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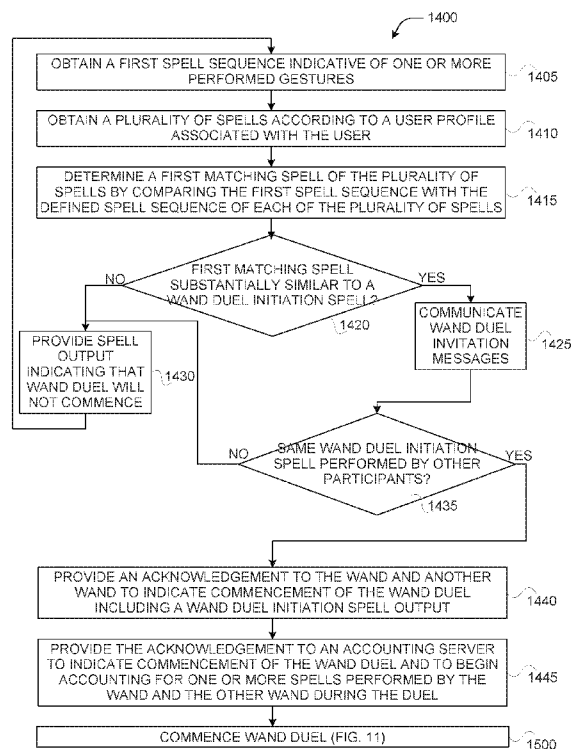


Fig.10

(57) **Abstract:** Methods, apparatuses, systems, and storage media for creating, discovering, and/or resolving spells using a wand are provided. A wand may detect gestures or movements performed using the wand, and sensors in the wand may generate sensor data representative of the gestures. The sensor data may be converted into a spell sequence. The wand may transmit the spell sequence to a computing device, and receive, from the computing device, an acknowledgement indicative of whether the wand is to be included in a duel with another wand based on the spell sequence and a wand position. The wand may also determine the spell output based on the spell sequence without transmitting the spell sequence to another device. Other embodiments may be described and/or claimed.



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TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU,
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MAGIC WAND METHODS, APPARATUSES AND SYSTEMS FOR CONDUCTING WAND DUELS

RELATED APPLICATIONS

This application claims priority to U.S. Patent Application 14/863,101, entitled
5 “MAGIC WAND METHODS, APPARATUSES AND SYSTEMS FOR
CONDUCTING WAND DUELS,” filed September 23, 2015 which is related to U.S.
Application No. 14/697,343 filed on April 27, 2015 entitled “MAGIC WAND
METHODS, APPARATUSES AND SYSTEMS.”

FIELD

10 The present disclosure relates to the field of interactive computing, and in
particular, to apparatuses, methods, storage media, and systems utilizing a wand in
interactive games.

BACKGROUND

Entertainment systems, video game consoles, and/or other like gaming devices
15 typically provide interactive gaming experiences wherein users interact with a game
and/or other users by providing one or more inputs and receiving feedback in response to
the provided inputs. The inputs may be provided using an input device or controller, such
as joysticks, keyboards, computer mice, touchscreens, motion sensing devices, and the
like. The feedback may be received using one or more output devices, such as through
20 display devices, audio devices, haptic feedback devices, and the like.

Gaming devices and their controllers may provide some interactive gaming
experiences. However, many of these gaming devices are limited to proprietary platforms,
which often require the use of platform-specific controllers. The term “platform” may
refer to the specific electronic components and software that provide a gaming experience.
25 Furthermore, many of these gaming devices and gaming experiences may be limited to
specific physical and/or virtual environments. Moreover, many of these gaming devices do
not provide users with the ability to interact with other devices, such as non-proprietary
gaming devices and/or non-gaming devices. Therefore, typical gaming devices and/or
platforms may be limited in their ability to offer an immersive gaming experience.

BRIEF DESCRIPTION OF THE DRAWINGS

30 Embodiments will be readily understood by the following detailed description in
conjunction with the accompanying drawings. To facilitate this description, like reference

numerals designate like structural elements. Embodiments are illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings.

FIGS. 1-4 illustrate various gaming environments in which various example embodiments described in the present disclosure may be implemented;

5 FIG. 5 illustrates a data flow diagram for devices operating in a gaming environment, in accordance with various example embodiments;

FIG. 6 illustrates the components of a wand, in accordance with various example embodiments;

10 FIG. 7 illustrates the components of a wand module, in accordance with various example embodiments;

FIG. 8 illustrates the components of a computing device, in accordance with various example embodiments;

FIG. 9 illustrates the components of a wand module, in accordance with various example embodiments;

15 FIG. 10 illustrates a process for wand duel initiation, in accordance with various embodiments; and

FIGS. 11-14 illustrate a process for wand duel commencement, in accordance with various embodiments.

DETAILED DESCRIPTION

20 In the following detailed description, reference is made to the accompanying drawings which form a part hereof wherein like numerals designate like parts throughout, and in which is shown by way of illustrated embodiments that may be practiced. It is to be understood that other embodiments may be utilized and structural and/or logical changes may be made without departing from the scope of the present disclosure. Therefore, the
25 following detailed description is not to be taken in a limiting sense, and the scope of embodiments is defined by the appended claims and their equivalents.

Various operations may be described as multiple discrete actions and/or operations in turn, in a manner that is most helpful in understanding the claimed subject matter. However, the order of description should not be construed to imply that the various
30 operations are necessarily order dependent. In particular, these operations may not be performed in the order of presentation. Operations described may be performed in a different order than the described embodiments. Various additional operations may be performed and/or described operations may be omitted in additional embodiments.

For the purposes of the present disclosure, the phrase “A and/or B” means (A), (B), or (A and B). For the purposes of the present disclosure, the phrase “A, B, and/or C” means (A), (B), (C), (A and B), (A and C), (B and C), or (A, B and C). For the purposes of the present disclosure, the phrase “at least one of A and B” means (A), (B), or (A and B).

5 The description may use the phrases “in an embodiment”, or “in embodiments”, which may each refer to one or more of the same or different embodiments. Furthermore, the terms “comprising,” “including,” “having,” and the like, as used with respect to embodiments of the present disclosure, are synonymous.

10 As used herein, the term “logic”, “module”, and/or “circuitry” may refer to, be part of, or include an Application Specific Integrated Circuit (ASIC), an electronic circuit, a processor (shared, dedicated, or group) and/or memory (shared, dedicated, or group) that execute one or more software or firmware programs, a combinational logic circuit, and/or other suitable components that provide the described functionality. In some embodiments, the modules and/or circuitry may be implemented in, or functions associated with the
15 modules and/or circuitry may be implemented by, one or more software or firmware modules in combination with one or more hardware devices.

20 Also, it is noted that example embodiments may be described as a process depicted as a flowchart, a flow diagram, a data flow diagram, a structure diagram, or a block diagram. Although a flowchart may describe the operations as a sequential process, many of the operations may be performed in parallel, concurrently, or simultaneously. In addition, the order of the operations may be re-arranged. A process may be terminated when its operations are completed, but may also have additional steps not included in the figure(s). A process may correspond to a method, a function, a procedure, a subroutine, a subprogram, and the like. When a process corresponds to a function, its termination may
25 correspond to a return of the function to the calling function and/or the main function.

30 As disclosed herein, the term “memory” may represent one or more hardware devices for storing data, including random access memory (RAM), magnetic RAM, core memory, read only memory (ROM), magnetic disk storage mediums, optical storage mediums, flash memory devices and/or other machine readable mediums for storing data. The term “computer-readable medium” may include, but is not limited to, memory, portable or fixed storage devices, optical storage devices, wireless channels, and various other mediums capable of storing, containing or carrying instruction(s) and/or data.

Furthermore, example embodiments may be implemented by hardware, software, firmware, middleware, microcode, hardware description languages, or any combination thereof. When implemented in software, firmware, middleware or microcode, the program code or code segments to perform the necessary tasks may be stored in a machine
5 or computer readable medium. A code segment may represent a procedure, a function, a subprogram, a program, a routine, a subroutine, a module, program code, a software package, a class, or any combination of instructions, data structures, program statements, and the like.

As used herein, the term “computing device” may be considered synonymous to,
10 and may hereafter be occasionally referred to, as a client, client device, mobile, mobile unit, mobile device, mobile terminal, mobile station, mobile user, user equipment (UE), user terminal, subscriber, user, remote station, access agent, user agent, receiver, etc., and may describe a remote user of network resources in a communications network. Furthermore, the term “computing device” may include any type of wired and/or wireless
15 device such as consumer electronics devices, desktop personal computers (PCs), laptop PCs, smart phones, tablet PCs, wearable computing devices, personal digital assistants (PDAs), and/or any other like physical computing device that is able to connect to a communications network.

As used herein, the term “network element”, may be considered synonymous to
20 and/or referred to as a networked computer, networking hardware, network equipment, router, switch, hub, bridge, gateway, and/or other like device. The term “network element” may describe a physical computing device of a wired or wireless communication network that is configured to host a client device and the like. Furthermore, the term “network element” may describe equipment that provides radio baseband functions for data and/or
25 voice connectivity between a network and one or more users.

As used herein, the term “game” may considered synonymous to and/or referred to as a quest, sport, event, activity, role-playing games (RPG), simulation, duel, etc. A game may be any sequence of events with or without a defined set of rules, wherein the sequence of events and/or rules may be defined by a game operator and/or other like
30 entity. Typically games have a beginning and a conclusion, but in some embodiments, a game may not have either a beginning or an ending.

Example embodiments disclosed herein provide apparatuses, systems, and methods for providing immersive interactive gaming experiences. Example embodiments introduce

a “magic” wand that may be used for interacting with a game or immersing oneself within a gaming environment. Example embodiments also utilize already existing output devices and/or already existing gaming platforms to provide gaming feedback to a user. The example embodiments differ from typical gaming platforms or systems that provide interactive gaming experiences because the typical gaming platforms are usually tied to a specific proprietary platform, and/or tied to a specific physical or virtual environment. For example, video game platforms require proprietary video game consoles, which often require proprietary video game controllers, video game motion detectors, and video game software to run on the video game console. Additionally, most video game platforms do not provide for interoperability with or between competing platforms. By way of another example, laser tag, which is a recreational activity where players attempt to score points by tagging targets, typically requires a hand-held infrared (IR)-emitting targeting device to be used within a defined physical environment, such as an indoor or outdoor arena. Many laser tag systems use IR-sensitive targets are commonly worn by each player and may be integrated within the arena in which the game is played, which may allow laser tag participants to interact with one another and their defined environment. However, typical laser tag systems are limited to their specific physical environment and usually require users to employ the same or similar IR-emitting targeting devices. Because the typical laser tag devices rely on IR-emitting devices for tagging targets, the typical laser tag devices are limited in how that may be pointed at targets, such as requiring the IR-emitting devices to be pointed at an IR-sensitive target. Additionally, although many laser tag systems and devices use hardware and embedded software to alter game parameters and/or provided varied game play, these typical laser tag systems usually only provide a single method for tagging targets, such as by pulling a trigger on a laser tag gun. Moreover, typical laser tag devices usually require laser tag devices to receive IR signals or to be tuned to a particular radio frequency in order to indicate to user of the laser tag devices that a target has been hit or missed.

Example embodiments discussed herein provide methods, apparatuses, and systems for initiating and conducting one or more wand duels between two or more wands. Such wand duels may be individualized duels between two or more wands, or they may take place between teams of one or more wands. As opposed to the typical dueling games, such as laser tag games as discussed above, at least some example embodiments provide that targets may be acquired or otherwise determined based on sensor data from

one or more sensors. Additionally, example embodiments provide that the determination of targets may be performed separately from a determination of a direction to which the wand is directed. Moreover, example embodiments do not require that a wand be tuned to a particular radio frequency in order to indicate to user of a wand that a target has been hit
5 or missed. Other embodiments are also described.

The example embodiments disclosed herein refer to a user interface device/controller as a “wand”, which may refer to the general shape and/or form of the user interface device. However, it should be noted that the term “wand” is not meant to limit the user interface device disclosed herein to a specific shape or form. Indeed, other
10 forms, shapes, and/or artistic representations of the user interface device may be used. For example, the user interface device may be shaped, formed, or otherwise implemented as a scepter, a staff, a baton, a rod, a pen, a sword, a sabre, a screwdriver, a glove, a ring, a bracelet, stuffed or plush toy, a baseball bat, a lacrosse stick, and/or any other like device that may impart directionality. Furthermore, the example embodiments disclosed herein
15 refer to the environment in which the wand or user interface device is used as a “gaming environment” or “environment”. It should be noted that the user interface devices disclosed herein may be used for various activities other than games. For example, the user interface device may be implemented in toy guns, training guns, and the like for use in police and/or military training environments, such as urban operations (UO) exercises,
20 military operations in urban terrain (MOUT) exercises, and the like. By way of another example, the user interface device may be implemented in a wearable device for use in commercial environments, such as a shopping mall, a city’s downtown region, or specific shops/stores. Moreover, the user interface device described herein may be used for home automation, such as controlling one or more services associated with one or more smart
25 objects or “Internet of Things” (IoT) devices.

In various embodiments, the wand is a user interface that allows a user to initiate specific “spells”, which, according to various embodiments, may be triggers to one or more sequences, operations, and/or actions by internal feedback/output devices and/or external feedback/output devices. For example, a user may perform an “unlock” spell by
30 manipulating a wand using various motions and/or gestures, which may be converted into a spell sequence. The spell sequence may then be used to determine that a smart lock is to be unlocked, and state-change instructions (or “unlock” instructions in this example) may be sent to the smart lock. In various embodiments, the wand may use one or more built-in or

associated sensors to collect data about an intended spell, spell direction, and/or spell intensity. In various embodiments, the collected data may include spatial coordinates of the wand and/or changes in the spatial coordinates captured by the one or more sensors, position information of the wand relative to one or more external devices (including other wands), and/or voice commands issued by a user of the wand. Examples of the one or more sensors include accelerometers, gyroscopes, magnetometers, gravimeters, temperature sensors, pressure sensors, humidity sensors, electromagnetic energy (ultraviolet, visible light, IR, etc.) sensors, microphones, and the like. In various embodiments, the wand may also include a communications module, transmission circuitry, and/or other means of device communications so that the wand may communicate the collected sensor data to a computing device, a gaming system, external output/feedback devices, and the like. The communications between the wand and the other devices may be by way of radio-frequency (RF) communications methods, such as Bluetooth low energy (BLE) signaling, RF identification (RFID) signaling, IR signaling, WiFi signaling, and the like. In some embodiments, the wand may send the data to an application running on a paired computing device, such as a smartphone, a desktop PC, a home/arena server, or any other like dedicated device. The computing device, by way of the application, may analyze the data, determine the spell type, spell direction, and/or spell intensity. The computing device, by way of the application, may then communicate with, or otherwise instruct one or more feedback/output devices in the vicinity of the wand and/or computing device to activate in accordance with the determined spell. Furthermore, the computing device may also send information indicative of the determined spell to a game accounting server or other like back-end service to track a user's progress in an interactive game and/or quest. In some embodiments, the computing device may include the capabilities and/or functions of the back-end service. In some embodiments, the wand itself may include the capabilities and/or functions of the computing device, such that the wand itself may determine the spell type, spell direction, and spell intensity and instruct one or more feedback/output devices in the vicinity of the wand to activate in accordance with the determined spell. In various embodiments, the electronic components and software components of the wand may be housed in a "wand module", which can be inserted in a larger housing, which may allow for a variety of artistic representations of the "wand". For example, the housing could be a hand-held device that is depicted in various movies, television series, books, etc.

Referring now to the figures. FIGS. 1-3 show gaming environments 100A, 100B, and 100C (collectively referred to as “gaming environment 100”), respectively, in which a wand 125 may be used to activate one or more devices 101-1 to 101-4, in accordance with various embodiments. As shown in FIGS. 1A-1C, gaming environment 100 may include
5 devices 101-1 to 101-4 (collectively referred to as “devices 101”), computing devices 105A and 105B (collectively referred to as “computing devices 105” or “computing device 105”), beacon 110, network 115, accounting server 120, and wand 125A and 125B (collectively referred to as “wand 125”). FIG. 1 illustrates an example embodiment of a single player gaming environment 100A in which the wand 125A is coupled with
10 computing device 105A; FIG. 2 illustrates an example embodiment of a multiplayer gaming environment 100B in which the wand 125A and 125B operate without coupled computing devices 105A and 105B; and FIG. 3 illustrates an example embodiment of a multiplayer gaming environment 100C in which a “wand duel” takes place between wand 125A and 125B coupled with computing devices 105A and 105B, respectively.

15 According to various embodiments, wand 125 may be any handheld device that provides a user with the ability to interact with one or more devices in the gaming environment 100, such as devices 101 and/or computing devices 105. The wand 125 may include a communication module (e.g., communications module 330 as shown in FIGS. 7 and 9), one or more memory devices (e.g., memory 350 as shown in FIGS. 7 and 9), one
20 or more processors (e.g., processor 310 as shown in FIGS. 7 and 9), one or more sensors (e.g., sensors 306 as shown in FIGS. 7 and 9), one or more output/feedback devices (e.g., first devices 215 as shown in FIGS. 6, 7, and 9), and/or other like components (e.g., as shown in FIGS. 7 and 9). Wand 125 may be designed to sequentially and automatically carry out a sequence of arithmetic or logical operations; equipped to record/store digital
25 data on a machine readable medium; and transmit and receive digital data.

Wand 125 may include one or more sensors, such as an accelerometer, gyroscope, gravimeter, magnetometer, and/or another like devices that are configured to measure and/or detect a motion, an acceleration, and/or an orientation of the wand 125. In such
30 embodiments, wand 125 may be configured to determine a magnitude and direction of an acceleration and/or motion of the wand 125, and convert the acceleration and/or motion of the wand 125 into position and/or orientation information. The changes in the positions and/or orientations of the wand 125 may be indicative of one or more gestures performed by a user of the wand 125. The one or more sensors may be configured to detect the one or

more gestures as sensor data. In various embodiments, the sensor data may include or otherwise indicate one or more spatial coordinates (or changes in spatial coordinates) for the positions and/or orientations of the wand 125. The sensor data may then be passed to a processor and/or spell module of the wand 125 to be converted into a spell sequence, or
5 for any other type of analysis and/or filtering. In this way, the positions and/or orientations (or changes in the positions and/or orientations) may be used to determine a spell type, spell direction, spell intensity, etc. according to the various example embodiments described herein. In some embodiments, the one or more sensors may include a microphone configured to obtain one or more voice commands issued by a user of the
10 wand 125. In such embodiments, the one or more voice commands may be recorded and included with the spell sequence for spell determination. In some embodiments, the one or more sensors may include one or more biometric sensors, such as an infrared heart rate monitoring device, a fingerprint or handprint scanning device, an eye scanning device, an electromyography (EMG) device for detecting electrical patterns associated with a user's
15 muscular contractions, an electroencephalograph (EEG) device for measuring and/or recording electrical signals produced by a user's brain, and the like. In such embodiments, biometric data detected or sensed by the one or more biometric sensors may be included with the spell sequence for spell determination, such that the user's heart rate, finger/hand print, muscular contractions, brainwaves, and the like may be included with the spell
20 sequence for spell determination.

Furthermore, in various embodiments, the wand 125 may track timing information associated with one or more performed gestures. Such timing information may be a time period in which the one or more gestures are required to be performed (within a certain margin of error) and/or a time period in which each of the one or more gestures are to be
25 performed. For instance, a spell may require specific sequences or timing relationships in order to obtain a spell output. For example, a spell might require a button press followed by a bodily movement, followed by a voice command, etc., wherein all of the aforementioned gestures are required to be performed within a 30 second period of time. By way of another example, a spell may require that a bodily movement and a voice
30 command start and complete within 200 milliseconds of each other. In some embodiments, the time period for performing the one or more gestures may be altered or adjusted according to a handicap value associated with a user of the wand 125. In such embodiments, adjusting the time period for performing one or more gestures may include

increasing the time period or decreasing the time period. The handicap value and/or time period adjustments may be based on one or more game-related value/criteria/rules. Furthermore, in wand duel scenarios or geocaching scenarios, the handicap value may be used to alter the time period for performing the one or more gestures of one or more of the wand duel participants. For example, referring to FIG. 3, a handicap value associated with a user of wand 125A may increase a first defined period of time for performing gestures according to the handicap value and/or may decrease a second defined period of time for performing gestures, which is associated with the other wand 125B. In some embodiments, the first defined period of time for performing gestures may stay the same while the second defined period of time is decreased.

In some embodiments, the one or more sensors may include one or more motion capture devices that may be configured to capture motion by detecting a change in position of a body relative to its surroundings, or by detecting a change in the surroundings relative to the body. In such embodiments, the motion capture devices may be configured to measure the strength and/or speed of a body's motion. In various embodiments, the one or more sensors may include one or more optical cameras and/or one or more thermographic (IR) cameras, which may be configured to form images using IR radiation. Such IR cameras may be similar to optical-lens cameras, which form images using visible light, but instead operate in wavelengths in the infrared range of the electromagnetic spectrum. In embodiments where the sensors include one or more IR cameras, the sensors may also include an IR projector and/or IR laser projector, which may be configured to project an IR beam at one or more targets and sense a reflection of the infrared beam being reflected off the one or more targets. In some embodiments, the IR projector may be an IR LED that emits IR radiation as the IR beam or signal. The IR beam or signal may be a sequence of flashes or pulses that are emitted at a predefined frequency. In response to detection of an IR beam/reflection, in some embodiments the wand 125 may provide one or more first instructions to one or more first devices and/or provide one or more second instructions to one or more second devices according to the various example embodiments disclosed herein. Additionally, the IR camera may detect IR beams being emitted by other devices, such as other wands 125 and/or other computing devices 105. In various embodiments, the IR beams may include one or more messages described herein, such as wand duel initiation messages, spell messages, team forming messages, and the like. In such embodiments, the IR camera may sense or otherwise detect

the sequence of flashes or pulses of the IR beam, which may then be converted into the aforementioned messages according to known methods. It should be noted that in some embodiments, the IR camera and the IR projector may be separate from the wand 125. For example, the IR camera and the IR projector may be included in an IR target that may be a device 101 (e.g., an auxiliary device) that is communicatively coupled to the computing device 105 and/or the wand 125. It should be noted that the aforementioned messages are not limited to being transmitted/received via IR beams, and in various embodiments, such messages may be communicated via other signals, such as Bluetooth or BLE signals, WiFi signals, and/or any other wireless signals discussed herein. Such messages may be communicated directly between wand 125 and/or computing devices 105, or such messages may be communicated by way of an intermediary device, such as via beacon 110, a home or local server, a WiFi router, or other like network device. Moreover, each of the aforementioned messages may be communicated by way of a different wireless signal, for example, wand duel initiation messages and/or team forming messages may be communicated via a WiFi signal, and spell messages may be communicated via one or more IR beams.

In various embodiments, in addition to determining the orientation of the wand 125, the one or more sensors may be used to determine the directionality of the wand 125. The orientation of the wand 125 may be an angle of the wand 125 relative one or more objects, such as a body part of the user of the wand 125. The directionality may indicate a direction in which the wand is directed and/or being pointed by the user. In this regard, the wand 125 may have a defined portion from which a spell output is to be applied (or a region of effect (ROE) is to be directed and/or focused). The defined portion may include, for example, a front portion or tip portion (e.g. tip portion 208 as shown in FIG. 6) from which the spell or “magic” is to emanate. Accordingly, in various embodiments, the wand 125 may use the position and/or orientation information from the one or more sensors to distinguish one portion of the wand 125 from other portions of the wand.

In some embodiments, the one or more sensors may sense environmental factors, which may be included with the spell sequence and used to determine a spell intensity and/or spell output. The environmental factors may include any information regarding an environment of the gaming environment 100, such as ambient lighting, surrounding electromagnetic fields, and/or any other like biotic or abiotic factors surrounding the wand 125.

As noted previously, the changes in the positions and/or orientations of the wand 125 may be indicative of one or more gestures performed by a user of the wand 125. The one or more gestures may include bodily movements, voice commands, and/or other like inputs, such as pressing a button 210 of the wand 125 and the like. The bodily movement

5 gestures may include any action or movement of the wand 125 made by the user. The bodily movement gestures can originate from any bodily motion or state, but because the wand 125 is typically embodied as a handheld device, the one or more gestures may originate from a hand of a user. Additionally, the bodily movement gestures may be based on a height and/or body part lengths of the user, which may be based on the accuracy of

10 the spatial coordinate data detected by the one or more sensors. For example, a first user that makes a circular motion with an extended arm may yield different spatial coordinate changes than a second user that makes a similar circular motion with an extended arm, such as when the height and and/or arm length of the first user are greater than the height and and/or arm length of the second user. In this instance, the circular movement made by

15 the first user may produce a larger circumference than a circumference of the circular movement made by the second user. Additionally, a bodily movement gesture can include not only movement of the wand 125, but may also be based on a body position established by a user. Furthermore, in various embodiments, the voice command gestures may include specific sounds or words that are pronounced by the user of the wand 125. It should be

20 noted that the sounds or words do not have to be previously known in any human language, but rather, the sounds or words may only be required to be repeatable by the user. In various embodiments, the wand 125 may be configured to record voice command gestures, and communicate those recordings to the computing device 105 for voice recognition. In other embodiments, the wand 125 may be configured to perform the voice

25 recognition of the voice command gestures. The voice recognition methods and systems are known or commercially available, and are readily implemented by persons having ordinary skill in the art, particularly in light of the disclosure herein.

In various embodiments, wand 125 may include one or more feedback/output devices, which are internal to the wand 125, attached to a housing 205 of the wand 125,

30 and/or communicatively coupled with the wand 125 and/or computing device 105. The devices that are internal, attached, and/or communicatively coupled with the wand 125 and/or computing device 105 may be referred to as “first devices”. The one or more first devices may be used to provide feedback or other like indications as to whether a spell has

been properly performed or not (within a certain margin of error). The first devices may include one or more audio devices, one or more light emitting diodes, one or more haptic feedback devices and/or one or more actuators, one or more heating elements, and the like. In some embodiments, the first devices may include a display device and/or a projector.

5 The wand 125 may instruct or otherwise activate the one or more first devices by issuing one or more instructions or control signals to the one or more first devices, which are referred to herein as “first instructions”. The first instructions may be defined by a spell output, which is associated with one or more spells, wherein the spell output indicates to issue the first instructions upon completion of an associated spell (within a certain margin

10 of error). The spell output may also define or otherwise indicate a spell output intensity, which may be an intensity level at which to activate the one or more first devices. The first instructions and/or control signals may instruct and/or control the one or more first devices to output a desired audio output at a desired volume level and/or for a desired playback time when the one or more first devices include the one or more audio devices; emit a

15 desired light sequence and/or illumination level/intensity when the one or more first devices include the one or more light emitting diodes; activate at least one of a vibration and a mechanical motion at a desired intensity and/or for a desired period of time when the one or more first devices include the one or more haptic feedback devices, one or more actuators, and/or one or more transcutaneous electrical nerve stimulation (TENS) devices;

20 and heat the wand to a desired temperature when the one or more first devices include the one or more heating elements. Furthermore, in various embodiments, the first instructions may indicate to turn off or shut down various functions, such as shutting off one or more LEDs. In some embodiments, the first instructions may include sending (additional) game-related messages to other users in the gaming environment 100 (e.g., “fireball from user A

25 exploded at position (X,Y,Z) including 10 points damage to players B and C and/or devices within 5 meters of position (X,Y,Z)”).

In wand duel scenarios, the first instructions may indicate an acceptance by one or more other wands 125 to participate in a wand duel. In such embodiments, the wand 125 and/or the associated computing device 105 may receive an acknowledgement that may

30 indicate whether the wand 125 is to be included in a wand duel with another wand 125. Such an acknowledgment may include one or more first instructions (also referred to as agreement-first instructions), which activate one or more first devices to indicate that a wand duel is to commence. For example, the agreement-first instructions may emit a

predefined wand initiation tone or tones in a predefined sequence when the one or more first devices include a speaker or other like audio devices; emit a predefined wand initiation light sequence and/or illumination level/intensity when the one or more first devices include the one or more light emitting diodes; and/or produce any other type of output according to any other example embodiment disclosed herein.

As noted previously, the first devices may include devices that are communicatively coupled with the wand 125 and/or computing device 105. Such devices may include Bluetooth earpieces, headphones, and/or speakers; a head-mounted (or helmet-mounted) display device; a head-mounted (or helmet-mounted) augmented reality headset; and the like. In embodiments, where the first instructions indicate to play an audio output and/or a video output, the files associated with the audio output and/or video output may be stored in a computer-readable medium of the computing device 105, stored in a computer-readable medium of the wand 125, and/or the output files may be streamed or otherwise provided to the computing device 105 and/or the wand 125 from a content provider on-demand, which may then be output via the communicatively coupled output device. Additionally in various embodiments, an audio output or video output (e.g., a sound effect, etc.) may indicate the success or failure of the spell output. For example, one or more sound effects that vary in tone, sequence, and/or amplitude may be used to indicate the level of success of the spell output. In some embodiments, the audio/video output may include corresponding effects to indicate different amounts of spell output intensities, such as by using a fizzling sound and the like. In other embodiments, a sound effect may be a recorded or synthesized utterance, which may provide a message such as “Your spell has completed properly” or “Your spell has not completed properly”. Furthermore, in various embodiments a haptic and/or visual response (e.g., vibration and/or LED illumination, etc.) may also be generated from the wand 125 to be used in combination with one or more sound effects. Moreover, the first instructions (and/or the second instructions described herein) may indicate that a gesture was incorrectly performed or missing from a spell sequence, the user has insufficient authorization to perform a spell (e.g., a wand 125 is not authorized to perform the spell or obtain the spell output), the performance of a spell was done at an unauthorized location and/or spatial coordinates, the user has insufficient game play property/points for performing the spell or obtaining the spell output, the performance of the spell is impossible (e.g., an “open door” spell is performed when there is no door proximate

to the wand 125), a game play parameter item in the gaming environment 100 is interfering with the spell (“fireball inhibitor prevents fireball spells in a particular room”), and the like.

Wand 125 may be configured to send/receive data to/from a computing device 105,
5 one or more devices 101, and/or a network element (e.g., accounting server 120, etc.) via a direct wireless connection and/or via a network connection (e.g., network 115). For example, the wand 125 may directly connect with one or more devices via the direct wireless connection by using, for example, Bluetooth and/or BLE protocols, WiFi protocols, Infrared Data Association (IrDA) protocols, ANT and/or ANT+ protocols, 3rd
10 Generation Partnership Project (3GPP) Long Term Evolution (LTE) Proximity Services (ProSe) protocols, and the like. In some embodiments, wand 125 may connect with one or more devices (e.g., devices 101 and/or computing device 105) via network 115 in accordance with one or more wireless communications protocols and/or one or more cellular phone communications protocols. In such embodiments, wand 125 may be
15 configured to operate in accordance with the Global System for Mobile Communications (GSM), Enhanced Data GSM Environment (EDGE), wideband code division multiple access (WCDMA), code division multiple access (CDMA), time division multiple access (TDMA), Bluetooth, Wireless Fidelity (Wi-Fi) such as the Institute of Electrical and Electronics Engineers (IEEE) 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11ac,
20 and/or IEEE 802.11n, voice over Internet Protocol (VoIP), Wi-MAX, LTE, and/or any other wireless communication protocols.

In various embodiments, by utilizing a direct wireless connection or a network connection, wand 125 may operate, control, or otherwise activate one or more external feedback/output devices (also referred to as “second devices” herein). Referring to FIGS.
25 1-3, the one or more external feedback/output devices may include the devices 101 and/or the computing device 105. The one or more second devices may be used to provide feedback or another like indication as to whether a spell has been properly performed or not (within a certain margin of error). The second devices may include one or more components of computing devices 105 and/or other computing devices, one or more
30 auxiliary devices, one or more IoT devices, one or more audio devices, one or more display devices, one or more other wands 125, and the like. The wand 125 may instruct or otherwise activate the one or more second devices by communicating one or more instructions or control signals over the direct wireless connection or via the network

connection to the one or more second devices (also referred to as “second instructions” herein). The second instructions may be defined by a spell output, which is associated with one or more spells, wherein the spell output indicates to issue the second instructions upon completion of an associated spell. The second instructions and/or control signals may

5 instruct and/or control the one or more second devices to execute desired program code when one or more second devices include the computing device 105 and/or one or more other computing devices; access one or more services associated with one or more IoT devices when the one or more second devices include one or more IoT devices; output a desired audio output when the one or more second devices include one or more audio

10 devices; output a desired video output when the one or more second devices include one or more display devices; move to another location, change a position, or otherwise activate one or more electro-mechanical components when the one or more second devices includes a robot, a robotic vehicle, an unmanned aerial vehicle (UAV), a drone, and/or the like; and/or record a spell output when the one or more second devices include one or

15 more other wands 125 and/or one or more other computing devices 105. Furthermore, in various embodiments, the second instructions may indicate to turn off or shut down various functions, such as shutting off a video display, etc. In some embodiments, the second instructions may include sending (additional) game-related messages to other users in the gaming environment 100 (e.g., “fireball from user A exploded at position (X,Y,Z)

20 including 10 points damage to players and/or devices within 5 meters of position (X,Y,Z)”). Moreover, the second instructions may indicate that a gesture was incorrectly performed or missing from a spell sequence, the user has insufficient authorization to perform a spell (e.g., a wand 125 is not authorized to perform the spell or obtain the spell output), the performance of a spell was done at an unauthorized location and/or

25 spatial coordinates, the user has insufficient game play property/points for performing the spell or obtaining the spell output, the performance of the spell is impossible (e.g., an “open door” spell is performed when there is no door proximate to the wand 125), a game play parameter item in the gaming environment 100 is interfering with the spell (“fireball inhibitor prevents fireball spells in a particular

30 room”), and the like.

In various embodiments, the second instructions may indicate an acceptance by one or more other wands 125 to participate in a wand duel. In such embodiments, the wand 125 and/or the associated computing device 105 may receive an acknowledgement

that may indicate whether the wand 125 is to be included in a wand duel with another wand 125. Such an acknowledgment may include one or more second instructions (also referred to as agreement-second instructions), which activate one or more associated second devices to indicate that a wand duel is to commence. For example, the agreement-
5 second instructions may emit a predefined wand initiation tone or tones in a predefined sequence when the one or more second devices include a speaker or other like audio devices communicatively coupled with the computing device 105; output a predefined wand initiation video output when the one or more second devices include one or more display devices; and/or produce any other type of output according to any other example
10 embodiment disclosed herein.

According to various embodiments, wand 125A may include or otherwise be associated with a region of effect (ROE) 130A and wand 125B may include or otherwise be associated with a region of effect (ROE) 130B (collectively referred to as “region of effect 130” or “ROE 130”). ROE 130 defines an area in which a spell output is to be
15 applied such that one or more devices 101 within the ROE 130 are activated when a spell is performed using the wand 125. In various embodiments, the ROE 130 is determined by the computing device 105 coupled with the wand 125 (e.g., computing device 105A coupled with wand 125A as shown in FIGS. 1-3). In such embodiments, the computing device 105 may determine a shape and/or size of the ROE 130, and determine whether one
20 or more devices 101 and/or other wands 125 are within the ROE 130 based on a position of the devices 101 and/or other wands 125. The positions of the one or more other devices 101 and/or other wands 125 may be indicated by an identifier or other like signal being broadcast by a device 101 and/or wand 125, and/or based on a position of the wand 125 relative to the position of a device 101 and/or other wand 125. In other embodiments, the
25 wand 125 may determine the shape and/or size of the ROE 130, and determine whether one or more devices 101 and/or other wands are within the ROE 130. In some embodiments, when multiple devices 101 and/or other wands 125 are within the ROE 130, the computing device 105 and/or wand 125 may activate issue second instructions to each device within the ROE 130. In various embodiments, when multiple devices 101 and/or
30 other wands 125 are within the ROE 130, the computing device 105 and/or wand 125 may determine a spell output target device based on a position of the wand 125 and/or an orientation of the wand 125. The spell output target device may be a device to which the wand 125 is directed by the user, which may be indicated by a portion from which the

ROE 130 emanates. Furthermore, in some embodiments, the spell output target device may include multiple second devices while excluding other second devices within the ROE 130.

In various embodiments, the spell output intensity may be based on a distance
5 between the wand 125 and a position of the spell output target device, and/or the spell output intensity may be based on a position of the spell output target device within the ROE 130. The spell output intensity may indicate an intensity at which the one or more second devices within the ROE 130 are to be activated. For instance, a device that is located relatively far from the wand 125 may be activated at a lower intensity than a
10 device that is located relatively close to the wand 125. By way of example, an audio device that is relatively far from the wand 125 may play a desired audio output at a lower volume and/or decrease the volume over time, whereas when the audio device is relatively close to the wand 125, the audio device may play the desired audio output at a higher volume. In various embodiments, spell output intensity may also indicate a brightness
15 level for a display device and/or a device including LEDs, may indicate a termination point of an audio and/or video output that is before the audio and/or video output's prescribed ending, may specify an amount to move an electro-mechanical device, may indicate a game play properties/effects (e.g., damage amounts, health restoration amount, a virtual or physical on/off, open/close, and/or lock/unlock indication, physical dispense
20 amount (vending machines, etc.) a virtual dispense amount for virtual property (points, health, damage loss, gold count, etc.)), and/or the like. In this way, the spell output may have an appearance of attenuation based on the user's position within the gaming environment 100.

In some embodiments, device attributes may be used to determine a spell output
25 and/or spell output intensity. The device attributes may indicate a device type and/or status of one or more peripheral devices and/or internal components (e.g., processor speed, memory utilization, battery charge amounts, etc.) of the wand 125. For example, the wand 125 and/or the computing device 105 may determine that an amount of charge remaining in a battery of the wand 125 is 50%, and the wand 125 and/or the computing device 105
30 may then reduce the spell intensity output by 50%.

Referring now also to FIG. 4, the ROE 130 is defined by or otherwise has a shape of a cone. In various embodiments, the cone may have an area that is defined by a height h and a base radius r . In various embodiments, the base may be in the shape of a circle or an

ellipsoid having a radius r . However, in some embodiments, the ROE 130 may be in a pyramidal shape such that the base is a square, rectangular or any other quadrilateral shape. Additionally, although ROE 130 is shown by FIGS 1-4 as having a conical shape, in various embodiments, ROE 130 may have a cylindrical shape or may have any other type of shape. As shown, an apex of the cone originates from a tip 208, but in some embodiments, the apex could originate from any other like portion of the wand 125. The area of the cone may be calculated using known equations or algorithms for calculating the area and/or volume of a cone. However, it should be noted that the height h , the radius r , and/or the shape of the base may be based on a specific game being played, a specific gaming environment, a spell intensity associated with a user of the wand 125, and the like. For example, the height h and/or the radius r of the ROE 130 may be predefined according to one or more game design criteria, and when the spell intensity is determined to be reduced by 50% due to a battery of the wand 125 having a 50% charge capacity, the values of the height h and/or the radius r of the ROE 130 may be reduced by 50% or may be reduced or otherwise adjusted according to some other game-related value/criteria/rules. By way of another example, the height h and/or the radius r of the ROE 130 may be predefined according to one or more game design criteria, and when the spell intensity is determined to be increased by 50% due to an auxiliary device being proximate to the wand 125, the values of the height h and/or the radius r of the ROE 130 may be increased by an amount indicated by an auxiliary device identifier and/or may be increased or otherwise adjusted according to some other game-related value/criteria/rules. Furthermore, in some embodiments, a shape of the ROE 130 may change due to an auxiliary device being proximate to the wand 125. For example, a wand 125 may be associated with a conical shaped ROE 130 according to one or more game design criteria, and when the ROE 130 may change to a pyramidal shape due to an auxiliary device being proximate to the wand 125, wherein the shape of the ROE 130 may be indicated by an auxiliary device identifier and/or indicated according to some other game-related value/criteria/rules. Moreover, in some embodiments, the size and/or shape of the ROE 130 may be altered or adjusted according to a handicap value associated with a user of the wand 125. In such embodiments, adjusting a size or shape of the ROE 130 may include increasing the size and/or the shape of the ROE 130 or decreasing the size and/or the shape of the ROE 130. The handicap value and/or ROE 130 shape adjustments may be based on one or more game-related value/criteria/rules. In wand duel scenarios or

geocaching scenarios, the handicap value may be used to alter the ROE 130 of one or more of the wand duel participants. For example, referring to FIG. 3, a handicap value associated with a user of wand 125A may increase the size and/or shape of ROE 130A according to the handicap value and/or may decrease a size and/or shape of ROE 130B, which is associated with the other wand 125B. In some embodiments, the size and/or shape of ROE 130A may stay the same while the size and/or shape of ROE 130B is decreased.

In various embodiments, the ROE 130 may be used to indicate an amount of game play properties/points to be used and/or applied against other users, etc. In such embodiments, the ROE 130 may define a desired distance and/or angle relative to the wand 125 in which to apply the defined spell output. In various embodiments, different spell intensities may be defined to correspond with various spatial coordinates, such as Cartesian coordinates, geographic coordinates (e.g., latitude and longitude), Global Positioning System (GPS) coordinates, and/or other like points within the ROE 130. For example, the ROE 130 of wand 125 for a spell may be defined as a cone having a height of 5 feet, wherein a maximum spell intensity may be applied to devices 101 and/or other wands 125 that are within 3 feet from the wand 125. In such embodiments, a reduced or attenuated spell intensity may be defined for devices 101 and/or other wands 125 that are greater than 3 feet from the wand 125. In some embodiments, an attenuation factor or attenuation algorithm may be used to calculate how much the spell output intensity is to be reduced or attenuated for devices 101 and/or other wands 125 that are greater than defined distance from the wand 125 (e.g., greater than 3 feet in the example).

Furthermore, proximity of the wand 125 to an associated object or device, such as an IoT device, may be required in order for the spell to have a desired effect. For example, an “open door” spell may have no effect unless the wand 125 is within a specified distance a door (e.g., 5 feet) due to limitations of the hardware devices of the wand 125 (e.g., transmission power, etc.) or due to limitations of the gaming environment 100 (e.g., electromagnetic interference, etc.). Therefore, the ROE 130 may be defined for a spell output in order for the spell output to have the desired effect. In some embodiments, the spell output intensity may be used to define requirements for the spell to have an effect. For example, the “open door” spell may have an effect when the wand 125 is within a specified distance of the door (e.g., 5 feet), but for certain game play design choices, the game operator or other entity may require that the wand 125 be at a desired distance from

the door (e.g., 3 feet) in order to obtain the desired effect. By way of another example, a spell for a game (e.g., a wand duel) may be defined to have a desired virtual property/points effect on another player when the spell is performed by the wand 125A and another wand 125B associated with the other player is located at a desired position (e.g., spatial coordinates (X,Y,Z)) within the ROE 130A. In this case, the spell may have an attenuated or otherwise decreased virtual property/points effect based on how close or far the other wand 125B is from the desired position within the ROE 130A. In some embodiments, the ROE 130 may also define a desired alteration to the spell output and/or spell output intensity when one or more auxiliary devices are proximate to the wand 125, which may be done by associating one or more auxiliary device identifiers or auxiliary device types with the spell output.

According to various embodiments, computing devices 105 may be a physical hardware computing device capable of communicating with a one or more other hardware computing devices (e.g., wand 125, devices 101, accounting server 120, one or more associated databases (not shown), and the like) via a communications interface, such that computing device 105 is able to receive one or more signals and/or data streams from the other devices in the gaming environment 100. Computing devices 105 may include a transmitter/receiver (or alternatively, a transceiver), one or more memory devices, one or more processors, one or more sensors, and/or other like components. Computing devices 105 may be designed to sequentially and automatically carry out a sequence of arithmetic or logical operations; equipped to record/store digital data on a machine readable medium; and transmit and receive digital data via one or more network devices. Computing devices 105 may include devices such as desktop computers, laptop computers, mobile computing devices (e.g., smart phones, tablet personal computers, wearable computing devices, a handheld messaging device, a personal data assistant, an electronic book reader, and the like), a home or local server, and/or any other physical or logical device capable of recording, storing, and/or transferring digital data via a connection to a network device.

It should be noted that for the purposes set forth herein, when the computing device 105, such as the computing device 105B, is referred to as “another computing device”, “the other computing device”, etc., such other computing device 105 may include a robot, a robotic vehicle, a UAV, a drone, and/or other like devices (collectively referred to as “a drone” or “drones”). Additionally, when the wand 125, such as the wand 125B, is referred to as “another wand”, “the other wand”, etc., such other wand 125 may also be

included with or otherwise be associated with such drones. Such drones may comprise one or more electro-mechanical components that may allow the drone to change a position and/or orientation of the drone. These electro-mechanical components may include one or more motors, wheels, thrusters, propellers, claws, clamps, hooks, and/or any other like propulsion devices. The drone may be able to change its position and/or orientation based on a desired (or alternatively “predetermined”) trajectory. In some embodiments, such a trajectory may be determined or otherwise defined by a program code stored on a computer-readable medium of the drone (or transmitted to the drone from a network element such as the accounting server 120, a wand 125, or a computing device 105), which when executed by a processor of the drone, determines where and how the drone is to reach various positions and/or orientations, and initiates movement of the one or more electro-mechanical components. In some embodiments, the drone may include an autonomous position and/or orientation changing mechanism, which allows the drone to change its position and/or orientation based on knowledge of its current position and/or current orientation. Knowledge of the current position and/or current orientation may be calculated by one or more sensors, such motor encoders, image sensors, accelerometers, gyroscopes, gravimeters, GPS circuitry, and/or the like. Knowledge of the current position and/or current orientation may also be transmitted to the drone by another device (e.g., an associated computing device 105, the accounting server 120, a wand 125, beacon 110, etc.), where the other device may determine the current position and/or current orientation according to the various methods for determining position and orientation disclosed herein.

Furthermore, for the purposes set forth herein, the “other computing devices 105” and the like, may be associated with an image projector that may project one or more images based on one or more spell outputs. In various embodiments, such spell outputs may define a sequence of images to display when the spell output is performed correctly, or may define how the projected image is to be altered. In some embodiments, such spell outputs may define one or more animated images to project.

In various embodiments, computing devices 105 may include a network interface (e.g., network interface 430 described with regard to FIG. 8) configured to connect computing device 105 to one or more other devices wirelessly via a transmitter and a receiver (or optionally a transceiver) and/or via a wired connection using a communications port. Computing devices 105 may be configured to send/receive data

to/from one or more other hardware computing devices, and/or network devices, such as a router, switch, hub, or other like network devices, via the network interface using the wired connection and/or the wireless connection. Computing devices 105 may be configured to obtain a data (in the form of a data stream, data packets, and/or other like messages) from a network element (e.g., accounting server 120) via the network interface, and utilize the data according to the various example embodiments described herein. Computing devices 105 may communicate over the network 115 in accordance with one or more wireless communications protocols and/or one or more cellular phone communications protocols. For example, computing device 105 may be configured to operate in accordance with the GSM, EDGE, WCDMA, CDMA, TDMA, Bluetooth, Wi-Fi such as IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11ac, and/or IEEE 802.11n, VoIP, Wi-MAX, LTE, and/or any other “wireless” communication protocols, including RF-based, optical, and so forth.

Computing devices 105 may include or be otherwise associated with various input and output/feedback devices to enable user interaction with the computing device 105 and/or peripheral components or devices associated with the computing device 105 by way of one or more user interfaces or peripheral component interfaces. The user interfaces may include, but are not limited to a physical keyboard or keypad, a touchpad or touchscreen, display device(s), speakers, microphones, image sensors, haptic feedback devices and/or one or more actuators, and the like. Peripheral component interfaces may include, but are not limited to, a non-volatile memory port, a universal serial bus (USB) port, an audio jack, and a power supply interface. Furthermore, the computing device may to enable user interaction with peripheral or other like external devices utilizing one or more wireless communications protocols, such as Bluetooth protocols, WiFi protocols, IrDA protocols, ANT and/or ANT+ protocols, 3GPP LTE ProSe protocols, etc. Using the one or more wireless communications protocols, the computing devices 105 may connect with, or otherwise utilize devices 101. The devices 101 may be output/feedback devices, such as display devices (e.g., TVs or “smart TVs”, a computing device and associated displays, augmented reality head-mounted (or helmet-mounted) devices, projectors, etc.) and/or audio devices (e.g., Bluetooth earpiece or headphones, speakers, etc.), IoT devices (e.g., automated sensors, motors, etc.), and/or auxiliary devices (which are described in detail elsewhere). Furthermore, the computing devices 105 may connect or otherwise couple with the wand 125 by way of the one or more wireless communications protocols.

In some embodiments, the computing device 105 may be associated with an IR target, which may receive an IR signal from a wand 125. In some embodiments, the associated IR target may be attached to the computing device 105, while in other embodiments the IR target may not be connected to the computing device 105. In some embodiments, the IR target may be a device 101 that is communicatively coupled to the computing device 105 and/or the wand 125, or the IR target may be affixed to a wall or other like stationary object. The IR target may include an IR camera and/or an IR emitting device that operate in a same or similar fashion as discussed previously with regard to the wand 125. In response to receiving an IR signal or beam, the computing device 105 may carry out a sequence of arithmetic or logical operations; activate one or more associated output devices; provide one or more first instructions to the wand 125 for activation of one or more first devices and/or provide one or more second instructions to one or more second devices according to the various example embodiments disclosed herein; activate one or more electro-mechanical components; project an image and/or animation; and/or perform any other function as described herein, such as communicating wand invitation messages, team forming messages, and/or spell messages as described herein. It should be noted that the aforementioned messages are not limited to being transmitted/received via IR beams, and in various embodiments, such messages may be communicated via other signals, such as Bluetooth or BLE signals, WiFi signals, and/or any other wireless signals discussed herein. Such messages may be communicated directly between computing devices 105 and/or wands 125, or such messages may be communicated by way of an intermediary device, such as via beacon 110, a home or local server, a WiFi router, or other like network device. Moreover, each of the aforementioned messages may be communicated by way of a different wireless signal, for example, wand duel initiation messages and/or team forming messages may be communicated via a WiFi signal, and spell messages may be communicated via one or more IR beams.

Computing device 105 may be equipped with location (or alternatively “geolocation”), positioning, and/or navigation circuitry, such as a GPS receiver, as well as software to convert received GPS signals into a location and/or position (within some margin of error). In various embodiments, alternate positioning systems may be employed, such as wireless network signal-strength-based indoor positioning system (IPS), hybrid systems combining global and local positioning systems, and/or other like positioning and/or location detection systems. However, in various embodiments, geolocation and/or

positioning information may come from other sources including an IP address, Wi-Fi and/or Bluetooth MAC address, radio-frequency identification (RFID), WiFi connection location, GSM/CDMA cell IDs, and the like. Computing devices 105 may include one or more sensors, such as an accelerometer, gyroscope, gravimeter, magnetometer, and/or
5 another like devices that are configured to measure and/or detect a motion, an acceleration, and/or an orientation of the computing devices 105. In such embodiments, the computing devices 105 may be configured to determine a magnitude and direction of an acceleration and/or motion of the computing device 105, and convert the acceleration and/or motion of the computing device 105 into position and/or orientation information. The positions
10 and/or orientations (or changes in the positions and/or orientations) may be used to determine a spell type, spell direction, spell intensity, etc. according to the various example embodiments described herein. For example, the computing device 105 may use its own position and/or orientation data, position and/or orientation data of one or more devices 101 that the computing device 105 has determined, in combination with any
15 position and/or orientation data included with a spell sequence in order to determine a spell type, spell direction, spell intensity, etc.

Computing devices 105 may be configured to run, execute, or otherwise operate one or more applications. The applications may include native applications, web applications, and hybrid applications. The native applications may be used for operating
20 the computing device 105, such as using a camera or other like sensor of the computing device 105, GPS functionality of the computing device 105, an accelerometer of the computing device 105, cellular phone functionality of the computing device 105, and other like functions of the computing device 105. Native applications may be platform or operating system (OS) specific. Native applications may be developed for a specific
25 platform using platform-specific development tools, programming languages, and the like. Such platform-specific development tools and/or programming languages may be provided by a platform vendor. Native applications may be pre-installed on computing devices 105 during manufacturing, or provided to the computing device 105 by an application server (e.g., accounting server 120) via a network (e.g. network 115). Web
30 applications are applications that load into a web browser of the computing device 105 in response to requesting the web application from a service provider (e.g., a web server that may be associated with accounting server 120). The web applications may be websites that are designed or customized to run on a mobile device by taking into account various

mobile device parameters, such as resource availability, display size, touchscreen input, and the like. In this way, web applications may provide an experience that is similar to a native application within a web browser. Web applications may be any server-side application that is developed with any server-side development tools and/or programming
5 languages, such as PHP, Node.js, ASP.NET, and/or any other like technology that renders HTML. Hybrid applications may be a hybrid between native applications and web applications. Hybrid applications may be a standalone, skeletons, or other like application containers that may load a website within the application container. Hybrid applications may be written using website development tools and/or programming languages, such as
10 HTML5, CSS, JavaScript, and the like. Hybrid applications use browser engine of the computing device 105, without using a web browser of the computing device 105, to render a website's services locally. Hybrid applications may also access mobile device capabilities that are not accessible in web applications, such as the accelerometer, camera, local storage, and the like. The various example embodiments for initiating and
15 commencing a wand duel performed by the wand 125 and/or the computing device 105 as described herein may be implemented as a native application, a web application, and/or a hybrid application. Such an application may be included in the wand 125 and/or the computing device 105 according to various example embodiments.

Additionally, in some embodiments, the applications for initiating and
20 commencing a wand duel as discussed herein may also interact with one or more other applications via an application programming interface (API). An API may be defined as a set of HTTP request messages and response messages that allow applications to obtain third-party services. Such request messages and response messages are usually in an XML and/or JavaScript Object Notation (JSON) format. In most embodiments, the applications
25 for initiating and commencing a wand duel as discussed herein may use an API to access third-party services, such as social networking service, a blog, and/or any other like communication platform. By utilizing an API for such services, a user of the wand 125 may broadcast, to their social network contacts, one or more spells which they have cast using the wand 125, one or more spells which are cast upon the user using the wand 125,
30 wand duel invitations, game-play messages for a game in which they are participating, and/or other game-related information. In some embodiments, the user of a wand 125 may be able to customize which game-related information to broadcast. The third-party service may be capable of receiving, from the computing device 105, positioning information

(e.g., a geolocation of the computing device 105 and/or the wand 125) and spell-related data and may broadcast the positioning information and spell-related data on an associated communication platform. The third-party service may be capable of managing various settings associated with a user of the wand 125 and/or computing device 105, and may
5 post, reformat or adapt the positioning information and spell-related data, as necessary, to the communication platform.

According to various embodiments, devices 101 may be any object, device, sensor, or “thing” that is embedded with hardware and/or software components that enable the object, device, sensor, or “thing” to communicate with another device (e.g., computing
10 devices 105, accounting server 120, another device 101, etc.) over a network (e.g., network 115). The devices 101 may be the same or similar to the “second devices” as described herein, and the devices 101 may also be referred to as “second devices 101”. In some embodiments, the device 101 may communicate with other devices with little or no user or human intervention, such as when the device 101 is an IoT device. In this regard,
15 devices 101 may include a transmitter/receiver (or alternatively, a transceiver), one or more memory devices, and/or one or more processors. Furthermore, devices 101 may be embedded with or otherwise include a transmitter or other like device that broadcasts an identification signal. In various embodiments, the identification signal may be a radio-based signal, such as a Wi-Fi signal, BLE signal, an active RFID signal, an infrared signal,
20 and the like. According to various embodiments, the identification signal may comprise one or more data packets or data frames, where the data packets or data frames include a unique identifier associated with the device 101 transmitting the identification signal. In various embodiments, the unique identifier (or alternatively, “identifier” or “identification information”) may include a universally unique identifier (UUID), an electronic product
25 code (EPC), a media access control address (MAC address), an Internet Protocol (IP) address, an Apache QPID address, and/or any other like identification information. It should be noted that one or more of the devices 101 may be manufacturer, developed, and/or deployed in the gaming environment 100 by different device manufacturers.

In various embodiments, devices 101 may be output/feedback devices, such as
30 display devices, audio devices, IoT devices, and the like. Devices 101 that are IoT devices may include any type of sensor, meter, or other like device that can capture and/or record data associated with an event. For instance, in various embodiments, IoT devices may be biotic sensors and/or devices, such as monitoring implants, biosensors,

biochips, and the like. Additionally, IoT devices may be abiotic sensors and/or devices, such as autonomous sensors and/or meters, Machine Type Communications (MTC) devices, machine to machine (M2M) devices, and the like. An event may be any occurrence of an action, such as a temperature change, a change in data such as reaching a data threshold, a game-play point/property/inventory level/amount change, a heart rate, a state/position/orientation change of a device, and the like. In various embodiments, an event may be detected by one or more IoT devices based on sensor outputs, timer values, user actions, messages from an a computing device, and the like. Once data associated with an event is captured and recorded by the IoT device or other like device 101, the captured data may be relayed through the network 115 and reported to a service provider (e.g., an operator of the accounting server 120), computing device 105, and/or another one of the devices 101. The service provider and/or game operator (e.g., the accounting server 120), a user of the computing device 105A and/or the wand 125A, a user of the computing device 105B and/or the wand 125B, and/or another device 101 may take an appropriate action based on a notification of the event (e.g., calculate a score with respect to a game or quest, and the like, perform a spell, activate/deactivate a device and/or component of a device, etc.). In various embodiments, devices 101 may connect with or otherwise communicate with the computing device 105 and/or accounting server 120 via a direct wireless connection and/or via network 115. In such embodiments, the data associated with an event may be reported to the computing device 105 and/or accounting server 120 for the purposes of spell determination and/or immersive game play as described herein. It should be noted that the devices 101 may be configured to report data/events on a period or cyclical basis, and/or based on a desired event that is captured and recorded by a device 101.

In various embodiments, the computing device 105 and/or wand 125 may receive from one or more devices 101 data associated with a captured event and the computing device 105 and/or wand 125 may physically control the devices 101 by transmitting instructions or other like control signals to the device 101. The instructions and/or control signals may instruct and/or control the devices 101 to execute desired program code when one or more of the devices 101 include one or more other computing devices; access one or more services associated with one or more IoT devices when one or more of the devices 101 include one or more IoT devices; output a desired audio output when one or more of the devices 101 include one or more audio devices; output a desired video output when

one or more of the devices 101 include one or more display devices; and/or record a spell output when one or more of the devices 101 include one or more other wands 125 and/or one or more other computing devices 105.

In various embodiments, such as when the second devices 101 are IoT devices, the
5 second devices 101 may include one or more electro-mechanical components which allow the second device 101 to change its state, position, and/or orientation. These electro-mechanical components may include one or more motors, step motors, actuators, wheels, thrusters, propellers, claws, clamps, hooks, and/or other like electro-mechanical components. In such embodiments, the second devices 101 may be configured to change
10 its state, position, and/or orientation based on one or more captured events and/or instructions or control signals received from the computing device 105 and/or wand 125. For example, in embodiments where a second device 101 is an actuator that opens/closes a window, the actuator may change its state (e.g., fully open, fully closed, or partially open/closed) based on instructions from the computing device 105, wand 125, and/or
15 accounting server 120. In such embodiments, the instructions to change the state of the actuator may be issued from the computing device 105, wand 125, and/or accounting server 120 based on whether or not a spell was determined to have been performed correctly or not. In some embodiments, proximity of the wand 125 to an associated device 101 may be required in order for the spell to have an effect. For example, an “open door”
20 spell may have no effect unless the wand 125 is within desired distance from the door to be opened. It should be noted that a performance of one or more actions (e.g., the collection/reporting of data, altering a state, position, and/or orientation, etc.) by one or more devices 101 may be referred to as a “service”. The devices 101 may be grouped according to functions that they may perform, where one or more of the functions are
25 associated with one or more services. Furthermore, in various embodiments, the devices 101 may also communicate data associated with one or more events to the accounting server 120 via a network connection, wherein the accounting server 120 may track the progress of a game or otherwise adjust a user’s profile according to spell outputs performed by the devices 101.

30 In various embodiments, one or more of the second devices 101 may be “auxiliary devices”. The auxiliary devices may include the same or similar components as the IoT devices discussed herein (e.g., transmitter/receiver, processor(s), memory device(s), etc.). However, in various embodiments the auxiliary devices serve to alter, adjust, or otherwise

modify a spell and/or spell intensity. For example, in some embodiments, the auxiliary device may amplify, diminish, or delay an effect of one or more spell outputs. Additionally, the auxiliary device may alter a spell output to include one or more additional first instructions and/or second instructions, such as obtaining and playing an audio output when a spell for illuminating an LED is performed. It should be noted that in some embodiments, an auxiliary device may amplify a spell intensity of a first spell while diminishing the effect of a second spell. In various embodiments, a spell and/or spell intensity may be modified or adjusted when an auxiliary device is within a desired region surrounding the wand 125, or when the auxiliary device is otherwise proximate to the wand 125. In this regard, in various embodiments, the auxiliary devices may be in the form of a wearable device, such as a bracelet, ring, medallion, hat, glove, and the like, while in some embodiments, the auxiliary devices may have a form that allows the auxiliary device to attach itself to a housing 205 of the wand 125. However, the form and/or shape of the auxiliary devices may be based on one or more design choices.

In various embodiments, the proximity of an auxiliary device to the wand 125 may be based on position information contained in an auxiliary device identifier or other like signal that is broadcast by the auxiliary device, which may be obtained by the computing device 105 and/or the wand 125 by scanning of a region surrounding the wand 125 for an auxiliary device signal that is broadcast by the auxiliary device. The auxiliary device identifier may be obtained by the computing device 105 and/or the wand 125, which may then determine the position of the auxiliary device relative to the wand 125 in a similar manner as discussed herein, such as by using IPS and/or triangulation methods.

The auxiliary device identifier may also indicate a desired alteration for a spell output and/or a desired alteration or adjustment to a spell output intensity. For example, the auxiliary device identifier may indicate an amount to increase/decrease area of the ROE 130, such as by adjusting the height h and/or the radius r , etc. By way of another example, the auxiliary device identifier may indicate that a spell output may include additional audio and/or video outputs to be played/displayed with an audio and/or video output associated with a given spell and/or a location from which the additional audio/video outputs may be obtained, such as a webpage address, a memory location, and/or other like location information. By way of yet another example, the auxiliary device identifier may indicate that a spell output may yield additional game related points/property within a game, or may decrease another player's points/property by a

specified amount when a spell is performed in the presence of another user (see e.g., FIG. 3). In some embodiments, the desired alteration to the spell output or spell output intensity may be based on a number of times that a spell has been cast using the auxiliary device, and/or based on any other like indication indicating a number of times that the auxiliary device has been used. The number of times that the auxiliary device has been used may be factored into a game or quest, wherein a game operator (e.g., an operator of accounting server 120) or other like entity may limit the number of times that an auxiliary device may be used and/or may diminish the effect that an auxiliary device has based on the amount of usage of the auxiliary device. To this end, in various embodiments, the auxiliary device may include a counter, which indicates a number of uses or a number of spell alterations, and the auxiliary device may provide the counter value in the auxiliary device identifier. In such embodiments, the auxiliary device may increment or decrement the counter each time a spell is cast (i.e., after execution of a spell output). The computing device 105 and/or the wand 125 may then determine whether the spell output may be altered using the auxiliary device based on the auxiliary device counter value, such that, when the auxiliary device counter value has reached an alteration threshold, the alteration to the spell output may be deemed to have expired. In some embodiments, the auxiliary device counter may be loaded with a (or alternatively “predefined”) value, and the counter may be decremented each time a spell is cast with the auxiliary device. In such embodiments, the alteration threshold may be zero. In other embodiments, the auxiliary device counter may be set at zero and incremented each time a spell is cast with the auxiliary device. In such embodiments, the alteration threshold may be a desired (or alternatively “predefined”) integer that is greater than zero, and the alteration may be diminished or otherwise adjusted based on the integer value. For example, the counter value may be set at 10, the spell output intensity may be increased by 100% when the auxiliary device is used a first time (counter value of 10), and the spell output intensity may be increased by 90% when the auxiliary device is used a second time (counter value of 9), and so forth. Moreover, in some embodiments, a determined distance or proximity of the auxiliary device may be used to alter the spell output and/or spell output intensity. For example, in some embodiments, an auxiliary device may increase a size and/or shape of the ROE 130 by a first factor when the auxiliary device is attached to the wand 125, and the auxiliary device may increase a size and/or shape of the ROE 130 by a second factor when the auxiliary device is at a

specified distance from the wand 125, wherein the first factor is greater than the second factor.

It should be noted that in various embodiments, the auxiliary devices may not include the auxiliary counter. In such embodiments, the accounting server 120, the
5 computing device 105, and/or the wand 125 may include auxiliary device counters, or similar functionality, to track the usage of corresponding auxiliary devices. In such embodiments, the accounting server 120, the computing device 105, and/or the wand 125 may obtain the auxiliary device identifier via a direct wireless connection or a network connection, and may adjust a user profile and/or increment/decrement an auxiliary device
10 counter accordingly.

In some embodiments, an auxiliary device or other like devices 101 may include an IR target including an IR emitting device and/or IR camera that may operate in a same or similar fashion as discussed previously with regard to the wand 125. In such
15 embodiments, the auxiliary device or device 101 may detect an IR beam transmitted from the wand 125 and/or the computing device 105, and in response to detection of such a beam, the auxiliary device and/or devices 101 may perform various functions, such as adjust the auxiliary counter values (e.g., increase or decrease the auxiliary counter values), etc., relay or otherwise communicate various messages as described herein, and the like. It should be noted that the performance of the aforementioned functions are not limited to
20 transmitted/received via IR beams, and in various embodiments, such functions may be performed based on the reception/detection of other signals, such as BLE signals, WiFi signals, and/or any other wireless signals discussed herein. Such messages may be communicated directly between an auxiliary device 101 or other device 101 and an associated computing device 105 and/or wand 125, or such messages may be
25 communicated by way of an intermediary device, such as via beacon 110, a home or local server, a WiFi router, or other like network device.

According to various embodiments, beacon 110 may be a network element or a transmitting/receiving device configured to provide communication services and
30 positioning services to various devices (e.g., devices 101, computing device 105, and/or wand 125) operating within a gaming environment 100 or a communications network (e.g., an enterprise private network, virtual private network, local area network (LAN), a virtual LAN (VLAN), and/or any other like computer network). The beacon 110 may be a wired or wireless access point, a router, a switch, a hub, and/or any other like network

device that allows computing devices to connect to a network. In some embodiments, the beacon 110 may include one or more processors, a network interface, one or more transmitters/receivers connected to one or more antennas, and computer readable media. The one or more transmitters/receivers may be configured to transmit/receive data signals to/from one or more devices 101 and/or computing devices 105. The beacon 110 may process and/or route data packets according to one or more communications protocols, such as Ethernet, Point-to-Point Protocol (PPP), High Level Data Link Control (HDLC), Internet Protocol version 4 (IPv4), Internet Protocol version 6 (IPv6), and/or any other like protocols. The beacon 110 may employ one or more network interfaces in order to allow devices 101 and/or computing devices 105 to connect to network 110, such as Ethernet, Fibre Channel, G.hn or ITU-T, 802.11 or Wi-Fi, Bluetooth, and/or any other like network connection interfaces. In various embodiments, beacon 110 may be a low-powered transmitter/receiver that may be used to notify various devices of their position relative to one or more other devices. In such embodiments, the beacon 110 may utilize BLE proximity sensing methods to transmit an identifier to devices within a vicinity of the beacon 110.

In various embodiments, the beacon 110 may provide the wand 125, computing devices 105, and/or devices 101 with a position of the beacon 110 such that the wand 125, computing devices 105, and/or devices 101 may determine their own position relative to one or more other devices by way of triangulation. In such embodiments, an exact geolocation or position may not be necessary for the performance of a spell output as long as the various devices in the gaming environment 100 may determine their own position relative to one or more other devices in the gaming environment 100. One method of triangulation may include the computing device 105A performing a received signal strength indication (RSSI) calculation of one or more signals generated by one or more other devices (e.g., the computing device 105B and/or other computing devices 105, one or more devices 101, etc.) and a RSSI calculation of one or more signals generated by the beacon 110. Another method of triangulation may include the computing device 105A and/or the wand 125A obtaining a RSSI calculation performed by computing device 105B and/or wand 125B of one or more signals generated by another device and/or a RSSI calculation of one or more signals generated by the beacon 110, which may then be shared with the computing device 105A. Another method of triangulation may include the beacon 110 performing a RSSI calculation of one or more signals generated by multiple devices in

the gaming environment 100, which may then be shared with the computing devices 105 and/or the wands 125 in the gaming environment 100. The aforementioned RSSI calculations may be performed by the beacon 110, the wands 125, and/or the computing devices 105 according to known methods. Additionally, instead of, or in addition to using the RSSI of the signals generated by the various devices in the gaming environment 100, example embodiments may also utilize other information associated with the one or more signals, such as a path loss measurement, packet delay time, a signal to noise ratio, a measure of throughput, a jitter, latency, a round trip time (RTT), a number of interrupts, an out-of-order delivery of data packets, and/or other like parameters. Furthermore, any of the aforementioned triangulation methods may be combined to determine a device's position relative to one or more other devices in the gaming environment 100. As such, in various embodiments, more position and/or orientation information may become available as a number of devices in a gaming environment 100 increases. In some embodiments, only the RSSI of a proximate device is used instead of one or more of the aforementioned triangulation methods, such as by defining that a signal strength of a second device 101 must be greater than a threshold to indicate that the computing device 105 and/or the wand 125 is within some desired distance from the second device 101. Moreover, directional signal reception or/and transmission of one or more directional antennas may be also used to determine orientation of the various devices in gaming environment 100. As discussed previously, one or more gestures may be performed to obtain one or more spell outputs. In some embodiments, one or more gestures may be designed to facilitate the orientation calculation, such as when a user is required to manipulate the wand 125 in a defined manner and/or at a defined position in order to obtain the spell output. For example, a quest or game may be defined such that a player is required to move a wand from side-to-side so in or around a geocaching device wherein the side-to-side motion would place the wand in the middle of a coverage sector of a directional antenna of the geocaching device. In this case, directional antenna of the wand 125 and/or a directional antenna of the geocaching device may estimate an approximate wand orientation relative to the geocaching device.

In some embodiments, voice commands issued by one or more users may be used to determine a position of one or more device. For example, in a gaming environment 100 that has an electronically controlled window, which may be configured to turn opaque or transparent based on applied electrical charge. A "Transparency" spell might be used to

make the window transparent, wherein a user pointing the wand 125 at the window and issuing a voice command of “Transparify” or other such utterance. Because the utterance relates to windows, as opposed to door locks, etc., the voice command may provide additional information or another like indication of a region in which a wand 125 is located. In some embodiments, dead reckoning may be used to maintain orientation and/or position of the wand 125 and/or computing device 105. Dead reckoning may include a process of calculating a device’s current position by using a previously determined position (or fix), and adjusting that position based on known and/or estimated speeds over elapsed time and a projected movement pattern. Dead reckoning methods may be used to estimate a rough or general region in which one or more devices are location. It should be noted that relatively low accuracy of the orientation and position may be needed, for example, to indicate that dueling wands 125 (as shown in FIG. 3) may each be pointing in each other’s direction. Additionally, since the dead reckoning may provide relatively low accuracy, the dead reckoning calculations may be used to complement and/or to periodically adjust the other positioning and/or triangulation methods described herein.

It should also be noted that, in addition to the various position determination methods and/or triangulation methods discussed above, when the gaming environment 100 is an arena or other like defined region or venue, additional mechanisms may be added to the gaming environment 100 for position determination, such as one or more cameras or other like sensors, one or more stationary targets, and/or floor-mounted pressure sensors. The cameras and/or sensors (optical and infra-red) may be used in combination with known vision recognition algorithms, which may determine a relative distance of the user (either the user’s body or the computing device 105) to a known position within the field of view. In various embodiments, simplify processing may be achieved using one or more targets, such as UV fluorescent or IR-reflecting “dots”. The one or more targets may be stationary landmarks, or wands 125, computing device 105, and/or the user may include easily identifiable visual or non-visible markers. In some embodiments, Real-Sense Technology® developed by Intel® may be employed to further enhance position and/or orientation determination.

According to various embodiments, network 115 may be any network that allows computers to exchange data. Network 115 may include one or more network elements (not shown) capable of physically or logically connecting computers. The network 115 may include any appropriate network, including an intranet, the Internet, a cellular network, a

local area network (LAN), a personal network or any other such network or combination thereof. Components used for such a system can depend at least in part upon the type of network and/or environment selected. Protocols and components for communicating via such a network are well known and will not be discussed herein in detail. Communication
5 over the network 115 may be enabled by wired or wireless connections, and combinations thereof.

According to various embodiments, accounting server 120 may be one or more hardware computing devices that may include one or more systems and/or applications for providing one or more services. The accounting server 120 may include one or more
10 processors, one or more memory devices and/or computer readable storage medium, and one or more network interfaces. In order to provide the one or more services, the accounting server 120 may be capable of communicating with a one or more other hardware computing devices (e.g., wands 125, devices 101, computing devices 105, one or more associated remote and/or local databases (not shown), and the like) via the
15 communications interface, such that computing device 105 is able to receive and provide signals and/or data streams from the other devices in the gaming environment 100. Additionally, accounting server 120 may be a single physical hardware device, or may be physically or logically connected with other network devices, such that the accounting server 120 may reside on one or more physical hardware devices. Moreover, accounting
20 server 120 may be connected to, or otherwise associated with one or more data storage devices (not shown).

The accounting server 120 may be any device capable of receiving and responding to requests from one or more client devices (e.g., computing devices 105, wand 125, and/or devices 101) across a computer network (e.g., network 115) to provide one or
25 more services. In various embodiments, the services may include accounting for, or otherwise operating an immersive gaming experience. In such embodiments, the accounting server 120 may alter or adjust a user profile associated with a user of the wand 125. The user profile may indicate game criteria or parameters associated with the user in connection with a game or quest, or in relation to multiple users playing one or more
30 games or quests. The accounting server 120 may account for or otherwise track game play points/property and/or game play effects, such as virtual property/points tallies (including points, health, damage loss, gold count, power levels, “magical power”, etc.), a virtual or physical on/off, open/close, and/or lock/unlock indication, physical dispense amounts,

virtual dispense amounts, and/or the like. In some embodiments, the casting of a spell may decrease the casting user's game play points/property by a desired amount of game play points/property and/or may decrease another user's game play points/property by a desired amount of game play points/property. In some embodiments, one or more spells may be defined by a game operator to require a desired amount of game play points/property (e.g., "magical power", points, and/or the like) in order to cast the one or more spells or perform the spell outputs associated with those spells. In various embodiments, the game play properties may be represented as a numerical value that is accounted for by the accounting server 120. The user's magical power value may increase or decrease based on other factors, such as the passage of time, completing quests, proximity of devices 101, etc. Additionally, in some embodiments, a game operator may specify spells that may be used during a game and/or exclude other spells from being used during that game. In various embodiments, the accounting server 120 may track time-based conditions, such as the number of times during a time period that a spell has been performed, restricting a spell performance to a desired number of times or during desired times of a day, etc. In various embodiments, the accounting server 120 may track and/or account for multiplayer conditions, such as determining whether a spell is properly performed, which may require the performance of one or more gestures by one or more other users. For example, a spell may require a first user to perform a first bodily movement and utter a first voice command, followed by a second user performing a second bodily movement and uttering a second voice command. In other embodiments, the user may be required to perform their gestures concurrently.

Furthermore, in various embodiments, the accounting server 120 may also track prerequisite conditions defined by a game. For example, a game operator may define that a user must complete some prerequisite task in order to perform one or more spells and/or obtain one or more spell outputs. In some embodiments, the prerequisite task may include activating one or more second devices 101. In such embodiments, the accounting server 120 may communicate with the one or more second devices 101 to obtain event data recorded by the one or more second devices 101 to determine whether the prerequisite task has been completed by the wand 125 and/or computing device 105. For example, the prerequisite task may indicate that the user must complete some physical exercise or submit information via a web based user interface. Furthermore, the accounting server 120 may account for third party (e.g., parent, commercial entity, etc.) controls, wherein a third

party may be required to authorize a spell to be used. In some embodiments, restrictions to spell usage may further modify the various conditions listed above. Additionally, in some embodiments, a spell may be restricted to be performed only on specific wands 125, such as a premium upgraded wand 125, a user's wand 125 that is associated with a service or gaming subscription, and the like. In some cases, a game operator and/or an authorized third party may nullify a spell and/or a spell output, which may result in a loss of points, status, or other game/quest progress.

It should be noted that in various embodiments, one or more spell may require coordination among the multiple users in a gaming environment 100. For example, in a wand duel (as illustrated by FIG. 3), the two computing devices 105A and 105B may be required to coordinate with each other to determine a specific timing and/or order that spells are cast by each user. In some embodiments, the accounting server 120 may provide the spell coordination between the two computing devices 105A and 105B. If the accounting server 120 is not involved with the coordination between users, the accounting server 120 may be responsible for final spell processing and resolution. The spell processing and resolution may include decrementing a user's available power level (virtual and/or physical) and/or a power level amount required for a certain spell. In some embodiments, the computing devices 105 may perform the spell processing and resolution, and may report the results of the spell processing and resolution to the accounting server 120. However, in some embodiments, messages related to spell processing and resolution may be sent directly between the two computing devices 105A and 105B and/or sent indirectly between the two computing devices 105A and 105B via the back-end service (e.g., accounting server 120) and/or via a network connection.

For adjusting the user profile and/or operating a game or quest, the accounting server 120 may also perform or facilitate user setup and play registration, including associating a specific wand 125 with authorized users, initiate and control software and/or firmware updates of the elements or devices within the gaming environment 100, record the results associated with one or more games or quests, provide requested user authentication credentials, allow for recording new spells associated with the wand 125, provide content management, provide user interfaces and/or control elements for setting up new games/quests and/or modifying existing spells and/or games/quests, and (optionally) perform computationally intensive tasks.

As discussed previously, the accounting server 120 may be associated with one or more remote and/or local databases. In some embodiments, the accounting server 120 may be associated with a positioning database device that stores a list of venues or boundaries in association with positioning information (e.g., longitude/latitude coordinates, GPS coordinates, customized arena-based location information, and the like), a boundary size (e.g., radius information, boundary area information, and/or boundary volume information for three dimensional boundaries), and/or other like boundary-related information. In some embodiments, the boundary-related information may include an indication as to whether a venue or boundary is a safe boundary or venue, in which a spell output may be prevented from being applied to a user within the safe boundary and/or may prevent or reduce an amount of a user's in-game virtual property from being affected by a cast spell when the user is within the safe boundary. According to at least one example embodiment, each venue or boundary may be associated with a customized shape and size to more accurately represent the venue or boundary, for example, a polygon representation by way of a plurality of vertices. Alternatively and/or in addition to, the boundaries or venues may be defined by the vertices of some polygon that has previously been manually placed around one or more geolocation coordinates by a user of the wand 125 and/or by other like wand users through performance of various gestures at the geolocation coordinates, using a game creation web application, and the like. Based on various game-play criteria, the computing device 105 may provide positioning information of the computing device 105 and/or an associated wand 125 to the accounting server 120, which may query the positioning database to obtain a corresponding venue or boundary in which the computing device 105 and/or wand 125 is located. The returned venues or boundaries may correspond to the positioning information of the computing device 105 and/or wand 125 according to various degrees of precision. In some embodiments, such venue or boundary information may be provided to the computing device 105 to be published on a third-party communication platform, or the accounting server 120 may provide such information to the third-party communication platform for publication. In some embodiments, such venue or boundary information may be provided to one or more computing devices that are participating in a wand duel in order to inform the wand duel participants that another wand duel participant is within a safe boundary and the like.

In providing one or more game-related and/or non-game-related services, the accounting server 120 may be able to generate content such as text, graphics, audio, and/or

video to be transferred to computing device 105, which may be served to the wand 125 and/or the one or more devices 101 by way of a web server (not shown) in the form of HTML, XML, MPEG-DASH, and/or any other appropriate structured language. The handling of all requests and responses, (e.g., requests for item information and the information provided in response) as well as the delivery of content between the computing devices 105 and/or wand 125 and the accounting server 120 may be handled by the web server. The accounting server 120 may include an operating system that may provide executable program instructions for the general administration and operation of accounting server 120, and may include a computer-readable medium storing instructions that, when executed by a processor of the application server 120, may allow the accounting server 120 to perform its intended functions. Suitable implementations for the operating system and general functionality of the servers are known or commercially available, and are readily implemented by persons having ordinary skill in the art, particularly in light of the disclosure herein. Furthermore, it should be understood that the accounting server 120 may not be required and the applications and software components discussed herein may be executed on any appropriate device or host machine.

As shown in FIGS. 1-4, only two computing devices 105A and 105B, two wands 125A and 125B, a single accounting server 120, and four devices 101 are present. However, according to various embodiments, any number of computing devices, any number of second devices, any number of servers, and/or any number of databases (not shown) may be present. Additionally, in some embodiments, accounting server 120 and/or one or more databases may be virtual machines and/or they may be provided as part of a cloud computing service. In various embodiments, accounting server 120 and one or more databases may reside on one physical hardware device, and/or may be otherwise fully integrated with one another. Thus, the depiction of the illustrative gaming environments 100 in FIGS. 1-4 should be taken as being illustrative in nature, and not limited to the scope of the disclosure.

FIG. 5 illustrates a data flow diagram for the various devices operating in a gaming environments 100A-B, in accordance with various example embodiments. FIG. 5 illustrates the communications between the wand 125, an auxiliary device 101-1, a second device 101-2, the computing device 105, and the accounting server 120, as described with reference to FIGS. 1-3. It should be noted that in various embodiments the second device 101-2 may be replaced by another wand 125 (e.g., wand 125B).

Referring to FIG. 5, at operation 1103, the computing device 105 may obtain a user profile and/or a plurality of spells from the accounting server 120. The user profile and/or the plurality of spells may be indicative of a game that the user of the wand 125 is playing or desires to play. Each of the plurality of spells may be associated with a desired spell sequence and one or more spell outputs. In various embodiments, the plurality of spells may be stored as an indexed table or other like database structure in a memory device of the computing device 105 or in cloud storage associated with the computing device 105. Such a database may be queried by the computing device 105 according to known methods. Subsequently or simultaneously to operation 1103, at operation 1105 the wand 125 detects one or more gestures being performed by a user of the wand 125.

At operation 1105, the wand 125 may generate a spell sequence based on the detected one or more gestures. In various embodiments, the generated spell sequence may include converting sensor data indicative of the one or more performed gestures into a markup language, a hypertext language, a text file, firmware, middleware, microcode, hardware description languages, or any combination thereof that may be executed or otherwise interpreted by the computing device 105. At operation 1115, the computing device 105 may obtain a device identifier (ID) or other like signal from a device 101 within an ROE 130 of the wand 125. For example, as shown in FIG. 1, which shows an example of a quest gaming environment 100A, at operation 1115, the computing device 105 may obtain a device identifier from device 101-2. By way of another example, as shown in FIG. 2, which shows an example of a tagging gaming environment 100C, at operation 1115, the computing device 105A associated with wand 125A may obtain a device identifier from device 101-2, while the computing device 105B associated with wand 125B may obtain a device identifier from device 101-4. By way of yet another example, as shown in FIG. 3, which shows an example of a wand duel that may occur in either gaming environment 100A or 100B, at operation 1115, the computing device 105A associated with wand 125A may obtain a device identifier from wand 125B, while the computing device 105B associated with wand 125B may obtain a device identifier from wand 125A.

At operation 1120, the computing device 105 may obtain an auxiliary device identifier (ID) from an auxiliary device 101-1. According to various example embodiments, the auxiliary device ID may indicate to increase a size of the ROE 130. At operation 1125, the spell sequence generated at operation 1110 is sent to the computing

device 105. It should be noted that in various embodiments, operations 1115, 1120, and 1125 may be performed in an alternate order than shown, and/or operations 1115, 1120, and 1125 may be performed substantially simultaneously. At operation 1130, the auxiliary device 101-1 may decrement/increment its auxiliary device counter. It should be noted that
5 operation 1130 may be performed at any time after the auxiliary device ID is obtained by the computing device 105, such as after a spell output is performed at one of operations 1155, 1160, 1165, and/or 1175.

At operation 1135, the computing device 1135 may determine a spell based on the spell sequence. In various embodiments, the computing device 105 may compare the spell
10 sequence with the defined spell sequences of the plurality of spells to find or otherwise determine a matching spell. Once the computing device 105 determines the matching spell, the computing device 105 may determine the spell output associated with the matching spell. In wand duel scenarios, a defined spell sequence may be defined for initiating a wand duel with another wand 125. In such embodiment, such a wand initiation
15 spell sequence may be associated with one or more gestures for initiating the duel.

At operation 1140, the computing device 105 may determine a spell output intensity and/or spell output adjustment based on the auxiliary device ID and/or a user profile. In various embodiments, the spell output intensity may also be based on the information from the user profile and/or one or more game parameters associated with the
20 game that the user is playing. For instance, in various embodiments, the user profile may include a handicap value, which may be used to alter or adjust the spell output intensity. In such embodiments, adjusting the spell output intensity may include increasing or decreasing the spell output intensity. The handicap value and/or spell output intensity adjustments may be based on one or more game-related value/criteria/rules. In wand duel
25 scenarios or geocaching scenarios, the handicap value may be used to alter the spell output intensity of one or more of the wand duel participants. For example, referring to FIG. 3, a handicap value associated with a user of wand 125A may increase the spell output intensity according to the handicap value and/or may decrease a spell output intensity, which is associated with the other wand 125B. In some embodiments, the spell output
30 intensity associated with the wand 125A may stay the same while the spell output intensity associated with the other wand 125B is decreased.

At operation 1145, the computing device 105 may determine a position of the wand 125 relative to one or more other devices. For example, the computing device 105

may scan the gaming environment 100A/B/C for signals that are broadcast by the devices 101, which may include one or more data packets, wherein the data packets may include an identifier or other like identifying information, such as a device name (e.g., serial number), device type, position information, and/or other like information. The computing
5 device 105 may then extract the position information from the received data packets. In some embodiments, the computing device may obtain positioning information from the beacon 110, or may use one or more of the aforementioned triangulation methods to determine the positions of the devices 101 relative to the wand 125.

At operation 1150, computing device 105 may determine, based on the positions of
10 the one or more devices relative to the wand 125, a size and/or area of the ROE 130 and whether one or more devices 101 are within the ROE 130. For example, as shown in FIGS. 1A-1B, device 101-2 is within the ROE 130A of wand 125A, which may be based on the auxiliary device 101-1 extending a range of the ROE 130A. By way of another example, as shown in FIG. 1C, wand 125B is within the ROE 130A of wand 125A, which
15 may be based on the auxiliary device 101-1 extending a range of the ROE 130A, whereas the wand 125A is not within the ROE 130B of wand 125B, which may be due to wand 125B not being coupled with an auxiliary device.

At operation 1155, the computing device 105 may instruct first device(s) of the wand 125 to activate in accordance with the defined spell output delineated by the
20 matching spell. The instructions to the first devices may be referred to as first instructions. In various embodiments, the first instructions may indicate to activate one or more internal components of the wand 125, such as one or more LEDs, one or more audio devices, one or more haptic feedback devices, one or more heating elements, and the like. The first instructions may include the spell output intensity level determined at operation 1140. The
25 spell output intensity level may indicate a LED brightness level, color scheme, and/or sequence; a haptic feedback vibration strength and/or duration; and audio output volume and/or duration; a desired temperature level and/or heating during, etc. At operation 1165, the wand 125 may activate the first devices according to the first instructions. The first instructions may activate according to the spell output intensity level included in the first
30 instructions.

At operation 1160, the computing device 105 may instruct second device(s) associated with the wand 125 to activate in accordance with the defined spell output delineated by the matching spell. The instructions to the second devices may be referred to

as second instructions. In various embodiments, the second instructions may indicate to activate one or more external feedback/output devices. For example, according to the example embodiment shown by FIG. 1, the second instructions may indicate to activate device 101-2, which is within the ROE 130A of wand 125A. By way of another example, according to the example embodiment shown by FIG. 3, the second instructions may indicate to one or more first devices of wand 125B because wand 125B is within the ROE 130A of wand 125A. From the perspective of the wand 125A, the wand 125B is treated as an external device. Thus, wand 125B and the internal components of the wand 125B may be considered to be second device(s) according to the perspective of wand 125A.

Furthermore, in some embodiments, the second instructions may be “other second instructions,” which may be used to activate external devices communicatively coupled with wand 125 or otherwise associated with the wand 125B. In each of the aforementioned embodiments, the computing device 105A may transmit the second instructions to the computing device 105B via a network connection and/or a direct wireless connection. The computing device 105B may then transmit the second instructions from computing device 105A to the wand 125B for activation. In some embodiments, the computing device 105B may convert the second instructions from computing device 105A into first instructions for wand 125B such that the second instructions from the computing device 105A appear to be first instructions from the computing device 105B. At operation 1175, the device 101-2 in FIG. 1 (or the wand 125B in FIG. 3) may be activated according to the second instructions. The second instructions may include the spell output intensity level determined at operation 1140. The spell output intensity level may indicate a desired audio output volume and/or duration, a desired video output volume, brightness, and/or duration, a state change level or amount, etc. When the second device 101 is another wand, such as the wand 125B shown in FIG. 3, the second instructions and the spell output intensity level may be the same or similar as the first instructions and spell output intensity level discussed above.

At operation 1170, the computing device 105 may transmit an instruction (also referred to as “third instructions”) to adjust or otherwise alter the user profile. At operation 1180, the accounting server 1180 may adjust the user’s profile in accordance with the third instructions. In some embodiments, the computing device 105 may update, adjust, and/or alter the user profile, and then transmit the updated user profile to the accounting server 120 to be applied against, or otherwise stored in association with, a game or quest.

It should be noted that according to various embodiments, the operations described above with respect to computing device 105 (e.g., spell determination, spell output intensity determination, position determination, etc.) may be performed by the wand 125, which is shown by the example embodiment of FIG. 1B and discussed in detail with
5 regard to FIG. 9.

FIG. 6 illustrates the components of a wand 125, in accordance with various example embodiments. As shown, the wand 125 includes a wand module 200, a housing 205, and input device 210, and first device 215.

According to various embodiments, the wand module 200 may include the various
10 modules and circuitry to perform various functions according to the example embodiments described herein (see the discussion with regard to FIGS 1-5 and 7-9). To this end, the wand module 200 may include a communication module (e.g., communications module 330 as shown in FIGS. 77 and 99), one or more memory devices (e.g., memory 350 as shown in FIGS. 7 and 9), one or more processors (e.g., processor 310 as shown in FIGS. 7
15 and 9), one or more sensors (e.g., sensors 306 as shown in FIGS. 7 and 9), one or more output/feedback devices (e.g., first devices 215 as shown in FIGS. 2, 7, and 9), and/or other like components (e.g., as shown in FIGS. 7 and 9).

According to various embodiments, the housing 205 may be any device or apparatus that is used to physically contain or otherwise include the wand module 200, one
20 or more components of the wand 125 (e.g., input device 210 and/or first device 215). Housing 205 may be manufactured out of various materials and/or fibers, including metal, plastic, glass, rubber, wood, and/or any other like materials that are natural and/or synthetic. In various embodiments, housing 205 may be formed into various sizes and/or shapes based on one or more game design criteria or other like design choices, such as a
25 game type or style, gaming environment or location, user demographics (e.g., age, gender, etc.), environmental conditions in which the wand 125 may be located (e.g., outside vs. inside), and/or other like criterion.

The housing 205 may be shaped, formed, or otherwise implemented as a wand, a scepter, a staff, a baton, a rod, a pen, a sword, a sabre, a screwdriver, a glove, a ring, a
30 bracelet, stuffed or plush toy, a baseball bat, a lacrosse stick, a gun, and/or any other like device that may impart directionality. As shown, housing 205 also includes tip portion 208. In various embodiments, the one or more sensors included in the wand module 200 may be used to determine the directionality of the wand 125 in order to distinguish the tip

portion 208 from the other portions of the housing 205. In this way, a user of the wand 125 may experience that “magic” or a spell output may be applied to a device in which the wand is directed by the user (i.e., when the user points the tip portion 208 at the device 101 or other wand 125).

5 Furthermore, housing 205 may be formed such that one or more auxiliary devices may attach to the housing. In some embodiments, auxiliary devices may attach to housing 205 using one or more attachment components (not shown). The one or more attachment components may include a magnetic component (i.e., any material, or combinations of materials, that attracts other permanent magnetic materials and/or any ferromagnetic materials), an adhesive component (i.e., any substance applied to a surface of at least two materials that binds them together and resists separation), and the like. In various
10 embodiments, the one or more one or more attachment components may include one or more implements, such as hooks, clamps, fasteners, and the like. Furthermore, in some embodiments, the housing 205 may include one or more openings (not shown) configured to receive one or more protrusions of an auxiliary device, or the housing 205 may include
15 one or more protrusions (not shown) configured to be received by one or more openings of an auxiliary device.

 According to various example embodiments, the input device 210 may be any physical device that enables a user of the wand 125 to interact with the wand 125. For
20 example, the input device 210 may be a button, a touchscreen device, a biotic sensor, and the like. In some embodiments, the input device 210 may be a peripheral component interface designed to provide interaction between the computing device 105 and one or more peripheral components. User interfaces may include, but are not limited to a physical keyboard or keypad, a touchpad, a speaker, a microphone, infrared heart rate
25 monitoring device, an eye scanning device, a fingerprint or handprint scanning device, an EEG device, haptic feedback devices including one or more actuators and/or one or more TENS devices, etc. Peripheral component interfaces may include, but are not limited to, a non-volatile memory port, a universal serial bus (USB) port, an audio jack, and a power supply interface. It should be noted that input device 210 may be optional, and in various
30 embodiments, the input device 210 may be omitted from the wand 125.

 According to various example embodiments, the first device 215 may be any physical device that provides an output or feedback in response to one or more first instructions issued by the wand module 200. The first device 215 may be used to provide

feedback or another like indication as to whether a spell has been properly performed or not (within a certain margin of error). As shown, the first device 215 may be an array of LEDs or other like illumination device(s). Although FIG. 2 shows that the first device 215 is located in the tip portion 208, in some embodiments, other portions of the housing 205 may include glowing/illumination devices to provide visual feedback. Additionally, the first device 215 and/or other like illumination devices in housing 205 (not shown) may provide room-level illumination (e.g., a flashlight mode). Furthermore, in various embodiments, the wand module 200 and/or the housing 205 may include one or more first devices 215, such as one or more audio devices, one or more haptic feedback devices or one or more actuators, one or more heating elements, and the like. In some embodiments, the first devices 215 may include a display device and/or a projector.

FIG. 7 illustrates the components of wand module 200, in accordance with various example embodiments. As shown, wand module 200 may include first devices 215, battery 305, sensors 306, input/output (I/O) interface 307, processor 310, device interface module 315, bus 320, I/O bus 325, communication module 330, and memory 350. In some embodiments, computing devices 105 may include many more components than those shown in FIG. 7. However, it is not necessary that all of these generally conventional components be shown in order to disclose the example embodiments.

Memory 350 may be a hardware device configured to store an operating system 360 and program code for one or more software components, such as (optionally) an operating system (not shown), spell module 300, device interface module 315, and/or (optionally) one or more other applications (not shown). Memory 350 may be a computer readable storage medium that generally includes a random access memory (RAM), read only memory (ROM), a flash memory device, a solid state disk (SSD), a secure digital (SD) card, and/or other like storage media capable of storing and recording data. The program code, modules, and/or software components may also be loaded from a separate computer readable storage medium into memory 350 using a drive mechanism (not shown). Such separate computer readable storage medium may include a memory card, memory stick, removable flash drive, sim card, and/or other like computer readable storage medium (not shown).

During operation, memory 350 may include an (optionally) operating system, spell module 300, device interface module 315, and/or (optionally) one or more other applications (not shown). The operating system may manage computer hardware and

software resources and provide common services for computer programs. The operating system may include one or more drivers, such as a first devices drivers, sensor drivers, battery drivers, and/or any other like drivers that provide an interface to hardware devices thereby enabling the spell module 300, the device interface module 315, and/or any other
5 applications to access hardware functions without needing to know the details of the hardware itself. The operating system may be a general purpose operating system or an operating system specifically written for and tailored to the wand module 200. In embodiments where the operating system is not present, the device interface module 315 may provide the interface to the various hardware devices of wand module 200.

10 Device interface module 315 may be one or more software modules configured to interact with the various hardware components of the wand module 200 (e.g., first devices 215, battery 305, sensors 306, and input/output devices via I/O interface 307, etc.). In various embodiments, the device interface module 315 may obtain data from the one or more hardware components (e.g., sensor data), and provide the data to the spell module
15 300 and/or other applications (not shown) for processing. In various embodiments, the device interface module 315 may obtain first instructions via the communication module 330, and transmit or otherwise issue the first instructions the first instructions to output devices, such as the first devices 215, one or more first devices 215 communicatively connected via the I/O interface, one or more first devices 215 communicatively connected
20 via the communications module 330.

Processor 310 may be configured to carry out instructions of a computer program by performing the basic arithmetical, logical, and input/output operations of the system. The processor 310 may include a single-core processor, a dual-core processor, a triple-core processor, a quad-core processor, one or more digital signal processors (DSPs),
25 application-specific-integrated-circuits, field programmable gate arrays (FPGAs), and/or the like. The processor 310 may perform a variety of functions for the wand 125 and may process data by executing program code, one or more software modules, firmware, middleware, microcode, hardware description languages, and/or any other like set of instructions stored in the memory 350. The program code may be provided to processor
30 310 by memory 350 via bus 320, one or more drive mechanisms (not shown), and/or via communication module 330. In order to perform the variety of functions and data processing operations, the program code, modules, and/or software components may be executed by the processor 310. On execution by the processor 310, the processor 310 may

cause wand module 200 to perform the various operations and functions delineated by the program code, modules, and/or software components.

For example, in various embodiments, the wand module 200 may include various modules configured to operate (through hardware and/or software) to obtain, from the sensors 306, sensor data that is indicative of one or more gestures performed using the wand 125, and generate or otherwise determine a spell sequence based on the sensor data as described herein. The one or more modules may include the spell module 300 and the device interface module 315. The various modules may be loaded into the memory 350 and executed by the processor 310. Once the various modules are loaded into memory 350 and executed by the processor 310, the processor 310 may be configured to cause wand module 200 to control the sensors 306 to determine or detect various gestures, wand positions and/or wand orientations, and the like; receive or obtain from the device interface module 315, via the sensors 306, the sensor data representative of the gestures; convert the sensor data representative of the one or more gestures into a spell sequence; provide the spell sequence to the communication module 330 to transmit the spell sequence to a computing device 105; and issue first instructions to the first devices 215 based on a spell output received from the computing device 105 via the communication module 330. In various embodiments, converting the sensor data into a spell sequence may include converting the one or more spatial coordinates (or spatial coordinate changes) into a markup language, a hypertext language, a text file, firmware, middleware, microcode, hardware description language, or any combination thereof that may be executed or otherwise interpreted by the processor 410 of the computing device 105 (see e.g., description of FIG. 8) or processor 310 of the wand module 200 (see e.g., description of FIG. 9). While specific modules are described herein, it should be recognized that, in various embodiments, various modules may be combined, separated into separate modules, and/or omitted.

Bus 320 may be configured to enable the communication and data transfer between the processor 310 and memory 350. Bus 320 may comprise a high-speed serial bus, parallel bus, internal universal serial bus (USB), Front-Side-Bus (FSB), and/or other suitable communication technology for transferring data between components within wand module 200 and/or between wand module 200 and other like devices. I/O bus 325 may be configured to enable the communication and data transfer between the components of wand module 200. In various embodiments, the I/O bus 325 may be the same or similar as

bus 320, while in some embodiments, I/O bus 325 may comprise a PCI bus, a PCI-Express (PCI-e) bus, a Small Computer System Interface (SCSI) bus, and the like.

Communication module 330 may be a computer hardware component that connects wand module 200 to a computing device 105 via a direct wireless connection and/or via a computer network (e.g., network 115). Communication module 330 may connect with one or more devices via the direct wireless connection by using, for example, Bluetooth and/or BLE protocols, WiFi protocols, IrDA protocols, ANT and/or ANT+ protocols, 3GPP LTE ProSe protocols, and the like. In some embodiments, communication module 330 may connect the wand module 200 with one or more devices (e.g., devices 101 and/or computing device 105) via network 115 in accordance with one or more wireless communications protocols and/or one or more cellular phone communications protocols. In such embodiments, communication module 330 may be configured to operate in accordance with the (GSM, EDGE, WCDMA, CDMA, TDMA, Bluetooth, Wi-Fi such as IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11ac, and/or IEEE 802.11n, VoIP, Wi-MAX, LTE, and/or any other “wireless” communication protocols. Communication module 330 may operate in conjunction with a wireless transmitter/receiver and/or transceiver (not shown) that is configured to operate in accordance with one or more wireless standards described above. The communication module 330 may also include one or more network interfaces, one or more virtual network interfaces configured to operate with spell module 300 and/or other like modules or applications.

First devices 215 may be physical hardware devices configured to provide feedback or another like indication as to whether a spell has been properly performed or not. As shown, the first device 215 may be one or more LEDs or other like illumination device. In various embodiments, the one or more first devices 215 may include one or more audio devices, one or more haptic feedback devices and/or one or more actuators, one or more heating elements, and the like. In some embodiments, the first devices 215 may include a display device and/or a projector.

I/O interface 307 may be a computer hardware component that provides communication between the wand module 200 and one or more other devices. The I/O interface 307 may include one or more user interfaces designed to enable user interaction with the wand module 200 and/or peripheral component interfaces designed to provide interaction between the computing device 105 and one or more peripheral components.

User interfaces may include, but are not limited to a physical keyboard or keypad, a touchpad, a speaker, a microphone, infrared heart rate monitoring device, a fingerprint or handprint scanning device, an EEG device, haptic feedback devices including one or more actuators and/or one or more TENS devices, etc. Peripheral component interfaces may include, but are not limited to, a non-volatile memory port, a universal serial bus (USB) port, an audio jack, and a power supply interface. It should be noted that the I/O interface 307 may be an optional element, and thus, in some embodiments the I/O interface 307 may be omitted from the wand module 300.

Sensors 306 may include one or more sensing devices to determine position information (or alternatively “position data”), orientation information (or alternatively “orientation data”), environmental conditions, and/or like information related to the wand module 200. In some embodiments, the sensors 306 may include, but are not limited to, an accelerometer, gyroscope, gravimeter, magnetometer, proximity sensor, ambient light sensor, and a positioning unit, such as GPS circuitry, and the like.

Battery 305 may be a device configured to provide electrical power to the wand module 200 using one or more electrochemical cells including nickel–cadmium (NiCd), nickel–zinc (NiZn), nickel metal hydride (NiMH), and lithium-ion (Li-ion) cells. In some embodiments battery 305 may comprise a supercapacitor device and/or an ultracapacitor device, while in other embodiments, the battery 305 may comprise a fuel cell device. The battery 305 may communicate battery information to the device interface module 315 when queried by the device interface module 315. The battery information may indicate whether the wand module 200 is connected to a power source, whether the connected power sources is wired or wireless, whether the connected power sources is an alternating current charger or a USB charger, a current voltage of the battery, a remaining battery capacity as an integer percentage of total capacity (with or without a fractional part), a battery capacity in microampere-hours, an average battery current in microamperes, an instantaneous battery current in microamperes, a remaining energy in nanowatt-hours, whether the battery is overheated, cold, dead, or has an unspecified failure, and the like. The device interface module 315 may provide the battery information to the spell module 300 and/or the wand communication module 330 to provide the battery information to the computing device 105 to determine the spell output intensity based on the amount of charge indicated by the battery information.

FIG. 8 illustrates the components of the computing devices 105, in accordance with various example embodiments. As shown, computing devices 105 may include processor 410, bus 420, network interface 430, input/output (I/O) interface 440, and memory 350. In some embodiments, computing devices 105 may include many more components than those shown in FIG. 8, such as a display device, an input device (e.g., a physical keyboard, a touch screen, etc.), one or more image sensors, a transmitter/receiver (or alternatively, a transceiver), a mobile video card and/or graphics processing unit (GPU), and other like components. However, it is not necessary that all of these generally conventional components be shown in order to disclose the example embodiments.

Memory 450 may be a hardware device configured to store an operating system 460 and program code for one or more software components, such as spell determination module 465 and/or one or more applications 465, 1400, and 1500. Memory 450 may be a computer readable storage medium that generally includes RAM, ROM, a flash memory device, a SSD, a SD card, and/or other like storage media capable of storing and recording data. The program code and/or software components may also be loaded from a separate computer readable storage medium into memory 450 using a drive mechanism (not shown). Such separate computer readable storage medium may include a memory card, memory stick, removable flash drive, sim card, and/or other like computer readable storage medium (not shown). In some embodiments, software components may be loaded into memory 450 via network interface 430, rather than via a computer readable storage medium.

During operation, memory 450 may include operating system 460, spell determination module 465, which includes wand duel initiation process 1400, wand duel commencement process 1500, and/or any other like processes (not shown). Operating system 460 may manage computer hardware and software resources and provide common services for computer programs. Operating system 460 may include one or more drivers, such as a display driver, camera driver, audio drivers, and/or any other like drivers that provide an interface to hardware devices thereby enabling operating system 460, spell determination module 465, wand duel initiation process 1400, wand duel commencement process 1500, etc. to access hardware functions without needing to know the details of the hardware itself. The operating system 460 may be a general purpose operating system or an operating system specifically written for and tailored to the computing device 105.

The spell determination module 465 may be a collection of software modules and/or program code that enables the computing devices 105 to define one or more spells with associated spell outputs, determine when a spell has been performed using the wand 125, and determine spell outputs associated with a performed spell. Spell determination module 465 may be a native application, a web application, or a hybrid application. In 5 embodiments where the spell determination module 465 is a web or hybrid application, spell determination module 465 may be rendered in or otherwise executed using a web browser of the computing device 105. In various embodiments, a game operator may develop one or more other applications to interact with the spell determination module 465. The processes 1400-1500 may be a collection of software modules and/or program code that enables the computing device 105 to operate according to the various example 10 embodiments as discussed with regard to FIGS. 10-14.

Processor 410 may be configured to carry out instructions of a computer program by performing the basic arithmetical, logical, and input/output operations of the 15 system. The processor 410 may include a single-core processor, a dual-core processor, a triple-core processor, a quad-core processor, and/or the like. The processor 410 may perform a variety of functions for the computing devices 105 and may process data by executing program code, one or more software modules, firmware, middleware, microcode, hardware description languages, and/or any other like set of instructions stored 20 in the memory 450. The program code may be provided to processor 410 by memory 450 via bus 420, one or more drive mechanisms (not shown), and/or via network interface 430. In order to perform the variety of functions and data processing operations, the program code and/or software components may be executed by the processor 410. On execution by the processor 410, the processor 410 may cause computing devices 105 to perform the 25 various operations and functions delineated by the program code/ modules, and/or software components.

For example, in various embodiments, the computing devices 105 may include various modules configured to operate (through hardware and/or software) to define one or more spells with associated spell outputs, and determine when a spell has been 30 performed using the wand 125. The various modules may include the spell determination module 465, which includes the processes 1400-1500 (described with regard to FIGS. 10-14). The various modules may be loaded into memory 450 and executed by the processor 410. Once the various modules are loaded into memory 450 and executed by the processor

410, the processor 310 may be configured to perform the processes 1400-1500 as discussed with regard to FIGS. 10-14. While specific modules are described herein, it should be recognized that, in various embodiments, various modules and/or processes may be combined, separated into separate modules and/or processes, and/or omitted. Additionally, in various embodiments, one or more modules and/or processes may be implemented on separate devices, in separate locations, or distributed, individually or in sets, across multiple processors, devices, locations, and/or in cloud-computing implementations.

Bus 420 may be configured to enable the communication and data transfer between the components of computing device 105. Bus 420 may comprise a high-speed serial bus, parallel bus, internal USB, FSB, and/or other suitable communication technology for transferring data between components within computing device 105 and/or between computing device 105 and other like devices. In some embodiments, the computing device 105 may include an I/O bus such as a PCI bus, a (PCI-e bus, a SCSI bus, and the like.

Network interface 430 may be a computer hardware component that connects computing device 105 to a computer network (e.g., network 115). Network interface 430 may connect computing device 105 to a computer network via a wired or wireless connection. Network interface 430 may operate in conjunction with a wireless transmitter/receiver and/or transceiver (not shown) that is configured to operate in accordance with one or more wireless standards. The wireless transmitter/receiver and/or transceiver may be configured to operate in accordance with a wireless communications standard, such as the IEEE 802.11-2007 standard (802.11), the Bluetooth standard, and/or any other like wireless standards. The communications port may be configured to operate in accordance with a wired communications protocol, such as a serial communications protocol (e.g., the USB, FireWire, SDI, and/or other like serial communications protocols), a parallel communications protocol (e.g., IEEE 1284, CAMAC, and/or other like parallel communications protocols), and/or a network communications protocol (e.g., Ethernet, token ring, FDDI, and/or other like network communications protocols). The network interface 430 may also include one or more virtual network interfaces configured to operate with application 465 and/or other like applications.

I/O interface 440 may be a computer hardware component that provides communication between the computing device 105 and one or more other devices. The I/O interface 440 may include one or more user interfaces designed to enable user interaction

with the computing device 105 and/or peripheral component interfaces designed to provide interaction between the computing device 105 and one or more peripheral components. User interfaces may include, but are not limited to a physical keyboard or keypad, a touchpad, a speaker, a microphone, etc. Peripheral component interfaces may include, but are not limited to, a non-volatile memory port, a USB port, an audio jack, and a power supply interface.

As discussed above, computing devices 105 may also include a transmitter and receiver or a transceiver (not shown). The transmitter may be any type of hardware device that generates or otherwise produces radio waves in order to communicate with one or more other devices. The transmitter may be coupled with an antenna (not shown) in order to transmit data to one or more other devices. The transmitter may be configured to receive digital data from one or more components of computing devices 105 via bus 420, and convert the received digital data into an analog signal for transmission over an air interface. The receiver may be any type of hardware device that can receive and convert a signal from a modulated radio wave into usable information, such as digital data. The receiver may be coupled with the antenna (not shown) in order to capture radio waves. The receiver may be configured to send digital data converted from a captured radio wave to one or more other components of computing device 105 via bus 420. In embodiments where a transceiver (not shown) is included with computing devices 105, the transceiver may be a single component configured to provide the functionality of a transmitter and a receiver as discussed above.

FIG. 9 illustrates the components of wand module 200, in accordance with other various example embodiments. As shown, wand module 200 may include first devices 215, battery 305, sensors 306, I/O interface 307, processor 310, device interface module 315, bus 320, I/O bus 325, communication module 330, and memory 350. Furthermore, during operation, the wand module 200 of FIG. 9 includes the device interface module 315 and spell module 300, which includes the spell determination module 465, which includes the processes 400-600. In some embodiments, wand module 200 may include many more components than those shown in FIG. 9. However, it is not necessary that all of these generally conventional components be shown in order to disclose the example embodiments. FIG. 9 illustrates the internal components of wand module 200 that is capable of performing the various spell definition and spell determination processes as described above as being performed by the computing device 105 (see e.g., the description

of FIGS 1-5). Thus, the various components as described above with regard to FIGS. 7-8 may be the same or similar to those shown in FIG. 9.

FIG. 10 illustrates a process 1400 for initiation of a wand duel, in accordance with various embodiments. Process 1400 may be used to indicate an agreement between two or more wand users that a wand duel is to commence. FIGS 11-14 illustrate a process 1500 for commencement of the wand duel in accordance with various example embodiments. The processes 1400-1500 may be implemented as one or more applications including software modules or program code, which may be executed by a processor of computing device 105 and/or wand module 200. For illustrative purposes, the operations of processes 10 1400-1500 will be described as being performed by the computing device 105A in conjunction with the wand 125A (e.g., the example embodiments shown and discussed with regard to FIGS. 7-8) when the wand 125A is to initiate and commence a wand duel with wand 125B that is associated with a computing device 105B. However, it should be noted that any wand 125 (e.g., the example embodiments shown and discussed with regard 15 to FIG. 9) and/or any other similar devices may operate the processes 1400-1500 as described below. While particular examples and orders of operations are illustrated in FIGS. 10-14, in various embodiments, these operations may be re-ordered, broken into additional operations, combined, and/or omitted altogether.

Referring to FIG. 10, at operation 1405, the computing device 105A may obtain a first spell sequence indicative of one or more performed gestures wherein the one or more performed gestures are movements performed by a user using the wand. The computing device 105A may obtain or otherwise determine the spell sequence indicative of one or more performed gestures according the various methods described herein. 20

At operation 1410, the computing device 105A may obtain a plurality of spells according to a user profile associated with the user, wherein each of the plurality of spells includes a defined spell sequence and an associated spell output. The computing device 105 may obtain or otherwise determine a plurality of spells wherein each of the plurality of spells includes a defined spell sequence and a defined spell output. The plurality of spells may be provided by a game operator, which operates the accounting server 120 or 25 by another like entity. In various embodiments, the plurality of spells may be stored in a memory device and/or cloud storage space associated with the user of wand 125A. In some embodiments, the computing device 105 may query a database associated with a game operator to obtain the plurality of spells. In such embodiments, the computing device 30

105 may query the database using a user profile (or information contained within the user profile), which may indicate various game play parameters, subscription information, and/or other like user contexts, and the database may provide one or more spells to the computing device 105A based on the provided information.

5 At operation 1415, the computing device 105A may determine a first matching spell of the plurality of spells by comparing the first spell sequence with the defined spell sequence of each of the plurality of spells. The computing device 105A may determine a matching spell according the various methods described herein.

 At operation 1420, the computing device 105A may determine whether the first
10 matching spell is substantially similar to a wand duel initiation spell. If at operation 1420 the computing device 105A determines that the first matching spell is not substantially similar to the wand duel initiation spell, the computing device 105A may proceed to operation 1430 to provide a spell output indicating that the wand duel will not commence. If at operation 1420 the computing device 105 determines that the first matching spell is
15 substantially similar to the wand initiation spell, then the computing device 105A may proceed to operation 1425 to provide a duel invitation message to the other wand 125B and obtain another duel invitation message from the other wand 125B. Such messages may be communicated between the computing devices 105 according to the various example embodiments described herein.

20 In various embodiments, the wand duel initiation spell may be any combination of gestures used to indicate that a user desires to initiate a wand duel. When the computing device 105A receives a spell sequence indicative of one or more gestures, the computing device 105A may track timing information (e.g., a time of day, a period of time in which the spell was performed, and the like) of the spell sequence. Once the computing device
25 105A at operation 1420 determines that received spell sequence is a wand duel initiation spell, the computing device 105A at operation 1425 may include the wand duel initiation spell and the associated timing information in a wand duel invitation message to be sent to the other wand 125B and/or the computing device 1105B. Similarly, the other wand duel invitation message received by the computing device 105A may include another wand
30 duel initiation spell performed by the wand 125B and associated timing information. In some embodiments, the wand duel invitation messages may include agreement information. Such agreement information may include various wand duel parameters, rules, and/or terms for engaging in a wand duel. For example, an acceptable handicap

value of other wand duel participants; number of wand duel participants allowed per wand duel; whether multi-player teams are permitted in the wand duel; various criteria for cancellation and/or combining of spells performed by teammates; time limit for the wand duel; maximum/minimum points/damage/health/virtual property to be applied to a user profile after a spell is cast; maximum/minimum allowable adjustments to ROEs, spell output intensities, etc.; “lockout periods” or “frozen periods” wherein a participant may not cast a spell within a defined period of time after a spell is cast on that participant; defined participant spell casting behaviors such as not being permitted to cast a spell when an opponent is facing away from a participant; and/or any other like rules. Such agreement information may be set or defined by each wand user prior to engaging in a wand duel. In some embodiments, the agreement information may be defined using a user interface displayed on a display device associated with the computing device 105. The user interface may include one or more graphical control elements (e.g., radio boxes, text boxes/fields, etc.) within a webpage. In some embodiments, the agreement information may be set or defined by performing one or more gestures using a wand 125, such as by using voice commands, bodily movements, button presses, and/or the like.

Once the wand duel invitation messages are communicated, the computing device 105A may proceed to operation 1435 to determine whether a same or similar wand duel initiation spell was performed by a user of the other wand 125B. In some embodiments, operation 1435 may include a determination as to whether the same or similar wand duel initiation spells were performed by both users at a same or similar time. At operation 1435, the computing device 105A may compare the wand duel initiation spell, the associated timing information, and agreement information with the information contained in the other duel invitation message which was received at operation 1425.

For example, the wand duel initiation spell may include the wand duel participants holding their wands 125 at their sides and bowing at each other at a same or similar time. In such embodiments, the computing device 105A may receive a spell sequence indicative of the bowing gesture and may determine timing information of the spell sequence indicative of the bowing gesture. At operation 1420, the computing device 105A may determine that the bowing gesture is indicative of a wand duel initiation spell, and at operation 1425, the computing device 105A may obtain a duel invitation message from the other wand 125B. The wand duel invitation message received from the other wand 125B may indicate another wand duel initiation spell performed using the other wand 125B and

timing information associated with the other wand duel initiation spell. At operation 1435, the computing device 105A may determine whether the other wand duel initiation spell is indicative of a bowing gesture that was performed at a same or similar time as the bowing gesture performed using the wand 125A, and the computing device 105A may determine
5 whether the agreement information of both participants is at least somewhat similar. Such a determination may be based on various game parameters and/or game design choices.

By way of another example, the wand duel initiation spell may include clanking the wands 125A and 125B together, wherein vibrations generated by the contact of the wand 125A and 125B may be interpreted as duel invitation messages. In such
10 embodiments, wand 125A may contact or touch wand 125B, and the wands 125A and 125B may register a same or similar vibration (operations 1420 and 1425) at a same or similar time (operation 1435).

By way of yet another example, when the wand duel participants include a human user of a wand 125A and a drone, the wand duel initiation spell may include the human
15 user performing a bodily movement followed by pressing a button on the wand 125A. In such embodiments, the computing device 105A may receive a spell sequence indicative of the bodily movement followed by the button press. At operation 1420, the computing device 105A may determine that such a gesture is indicative of a wand duel initiation spell, and at operation 1425, the computing device 105A may transmit a duel invitation
20 message to the drone. Another wand duel invitation message may be received from the drone, which may indicate that the drone received the wand duel invitation message from the wand 125A/computing device 105A and/or that the drone is capable of participating in a wand duel. In such embodiments operation 1435, may be omitted or overridden.

It should also be noted that when the wand duel is to include more than two wand
25 duel participants, the computing device 105A may receive a wand duel invitation messages from each wand duel participant in a same or similar fashion as described previously. In such embodiments, at operation 1435, the computing device 105A may compare the wand duel initiation spell and the associated timing information with the wand duel initiation spell and associated timing information contained in each received
30 wand duel invitation message. In some embodiments, each wand duel invitation message may be required to be obtained at within a predetermined time period. For example, a game operator may require that each wand duel invitation message be received within 2 minutes of each other in order for a participant to join a wand duel. In other embodiments,

wand participants may join an on-going wand duel at any time. For example, an additional user associated with an additional wand 125 (not shown) may join a wand duel an hour after the user of the wand 125A and the user of the other wand 125B perform a same wand duel initiation spell as described above. In order to provide a perception seamless operation to the wand duel participants, in various embodiments, each wand duel participant may be notified of another participant's entry into a wand duel within a relatively short time, such as within approximately 30 milliseconds of a user performing a wand duel initiation spell.

Moreover, in various embodiments, when the wand duel is to include more than two wand duel participants, the wand duel participants may form multi-player teams. Such multi-player teams may include at least two participants that is an opponent of at least one other wand duel participant. In some embodiments, the at least one other wand duel participant may be a drone as described elsewhere. In embodiments including multi-player teams, each wand duel participant wishing to form a multi-player team may perform a team forming spell to indicate such a desire, and a team forming messages may be communicated between the participants. Thus, in various embodiments, process 1400 may optionally include a determination as to whether a performed spell is substantially similar to a team forming spell, communicating the team forming messages between participants, and determining whether any other wand duel participants have performed a substantially the same team forming spell.

Referring back to FIG. 10, if at operation 1435 the computing device 105A determines that the wand duel initiation spells were not performed by one or more other participants, the computing device 105A may proceed to operation 1430 to provide a spell output indicating that the wand duel will not commence. If at operation 1435 the computing device 105A determines that the wand duel initiation spells were performed by one or more other participants at substantially the same time, the computing device 105A may proceed to operation 1440 to provide an acknowledgement to the wand 125A and the other wand 125B to indicate commencement of the wand duel.

At operation 1440, the computing device 105 may provide an acknowledgement to the wand and another wand to indicate commencement of the wand duel including outputting a wand duel initiation spell output. The wand duel initiation spell output may be any type of indication that a user of the wand 125A is allowed to attack opponent (i.e., the other wand 125B). Such an indication may be made by way of one or more first

instructions (also referred to as “acknowledgement-first instructions”) and/or one or more second instructions (also referred to as “acknowledgement-second instructions”). For example, the acknowledgement-first instructions may include emitting a tone or tones from a first device of the wand 125A, and/or the acknowledgement-second instructions
5 may include emitting a tone or tones from a second device associated with the wand 125A (e.g., a Bluetooth earpiece communicatively connected with the wand 125A and/or the computing device 105A). In most embodiments, the indication may also be provided to the other wand 125B and/or the other computing device 105B to indicate that the user of the wand 125A has agreed to commence the wand duel. At operation 1445, the computing
10 device 105 may provide the acknowledgement to an accounting server to indicate commencement of the wand duel and to begin accounting for one or more spells performed by the wand and the other wand during the duel. At operation 1500, the computing device may commence the wand duel according to process 1500, which is described with regard to FIG 11.

15 Referring now to FIG. 11, at operation 1505, the computing device 105A may determine a position of the other wand 125B according to the various example embodiments described herein. At operation 1510, the computing device 105A may determine whether the other wand 125B is within a safe boundary. The safe boundary may refer to an area of interest where a user of a wand 125 may be protected by from a cast
20 spell, in which a spell output may be prevented from being applied to a user within the safe boundary and/or may prevent or reduce an amount of a user’s in-game virtual property from being affected by a cast spell when the user is within the safe boundary. In some embodiments, the safe boundary may be as small as a section of a room, such as when a wand duel is limited to an arena. In embodiments where a wand duel is not limited
25 to an arena, the safe boundary may be as large as an entire building, a user-defined and/or game operator defined venue, or a geopolitical boundary, such as a municipality or state. In various embodiments, the computing device 105A may receive positioning information from an accounting server 120 at some point during commencement of the wand duel. The computing device 105A may then determine whether the other wand 125B is within the
30 safe boundary based on the determined position of the other wand 125B and the received positioning information.

If at operation 1510 the computing device 105 determines that the other wand 125B is within the safe venue, then the computing device 105 may proceed to operation

1515 to issue first instructions and/or second instructions indicating that a spell will not be cast. The computing device may then proceed back to operation 1505 to determine a new position of the other wand 125B. If at operation 1510 the computing device 105 determines that the other wand 125B is not within the safe venue, then the computing
5 device 105 may proceed to operation 1520 to receive a handicap indicator indicating a handicap value to be applied to the user.

At operation 1520, the computing device 105 may receive a handicap indicator indicating a handicap value to be applied to the user. The handicap value may be applied to the user of the wand 125A or the user of the other wand 125B based on a comparison
10 between a user profile of the user of the wand 125A and another user profile of or the user of the other wand 125B. As described previously, the user profiles may indicate various in-game criteria associated with a user, demographic information, and the like. In various embodiments, the accounting server 120 may compare the user profiles of the wand duel participants and determine a handicap value to be applied to at least one of the wand duel
15 participants based on differences between the user profiles. For example, if a user profile of the user of the wand 125A indicates that the user of the wand 125A is 20 years old and a user profile of the user of the other wand 125B indicates that the user of the other wand 125B is 10 years old, the accounting server 120 may calculate a handicap value to be applied to the user of the other wand 125B to increase a time period to perform one or
20 more gestures for casting spells, increase an ROE 130B associated with the other wand 125B, increase a spell output intensity for spells cast using the other wand 125B, and/or the like. Additionally or alternatively, the accounting server 120 may calculate a handicap value to be applied to the user of the wand 125A to decrease a time period to perform one or more gestures for casting spells, decrease an ROE 130A associated with the wand
25 125A, decrease a spell output intensity for spells cast using the wand 125A, and/or the like. By way of another example, if a user profile of the user of the wand 125A indicates that the user of the wand 125A has an in-game ranking of 10th place and a user profile of the user of the other wand 125B indicates that the user of the other wand 125B has an in-game ranking of 100th place, the accounting server 120 may calculate a handicap value to
30 be applied to the user of the other wand 125B to increase a time period to perform one or more gestures for casting spells, increase an ROE 130B associated with the other wand 125B, increase a spell output intensity for spells cast using the other wand 125B, and/or the like. By way of yet another example, if a user profile of the user of the wand 125A

indicates that the user of the wand 125A has one thousand (1000) in-game points/virtual property/etc. and a user profile of the user of the other wand 125B indicates that the user of the other wand 125B has zero (0) in-game points/virtual property/etc., the accounting server 120 may calculate a handicap value to be applied to the user of the other wand 125B to increase/decrease a time period to perform one or more gestures for casting spells, increase/decrease an ROE 130B associated with the other wand 125B, increase/decrease a spell output intensity for spells cast using the other wand 125B, and/or the like. The handicap values and the methods for calculating the handicap values are not limited to the aforementioned examples, and may be based on various user profile information, various game design choices, and/or various game-play related rules/criteria.

At operation 1525, the computing device 105 may obtain a second spell sequence indicative of one or more second gestures performed by the user using the wand 125A according to the various embodiments disclosed herein. At operation 1530, the computing device 105 may determine a second matching spell of the plurality of spells, which is described with regard to FIGS. 12-13. The second matching spell may include any spell that is cast upon the other wand 125B or other device 101 during the wand duel. It should be noted that the term “second matching spell” used herein may refer to any one or more spells that are cast after the wand duel initiation spell. Thus, the second matching spell may include any number of spells that are cast during a wand duel, and such spells may be labeled according to an order in which they are cast, such as a third matching spell, fourth matching spell, etc. The term second matching spell should not be interpreted as being limited to a single spell or a single spell that is to be cast directly after the first matching spell. Furthermore, the second matching spell may include a wand duel termination spell, which may be used to terminate the wand duel.

After the performance of the various operations discussed with regard to FIG. 12, the computing device 105A may proceed to operation 1535 to obtain a spell message indicative of a spell cast by a wand duel opponent (i.e., the other wand 125B). The spell message may be received according to the various example embodiments discussed herein. Such a spell message may include spell information, such as the spell performed by the other wand 125B (also referred to as an “opponent spell”), a spell output of the opponent spell, timing information associated with the opponent spell, spell type and/or spell output type of the opponent spell, point/health/virtual property values attributable to

the opponent spell, handicap information associated with the opponent or opponent spell, and/or other like information.

At operation 1540, the computing device 105A may adjust the spell output, spell output intensity, etc., based on the spell cast by the other wand 125B. In embodiments, the spell output of the second matching spell may be adjusted based on the spell type of the opponent spell and a time difference between casting of the second matching spell and the opponent spell. The spell types and/or spell output types may be indicative of offensive spells (e.g., a “fireball spell” and the like”) or defensive spells (e.g., “shield spells” and the like). When the spell output type of the second matching spell and the other spell output type are both offensive spells, the spell output intensity of the second matching spell may be decreased by a magnitude of a spell output intensity of the opponent spell. In some embodiments, such an adjustment may occur when the other spell output intensity is less than a magnitude of the spell output intensity of the second matching spell and/or when the time difference is a positive value. The time difference having a positive value may indicate that the second spell sequence was performed prior to the performance of the opponent spell. Additionally, in some embodiments, when the other spell output intensity is greater than a magnitude of the spell output intensity of the second matching spell and/or when the time difference is a negative value, a first instruction or second instruction may be output according to the other spell output. The time difference having a negative value may indicate that the second matching spell sequence was performed after the opponent spell. Furthermore, when the other spell output intensity is equal to a magnitude of the spell output intensity of the second matching spell and/or when the time difference is zero, a first instruction or second instruction may be output indicating that the spell outputs were cancelled out.

Additionally, in various embodiments, when the spell output type of the second matching spell is an offensive spell output type and the other spell output type is a defensive spell output type, the spell output intensity of the second matching spell may be decreased by the magnitude of the spell output intensity of the opponent spell. In some embodiments, such an adjustment may occur when the magnitude of the spell output intensity of the second matching spell is greater than the magnitude of the other spell output intensity. In some embodiments, when the spell output intensities are equal, a first instruction or second instruction may be output indicating that the spell outputs were

cancelled out. In some embodiments, the aforementioned adjustments may be based on whether the spells were performed within a predefined time period of one another.

At operation 1545, the computing device 105A may provide a third instruction to the accounting server 120. The third instruction may be indicative of the second matching
5 spell determined as discussed with regard to FIG. 12, the spell output determined as discussed with regard to FIG. 13, and/or a combined spell output as discussed with regard to FIG. 14. In response to receiving the third instruction, the accounting server 120 may alter the user profile associated with the user of wand 125A. In some embodiments, the accounting server 120 may alter the user profile associated with the user of wand 125A
10 only after the accounting server 120 receives an indication from the other wand 125B and/or the other computing device 125B regarding the spell output applied to the other wand 125B and/or associated devices 101.

Referring now to FIG. 12, at operation 1615, the computing device 105A may determine whether the second spell sequence matches any of the defined spell sequences
15 of the plurality of spell sequences. If at operation 1615, the computing device 105A determines that the spell sequence matches at least one of the defined spell sequences of the plurality of spell sequences, then the computing device 105A may proceed to operation 1625 to determine a ROE 130 and a spell output intensity of the matching spell and/or associated with a user of the wand. If at operation 1615, the computing device 105A
20 determines that the spell sequence does not match at least one of the defined spell sequences of the plurality of spell sequences, then the computing device 105A may proceed to operation 1620 to determine whether a degree of similarity is greater than or equal to a threshold.

At operation 1620, the computing device 105A may determine whether a degree of
25 similarity is greater than or equal to a threshold. The degree of similarity may indicate a number and/or order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence. For example, if a defined spell sequence requires a user to perform desired number of gestures in a specific sequence, and the user performs one or fewer (or one or more) of the defined gestures, the degree of similarity
30 may be represented as a character or integer indicating the amount of the gestures that were performed. In some embodiments, the degree of similarity may be represented as a ratio of the number of performed gestures to the number of defined gestures. In some embodiments, the degree of similarity may indicate whether one or more gestures were

performed out of order. In various embodiments, the threshold may be a desired or predetermined number and/or sequence of gestures set according to one or more game design choices. If at operation 1620, the computing device 105A determines that the degree of similarity is less than the threshold, then the computing device 105A may
5 proceed to operation 1515 to issue first instructions and/or second instructions indicating that the spell will not be cast. In some embodiments, such first instructions and/or second instructions may be simply indicate that the spell will not be cast by emitting a tone, light sequence, etc., while in other embodiments, such first instructions and/or second instructions may indicate a missing gesture in the second spell, insufficient
10 authorization to perform the spell, the performance of the spell was done at an unauthorized location and/or spatial coordinates, and the like.

If at operation 1620, the computing device 105A determines that the degree of similarity is greater than or equal to a threshold, which indicates a second matching spell of the plurality of spells, then the computing device 105A may proceed to operation 1625
15 to determine whether the second matching spell is substantially similar to a wand duel terminal spell. Such a determination may be performed in a same or similar manner as described with regard to operation 1420. If at operation 1625 the computing device 105A determines that the second matching spell is substantially similar to the wand duel terminal spell, then the computing device 105A may proceed to operation 1630 to end the
20 wand duel. In various embodiments, the computing device 105A may then proceed to operation 1545 to provide a third instruction to the accounting server 120. When the second matching spell is determined to be a wand duel termination spell, the third instruction may instruct the accounting server 120 to terminate or otherwise end the wand duel.

25 If at operation 1625 determines that the second matching spell is not substantially similar to the wand duel terminal spell, then the computing device 105A may proceed to operation 1635 to determine the ROE 130A and a spell output intensity of the second matching spell and/or associated with a user of the wand 125A. At operation 1635, the computing device 105A may determine a ROE 130 and a spell output intensity of the
30 matching spell and/or associated with a user of the wand. As described herein, a spell output may be associated with a defined ROE, and in some embodiments, the ROE 130A may be based on a user profile associated with a user of the wand 125A and/or various game play parameters. Thus, at operation 1635, the computing device 105A may

determine the ROE 130A based on the defined ROE and the information contained in the user profile. The ROE 130A may be set according to various calculations and/or game play parameters. For example, in some embodiments, the ROE 130A defined by the user profile may be weighted or more heavily favored than the defined spell output ROE 130A, or vice versa. In some embodiments, the ROE 130A may be adjusted or altered according to a handicapping value as described previously. Additionally, in some embodiments, at operation 1635, the ROE 130A may be increased or decreased according to various device parameters (e.g., battery usage, memory fragmentation, processor speeds, and the like) as described herein.

At operation 1640, the computing device 105A may determine whether one or more auxiliary devices 101 are proximate to the wand 125A. The computing device 105A may determine whether one or more auxiliary devices are proximate to the wand 125A according to the position determination and/or triangulation methods discussed herein. If at operation 1640, the computing device 105A determines that one or more auxiliary devices 101 are proximate to the wand 125A, the computing device 105A may proceed to operation 1645 to adjust the ROE 130A, spell output, spell output intensity, etc., based on the auxiliary device identifier(s) of the one or more auxiliary devices 101 that are proximate to the wand 125A. It should be noted that in some embodiments, a proximate auxiliary device 101 may not adjust the ROE 130A, spell output type, spell output intensity, but rather the auxiliary device 101 may provide a blocking or shielding function from spells being cast on the wand 125A. If at operation 1640, the computing device 105A determines that one or more auxiliary devices 101 are not proximate to the wand 125A, the computing device 105A may proceed to operation 1650 to determine whether one or more second devices 101 are within the ROE 130A.

At operation 1645, the computing device 105A may adjust the ROE 130A, spell output, spell output intensity, etc. based on the auxiliary device identifier(s) of the one or more auxiliary devices 101 that are proximate to the wand 125A. As discussed previously, data packets included a signal that is broadcast by the auxiliary devices may include an identifier or other like identifying information, such as a device name (e.g., serial number), device type, position information, and any information that may be indicative of a service and/or a spell alteration provided by the auxiliary device. Accordingly, the computing device 105A may extract the identifying information from the data packets according to known methods and alter the ROE 130A, spell output intensity, etc. according to the

extracted information.

At operation 1650, the computing device 105A may determine whether any teammates associated with the wand 125A are participants in the wand duel. If at operation 1650, the computing device 105A determines that there are teammates participating in the wand duel, the computing device 105A may proceed to operation 1805, which is described with regard to FIG. 14. If at operation 1650, the computing device 105A determines that there are no teammates participating in the wand duel, the computing device 105A may proceed to operation 1705, which is described with regard to FIG. 13.

Referring to FIG. 13, at operation 1705, the computing device 105A may determine whether the spell output of the matching spell indicates to activate the one or more second devices 101, which may include one or more first devices 215 of the other wand 125B. If at operation 1705, the computing device 105A determines that the spell output of the second matching spell indicates to activate the one or more second devices 101 and/or one or more first devices 215 of the other wand 125B, then the computing device 105A may proceed to operation 1710 to determine whether the one or more second devices 101 indicated by the spell output and/or the other wand 125B are within the ROE 130A. If at operation 1705, the computing device 105A determines that the spell output of the matching spell does not indicate to activate the one or more second devices 101, then the computing device 105A may proceed to operation 1725 to determine whether the spell output indicates to activate one or more first devices 215.

At operation 1710, the computing device 105A may determine whether one or more second devices 101 and/or the other wand 125B are within the ROE 130A. The computing device 105A may determine whether the one or more second devices 101 or the other wand 125B are within the ROE 130A according to the various example embodiments discussed previously. If at operation 1710, the computing device 105A determines that one or more second devices 101 or the other wand 125 are within the ROE 130A, the computing device 105A may proceed to operation 1715 to determine a spell output target device from among the one or more second devices 101 and the other wand 125B within the ROE 130A. If at operation 1710, the computing device 105A determines that one or more second devices 101 and/or the other wand 125B are not within the ROE 130A, the computing device 105A may proceed to operation 1725 to determine whether the spell output of the matching spell indicates to activate the one or more first devices

215 of the wand 125A.

At operation 1715, the computing device 105A may determine a spell output target device from among the one or more second devices 101 and/or the other wand 125B within the ROE 130A according to the position determination methods and/or triangulation methods described herein. At operation 1720, the computing device 105A may cast the second matching spell by issuing one or more second instructions to the one or more second devices 101 and/or to the wand 125B indicated by the spell output of the second matching spell. In various embodiments, the second instructions may be used to activate one or more first devices of the other wand 125B. In such embodiments, the other computing device 105B may receive a signal broadcast by the wand 125A and/or the computing device 105A, which includes the second instructions. The other computing device 105B and/or the other wand 125B may then convert the received second instructions into first instructions that may be used to activate the one or more first devices of the other wand 125B. In some embodiments, the one or more second instructions for the wand 125B may include one or more other second instructions. Such other second instructions may be used to activate one or more second devices 101 that are communicatively coupled with the other wand 125B. In such embodiments, the other computing device 105B and/or the other wand 125B may communicate the other second instructions to the other second devices according to the example embodiments discussed herein.

If at operation 1725, the computing device 105A determines that the spell output of the matching spell indicates to activate one or more first devices 215, the computing device 105A may proceed to operation 1730 to cast the matching spell by issuing one or more first instructions to the one or more first devices indicated by the spell output of the matching spell. If at operation 1725, the computing device 105A determines that the spell output of the matching spell does not indicate to activate one or more first devices 215, the computing device 105A may proceed to operation 1735 to instruct the accounting server 120 to adjust a user profile of the user of the wand 125 to reflect the casting of the spell.

At operation 1730, the computing device 105A may cast the matching spell by issuing one or more first instructions to the one or more first devices 215 indicated by the spell output of the matching spell. At operation 1725, the computing device 105A may instruct the accounting server 120 to adjust a user profile of the user of the wand 125 to reflect the casting of the spell, such that the user profile reflects the issuance of the first

instructions and/or the second instructions. In various embodiments, the accounting server 120 may reduce/increase a user's game play points/property according to the cast spell. In some embodiments, the computing device 105A may adjust the user profile and provide the updated/adjust user profile to the accounting server 120. After the computing device
5 105A performs operation 1735, the computing device 105A may return back to operation 1505 to determine a new position of the other wand 125B.

Referring back to FIG. 12, if at operation 1650, the computing device 105A determines that there are teammates participating in the wand duel, the computing device 105A may proceed to operation 1805, which is described with regard to FIG. 14.

10 Referring now to FIG. 14, at operation 1805, the computing device 105A may receive a spell message (also referred to as a "spell indication") indicating a spell performed by a participating teammate (herein referred to as a "teammate spell"). Such a participating teammate may be a user that operates a wand 125 and/or a computing device 105 according to the example embodiments disclosed herein. The spell message may be
15 received according to the various example embodiments discussed herein, such as by receiving a signal broadcast by a teammate's wand and/or computing device, which includes the spell message. Such a spell message may include spell information, such as the spell performed by the teammate, a spell output of the teammate spell, timing information associated with the teammate spell, spell type and/or spell output type of the
20 teammate spell, whether the spell type of the teammate spell is combinable with other spell types, point/health/virtual property values attributable to the teammate spell, handicap information associated with the teammate or teammate spell, and/or other like information.

At operation 1810, the computing device 105A may determine whether the spell
25 output of the teammate spell combines with or cancels out the spell output of the second matching spell. Such a determination may include a comparison of the spell information of the teammate spell with the spell information of the second matching spell, such as by comparing the spell type of the teammate spell with the spell type of the second matching spell, comparing the various points/health/virtual property values attributable to the
30 teammate spell with the various points/health/virtual property values attributable to the second matching spell, and the like. For example, if the teammate spell and the second matching spell are "fireball spells", each of which has a hit point value of 10, then these spells may be combined into a single fireball spell having a hit point value of 20.

Additionally, a spell combination may take into the handicap values. For example, if the teammate performing the aforementioned fireball spell is associated with a handicap value of 5, then the combined hit point value of 20 may be increased by 5 points or by some other predetermined value. Additionally, the combination of spells may take into the
5 timing information associated with each performed spell. For example, if the aforementioned fireball spells are performed 30 seconds apart, then the combined hit point value of 20 may be reduced by 30% or by some other predetermined value. Furthermore, the spell types may be incompatible with one another, and as such, may cancel each other out or reduce each other's effectiveness. For example, if the teammate spell is a "fireball
10 spell" with a hit point value of 10, and the second matching spell is "ice ball spell" with a hit point value of 10, then these spells may cancel each other out. By way of another example, if the teammate spell is a "fireball spell" with a hit point value of 10, and the second matching spell is "ice ball spell" with a hit point value of 8, then a combined spell may be a fireball spell with a hit point value of 2.

15 If at operation 1810, the computing device 105A determines that the spells cancel each other out, then the computing device 105A may proceed to operation 1515 to issue first instructions and/or second instructions indicating that the spell will not be cast. If at operation 1810, the computing device 105A determines that the spells are combinable, then the computing device 105A may proceed to operation 1820 to determine whether the
20 spell performed by the participating teammate was performed within a predefined period of time of the second matching spell.

At operation 1820, the computing device 105A may determine whether the spell performed by the participating teammate was performed within a predefined period of time of the second matching spell. The determination of whether the spells are performed
25 within the predefined period of one another may be based on a comparison of the timing information associated with the teammate spell with the timing information of the second matching spell, as discussed with regard to operation 1810. The predefined period of time may be chosen according to one or more game design choices.

At operation 1825, the computing device 105A may adjust the ROE 130A, spell
30 output, spell output intensity, etc. The spells may be combined in a same or similar fashion as discussed with regard to operation 1810. However, it should be noted that in some embodiments, the combined spells may be further adjust based on various game-play criteria/rules, agreement information, and the like. Once the ROE 130A, spell output type,

spell output intensity, etc. are adjusted, the computing device 105A may then proceed to operation 1705 to determine whether the spell output of the combined spell indicates to activate the one or more second devices 101, as described previously with regard to FIG. 13.

5 As described herein, the example embodiments provide apparatuses, systems, and methods for providing immersive interactive gaming experiences using a handheld user interface device. Example embodiments provide that the handheld user interface devices may utilize already existing/deployed output devices and/or already existing gaming platforms to provide gaming feedback to a user. Thus, the described embodiments are not
10 tied to a specific proprietary platform and/or a specific physical/virtual environment.

 Some non-limiting Examples are provided below.

 Example 1 may include a wand comprising at least one processor; one or more sensors, communicatively coupled with the at least one processor, to detect one or more gestures, wherein the one or more gestures are movements performed using the wand by a
15 user of the wand, and generate sensor data representative of the one or more gestures; a device interface module to operate on the at least one processor to obtain, from the one or more sensors, the sensor data representative of the one or more gestures; a spell module to operate on the at least one processor to receive, from the device interface module, the sensor data representative of the one or more gestures, and convert the sensor data
20 representative of the one or more gestures into a spell sequence; and a wand communication module, communicatively coupled with the at least one processor, to transmit the spell sequence to a computing device, and receive, from the computing device, an acknowledgement that is to indicate whether the wand is to be included in a duel with another wand based on the spell sequence and a wand position.

25 Example 2 may include the wand of example 1 and/or any other one or more examples disclosed herein, wherein the acknowledgement includes an agreement-first instruction or an agreement-second instruction, and wherein the spell module is to transmit the agreement-first instruction to the device interface module to activate one or more first devices to indicate commencement of the duel or the computing device is to transmit the
30 agreement-second instruction to one or more second devices to activate the one or more second devices.

 Example 3 may include the wand of examples 1 and/or 2 and/or any other one or more examples disclosed herein, wherein the wand communication module is to receive

the acknowledgement when the spell sequence is substantially similar to a predefined spell sequence for initiating the duel, wherein the predefined spell sequence for initiating the duel is associated with one or more gestures for initiating the duel, and wherein the user is to perform the one or more gestures for initiating the duel and another user associated with
5 the other wand is to perform the one or more gestures for initiating the duel.

Example 4 may include the wand of example 3 and/or any other one or more examples disclosed herein, wherein the one or more sensors are to detect the user's performance of the one or more gestures for initiating the duel within a predefined period of time of the other user's performance of the one or more gestures for initiating the duel.

10 Example 5 may include the wand of examples 1 and/or 2 and/or any other one or more examples disclosed herein, wherein, after receipt of the acknowledgement, the computing device is to obtain a wand signal associated with the other wand, wherein the wand signal indicates another spell output of the other wand, wherein the other spell output indicates an alteration to a user profile of the user operating the wand, and at least
15 one of: a first instruction to activate one or more first devices according to the other spell output, wherein the wand communication module is to receive the other spell output, and the spell module is to transmit the first instruction to the device interface module to activate the one or more first devices, or a second instruction to activate one or more second devices associated with the wand according to the other spell output, wherein the
20 computing device is to transmit the second instruction to the one or more second devices to activate the one or more second devices.

Example 6 may include the wand of example 5 and/or any other one or more examples disclosed herein, wherein receipt of the acknowledgement is based on a determination of a spell from a plurality of spells based on the spell sequence wherein
25 each of the plurality of spells is associated with a defined spell sequence, a determination of a spell output associated with the determined spell, and wherein the acknowledgement is a message that indicates the determined spell output.

Example 7 may include the wand of example 6 and/or any other one or more examples disclosed herein, wherein prior to receipt of the acknowledgement, to the
30 determination of the spell is based on determination of whether the determined spell output is associated with a predefined spell output for initiation of the duel, and the acknowledgement is to be provided when the determined spell output is substantially similar to the predefined spell output for initiation of the duel.

Example 8 may include the wand of example 6 and/or any other one or more examples disclosed herein, wherein, after receipt of the acknowledgement, the determination of the spell is based on a comparison of the spell sequence with the defined spell sequence for each of the plurality of spells, a determination of a degree of similarity
5 between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence, and a selection of the spell that has a greatest degree of similarity among the plurality of spells.

10 Example 9 may include the wand of example 8 and/or any other one or more examples disclosed herein, wherein the determination of the spell is further based on a determination of the wand position relative to the other wand or another computing device proximate to the other wand; a determination of a spell output target based on the wand position and a wand orientation wherein the spell output target is one of the other wand or
15 the other computing device to which the wand is directed; and a determination of a spell output intensity based on a distance between the wand position and a position of the spell output target, wherein, when the spell output target is the other wand, the spell output intensity indicates an intensity at which one or more first devices of the other wand and one or more second devices associated with the other wand are to be activated, and
20 wherein, when the spell output target is the other computing device, the spell output intensity indicates an intensity at which one or more first devices of the other computing device and one or more second devices associated with the other computing device are to be activated.

Example 10 may include the wand of example 9 and/or any other one or more
25 examples disclosed herein, wherein the determination of the wand position relative to the other wand is based on a determination of a region of effect for the wand based on a user profile associated with the user wherein the region of effect defines an area in which the spell output is to be applied to the other wand within the area, and a determination of whether the other wand is within the region of effect based on the wand position relative
30 to the other wand and a size and shape of the region of effect.

Example 11 may include the wand of example 10 and/or any other one or more examples disclosed herein, wherein the size and shape of the region of effect is based on

the user profile associated with the user, and the spell output intensity based on a position of the other wand within the region of effect.

Example 12 may include the wand of example 11 and/or any other one or more examples disclosed herein, wherein the determination of the spell output intensity is based on the degree of similarity such that an increase in the degree of similarity is to provide an increase in the spell output intensity and a decrease in the degree of similarity is to provide a decrease in the spell output intensity.

Example 13 may include the wand of example 9 and/or any other one or more examples disclosed herein, wherein the other computing device is a drone including one or more electro-mechanical components which allow the drone to change a position of the drone or an orientation of the drone, and the spell output is to activate the one or more electro-mechanical components in a defined sequence.

Example 14 may include the wand of example 9 and/or any other one or more examples disclosed herein, wherein the other computing device is associated with a projected image, and wherein the spell output is to alter the projected image in a defined sequence or to project an animated image, and wherein the other computing device is an infrared (IR) target.

Example 15 may include a computer-implemented method for commencement of a wand duel, the method comprising: obtaining, by a computing device, a first spell sequence indicative of one or more performed gestures wherein the one or more performed gestures are movements performed by a user using the wand; obtaining, by the computing device, a plurality of spells according to a user profile associated with the user, wherein each of the plurality of spells includes a defined spell sequence and an associated spell output, wherein the defined spell sequence defines one or more defined gestures to be performed for obtaining the associated spell output; determining, by the computing device, a first matching spell of the plurality of spells by comparing the first spell sequence with the defined spell sequence of each of the plurality of spells; determining, by the computing device, whether the first matching spell is substantially similar to a wand duel initiation spell, wherein the wand duel initiation spell is one of the plurality of spells; and providing, by the computing device, an acknowledgement to the wand and another wand wherein the acknowledgement indicates that the duel is to commence between the wand and the other wand, and wherein a spell output associated with the wand duel initiation spell indicates at

least one of a first instruction for activating one or more first devices of the wand and a second instruction for activating one or more second devices associated with the wand.

Example 16 may include the method of example 15 and/or any other one or more examples disclosed herein, wherein each associated spell output indicates at least one of a
5 second instruction for activating one or more other first devices of the other wand and another second instruction for activating one or more other second devices associated with the other wand, and after the providing of the acknowledgment, the method further comprises: obtaining, by a computing device, a second spell sequence indicative of one or more second gestures performed by the user using the wand; determining, by the
10 computing device, a second matching spell of the plurality of spells by comparing the second spell sequence with the defined spell sequence of each of the plurality of spells; determining, by the computing device, a region of effect of the wand based on the user profile and a wand position relative to the other wand; determining, by the computing device, whether the other wand is within the region of effect; and casting the second
15 matching spell including providing, by the computing device, at least one of the second instruction or the other second instruction to the other wand according to the spell output associated with the matching spell when the other wand is determined to be within the region of effect.

Example 17 may include the method of example 16 and/or any other one or more examples disclosed herein, further comprising providing, by the computing device, the
20 acknowledgement to an accounting server, wherein the accounting server is to account for one or more spells performed by the wand and the other wand upon commencement of the duel; and after providing the acknowledgement, providing, by the computing device, a third instruction based on the spell output to the accounting server, wherein the accounting
25 server is to alter the user profile according to the spell output.

Example 18 may include the method of example 16 and/or any other one or more examples disclosed herein, wherein the region of effect defines an area in which the spell output is to be applied to the other wand within the area, and the method further comprises determining, by the computing device, a spell output intensity for the spell output, wherein
30 the spell output intensity is based on a position of the other wand within the region of effect relative to the wand position and the spell output intensity indicates an intensity at which the one or more other first devices and the one or more other second devices associated with the other wand are to be activated.

Example 19 may include the method of example 18 and/or any other one or more examples disclosed herein, further comprising determining, by the computing device, a degree of similarity between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence; and adjusting, by the computing device, the spell output intensity based on the degree of similarity including decreasing the spell output intensity according to the number and order of operations of the spell sequence that match the number and order of operations of the defined spell sequence.

Example 20 may include the method of example 19 and/or any other one or more examples disclosed herein, wherein the spell sequence is captured during a first defined period of time for performing the one or more gestures by the user and a spell sequence indicating one or more gestures performed by another user associated with the other wand is to be captured during a second defined period of time, wherein the first defined period of time is based on the user profile and the second defined period of time is based on another profile associated with the other user.

Example 21 may include the method of example 20 and/or any other one or more examples disclosed herein, wherein a handicap value is to be applied to one of the user or the other user based on a comparison between the user profile and the other user profile, and the method further comprises receiving a handicap indicator indicating that the handicap value is to be applied to the user; applying the handicap to the user by at least one of adjusting the first defined period of time according to the handicap value such that the first defined period of time is different than the second defined period of time; adjusting the spell output intensity according to the handicap value by one of increasing the spell output intensity or decreasing the spell output intensity; and adjusting a size or shape of the region of effect according to the handicap value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect.

Example 22 may include the method of example 20 and/or any other one or more examples disclosed herein, wherein each of the plurality of spells further includes a spell type, and the method further comprises determining a spell type associated with the second matching spell; determining whether the second spell sequence was performed within the first defined period of time; determining a time that the second spell sequence

was performed; obtaining an spell indication indicating another spell issued by the other wand wherein the other spell includes another spell output, another spell output type, another spell output intensity, and a time that the other spell sequence was performed; determining a time difference between the time that the second spell sequence was performed and the time that the other spell sequence was performed; and adjusting the spell output intensity based on the time difference.

Example 23 may include the method of example 22 and/or any other one or more examples disclosed herein, wherein the adjusting the spell output intensity comprises when the spell output type and the other spell output type are each an offensive spell output type, decreasing the spell output intensity by a magnitude of the other spell output when the other spell output intensity is less than a magnitude of the spell output intensity and when the time difference is a positive value, wherein the time difference having a positive value indicates that the second spell sequence was performed prior to the time that the other spell sequence was performed; outputting the other spell output when the magnitude of the other spell output intensity is greater than the magnitude of the spell output and when the time difference is a negative value, wherein the time difference having a negative value indicates that the second spell sequence was performed after to the time that the other spell sequence was performed; and outputting a different spell output based on the magnitude of the other spell output intensity and the other spell output type when the time difference is within a predefined value range, wherein the time difference being within the predefined value range indicates that the second spell sequence was performed at substantially a same time as the time that the other spell sequence was performed, and wherein the different spell output indicates that the spell output and the other spell output have been cancelled out; and when the spell output type is an offensive spell output type and the other spell output type is a defensive spell output type, decreasing the spell output intensity by the magnitude of the other spell output intensity when the magnitude of the spell output intensity is greater than the magnitude of the other spell output intensity; and outputting the different spell output when the magnitude of the spell output intensity is less than the magnitude of the other spell output intensity.

Example 24 may include the method of example 23 and/or any other one or more examples disclosed herein, wherein the adjusting the spell output intensity further comprises: determining whether an auxiliary device is proximate to the wand by receiving an auxiliary device indicator wherein a signal being broadcast by the auxiliary device

includes the auxiliary device indicator; altering the spell output intensity according to information contained in the auxiliary device indicator, wherein the altering the spell output intensity comprises: adjusting the first defined period of time according to a first auxiliary device indicator value such that the first defined period of time is different than
5 the second defined period of time; adjusting the spell output intensity according to a second auxiliary device indicator value by one of increasing the spell output intensity or decreasing the spell output intensity; and adjusting a size or shape of the region of effect according to a third auxiliary device indicator value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect; and
10 receiving a handicap indicator indicating that the handicap value is to be applied to the user; applying the handicap to the user by at least one of adjusting the first defined period of time according to the handicap value such that the first defined period of time is different than the second defined period of time; adjusting the spell output intensity according to the handicap value by one of increasing the spell output intensity or
15 decreasing the spell output intensity; and adjusting a size or shape of the region of effect according to the handicap value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect.

Example 25 may include the method of example 16 and/or any other one or more examples disclosed herein, further comprising determining, by the computing device,
20 whether the determined position is within a safe boundary; and not casting the second matching spell including providing, by the computing device, at least one of a first instruction to one or more first devices of the wand or a second instruction to one or more second devices associated with the wand when the other wand is determined to be within the safe boundary.

25 Example 26 may include the method of example 15 and/or any other one or more examples disclosed herein, wherein the computing device is a different device than the wand and is communicatively coupled with the wand, or the computing device resides in the wand.

Example 27 may include at least one computer-readable medium including
30 instructions to cause a computing device, in response to execution of the instructions by the computing device, to perform the method of examples 15-25 and/or any other one or more examples disclosed herein. The at least one computer-readable medium may be a non-transitory computer-readable medium.

Example 28 may include a wand comprising at least one processor; one or more sensors, communicatively coupled with the at least one processor, to detect one or more gestures, wherein the one or more gestures are movements performed using the wand by a user of the wand, and generate sensor data representative of the one or more gestures; a device interface module to operate on the at least one processor to obtain, from the one or more sensors, the sensor data representative of the one or more gestures; a spell module to operate on the at least one processor to receive, from the device interface module, the sensor data representative of the one or more gestures, and convert the sensor data representative of the one or more gestures into a spell sequence; and a wand communication module, communicatively coupled with the at least one processor, to receive, from another wand or a computing device associated with the other wand, a spell message indicative of another spell performed by the other wand, wherein the spell module includes a spell determination module to determine a spell from a plurality of spells based on the spell sequence wherein each of the plurality of spells is associated with a defined spell sequence, determine whether the determined spell is substantially similar to a wand duel initiation spell, determine a spell output associated with the determined spell and based on a wand position, and when the determined spell is substantially similar to a wand duel initiation spell, provide an acknowledgement that is to indicate whether the wand is to be included in a duel with the other wand based on the spell sequence, a wand position, and the other spell, wherein the acknowledgment is to include the spell output to be provided by way of at least one of a first instruction to the device interface module to activate one or more first devices and a second instruction to the wand communication module to activate one or more second devices.

Example 29 may include the wand of example 28 and/or any other one or more examples disclosed herein, wherein the acknowledgement includes an agreement-first instruction or an agreement-second instruction, and wherein the spell module is to transmit the agreement-first instruction to the device interface module to activate one or more first devices to indicate commencement of the duel or the computing device is to transmit the agreement-second instruction to one or more second devices to activate the one or more second devices.

Example 30 may include the wand of examples 28 and/or 29 and/or any other one or more examples disclosed herein, wherein the wand communication module is to receive the acknowledgement when the spell sequence is substantially similar to a predefined spell

sequence for initiating the duel, wherein the predefined spell sequence for initiating the duel is associated with one or more gestures for initiating the duel, and wherein the user is to perform the one or more gestures for initiating the duel and another user associated with the other wand is to perform the one or more gestures for initiating the duel.

5 Example 31 may include the wand of example 30 and/or any other one or more examples disclosed herein, wherein the one or more sensors are to detect the user's performance of the one or more gestures for initiating the duel within a predefined period of time of the other user's performance of the one or more gestures for initiating the duel.

10 Example 32 may include the wand of examples 28 and/or 29 and/or any other one or more examples disclosed herein, wherein, after receipt of the acknowledgement, the computing device is to obtain a wand signal associated with the other wand, wherein the wand signal indicates another spell output of the other wand, wherein the other spell output indicates an alteration to a user profile of the user operating the wand, and at least one of a first instruction to activate one or more first devices according to the other spell
15 output, wherein the wand communication module is to receive the other spell output, and the spell module is to transmit the first instruction to the device interface module to activate the one or more first devices, or a second instruction to activate one or more second devices associated with the wand according to the other spell output, wherein the computing device is to transmit the second instruction to the one or more second devices
20 to activate the one or more second devices.

 Example 33 may include the wand of example 32 and/or any other one or more examples disclosed herein, wherein the spell determination module is to determine a spell from a plurality of spells based on the spell sequence wherein each of the plurality of spells is associated with a defined spell sequence, determine a spell output associated with
25 the determined spell, and provide a message that indicates the determined spell output.

 Example 34 may include the wand of example 33 and/or any other one or more examples disclosed herein, wherein to determine the spell, the spell determination module is to determine whether the determined spell output is associated with a predefined spell output for initiation of the duel, and provide the acknowledgement when the determined
30 spell output is substantially similar to the predefined spell output for initiation of the duel.

 Example 35 may include the wand of example 33 and/or any other one or more examples disclosed herein, wherein, after receipt of the acknowledgement, to determine, the spell determination module is to compare the spell sequence with the defined spell

sequence for each of the plurality of spells, determine a degree of similarity between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence, and select the
5 spell that has a greatest degree of similarity among the plurality of spells.

Example 36 may include the wand of example 35 and/or any other one or more examples disclosed herein, wherein the spell determination module is to determine the wand position relative to the other wand or another computing device proximate to the other wand; determine a spell output target based on the wand position and a wand
10 orientation wherein the spell output target is one of the other wand or the other computing device to which the wand is directed; and determine a spell output intensity based on a distance between the wand position and a position of the spell output target, wherein, when the spell output target is the other wand, the spell output intensity indicates an intensity at which one or more first devices of the other wand and one or more second
15 devices associated with the other wand are to be activated, and wherein, when the spell output target is the other computing device, the spell output intensity indicates an intensity at which one or more first devices of the other computing device and one or more second devices associated with the other computing device are to be activated.

Example 37 may include the wand of example 36 and/or any other one or more
20 examples disclosed herein, wherein to determine the wand position relative to the other wand, the spell determination module is to determine a region of effect for the wand based on a user profile associated with the user wherein the region of effect defines an area in which the spell output is to be applied to the other wand within the area, and determine whether the other wand is within the region of effect based on the wand position relative
25 to the other wand and a size and shape of the region of effect.

Example 38 may include the wand of example 37 and/or any other one or more examples disclosed herein, wherein the size and shape of the region of effect is based on the user profile associated with the user, and the spell determination module is to determine the spell output intensity based on a position of the other wand within the region
30 of effect.

Example 39 may include the wand of example 38 and/or any other one or more examples disclosed herein, wherein the spell determination module is to determine the spell output intensity based on the degree of similarity such that an increase in the degree

of similarity is to provide an increase in the spell output intensity and a decrease in the degree of similarity is to provide a decrease in the spell output intensity.

Example 40 may include the wand of example 36 and/or any other one or more examples disclosed herein, wherein the other computing device is a drone including one or more electro-mechanical components which allow the drone to change a position of the drone or an orientation of the drone, and the spell output is to activate the one or more electro-mechanical components in a defined sequence.

Example 41 may include the wand of example 36 and/or any other one or more examples disclosed herein, wherein the other computing device is associated with a projected image, and wherein the spell output is to alter the projected image in a defined sequence or to project an animated image, and wherein the other computing device is an infrared (IR) target.

Example 42 may include a system comprising an accounting server; a first wand communicatively coupled with a first computing device, the first wand comprising: at least one first processor; one or more first sensors, communicatively coupled with the at least one first processor, to detect one or more gestures performed using the first wand by a first user of the first wand, and generate sensor data representative of the one or more gestures performed using the first wand; a first device interface module to operate on the at least one first processor to obtain, from the one or more sensors, the sensor data representative of the one or more gestures performed using the first wand; a first spell module to operate on the at least one first processor to receive, from the first device interface module, the sensor data representative of the one or more gestures performed using the first wand, and convert the sensor data representative of the one or more gestures performed using the first wand into a first spell sequence; and a first wand communication module, communicatively coupled with the at least one first processor, to transmit the first spell sequence to the first computing device, and receive, from the first computing device, a first acknowledgement that is to indicate whether the first wand is to be included in a duel with a second wand based on the first spell sequence, a wand position of the first wand, and a second spell sequence indicative of a second spell performed by a second user using the second wand; and the first computing devices comprising: a first network interface to receive, from the first wand, the first spell sequence, and receive, from a second computing device communicatively coupled with the second wand, a second spell message including the second spell sequence; and a first spell determination module to

operate on at least one processor of the first computing device to determine a spell from a plurality of spells based on the spell sequence wherein each of the plurality of spells is associated with a defined spell sequence, determine whether the determined spell is substantially similar to a wand duel initiation spell, determine a spell output associated with the determined spell and based on a wand position, and when the determined spell is substantially similar to the wand duel initiation spell, provide a first acknowledgement that is to indicate whether the first wand is to be included in a duel with the second wand based on the first spell sequence, the wand position of the first wand, and the second spell, wherein the first acknowledgment is to include the spell output to be provided by way of at least one of a first instruction to the first device interface module via the first wand communication module to activate one or more first devices of the first wand and a second instruction to the first network interface to activate one or more second devices communicatively coupled with the first wand.

Example 43 may include the system of example 42 and/or any other one or more examples disclosed herein, wherein the second wand is communicatively coupled with a second computing device, and the second wand comprises at least one second processor; one or more second sensors, communicatively coupled with the at least one second processor, to detect one or more gestures performed using the second wand by the second user of the second wand, and generate sensor data representative of the one or more gestures performed using the second wand; a second device interface module to operate on the at least one second processor to obtain, from the one or more second sensors, the sensor data representative of the one or more gestures performed using the second wand; a second spell module to operate on the at least one second processor to receive, from the second device interface module, the sensor data representative of the one or more gestures performed using the second wand, and convert the sensor data representative of the one or more gestures performed using the second wand into a second spell sequence; and a second wand communication module, communicatively coupled with the at least one second processor, to transmit the second spell sequence to the second computing device, and receive, from the second computing device, a second acknowledgement that is to indicate whether the second wand is to be included in the duel with the first wand based on the second spell sequence, a wand position of the second wand, and the first spell sequence, the second computing devices comprising: a second network interface to receive, from the second wand, the second spell sequence, provide a second spell message

to the first computing device, and receive, from the first computing device, a first spell message including the first spell sequence; and a second spell determination module to operate on at least one processor of the second computing device to determine a spell from a plurality of spells based on the spell sequence wherein each of the plurality of spells is associated with a defined spell sequence, determine whether the determined spell is substantially similar to the wand duel initiation spell, determine a spell output associated with the determined spell and based on the wand position of the second wand, and when the determined spell is substantially similar to the wand duel initiation spell, provide a second acknowledgement that is to indicate whether the second wand is to be included in the duel with the first wand based on the second spell sequence, the wand position of the second wand, and the first spell, wherein the second acknowledgment is to include the spell output to be provided by way of at least one of a first instruction to the second device interface module via the second wand communication module to activate one or more first devices of the second wand and a second instruction to the second network interface to activate one or more second devices communicatively coupled with the second wand.

Example 44 may include the system of examples 42 and/or 43 and/or any other one or more examples disclosed herein, wherein the first wand communication module is to receive the first acknowledgement when the spell sequence is substantially similar to a predefined spell sequence for initiating the duel, wherein the predefined spell sequence for initiating the duel is associated with one or more gestures for initiating the duel, and wherein the first user is to perform the one or more gestures for initiating the duel and the second user associated with the second wand is to perform the one or more gestures for initiating the duel at substantially the same time as the first user.

Example 45 may include the system of examples 42 and/or 43 and/or any other one or more examples disclosed herein, wherein, after receipt of the acknowledgement, the first computing device is to obtain a wand signal associated with the second wand, wherein the wand signal includes another second spell message from the second computing device wherein the other second spell message indicates another spell output, wherein the other spell output indicates an alteration to a user profile of the first user operating the first wand, and at least one of another first instruction to activate one or more first devices of the first wand according to the other spell output, wherein the first wand communication module is to receive the other spell output from the first computing device or the second computing device, and the spell module is to transmit the first instruction to

the first device interface module to activate the one or more first devices of the first wand, or another second instruction to activate one or more second devices associated with the first wand according to the other spell output, wherein the first computing device is to transmit the other second instruction to the one or more second devices to activate the one or more second devices.

Example 46 may include the system of examples 42 and/or 43 and/or any other one or more examples disclosed herein, wherein to determine the spell, the first spell determination module is to determine whether the determined spell output is associated with a predefined spell output for initiation of the duel, and provide the acknowledgement when the determined spell output is substantially similar to the predefined spell output for initiation of the duel.

Example 47 may include the system of examples 42 and/or 43 and/or any other one or more examples disclosed herein, wherein, after receipt of the acknowledgement, to determine, the first spell determination module is to compare the spell sequence with the defined spell sequence for each of the plurality of spells, determine a degree of similarity between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence, and select the spell that has a greatest degree of similarity among the plurality of spells.

Example 48 may include the system of example 47 and/or any other one or more examples disclosed herein, wherein the first spell determination module is to determine the wand position of the first wand relative to the second wand or the second computing device; determine a spell output target based on the wand position of the first wand and a wand orientation of the first wand wherein the spell output target is one of the second wand or the second computing device to which the first wand is directed; and determine a spell output intensity based on a distance between the wand position of the first wand and a position of the spell output target, wherein, when the spell output target is the second wand, the spell output intensity indicates an intensity at which one or more first devices of the second wand and one or more second devices associated with the second wand are to be activated, and wherein, when the spell output target is the second computing device, the spell output intensity indicates an intensity at which one or more first devices of the

second computing device and one or more second devices associated with the second computing device are to be activated.

Example 49 may include the system of example 48 and/or any other one or more examples disclosed herein, wherein to determine the wand position relative to the other wand, the first spell determination module is to determine a region of effect for the first wand based on a user profile associated with the first user wherein the region of effect defines an area in which the spell output is to be applied to the second wand within the area, and determine whether the second wand is within the region of effect based on the wand position of the first wand relative to the second wand and a size and shape of the region of effect.

Example 50 may include the system of example 49 and/or any other one or more examples disclosed herein, wherein the size and shape of the region of effect is based on the user profile associated with the first user, and the first spell determination module is to determine the spell output intensity based on a position of the other wand within the region of effect.

Example 51 may include the system of example 50 and/or any other one or more examples disclosed herein, wherein the first spell determination module is to determine the spell output intensity based on the degree of similarity such that an increase in the degree of similarity is to provide an increase in the spell output intensity and a decrease in the degree of similarity is to provide a decrease in the spell output intensity.

Example 52 may include the system of example 48 and/or any other one or more examples disclosed herein, wherein the second computing device is a drone including one or more electro-mechanical components which allow the drone to change a position of the drone or an orientation of the drone, and the spell output is to activate the one or more electro-mechanical components in a defined sequence.

Example 53 may include the system of example 48 and/or any other one or more examples disclosed herein, wherein the second computing device and the second wand are associated with a projected image, and wherein the spell output is to alter the projected image in a defined sequence or to project an animated image, and wherein the second computing device is an infrared (IR) target.

Example 54 may include at least one computer readable medium, including instructions to cause, a computing device, in response to execution of the instructions by the computing device, to: obtain a first spell sequence indicative of one or more performed

gestures wherein the one or more performed gestures are movements performed by a user using the wand; obtain a plurality of spells according to a user profile associated with the user, wherein each of the plurality of spells includes a defined spell sequence and an associated spell output, wherein the defined spell sequence defines one or more defined
5 gestures to be performed for obtaining the associated spell output; determine a first matching spell of the plurality of spells by comparing the first spell sequence with the defined spell sequence of each of the plurality of spells; determine whether the first matching spell is substantially similar to a wand duel initiation spell, wherein the wand
10 duel initiation spell is one of the plurality of spells; and provide, an acknowledgement to the wand and another wand wherein the acknowledgement indicates that the duel is to commence between the wand and the other wand, and wherein a spell output associated with the wand duel initiation spell indicates at least one of a first instruction for activating one or more first devices of the wand and a second instruction for activating one or more
15 second devices associated with the wand. The at least one computer readable medium may be a non-transitory computer readable medium.

Example 55 may include the at least one computer readable medium of example 54 and/or any other one or more examples disclosed herein, wherein each associated spell output indicates at least one of a second instruction for activating one or more other first devices of the other wand and another second instruction for activating one or more other
20 second devices associated with the other wand, and after the acknowledgment is to be provided, the instructions cause the computing device to: obtain a second spell sequence indicative of one or more second gestures performed by the user using the wand; determine a second matching spell of the plurality of spells by comparing the second spell sequence with the defined spell sequence of each of the plurality of spells; determine a
25 region of effect of the wand based on the user profile and a wand position relative to the other wand; determine whether the other wand is within the region of effect; and cast the second matching spell wherein the instructions cause the computing device to provide at least one of the second instruction or the other second instruction to the other wand according to the spell output associated with the matching spell when the other wand is
30 determined to be within the region of effect.

Example 56 may include the at least one computer readable medium of example 55 and/or any other one or more examples disclosed herein, wherein the instructions cause the computing device to: provide the acknowledgement to an accounting server, wherein

the accounting server is to account for one or more spells performed by the wand and the other wand upon commencement of the duel; and after the acknowledgement is provided, the instructions cause the computing device to provide a third instruction based on the spell output to the accounting server, wherein the accounting server is to alter the user
5 profile according to the spell output.

Example 57 may include the at least one computer readable medium of example 55 and/or any other one or more examples disclosed herein, wherein the region of effect defines an area in which the spell output is to be applied to the other wand within the area, and the instructions cause the computing device to: determine a spell output intensity for
10 the spell output, wherein the spell output intensity is based on a position of the other wand within the region of effect relative to the wand position and the spell output intensity indicates an intensity at which the one or more other first devices and the one or more other second devices associated with the other wand are to be activated.

Example 58 may include the at least one computer readable medium of example 57
15 and/or any other one or more examples disclosed herein, wherein the instructions cause the computing device to: determine a degree of similarity between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence; and adjust the spell output
20 intensity based on the degree of similarity including decreasing the spell output intensity according to the number and order of operations of the spell sequence that match the number and order of operations of the defined spell sequence.

Example 59 may include the at least one computer readable medium of example 58 and/or any other one or more examples disclosed herein, wherein the spell sequence is
25 captured during a first defined period of time for performing the one or more gestures by the user and a spell sequence indicating one or more gestures performed by another user associated with the other wand is to be captured during a second defined period of time, wherein the first defined period of time is based on the user profile and the second defined period of time is based on another profile associated with the other user.

30 Example 60 may include the at least one computer readable medium of example 59 and/or any other one or more examples disclosed herein, wherein a handicap value is to be applied to one of the user or the other user based on a comparison between the user profile and the other user profile, and the instructions cause the computing device to: receive a

handicap indicator indicating that the handicap value is to be applied to the user; apply the handicap to the user wherein the instructions cause the computing device to at least one of: adjust the first defined period of time according to the handicap value such that the first defined period of time is different than the second defined period of time; adjust the spell
5 output intensity according to the handicap value by one of increasing the spell output intensity or decreasing the spell output intensity; and adjust a size or shape of the region of effect according to the handicap value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect.

Example 61 may include the at least one computer readable medium of example 59
10 and/or any other one or more examples disclosed herein, wherein each of the plurality of spells further includes a spell type, and the method further comprises: determine a spell type associated with the second matching spell; determine whether the second spell sequence was performed within the first defined period of time; determine a time that the second spell sequence was performed; obtain an spell indication indicating another spell
15 issued by the other wand wherein the other spell includes another spell output, another spell output type, another spell output intensity, and a time that the other spell sequence was performed; determine a time difference between the time that the second spell sequence was performed and the time that the other spell sequence was performed; and adjusting the spell output intensity based on the time difference.

Example 62 may include the at least one computer readable medium of example 61
20 and/or any other one or more examples disclosed herein, wherein to adjust the spell output intensity the instructions cause the computing device to: when the spell output type and the other spell output type are each an offensive spell output type, decrease the spell output intensity by a magnitude of the other spell output when the other spell output
25 intensity is less than a magnitude of the spell output intensity and when the time difference is a positive value, wherein the time difference having a positive value indicates that the second spell sequence was performed prior to the time that the other spell sequence was performed; output the other spell output when the magnitude of the other spell output intensity is greater than the magnitude of the spell output and when the time difference is a
30 negative value, wherein the time difference having a negative value indicates that the second spell sequence was performed after to the time that the other spell sequence was performed; and output a different spell output based on the magnitude of the other spell output intensity and the other spell output type when the time difference is within a

predefined value range, wherein the time difference being within the predefined value range indicates that the second spell sequence was performed at substantially a same time as the time that the other spell sequence was performed, and wherein the different spell output indicates that the spell output and the other spell output have been cancelled out; and when the spell output type is an offensive spell output type and the other spell output type is a defensive spell output type, decrease the spell output intensity by the magnitude of the other spell output intensity when the magnitude of the spell output intensity is greater than the magnitude of the other spell output intensity; and output the different spell output when the magnitude of the spell output intensity is less than the magnitude of the other spell output intensity.

Example 63 may include the at least one computer readable medium of example 62 and/or any other one or more examples disclosed herein, wherein to adjust the spell output intensity the instructions cause the computing device to: determine whether an auxiliary device is proximate to the wand by receiving an auxiliary device indicator wherein a signal being broadcast by the auxiliary device includes the auxiliary device indicator; alter the spell output intensity according to information contained in the auxiliary device indicator, wherein to altering the spell output intensity the instructions cause the computing device to: adjust the first defined period of time according to a first auxiliary device indicator value such that the first defined period of time is different than the second defined period of time; adjust the spell output intensity according to a second auxiliary device indicator value by one of increasing the spell output intensity or decreasing the spell output intensity; and adjust a size or shape of the region of effect according to a third auxiliary device indicator value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect; and receive a handicap indicator indicating that the handicap value is to be applied to the user; apply the handicap to the user wherein the instructions cause the computing device to at least one of: adjust the first defined period of time according to the handicap value such that the first defined period of time is different than the second defined period of time; adjust the spell output intensity according to the handicap value by one of increasing the spell output intensity or decreasing the spell output intensity; and adjust a size or shape of the region of effect according to the handicap value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect.

Example 64 may include the at least one computer readable medium of example 55 and/or any other one or more examples disclosed herein, wherein the instructions cause the computing device to: determine whether the determined position is within a safe boundary; and not cast the second matching spell wherein the instructions cause the
5 computing device to provide at least one of a first instruction to one or more first devices of the wand or a second instruction to one or more second devices associated with the wand when the other wand is determined to be within the safe boundary.

Example 65 may include the at least one computer readable medium of example 54 and/or any other one or more examples disclosed herein, wherein the computing device is
10 a different device than the wand and is communicatively coupled with the wand, or the computing device resides in the wand.

Example 66 may include a wand comprising: sensing means for detecting one or more gestures, wherein the one or more gestures are movements performed using the wand by a user of the wand, and generating sensor data representative of the one or more
15 gestures; device interface means for obtaining, from the sensing means, the sensor data representative of the one or more gestures; spell means for receiving, from the device interface means, the sensor data representative of the one or more gestures, and converting the sensor data representative of the one or more gestures into a spell sequence; and wand communication means for transmitting the spell sequence to a computing device, and
20 receiving, from the computing device, an acknowledgement that is to indicate whether the wand is to be included in a duel with another wand based on the spell sequence and a wand position.

Example 67 may include the wand of example 66 and/or any other one or more examples disclosed herein, wherein the acknowledgement includes an agreement-first
25 instruction or an agreement-second instruction, and wherein the spell means is for transmitting the agreement-first instruction to the device interface means to activate one or more first devices to indicate commencement of the duel or the computing device is to transmit the agreement-second instruction to one or more second devices to activate the one or more second devices.

30 Example 68 may include the wand of any of examples 66 or 67 and/or any other one or more examples disclosed herein, wherein the wand communication means is for receiving the acknowledgement when the spell sequence is substantially similar to a predefined spell sequence for initiating the duel, wherein the predefined spell sequence for

initiating the duel is associated with one or more gestures for initiating the duel, and wherein the user is to perform the one or more gestures for initiating the duel and another user associated with the other wand is to perform the one or more gestures for initiating the duel.

5 Example 69 may include the wand of example 68 and/or any other one or more examples disclosed herein, wherein the sensing means is for detecting the user's performance of the one or more gestures for initiating the duel within a predefined period of time of the other user's performance of the one or more gestures for initiating the duel.

10 Example 70 may include the wand of any of examples 66 or 67 and/or any other one or more examples disclosed herein, wherein, after receipt of the acknowledgement, the computing device is to obtain a wand signal associated with the other wand, wherein the wand signal indicates another spell output of the other wand, wherein the other spell output indicates an alteration to a user profile of the user operating the wand, and at least one of: a first instruction to activate one or more first devices according to the other spell
15 output, wherein the wand communication means is for receiving the other spell output, and the spell means is for transmitting the first instruction to the device interface means to activate the one or more first devices, or a second instruction to activate one or more second devices associated with the wand according to the other spell output, wherein the computing device is to transmit the second instruction to the one or more second devices
20 to activate the one or more second devices.

 Example 71 may include the wand of example 70 and/or any other one or more examples disclosed herein, wherein receipt of the acknowledgement is based on a determination of a spell from a plurality of spells based on the spell sequence wherein each of the plurality of spells is associated with a defined spell sequence, a determination
25 of a spell output associated with the determined spell, and wherein the acknowledgement is a message that indicates the determined spell output.

 Example 72 may include the wand of example 71 and/or any other one or more examples disclosed herein, wherein prior to receipt of the acknowledgement, to the determination of the spell is based on determination of whether the determined spell
30 output is associated with a predefined spell output for initiation of the duel, and the acknowledgement is to be provided when the determined spell output is substantially similar to the predefined spell output for initiation of the duel.

Example 73 may include the wand of example 71 and/or any other one or more examples disclosed herein wherein, after receipt of the acknowledgement, the determination of the spell is based on a comparison of the spell sequence with the defined spell sequence for each of the plurality of spells, a determination of a degree of similarity
5 between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence, and a selection of the spell that has a greatest degree of similarity among the plurality of spells.

10 Example 74 may include the wand of example 73 and/or any other one or more examples disclosed herein, wherein the determination of the spell is further based on a determination of the wand position relative to the other wand or another computing device proximate to the other wand; a determination of a spell output target based on the wand position and a wand orientation wherein the spell output target is one of the other wand or
15 the other computing device to which the wand is directed; and a determination of a spell output intensity based on a distance between the wand position and a position of the spell output target, wherein, when the spell output target is the other wand, the spell output intensity indicates an intensity at which one or more first devices of the other wand and one or more second devices associated with the other wand are to be activated, and
20 wherein, when the spell output target is the other computing device, the spell output intensity indicates an intensity at which one or more first devices of the other computing device and one or more second devices associated with the other computing device are to be activated.

Example 75 may include the wand of example 74 and/or any other one or more
25 examples disclosed herein, wherein the determination of the wand position relative to the other wand is based on a determination of a region of effect for the wand based on a user profile associated with the user wherein the region of effect defines an area in which the spell output is to be applied to the other wand within the area, and a determination of whether the other wand is within the region of effect based on the wand position relative
30 to the other wand and a size and shape of the region of effect.

Example 76 may include the wand of example 75 and/or any other one or more examples disclosed herein, wherein the size and shape of the region of effect is based on

the user profile associated with the user, and the spell output intensity based on a position of the other wand within the region of effect.

Example 77 may include the wand of example 76 and/or any other one or more examples disclosed herein, wherein the determination of the spell output intensity is based
5 on the degree of similarity such that an increase in the degree of similarity is to provide an increase in the spell output intensity and a decrease in the degree of similarity is to provide a decrease in the spell output intensity.

Example 78 may include the wand of example 74 and/or any other one or more examples disclosed herein, wherein the other computing device is a drone including one or
10 more electro-mechanical components which allow the drone to change a position of the drone or an orientation of the drone, and the spell output is to activate the one or more electro-mechanical components in a defined sequence.

Example 79 may include the wand of example 74 and/or any other one or more examples disclosed herein, wherein the other computing device is associated with a
15 projected image, and wherein the spell output is to alter the projected image in a defined sequence or to project an animated image, and wherein the other computing device is an infrared (IR) target.

Example 80 may include the wand of example 66 and/or any other one or more examples disclosed herein, wherein the spell means further comprises: spell determination
20 means for determining a spell from a plurality of spells based on the spell sequence wherein each of the plurality of spells is associated with a defined spell sequence, determining whether the determined spell is substantially similar to a wand duel initiation spell, determining a spell output associated with the determined spell and based on a wand position, and when the determined spell is substantially similar to a wand duel initiation
25 spell, providing the acknowledgement that is to indicate whether the wand is to be included in a duel with the other wand based on the spell sequence, a wand position, and the other spell, wherein the acknowledgement is to include the spell output to be provided by way of at least one of a first instruction to the device interface means to activate one or more first devices and a second instruction to the wand communication means to activate
30 one or more second devices, and wherein the wand communication means is to receive, from the other wand or a computing device associated with the other wand, a spell message indicative of the other spell performed by the other wand.

Although certain embodiments have been illustrated and described herein for purposes of description, a wide variety of alternate and/or equivalent embodiments or implementations calculated to achieve the same purposes may be substituted for the embodiments shown and described without departing from the scope of the present disclosure. This application is intended to cover any adaptations or variations of the
5 embodiments discussed herein, limited only by the claims.

CLAIMS

WE CLAIM:

1. A wand comprising:

at least one processor;

5 one or more sensors, communicatively coupled with the at least one processor, to detect one or more gestures, wherein the one or more gestures are movements performed using the wand by a user of the wand, and generate sensor data representative of the one or more gestures;

10 a device interface module to operate on the at least one processor to obtain, from the one or more sensors, the sensor data representative of the one or more gestures;

a spell module to operate on the at least one processor to receive, from the device interface module, the sensor data representative of the one or more gestures, and convert the sensor data representative of the one or more gestures into a spell sequence; and

15 a wand communication module, communicatively coupled with the at least one processor, to transmit the spell sequence to a computing device, and receive, from the computing device, an acknowledgement that is to indicate whether the wand is to be included in a duel with another wand based on the spell sequence and a wand position.

20 2. The wand of claim 1, wherein the acknowledgement includes an agreement-first instruction or an agreement-second instruction, and wherein the spell module is to transmit the agreement-first instruction to the device interface module to activate one or more first devices to indicate commencement of the duel or the computing device is to transmit the agreement-second instruction to one or more second devices to activate the one or more second devices.

25 3. The wand of any of claims 1 or 2, wherein the wand communication module is to receive the acknowledgement when the spell sequence is substantially similar to a predefined spell sequence for initiating the duel, wherein the predefined spell sequence for initiating the duel is associated with one or more gestures for initiating the duel, and wherein the user is to perform the one or more gestures for initiating the duel and another user associated with the other wand is to perform the one or more gestures for initiating the duel.

30 4. The wand of claim 3, wherein the one or more sensors are to detect the user's performance of the one or more gestures for initiating the duel within a predefined period of time of the other user's performance of the one or more gestures for initiating the duel.

5. The wand of any of claims 1 or 2, wherein, after receipt of the acknowledgement, the computing device is to obtain a wand signal associated with the other wand, wherein the wand signal indicates another spell output of the other wand, wherein the other spell output indicates an alteration to a user profile of the user operating the wand, and at least one of:

a first instruction to activate one or more first devices according to the other spell output, wherein the wand communication module is to receive the other spell output, and the spell module is to transmit the first instruction to the device interface module to activate the one or more first devices, or

a second instruction to activate one or more second devices associated with the wand according to the other spell output, wherein the computing device is to transmit the second instruction to the one or more second devices to activate the one or more second devices.

6. The wand of claim 5, wherein receipt of the acknowledgement is based on a determination of a spell from a plurality of spells based on the spell sequence wherein each of the plurality of spells is associated with a defined spell sequence, a determination of a spell output associated with the determined spell, and wherein the acknowledgement is a message that indicates the determined spell output.

7. The wand of claim 6, wherein prior to receipt of the acknowledgement, to the determination of the spell is based on determination of whether the determined spell output is associated with a predefined spell output for initiation of the duel, and the acknowledgement is to be provided when the determined spell output is substantially similar to the predefined spell output for initiation of the duel.

8. The wand of claim 6, wherein, after receipt of the acknowledgement, the determination of the spell is based on a comparison of the spell sequence with the defined spell sequence for each of the plurality of spells, a determination of a degree of similarity between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence, and a selection of the spell that has a greatest degree of similarity among the plurality of spells.

9. The wand of claim 8, wherein the determination of the spell is further based on

a determination of the wand position relative to the other wand or another computing device proximate to the other wand;

a determination of a spell output target based on the wand position and a wand orientation wherein the spell output target is one of the other wand or the other computing device to which the wand is directed; and

a determination of a spell output intensity based on a distance between the wand
5 position and a position of the spell output target,

wherein, when the spell output target is the other wand, the spell output intensity indicates an intensity at which one or more first devices of the other wand and one or more second devices associated with the other wand are to be activated, and

wherein, when the spell output target is the other computing device, the spell
10 output intensity indicates an intensity at which one or more first devices of the other computing device and one or more second devices associated with the other computing device are to be activated.

10. The wand of claim 9, wherein the determination of the wand position relative to the other wand is based on a determination of a region of effect for the wand based on a user
15 profile associated with the user wherein the region of effect defines an area in which the spell output is to be applied to the other wand within the area, and a determination of whether the other wand is within the region of effect based on the wand position relative to the other wand and a size and shape of the region of effect.

11. The wand of claim 10, wherein the size and shape of the region of effect is based on
20 the user profile associated with the user, and the spell output intensity based on a position of the other wand within the region of effect.

12. The wand of claim 11, wherein the determination of the spell output intensity is based on the degree of similarity such that an increase in the degree of similarity is to provide an increase in the spell output intensity and a decrease in the degree of similarity is to provide
25 a decrease in the spell output intensity.

13. The wand of claim 9, wherein the other computing device is a drone including one or more electro-mechanical components which allow the drone to change a position of the drone or an orientation of the drone, and the spell output is to activate the one or more electro-mechanical components in a defined sequence.

30 14. A computer-implemented method for commencement of a wand duel, the method comprising:

obtaining, by a computing device, a first spell sequence indicative of one or more performed gestures wherein the one or more performed gestures are movements performed by a user using the wand;

5 obtaining, by the computing device, a plurality of spells according to a user profile associated with the user, wherein each of the plurality of spells includes a defined spell sequence and an associated spell output, wherein the defined spell sequence defines one or more defined gestures to be performed for obtaining the associated spell output;

10 determining, by the computing device, a first matching spell of the plurality of spells by comparing the first spell sequence with the defined spell sequence of each of the plurality of spells;

determining, by the computing device, whether the first matching spell is substantially similar to a wand duel initiation spell, wherein the wand duel initiation spell is one of the plurality of spells; and

15 providing, by the computing device, an acknowledgement to the wand and another wand wherein the acknowledgement indicates that the duel is to commence between the wand and the other wand, and wherein a spell output associated with the wand duel initiation spell indicates at least one of a first instruction for activating one or more first devices of the wand and a second instruction for activating one or more second devices associated with the wand.

20 15. The method of claim 14, wherein each associated spell output indicates at least one of a second instruction for activating one or more other first devices of the other wand and another second instruction for activating one or more other second devices associated with the other wand, and after the providing of the acknowledgment, the method further comprises:

25 obtaining, by a computing device, a second spell sequence indicative of one or more second gestures performed by the user using the wand;

determining, by the computing device, a second matching spell of the plurality of spells by comparing the second spell sequence with the defined spell sequence of each of the plurality of spells;

30 determining, by the computing device, a region of effect of the wand based on the user profile and a wand position relative to the other wand;

determining, by the computing device, whether the other wand is within the region of effect; and

casting the second matching spell including providing, by the computing device, at least one of the second instruction or the other second instruction to the other wand according to the spell output associated with the matching spell when the other wand is determined to be within the region of effect.

5 16. The method of claims 15, further comprising:

providing, by the computing device, the acknowledgement to an accounting server, wherein the accounting server is to account for one or more spells performed by the wand and the other wand upon commencement of the duel; and

10 after providing the acknowledgement, providing, by the computing device, a third instruction based on the spell output to the accounting server, wherein the accounting server is to alter the user profile according to the spell output.

17. The method of claim 15, wherein the region of effect defines an area in which the spell output is to be applied to the other wand within the area, and the method further comprises:

15 determining, by the computing device, a spell output intensity for the spell output, wherein the spell output intensity is based on a position of the other wand within the region of effect relative to the wand position and the spell output intensity indicates an intensity at which the one or more other first devices and the one or more other second devices associated with the other wand are to be activated.

20 18. The method of claim 17, further comprising:

determining, by the computing device, a degree of similarity between the spell sequence and the defined spell sequence of each of the plurality of spells, wherein the degree of similarity indicates a number and order of operations of the spell sequence that matches a number and order of operations of the defined spell sequence; and

25 adjusting, by the computing device, the spell output intensity based on the degree of similarity including decreasing the spell output intensity according to the number and order of operations of the spell sequence that match the number and order of operations of the defined spell sequence.

30 19. The method of claim 18, wherein the spell sequence is captured during a first defined period of time for performing the one or more gestures by the user and a spell sequence indicating one or more gestures performed by another user associated with the other wand is to be captured during a second defined period of time, wherein the first defined period

of time is based on the user profile and the second defined period of time is based on another profile associated with the other user.

20. The method of claim 19, wherein a handicap value is to be applied to one of the user or the other user based on a comparison between the user profile and the other user profile,
5 and the method further comprises:

receiving a handicap indicator indicating that the handicap value is to be applied to the user;

applying the handicap to the user by at least one of:

adjusting the first defined period of time according to the handicap value
10 such that the first defined period of time is different than the second defined period of time;

adjusting the spell output intensity according to the handicap value by one of increasing the spell output intensity or decreasing the spell output intensity; and

adjusting a size or shape of the region of effect according to the handicap
15 value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect.

21. The method of claim 19, wherein each of the plurality of spells further includes a spell type, and the method further comprises:

determining a spell type associated with the second matching spell;

20 determining whether the second spell sequence was performed within the first defined period of time;

determining a time that the second spell sequence was performed;

obtaining an spell indication indicating another spell issued by the other wand wherein the other spell includes another spell output, another spell output type, another
25 spell output intensity, and a time that the other spell sequence was performed;

determining a time difference between the time that the second spell sequence was performed and the time that the other spell sequence was performed; and

adjusting the spell output intensity based on the time difference.

22. The method of claim 21, wherein the adjusting the spell output intensity comprises:

30 when the spell output type and the other spell output type are each an offensive spell output type,

decreasing the spell output intensity by a magnitude of the other spell output when the other spell output intensity is less than a magnitude of the spell

output intensity and when the time difference is a positive value, wherein the time difference having a positive value indicates that the second spell sequence was performed prior to the time that the other spell sequence was performed;

5 outputting the other spell output when the magnitude of the other spell output intensity is greater than the magnitude of the spell output and when the time difference is a negative value, wherein the time difference having a negative value indicates that the second spell sequence was performed after to the time that the other spell sequence was performed; and

10 outputting a different spell output based on the magnitude of the other spell output intensity and the other spell output type when the time difference is within a predefined value range, wherein the time difference being within the predefined value range indicates that the second spell sequence was performed at substantially a same time as the time that the other spell sequence was performed, and wherein the different spell output indicates that the spell output and the other spell output
15 have been cancelled out; and

 when the spell output type is an offensive spell output type and the other spell output type is a defensive spell output type,

 decreasing the spell output intensity by the magnitude of the other spell output intensity when the magnitude of the spell output intensity is greater than the
20 magnitude of the other spell output intensity; and

 outputting the different spell output when the magnitude of the spell output intensity is less than the magnitude of the other spell output intensity.

23. The method of claim 22, wherein the adjusting the spell output intensity further comprises:

25 determining whether an auxiliary device is proximate to the wand by receiving an auxiliary device indicator wherein a signal being broadcast by the auxiliary device includes the auxiliary device indicator;

 altering the spell output intensity according to information contained in the auxiliary device indicator, wherein the altering the spell output intensity comprises:

30 adjusting the first defined period of time according to a first auxiliary device indicator value such that the first defined period of time is different than the second defined period of time;

adjusting the spell output intensity according to a second auxiliary device indicator value by one of increasing the spell output intensity or decreasing the spell output intensity; and

5 adjusting a size or shape of the region of effect according to a third auxiliary device indicator value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect; and
receiving a handicap indicator indicating that the handicap value is to be applied to the user;

applying the handicap to the user by at least one of:

10 adjusting the first defined period of time according to the handicap value such that the first defined period of time is different than the second defined period of time;

adjusting the spell output intensity according to the handicap value by one of increasing the spell output intensity or decreasing the spell output intensity; and

15 adjusting a size or shape of the region of effect according to the handicap value by one of increasing the size or the shape of the region of effect or decreasing the size or the shape of the region of effect.

24. The method of claim 15, further comprising:

20 determining, by the computing device, whether the determined position is within a safe boundary; and

not casting the second matching spell including providing, by the computing device, at least one of a first instruction to one or more first devices of the wand or a second instruction to one or more second devices associated with the wand when the other wand is determined to be within the safe boundary.

25 25. At least one computer-readable medium including instructions to cause a computing device, in response to execution of the instructions by the computing device, to perform the method of claims 14-24.

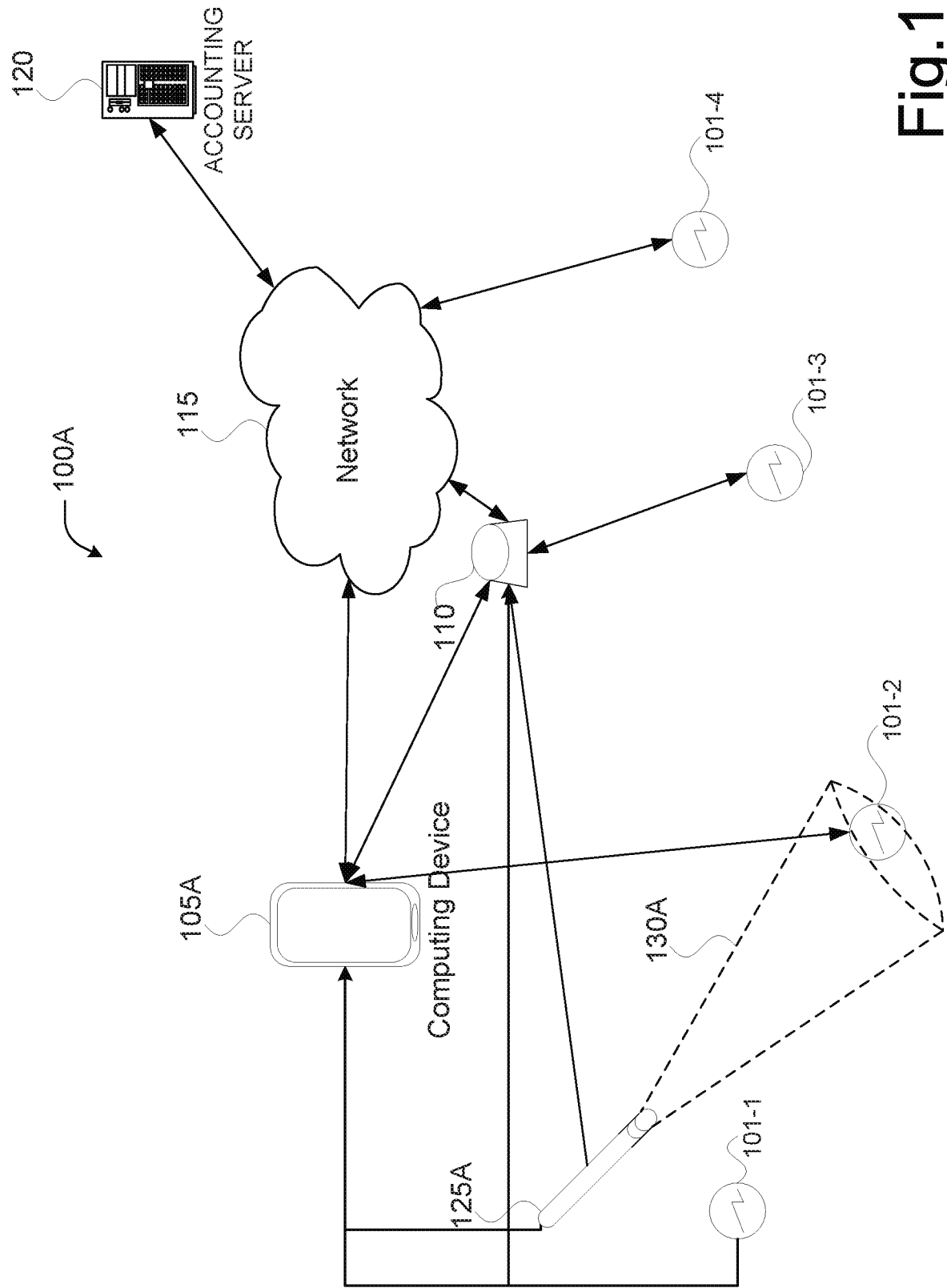


Fig.1

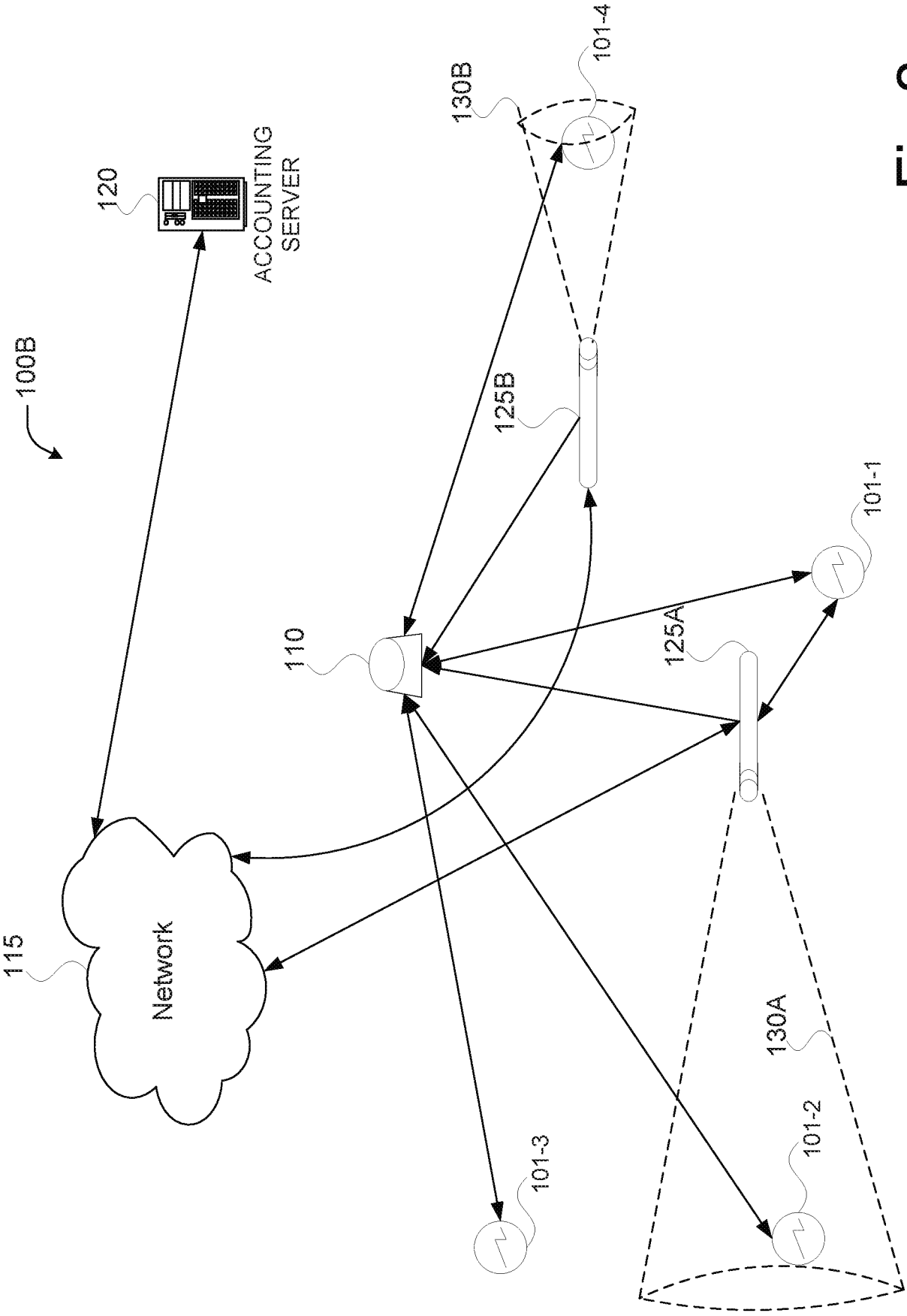


Fig.2

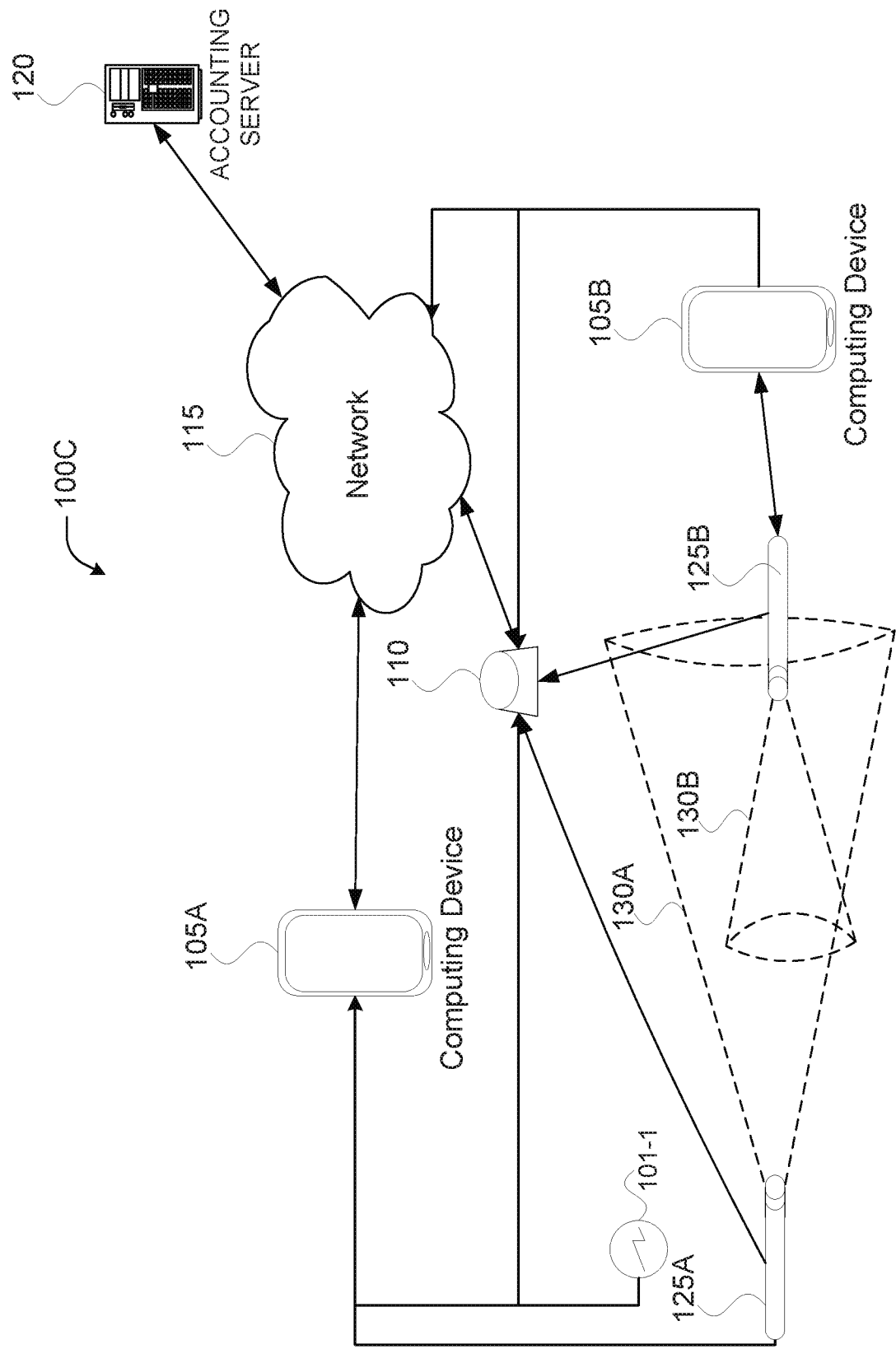


Fig.3

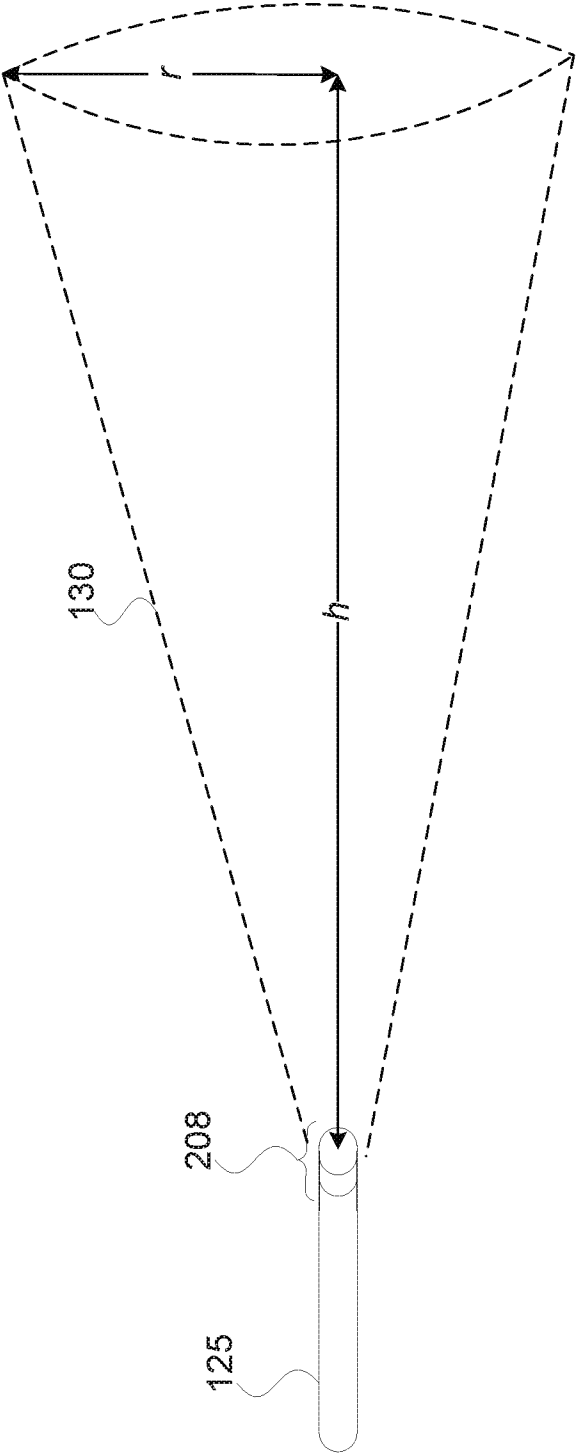


Fig.4

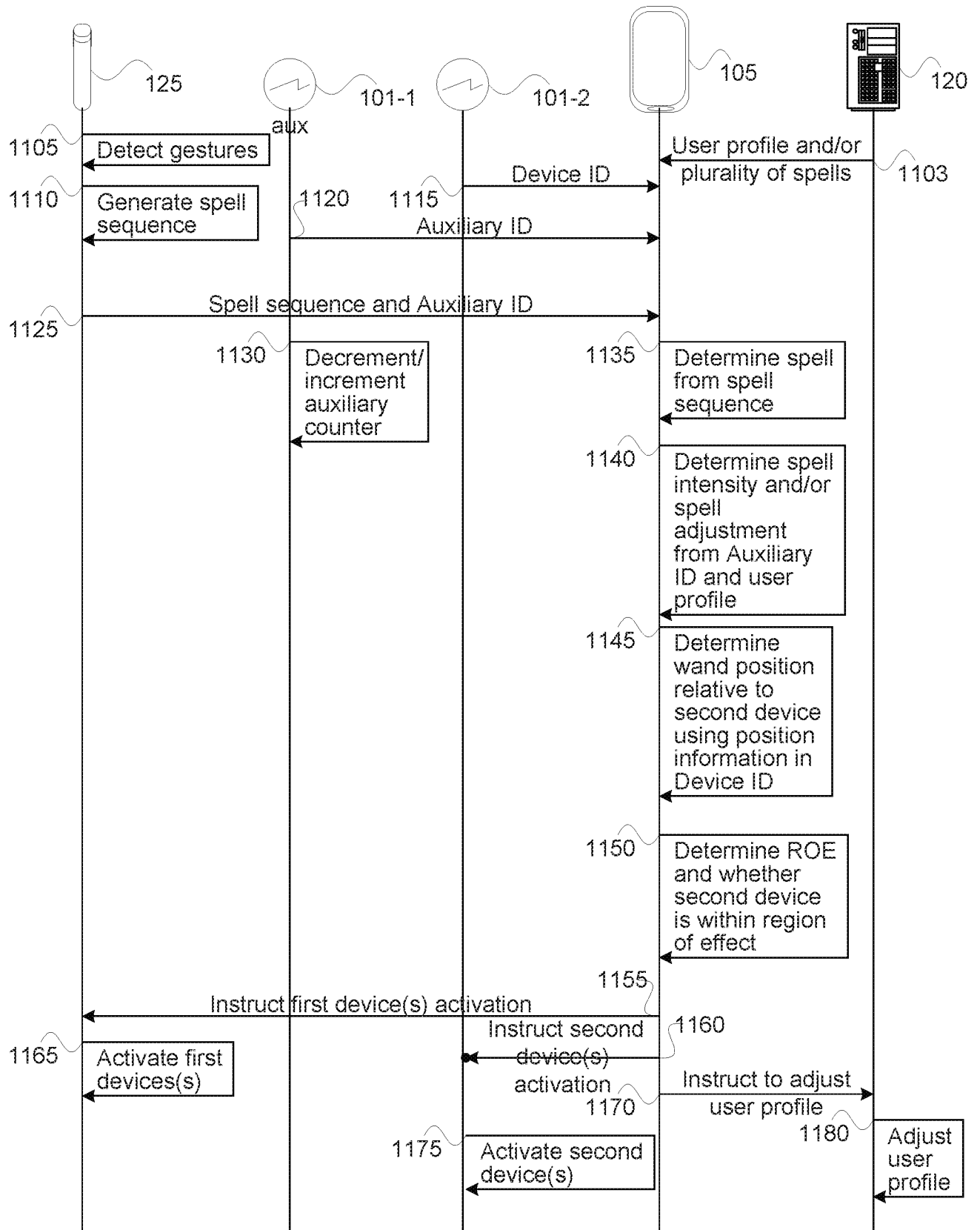


Fig.5

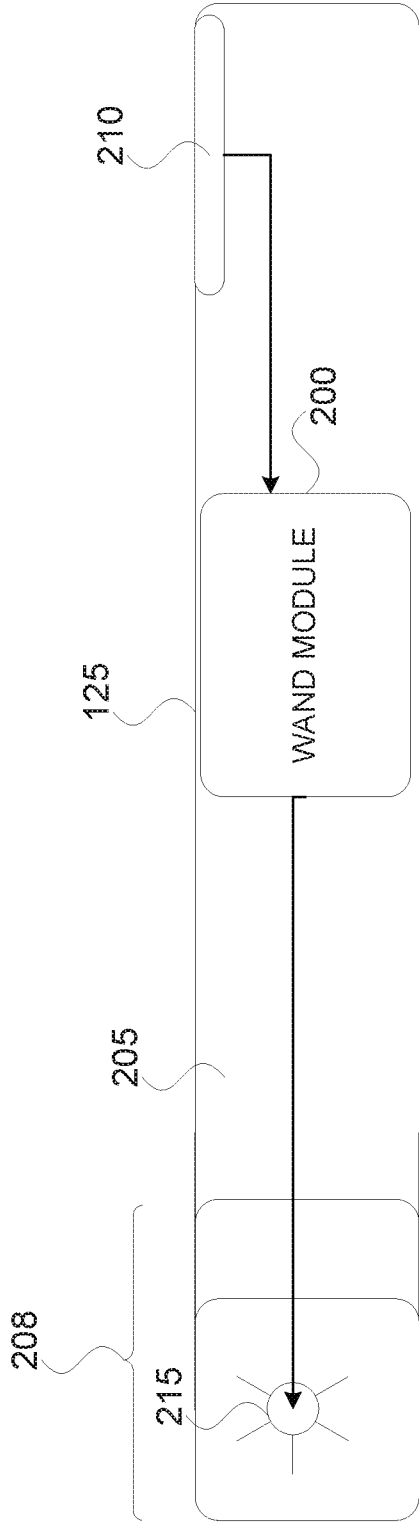
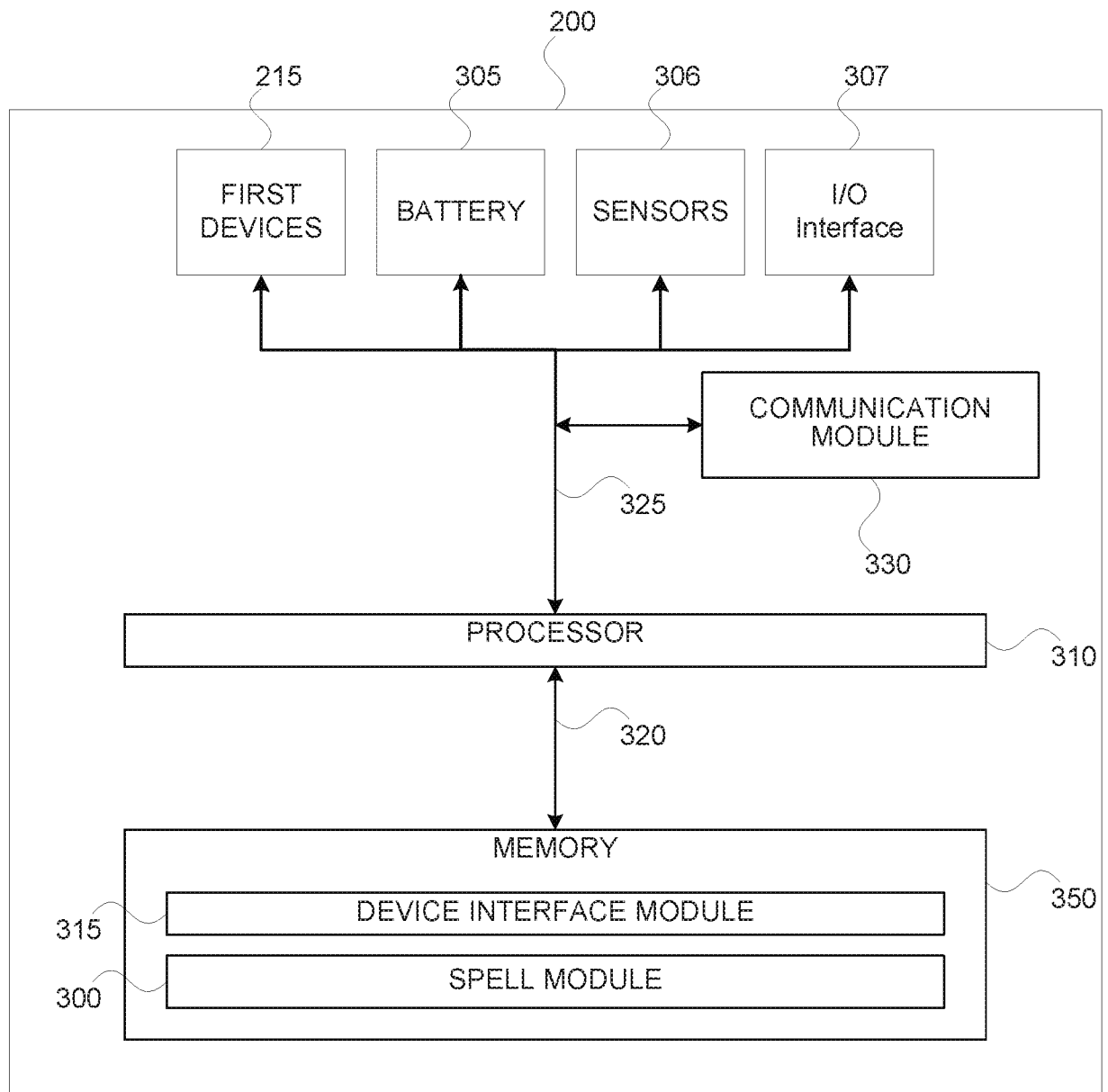
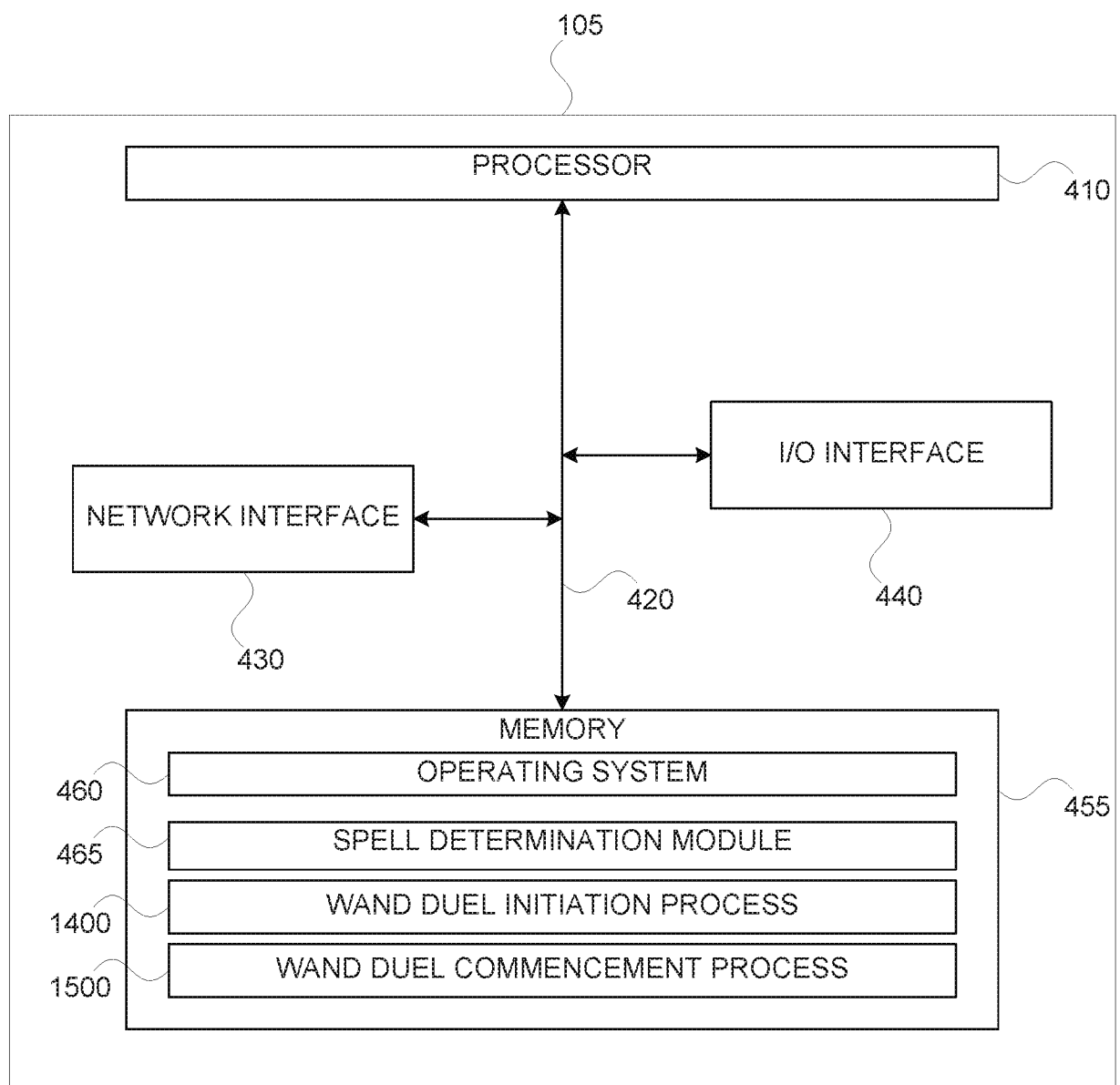
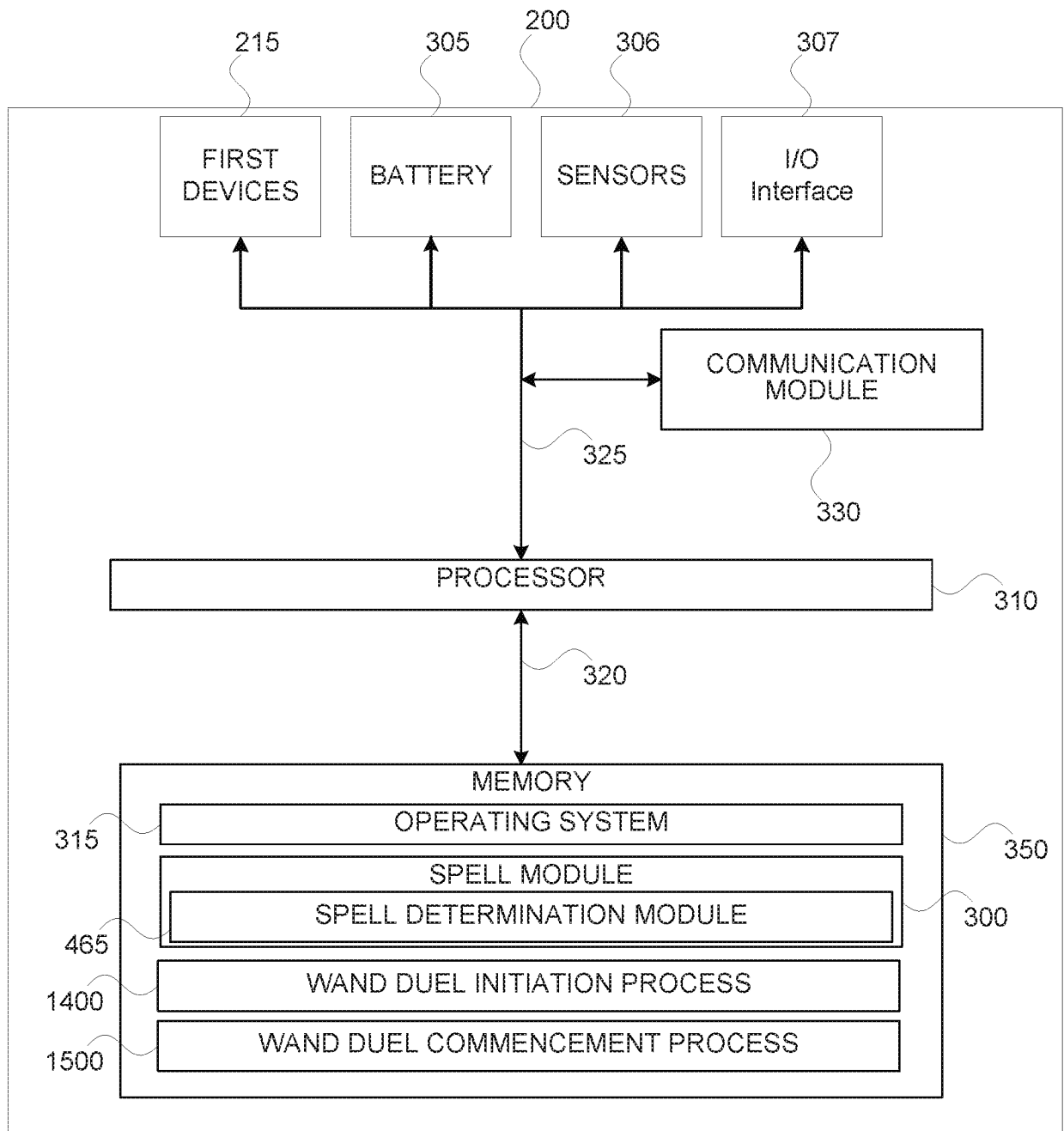


Fig.6

**Fig.7**

**Fig.8**

**Fig.9**

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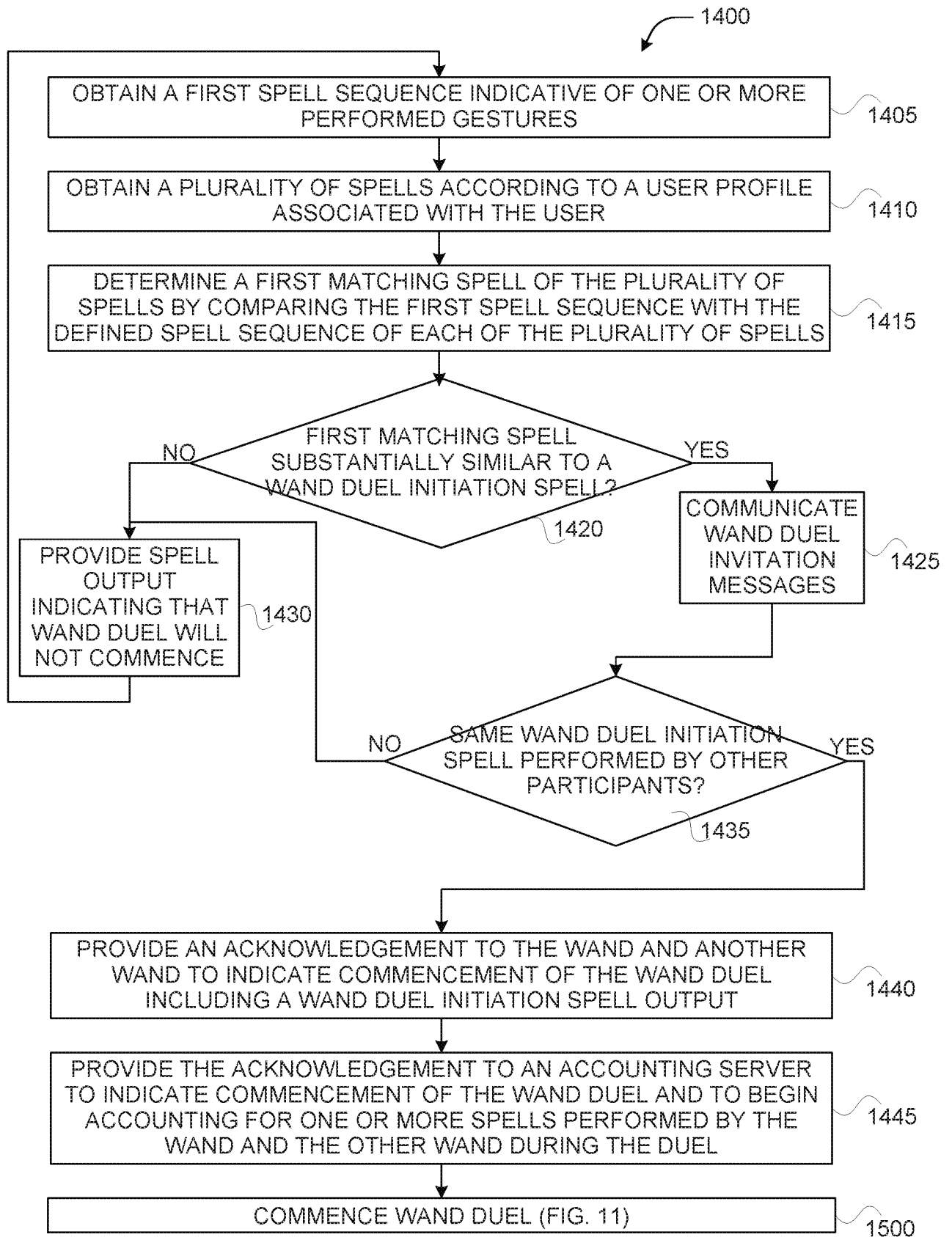


Fig.10

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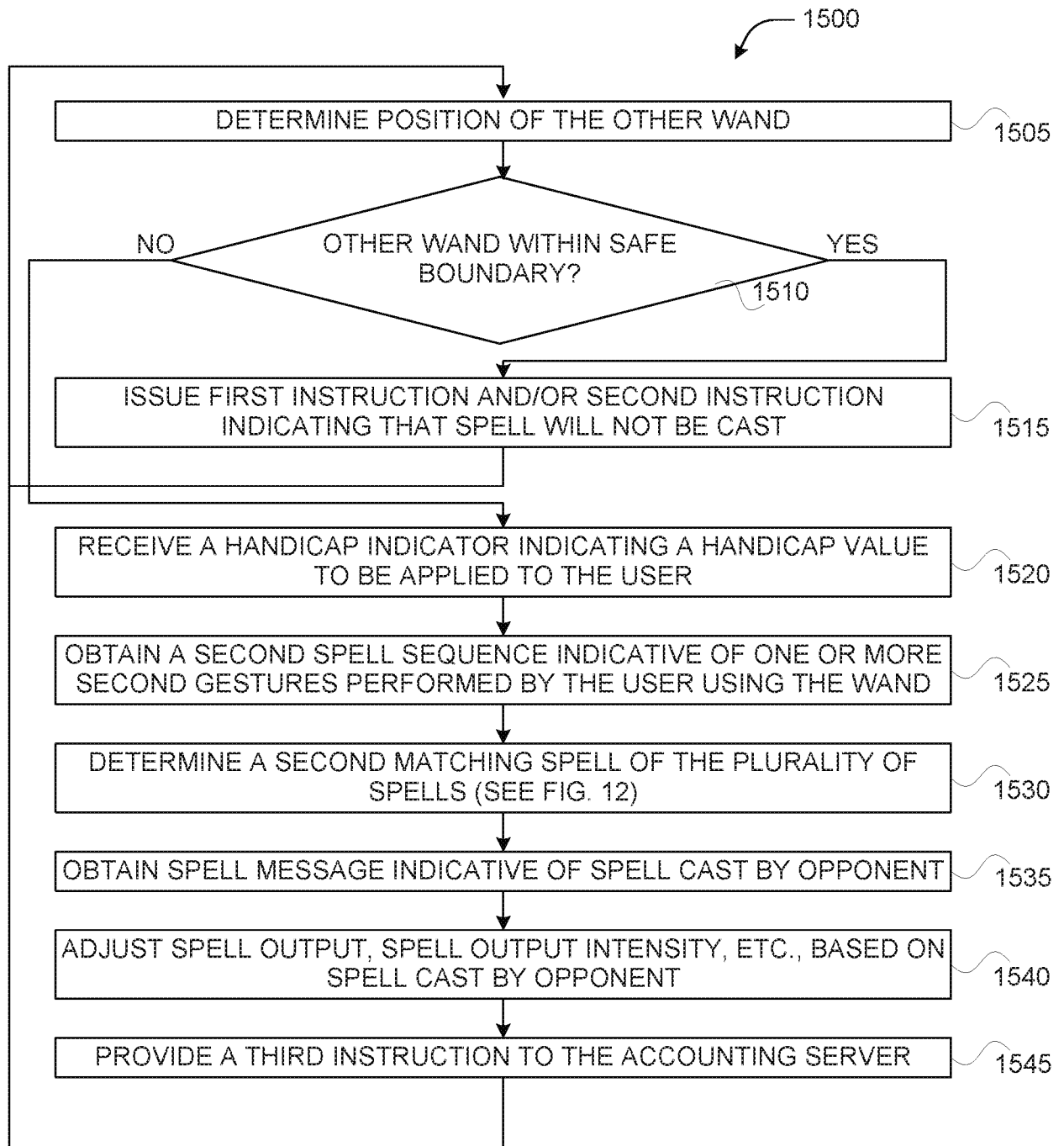


Fig.11

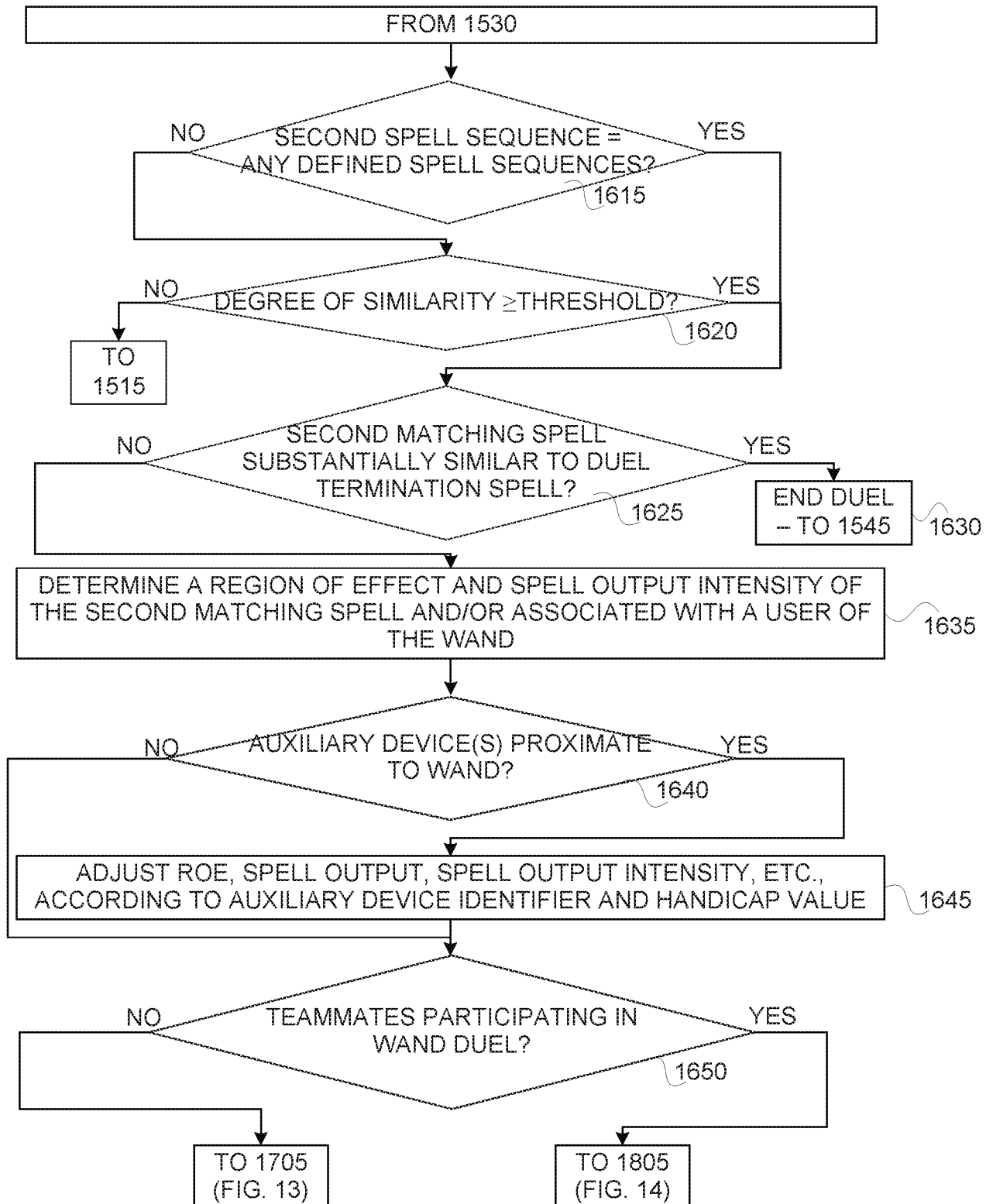
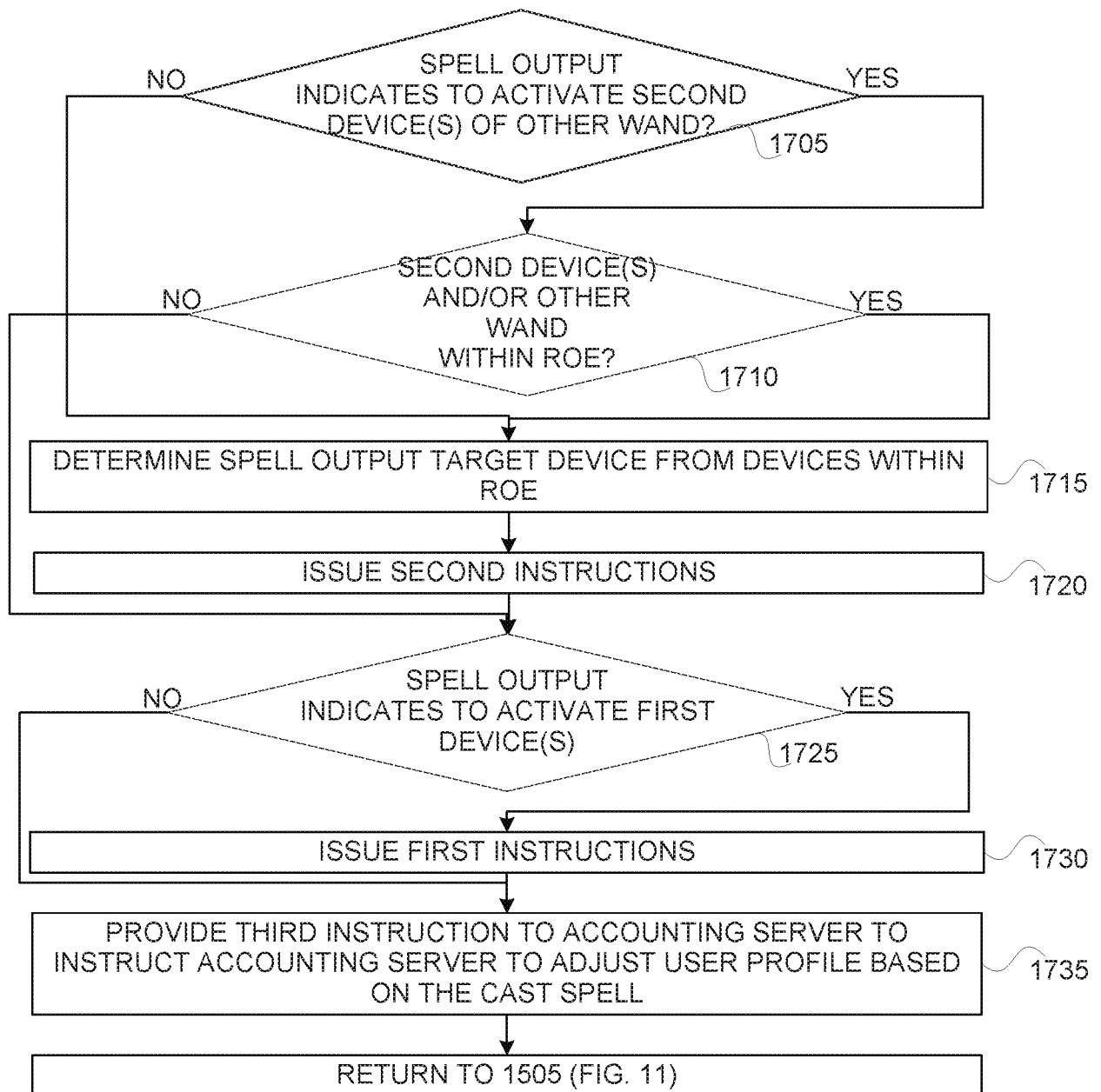
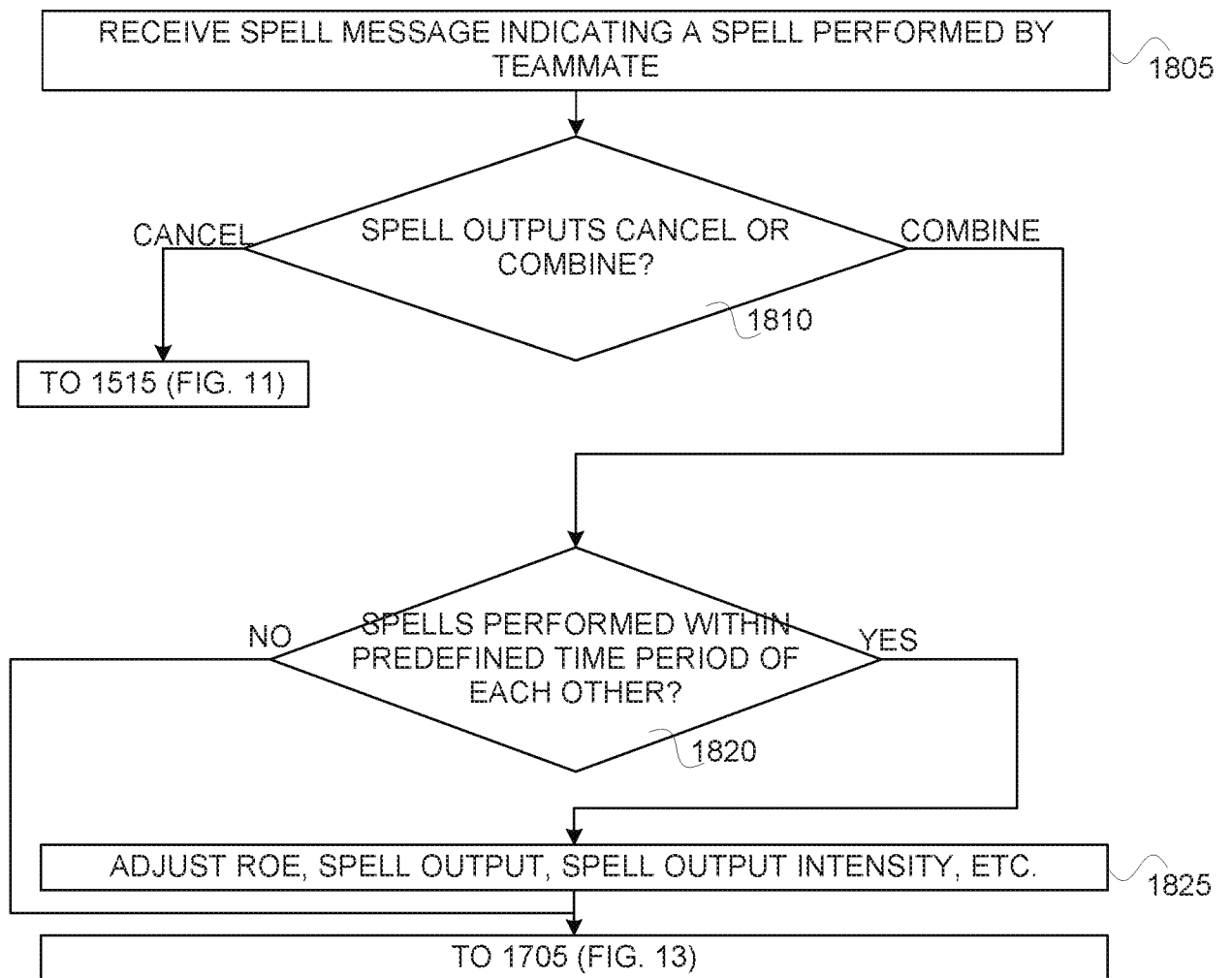


Fig.12

**Fig.13**

**Fig.14**

A. CLASSIFICATION OF SUBJECT MATTER**A63F 13/20(2014.01)i, A63F 13/45(2014.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
A63F 13/20; A63H 29/10; A63H 29/22; A63F 9/24; A63F 13/235; A63J 5/02; A63F 13/45Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: wand, spell sequence, gesture, wand position, duel, initiation, acknowledgement, activate, and similar terms.**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2015-0099585 A1 (CREATIVE KINGDOMS, LLC) 09 April 2015 See paragraphs [0092], [0101]-[0102], [0125], [0145], [0186]-[0188], and [0226]-[0227]; and figures 5A-5B, 7, 21A, 21D, and 27A-27B.	1
A		2-25
Y	US 7,896,742 B2 (DENISE CHAPMAN WESTON et al.) 01 March 2011 See column 52, line 42 - column 53, line 10.	1
A	US 2003-0069077 A1 (GENE KORIENEK) 10 April 2003 See paragraphs [0076]-[0077] and figure 7.	1-25
A	US 2002-0058459 A1 (KENNETH COOPER HOLT) 16 May 2002 See paragraphs [0025]-[0057]; claims 1-5; and figures 1-4.	1-25
A	US 2006-0046606 A1 (RAYMOND J. MARTIN et al.) 02 March 2006 See paragraphs [0012]-[0020] and figures 1-2.	1-25



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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Information on patent family members

International application No.

PCT/US2016/048216

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