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(54) SYSTEMS AND METHODS FOR PROVIDING VIRTUAL INCENTIVES FOR REAL-WORLD ACTIVITIES

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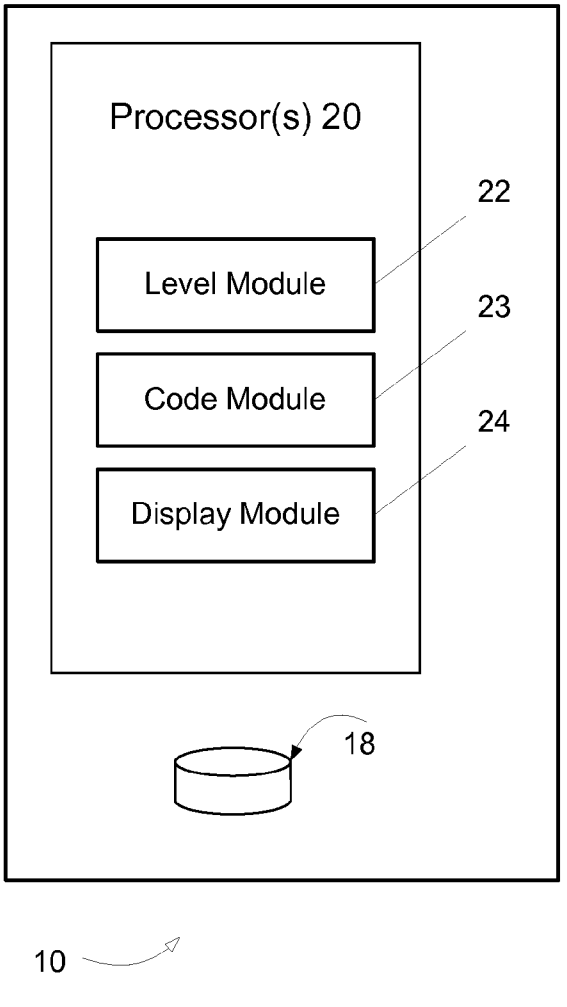
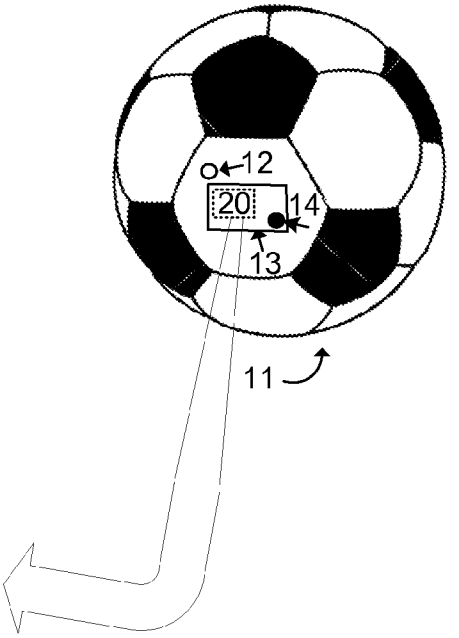
(57) **ABSTRACT**

A physical play object, such as for example a soccer ball or flying disk, may include a sensor to generate signals conveying information regarding the amount of real-world physical play which has been performed with that play object. Once the amount of play crosses a threshold level, a user may be presented with a code. With this code, the user may redeem virtual benefits and/or incentives for a virtual space. This way, real-world physical activity is encouraged through virtual space benefits.





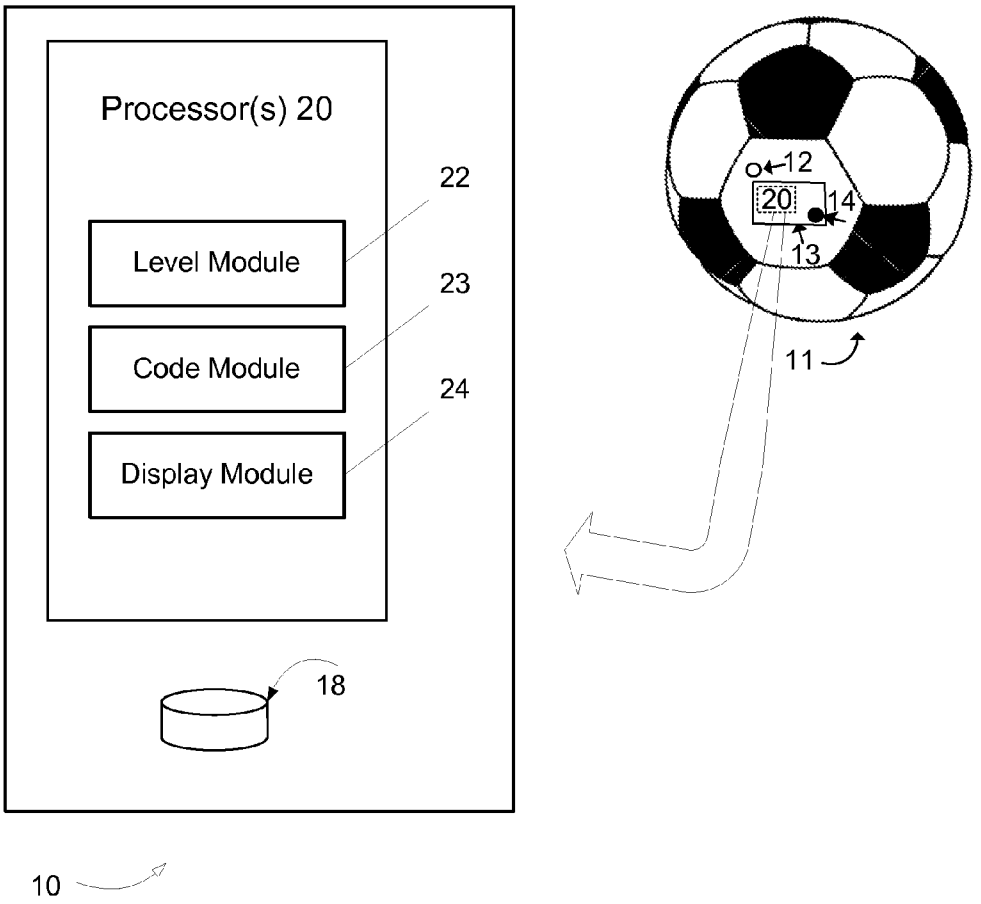

Processor(s) 20
Level Module
Code Module
Display Module
22
23
24
18
10
12
20
14
13
11

FIG. 1

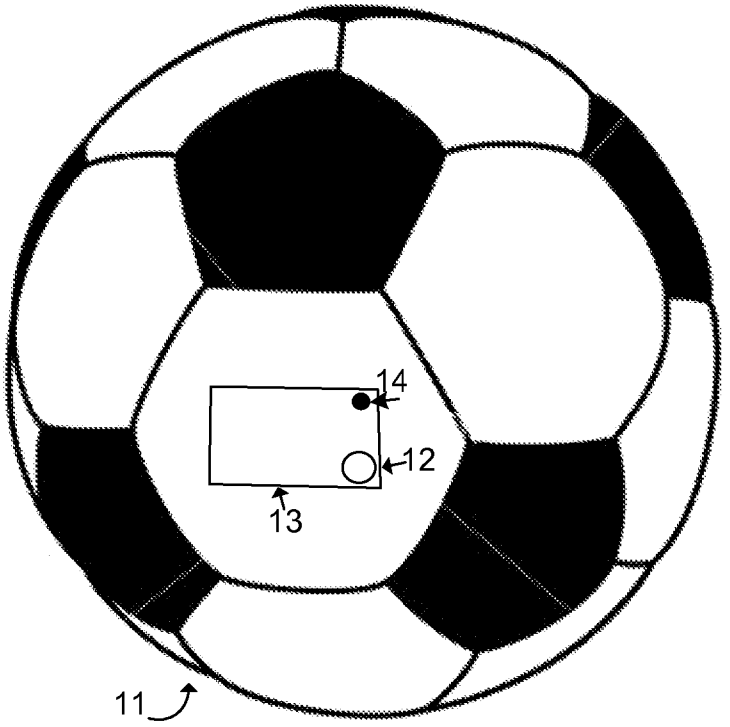


FIG. 2A

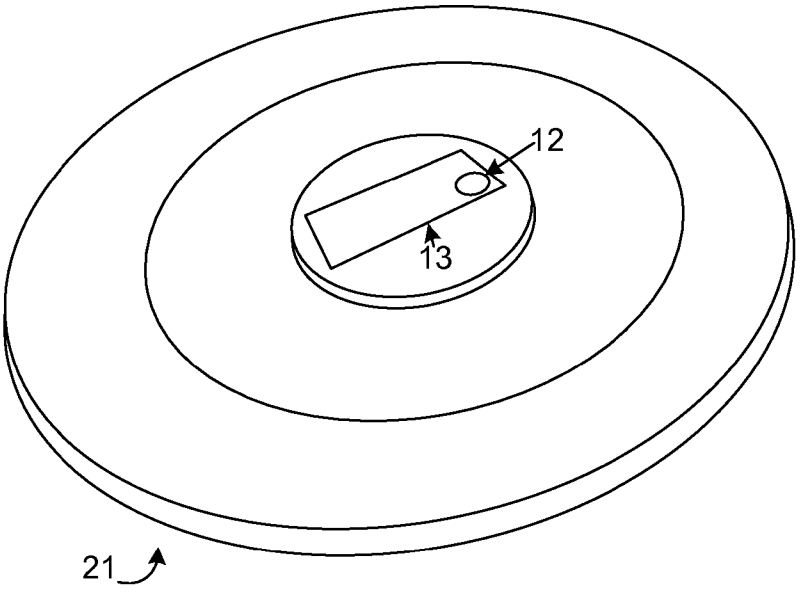


FIG. 2B

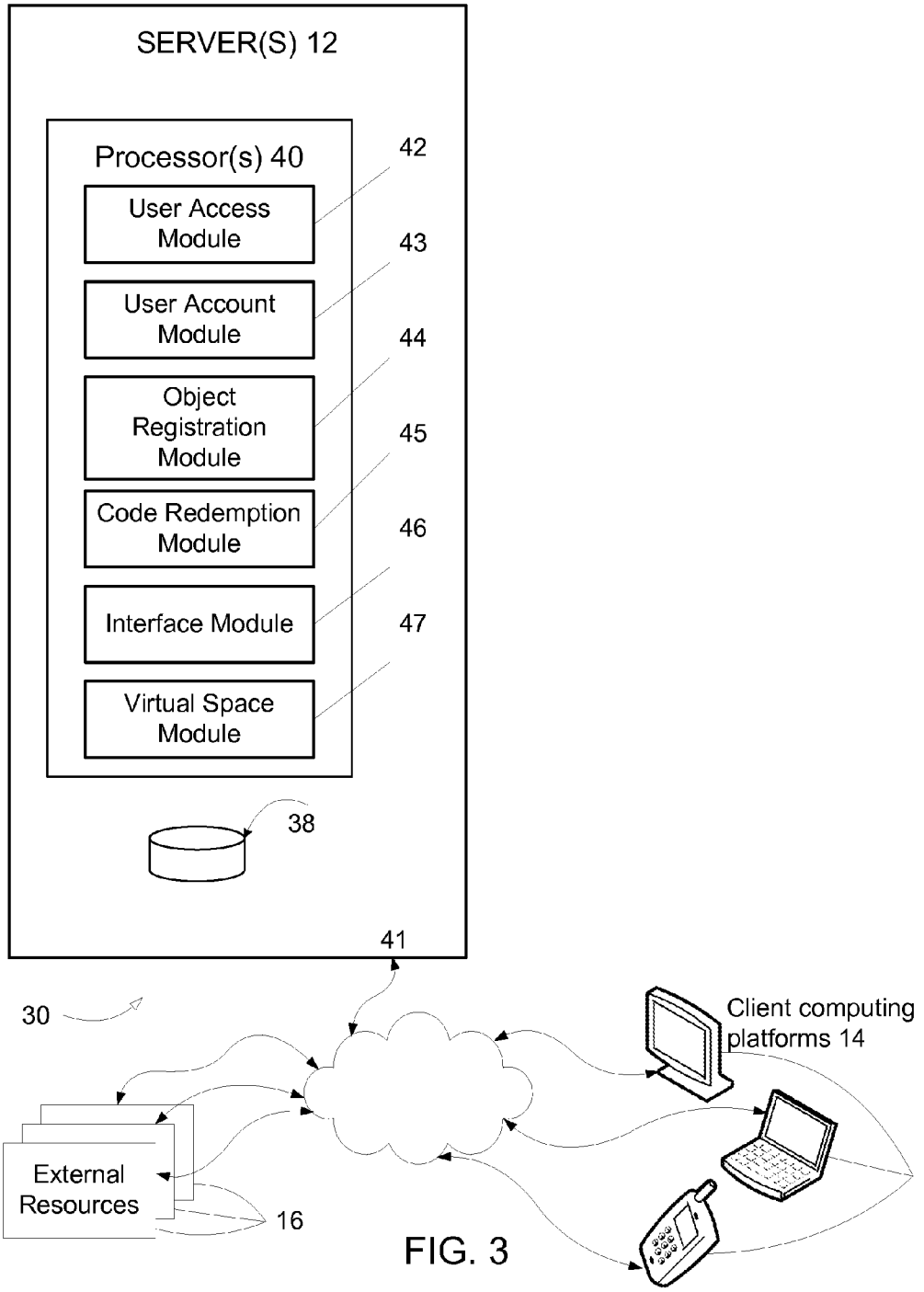

SERVER(S) 12
Processor(s) 40
User Access Module
User Account Module
Object Registration Module
Code Redemption Module
Interface Module
Virtual Space Module
42
43
44
45
46
47
38
41
30
Client computing platforms 14
External Resources
16

FIG. 3

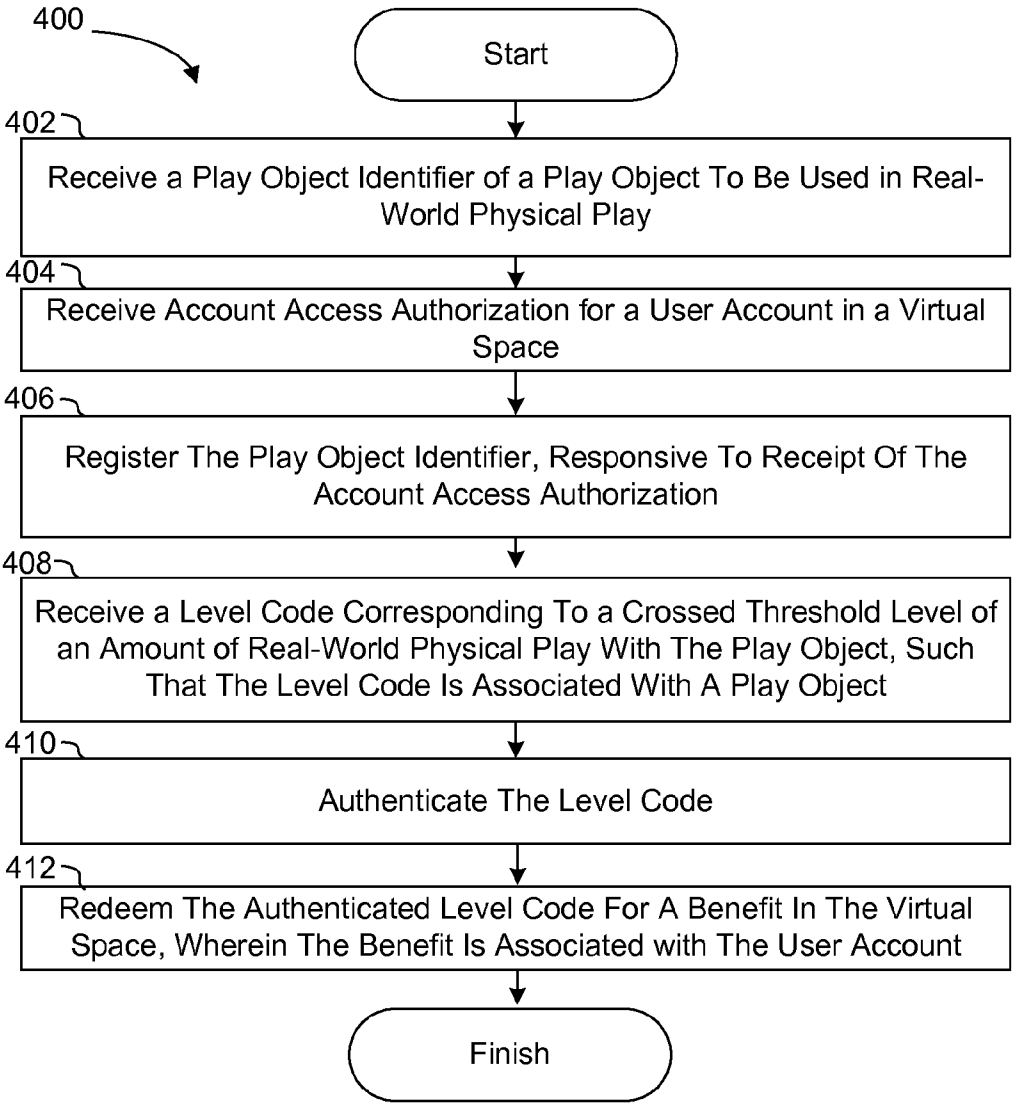

400
Start
402
Receive a Play Object Identifier of a Play Object To Be Used in Real-World Physical Play
404
Receive Account Access Authorization for a User Account in a Virtual Space
406
Register The Play Object Identifier, Responsive To Receipt Of The Account Access Authorization
408
Receive a Level Code Corresponding To a Crossed Threshold Level of an Amount of Real-World Physical Play With The Play Object, Such That The Level Code Is Associated With A Play Object
410
Authenticate The Level Code
412
Redeem The Authenticated Level Code For A Benefit In The Virtual Space, Wherein The Benefit Is Associated with The User Account
Finish

FIG. 4

SYSTEMS AND METHODS FOR PROVIDING VIRTUAL INCENTIVES FOR REAL-WORLD ACTIVITIES

FIELD OF THE DISCLOSURE

[0001] This disclosure relates to systems and methods for encouraging real-world physical play with a play object by providing virtual incentives. The play object releases and/or presents one or more codes after one or more (e.g., successive) threshold level amounts of such physical play involving the play object have been performed, after which a code may be redeemed for virtual space benefits and/or incentives.

BACKGROUND

[0002] The power of incentives is known to work not only in the real world, but also in online virtual worlds, video games and other computer-generated environments. Users of such virtual environments, whether they are referred to as residents, gamers, or by other terms, are subjected to and/or tempted by a wide variety of incentives. For example, users may earn rewards for spending a certain amount of time while engaged with a virtual environment, for reaching certain goals and/or generally making progress, for reaching certain goals within a certain amount of time, for defeating enemies, for helping friends and/or teammates, for spending a certain amount of real and/or virtual currency, for out-performing other users, and/or for other reasons to earn rewards. Rewards may include one or more of a monetary component, virtual goods and/or services, virtual skills and/or abilities, status, recognition, privileges, bragging rights, and/or any other object and/or reward, virtual or not, that a user of such an environment might consider worthwhile. Incentives may be targeted to specific environments, since, e.g., users of World of Warcraft® may respond to different incentives than users of Club Penguin®. Incentives and rewards need not be confined to the same virtual environment. For example, a user of one particular game and/or application on the iPhone® platform may earn virtual rewards for buying, downloading, installing, and/or trying out a different application on the iPhone® platform, usually on the same computing device.

[0003] Examples of the power of incentives in the real world as may be used for and/or against people of all ages is well-established, well-documented, and generally understood to at least some degree. The academic fields of economics, psychology, education and many others are replete with examples involving both individuals and groups of any size.

SUMMARY

[0004] One aspect of the disclosure relates to a system and/or method for encouraging physical activity of a user in the real world by providing virtual incentives. Such physical activity may be encouraged and/or rewarded via a play object to be used in the physical activity. The play object may resemble the appearance of a familiar play object, such as a ball, a flying disk or ring, a bat, a catching target, a scooter, a skateboard, and/or other play objects suitable for a user to perform physical activity with and/or play with in the real world. Responsive to the user performing physical activity with the play object, the play object may be configured to provide level codes to the user, which may be redeemable in a virtual space for a virtual benefit and/or incentive.

[0005] The play object may be associated with and/or identified by an object identifier, which may be unique. The play object may include a sensor, an electronic display, one or more processors, and/or other components. The one or more processors may be configured to execute one or more of a level module, a code module, a display module, and/or other modules.

[0006] The sensor may be carried by the play object (e.g., within the play object, on a surface of the play object, and/or carried in other locations on the play object). The sensor may be configured to generate an output signal conveying information related to an amount of real-world physical play performed with the play object. The type of physical play may differ for different types of play objects, such that a distinct pattern, set, and/or range of movements may be characteristic for a type of physical play with a play object. For example, a soccer ball may roll or fly at certain speeds, as well as experience sudden changes in direction, at certain rates of acceleration, when the ball is kicked, thrown, bounced, and/or propelled in any other fashion that may be common for real-world physical activity with a soccer ball. A sensor, e.g. an accelerometer, may be configured to distinguish, e.g. in conjunction with sensor-related logic, between a characteristic pattern, set, and/or range of movements for common real-world physical activity with a soccer ball, and other movements and/or lack of movements. As such, an output signal of the sensor of the soccer ball may be interpreted to signify whether the soccer ball is currently likely being used in real-world physical activity of a type that is characteristic of a soccer ball. Similarly, a flying disk may fly, spin, and/or rotate at certain speeds, or start and stop spinning in certain patterns, when the flying disk is used for common real-world physical activity. A sensor, e.g. a rotary sensor, may be configured to distinguish, e.g. in conjunction with sensor-related logic, between a characteristic pattern and/or movement of the flying disk, and other movements and/or lack of movements. As such, an output signal of the sensor of the flying disk may be interpreted to signify whether the flying disk is currently likely being used in real-world physical activity of a type that is characteristic of a flying disk. In some implementations, existing and/or familiar equipment suitable for real-world physical activity, such as a bicycle or scooter, may be augmented by an attachment configured to provide such equipment with the functionality to encourage real-world physical activity through virtual incentives as described herein.

[0007] The level module of the play object may be configured to determine whether the amount of real-world physical play performed with the play object has crossed a threshold level. The determination may be based on output signals, measurements and/or information from one or more sensors of the play object, described above, as well as an analysis thereof over time. For example, the level module may determine for periods of a short duration, such as 1 second, 5 seconds, 10 seconds, 30 seconds, 60 seconds, and/or other durations whether the play object is currently likely being used in real-world physical activity of a type that is characteristic of that play object. Subsequent periods, overlapping periods, and/or a set of periods within a larger period of a longer duration, such as 1 minute, 5 minutes, 10 minutes, 20 minutes, 30 minutes, 60 minutes, and/or other durations may be analyzed to determine, e.g. using statistical analysis, whether the play object has likely been used in all or part of the larger period of a longer duration. Distinct occurrences of a larger period of play object usage, e.g. on a 1-minute granularity (and/or other granularities) may be added together to

determine whether the amount of real-world physical play performed with the play object has crossed a threshold level.

[0008] The threshold level may be part of a succession of threshold levels, such that individual threshold levels correspond to individual level codes. A threshold level may represent a cumulative amount of real-world physical play performed with the play object, an incremental amount of real-world physical play performed with the play object since either an initialization of the level module and/or the play object or since the most recently crossed threshold level, a minimum amount of real-world physical play per time period (e.g. per day), a minimum amount of real-world physical play per multiple time periods (e.g. at least fifteen minutes of play per day for at least three consecutive days), a minimum amount of real-world physical play for at least a certain number of time periods within a certain duration of time (e.g. at least ten minutes of play for at least four days in a week), and/or other amounts of real-world physical play.

[0009] The code module of the play object may be configured to obtain a level code corresponding to the crossed threshold. The level code may be redeemable for a benefit and/or incentive in a virtual space. Operation of the code module may be responsive to a determination that the amount of real-world physical play with the play object crossed a threshold level, which may be determined by the level module. The code module may be configured to generate a level code (e.g. through a pseudo-random generator, which may be initialized and/or indexed based on, for example, the unique object identifier of the play object), obtain a level code from a storage location (e.g. for preconfigured and/or predetermined level codes stored in electronic storage accessible to the code module), and/or obtain a level code through another level code supply mechanism. The level codes may include one or more of an alphanumeric code, a pictorial code, and/or other codes.

[0010] The display module of the play object may be configured to present the level code to the user (e.g., via the electronic display). Presentation of the level code to the user may facilitate redemption of the level code by the user for a benefit and/or incentive in the virtual space. It will be appreciated that the description herein of the level codes being conveyed visually to the user (through the electronic display) is not intended to be limiting. Other communication media may be implemented to communicate such information to the user (e.g., audio, tactile, and/or other communication media).

[0011] The display module may be configured to present an indication of progress towards a subsequent threshold level in the succession of threshold levels. The indication of progress may be based on determinations made by the level module, described above. The indication of progress may start anew after each crossed threshold level. For example, after the amount of real-world physical play performed with the play object has crossed a given threshold level, the indication of progress towards the threshold level that succeeds the given threshold level (i.e. the subsequent threshold level) may be 0%, or any graphical representation that essentially indicates the same progress. After a certain amount of real-world physical play that is performed with the play object after the given threshold level was crossed, the indication of progress towards the next threshold level may be 20%. For a graphical representation that uses five symbols and/or characters, such as asterisks, to indicate completion of the current effort to progress to the subsequent threshold level, an indication of 20% progress may be represented by presenting one symbol and/or character, such as one asterisk, to the user via the electronic display.

[0012] One aspect of the disclosure relates to a server system for encouraging physical activity of a user in the real world by providing virtual incentives for such activity. The server system may be configured to execute one or more of a user account module, a object registration module, a code redemption module, and/or other modules.

[0013] The user account module of the server system may be configured to manage (access to) user accounts in a virtual space that include account information of users. Individual user accounts may be associated with individual users. The user account module may be configured to support registration of new users of the server system.

[0014] The object registration module of the server system may be configured to facilitate registration of a play object with a user account in the virtual space. The play object may be intended to be used in real-world physical play and/or activity. The play object may be associated with and/or identified by a unique object identifier. A unique object identifier may include a serial number, an identification code, a barcode, a QR code, a machine-readable marker, and/or another identifier intended to distinguish multiple play objects from one another. Registration of the play object may require the unique object identifier of the play object. The object registration module may be configured to generate an object registration user interface for presentation to the user. The object registration user interface may be configured to receive from the user entry and/or selection of required information, such as the unique object identifier and/or other information. This object registration user interface may be presented to a user, for example, through a client computing platform. Registration of the play object may require access to a registered user account, such that the play object may be associated with the user account.

[0015] The code redemption module of the server system may be configured to redeem a level code for a benefit and/or incentive in the virtual space. The level code may correspond to a crossed threshold level of an amount of real-world physical play performed with a play object. The benefit and/or incentive may be associated with a user account upon redemption. Redemption of a level code may require a user-selection of a particular registered play object, since a user account may be associated with a set of registered play objects. The code redemption module may be configured to generate a redemption user interface for presentation to the user through which entry and/or selection of required information may be received, including one or more of a user-selection of a particular registered play object, the level code corresponding to the selected play object, and/or other required information. This redemption user interface may be presented to the user, for example, through a client computing platform. Operation of the code redemption module may be responsive to functions performed by other modules.

[0016] The benefit, available to the user upon redemption of the level code, may comprise one or more of an amount of virtual currency for the virtual space, a virtual good and/or service in the virtual space, unlocking of a virtual place and/or virtual activity within the virtual space, leveling up within the virtual space, experience points, a buff and/or power boost available for future use during one or more of a task, an assignment, a game, an activity, a mission, a quest, a challenge, a competition, and/or a tournament in the virtual space,

a virtual skill and/or ability, a virtual pet, a relationship (or improved relationship) with a non-player character within the virtual space, and/or other content unlocks and/or virtual benefits. For example, the benefit may increase the amount of virtual currency included in the account information of the user.

[0017] A virtual good may be classified as one or more of decorative, functional, access-driven, behavioral, and/or other classifications. A virtual good may include, without limitation, an object with or without abilities, an ingredient, a virtual mineral or ore, a virtual herb, leaf, stem, seeds or root, a protective object, a tool, a weapon, a pet, a vehicle, a mount, a map, clothing, furniture, buildings, floors, wallpaper, documents, music, newspapers, magazines, other media, artwork and/or other goods or items.

[0018] The code redemption module may be configured to present a user with one or more options of different benefits that a user may choose from, e.g. through the redemption user interface. The code redemption module may be configured to authenticate the level code, which may include determining whether the level code is valid and/or correct for the selected play object of the current user account. Authentication may include determining whether the level codes are redeemed in a proper order. Level code authentication may be based e.g. on account history information, other account information, and/or other information, such that fraudulently obtained level codes may be denied any benefit.

[0019] These and other features, and characteristics of the present technology, as well as the methods of operation and functions of the related elements of structure and the combination of parts and economies of manufacture, will become more apparent upon consideration of the following description and the appended claims with reference to the accompanying drawings, all of which form a part of this specification, wherein like reference numerals designate corresponding parts in the various figures. It is to be expressly understood, however, that the drawings are for the purpose of illustration and description only and are not intended as a definition of the limits of the invention. As used in the specification and in the claims, the singular form of "a", "an", and "the" include plural referents unless the context clearly dictates otherwise.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] FIG. **1** illustrates a play object for encouraging physical activity of a user.

[0021] FIGS. **2**A and **2**B illustrates exemplary play objects.

[0022] FIG. **3** illustrates a server system for encouraging physical activity of a user.

[0023] FIG. **4** illustrates an exemplary method for encouraging physical activity of a user.

DETAILED DESCRIPTION

[0024] FIG. **1** illustrates a play object **10** for encouraging physical activity of a user by providing virtual incentives. Play object **10** may resemble the appearance of familiar play objects, such as a ball, a flying disk or ring, a baseball bat, a catching target, a scooter, a skateboard, and/or other play objects suitable for a user to perform physical activity with and/or play with in the real world. For example, a play object may be an wearable accessory, including one or more of a wearable band, apparel configured to convey information related to an amount of real-world physical activity, shoes and/or hats configured to convey information related to an amount of real-world physical activity, and/or other wearable accessories. Play object **10** may for example be implemented as a soccer ball **11**. Play object **10** may be identified by a unique object identifier. Play object **10** may include one or more of an electronic display **13**, a sensor **14**, an interface component **12**, one or more processors **20**, and/or other components.

[0025] Sensor **14** may be carried by play object **10** (e.g., within the play object, on a surface of the play object, and/or carried in other locations on the play object). Sensor **14** may be configured to generate an output signal conveying information related to an amount of real-world physical play performed with play object **10**. Sensor **14** may include functionalities and/or capabilities of one or more of a motion detector, an accelerometer, a rotary sensor, a torque sensor, a velocity sensor, a tachometer, a gravitational sensor, a gravimeter, a GPS sensor, a microphone, an acoustic sensor, a light sensor, a pressure sensor, an air pressure sensor, a chemical sensor, a temperature sensor, a heat-flux sensor, a humidity sensor, a level sensor, an angle sensor, a gyroscope, a displacement sensor, a current sensor, a voltage sensor, a compass, and/or other sensors.

[0026] The type of physical play may differ for different types of play objects, such that a distinct pattern, set, and/or range of movements may be characteristic for a type of physical play with a play object. For example, a soccer ball may roll or fly at certain speeds, as well as experience sudden changes in direction, at certain rates of acceleration, when the ball is kicked, thrown, bounced, and/or propelled in any other fashion that may be common for real-world physical activity with a soccer ball. A sensor, e.g. an accelerometer, may be configured to distinguish, e.g. in conjunction with sensor-related logic, between a characteristic pattern, set, and/or range of movements for common real-world physical activity with a soccer ball, and other movements and/or lack of movements. As such, an output signal of the sensor of the soccer ball may be interpreted to signify whether the soccer ball is currently likely being used in real-world physical activity of a type that is characteristic of a soccer ball.

[0027] A flying disk may fly, spin, and/or rotate at certain speeds, or start and stop spinning in certain patterns, when the flying disk is used for common real-world physical activity. A sensor, e.g. a rotary sensor, may be configured to distinguish, e.g. in conjunction with sensor-related logic, between a characteristic pattern and/or movement of the flying disk, and other movements and/or lack of movements. As such, an output signal of the sensor of the flying disk may be interpreted to signify whether the flying disk is currently likely being used in real-world physical activity of a type that is characteristic of a flying disk. Other combinations of play object/sensor(s) are contemplated. In some implementations, existing and/or familiar equipment suitable for real-world physical activity, such as a bicycle, scooter, and/or other equipment capable of transporting a person by manually-supplied power, may be augmented by an attachment configured to provide such equipment with the functionality to encourage real-world physical activity through virtual incentives as described herein.

[0028] Play object **10** may include an electronic display **13** carried by play object **10** (e.g., on a surface of the play object, and/or carried in other locations on the play object). The electronic display **13** may be configured to present and/or display information to the user.

[0029] The one or more processors **20** may be carried by play object **10** and/or any of its constituent components. In some implementations, one or more processors **20** may be integrated with electronic display **13**. The one or more processors **20** may be configured to execute one or more of a level module **22**, a code module **23**, a display module **24**, and/or other modules.

[0030] Level module **22** of play object **10** may be configured to determine whether the amount of real-world physical play performed with play object **10** has crossed a threshold level. The determination may be based on output signals, measurements and/or information from one or more sensors of the play object, described above, as well as an analysis thereof over time. An amount of real-world physical play may be measured in terms of time spent playing, play events (e.g., kicks, throws, hits, sprints, and/or other events), characteristic patterns, sets, and/or ranges of movements for common real-world physical activity appropriate for a particular play object, and/or measured in terms of other parameters.

[0031] For example, in measuring an amount of physical play in terms of time the level module may determine for periods of a short duration, such as 1 second, 5 seconds, 10 seconds, 30 seconds, 60 seconds, and/or other durations whether the play object is currently likely being used in real-world physical activity of a type that is characteristic of that play object. Subsequent periods, overlapping periods, and/or a set of periods within a larger period of a longer duration, such as 1 minute, 5 minutes, 10 minutes, 20 minutes, 30 minutes, 60 minutes, and/or other durations may be analyzed to determine, e.g. using statistical analysis, whether the play object has likely been used in all or part of the larger period of a longer duration. Distinct occurrences of a larger period of play object usage, e.g. on a 1-minute granularity (and/or other granularities) may be added together to determine whether the amount of real-world physical play performed with the play object has crossed a threshold level.

[0032] The threshold level may be part of a succession of threshold levels, such that individual threshold levels correspond to individual level codes. A threshold level may represent a cumulative amount of real-world physical play performed with play object **10**, an incremental amount of real-world physical play performed with play object **10** since either an initialization of level module **22** and/or play object **10** or since the most recently crossed threshold level, a minimum amount of real-world physical play per time period (e.g. per day), a minimum amount of real-world physical play per multiple time periods (e.g. at least fifteen minutes of play per day for at least three consecutive days), a minimum amount of real-world physical play for at least a certain number of time periods within a certain duration of time (e.g. at least ten minutes of play for at least four days in a week), and/or other amounts of real-world physical play. The required amount of physical play between threshold levels may change. For example, the required amount of physical play may increase. The succession of threshold levels may be intended to foster a habit of daily physical play with play object **10**.

[0033] Code module **23** of play object **10** may be configured to obtain a level code corresponding to the crossed threshold. The level code may be redeemable for a benefit and/or incentive in a virtual space. Operation of code module **23** may be responsive to a determination that the amount of real-world physical play with play object **10** crossed a particular threshold level, which may be determined by level module **22**. Code module **23** may be configured to generate a level code (e.g. through a pseudo-random generator, which may be initialized and/or indexed based on, for example, the unique object identifier of play object **10**), obtain a level code from a storage location (e.g. for preconfigured and/or predetermined level codes stored in electronic storage **18** such that it is accessible to code module **23**), and/or obtain a level code through another level code supply mechanism. Level codes for subsequent threshold level crossings may be designed to thwart attempts at determining and/or discovering the next level code based solely on the sequence of preceding level codes. In this manner, a reasonable effort should be made to prevent level code fraud and illegitimate redemption of level codes.

[0034] The level codes may include one or more of an alphanumeric code, a pictorial code, and/or other codes.

[0035] Display module **24** of play object **10** may be configured to present the level code to the user (e.g., via electronic display **13**). Presentation of the level code to the user may facilitate redemption of the level code by the user for a benefit and/or incentive in the virtual space. It will be appreciated that the description herein of the level codes being conveyed visually to the user (through the electronic display) is not intended to be limiting. Other communication media may be implemented to communicate such information to the user (e.g., audio, tactile, and/or other communication media).

[0036] Display module **24** may be configured to present an indication of progress towards a subsequent threshold level in the succession of threshold levels. The indication of progress may be based on determinations made by the level module, described above. The indication of progress may start anew after each crossed threshold level. For example, after the amount of real-world physical play performed with play object **10** has crossed a given threshold level, the indication of progress towards the threshold level that succeeds the given threshold level (i.e. the subsequent threshold level) may be 0% (possibly after rounding to the nearest indication in light of the granularity of the representation of progress), or any graphical representation that essentially indicates the same progress. After a certain amount of real-world physical play that is performed with play object **10** after the given threshold level was crossed, the indication of progress towards the next threshold level may be 20%. For a graphical representation that uses, say, five symbols and/or characters, such as asterisks, to indicate completion of the current effort to progress to the subsequent threshold level, an indication of 20% progress may be represented by presenting one symbol and/or character, such as one asterisk, to the user via electronic display **13**. The indication may include lights, visual signals, sounds, auditory signals, symbols, characters, icons, tactile signals, and/or other ways to indicate progress. For example, different levels of progress may be represented by different symbols and/or icons: an apple, a cherry, a banana and a strawberry may be used to represent 25%, 50%, 75% and 100% progress, and/or any other sequence of linear or non-linear progress.

[0037] Play object **10** may include an interface component **12**, such as a button. Interface component **12** may be configured to facilitate user interaction, user selection, user commands, and/or other types of information exchange between a user and play object **10**. For example, interface component **12** may be configured to receive input from a user, such that one or more of the unique object identifier, the level code corresponding to the most recently cross threshold level, and/or other information is presented to the user in response to

receipt of input from the user. Interface component **12** may be integrated with electronic display **13** into a touch-screen interface.

[0038] FIG. **2**A illustrates an exemplary play object: soccer ball **11**. Soccer ball **11** may include electronic display **13**, sensor **14**, interface component **12**, and/or other components, such as described in relation to FIG. **1**. Sensor **14** of soccer ball **11** may for example include an accelerometer. Output signals generated by sensor **14** of soccer ball **11** may convey information related to an amount of physical play performed with soccer ball **11**. The illustration of sensor **14** as including a single member in any figure is not intended to be limiting. In certain embodiments sensor **14** may include a plurality of sensors generating output signals conveying information related to one or more parameters associated with an amount of physical play performed. Resulting signals or information from sensor **14** may be transmitted to processor **20**, electronic storage **18**, and/or other components of play object **10**.

[0039] FIG. **2**B illustrates an exemplary play object: flying disk **21**. Flying disk **21** in FIG. **2**B may include electronic display **13**, interface component **12**, and/or other components. Play object **21** may include a sensor such as a rotary sensor. Output signals generated by a sensor of flying disk **21** may convey information related to an amount of physical play performed with flying disk **21**.

[0040] FIG. **3** illustrates a server system **30** for encouraging physical activity of a user through virtual benefits and/or incentives in a virtual space. Providing the virtual space may include hosting the virtual space over a computer network. Server system **30** may include one or more server(s) **12**, one or more client computing platform(s) **14**, external resources **16**, and/or other components. Server **12** may be configured to communicate with one or more client computing platforms **14** according to a client/server architecture. The users may access server system **30** and/or the virtual space via client computing platforms **14**.

[0041] Server(s) **12** may include one or more processor(s) **40**, electronic storage **38**, and/or other components. Server(s) **12** may include a network connection **41** (such as communication lines, or ports) to enable the exchange of information with one or more networks (e.g. the Internet) and/or other computing platforms.

[0042] It will be appreciated that discussion herein of "the connection" between server **12** and, e.g., client computing platform **14** is not limited to a single communication pathway, protocol, or set of protocols. For example, "the connection" may refer to an RF communication connection (e.g., CDMA, 3G, and/or other RF communication connections) and/or a WiFi connection that may be used alternatively to each other by the same client computing platform **14** and server **12** to communicate.

[0043] One or more processors **40** may be configured to execute one or more computer program modules, including user access module **42**, user account module **43**, object registration module **44**, code redemption module **45**, interface module **46**, virtual space module **47**, and/or other modules. Processor(s) **40** may be configured to execute modules **42**, **43**, **44**, **45**, **46**, and/or **47** by software; hardware; firmware; some combination of software, hardware, and/or firmware; and/or other mechanisms for configuring processing capabilities on processor(s) **40**.

[0044] User account module **43** of server system **30** may be configured to manage (access to) user accounts in a virtual space that include account information of users. Individual user accounts may be associated with individual users. User account module **43** may be configured to support registration of new users of server system **30**. For example, registration may be supported by presenting registration functionality to new users of the server system. Such functionality may be presented through, e.g., a dedicated web page on the Internet and/or a stand-alone executable computer program.

[0045] Registration of a new user may include presentation of a registration interface to a new user. Registration of a new user may comprise activation of a new user account in the virtual space such that the new user account is associated with the new user.

[0046] Registration of a new user may include the assignment or selection of a username and/or other information identifying a user (e.g. a name, an alias, a handle, a number, an identifier, and/or other identifying information). For example, a new user may select a username by entering the username via the registration interface. Registration of a new user may include the assignment or selection of account access authorization used to control and/or authorize access to a user account, to gain access to certain functions of the server system, to log in to the virtual space, and/or to perform other activities that require authorization. Account access authorization may include one or more of an access code, password, biometric information, a security token, proximity information, an RF token, and/or other ways to supply information that may be used to authorize access to a system in an attempt to keep that system secure. For example, a new user may select a password by entering the password via the registration interface.

[0047] During registration of a user, other account information may be entered by the user as well, including a selection of an avatar to represent the user in the virtual space, customizations for the avatar, user settings and/or preferences, personal user information (e.g. age range and/or year of birth of the user), subscription information, virtual currency account information, relationship information (e.g., information related to relationships between users of the virtual space), usage information, account history information, demographic information (e.g. preferred time zone), account and/or virtual space customizations, and/or other account information. The account information may include an amount of virtual currency, which may be held in credit for the user associated with the user account for use within the virtual space. The account history information may include information related to the date and/or time of the crossing of threshold levels by the user.

[0048] User access module **42** of server system **30** may be configured to manage user access to server system **30**, and/or access to account information and/or a user profile of a user. User access may comprise receipt of an account access authorization. Access to server system **30** may be granted pursuant to setup and/or registration of a user account. Access to server system **30** may require one or more of a user account, a user name and/or user identifier, account access authorization (e.g. an access code and/or password), and/or other information. Other functionalities attributed herein to modules of server system **30** may be unavailable to a user until access has been authorized through user access module **42**. User access module **42** may be configured to generate an authorization user interface for presentation to the user through which entry and/or selection of the required information, including the account access authentication, may be received. This autho-

rization user interface may be presented to a user, for example, through client computing platform **14**.

[0049] Object registration module **44** of server system **30** may be configured to facilitate registration of a play object (e.g., one or more of play objects **10**, soccer ball **11**, and/or flying disk **21** shown in FIGS. **1**, **2**A, and/or **2**B and described herein) with a user account in the virtual space. The play object may be intended to be used in real-world physical play and/or activity. The play object may be identified by a unique object identifier. A unique object identifier may include a serial number, an identification code, a barcode, a QR code, a machine-readable marker, and/or another identifier intended to distinguish multiple play objects from one another.

[0050] Registration of the play object may require the unique object identifier of the play object. Object registration module **44** may be configured to generate an object registration user interface for presentation to the user. The object registration user interface may be configured to receive from the user entry and/or selection of required information, such as the unique object identifier and/or other information. This object registration user interface may be presented to a user, for example, through client computing platform **14**. Registration of the play object may require access to a registered user account, such that the play object may be associated with the user account.

[0051] Code redemption module **45** of server system **30** may be configured to redeem a level code for a benefit and/or incentive in the virtual space. The level code may correspond to a crossed threshold level of an amount of real-world physical play performed with a play object. The benefit and/or incentive may be associated with a user account upon redemption. Redemption of a level code may require a user-selection of a particular registered play object, since a user account may be associated with a set of registered play objects. Code redemption module **45** may be configured to generate a redemption user interface for presentation to the user through which entry and/or selection of required information may be received, including one or more of a user-selection of a particular registered play object, the level code corresponding to the selected play object, and/or other required information. This redemption user interface may be presented to the user, for example, through a client computing platform **14**. Operation of code redemption module **45** may be responsive to functions performed by other modules.

[0052] The benefit, available to the user upon redemption of the level code, may comprise one or more of an amount of virtual currency for the virtual space, a virtual good and/or service in the virtual space, unlocking of a virtual place and/or virtual activity within the virtual space, leveling up within the virtual space, experience points, a buff and/or power boost available for future use during one or more of a task, an assignment, a game, an activity, a mission, a quest, a challenge, a competition, and/or a tournament in the virtual space, a virtual skill and/or ability, a virtual pet, a relationship (or improved relationship) with a non-player character within the virtual space, and/or other content unlocks and/or virtual benefits. For example, the benefit may increase the amount of virtual currency included in the account information of the user.

[0053] Code redemption module **45** may be configured to present a user with one or more options of different benefits that a user may choose from, e.g. through the redemption user interface. Code redemption module **45** may be configured to authenticate the level code, which may include determining whether the level code is valid and/or correct for the selected play object of the current user account. Authentication may include determining whether the level codes are redeemed in a proper order. Level code authentication may be based e.g. on account history information, other account information, and/or other information, such that fraudulently obtained level codes may be denied any benefit.

[0054] Virtual space module **47** of server system **30** may be configured to cause presentation of views from an instance of the virtual space to the user. The instance may be associated with the user account of the user. Virtual space module **47** may be configured to implement instances of the virtual space, which may be executed to determine views of the virtual space. The views may then be communicated (e.g., via streaming, via object/position data, and/or other information) from virtual space module **47** to client computing platforms **14** for presentation to users. The view determined and transmitted to a given client computing platform **14** may correspond to a user character being controlled by a user via the given client computing platform **14**. The view determined and transmitted to a given client computing platform **14** may correspond to a location in a particular virtual environment (e.g., the location from which the view may be taken, the location the view depicts, and/or other locations), a zoom ratio, a dimensionality of objects, a point-of-view, and/or view parameters. One or more of the view parameters may be selectable by the user.

[0055] In some implementations, some or all of the functions attributed herein to virtual space module **47** may be provided and/or hosted by a third-party, external provider, operating outside of server system **30** and/or server **12**. It is contemplated that, e.g., redemption of a level code, as well as the addition and/or availability of the virtual benefit associated with the redeemed level code, may be communicated with such an external provider, within the scope of this disclosure.

[0056] An instance of the virtual space may comprise a simulated space that may be accessible by users via clients (e.g., client computing platforms **14**) that present the views of the virtual space to a user. The simulated space may have a topography, express ongoing real-time interaction by one or more users, and/or include one or more objects positioned within the topography that are capable of locomotion within the topography. In some instances, the topography may be a 2-dimensional topography. In other instances, the topography may be a 3-dimensional topography. The topography may include dimensions of the space, and/or surface features of a surface or objects that are "native" to the simulated space. In some instances, the topography may describe a surface (e.g., a ground surface) that runs through at least a substantial portion of the simulated space. In some instances, the topography may describe a volume with one or more bodies positioned therein (e.g., a simulation of gravity-deprived space with one or more celestial bodies positioned therein). An instance of the virtual space may be synchronous, asynchronous, and/or semi-synchronous.

[0057] The above description of the manner in which views of the virtual space are determined is not intended to be limiting. Virtual space module **47** may be configured to express the virtual space (and/or any virtual objects therein) in a more limited, or more rich, manner. For example, views determined for a virtual space may be selected from a limited set of graphics depicting an event in a given place within the virtual space. The views may include additional content (e.g.,

text, audio, pre-stored video content, and/or other content) that describes particulars of the current state of the place, beyond the relatively generic graphics. For example, a view may include a generic battle graphic representation with a textual description of the opponents to be confronted. Other expressions of individual places, actions, and/or virtual objects within the virtual space are contemplated.

[0058] Within instance(s) of the virtual space, users may control characters, (virtual) objects, simulated physical phenomena (e.g., wind, rain, earthquakes, and/or other phenomena), and/or other elements to interact with the virtual space and/or each other. The user characters may include avatars. As used herein, the term "user character" may refer to an object (or group of objects) present in a virtual space that represents an individual user. The user character may be controlled by the user with which it may be associated. The user-controlled element(s) may move through and interact with the virtual space (e.g., non-user characters in the virtual space, objects in the virtual space). The user-controlled elements controlled by and/or associated with a given user may be created and/or customized by a user. The user may have an inventory of virtual goods and/or currency that the user can use (e.g., by manipulation of a user character or other user controlled element, and/or other items) within the virtual space.

[0059] Users may participate in instances of the virtual space by controlling one or more of the available user-controlled elements. Control may be exercised through control inputs and/or commands input by the users through one or more client computing platforms. The users may interact with each other through communications exchanged within the virtual space. Such communications may include one or more of textual chat, instant messages, private messages, voice communications, and/or other communications. Communications may be received and entered by the users via their respective client computing platforms. Communications may be routed to and from the appropriate users through the virtual space module.

[0060] Interface module **46** of server system **30** may be configured to generate user interfaces for presentation to the user through which entry and/or selection of the required information may be received. Examples of such user interfaces include a registration user interface, an authorization user interface, an object registration user interface, a redemption user interface, and/or any other user interface that may be used by server system **30** for encouraging physical activity of a user in the real world through virtual space benefits. For example, interface module **46** may be configured to receive a unique object identifier of a play object from the user through a client computing platform **14**.

[0061] It should be appreciated that although modules **42**, **43**, **44**, **45**, **46**, and **47** are illustrated in FIG. **3** as being co-located within a single processing unit, in implementations in which processor(s) **40** includes multiple processing units, one or more of modules **42**, **43**, **44**, **45**, **46**, and/or **47** may be located remotely from the other modules. The description of the functionality provided by the different modules **42**, **43**, **44**, **45**, **46**, and/or **47** described below is for illustrative purposes, and is not intended to be limiting, as any of modules **42**, **43**, **44**, **45**, **46**, and/or **47** may provide more or less functionality than is described. For example, one or more of modules **42**, **43**, **44**, **45**, **46**, and/or **47** may be eliminated, and some or all of its functionality may be provided by other ones of modules **42**, **43**, **44**, **45**, **46**, and/or **47**. As another example, processor(s) **40** may be configured to execute one or more additional modules that may perform some or all of the functionality attributed to one of modules **42**, **43**, **44**, **45**, **46**, and/or **47**.

[0062] Though server system **30** may be described in certain sections herein as including server(s) **12**, this is not intended to be limiting. Server(s) **12**, or any component thereof, may be separate and distinct from server system **30**. In some implementations, one or more functionalities attributed herein to server(s) **12** may be provided by one or more third-party, external providers, and/or one or more of client computing platforms **14**. For example, server(s) **12** may be implemented by a cloud of computing platforms operating together. In some implementations, one or more functionalities attributed herein to a third-party, external provider, and/or one or more of client computing platforms **14** may be provided by (and/or incorporated in) a constituent component of server(s) **12**. Conversely, one or more functionalities attributed herein to server(s) **12** and/or its constituent components may be provided by a third-party, external provider and/or one or more client computing platforms **14**.

[0063] Client computing platform(s) **14** may include one or more processors configured to execute computer program modules. The computer program modules may be configured to enable an expert or user associated with a given client computing platform **14** to interact with server system **30**, and/or external resources **16**, and/or provide other functionality attributed herein to client computing platforms **14**. By way of non-limiting example, the given client computing platform **14** may include one or more of a desktop computer, a laptop computer, a handheld computer, a NetBook, a Smartphone, a tablet, a gaming console, and/or other computing platforms.

[0064] External resources **16** may include sources of information, hosts and/or providers of virtual spaces and/or environments outside of server system **30**, external entities participating with server system **30**, external vendors, and/or other resources. In some implementations, some or all of the functionality attributed herein to external resources **16** may be provided by resources included in server system **30**.

[0065] Electronic storage **38** may comprise electronic storage media that electronically stores information. The electronic storage media of electronic storage **38** may include one or both of system storage that may be provided integrally (i.e., substantially non-removable) with server(s) **12** and/or removable storage that may be removably connectable to server(s) **12** via, for example, a port (e.g., a USB port, a FireWire port, etc.) or a drive (e.g., a disk drive, etc.). Electronic storage **38** may include one or more of optically readable storage media (e.g., optical disks, etc.), magnetically readable storage media (e.g., magnetic tape, magnetic hard drive, floppy drive, etc.), electrical charge-based storage media (e.g., EEPROM, RAM, etc.), solid-state storage media (e.g., flash drive, etc.), and/or other electronically readable storage media. Electronic storage **38** may include one or more virtual storage resources (e.g., cloud storage, a virtual private network, and/or other virtual storage resources). Electronic storage **38** may store software algorithms, information determined by processor(s) **40**, information received from server(s) **12**, information received from client computing platforms **14**, and/or other information that enables server(s) **12** to function as described herein.

[0066] Processor(s) **40** may be configured to provide information processing capabilities in server(s) **12** through one or more of hardware, software, and/or firmware. As such, pro-

cessor(s) **40** may include one or more of a digital processor, an analog processor, a digital circuit designed to process information, an analog circuit designed to process information, a state machine, and/or other mechanisms for electronically processing information. Although processor(s) **40** may be shown in FIG. **3** as a single entity, this is for illustrative purposes only. In some implementations, processor(s) **40** may include a plurality of processing units. These processing units may be physically located within the same device, or processor(s) **40** may represent processing functionality of a plurality of devices operating in coordination.

[0067] FIG. **4** illustrates an exemplary method **400** for encouraging physical activity of a user by providing virtual incentives. The operations of method **400** presented below are intended to be illustrative. In some embodiments, method **400** may be accomplished with one or more additional operations not described, and/or without one or more of the operations discussed. Additionally, the order in which the operations of method **400** are illustrated in FIG. **4** and described below is not intended to be limiting.

[0068] In some embodiments, method **400** may be implemented in one or more processing devices (e.g., a digital processor, an analog processor, a digital circuit designed to process information, an analog circuit designed to process information, a state machine, and/or other mechanisms for electronically processing information). The one or more processing devices may include one or more devices executing some or all of the operations of method **400** in response to instructions stored electronically on an electronic storage medium. The one or more processing devices may include one or more devices configured through hardware, firmware, and/or software to be specifically designed for execution of one or more of the operations of method **400**.

[0069] At an operation **402**, a unique object identifier of a play object is received, wherein the play object is to be used in real-world physical activity, play, and/or sport. In some implementations, operation **402** may be performed by an interface module the same as or similar to interface module **46** (shown in FIG. **3** and described above).

[0070] At an operation **404**, an account access authorization for a user account in a virtual space is received. In some implementations, operation **404** may be performed by an interface module the same as or similar to interface module **46** (shown in FIG. **3** and described above). In some implementations, operation **404** may be performed by a user access module and/or a user account module the same as or similar to user access module **42** and/or user account module **43** (shown in FIG. **3** and described above).

[0071] At an operation **406**, the unique object identifier is registered, responsive to receipt of the account access authorization. In some implementations, operation **406** may be performed by an object registration module the same as or similar to object registration module **44** (shown in FIG. **3** and described above).

[0072] At an operation **408**, a level code is received, corresponding to a crossed threshold level of an amount of real-world physical play with the play object, such that the level code is associated with a play object. In some implementations, operation **408** may be performed by an object registration module the same as or similar to object registration module **44** (shown in FIG. **3** and described above).

[0073] At an operation **410**, the level code is authenticated. In some implementations, operation **410** may be performed by a code redemption module the same as or similar to code redemption module **45** (shown in FIG. **3** and described above).

[0074] At an operation **412**, the authenticated level code is redeemed for a benefit in the virtual space. The benefit may be associated with the user account. In some implementations, operation **412** may be performed by a code redemption module the same as or similar to code redemption module **45** (shown in FIG. **3** and described above).

[0075] Although the present technology has been described in detail for the purpose of illustration based on what is currently considered to be the most practical and preferred implementations, it is to be understood that such detail is solely for that purpose and that the technology is not limited to the disclosed implementations, but, on the contrary, is intended to cover modifications and equivalent arrangements that are within the spirit and scope of the appended claims. For example, it is to be understood that the present technology contemplates that, to the extent possible, one or more features of any implementation can be combined with one or more features of any other implementation.

1. A system for encouraging physical activity of a user, the system comprising:

a play object to be used in real-world physical play, the play object having an object identifier;

a sensor carried by the play object, the sensor being configured to generate an output signal conveying information related to an amount of real-world physical play performed with the play object;

an electronic display carried by the play object; and

one or more processors configured to execute computer program modules, the computer program modules comprising:

a level module configured to determine whether the amount of real-world physical play performed with the play object has crossed a threshold level; and

a code module configured to obtain, responsive to a determination that the amount of real-world physical play with the play object crossed a threshold level, a level code corresponding to the crossed threshold, wherein the level code is redeemable for a benefit in a virtual space; and

a display module configured to present the level code to the user via the electronic display such that the level code is redeemable by the user in the virtual space for the benefit.

2. The system of claim **1**, wherein the sensor includes one or both of an accelerometer and/or a rotary sensor.

3. The system of claim **1**, wherein the play object is a flying disk, a ball, a bat, a scooter, or a skateboard.

4. The system of claim **1**, wherein the threshold level is a threshold level in a succession of threshold levels, wherein the level code is a level code in a succession of level codes, and wherein individual threshold levels correspond to individual level codes.

5. The system of claim **4**, wherein the display module is further configured to present, via the electronic display, an indication of progress towards a subsequent threshold level in the succession of threshold levels.

6. The system of claim **1**, wherein the computer program modules are further configured to present the object identifier to the user via the electronic display to facilitate registration of the play object with a user account in the virtual space that is associated with the user.

7. The system of claim 1, wherein the one or more processors are carried by the play object.

8. A system for encouraging physical activity of a user, the system comprising:

one or more processors configured to execute computer program modules, the computer program modules comprising:

a user account module configured to manage user accounts in a virtual space that include account information of users, wherein individual user accounts are associated with individual users;

a object registration module configured to facilitate registration of a play object with a user account in the virtual space, wherein the play object is to be used in real-world physical play, wherein the play object has an object identifier, and wherein registration of the play object requires the object identifier of the play object; and

a code redemption module configured to redeem a level code for a benefit in the virtual space, wherein the level code corresponds to a crossed threshold level of an amount of real-world physical play with the play object, wherein the benefit is associated with the user account upon redemption.

9. The system of claim 8, wherein the code redemption module is configured to redeem the level code for a benefit in the virtual space responsive to registration of the play object by the object registration module.

10. The system of claim 8, wherein the code redemption module is further configured to receive the level code through a user interface of a client computing platform.

11. The system of claim 8, wherein the account information includes an amount of virtual currency, wherein the benefit increases the amount of virtual currency, and wherein the virtual currency is exchangeable for a virtual good in a virtual space.

12. The system of claim 8, further comprising a virtual space module configured to cause presentation of views from an instance of the virtual space to the user, and wherein the instance is associated with the user account.

13. The system of claim 8, wherein the benefit includes one or more options of virtual goods, and wherein the code redemption module is further configured to receive a user-selection of the one or more options through a user interface of a client computing platform.

14. The system of claim 8, wherein the benefit is a virtual good in the virtual space.

15. The system of claim 8, wherein the benefit unlocks a virtual place and/or virtual activity within the virtual space.

16. The system of claim 8, wherein account information includes account history information, and wherein the code redemption module is further configured to authenticate the level code based on account history information.

17. A method for encouraging physical activity of a user, the method being implemented in a system that includes one or more processors configured to execute computer program modules, the method comprising:

receiving an object identifier of a play object, wherein the play object is to be used in real-world physical play;

receiving account access authorization for a user account in a virtual space;

registering, responsive to receipt of the account access authorization, the object identifier with the user account;

receiving a level code, wherein the level code corresponds to a crossed threshold level of an amount of real-world physical play with the play object, and wherein the level code is associated with a play object;

redeeming the level code for a benefit in the virtual space, wherein the benefit is associated with the user account, and wherein the benefit increases an amount of virtual currency associated with the user account.

18. The method of claim 17, wherein the benefit and/or the virtual currency is exchangeable for a virtual good in the virtual space.

19. The method of claim 17, wherein the benefit unlocks a virtual place and/or virtual activity within the virtual space.

20. The method of claim 17, further comprising authenticating the level code prior to redemption.

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