

CHAPTER 3

RESEARCH METHODOLOGY

The steps to complete this project are :

3.1 Build a Server

This server is based on java socket programming. There are three classes in this server that have different tasks. The classes are :

1. The first class handles the client that connects to server. Each client is connected, the client gets a new thread.
2. The second class handles every incoming message from client to server and passes it to the destination database. Each client has a special identity called access key. All of new incoming messages are accepted by this class to forward messages according to the access key.
3. The last class is to handle the connection to the database. The library used is JDBC for MySQL database management system.

3.2 Create Front-End Application

The purpose of this project is to build an Internet of Things (IoT) platform. Front-end applications are required for users to use this platform. This front-end application is web based. This front-end application is created with object oriented PHP programming language. The features of this front-end application are :

1. User registration
2. One user can have multiple channels
3. One channels can have multiple sensors
4. Sensor data is displayed in the real time line graph.

3.3 Testing

There are two testing in this project. The testing are :

1. The first testing is to know the server's endurance. The server tested using three computers with different specifications. The server will receive data continuously in large quantities using an artificial program as a client simulation. Data transmission is tested by two methods. The methods is a wireless network and wired network.
2. The last testing is to know the size of data transmission managed by the server. This test is done by performing manual calculations of characters sent from the device.

