REQUIREMENTS

1. User Requirements
   1. Functional
      1. Users can toggle power/set temperature of a specific brand of air conditioner via a website remotely.
      2. Users are able to view the air conditioner’s status and its updates in a webpage.
      3. There is a button to re-read sensor data and simultaneously update the status.
      4. Users are notified whether the system is connected or not
      5. The temperature and current log can be seen in a website
   2. Non-functional
      1. The AC should respond to the command promptly
      2. Web control page contains only basic controls such as power and temperature setting.
2. System Requirements
   1. Functional
      1. Raspberry Pi can read Si7021 temperature sensor and AD7124 current sensor, sends both data to the server and MQTT broker.
      2. Raspberry Pi sends sensor reading through a c code to the website, using PHP GET mechanism.
   2. Non-functional
      1. Mosquitto MQTT is used as the protocol for Web-Raspberry Pi communication.
      2. Air conditioner status is shown and controlled via a HTML/JS webpage.
      3. MQTT and HTML are bridged with Websocket.
      4. The controller programs inside Raspberry Pi is written in C language and embedded Linux commands.
      5. The web application is written in HTML, JS and PHP.
      6. Sensor data is kept inside the MySQL database of the web site.
      7. The website is temporarily hosted at 000webhost.com.
      8. The system is considered disconnected if the system is unresponsive for 5 seconds.