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(54) **CONTROLLING HEALTH SCREENING VIA ENTERTAINMENT EXPERIENCES**

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A61B 5/00	(2006.01)
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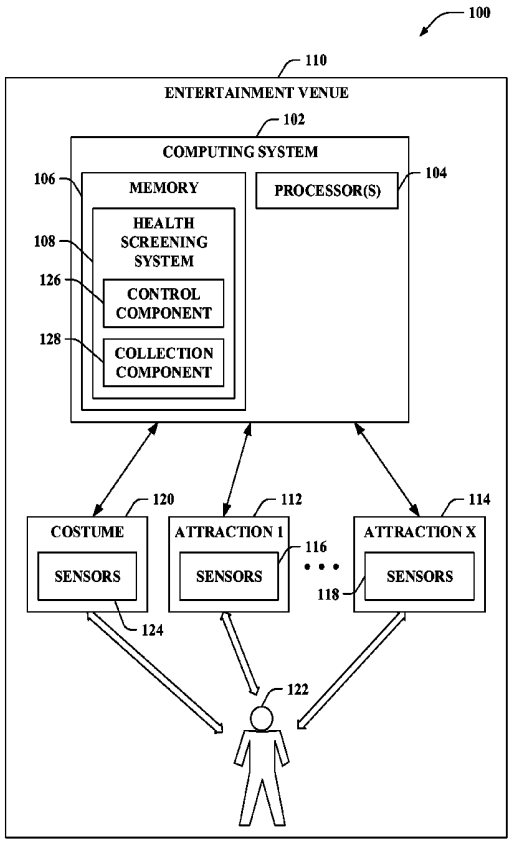
(57) **ABSTRACT**

Various technologies described herein pertain to controlling performance of a health assessment of a user in an entertainment venue. Data in a health record of the user is accessed, where the health record is retained in computer-readable storage. The user is located at the entertainment venue, and the entertainment venue includes an attraction. A health parameter of the user to be measured as part of the health assessment performed in the entertainment venue is selected based on the data in the health record of the user. Further, an interaction between the user and the attraction of the entertainment venue is controlled based on the health parameter to be measured. Data indicative of the health parameter of the user is computed based on a signal output by a sensor. The signal is output by the sensor during the interaction between the user and the attraction of the entertainment venue.



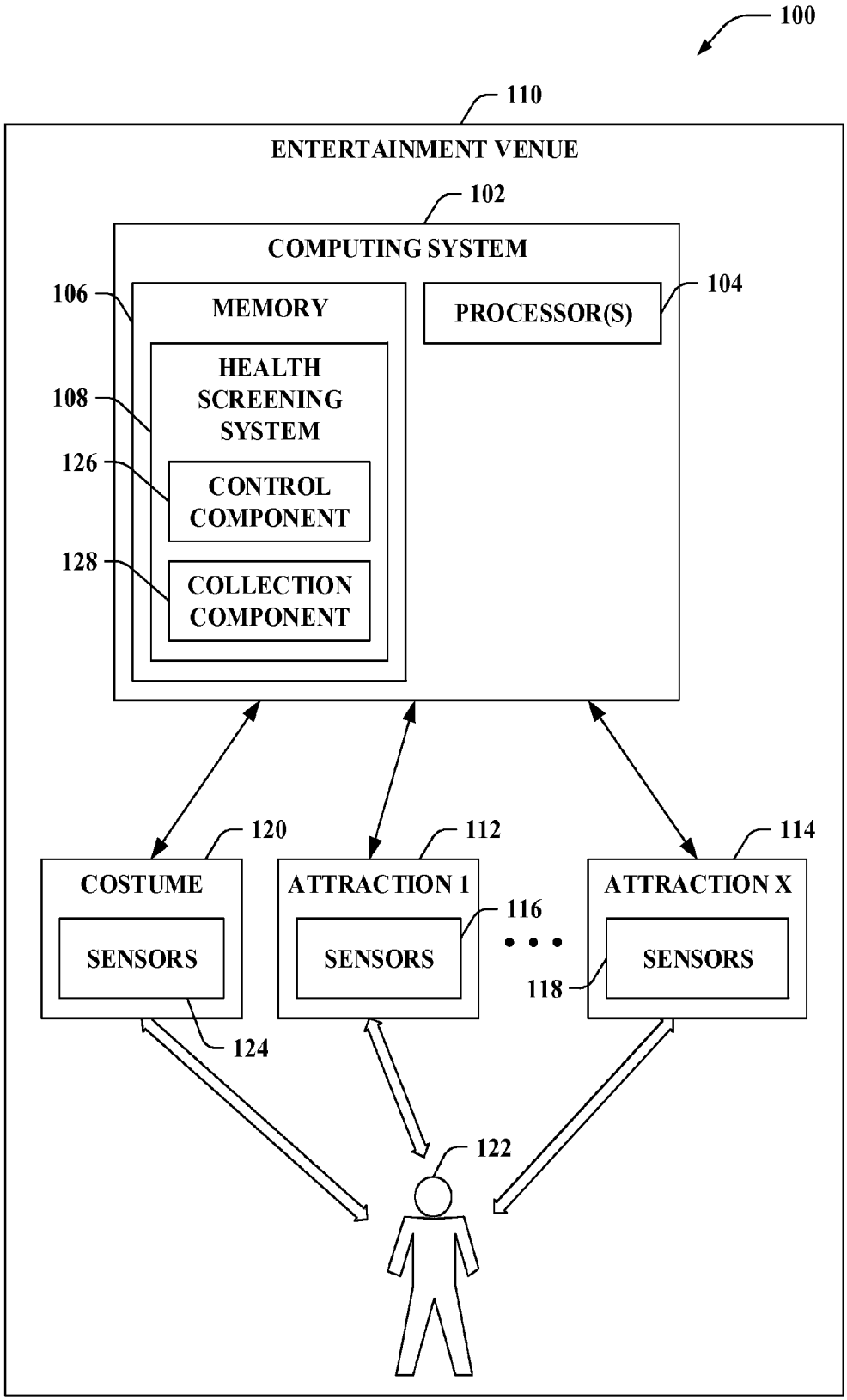

100
110
ENTERTAINMENT VENUE
102
COMPUTING SYSTEM
106
MEMORY
104
PROCESSOR(S)
108
HEALTH SCREENING SYSTEM
126
CONTROL COMPONENT
128
COLLECTION COMPONENT
120
112
114
COSTUME
ATTRACTION 1
ATTRACTION X
SENSORS
SENSORS
SENSORS
116
118
124
122

FIG. 1

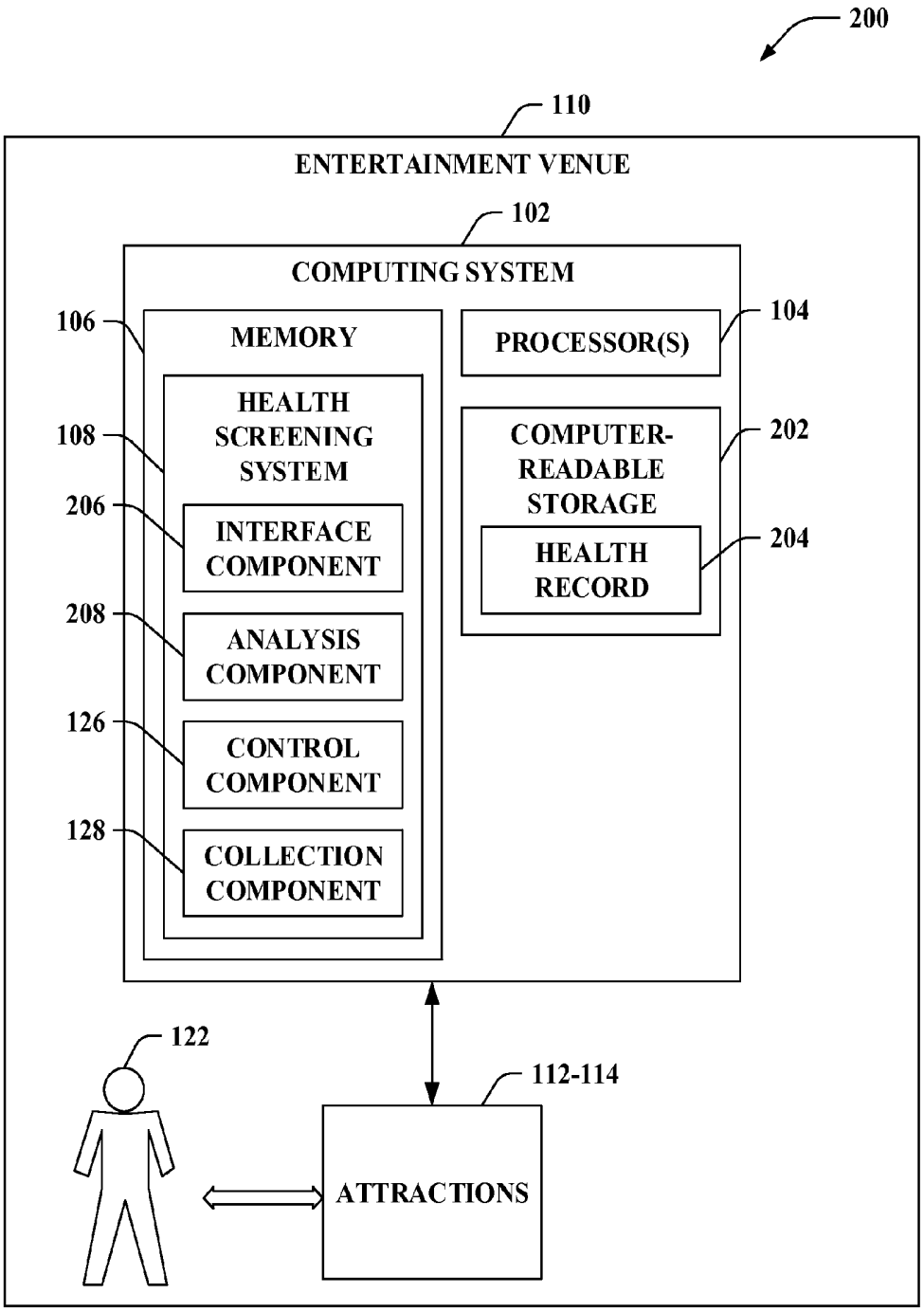

200
110
ENTERTAINMENT VENUE
102
COMPUTING SYSTEM
106
MEMORY
104
PROCESSOR(S)
108
HEALTH SCREENING SYSTEM
206
INTERFACE COMPONENT
208
ANALYSIS COMPONENT
126
CONTROL COMPONENT
128
COLLECTION COMPONENT
202
COMPUTER-READABLE STORAGE
204
HEALTH RECORD
122
112-114
ATTRACTIONS

FIG. 2

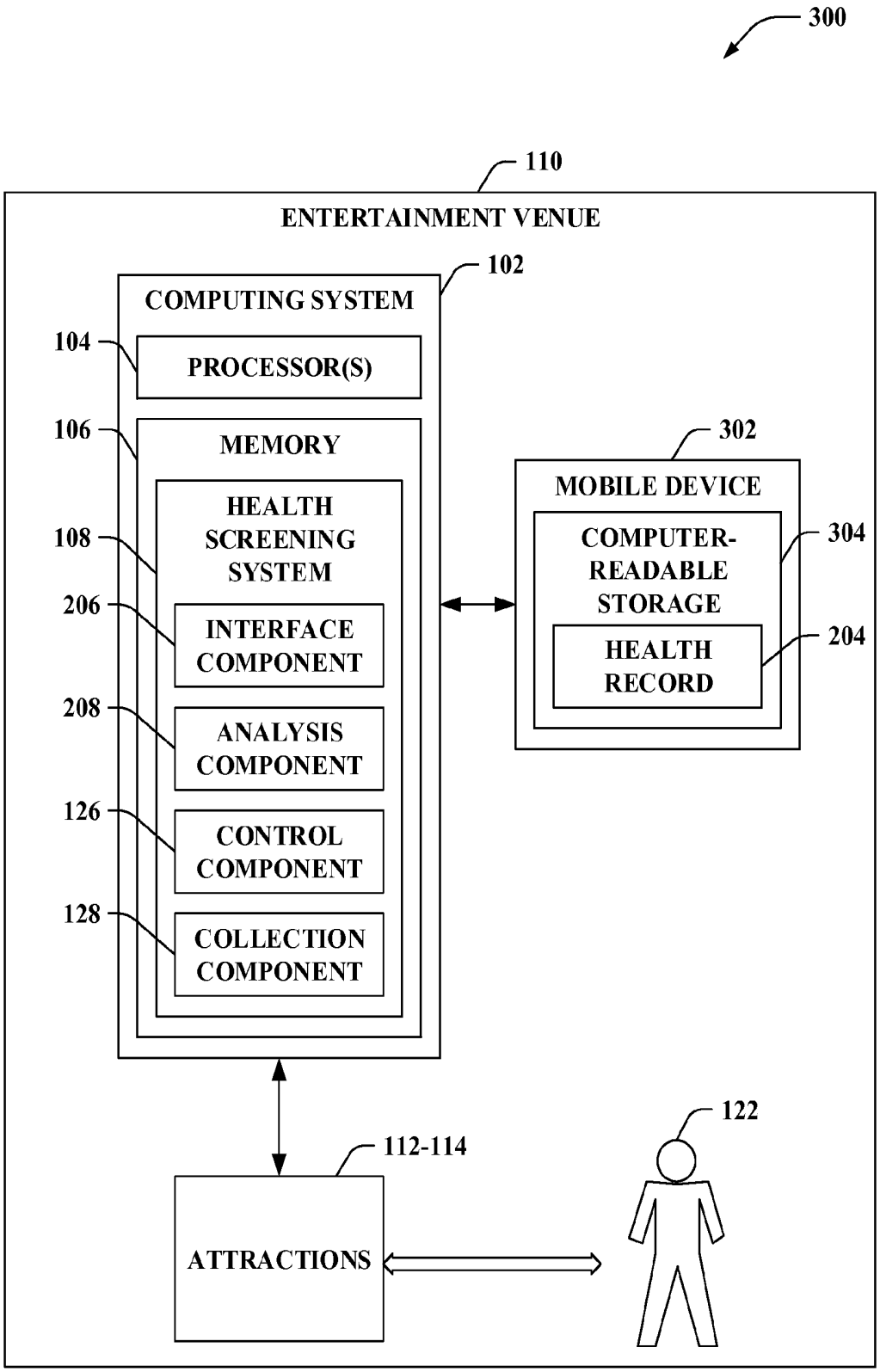

300
110
ENTERTAINMENT VENUE
102
COMPUTING SYSTEM
104
PROCESSOR(S)
106
MEMORY
108
HEALTH SCREENING SYSTEM
206
INTERFACE COMPONENT
208
ANALYSIS COMPONENT
126
CONTROL COMPONENT
128
COLLECTION COMPONENT
302
MOBILE DEVICE
304
COMPUTER-READABLE STORAGE
204
HEALTH RECORD
112-114
ATTRACTIONS
122

FIG. 3

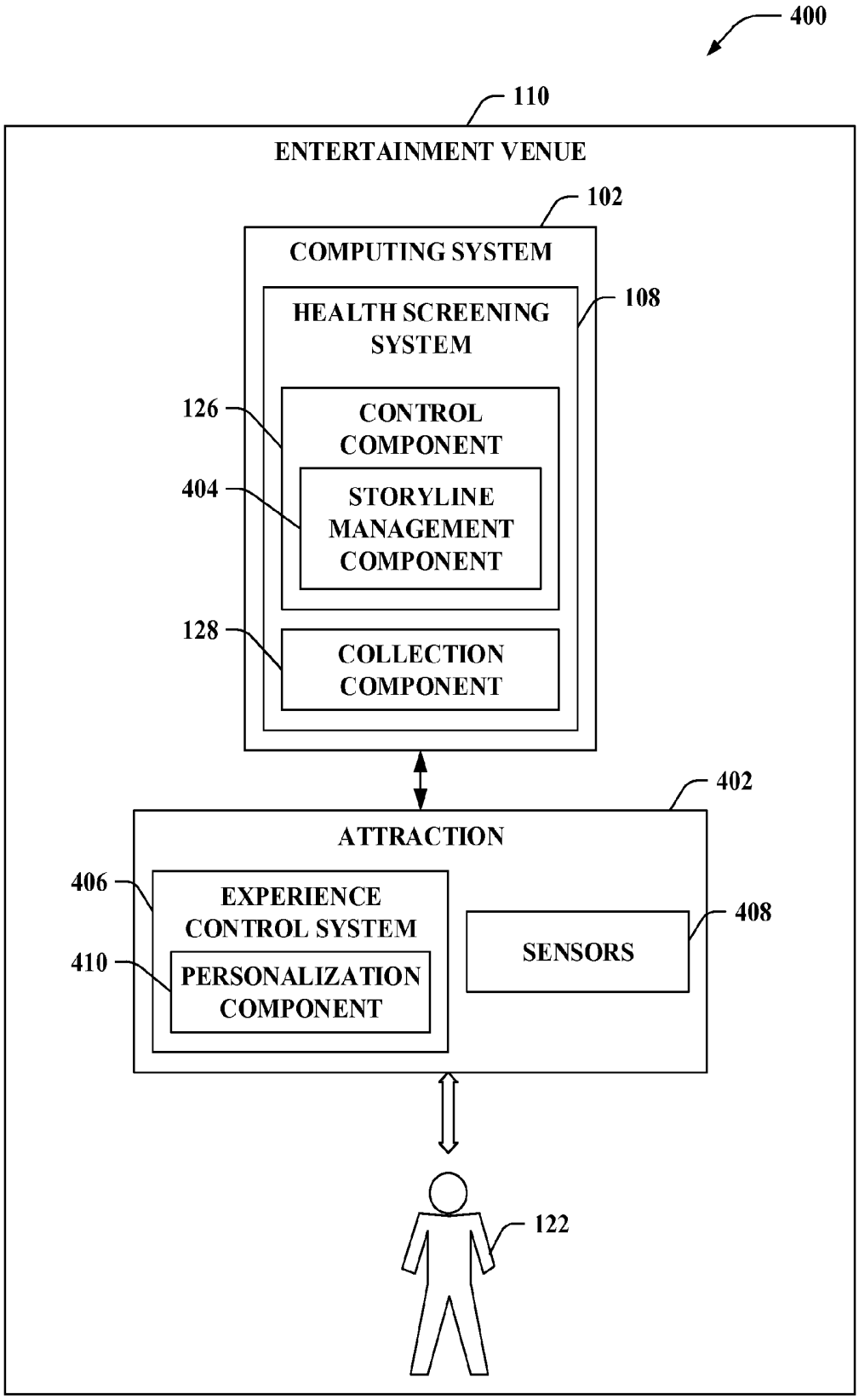

400
110
ENTERTAINMENT VENUE
102
COMPUTING SYSTEM
108
HEALTH SCREENING SYSTEM
126
CONTROL COMPONENT
404
STORYLINE MANAGEMENT COMPONENT
128
COLLECTION COMPONENT
402
ATTRACTION
406
EXPERIENCE CONTROL SYSTEM
410
PERSONALIZATION COMPONENT
SENSORS
408
122

FIG. 4

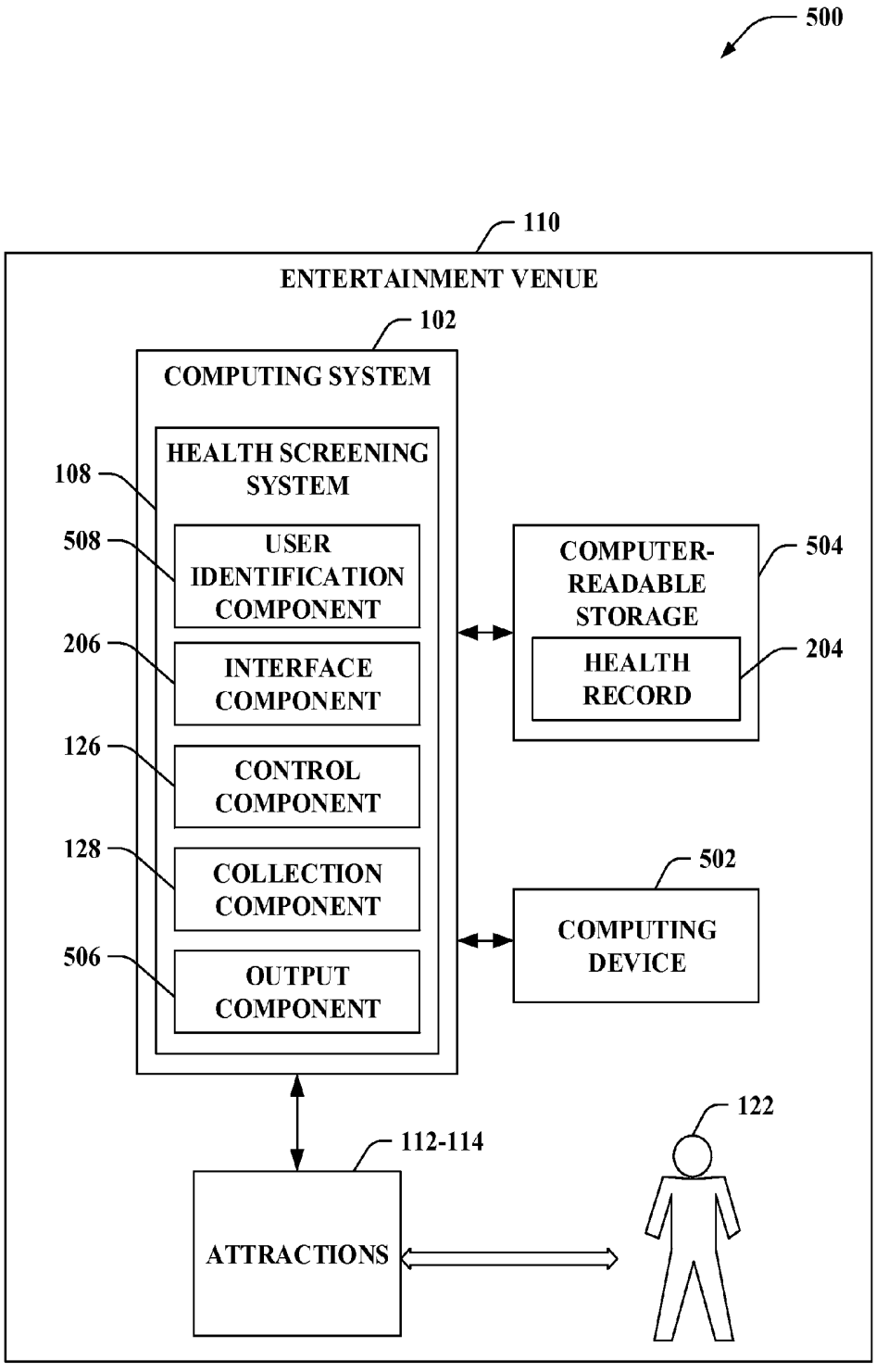

500
110
ENTERTAINMENT VENUE
102
COMPUTING SYSTEM
HEALTH SCREENING SYSTEM
108
508
USER IDENTIFICATION COMPONENT
206
INTERFACE COMPONENT
126
CONTROL COMPONENT
128
COLLECTION COMPONENT
506
OUTPUT COMPONENT
COMPUTER-READABLE STORAGE
504
HEALTH RECORD
204
502
COMPUTING DEVICE
112-114
ATTRACTIONS
122

FIG. 5

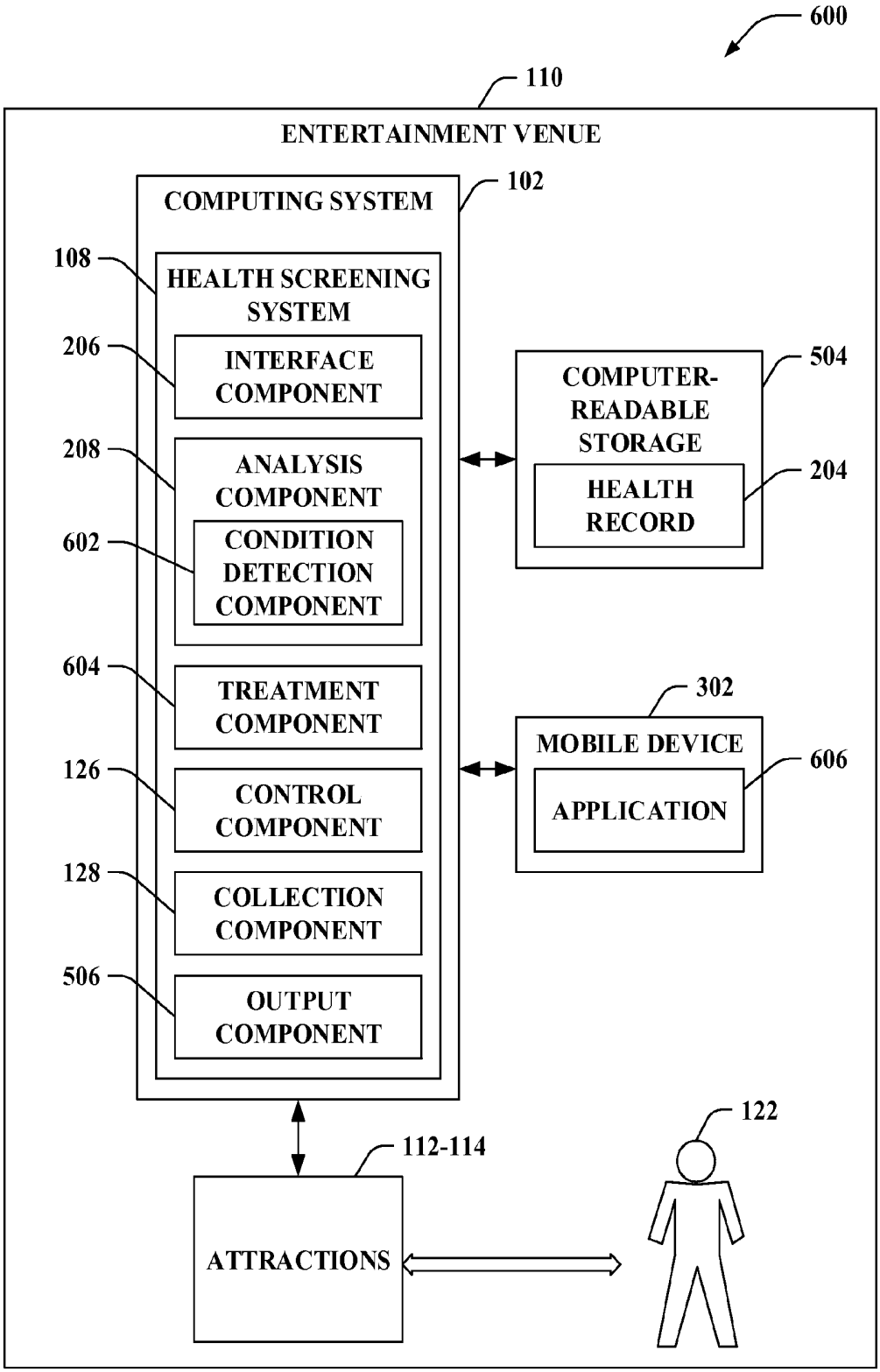

600
110
ENTERTAINMENT VENUE
COMPUTING SYSTEM
102
108
HEALTH SCREENING SYSTEM
206
INTERFACE COMPONENT
208
ANALYSIS COMPONENT
602
CONDITION DETECTION COMPONENT
604
TREATMENT COMPONENT
126
CONTROL COMPONENT
128
COLLECTION COMPONENT
506
OUTPUT COMPONENT
504
COMPUTER-READABLE STORAGE
204
HEALTH RECORD
302
MOBILE DEVICE
606
APPLICATION
112-114
ATTRACTIONS
122

FIG. 6

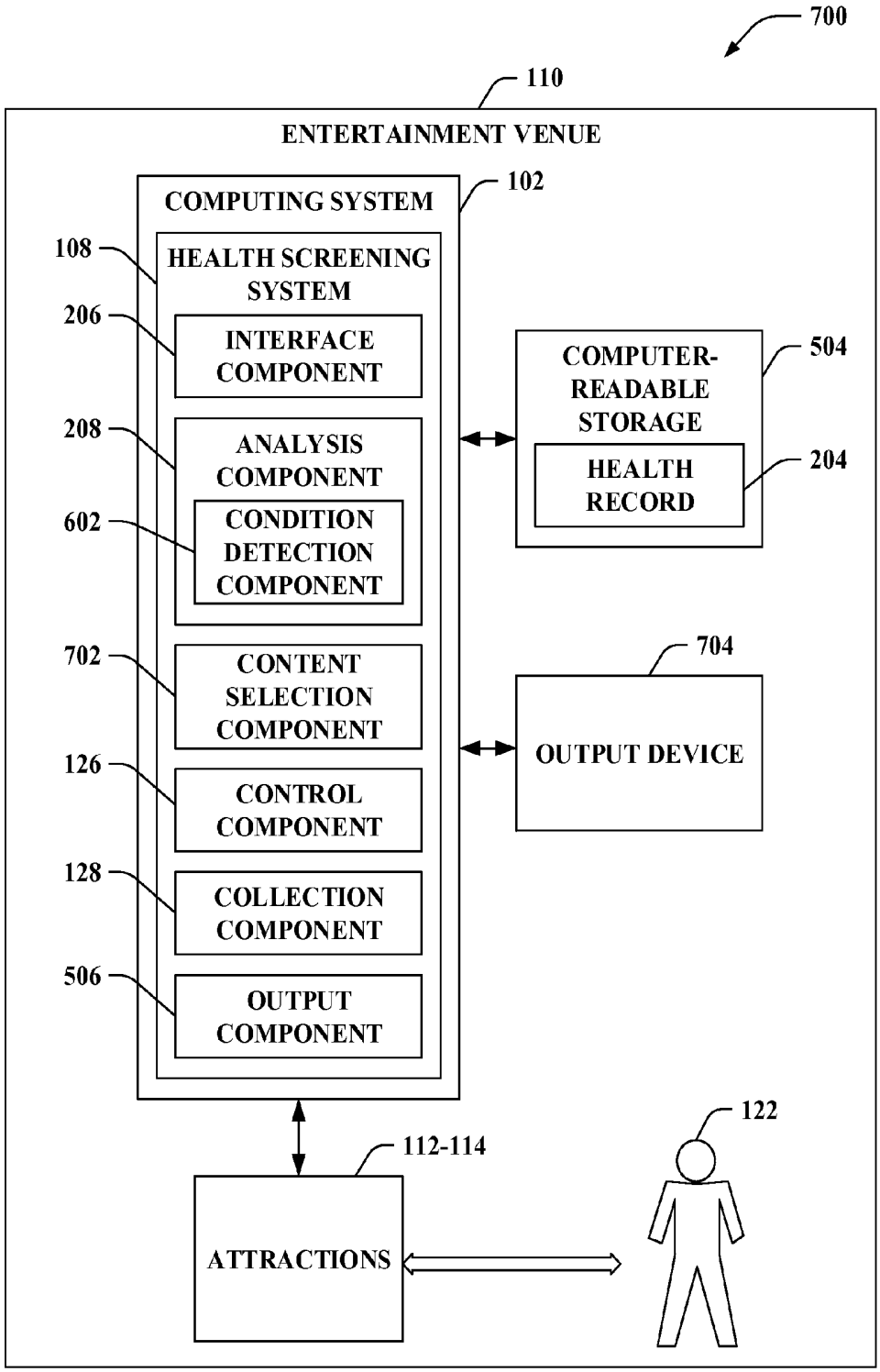

700
110
ENTERTAINMENT VENUE
COMPUTING SYSTEM
102
108
HEALTH SCREENING SYSTEM
206
INTERFACE COMPONENT
208
ANALYSIS COMPONENT
602
CONDITION DETECTION COMPONENT
702
CONTENT SELECTION COMPONENT
126
CONTROL COMPONENT
128
COLLECTION COMPONENT
506
OUTPUT COMPONENT
COMPUTER-READABLE STORAGE
504
HEALTH RECORD
204
704
OUTPUT DEVICE
112-114
ATTRACTIONS
122

FIG. 7

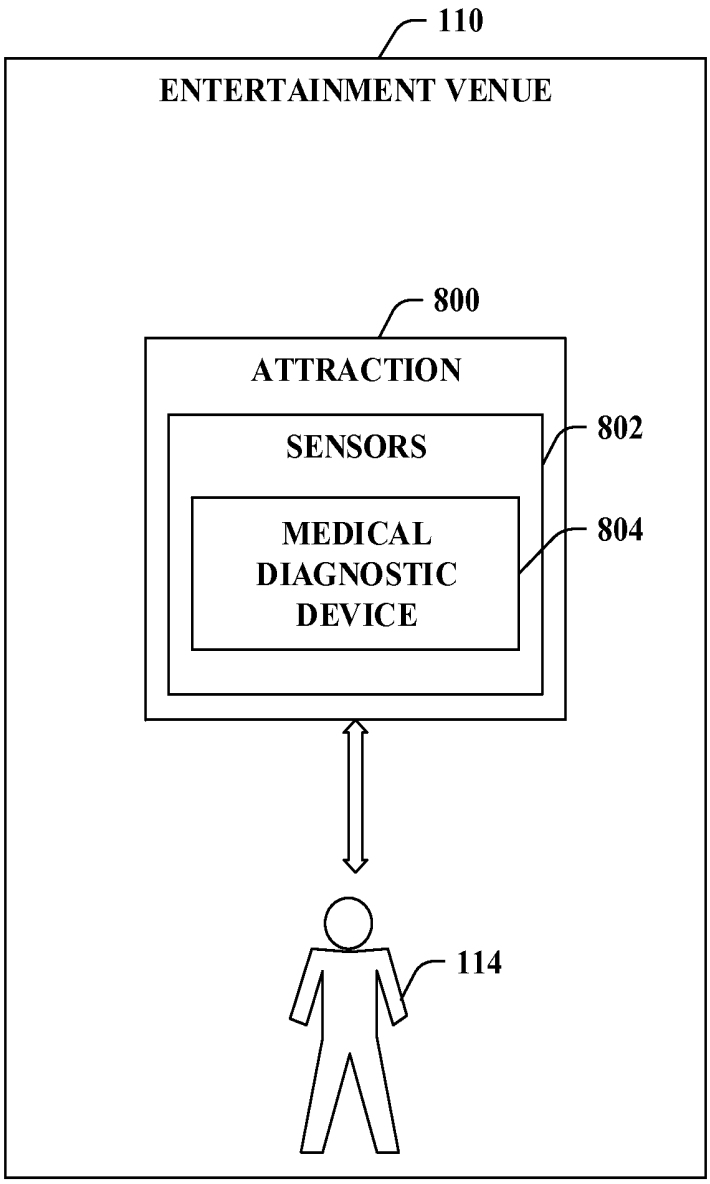

110
ENTERTAINMENT VENUE
800
ATTRACTION
SENSORS
802
MEDICAL DIAGNOSTIC DEVICE
804
114

FIG. 8

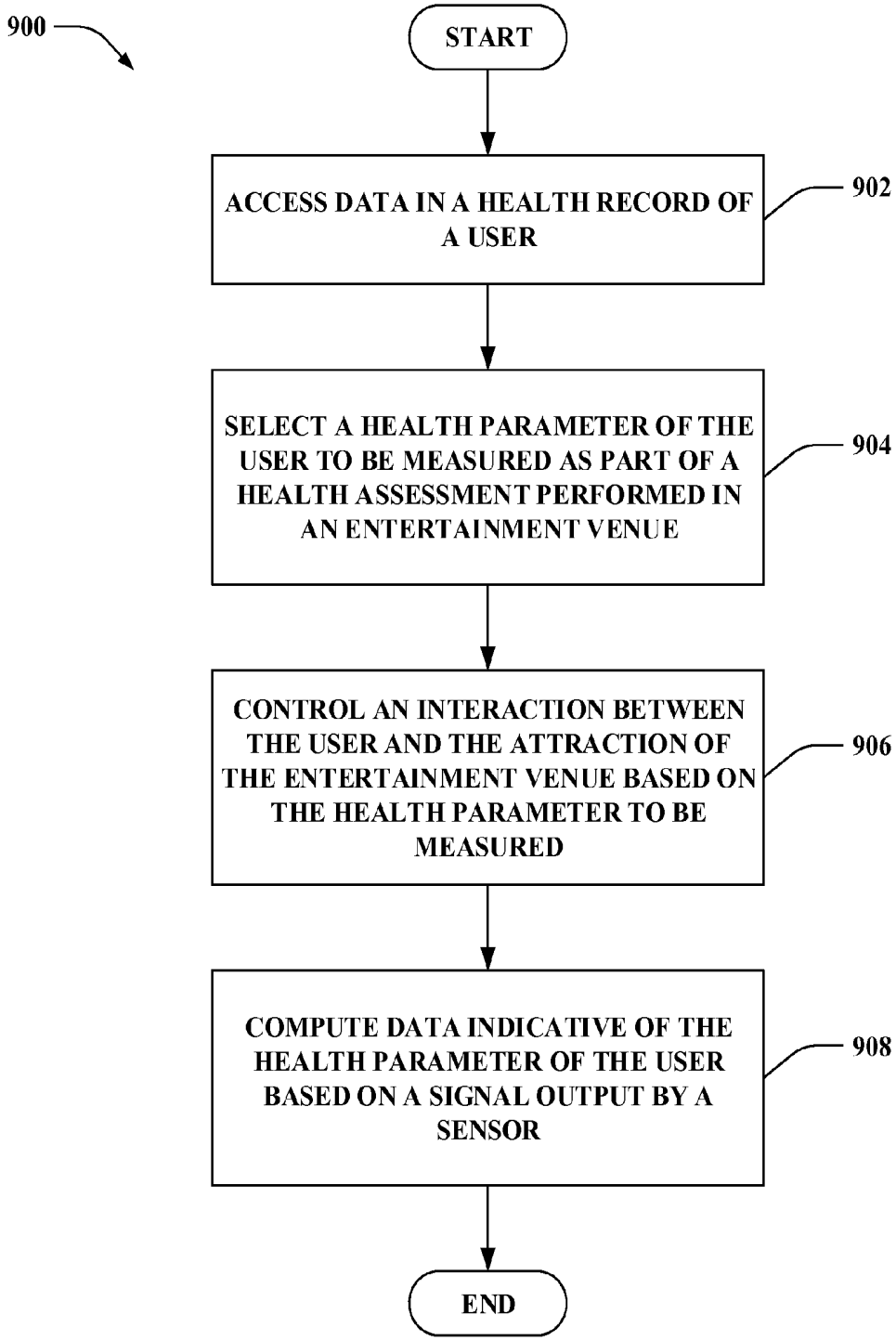

900
START
ACCESS DATA IN A HEALTH RECORD OF A USER
902
SELECT A HEALTH PARAMETER OF THE USER TO BE MEASURED AS PART OF A HEALTH ASSESSMENT PERFORMED IN AN ENTERTAINMENT VENUE
904
CONTROL AN INTERACTION BETWEEN THE USER AND THE ATTRACTION OF THE ENTERTAINMENT VENUE BASED ON THE HEALTH PARAMETER TO BE MEASURED
906
COMPUTE DATA INDICATIVE OF THE HEALTH PARAMETER OF THE USER BASED ON A SIGNAL OUTPUT BY A SENSOR
908
END

FIG. 9

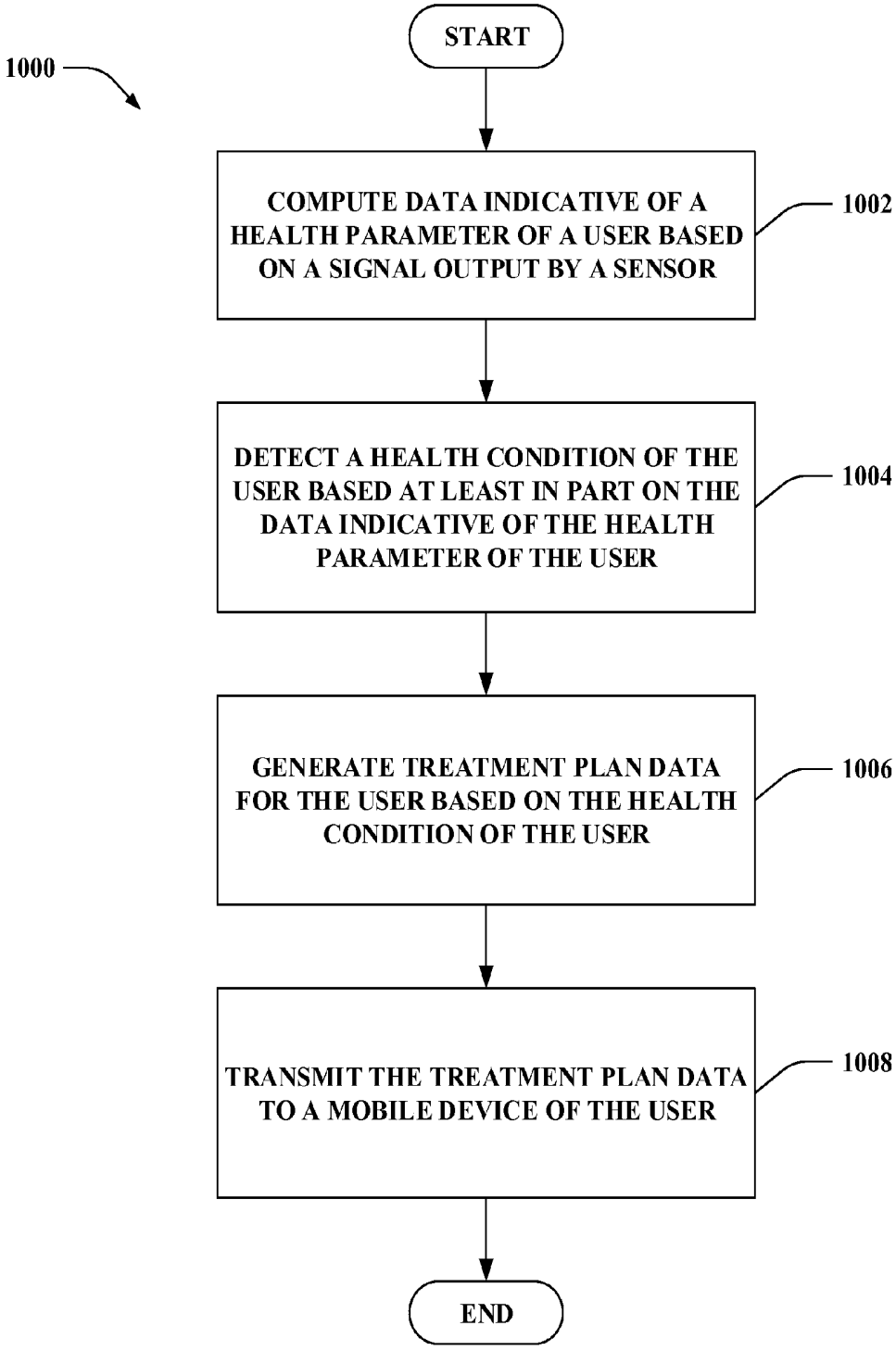

1000
START
COMPUTE DATA INDICATIVE OF A HEALTH PARAMETER OF A USER BASED ON A SIGNAL OUTPUT BY A SENSOR
1002
DETECT A HEALTH CONDITION OF THE USER BASED AT LEAST IN PART ON THE DATA INDICATIVE OF THE HEALTH PARAMETER OF THE USER
1004
GENERATE TREATMENT PLAN DATA FOR THE USER BASED ON THE HEALTH CONDITION OF THE USER
1006
TRANSMIT THE TREATMENT PLAN DATA TO A MOBILE DEVICE OF THE USER
1008
END

FIG. 10

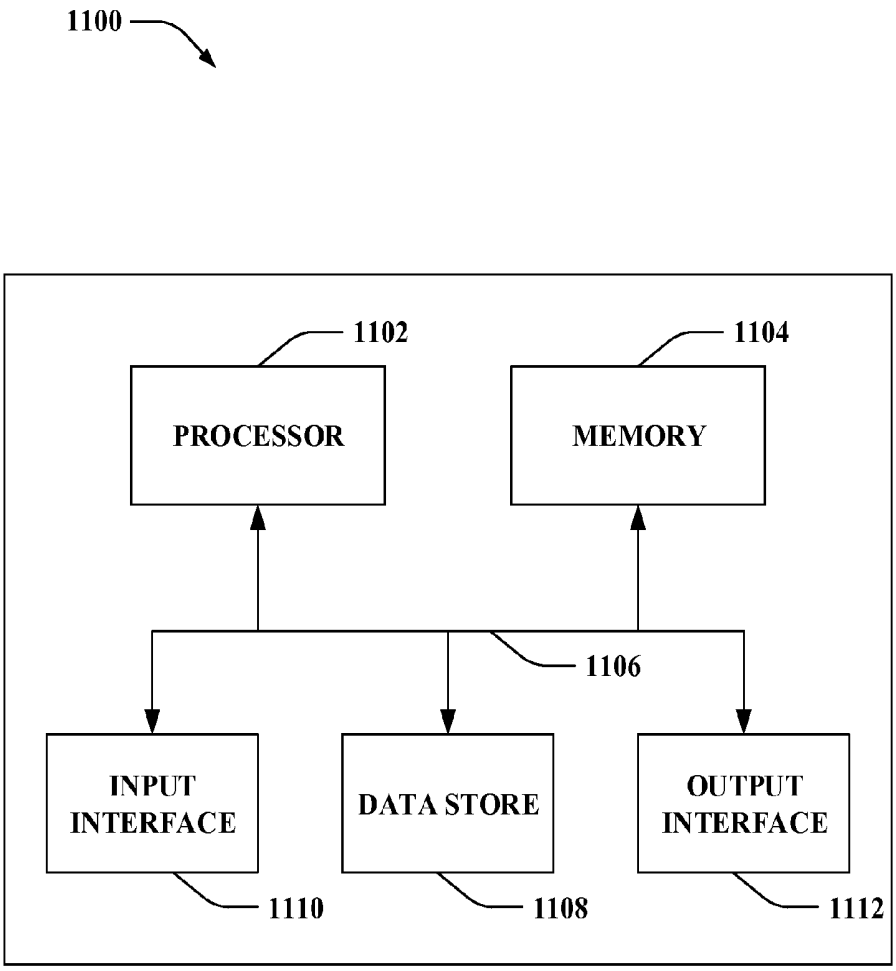

1100
1102
PROCESSOR
1104
MEMORY
1106
INPUT INTERFACE
DATA STORE
OUTPUT INTERFACE
1110
1108
1112

FIG. 11

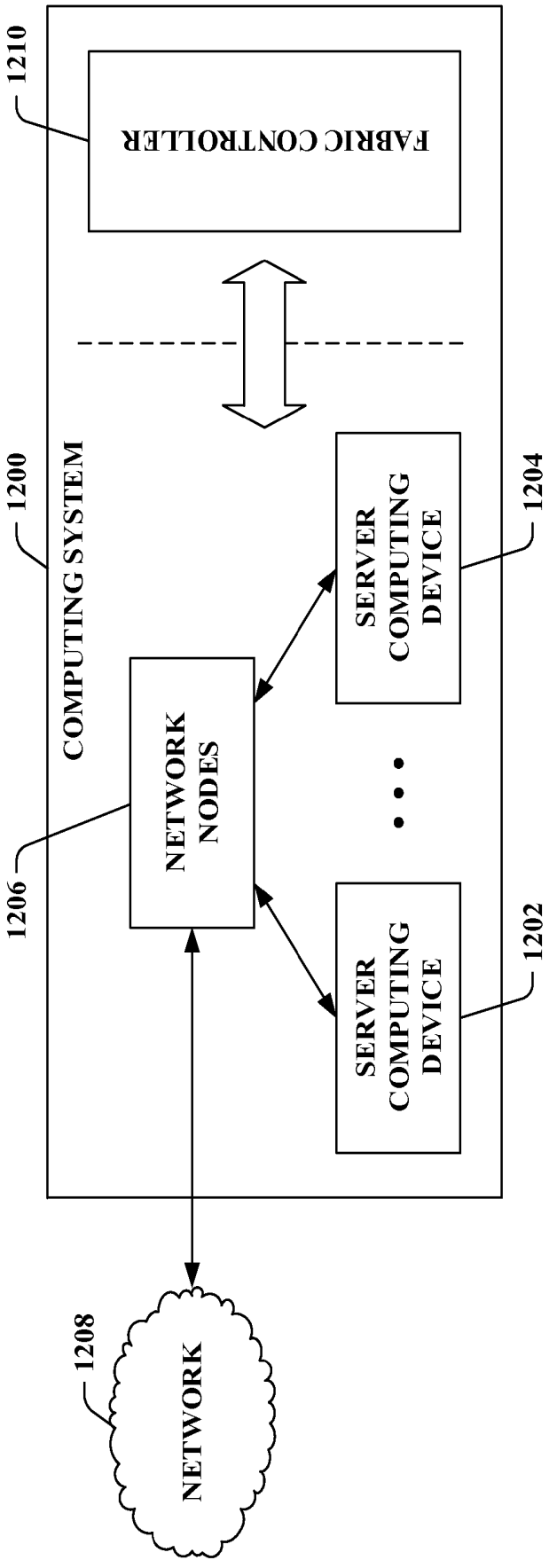

1210
FABRIC CONTROLLER
1200
COMPUTING SYSTEM
1204
SERVER COMPUTING DEVICE
NETWORK NODES
1206
1202
SERVER COMPUTING DEVICE
1208
NETWORK

FIG. 12

CONTROLLING HEALTH SCREENING VIA ENTERTAINMENT EXPERIENCES

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Provisional Patent Application No. 61/927,778, filed on Jan. 15, 2014, and entitled "PROVIDING HEALTH SCREENING VIA ENTERTAINMENT EXPERIENCES", the entirety of which is incorporated herein by reference.

BACKGROUND

[0002] Regular health screening can be critical for early detection of treatable medical conditions. Unfortunately, many people conventionally fail to participate in regular health screenings as frequently as they should (e.g., people may go a number of years between physicals, etc.). A factor that commonly leads to infrequent health screening for a portion of the population is a lack of insurance coverage. Another factor that typically causes a portion of the population to fail to participate in regular health screening is that a health screen is oftentimes an unpleasant activity.

[0003] Various aspects of conventional health screens can be unpleasant. For example, appointments for health screens typically are scheduled well in advance; thus, a patient who fails to plan ahead may be unable to have a health screen conducted. Moreover, when finally going to a health screen appointment, a patient commonly waits in a waiting room of a medical facility filled with people that may have various illnesses. Accordingly, a person who is healthy prior to the health screen may be exposed to various contagious illnesses in the waiting room, and thus, may become ill as a result of going to the medical facility for having the health screen performed. Further, conventional health screens are oftentimes conducted in sterile medical environments that patients typically encounter when sick. As a result, people may react poorly to this association, showing increased heart rate, higher blood pressure, etc., thereby making measurements obtained during the health screen less valid.

[0004] There have been various conventional attempts that try to make the process of health screening more pleasant. For instance, a medical facility for conducting a health screen may be decorated in a homelike manner to try to place the patients at ease. Further, a health screen can be performed as part of a wellness fair, where the health screen is conducted offsite from the medical facility, yet still in a clinical manner. Other common techniques include concierge medicine, providing patients (e.g., children) with items such as lollipops or stickers, and so forth.

SUMMARY

[0005] Described herein are various technologies that pertain to controlling performance of a health assessment of a user in an entertainment venue. Data in a health record of the user can be accessed, where the health record is retained in computer-readable storage. The user can be located at the entertainment venue, and the entertainment venue includes an attraction (or a plurality of attractions). A health parameter of the user can be selected to be measured as part of the health assessment performed in the entertainment venue. The health parameter can be selected based on the data in the health record of the user. Further, an interaction between the user and the attraction of the entertainment venue can be controlled based on the health parameter to be measured. Moreover, data indicative of the health parameter of the user can be computed based on a signal output by a sensor. The signal can be output by the sensor during the interaction between the user and the attraction of the entertainment venue.

[0006] The above summary presents a simplified summary in order to provide a basic understanding of some aspects of the systems and/or methods discussed herein. This summary is not an extensive overview of the systems and/or methods discussed herein. It is not intended to identify key/critical elements or to delineate the scope of such systems and/or methods. Its sole purpose is to present some concepts in a simplified form as a prelude to the more detailed description that is presented later.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. **1** illustrates a functional block diagram of an exemplary system that provides health screening via entertainment experiences.

[0008] FIG. **2** illustrates a functional block diagram of an exemplary system that controls performance of a health assessment of a user in an entertainment venue.

[0009] FIG. **3** illustrates a functional block diagram of another exemplary system that controls performance of a health assessment of the user in the entertainment venue.

[0010] FIG. **4** illustrates a functional block diagram of an exemplary system that tailors an experience of the user when interacting with an attraction in the entertainment venue.

[0011] FIG. **5** illustrates a functional block diagram of an exemplary system that distributes data from a health record of the user to a computing device.

[0012] FIG. **6** illustrates a functional block diagram of an exemplary system that controls personalization of treatment based on data collected from the user at the entertainment venue.

[0013] FIG. **7** illustrates a functional block diagram of an exemplary system that controls personalization of an educational experience for the user based on a detected condition.

[0014] FIG. **8** illustrates a functional block diagram of an exemplary attraction of the entertainment venue.

[0015] FIG. **9** is a flow diagram that illustrates an exemplary methodology of controlling performance of a health assessment of a user in an entertainment venue.

[0016] FIG. **10** is a flow diagram that illustrates an exemplary methodology of controlling personalization of treatment of a user detected to have a health condition in an entertainment venue.

[0017] FIG. **11** illustrates an exemplary computing device.

[0018] FIG. **12** illustrates an exemplary computing system.

DETAILED DESCRIPTION

[0019] Various technologies pertaining to providing health screening via entertainment experiences are now described with reference to the drawings, wherein like reference numerals are used to refer to like elements throughout. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of one or more aspects. It may be evident, however, that such aspect(s) may be practiced without these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to facilitate describing one or more aspects. Further, it is to be understood that functionality that is described as being carried out by

certain system components may be performed by multiple components. Similarly, for instance, a component may be configured to perform functionality that is described as being carried out by multiple components.

[0020] Moreover, the term "or" is intended to mean an inclusive "or" rather than an exclusive "or." That is, unless specified otherwise, or clear from the context, the phrase "X employs A or B" is intended to mean any of the natural inclusive permutations. That is, the phrase "X employs A or B" is satisfied by any of the following instances: X employs A; X employs B; or X employs both A and B. In addition, the articles "a" and "an" as used in this application and the appended claims should generally be construed to mean "one or more" unless specified otherwise or clear from the context to be directed to a singular form.

[0021] Referring now to the drawings, FIG. **1** illustrates a system **100** that provides health screening via entertainment experiences. The system **100** includes a computing system **102**. The computing system **102** includes one or more processors **104** and memory **106**. The processor(s) **104** are configured to execute instructions loaded into the memory **106** (e.g., one or more systems loaded into the memory **106** are executable by the processor(s) **104**, one or more components loaded into the memory **106** are executable by the processor (s) **104**, etc.). As described in greater detail herein, the memory **106** includes a health screening system **108** that controls performance of health assessments of users in an entertainment venue **110**. Thus, the health screening system **108** is executable by the processor(s) **104**. While many of the examples set forth herein show the entertainment venue **110** as including the computing system **102**, it is to be appreciated that the computing system **102** (or a portion thereof) can be separate from the entertainment venue **110**.

[0022] The entertainment venue **110** includes a plurality of attractions. More particularly, the entertainment venue **110** includes an attraction **1** 112, . . . , and an attraction X **114**, where X can be substantially any integer greater than one (collectively referred to herein as the attractions **112-114**). The attractions **112-114** each include respective sensors. More particularly, the attraction **1** 112 includes sensors **116**, . . . , and the attraction X **114** includes sensors **118**. The sensors **116** of the attraction **1** 112, . . . , and the sensors **118** of the attraction X **114** are collectively referred to herein as the sensors **116-118**. The sensors **116-118** of the attractions **112-114** can output signals corresponding to sensed conditions at least while users interact with the attractions **112-114**.

[0023] The entertainment venue **110** can be an amusement park (e.g., theme park, etc.), for example. Thus, the attractions **112-114** can include rides (e.g., thrill rides, roller coasters, train rides, water rides, Ferris wheels, etc.), games, events, simulators (e.g., ride simulators, flight simulators, etc.), or the like. Additionally or alternatively, the attractions **112-114** can include swimming pools, other bodies of water, and/or recreational equipment. Examples of recreational equipment include equipment upon which users can run, jump, climb, swing, swim, crawl, etc. (e.g., the recreational equipment can include swings, merry-go-rounds, chin up bars, ladders, slides, etc.). For instance, a treadmill, a moving sidewalk, a stair climber, a trampoline, or the like can be part of one or more of the attractions **112-114**. According to another example, the entertainment venue **110** can be a mobile facility (e.g., mobile trailer including portable recreational equipment, etc.); following this example, the attractions **112-114** can include rides, games, events, recreational equipment, etc.

[0024] The sensors **116-118** can be utilized to monitor users while such users interact with the attractions **112-114**. More particularly, the sensors **116-118** of the attractions **112-114** can output signals while the users interact with the attractions **112-114** of the entertainment venue **110**. According to an example, at least a portion of the sensors **116-118** can be embedded in the attractions **112-114**. By way of illustration, a sensor can be embedded in a seat of a ride (e.g., the ride can be one of the attractions **112-114** of the entertainment venue **110**). In accordance with another example, at least a portion of the sensors **116-118** can be physically coupled to the attractions **112-114**. By way of another example, at least a portion of the sensors **116-118** can monitor parameters of the attractions **112-114**. For instance, a water level of a pool of water can be monitored by a sensor (e.g., the pool can be one of the attractions **112-114** of the entertainment venue **110**); a change in the water level in response to a user entering or exiting the pool can be detected based on a signal output by such sensor. Pursuant to another example, at least a portion of the sensors **116-118** can monitor environments respectively surrounding the attractions **112-114**. For instance, an optical sensor (e.g., a camera) can monitor a geographic area within the entertainment venue **110** in which a game is played (e.g., the game can be one of the attractions **112-114** of the entertainment venue **110**). In accordance with another example, at least a portion of the sensors **116-118** can be included or coupled to devices utilized as part of the attractions **112-114**. For instance, a device may be carried as part of a game, and such device can include one or more sensors and/or have one or more sensors coupled thereto (e.g., the game can be one of the attractions **112-114** of the entertainment venue **110**). It is to be appreciated, however, that the claimed subject matter is not limited to the foregoing examples.

[0025] The entertainment venue **110** can further optionally include costumes that can be worn by users. For instance, a costume **120** can be wearable by a user **122**. The costume **120** can be worn by the user **122** when interacting with a particular one of the attractions **112-114** or generally while the user **122** is in the entertainment venue **110**. The costume **120** can be a thematically appropriate uniform for a theme of the entertainment venue **110** or a particular one of the attractions **112-114**. Examples of such types of costumes include a superhero costume, a fighter pilot flight suit, a helmet, or the like. While the system **100** shows one costume (e.g., the costume **120**) in the entertainment venue **110**, it is to be appreciated that the entertainment venue **110** can include substantially any number of additional costumes.

[0026] Moreover, the costume **120** includes sensors **124**. The sensors **124** can be embedded in the costume **120** and/or coupled to the costume **120**. One or more of the sensors **124** can output signal(s) while the user **122** wears the costume **120**. Thus, the sensors **124** can output signals during interaction between the user **122** and an attraction (e.g., one of the attractions **112-114**). Examples of the sensors **124** include electrical sensors (e.g., electrocardiogram (ECG) electrodes, etc.), pulse oximeters, blood pressure measurement devices, accelerometers, position sensors, breathing sensors (e.g., pressure transducers, thermocouples), microphones, pressure sensors, optical sensors, and so forth.

[0027] The health screening system **108** controls performance of a health assessment of the user **122** (as well as

disparate users) in the entertainment venue **110**. While many of the examples set forth herein pertain to controlling performance of a health assessment of the user **122**, it is contemplated that the health screening system **108** can similarly control performance of health assessments of disparate users in the entertainment venue **110**.

[0028] The health screening system **108** includes a control component **126** that controls an interaction between the user **122** and an attraction (e.g., one of the attractions **112-114**) of the entertainment venue **110**. The control component **126** can control the interaction between the user **122** and the attraction based on a health parameter to be measured. The interaction between the user **122** and the attraction is controlled by the control component **126** to cause one or more of the sensors in the entertainment venue **110** (e.g., one or more of the sensors **116-118** and/or the sensors **124**) to more efficiently and reliably output signals that can be used to compute data indicative of the health parameter of the user **122** being measured. Moreover, a number of interactions and/or durations of such interactions between the user **122** and the attractions **112-114** of the entertainment venue **110** can be reduced by the control component **126** controlling the interaction between the user **122** and the attraction, which can reduce power consumption within the entertainment venue **110** (e.g., by eliminating unnecessary interactions and/or shortening durations of interactions). Further, network bandwidth usage due to transmission of signals output by the sensors **116-118** and/or the sensors **124** can be reduced by the control component **126** controlling the interaction between the user **122** and the attraction.

[0029] According to an example, the control component **126** can transmit a control signal to the attraction, where the control signal is configured to cause a physical modification of at least a portion of the attraction. Accordingly, the health parameter of the user can be measurable based on a response of the user **122** to the physical modification. Examples of the physical modification of the portion of the attraction that can be caused responsive to the control signal include initiating or terminating operation of the portion of the attraction (e.g., starting or stopping at least a portion of a ride), modifying operating parameters of the portion of the attraction (e.g., modifying speed, acceleration, height, depth, range of motion, orientation, angle, force, resistance, timing, duration, etc. of the portion of the attraction), altering an environmental condition for the portion of the attraction (e.g., altering temperature in a volume in which the user **122** is located, etc.), and so forth.

[0030] Additionally or alternatively, pursuant to an example, the control component **126** can select at least a portion of a storyline based on the health parameter to be measured. Further, the control component **126** can cause the portion of the storyline to be presented to the user **122** in the entertainment venue **110**. Such portion of the storyline can be configured to cause the user **122** to interact with the attraction to enable the health parameter to be measured. The portion of the storyline can be output via output device(s) (e.g., display screen(s), speaker(s), projector(s), etc.), at least a portion of the attraction (e.g., movement of a robot that is part of the attraction can convey the portion of the storyline, etc.), and so forth.

[0031] The health screening system **108** further includes a collection component **128**. The collection component **128** can acquire a signal output by a sensor (e.g., one of the sensors **116-118**, one of the sensors **124** of the costume **120** worn by the user **122**) of the attraction during the interaction between the user **122** and the attraction of the entertainment venue **110**. Moreover, the collection component **128** can compute data indicative of the health parameter of the user **122** based on the signal output by the sensor. While many of the examples set forth herein describe the collection component **128** acquiring a signal output by a sensor and computing data indicative of a health parameter based on the signal, it is contemplated that these examples can be extended to scenarios where the collection component **128** acquires signals output by a plurality of sensors and computes the data indicative of the health parameter based on the signals acquired from the plurality of sensors.

[0032] The collection component **128** collects the data indicative of health parameters of the user **122** (as well as the disparate users). The data indicative of the health parameters of the user **122** can be acquired based on signals output by the sensors **116-118** and/or the sensors **124**. In accordance with an illustration, the collection component **128** can receive a signal output by one of the sensors **124** of the costume **120** worn by the user **122** during the interaction between the user and the attraction. Accordingly, the collection component **128** can compute data indicative of a health parameter of the user **122** based on the signal received from the sensor **124** of the costume **120**. The collection component **128** can also collect at least a portion of the data indicative of health parameters of the users from other sources. For example, the collection component **128** can receive data indicative of health parameters of the user **122** from a computing device (not shown), where the computing device receives an input that specifies such data. According to an illustration, medical personnel may evaluate the user **122** while interacting with one of the attractions **112-114** in the entertainment venue **110**; based upon the evaluation, the medical personnel may input the data indicative of the health parameter to the computing device, which can send the data to the health screening system **108** (e.g., the collection component **128**).

[0033] According to an illustration, the control component **126** can transmit a first control signal to a first attraction (e.g., the attraction **1 112**) in the entertainment venue **110** and a second control signal to a second attraction (e.g., the attraction X **114**) in the entertainment venue **110**. The first control signal can be configured to cause a first physical modification of at least a portion of the first attraction. Moreover, a first health parameter of the user **122** can be measurable based on a response of the user **122** to the first physical modification. Further, the second control signal can be configured to cause a second physical modification of at least a portion of the second attraction. A second health parameter of the user **122** can be measurable based on a response of the user **122** to the second physical modification. Following this illustration, the collection component **128** can compute data indicative of the first health parameter of the user **122** based on a first signal output by a first sensor (e.g., one of the sensors **116**, one of the sensors **124**). The first signal can be output by the first sensor during an interaction between the user **122** and the first attraction. Moreover, the collection component **128** can compute data indicative of the second health parameter of the user **122** based on a second signal output by a second sensor (e.g., one of the sensors **118**, one of the sensors **124**). The second signal can be output by the second sensor during an interaction between the user **122** and the second attraction of the entertainment venue **110**.

[0034] The attractions **112-114** of the entertainment venue **110** unobtrusively incorporate various medical tests to collect health data of users (e.g., the user **122**, disparate users) while the users interact with the attractions **112-114**. Accordingly, the users can have desirable experiences while medical testing can be performed in the entertainment venue **110**. Further, users can regularly visit the entertainment venue **110** to collect personally and clinically useful health data over time.

[0035] The health screening system **108** can perform health screening via a series of entertainment experiences. Unlike conventional health screening practices, the health screening performed in the entertainment venue **110** is not conducted in a doctor's office or clinical setting, rather the user **122** visits the entertainment venue **110** and participates in a series of the attractions **112-114**. The attractions **112-114** are designed with the sensors **116-118**, which allow a variety of health data to be unobtrusively collected.

[0036] The entertainment venue **110** may be targeted at a specific group of users. For example, children can be particularly upset by visits to a doctor, but may be eager to visit an amusement park. Thus, a child can be brought to the entertainment venue **110**, interact with a number of the attractions **112-114**, and remain relatively unaware that she has completed a number of medical tests. According to another example, for adults, the desired purpose of obtaining medical health data may not be hidden, yet the goal of having an entertaining experience rather than a clinical experience can remain when visiting the entertainment venue **110**.

[0037] It is contemplated that substantially any type of attraction **112-114** is intended to fall within the scope of the hereto appended claims. The following examples describe types of attractions **112-114** that may be utilized in the system **100** for health screening in the context of entertainment attractions. Yet, it is to be appreciated that the claimed subject matter is not so limited.

[0038] By way of example, one of the attractions **112-114** can be a roller coaster with sensors embedded in and/or coupled to a seat or a restraint. The user **122** can sit in the seat and be restrained by the restraint while the roller coaster is operational. Accordingly, the sensors of the roller coaster can output signals indicative of various health parameters of the user **122** while the user **122** undergoes the stress of the roller coaster.

[0039] According to another example, one of the attractions **112-114** may be a motion ride that inverts the user **122**. Accordingly, sensors of such ride can enable measurement of blood flow while the position, orientation, speed, and/or acceleration of the user **122** is manipulated (e.g., inversion of the user **122**, differing amounts of rotation of the user **122**, traveling at different speeds, accelerating, decelerating, etc.).

[0040] By way of yet another example, one of the attractions **112-114** can provide an entertaining context for patient-required movement. By way of illustration, a cardiac stress test may involve the user **122** running from a villain. The attraction, for instance, may include a moving walkway, a treadmill, or the like upon which the user **122** runs within the entertainment venue **110**. Alternatively, the user **122** may run through the entertainment venue **110**. Accordingly, the sensors of such attraction can output signals indicative of health parameters while the user **122** is running from such villain.

[0041] Pursuant to another example, one of the attractions **112-114** can be a simulation game that can incorporate game mechanics that test hearing, vision, touch sensation, reaction times, or the like, of the user **122**. In accordance with yet another example, one of the attractions **112-114** can be a pool of water. Following this example, the user **122** can enter the pool of water. Immersion in the water as part of an activity can allow for body volume, lung capacity, body fat, and so forth of the user **122** to be measured.

[0042] In accordance with yet another example, one of the attractions **112-114** can include an invasive test. A story can be built around such invasive test. Accordingly, costumed medical personnel can perform dual roles as actors and medical providers. Health data collected by a medical provider during the invasive test as part of a storyline can further be inputted to the health screening system **108** (e.g., via a computing device of the medical provider, etc.). Moreover, medical testing equipment used by the medical personnel can additionally or alternatively provide results of a medical test to the health screening system **108**.

[0043] Pursuant to various examples, one or more of the attractions **112-114** can modify an activity level of the user **122**, a posture of the user **122** (e.g., the user **122** can lay down, sit, stand, dangle upside down, or change between such positions), and/or a temperature of the user **122**. Further, portion(s) of at least one of the attractions **112-114** can enable assessment of reaction time, range of physical motion, strength, nerve response, a combination thereof, and so forth.

[0044] Turning to FIG. **2**, illustrated is a system **200** that controls performance of a health assessment of the user **122** in the entertainment venue **110**. The system **200** again includes the computing system **102**. As depicted in FIG. **2**, the computing system **102** includes computer-readable storage **202**. While not shown, according to various examples, it is contemplated that the computer-readable storage **202** can be or include the memory **106**.

[0045] The computer-readable storage **202** can retain a health record **204** of the user **122**. The computer-readable storage **202** can also retain health records of disparate users. The health record **204** can include data indicative of health parameters of the user **122**. For instance, at least a portion of the data indicative of the health parameters of the user **122** included in the health record **204** can be acquired by the collection component **128**. The health screening system **108** can aggregate data indicative of health parameters of the user **122** in the health record **204** of the user **122**. Moreover, the health screening system **108** can similarly aggregate data indicative of health parameters of disparate users in corresponding health records of the disparate users.

[0046] The health screening system **108** can include an interface component **206** that accesses data in the health record **204** of the user **122**. The interface component **206** can similarly access data in health records of disparate users. The data in the health record **204** can be written, read, or modified by the health screening system **108** via the interface component **206**.

[0047] The health screening system **108** further includes an analysis component **208** that selects a health parameter of the user to be measured as part of the health assessment performed in the entertainment venue **110**. The health parameter can be selected by the analysis component **208** based on the data in the health record **204** of the user **122**. Accordingly, the control component **126** can control an interaction between the user **122** and an attraction (e.g., one of the attractions **112-114**) of the entertainment venue **110** based on the health parameter to be measured. The control component **126** can further control the interaction between the user **122** and the attraction based on the data in the health record **204** of the user

122. Further, the collection component 128 can compute data indicative of the health parameter of the user 122 based on a signal output by a sensor (e.g., one of the sensors 116-118, one of the sensors 124), where the signal is output by the sensor during the interaction between the user 122 and the attraction of the entertainment venue 110. Moreover, the interface component 206 can store the data indicative of the health parameter of the user 122 in the health record 204 of the user 122.

[0048] Data indicative of a second health parameter of the user 122 measured during an interaction between the user 122 and a second attraction (e.g., a differing one of the attractions 112-114) of the entertainment venue 110 can similarly be acquired and stored in the health record 204 of the user 122. Similar to above, the second health parameter of the user 122 can be selected to be measured as part of the health assessment by the analysis component 208. Further, the interaction between the user 122 and the second attraction can be controlled by the control component 126 based on the second health parameter to be measured. The collection component 128 can compute the data indicative of the second health parameter of the user 122 based on a signal output by a sensor (e.g., one of the sensors 116-118, one of the sensors 124), where the signal is output by the sensor during the second interaction between the user 122 and the second attraction of the entertainment venue 110. Moreover, the interface component 206 can store the data indicative of the second health parameter of the user 122 in the health record 204 of the user 122. It is to be appreciated that substantially any number of additional health parameters of the user 122 can similarly be acquired and stored in the health record 204 of the user 122.

[0049] The analysis component 208 evaluates the health record 204 of the user 122. The analysis component 208, for example, can detect conditions from the health record 204 of the user 122. According to other examples, the analysis component 208 can detect inconsistencies in the health record 204, data missing from the health record 204 (e.g., the user 122 has yet to have a certain type of test performed, etc.), or the like. Further, the analysis component 208 can similarly evaluate health records of disparate users.

[0050] The analysis component 208 can select a health parameter (or a sequence of health parameters) of the user 122 to be measured as part of a health assessment performed in the entertainment venue 110. Based on the selected health parameter(s), interaction(s) with one or more of the attractions 112-114 in the entertainment venue 110 can be planned and/or suggested (e.g., to the user 122). For instance, the control component 126 can control the interaction(s) with the attraction(s) 112-114 based on the health parameters selected by the analysis component 208. Planning or suggesting the attractions 112-114 with which the user 122 is to interact can lead to reduced energy consumption by the attractions 112-114 of the entertainment venue 110 (e.g., unneeded interactions for the user 122 are not planned or suggested, which leads to reduction in interactions with the attractions 112-114). Further, planning or suggesting the attractions 112-114 with which the user 122 is to interact can lead to reduced network bandwidth usage due to reduced transmission of signals from sensors for unneeded interactions for the user 122.

[0051] The analysis component 208 can generate a suggestion of an attraction from the attractions 112-114 with which the user 122 is recommended to interact. For instance, the analysis component 208 can evaluate the health record 204 of the user 122 to determine health data of the user 122 that is missing (e.g., blood pressure of the user 122 has yet to be measured by the health screening system 108, etc.). Based on the missing health data in the health record 204, the analysis component 208 can generate a suggestion for the user 122 to interact with an attraction from the attractions 112-114 that can capture such health data from the user 122 during the user's interaction with such attraction in the entertainment venue 110. According to another example, the analysis component 208 can generate a suggestion for an attraction based on a condition being monitored by the health screening system 108 for the user 122 (e.g., a heart condition of the user 122 is being monitored, etc.). Pursuant to yet another example, the analysis component 208 can suggest an attraction due to variances between health data of the user 122 collected by attractions (e.g., two or more attractions collect inconsistent health data of the user 122); thus, the analysis component 208 can generate a suggestion that the user 122 interact with an attraction that can capture such health data of the user 122 to resolve the inconsistency. Moreover, it is to be appreciated that the analysis component 208 can similarly generate a suggestion that a costume be worn by the user 122 in the entertainment venue 110 (e.g., the costume can be worn generally in the entertainment venue 110 or worn for a specific attraction, etc.).

[0052] Further, the analysis component 208 can create an order of the attractions 112-114 for the user 122 to capture user health data in an appropriate sequence. Thus, the analysis component 208 can create a sequence that sets a first attraction from the attractions 112-114 suggested for the user 122, followed by a second attraction from the attractions 112-114, and so forth. The sequence of the attractions 112-114 can be formed by the analysis component 208 based on a condition being monitored, for example; yet, the claimed subject matter is not so limited.

[0053] A suggestion generated by the analysis component 208 can be used by the control component 126. For example, the control component 126 can cause the user 122 to be directed towards a suggested interaction with a particular attraction. By way of illustration, the control component 126 can cause a storyline presented to the user 122 to be tailored to direct the user 122 to interact with the particular attraction.

[0054] Moreover, returning users can access the history of their health records (e.g., the user 122 can return to the entertainment venue 110 at a later date and again access the health record 1204) to allow for vital statistics to be tracked over time. According to another example, the health record 204 can be deleted from the computer-readable storage 202 subsequent to the health record 204 being sent to the user 122 (e.g., a computing device of the user 122, a device of the user 122 that includes computer-readable memory, etc.). For instance, the health record 204 can be deleted from the computer-readable storage 202 upon the user 122 leaving the entertainment venue 110. Following this example, the user 122 can later return to the entertainment venue 110 and supply historical health record(s), which can be imported into the health screening system 108 to allow for vital statistics to be tracked over time. Deletion of the health record 204 upon the user 122 leaving the entertainment venue 110 leads to enhanced data security for the health screening system 108, since the data of the health record 204 is stored in the computer-readable storage 202 only while the user 122 is at the entertainment venue 110.

[0055] According to an example, one or more of the attractions **112-114** can be group attractions. As part of a group attraction, the user **122** and a disparate user (or plurality of disparate users) concurrently interact with the attraction. For instance, the analysis component **208** can select a health parameter of the user **122** to be measured and a health parameter of the disparate user to be measured. The control component **126** can concurrently control an interaction between the user **122** and the attraction based on the health parameter of the user **122** to be measured and an interaction between the disparate user and the attraction based on the health parameter of the disparate user to be measured. Further, the collection component **128** can compute data indicative of the health parameter of the user based on a signal output by a sensor, where the signal is output by the sensor during the interaction between the user and the attraction. Moreover, the collection component **128** can compute data indicative of the health parameter of the disparate user based on a signal output by a disparate sensor, where the signal is output by the disparate sensor during the interaction between the disparate user and the attraction.

[0056] A roller coaster is an example of a group attraction. The control component **126** can cause a first user to sit in a first seat of the roller coaster and a second user to sit in a second seat of the roller coaster (e.g., a storyline may direct the users to their respective seats, etc.). The differing seats of the roller coaster can provide differing experiences for the users (e.g., the users can be subjected to different movements, forces, etc.), which can enable different health parameters to be measured.

[0057] Another example of a group attraction is an attraction where a monster chases two or more users. The users may each run on their own treadmill; the speed and/or angle of incline of each of the treadmills can be independently controlled by the control component **126**. Thus, the users are collectively experiencing the attraction as a group, but operating parameters of the treadmills are separately controlled to enable health parameters of the users to be individually assessed.

[0058] Yet another example of a group attraction is a raft ride simulator. Two or more users can simultaneous interact with the simulator; however, amounts of movement for each of the users can be separately controlled by the control component **126**.

[0059] Turning to FIG. **3**, illustrated is another system **300** that controls performance of a health assessment of the user **122** in the entertainment venue **110**. The system **300** includes the computing system **102** and a mobile device **302**. In the example set forth in FIG. **3**, the mobile device **302** includes computer-readable storage **304** that retains the health record **204** of the user **122**. Thus, the mobile device **302** with the health record **204** retained in the computer-readable storage **304** can be brought into the entertainment venue **110** (e.g., by the user **122**, along with the user **122**). Load on the processor(s) **104** is reduced by using data in the health record **204** retained in the computer-readable storage **304** of the mobile device **302** as compared to recreating such data responsive to the user **122** returning to the entertainment venue **110**.

[0060] Examples of the mobile device **302** include a laptop computing device, a mobile telephone (e.g., smartphone), a tablet computing device, a wearable computing device, a handheld computing device, a portable gaming device, a personal digital assistant, or the like. According to other examples, the mobile device **302** can be a portable storage device.

[0061] Again, the interface component **206** of the health screening system **108** can access data in the health record **204** retained in the computer-readable storage **304** of the mobile device **302**. Moreover, the interface component **206** can store data indicative of health parameters of user **122** (e.g., acquired by the health screening system **108**) in the health record **204** retained in the computer-readable storage **304** of the mobile device **302**. Thus, pursuant to the example set forth in FIG. **3**, the computing system **102** need not retain the health record **204** of the user **122**. Further, security of the health record **204** can be improved by the health record **204** being stored in the computer-readable storage **304** of the mobile device **302**.

[0062] According to another example, it is contemplated that the health record **204** (or a portion thereof) can be retrieved by the interface component **206** from the computer-readable storage **304** of the mobile device **302** and retained in computer-readable storage (e.g., the computer-readable storage **202**) of the computing system **102** for utilization while the user **122** is located at the entertainment venue **110**. For instance, upon the user **122** entering the entertainment venue **110**, the interface component **206** can retrieve the health record **204** (or the portion thereof) of the user **122** from the computer-readable storage **304** of the mobile device **302**. While the user **122** interacts with the attractions **112-114** during a visit at the entertainment venue **110**, data can be read, written, or modified in a copy of the health record **204** maintained in the computer-readable storage **202** of the computing system **102**. Thereafter, upon the user **122** leaving the entertainment venue **110**, the health record **204** retained in the computer-readable storage **304** of the mobile device **302** can be updated based on changes to the copy of the health record **204** maintained in the computer-readable storage **202** of the computing system **102**. Moreover, it is contemplated that the copy of the health record **204** maintained in the computer-readable storage **202** of the computing system **102** can be deleted in response to the user **122** leaving the entertainment venue **110**. Pursuant to yet another example, the health record **204** (or a portion thereof) can similarly be retrieved from the computer-readable storage **304** of the mobile device **302** and retained in the computer-readable storage **202** of the computing system **102** for utilization while the user **122** interacts with an attraction; following this example, upon the interaction with the attraction ending, the health record **204** retained in the computer-readable storage **304** of the mobile device **302** can be updated and the copy of the health record **204** maintained in the computer-readable storage **202** of the computing system **102** can be deleted.

[0063] With reference to FIG. **4**, illustrated is a system **400** that tailors an experience of the user **122** when interacting with an attraction **402** (e.g., one of the attractions **112-114**) in the entertainment venue **110**. The control component **126** of the health screening system **108** controls an interaction between the user **122** and the attraction **402** based on a health parameter to be measured. In the example set forth in FIG. **4**, the control component **126** can further include a storyline management component **404**. The storyline management component **404** selects at least a portion of a storyline based on the health parameter to be measured. The storyline management component **404** can further cause the portion of the storyline to be presented to the user **122** in the entertainment

venue **110**. The portion of the storyline can be configured to cause the user **122** to interact with the attraction **402** to enable the health parameter to be measured. For instance, the portion of the storyline can be presented via display screen(s), speaker(s), projector(s), or substantially any other type of output device(s) in the entertainment venue **110**. Additionally or alternatively, at least a portion of the attraction **402** can convey the portion of the storyline (e.g., through movement of the portion of the attraction **402**, etc.).

[0064] The attraction **402** can include an experience control system **406** that manages the attraction **402**. For instance, the experience control system **406** can manage a speed of the attraction **402**, an angle of the attraction **402**, a length of time that the user **122** interacts with the attraction **402**, images displayed on a display screen(s) included in the attraction **402**, sound output by speaker(s) as part of the attraction **402**, or substantially any other operating parameter of the attraction **402**. The experience control system **406** can manage the attraction **402** responsive to a control signal received from the control component **126** of the health screening system **108**, for example. The experience control system **406** can physically modify at least a portion of the attraction **402** responsive to the control signal. The attraction **402** further includes sensors **408** that output signals during the interaction between the attraction **402** and the user **122**; the collection component **128** can receive the signals from the sensors **408** and compute data indicative of health parameter(s) of the user **122** based upon such signals.

[0065] The storyline management component **404** can modify the storyline utilized by the attraction **402**. The storyline can be implemented by the experience control system **406**. The storyline management component **404**, for instance, can modify the storyline for the user **122** based on characteristics of the user (e.g., age, weight, height, chronic medical conditions, etc.). Moreover, the storyline management component **404** can modify the storyline based on conditions detected from the health record **204** of the user **122**, missing or inconsistent health data in the health record of the user **122**, or the like.

[0066] The experience control system **406** can include a personalization component **410** that can receive the tailored storyline from the health screening system **108** (e.g., from the storyline management component **404**). The personalization component **410** can further control the experience control system **406** to manage operation of the attraction **402** based on the storyline as tailored to the user **122** by the storyline management component **404**.

[0067] The interaction between the user and the attraction **402** of the entertainment venue **110** can be controlled by the control component **126** to perform a cardiac stress test on the user **122**. The control component **126** can transmit a control signal to the attraction **402**. The control signal can be configured to cause a physical modification of at least a portion of the attraction **402**. Thus, the experience control system **406** can physically modify the portion of the attraction **402** responsive to the control signal. The physical modification of the portion of the attraction can be configured to induce stress on the user **122**. The physical modification of the portion of the attraction **402** can induce the user **122** to exercise (e.g., cause the user **122** to jog, run, jump, swim, lift, push, pull, etc.). Moreover, data of the cardiac stress test can be measured by the collection component **128** before, during, and after induction of the stress on the user **122** based on signal(s) output by one or more of the sensors **408** (and/or sensors of a costume worn by the user **122** when interacting with the attraction **402**). For the cardiac stress test, signal(s) output by sensors such as an electrocardiogram (ECG) device, a blood pressure measurement device, an ultrasound scanner, an x-ray device, a magnetic resonance imaging (MRI) scanner, a plurality thereof, and so forth can be used to measure the data of the cardiac stress test. Thus, in the entertainment venue **110**, a level of stress can be induced on the user **122** while the user **122** is entertained, and the data of the cardiac stress test can be measured with sensors that are part of the attraction **402** and/or the costume worn by the user **122** as part of the experience.

[0068] Further, the interaction between the user and the attraction **402** of the entertainment venue **110** can be controlled to perform a sleep test on the user **122**. The control component **126** can cause a portion of a storyline to be presented to the user **122** in the entertainment venue **122**; thus, the experience control system **406** can present the portion of the storyline to the user **122**. The portion of the storyline can be configured to prompt the user to sleep in the attraction **402** (e.g., the attraction **402** can include a bed, a room designated for the user **122**, etc.). Moreover, the collection component **128** can measure data of the sleep test while the user **122** sleeps in the attraction **402** based on the signal(s) output by one or more of the sensors **408** (and/or the sensors of the costume worn by the user **122** when interacting with the attraction **402**). For the sleep test, signal(s) output by sensors such as an electroencephalogram (EEG) device, an electrooculogram (EOG) device, an electromyogram (EMG) device, an electrocardiogram (ECG) device, a pressure transducer, a thermocouple, a pulse oximeter, a microphone, a plurality thereof, and so forth can be used to measure the data of the sleep test. While the user **122** sleeps in the attraction **402**, the EEG device can be used to measure brain activity, the EOG device can be used to measure eye movement, the EMG device can be used to monitor muscle activity or skeletal muscle activation, the ECG device can be used to monitor heart rhythm, the pressure transducer and/or the thermocouple can be used to measure nasal and oral airflow, the pulse oximeter can be used to monitor blood oxygen levels, and/or the microphone can be used to record snoring.

[0069] With reference to FIG. **5**, illustrated is a system **500** that distributes data from the health record **204** of the user **122** to a computing device **502**. The health record **204** can be retained in computer-readable storage **504** (e.g., the computer-readable storage **202** of the computing system **102** and/or the computer-readable storage **304** of the mobile device **302**). Moreover, while the computing device **502** is shown as being included in the entertainment venue **110** (e.g., located at the entertainment venue **110**), it is to be appreciated that the computing device **502** can be outside of the entertainment venue **110**.

[0070] As depicted in FIG. **5**, the health screening system **108** includes the interface component **206** that accesses the health record **204** of the user **122** retained in the computer-readable storage **504**. The interface component **206** can store data indicative of a health parameter of the user **122** in the health record **204** of the user **122**. The health screening system **108** can further include an output component **506** that outputs the health record **204** of the user **122** from the health screening system **108**. According to an example, the output component **506** can receive a request for the health record **204** of the user **122** (e.g., the request can be received from the computing device **502** or a disparate computing device).

Responsive to the request, the output component **506** can transmit the health record **204** of the user **122** to the computing device **502**.

[0071] According to an example, at an end of a session of the user **122** at the entertainment venue **110**, the output component **506** can output a report that includes at least a portion of the health record **204** to the user **122** or a legal guardian of the user **122**; thus, the report can be transmitted by the output component **506** to the computing device **502** (e.g., the computing device **502** can present the report to the user **122** or the legal guardian). Such report can include collected data obtained by the collection component **128** while the user **122** interacts with the attractions **112-114** (or a subset thereof) of the entertainment venue **110**. Pursuant to an illustration, the computing device **502** can be the mobile device **302** of FIG. **3**; yet, the claimed subject matter is not so limited.

[0072] By way of another example, the output component **506** can receive a request to send the health record **204** of the user **122** to a doctor for review. Thus, the output component **506**, responsive to such request, can send the health record **204** of the user **122** to the doctor (e.g., to the computing device **502** which can be used by the doctor to review the health record **204**).

[0073] Optionally, medical professionals can be onsite at the entertainment venue **110**. Accordingly, the output component **506** can send the health record **204** to such medical professionals via the computing device **502** for onsite counseling to assist interpreting the health record **204** of the user **122**.

[0074] Storage and distribution of the health record **204** is secured. The health record **204** may be highly sensitive (e.g., subject to various privacy regulations such as the Health Information Portability and Accountability Act (HIPAA)). Therefore, the health record **204** is stored on highly secured server(s) (e.g., the computer-readable storage **504**) with restricted access (e.g., physical access to the server(s) is restricted, access to data on the server(s) is be restricted, etc.). Moreover, the health record **204** is encrypted when transmitted by the output component **506**, etc.

[0075] Moreover, the health screening system **108** can optionally include a user identification component **508** that identifies the user **122** located in the entertainment venue **110**. The user identification component **508** can also identify other users in the entertainment venue **110**. According to various examples, the user identification component **508** can identify the user **122** based upon a token carried by the user **122** (e.g., an armband, a necklace, a card, a badge, etc.), a costume worn by the user **122**, biometric characteristics sensed from the user **122**, an image of the user **122**, a gesture of the user **122**, a personal identifier supplied by the user **122**, or the like. According to yet another example, the user identification component **508** can identify the user **122** based upon a mobile device (e.g., the mobile device **302**) carried by the user **122**.

[0076] Referring now to FIG. **6**, illustrated is a system **600** that controls personalization of treatment based on data collected from the user **122** at the entertainment venue **110**. The system **600** includes the computing system **102**. Further, the computing system **102** includes the health screening system **108**.

[0077] The health screening system **108** can include the control component **126** that controls an interaction between the user **122** and an attraction (e.g., one of the attractions **112-114**) of the entertainment venue **110**. Moreover, the health screening system **108** includes the collection component **128** that acquires a signal output by a sensor during the interaction between the user **122** and the attraction of the entertainment venue **110**. Further, the collection component **128** computes data indicative of a health parameter of the user **122** based on the signal output by the sensor. The health screening system **108** can also include the interface component **206** that stores the data indicative of the health parameter of the user **122** in the health record **204** of the user **122** retained in the computer-readable storage **504**.

[0078] Moreover, the health screening system **108** includes the analysis component **208** that analyzes heath records assembled by the health screening system **108** in the entertainment venue **110**. The analysis component **208** can further include a condition detection component **602**. The condition detection component **602** can detect a health condition of the user **122** based at least in part upon the data indicative of the health parameter of the user **122**. Further, the condition detection component **602** can detect the health condition of the user **122** based on the health record **204** of the user **122**.

[0079] For example, the condition detection component **602** can compare health data values (e.g., blood pressure, body fat, heart rate, heart rate variability, etc.) from the health record **204** of the user **122** to predefined ranges. Accordingly, if a health data value included in the health record **204** is recognized to be outside of a normal (e.g., healthy) range, then the condition detection component **602** can detect a health condition of the user **122**.

[0080] The health screening system **108** further includes a treatment component **604** that generates treatment plan data for the user **122** based on the health condition of the user **122**. Moreover, the output component **506** can transmit the treatment plan data to the mobile device **302** of the user **122**.

[0081] The mobile device **302** can execute an application **606**. The application **606** can be personalized for the user **122** based on the treatment plan data received from the health screening system **108**. The treatment plan data, for instance, can cause the application **606** to output a health suggestion via the mobile device **302**. Examples of the health suggestion include a workout regimen, a prompt for an activity to be performed by the user **122**, a grocery list, goals for the user **122**, targets for the user **122**, and so forth.

[0082] Pursuant to an example, the control component **126** can include the storyline management component **404**. The storyline management component **404** can cause a storyline to be presented to the user **122** during the interaction between the user **122** and the attraction of the entertainment venue **110**. The application **606**, when executed by the mobile device **302**, can continue to cause the storyline to be presented to the user **122**. Thus, an experience created by the application **606** executed by the mobile device **302** can tie in with an experience in the entertainment venue **110**, while providing personalized suggestions and/or being prepopulated with measurables collected in the entertainment venue **110**.

[0083] By way of another example, the output component **506** can deliver health information (e.g., the treatment plan data) in the context of an attraction. For instance, the storyline management component **404** can script the storyline to output the health information to the user **122** in the context of the attraction.

[0084] With reference to FIG. **7**, illustrated is a system **700** that controls personalization of an educational experience for the user **122** based on a detected condition. Similar to FIG. **6**, the health screening system **108** can include the interface component **206**, the analysis component **208**, the control

component **126**, the collection component **128**, and the output component **506**. Moreover, the analysis component **208** can include the condition detection component **602** that detects a health condition of the user **122** based at least in part upon the data indicative of the health parameter of the user **122**. The condition detection component **602** can further detect the health condition of the user **122** based at least in part upon data included in the health record **204** of the user **122**.

[0085] The health screening system **108** can further include a content selection component **702** that selects educational data for the user **122** based on the health condition of the user **122**. Moreover, the output component **506** can present the educational data to the user **122**. For instance, the output component **506** can send the educational data to an output device **704**, which can output the educational data to the user **122**. The output device **704**, for example, can be the mobile device **302** of the user **122**. According to another example, the output device **704** can be a display, a speaker, a projector, or the like.

[0086] With reference to FIG. **8**, illustrated is an exemplary attraction **800** of the entertainment venue **110**. The attraction **800** is one of the attractions **112-114** (e.g., the attraction **800** can be the attraction **402** of FIG. **4**). Although not shown, it is contemplated that the attraction **800** can include the experience control system **406** as described above.

[0087] As described herein, the attraction **800** includes sensors **802** (e.g., the sensors **116-118**, the sensors **408**). The sensors **802** can include a medical diagnostic device **804**. Although not shown, it is contemplated that the sensors **802** of the attraction **800** can include more than one medical diagnostic device **804**. The medical diagnostic device **804** can be part of a storyline implemented by the attraction **800**. By way of illustration, the medical diagnostic device **804** can be a magnetic resonance imaging (MRI) scanner. Following this illustration, the MRI scanner can be themed as a time machine as part of the attraction **800**, where such time machine transports a user as part of a time traveling journey in the storyline.

[0088] Other examples of the medical diagnostic device **804** include an electrocardiogram (ECG) device, a blood pressure measurement device, an ultrasound scanner, an x-ray device, a computed tomography (CT) scanner, an electroencephalogram (EEG) device, an electrooculogram (EOG) device, an electromyogram (EMG) device, a heart rate monitor, a pulse oximeter, and a breathing sensor (e.g., a pressure transducer, a thermocouple). However, substantially any other type of the medical diagnostic device **804** is intended to fall within the scope of the hereto appended claims. Further, the attraction **800** can include a plurality of different types of medical diagnostic devices. Moreover, the sensors **802** can include other types of sensors such as a camera, a pressure sensor, an electrical sensor, a microphone, and so forth. It is contemplated that the claimed subject matter is not limited to the foregoing examples, and any other types of sensors are intended to fall within the scope of the hereto appended claims.

[0089] FIGS. **9-10** illustrate exemplary methodologies relating to providing health screening via an entertainment experience. While the methodologies are shown and described as being a series of acts that are performed in a sequence, it is to be understood and appreciated that the methodologies are not limited by the order of the sequence. For example, some acts can occur in a different order than what is described herein. In addition, an act can occur concurrently with another act. Further, in some instances, not all acts may be required to implement a methodology described herein.

[0090] Moreover, the acts described herein may be computer-executable instructions that can be implemented by one or more processors and/or stored on a computer-readable medium or media. The computer-executable instructions can include a routine, a sub-routine, programs, a thread of execution, and/or the like. Still further, results of acts of the methodologies can be stored in a computer-readable medium, displayed on a display device, and/or the like.

[0091] FIG. **9** illustrates a methodology **900** of controlling performance of a health assessment of a user in an entertainment venue. At **902**, data in a health record of the user can be accessed. The health record can be retained in computer-readable storage. Further, the user can be located at the entertainment venue, and the entertainment venue includes an attraction. At **904**, a health parameter of the user is selected to be measured as part of a health assessment performed in the entertainment venue. The health parameter can be selected based on the data in the health record of the user. At **906**, an interaction between the user and the attraction of the entertainment venue can be controlled based on the health parameter to be measured. At **908**, data indicative of the health parameter of the user can be computed based on a signal output by a sensor. The signal can be output by the sensor during the interaction between the user and the attraction of the entertainment venue.

[0092] With reference to FIG. **10**, illustrated is a methodology **1000** of controlling personalization of treatment of a user detected to have a health condition in an entertainment venue. At **1002**, data indicative of a health parameter of the user can be computed based on a signal output by a sensor. The signal can be output by the sensor during an interaction between the user and an attraction of an entertainment venue, with the user being located at the entertainment venue. At **1004**, the health condition of the user can be detected based at least in part on the data indicative of the health parameter of the user. At **1006**, treatment plan data for the user can be generated based on the health condition of the user. At **1008**, the treatment plan data can be transmitted to a mobile device of the user. An application executable by the mobile device can be personalized for the user based on the treatment plan data.

[0093] Referring now to FIG. **11**, a high-level illustration of an exemplary computing device **1100** that can be used in accordance with the systems and methodologies disclosed herein is illustrated. For instance, the computing device **1100** may be or include the computing system **102**. Pursuant to another example, the computing system **102** may include the computing device **1100**. According to yet another example, an attraction or costume may include the computing device **1100**. In accordance with yet another example, the computing device **1100** may receive input (e.g., from medical personnel that monitor a user interacting with an attraction in the entertainment venue, from a medical diagnostic device or other sensor in the entertainment venue, from testing equipment that evaluates a sample obtained from a user during interaction with an attraction of the entertainment venue, etc.); further, the received input can be sent by the computing device **1100** to the computing system **102**. By way of yet a further example, the computing device **1100** may receive output from the computing system **102**. According to another example, the computing device **1100** can control an attraction. The

computing device **1100**, for example, can be or include the mobile device **302**. By way of another example, the computing device **1100** can be or include the computing device **502**. Pursuant to yet another example, the computing device **1100** can be or include the output device **704**. The computing device **1100** includes at least one processor **1102** that executes instructions that are stored in a memory **1104**. The instructions may be, for instance, instructions for implementing functionality described as being carried out by one or more components discussed above or instructions for implementing one or more of the methods described above. The processor **1102** may access the memory **1104** by way of a system bus **1106**. In addition to storing executable instructions, the memory **1104** may also store health data, user health records, and so forth.

[0094] The computing device **1100** additionally includes a data store **1108** that is accessible by the processor **1102** by way of the system bus **1106**. The data store **1108** may include executable instructions, health data, user health records, etc. The computing device **1100** also includes an input interface **1110** that allows external devices to communicate with the computing device **1100**. For instance, the input interface **1110** may be used to receive instructions from an external computer device, from a user, etc. The computing device **1100** also includes an output interface **1112** that interfaces the computing device **1100** with one or more external devices. For example, the computing device **1100** may display text, images, etc. by way of the output interface **1112**.

[0095] It is contemplated that the external devices that communicate with the computing device **1100** via the input interface **1110** and the output interface **1112** can be included in an environment that provides substantially any type of user interface with which a user can interact. Examples of user interface types include graphical user interfaces, natural user interfaces, and so forth. For instance, a graphical user interface may accept input from a user employing input device(s) such as a keyboard, mouse, remote control, or the like and provide output on an output device such as a display. Further, a natural user interface may enable a user to interact with the computing device **1100** in a manner free from constraints imposed by input device such as keyboards, mice, remote controls, and the like. Rather, a natural user interface can rely on speech recognition, touch and stylus recognition, gesture recognition both on screen and adjacent to the screen, air gestures, head and eye tracking, voice and speech, vision, touch, gestures, machine intelligence, and so forth.

[0096] Additionally, while illustrated as a single system, it is to be understood that the computing device **1100** may be a distributed system. Thus, for instance, several devices may be in communication by way of a network connection and may collectively perform tasks described as being performed by the computing device **1100**.

[0097] Turning to FIG. **12**, a high-level illustration of an exemplary computing system **1200** that can be used in accordance with the systems and methodologies disclosed herein is illustrated. For instance, the computing system **1200** can be or include the computing system **102**. Additionally or alternatively, the computing system **102** can be or include the computing system **1200**.

[0098] The computing system **1200** includes a plurality of server computing devices, namely, a server computing device **1202**, . . . , and a server computing device **1204** (collectively referred to as server computing devices **1202-1204**). The server computing device **1202** includes at least one processor and a memory; the at least one processor executes instructions that are stored in the memory. The instructions may be, for instance, instructions for implementing functionality described as being carried out by one or more components discussed above or instructions for implementing one or more of the methods described above. Similar to the server computing device **1202**, at least a subset of the server computing devices **1202-1204** other than the server computing device **1202** each respectively include at least one processor and a memory. Moreover, at least a subset of the server computing devices **1202-1204** include respective data stores.

[0099] Processor(s) of one or more of the server computing devices **1202-1204** can be or include the processor(s) **104**. Further, a memory (or memories) of one or more of the server computing devices **1202-1204** can be or include the memory **106**. Moreover, computer-readable storage of one or more of the server computing devices **1202-1204** can be or include the computer-readable storage **202**.

[0100] The computing system **1200** further includes various network nodes **1206** that transport data between the server computing devices **1202-1204**. Moreover, the network nodes **1202** transport data from the server computing devices **1202-1204** to external nodes (e.g., external to the computing system **1200**) by way of a network **1208**. The network nodes **1202** also transport data to the server computing devices **1202-1204** from the external nodes by way of the network **1208**. The network **1208**, for example, can be the Internet, a cellular network, or the like. The network nodes **1206** include switches, routers, load balancers, and so forth.

[0101] A fabric controller **1210** of the computing system **1200** manages hardware resources of the server computing devices **1202-1204** (e.g., processors, memories, data stores, etc. of the server computing devices **1202-1204**). The fabric controller **1210** further manages the network nodes **1206**. Moreover, the fabric controller **1210** manages creation, provisioning, de-provisioning, and supervising of virtual machines instantiated upon the server computing devices **1202-1204**.

[0102] As used herein, the terms "component" and "system" are intended to encompass computer-readable data storage that is configured with computer-executable instructions that cause certain functionality to be performed when executed by a processor. The computer-executable instructions may include a routine, a function, or the like. It is also to be understood that a component or system may be localized on a single device or distributed across several devices.

[0103] Further, as used herein, the term "exemplary" is intended to mean "serving as an illustration or example of something."

[0104] Various functions described herein can be implemented in hardware, software, or any combination thereof. If implemented in software, the functions can be stored on or transmitted over as one or more instructions or code on a computer-readable medium. Computer-readable media includes computer-readable storage media. A computer-readable storage media can be any available storage media that can be accessed by a computer. By way of example, and not limitation, such computer-readable storage media can comprise RAM, ROM, EEPROM, CD-ROM or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium that can be used to store desired program code in the form of instructions or data structures and that can be accessed by a computer. Disk and disc, as used herein, include compact disc (CD), laser disc, optical disc,

digital versatile disc (DVD), floppy disk, and blu-ray disc (BD), where disks usually reproduce data magnetically and discs usually reproduce data optically with lasers. Further, a propagated signal is not included within the scope of computer-readable storage media. Computer-readable media also includes communication media including any medium that facilitates transfer of a computer program from one place to another. A connection, for instance, can be a communication medium. For example, if the software is transmitted from a website, server, or other remote source using a coaxial cable, fiber optic cable, twisted pair, digital subscriber line (DSL), or wireless technologies such as infrared, radio, and microwave, then the coaxial cable, fiber optic cable, twisted pair, DSL, or wireless technologies such as infrared, radio and microwave are included in the definition of communication medium. Combinations of the above should also be included within the scope of computer-readable media.

[0105] Alternatively, or in addition, the functionality described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Program-specific Integrated Circuits (ASICs), Program-specific Standard Products (ASSPs), System-on-a-chip systems (SOCs), Complex Programmable Logic Devices (CPLDs), etc.

[0106] What has been described above includes examples of one or more embodiments. It is, of course, not possible to describe every conceivable modification and alteration of the above devices or methodologies for purposes of describing the aforementioned aspects, but one of ordinary skill in the art can recognize that many further modifications and permutations of various aspects are possible. Accordingly, the described aspects are intended to embrace all such alterations, modifications, and variations that fall within the spirit and scope of the appended claims. Furthermore, to the extent that the term "includes" is used in either the details description or the claims, such term is intended to be inclusive in a manner similar to the term "comprising" as "comprising" is interpreted when employed as a transitional word in a claim.

What is claimed is:

1. A method of controlling performance of a health assessment of a user in an entertainment venue, comprising:

accessing data in a health record of the user, the health record being retained in computer-readable storage, the user being located at the entertainment venue, and the entertainment venue comprising an attraction;

selecting a health parameter of the user to be measured as part of the health assessment performed in the entertainment venue, the health parameter being selected based on the data in the health record of the user;

controlling an interaction between the user and the attraction of the entertainment venue based on the health parameter to be measured; and

computing data indicative of the health parameter of the user based on a signal output by a sensor, the signal output by the sensor during the interaction between the user and the attraction of the entertainment venue.

2. The method of claim **1**, controlling the interaction between the user and the attraction of the entertainment venue based on the health parameter to be measured further comprising transmitting a control signal to the attraction, the control signal configured to cause a physical modification of at least a portion of the attraction, the health parameter of the user being measurable based on a response of the user to the physical modification.

3. The method of claim **1**, controlling the interaction between the user and the attraction of the entertainment venue based on the health parameter to be measured further comprising:

selecting at least a portion of a storyline based on the health parameter to be measured; and

causing the portion of the storyline to be presented to the user in the entertainment venue, the portion of the storyline configured to cause the user to interact with the attraction to enable the health parameter to be measured.

4. The method of claim **1**, further comprising controlling the interaction between the user and the attraction of the entertainment venue based on the data in the health record of the user.

5. The method of claim **1**, wherein a costume comprises the sensor, the costume being wearable for the attraction, the method further comprising receiving the signal output by the sensor of the costume worn by the user during the interaction between the user and the attraction.

6. The method of claim **1**, wherein the attraction of the entertainment venue comprises the sensor.

7. The method of claim **1**, further comprising storing, in the health record of the user:

the data indicative of the health parameter of the user; and

data indicative of a second health parameter of the user measured during an interaction between the user and a second attraction of the entertainment venue.

8. The method of claim **1**, wherein a mobile device of the user comprises the computer-readable storage that retains the health record of the user.

9. The method of claim **1**, wherein the attraction is a ride in the entertainment venue.

10. The method of claim **1**, wherein the attraction is a group attraction, the user and a disparate user concurrently interact with the attraction while the signal is output by the sensor, the method further comprising:

selecting a health parameter of the disparate user to be measured;

concurrently controlling:

the interaction between the user and the attraction based on the health parameter of the user to be measured; and

an interaction between the disparate user and the attraction based on the health parameter of the disparate user to be measured; and

computing data indicative of the health parameter of the disparate user based on a disparate signal output by a disparate sensor, the disparate signal output by the disparate sensor during the interaction between the disparate user and the attraction of the entertainment venue.

11. The method of claim **1**, further comprising:

detecting a health condition of the user based at least in part on the data indicative of the health parameter of the user;

generating treatment plan data for the user based on the health condition of the user; and

transmitting the treatment plan data to a mobile device of the user, wherein an application executable by the mobile device is personalized for the user based on the treatment plan data.

12. The method of claim 1, further comprising:
detecting a health condition of the user based at least in part on the data indicative of the health parameter of the user;
selecting educational data for the user based on the health condition of the user; and
presenting the educational data to the user.

13. The method of claim 1, wherein the interaction between the user and the attraction of the entertainment venue is controlled to perform a cardiac stress test on the user, the method further comprising:
transmitting a control signal to the attraction, the control signal configured to cause a physical modification of at least a portion of the attraction, the physical modification of the portion of the attraction configured to induce stress on the user; and
measuring data of the cardiac stress test before, during, and after induction of the stress on the user based on the signal output by the sensor, wherein the sensor comprises at least one of an electrocardiogram (ECG) device, a blood pressure measurement device, an ultrasound scanner, an x-ray device, or a magnetic resonance imaging (MRI) scanner.

14. The method of claim 1, wherein the interaction between the user and the attraction of the entertainment venue is controlled to perform a sleep test on the user, the method further comprising:
causing a portion of a storyline to be presented to the user in the entertainment venue, the portion of the storyline configured to prompt the user to sleep in the attraction; and
measuring data of the sleep test while the user sleeps in the attraction based on the signal output by the sensor, wherein the sensor comprises at least one of an electroencephalogram (EEG) device, an electrooculogram (EOG) device, an electromyogram (EMG) device, an electrocardiogram (ECG) device, a pressure transducer, a thermocouple, a pulse oximeter, or a microphone.

15. A computing system, comprising:
one or more processors; and
memory that comprises a health screening system that is executable by the one or more processors, the health screening system comprising:
a collection component that computes data indicative of a health parameter of a user based on a signal output by a sensor, the signal output by the sensor during an interaction between the user and an attraction of an entertainment venue, and the user being located at the entertainment venue;
a condition detection component that detects a health condition of the user based at least in part on the data indicative of the health parameter of the user;
a treatment component that generates treatment plan data for the user based on the health condition of the user; and
an output component that transmits the treatment plan data to a mobile device of the user, wherein an application executable by the mobile device is personalized for the user based on the treatment plan data.

16. The computing system of claim 15, the health screening system further comprising:
an interface component that accesses data in a health record of the user, the health record being retained in computer-readable storage;
an analysis component that selects a health parameter of the user to be measured as part of a health assessment performed in the entertainment venue, the health parameter being selected based on the data in the health record of the user; and
a control component that controls the interaction between the user and the attraction of the entertainment venue based on the health parameter to be measured.

17. The computing system of claim 15, the health screening system further comprising a storyline management component that causes a storyline to be presented to the user during the interaction between the user and the attraction of the entertainment venue, wherein the application continues to cause the storyline to be presented to the user.

18. The computing system of claim 15, wherein the treatment plan data causes the application to output a health suggestion via the mobile device.

19. A computing system, comprising:
one or more processors; and
memory that comprises a health screening system that is executable by the one or more processors, the health screening system comprising:
a control component that:
transmits a first control signal to a first attraction in an entertainment venue, the first control signal configured to cause a first physical modification of at least a portion of the first attraction, a first health parameter of a user being measurable based on a response of the user to the first physical modification; and
transmits a second control signal to a second attraction in the entertainment venue, the second control signal configured to cause a second physical modification of at least a portion of the second attraction, a second health parameter of the user being measurable based on a response of the user to the second physical modification; and
a collection component that:
computes data indicative of the first health parameter of the user based on a first signal output by a first sensor, the first signal output by the first sensor during an interaction between the user and the first attraction; and
computes data indicative of the second health parameter of the user based on a second signal output by a second sensor, the second signal output by the second sensor during an interaction between the user and the second attraction of the entertainment venue.

20. The computing system of claim 19, further comprising:
an analysis component that selects the first health parameter of the user and the second health parameter of the user to be measured as part of a health assessment performed in the entertainment venue;
wherein the control component transmits the first control signal and the second control signal based on the first health parameter of the user and the second health parameter of the user selected to be measured.

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[标]发明人	DIETZ PAUL HENRY TAN DESNEY S SAPONAS TIMOTHY SCOTT MORRIS DANIEL SCOTT WILSON ANDREW DAVID		
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摘要(译)

这里描述的各种技术涉及控制娱乐场所中用户的健康评估的性能。访问用户的健康记录中的数据，其中健康记录保留在计算机可读存储器中。用户位于娱乐场所，娱乐场所包括景点。基于用户的健康记录中的数据来选择要作为在娱乐场所中执行的健康评估的一部分而被测量的用户的健康参数。此外，基于要测量的健康参数来控制用户与娱乐场所的吸引力之间的交互。基于传感器输出的信号计算指示用户的健康参数的数据。在用户与娱乐场所的吸引力之间的交互期间，传感器输出信号。