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USPC **455/411; 455/556.1; 455/414.1**(73) Assignee: **SilverPlus, Inc.**, Irvine, CA (US)(21) Appl. No.: **13/964,908**(22) Filed: **Aug. 12, 2013****Related U.S. Application Data**

(60) Provisional application No. 61/682,804, filed on Aug. 14, 2012, provisional application No. 61/682,814, filed on Aug. 14, 2012, provisional application No. 61/681,791, filed on Aug. 10, 2012.

(57) **ABSTRACT**

Wearable communication devices, e.g. implemented in a watch, using short range communication e.g. to a cell phone allow a user to talk and listen, place and answer calls, send and receive text messages, initiate voice commands to mobile search for information and find locations, and be notified of incoming calls, texts, and events, all while a phone is nearby but not visible. Notification is performed with vibration, an LED light or OLED text display of incoming calls, texts, and calendar events. It allows communicating hands-free. The watches can be directly connected to a smartphone allowing using the watch as "remote control" for home appliances or any other devices via voice and buttons. Motion sensors such as accelerometer, magnetometer and gyroscope, together with audio generation device can be used for gaming applications.

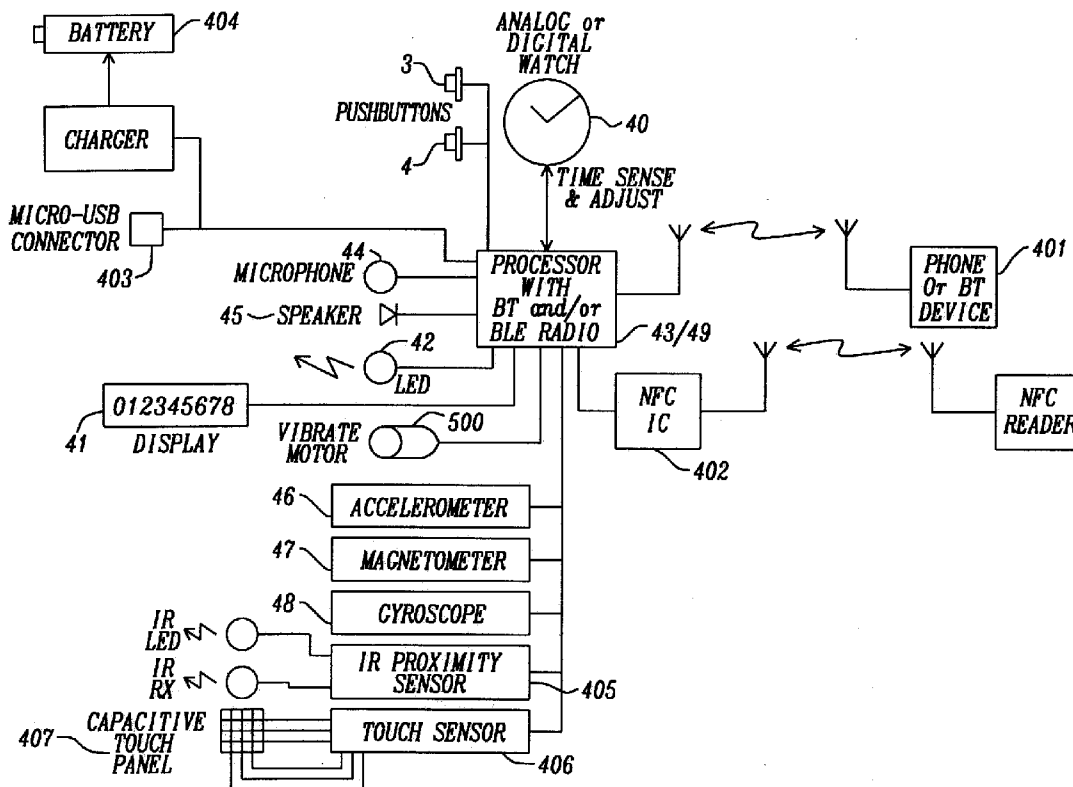




FIG. 1

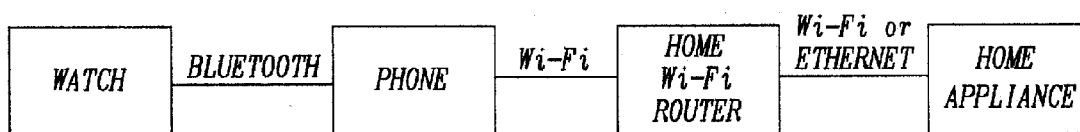


FIG. 2

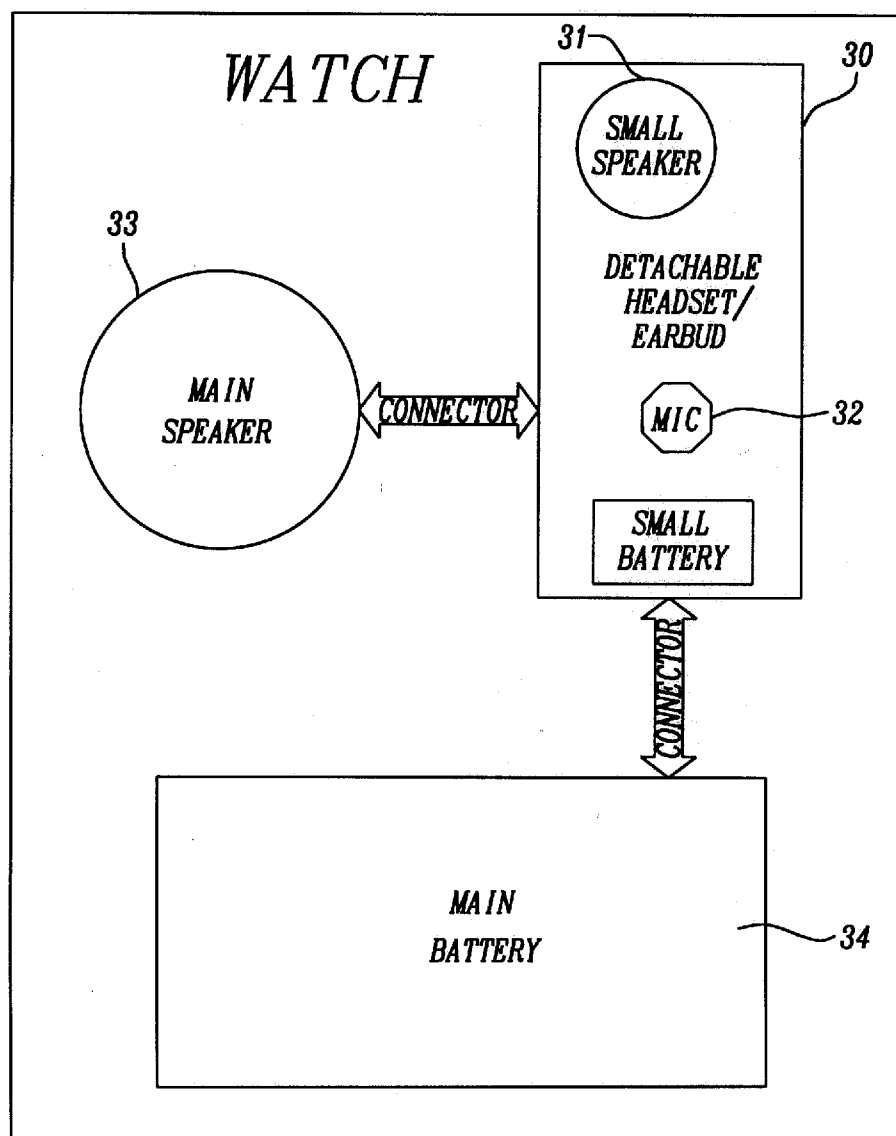


FIG. 3

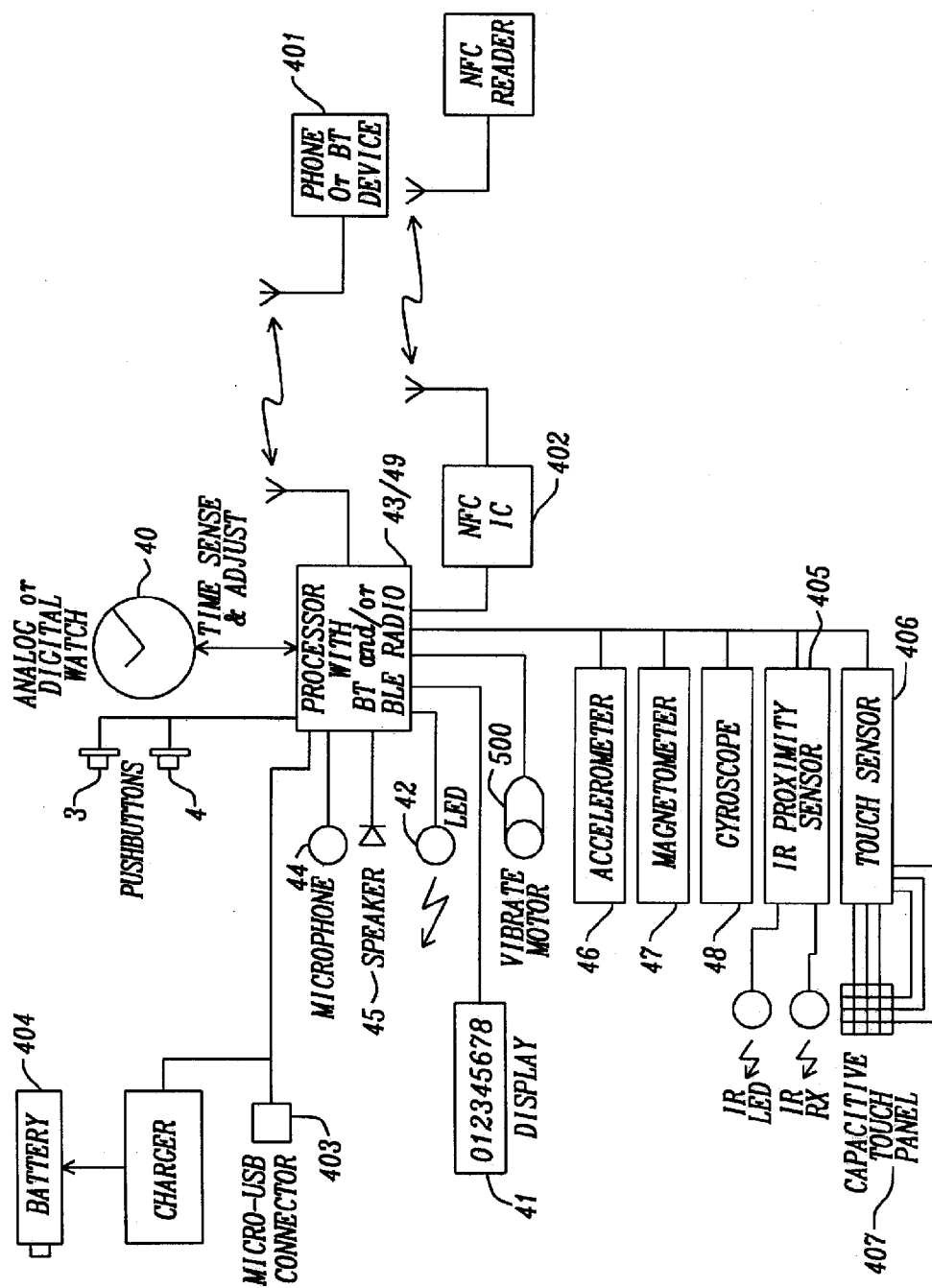


FIG. 4

WEARABLE COMMUNICATION DEVICE

[0001] This application claims priority to U.S. provisional patent application Ser. No. 61/682,804 filed Aug. 14, 2012, which is owned by a common assignee, and which is herein incorporated by reference in its entirety.

[0002] This application claims priority to U.S. provisional patent application Ser. No. 61/682,814 filed Aug. 14, 2012, which is owned by a common assignee, and which is herein incorporated by reference in its entirety.

[0003] This application claims priority to U.S. provisional patent application Ser. No. 61/681,791 filed Aug. 10, 2012, which is owned by a common assignee, and which is herein incorporated by reference in its entirety.

BACKGROUND

[0004] (1) Field of the Disclosure

[0005] This disclosure relates generally to electronic mobile devices and relates in particular to wearable communication devices using short range communication to a cell phone or other portable electronic device.

[0006] (2) Background of Disclosure

[0007] Notification watches are used for some time now, which can receive information from portable electronic devices such as cell phones. They notify a user when a mobile phone rings by a vibrating or alerting for specific issues. They can pass through from the mobile phone information such as emails, SMS, calendar events and caller IDs.

SUMMARY

[0008] A principal object of the present disclosure is to allow use of a wearable communication device, such as a watch (and hereinafter referred to as, but not limited to, a watch) to talk, listen, initiate voice commands, and be notified with vibration, an LED light and OLED text display of incoming calls, texts, and calendar events, all while a phone is nearby but not visible, such as in a pocket or purse.

[0009] A further object of the present disclosure is to be notified with vibration, an LED light and OLED text display of incoming calls, texts, and calendar events, all without a phone being visible.

[0010] A further object of the present disclosure is to put a wearable Bluetooth communication device into a watch that would connect to a cell phone.

[0011] A further object of the present disclosure is to achieve a watch enabling a hands-free communication with a cell phone.

[0012] In accordance with the objects of this disclosure, a wearable communication device configured to talk and to listen, place and answer calls, send and receive text messages, initiate voice commands to mobile search for information and to find locations, and be notified of incoming calls, texts, and events, all while a mobile phone is nearby has been achieved, firstly comprising a display to show information, one or more function buttons, and a near-field short distance wireless communication chipset, wherein the near-field short distance wireless communication chipset is used for communication with the phone. Furthermore the wearable communication device comprises a speakerphone means configured to make and receive phone calls via the mobile phone comprising a microphone and a loudspeaker device and to accept voice commands, an alerting means to alert a user of the wearable communication device to consider an action, a movement sensing means to initiate functions of the communication

device by moving the communication device, and a processor controlling operation of the communication device.

[0013] In accordance with the objects of this disclosure a method to achieve a wearable communication device configured to talk and to listen, place and answer calls, send and receive text messages, initiate voice commands to mobile search for information and to find locations, and be notified of incoming calls, texts, and events has been disclosed. The method disclosed comprises the steps of: (1) deploying a mobile phone within reach of a near-field short distance wireless communication chipset used for communication between the wearable communication device and the mobile phone, (2) deploying the near-field short distance wireless communication chipset in the wearable communication device, (3) connecting the mobile phone to the internet via Wi-Fi or to mobile phone networks, and (4) configure the wearable communication device to enable to talking and listening, placing and answering phone calls, sending and receiving text messages, initiating voice commands to mobile search for information and to find locations, and being notified of incoming calls, texts, and events.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] In the accompanying drawings forming a material part of this description, there is shown:

[0015] FIG. 1 shows a top view of an embodiment of a watch disclosed.

[0016] FIG. 2 illustrates examples of connections between watch and home appliances.

[0017] FIG. 3 shows the integration of the BT headset to the watch.

[0018] FIG. 4 shows the main components of the watch.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] The preferred embodiments of the present disclosure present a wearable communication device, which can be, for example, a watch (and hereinafter referred to, though not limited to, as a watch), comprising functions enabling to talk and to listen, place and answer calls, send and receive text messages, initiate voice commands to mobile search for information and to find locations, and be notified of incoming calls, texts, and events, all while a phone is nearby but not visible, as when it is in the user's pocket or purse or, in other words, within the reach of a near-field communication short-distance wireless communication module of the communication device for exchanging data.

[0020] Simple notification watches, in communication with a nearby cell phone, exist in the art, but a disadvantage of them is that they don't have the ability to actually answer, reply and connect to a caller without having to look at the cell phone.

[0021] It is a challenge to designers of communication devices to achieve a watch that allows a user to talk and to listen, place and answer calls, send and receive text messages, initiate voice commands to mobile search for information and to find locations, and be notified of incoming calls, texts, and events, all while a phone is in a pocket or purse.

[0022] FIG. 1 shows a top view of a preferred embodiment of the disclosure. The watch 1 has an always-on analog watch movement. Alternatively a digital watch display, instead of an analog clock, can be used; there is no need to touch the screen to see the time. The upper half shows the hands of an analog

Quartz watch. The watch comprises two physical buttons **3** and **4**. Knob **2** can be used to adjust the time of day. Button **3** is an upper command button; button **4** is a lower select button. **[0023]** The buttons **3** and **4** are programmable buttons, configured by the user via either (a) a web portal or (b) a smart-phone application. Pre-programmed configurations can include “social”, “messaging/tweet”, or “emergency”. Other pre-programmed configurations are possible, such as for example: in idle state, short press a button to activate voice recognition, long press to call last number dialed, OR, short press to read new texts or messages, long press to send new texts or messages.

[0024] The table below shows examples of such pre-programmed configurations. The functions in the table are determined by the state of the watch, together with the duration and number of times the button is pressed:

CONFIG	TOP BUTTON FUNCTIONS	BOTTOM BUTTON FUNCTIONS
Default	Voice command activation, make call, receive call, terminate call, pairing with phone.	Activate status display, volume control.
Social	Read and send text messages	Display new postings from social websites: e.g., Facebook, twitter.
Safety	Start/stop calling pre-programmed numbers.	Call 911
Gaming/remote control	Start/Stop 3D motion reporting (for cursor control)	Left/right mouse button
Audio Record audio	Start/stop playing music Activate voice recording	Volume control Terminate voice recording

[0025] The preferred embodiment has an OLED display and an RGB LED light. Alternatively an LCD display, as e.g. one line LCD dot matrix, can be used. The one-line digital display of FIG. **1** shows a phone number because the most basic function is just to show the number of an incoming call. It should be noted that the display can also show alphanumeric messages, icons, and the like.

[0026] The communication is performed using a Bluetooth, or other near-field short distance wireless communication technology, chip. Bluetooth is a proprietary open wireless technology standard for exchanging data over short distances (using short-wavelength radio transmissions in the ISM band from 2400-2480 MHz) from fixed and mobile devices, creating personal area networks (PANs) with high levels of security. It can connect several devices, overcoming problems of synchronization. For example, a chip meeting the specifications of Bluetooth 4.0 can be used, together with a microphone and speaker. Speakerphone capabilities are built into the watch such as echo cancellation and make/receive calls. In the preferred embodiment a piezo speaker has been deployed. Other types of speakers are possible as well.

[0027] The two buttons **3** and **4** control all functions of the wearable communication device **1** other than setting time, which is performed by knob **2**. In one exemplary application, one button can be used to activate voice recognition, and be used to, for example, initiate a call, by the user speaking the command “call home”.

[0028] In order to communicate an alert a vibrating motor is deployed inside the watch. Furthermore the watch comprises a 3-axis accelerometer.

[0029] Moreover motion sensors such as a magnetometer and gyroscope, together with an audio generation device can be used for gaming applications.

[0030] FIG. **4** shows a summary of the main components of the watch and their interconnections. There is the watch **40** having an analog or a digital display. The watch comprises two physical buttons **3** and **4**. Knob **2** can be used to adjust the time of day. Button **3** is an upper command button; button **4** is a lower select button. Furthermore there is a one-line digital display **41**, which can display a phone number, alphanumeric messages, icons, and the like. The display may be an LCD or an OLED display. Furthermore there may be a LED **42** providing by different colors status information.

[0031] In the case of an analog watch display, the analog watch movements may contain mechanisms for the watch hands to be adjusted according to signals sent by the Processor **43**. It may also contain mechanisms for the hand positions to be sensed by the Processor. The analog watch may therefore be set accurately by the Processor, which receives time information over Bluetooth from the phone.

[0032] The processor **43** controls the operation of the watch disclosed including a microphone **44**, a speaker **45**, a vibration motor **500**, motion sensors as a 3-axis accelerometer **46**, a magnetometer **47**, a gyroscope **48**, an IR proximity sensor **405**, and a touch sensor **406** connected to a capacitive touch panel **407**.

[0033] Furthermore the processor **43** controls a Bluetooth (BT) chipset **49** which may comprise a regular BT chip and/or a Bluetooth low energy chip. Both used for communication to a phone, smartphone or another BT-device **401**.

[0034] Moreover a Near Field Communication (NFC) chip **402** can be provided in the watch disclosed. It allows “bump”-type feature to transfer data from a cell phone to the watch, for instance for admission control, as used e.g. on subways in Taiwan, China, or Tokyo subways to eliminate the need for a separate subway card.

[0035] For the power supply of the watch is a micro USB-port **403** provided, which enables charging of the main battery **404**. The main battery **404** provides power to all components of the watch requiring power.

[0036] Multiple similar devices can be synchronized via star or mesh network for multi-point motion sensing. For example, an arm-swing movement detected can cause a punching sound to be produced, in a “hand-combat” game. Two players may be networked with their watches synchronized, and depending on the velocity and 3-D locations of the watches, may be playing against each other with suitable sounds being generated to simulate the opponents being hit. Another example may be simulation of musical instrument sounds such as drum and guitar, and multiple players may engage in generating sounds synchronized with their watch movements, in a kind of “air-instruments” game, while background music is being played.

[0037] In summary general features of the wearable communication device for smartphones are that incoming Call Alerts are provided via Vibration, RGB LED and Caller ID Display. Furthermore incoming calls can be accepted or declined by a push of a button. Voice communication (Talk and Listen) is performed by using the wearable communication device’s speaker and microphone. The connection to a mobile phone is performed by Bluetooth wireless technology using no-code pairing system according to the Bluetooth 4.0 protocol. This protocol allows a user to easily and rapidly pair a wearable communication device and a smartphone without

having the user entering a passcode. Pairing is done only once to allow connections between the device and the phone

[0038] In a preferred embodiment of the invention a wearable communication device of the present disclosure has about 3 hours of talk time and 14 days of standby time.

[0039] Watch 1 can be directly connected to a smartphone application through Bluetooth, and the smartphone can then be connected to the internet “cloud” via Wi-Fi or mobile networks such as 3G or LTE.

[0040] Wi-Fi is a popular technology that allows an electronic device to exchange data wirelessly (using radio waves) over a computer network, including high-speed Internet connections. The Wi-Fi Alliance defines Wi-Fi as any “wireless local area network (WLAN) products that are based on the Institute of Electrical and Electronics Engineers’ (IEEE) 802.11 standards.

[0041] Cloud computing is the delivery of computing and storage capacity as a service to a community of end-recipients. The name comes from the use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts services with a user’s data, software and computation over a network. Using Cloud Software as a service, users rent application software and databases. The cloud providers manage the infrastructure and platforms on which the applications run.

[0042] This allows using the watch as “remote control” for home appliances, other home devices, or any other devices via voice and buttons. The connection would be:

[0043] watch--->phone (via Bluetooth, or Wi-Fi?)--->IT network--->appliances.

[0044] FIG. 2 illustrates these connections between watch and appliances using Bluetooth between watch and smartphone, using Wi-Fi between smartphone and a home Wi-Fi router, and using Wi-Fi or another communication protocol as e.g. Ethernet between the home Wi-Fi router and a home appliance as e.g. refrigerator, heating, or air-conditioner.

[0045] Another function built in the watch 1 is a GPS—or Global Positioning System—processor. This GPS processor can be used e.g. for sports and fitness, such as to track a route when hiking, running, record-keeping—and other movement tracking applications.

[0046] FIG. 3 shows the integration of the BT headset to the watch. FIG. 3 shows the BT headset 30 including one or two ear buds with a small speaker 31 and a microphone 32. The BT headset 30 is connected to the main speaker 33 of the watch and to the main battery 34 of the watch. A small battery 35 may be incorporated into the BT headset 30.

[0047] Another embodiment of the watch 1 integrates a Bluetooth (BT) headset. This headset could be implemented, as shown in FIG. 3, additionally to a watch having speaker and microphone in the watch body, or could be implemented instead incorporating a speaker and microphone in the watch body. The BT headset may be removable and separately powered, so that if, for example, the watch battery dies, or for the reason of privacy, the BT headset can be used. One embodiment of the watch integrates both a microphone/speaker and also a removable Bluetooth speaker ear bud. When the Bluetooth speaker ear bud is removed, the speaker switches from the watch to the ear bud. When replaced in the watch, the ear bud recharges and audio goes back to the watch known in the art typically have a quartz movement and are powered by a small battery. An analog embodiment of the watch can be integrated with Bluetooth features such that the same rechargeable battery drives both the analog watch and elec-

tronic components. Furthermore a rechargeable battery could shut down with a fixed percentage of power remaining to allow the analog watch to continue to operate for a greater length of time even though other electronic functions are shut down.

[0048] An analog watch with LED light may signal whether an alert is for an incoming call, text, or other purpose. The LED may be tri-(RGB) or multi-color, with each color signifying different types of information—text, email, voice mail, reminder, and social and the like.

[0049] Furthermore the watch is capable to transfer data sets as e.g. a contact list from one phone to another phone.

[0050] Moreover application program interfaces (API’s) are provided to control the watch as e.g. to set the display on the watch, to read peripheral components as e.g. gyroscope, accelerometer, or magnetometer data, or to play/record audio using the speaker of the communication device as, and a smart phone.

[0051] The watch allows also reading sensor data using BLE (Bluetooth Low Energy), and sending the sensor data to applications on a smartphone via Bluetooth communication.

[0052] It is also possible to remotely re-configure the watch to multi-display format, i.e. to configure different language fonts, font sizes, graphical icons, orientations, and combinations thereof—all on one display.

[0053] Moreover additional features for the communication with smartphones are provided. These features include accessing a connected phone’s Voice Command functions, allowing a user to place Calls, to send Voice-to-Text SMS messages, to listen to Text messages, to set calendar notifications, and to use all other voice command functions for controlling music, searching the web, setting reminders and appointments, etc.

[0054] Furthermore incoming Text messages and Calendar entries are alerted via vibration, blue LED and caller ID Display. Other colors for incoming text messages or voice calls can be used as well. Incoming notifications can be processed, such as for popular web- or phone-based applications such as Facebook, Twitter, Weather, Foursquare, Gmail, Hot-mail, and Yahoo Mail, and the like.

[0055] In another embodiment, a wireless leash option can be provided, notifying the user via the watch when the user’s phone is inadvertently left behind and goes out of range of the watch.

[0056] The wearable communication device is enabled to support following smart-phone functions. They can be executed by the communication device if they are supported by the smart phone also. These functions comprise voice command functions allowing a user to place Calls, to send Voice-to-Text SMS messages, to listen to Text messages, to set Calendar notifications, and use all other voice command functions for controlling music, searching the web, setting reminders and appointments, etc.

[0057] While the disclosure has been particularly shown and described with reference to the preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made without departing from the spirit and scope of the disclosure.

What is claimed is:

1. A wearable communication device configured to talk and to listen, place and answer calls, send and receive text messages, initiate voice commands to mobile search for

information and to find locations, and be notified of incoming calls, texts, and events, all while a mobile phone is nearby, comprising:

- a near-field short distance wireless communication chipset, wherein the near-field short distance wireless communication chipset is used for communication with the phone;
 - a speakerphone means configured to make and receive phone calls via the mobile phone comprising a microphone and a loudspeaker device and to accept voice commands; and
 - an alerting means to alert a user of the wearable communication device to consider an action.
2. The communication device of claim 1 wherein the communication device has also watch functions.
3. The communication device of claim 2 wherein the watch further comprises analog watch movement.
4. The communication device of claim 2 wherein the watch has a digital watch display.
5. The communication device of claim 2 wherein a time of day can be adjusted by knob of the watch.
6. The communication device of claim 1 wherein the communication device comprises two buttons.
7. The communication device of claim 6 wherein the two buttons are programmable buttons.
8. The communication device of claim 7 wherein the two buttons are configured via a web portal.
9. The communication device of claim 7 wherein the two buttons are configured via a smartphone application.
10. The communication device of claim 7 wherein pre-programmed configurations of the two buttons can be activated by duration of pressing the buttons.
11. The communication device of claim 7 wherein the two buttons comprise social, and/or messaging, and/or emergency, and/or further functions.
12. The communication device of claim 12 wherein a top button comprises:
- default functions comprising voice command activation, activate phone call, receive phone call, terminate a phone call, and pairing with the phone;
 - social functions comprising reading and sensing text messages;
 - safety functions comprising start/stop calling pre-programmed numbers;
 - gaming and/or remote control functions comprising start/stop 3D motion reporting;
 - audio functions comprising start/stop playing audio files; and
 - recording functions comprising activating voice recordings.
13. The communication device of claim 1 wherein the communication device comprises voice recognition capability and a button of the two buttons can be used for voice recognition activation.
14. The communication device of claim 1 further comprising a display.
15. The communication device of claim 15 wherein the display is an OLED display using an RGB LED light.
16. The communication device of claim 15 wherein the display is a one-line digital display.
17. The communication device of claim 1 wherein the near-field short distance wireless communication chipset is a chipset of a short distance wireless communication technology.

18. The communication device of claim 18 wherein the near-field short distance wireless communication chipset comprises a regular chip of the short distance wireless communication technology and/or a low energy chip of the short distance wireless communication technology, wherein both are used for communication to a phone or a to a smart phone or another device capable of the same a short distance wireless communication technology.

19. The communication device of claim 17 wherein the near-field short distance wireless communication chipset allows a bump-type feature to transfer data from the phone to the watch.

20. The communication device of claim 17 wherein the connection to the mobile phone is performed by the chipset using no-code pairing system according to a related protocol wherein this protocol allows a user to easily and rapidly pair a wearable communication device and a mobile phone without having the user entering a passcode and wherein pairing is done only once to allow connections between the communication device and the mobile phone

21. The communication device of claim 1 wherein the speakerphone means comprises echo cancellation and is configured to making/receiving phone calls

22. The communication device of claim 1 wherein said loudspeaker device comprises a piezo speaker.

23. The communication device of claim 1 wherein said communication device further comprises means to support gaming applications.

24. The communication device of claim 23 wherein the means to support gaming applications comprise a magnetometer and a gyroscope together with an audio generating device.

25. The communication device of claim 1 further comprising a processor wherein the processor controls the operation of the communication device comprising the speakerphone means, a vibration motor, movement sensing means comprising a 3-axis accelerometer, a magnetometer, a gyroscope, an infra-red proximity sensor, and a touch sensor connected to a capacitive touch panel.

26. The communication device of claim 1 wherein the processor further controls a watch function.

27. The communication device of claim 1 wherein a micro USB-port provides power supply of the communication device which enables charging of a main battery wherein the main battery provides power to all components of the communication device requiring power.

28. The communication device of claim 27 wherein the main battery is a rechargeable battery.

29. The communication device of claim 28 wherein the charging of the main battery is performed wirelessly.

30. The communication device of claim 1 further comprising a motion sensing means to initiate functions of the communication device by moving the communication device.

31. The communication device of claim 30 wherein the communication device is configured to perform multi-point motion sensing wherein multiple similar devices are synchronized via star or mesh network

32. The communication device of claim 1 wherein incoming call alerts are provided via vibration, color LED and/or caller ID display.

33. The communication device of claim 1 wherein the mobile phone is a smartphone which is connected to Internet.

34. The communication device of claim 33 wherein the communication device is directly connected to a smartphone

application through a chipset of a short distance wireless communication technology and the smartphone is connected to the internet via Wi-Fi or mobile phone networks.

35. A method to achieve a wearable communication device configured for gaming applications, to talk and to listen, place and answer calls, send and receive text messages, initiate voice commands to mobile search for information and to find locations, and be notified of incoming calls, texts, and events, all while a mobile phone is nearby, comprising the steps of:

- (1) deploying a mobile phone within reach of a near-field short distance wireless communication chipset used for communication between the wearable communication device and the mobile phone;
- (2) deploying the near-field short distance wireless communication chipset in the wearable communication device;
- (3) connecting the mobile phone to the internet via Wi-Fi or to mobile phone networks; and
- (4) deploying a speakerphone means in the wearable communication device configured to make and receive phone calls via the mobile phone comprising a microphone and a loudspeaker device and to accept voice commands; and
- (5) deploying an alerting means to alert a user of the wearable communication device to consider an action.

36. The method of claim **35** wherein the mobile phone is a smart phone.

37. The method of claim **35** further comprising watch functions deployed in the wearable communication device.

38. The method of claim **37** further comprising analog watch movements.

39. The method of claim **37** further comprising a digital watch display.

40. The method of claim **37** further comprising a time of day display that can be adjusted by a knob of the watch.

41. The method of claim **35** further comprising two buttons deployed on the communication device.

42. The method of claim **41** wherein the two buttons are programmable buttons.

43. The method of claim **42** wherein the two buttons are configured via a web portal.

44. The method of claim **42** wherein the two buttons are configured via a smartphone application.

45. The method of claim **42** wherein pre-programmed configurations of the two buttons can be activated by duration of pressing the one or more buttons.

46. The method of claim **42** wherein the one or more buttons comprise social, and/or messaging, and/or emergency, and/or further functions.

47. The method of claim **42** wherein a top button comprises:

- default functions comprising voice command activation, activate phone call, receive phone call, terminate a phone call, and pairing with the phone;
- social functions comprising reading and sensing text messages;
- safety functions comprising start/stop calling pre-programmed numbers;
- gaming and/or remote control functions comprising start/stop 3D motion reporting;
- audio functions comprising start/stop playing audio files; and
- recording functions comprising activating voice recordings.

48. The method of claim **35** further comprising deploying voice recognition capabilities wherein a button of one or more function buttons can be used for voice recognition activation.

49. The method of claim **35** further comprising deploying a display.

50. The method of claim **49** wherein the display is an OLED display using an RGB LED light.

51. The method of claim **49** wherein the display is a one-line digital display.

52. The method of claim **35** wherein the near-field short distance wireless communication chipset is a chipset of a short distance wireless communication technology.

53. The method of claim **52** wherein the near-field short distance wireless communication chipset comprises a regular chip of the short distance wireless communication technology and/or a low energy chip of the short distance wireless communication technology.

54. The method of claim **53** further comprising using the sensors in home applications.

55. The method of claim **35** wherein the near-field short distance wireless communication chipset allows a bump-type feature to transfer data from the phone to the watch.

56. The method of claim **35** wherein the connection to the mobile phone is performed by the chipset using no-code pairing system according to a related protocol wherein this protocol allows a user to easily and rapidly pair a wearable communication device and a mobile phone without having the user entering a passcode and wherein pairing is done only once to allow connections between the communication device and the mobile phone

57. The method of claim **35** wherein the speakerphone means comprises echo cancellation and is configured to making/receiving phone calls

58. The method of claim **35** wherein said loudspeaker device comprises a piezo speaker.

59. The method of claim **35** further comprising deploying means to support gaming applications.

60. The method of claim **59** wherein the means to support gaming applications comprise a magnetometer and a gyroscope together with an audio generating device.

61. The method of claim **35** further comprising deploying a processor wherein the processor controls the operation of the communication device comprising the speakerphone means, a vibration motor, motion sensing means comprising a 3-axis accelerometer, a magnetometer, a gyroscope, an infra-red proximity sensor, and a touch sensor connected to a capacitive touch panel.

62. The method of claim **61** wherein the processor further controls a watch function.

63. The method of claim **35** further comprising deploying a micro USB-port providing power supply of the communication device which enables charging of a main battery wherein the main battery provides power to all components of the communication device requiring power.

64. The method of claim **63** wherein the main battery is a rechargeable battery.

65. The method of claim **64** wherein the charging of the main battery is performed wirelessly.

66. The method of claim **35** further comprising deploying a motion sensing means to initiate functions of the communication device by moving the communication device.

67. The method of claim **66** wherein the motion sensing means is configured to perform multi-point motion sensing wherein multiple similar devices are synchronized via star or mesh network

68. The method of claim **35** wherein incoming call alerts are provided via vibration, color LED and/or caller ID display.

69. The method of claim **35** wherein the mobile phone is a smartphone which is connected to Internet.

70. The method of claim **35** wherein the communication device is directly connected to a smartphone application through a chipset of a short distance wireless communication technology and the smartphone is connected to the internet via Wi-Fi or mobile phone networks.

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