first plurality of interactive equipment elements being configured to:

sense, using a sensor, physical contact with the individual interactive equipment element; generate an output indicative of the physical contact; initiate a cool-down activity command of the individual interactive equipment element based on a length of the sensed physical contact with the individual interactive equipment element; and reduce the output of the individual interactive equipment element in response the cool-down activity command; and a central controller in communication with the plurality of local controllers, wherein the central controller is configured to: receive communications from the plurality of local controllers and the signal from the sensor; determine one or more crowd metrics of the respective attractions based on the received

communications and the signal from the sensor, wherein the crowd metrics comprise guest population information based on detection of wireless guest devices in proximity of the respective attractions; generate an activity command for an individual guest based on the one or more crowd metrics, wherein the activity command comprises a message or notification associated with a second plurality of interactive equipment elements; and transmit the activity command to a guest-associated device associated with the individual guest.

12. The crowd management system of claim 11, wherein the plurality of local controllers are co-located with the respective attractions.

13. The crowd management system of claim 11, wherein the central controller is configured to monitor completion of an activity performed on an interactive equipment element of the second plurality of interactive equipment elements indicated by the activity command.

14. The crowd management system of claim 13, wherein the central controller is configured to generate a notification to the guest-associated device that the individual guest can return to the first attraction when the activity command is complete.

15. The crowd management system of claim 11, wherein the central controller is configured to control activation of the second plurality of interactive equipment elements based on the one or more crowd metrics.

16. The crowd management system of claim 15, wherein the activity command comprises an indication of a location or identity of the second plurality of interactive equipment elements.

17. The crowd management system of claim 11, wherein completing the activity command causes a new feature of the individual attraction to be activated.

18. The crowd management system of claim 11, wherein the individual interactive equipment element stops lighting up or making noise in response the cool-down activity command.