**Actions Items from last week:**

We had a group meeting on Monday 22nd October for 60 minutes after the ESP tutor group meeting to discuss our load results, each section of the DR1 report, who will complete the sensors lab for the other sensors combination and the Gantt chart:

Motors lab report:

* Amendments to content of the motor characterization
* Amendments to the figures to follow presentation specifications
* Remove unnesscary tables

Load measurement section:

* Use the flat data
* Compare coefficients of friction of second and first run to decide which to use as they are very different to other groups

Gantt Chart:

Ask Dr. Max if 100 subtasks are needed if tasked with Sobhi is going to add 100 over the weekend

Sensors lab:

* Osama and Aarambha will read the data sheets of all the provided sensors and will determine the necessary combinations to test
* Osama and Aarambha will collect data on one sensor combination on Wednesday 24th October, Subhi and Marlon on Saturday 27th October and Abdullah Monday 29th October

Sensors lab role assignment:

We agreed that we will discuss our roles in the sensors lab report on a group meeting on WhatsApp on Tuesday 23rd on 7pm.

Osama and Aarambha met on Wednesday 24th in C34 and collected data on a sensor

We had a second group meeting on Friday the 26th October that lasted 47 minutes to discuss our roles, the DR1 motors and DR2 sensors report progress:

Roles assignment for sensors lab:

* Osama – Line sensing and non-line sensing and circuit diagram
* Marlon – Software
* Subhi and Aarambha – Control algorithim and circuit diagram
* Abdullah – Hardware Overview

Due to Osama’s role as doing research on the line sensing sensors, he will be doing all the combinations instead of Subhi and others and should he need help Aarambha will help him and he must complete his research on the different combinations by Thursday November 1st as C34 is not open on weekends.

If one report section is too much then member can receive help from available resource

DR1 Report - to be delivered by 30th October:

Motor characterization:

* Improve and explain graphs and add error bars

Load measurements section:

* Add 20% to coefficients of static and rolling friction for ramp and flat as margin of error
* Lessen bolding, bullet points and remove units table

Gear box section:

* Finish speed section

Complete Malpractice test and contact page for submission

Everyone had to complete research this week according to schedule but unfortunately, we couldn’t hold the meeting on Tuesday due team availability so we agreed we will decide at the Friday meeting and we did so we plan to cram the research from this week to next Wednesday and then start design phase. Osama and Aarambha were did one sensor on Wednesday. Malpractice test and contact page completed.

Each person was tasked with delivering on their agreed section of report by Wednesday 31th using the advice of both meetings.

**Project status and statement of progress:**

Progress was made on putting all different parts of DR1 report together and finalizing presentation for submission for week 6 and choosing our gear box which was done this weekend. After we receive tutor advice we will have our final report by Wednesday the 31th. Some progress was made on sensors phase of project by getting results for a second sensor pair and allocating resources to each section of the project which was agreed on Friday 26 October meeting, and some initial research was made by each of us on their part but more is needed to get back on track which was affected by team availability. Everyone is aware of the deadlines for report, sensor research and other tasks. The progress of the project maybe half a week behind schedule but contingency in week 9 will help amend that.

**Individual Student Contributions:**

Marlon A. Guanoluisa Pozo

After discussed with all my group, some changes and layout were added to the graph and in the same time to save space, both armature resistance graphs were joined and in the same way the torque’s graph for the Motor Characterisation part in the DR1 draft, all this work were carried out along with Aarambh.

Subhi Alsous:

• Performed most calculations needed for the Gear ratio section in DR1 including ratio, intermediate shaft position and maximum speed calculations.

• Finished and submitted the gear ratio section of the DR1 first draft.

• Agreed with the group during last meeting on amendments I need to apply to my section for the final DR1 report

• I chose to take responsibility for the control algorithm theory section, alongside Aarambh.

• Started my initial research by reading the following sections in the technical and making relevant notes:

* 9. Motor Control Electronics – pages 41-47
* 10. Controlling the Motor Drive Board – pages 47-53
* 15. Control Theory 77-84

Osama Othman:

* Wrote week 6 report
* Tried to solder third sensor combination to take measurements but personal sensor kit burned PCB
* Finished content of DR1 report based on advice from both groups and chose final coefficients of friction
* Took measurements on Wednesday with Aarambha on one sensor combination and added them to excel file
* Created a Microsoft document file and brought all the parts together in one file for complete draft
* Completed a excel table with Aarambha that compares a different phototransistors and different LEDs and determined appropriate combinations

Abdullah Ahmed Akhtar

• Put my results from load measurement experiment onto a spreadsheet and uploaded onto dropbox.

• Finished writing introduction of DR1 report.

• After discussing with team members, made necessary changes to my section of the DR1 report.

• Regarding DR2 report I took the responsibility to work on “hardware overview” section of the report, and therefore I have read page 84 of the technical handbook, and made some notes.

Aarambh Sinha

* Made measurements of sensors OPE5685/BPW17N with Osama on Wednesday evening. We further soldered a different pair of sensors to be tested on by different team members over the week.
* Designed a datasheet comparison table with Osama, comparing the theoretical values and performing calculations for what current and resistor values to use for each photodiode and emitter.
* Working on the Motor Characterisation section with Marlon for DR1, I focused on analysing graph plots and checking the measurement accuracies across all of the data. I will be working towards the completion of DR1 and ensuring the sections have all met their criteria.
* Agreed with the whole group that I will focus on the control algorithm’s section with Subhi. In order to prepare, I will be preparing notes on pages 77-84 on the technical handbook

**Other issues:**

We need to finish research of sensors quickly and we need to set up a platform where we can have short notice meetings.