**e.quinox Datalogging**

**Task List**

1. Build and Test Hardware
   1. Buy Components for Testing
   2. Get Test PCB Manufactured/Make depending on “Mike Harbor” (EEE Stores In charge for PCB Manufacture)
   3. Test all sensors
   4. Build the Power supply Module i.e. Voltage regulator
   5. Make final designs for PCBs and send for manufacture (**Deadline: Mid-May i.e. before exams start**)
   6. Order final components
   7. Rigorous testing of the complete datalogger (Require at least 2-3 weeks). Should be done early enough so that there is time to fix any issues before the trip.
2. Timing System
   1. If connected to the internet, get time from server
   2. Use time from the last recorded time on the files in the sd card
   3. External Clock (ds3231)
3. Code
   1. Need to code the different modules once sensors have been tested
   2. If internet works, the idea is to upload the data at night when there is no useful information being recorded
4. Box/Casing for the datalogger
5. Web App
6. Internet Module
   1. Unlock the Vodafone Modem and try with a different sim card
   2. Maybe talk to amaawi if the standalone team go for it

**Individual Tasks**

We will have 5 different boards – Each will be designed in EAGLE by an individual team memeber:

|  |  |
| --- | --- |
| 1. DC Current board 2. Power Supply board | Saurab |
| 1. DC Voltage board | Kishan |
| 1. AC Voltage and Current board 2. Atmospheric board | Alex |

*Note: Each Board should have 4 sensors and 1 ADC*

* Kishan will test the External Clock
* David will be working with Tom Berman to complete the Web App

**Ordering the Components for Testing**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Part** | **Farnell/Rs Number** | **Package** | **Cost** | **Qty** | **Description** | **Datasheet** |
| IL300 | 1469498 | SMD | £3.16 | 1 | Optocoupler | http://www.farnell.com/datasheets/1009632.pdf |
| MCP602 | 1852043 | SOIC | £0.60 | 2 | Dual Opamp | http://ww1.microchip.com/downloads/en/DeviceDoc/21314g.pdf |
| AD7993BRUZ-0 | 1078309 | TSSOP | £4.27 | 1 | ADC | http://www.farnell.com/datasheets/1610633.pdf |
| ACS712 | 1329624 | SOIC | £3.72 | 2 | Hall Effect current sensor | http://www.farnell.com/datasheets/64754.pdf |
| MCP601 | 1852039 | SO08 | £0.43 | 4 | Single Opamp | http://ww1.microchip.com/downloads/en/DeviceDoc/21314g.pdf |
| Myrra 440085 | 1689047 | Encapsulated | £2.79 | 1 | 220:6 Step Down Transformer | http://uk.farnell.com/myrra/44085/transformer-1-5va-6v/dp/1689047 |
| SD103 | 1773500 | SOD-123 | £0.20 | 2 | Schottky Diode | http://www.diodes.com/datasheets/ds11013.pdf |
|  |  |  |  |  |  |  |
|  |  | Total |  |  |  |  |