Claims

We Claim,

1. A system for establishing a communication between a mobile device and an IoT device, the system comprising:

an IoT device configured with at least a first communication module and a second communication module, wherein the first communication module acts as a GATT server that provides one or more services, each service having one or more characteristics and descriptors, and wherein a service includes a custom defined service having a characteristic storing a name or address of the second communication module of the IoT device;

a mobile device configured with at least a first communication module and a second communication module, and a mobile application, wherein the mobile device acts as a GATT client that sends requests to the IoT device;

a first network capable of connecting the IoT device with the mobile device through a first connection established by the first communication modules of the IoT device and the mobile device;

wherein the mobile application is capable of executing instructions to:

scan and detect one or more IoT devices, wherein each IoT device advertises its name or address over the first communication module, and identify the IoT device from the detected IoT devices;

connect with the IoT device to establish the first connection between the mobile device and the IoT device through the first communication modules;

discover the one or more services provided by the first communication module of the IoT device;

subscribe to one or more characteristics and descriptors of at least one service;

fetch and receive, through the first connection using one or more read or write characteristics of the services, the name or address of the second communication module stored within the characteristic; and

execute an instruction to connect with the second communication module of the IoT device, wherein the IoT device receives the instruction through the first connection and automatically switches on the second communication module, and initiate a second connection between the second communication module of the mobile device and the second communication module of the IoT device using the name or address received.

2. The system of claim 1, wherein upon receiving an instruction from the mobile application through the first connection to connect with the second communication module, the IoT device automatically switches on the second communication module for a predefined time interval to enable connection with the mobile device, and switches off the second communication module after the predefined time interval to conserve power, and wherein in another embodiment, the second communication module of the IoT device is switched on to connect with the mobile device for a first time.
3. The system of claim 1, wherein the mobile application is further capable of executing instructions to automatically disconnect the first connection established between the first communication modules of the IoT device and the mobile device upon initiation or establishment of the second connection, and wherein the mobile application identifies the second communication module configured in the IoT device and indicates successful connection with the IoT device.
4. The system of claim 1, wherein the first communication module is a Bluetooth Low Energy module, the second communication module is a Bluetooth module, and the custom defined service of the first communication module includes characteristics and descriptors of the Bluetooth module, wherein the characteristic stores the name or address of the Bluetooth module configured in the IoT device.
5. The system of claim 1, wherein the first communication module supports lower data rate transmission including sensor data, and the second communication module supports higher data rate transmission including voice, music, or video data, and wherein the mobile application is capable of switching between the first connection and the second connection based on a requirement of data to be transmitted.
6. A method of establishing a communication between a mobile device and an IoT device, the IoT device being configured with at least a first communication module and a second communication module, wherein the first communication module acts as a GATT server that provides one or more services having characteristics and descriptors, and wherein a custom defined service includes a characteristic that stores a name or address of the second communication module, the method comprising:

advertising, by the IoT device, the name or address of the IoT device over the first communication module;

scanning, by the mobile device, to detect one or more IoT devices in a vicinity;

identifying at least one IoT device from a list of detected IoT devices;

connecting with the IoT device to establish a first connection between the mobile device and the IoT device through the first communication modules;

discovering one or more services provided by the first communication module of the IoT device;

subscribing to one or more characteristics and descriptors of at least one service;

fetching and receiving, at the mobile device through the first connection using one or more read or write characteristics of the services, the name or address of the second communication module stored within the characteristic;

executing an instruction to connect with the second communication module of the IoT device through the first connection, wherein upon receiving the instruction, the IoT device automatically switches on the second communication module; and

initiating a second connection between the mobile device and the IoT device through second communication modules using the received name or address.

7. The method of claim 6, further comprising: receiving, at the IoT device through the first connection, an instruction to connect with the mobile device; automatically switching on the second communication module for a predefined time interval to enable connection with the mobile device; and switching off the second communication module after the predefined time interval to conserve power, and wherein in another embodiment, the second communication module is switched on to connect with the mobile device for a first time.
8. The method of claim 7, wherein the services provided by the first communication module include one or more characteristics and descriptors that enable read and write operations.
9. The method of claim 7, wherein the services relate to one or more sensors, communication modules, power module, or microcontroller configured within the IoT device.
10. The method of claim 6, wherein the mobile device executes instructions to automatically disconnect the first connection established between the mobile device and the IoT device upon initiation or establishment of the second connection.