

Claims

We claim,

1. A smart wearable device for alerting a user comprising:
 - a set of sensors capable of monitoring one or more user activities of a user, and recording sensor values;
 - a first communication module capable of communicating to a mobile device, wherein, the smart wearable device is paired with the mobile device through the first communication module and enters "non-discoverable" mode when connected with the mobile device;
 - a second communication module capable of, searching and scanning the current location of the user for one or more devices in the range and identifying one or more devices based on their device ids and the distance between the smart wearable device and one or more nearby devices through the corresponding received signal strength indicator (RSSI) values between them and wherein, the second communication module of smart wearable device and other devices are in 'discoverable mode'; and
 - an alert unit capable of automatically alerting the user by means of vibration or voice output, when the distance between the smart wearable device and one or more devices comes within a range of 5m.
2. The smart wearable device of claim 1, wherein, the alert unit triggers an alert to the user, when the RSSI values of one or more devices which are in the vicinity of smart wearable device falls in the range between -100dB to -25dB.
3. The smart wearable of device of claim 1, wherein, the first communication module is a first BT module and the second communication module is a second BT module.
4. The smart wearable of device of claim 1, wherein, the second communication module remain only in 'discoverable mode' where, the scanning of one or more devices by the smart wearable device, in the range of the user is not initiated.
5. A smart wearable device connected with a mobile device comprising:
 - a set of sensors capable of monitoring one or more user activities of a user, and recording sensor values;
 - a communication module capable of toggling its communication mode from "non-discoverable" to "discoverable" and vice versa at a constant regular interval, wherein the communication module is in "discoverable" mode by default; and
 - an alert unit capable of alerting the user by means of vibration or voice output.

6. The smart wearable device of claim 5, wherein, the smart wearable device connects and pairs with a mobile device during a first interval, wherein, the duration of first interval is 30 seconds.
7. The smart wearable device of claim 6, wherein, the smart wearable device disconnects from the mobile device and becomes "discoverable" during a second interval, wherein, the duration of second interval is 30 seconds and device id of subject smart wearable device is changed to a common device id.
8. The smart wearable device of claim 7, wherein, the mobile device scans and searches the current location of the user for one or more devices having one or more common device ids in the range of the user and capable of identifying the distance between the subject mobile device and one or more nearby devices through the corresponding received signal strength indicator (RSSI) values.
9. The smart wearable device of claim 8, wherein, the smart wearable devices automatically connect and disconnect with the mobile device when the duration of second and first interval ends.
10. A system for tracing a user comprising:
 - a smart wearable device comprises, a set of sensors, at least two communication modules, and an alert unit, wherein, the sensors capable of monitoring one or more user activities of a user, and recording sensor values, wherein, the first communication modules connects and pairs with a mobile device and second communication module in a 'discoverable mode', wherein, the alert unit capable of alerting the user by means of vibration or voice output, when one or more users comes in range of subject user;
 - a mobile device comprises, a BT module which is capable of scanning and searching the current location of user and capable of recording the one or more device IDs of one or more devices which are in the vicinity of the user with their respective received signal strength indicator (RSSI) values, and prepares and transmits a first data to the application server, wherein, the first data comprises at least one device Id and its RSSI value;
 - an application server capable of receiving the first data, and capable of processing and identifying the corresponding user information relating to subject device Id by searching the subject device id in a database and alerting the user to maintain a safe distance through the smart wearable device from a second user, when the subject device Id matches with at least one of device Ids stored in the database and identified as the

second user and when the RSSI value of subject device Id is within the one of the threshold limits; and

a database is connected with the application server, stores the profile information of one or more users of the network, wherein, the profile information includes at least one of a name, and a device Id.

11. A system for tracing a user comprising:

a smart wearable device configured with at least one communication module to scan and detect at least one or more second devices of one or more users in the vicinity of a first user and capable of preparing a first data and transmitting the first data to a mobile device, wherein, the first data consists of at least one device ID of one or more second devices and its received signal strength indicator (RSSI) value;

a mobile device capable of receiving the first data, and prepares a second data, wherein, the second data consists of first data, device details of the first user;

an application server capable of receiving the second data, and capable of processing and identifying the corresponding user information relating to subject device Id by searching the subject device id in a database and alerting the user to maintain a safe distance, through the smart wearable from a second user, when the subject device Id matches with at least one of device Ids stored in the database and identified as the second user, and when the RSSI value of subject device Id is within the one of the threshold limits; and

a database is connected with the application server, stores the profile information of one or more users of the network, wherein, the profile information includes at least one of a name, a device Id.

12. A method for notifying and alerting the first user to maintain a safe distance in open environment, through a smart wearable device comprising:

scanning the current location of first user for one or more second devices through a second BLE module of a smart wearable device, wherein, the smart wearable device is connected to a mobile device through a first BT device;

identifying at least one or more second devices and their device Ids along with their RSSI values, in the vicinity of the first user by the smart wearable device;

marking the distance between the first user and other users based on the RSSI values of one or more devices in the vicinity of the first user; and

alerting the first user when the actual distance between the first user and others falls below preconfigured distance threshold value.

13. The method of claim 12, further comprising:
marking a 'distance threshold value' from the RSSI values between the smart wearable device and other devices which are in the range of first user.
14. The method of claim 13, wherein, the RSSI value is below -25dB and its distance threshold value is less than 1m, wherein, the RSSI value is between -25dB and -50dB and its distance threshold value is less than 5m but more than 1m, wherein, the RSSI value is between -51dB and -100dB and its distance threshold value is less than 10m but more than 5m, and wherein, the RSSI value is above -100dB and its distance threshold value is more than 10m.
15. A method for tracing one or more users of a network through a smart wearable device comprising:
monitoring infection status of one or more users of a network, wherein, the infection status includes at least one of normal, infected, quarantined and cured;
updating the infection status by a first user, wherein, the infection status of first user is changed to 'infected' or 'quarantined'.
initiating the contact tracing of the first user, wherein, the device id of smart wearable device used by the first user is identified; and
retrieving a list of device Ids, with their corresponding RSSI values by searching the first user's device id from the database, at least for the period of past 15 days, wherein, a user list is prepared based on the RSSI values of each and every device of one or more users of network, who were in close distance with the first user.
16. A method for notifying and alerting the first user to maintain a safe distance in open environment, through a smart wearable device comprising:
scanning the current location of a first user for one or more second devices through a second BT module of a smart wearable device or a mobile device;
identifying at least one or more second devices which are in 'discoverable mode' located in the vicinity of the first user, by their device ids and their respective RSSI values;
tracing and retrieving the profile information of one or more second users when the RSSI values of subject one or more devices fall below a threshold value; and
alerting the first user by means of vibration through the smart wearable device, to maintain the safe distance when the RSSI value falls below threshold value and when the 'infected status' in profile information of one or more second users return with the value of 'infected' or 'quarantined'.