**Project Summary:**This project will use JavaScript, Apache Web Server, Html, D3, MySQL, among other things to make a client/server set of tools that work together. The client will scan a computer and report information such as the cpu load times , idle, and temperatures. It will also obtain gps data in the form of location and timestamps. This data is then sent to a node.js (or some other type) of server using either MQTT or RESTful API. The server will then take that data and store it into an sql database and generate graphs using the JavaScript D3 library. An Apache Web Server will host a website that will act as a front end displaying the generated graphs in the user’s web browser. For phase 1 the graphs will be static and generated upon loading the page, but real-time graphs are a possibility for phase 2.

This assignment is based on a similar project from another class, but the original project was much less in-depth. Our aim is make something grander, but given time limits of the project and pre-existing knowledge of our group we feel that the above description is a good tradeoff between learning new skills and demonstrating existing ones.

**Motivations:**

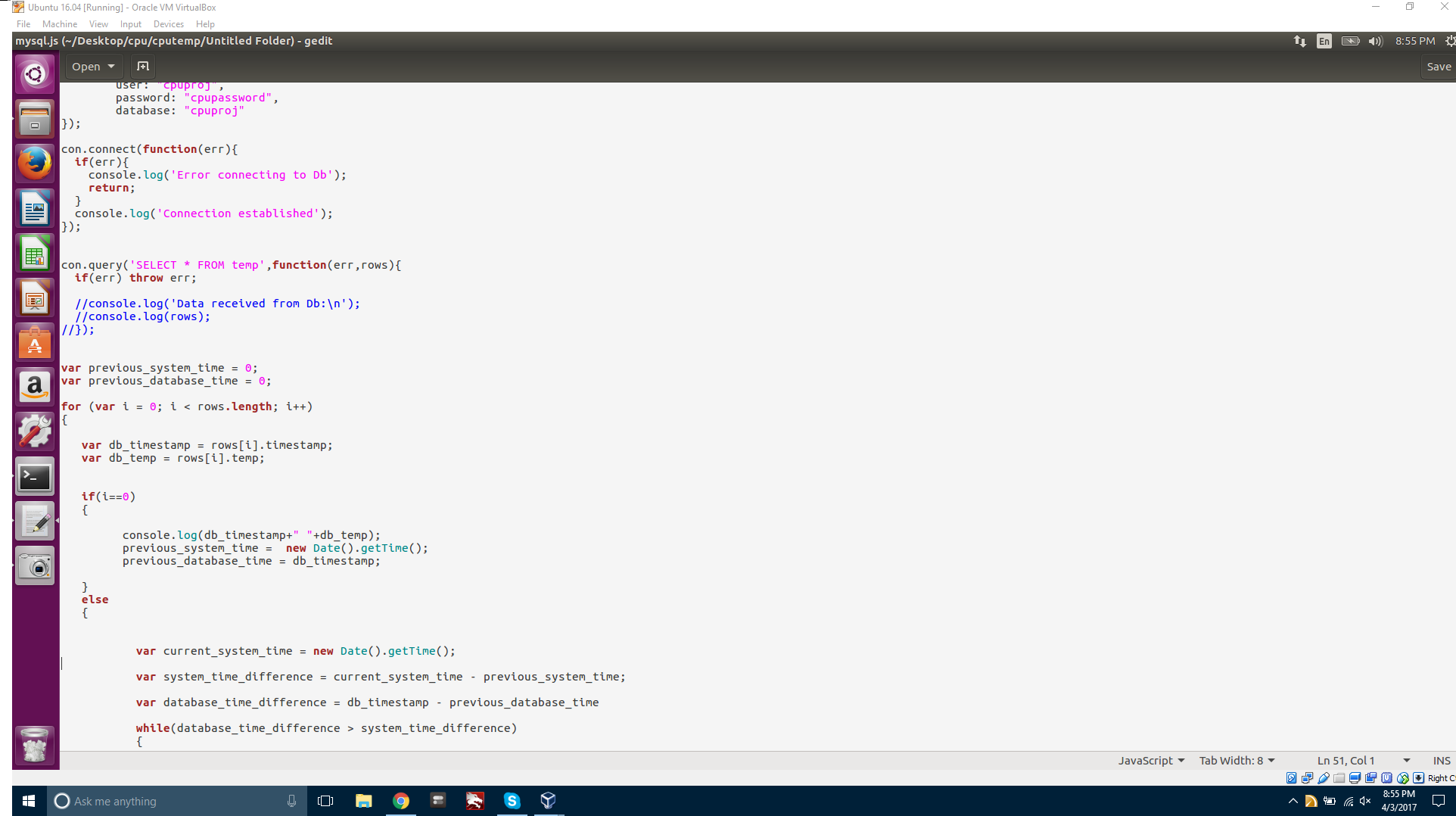
Our primary motivation for this project is to complete all requirements. In order to accomplish this, we originally decided to use an Raspberry Pi for our server, in order to get some experience with using the device. But do to time constraints and conflicts, we decided against this and decided to host our server on Ubuntu running a laptop.

**High level design:**



A client accesses the server with the tool protocol which contains the system info such as CPU load, temp, ect. and connects to the server. The server then takes the data from the client, stores it into a SQL database, and makes a chart with the statics from the clients.

**Low level design:**



The client/”tool” sends gps data, cpu temperature, and cpu load averages to server using MQTTI. Make a server receives data from the client and generates graphs of the incoming data using JavaScript D3 libraries and also stores the data into a mySQL database. The Apache Web Server will host a website that will act as the front end and display the graphs being generated by the server. MySQL will store the data and PHPmyadmin is a user interface for the mySQL database.

Validation: