

Week 4 Group 22 Journal

Date: 14/10/2018

1. Action Items from last week

Subsequently after the supervisor's meeting, we participated in a group meeting on the same day to figure out a plan for the Motors lab. The meeting lasted 65 minutes with a robust action plan for the rest of the week:

- Marlon will design a spreadsheet document with all the calculations pre-emptively set to each cell before the motor's lab. The spreadsheet will also contain empty graphs to instantly plot points when writing down the results
- The data must be recorded straight to the Excel sheet to reduce chances of losing data or wasting time writing on paper.

The Motor's lab on Thursday 11th was successfully completed by Subhi, Abdullah and Marlon. The load measurements session was also successfully completed by Osama in under 14 minutes.

To follow up on our results and make further comments on it, a group meeting (56 minutes) took place on Friday 12th where we reached multiple conclusions:

- The results showed a strong correlation across all measurements
- Abdullah will work on the Introduction of the DR1 report
- Aarambh and Marlon will work on the motor characterisation section
- Osama will focus on the Load Measurements section
- Subhi will focus on the Gear ratio selection
- The summary will be thought through once a final agreement is reached on all the previous sections.
- Aarambh will research into Line Sensors and perform some prelab work with the electronic components provided.

Alongside with the DR1 report, Subhi, Osama and Aarambh are going to detailed plan for the Line Sensors lab before the lab on Thursday 18th.

2. Project Status and statement of progress

The group has successfully completed the Motor Characterisation lab with satisfactory readings, showing very strong coefficient of correlation across all graphs. The DR1 report is in progress with plans of completing the first draft by Monday of Week 5. In addition, the group is researching and planning for Line Sensors (Lab 2). Everyone is aware of their responsibilities and are in the process of completing their tasks. All team members attended the two group meetings this week (Monday 7th and Friday 12th)

3. Individual Student Contributions

Aarambh Sinha:

- My role this week has involved assisting the team with booking a room in the Alan Gilbert Learning Commons this week as well as taking responsibility over this week's weekly journal.
- This week involved researching into the line sensor's lab and trying to get an understanding of how each emitter/receiver theoretically works and creating a brief table of the pros and cons of each sensor.

- Started the motor characterisation in conjunction with Marlon. The main area I will be focusing on is ensuring the lab has achieved all the aims and objectives as well as commenting on the accuracy of the measurements.
- Reading from pages 51 to 63 has given me a basic overview of the methods of approaching this lab. I have made attempts to generate electronic diagrams visualising the sensor's internal circuitry.

Abdullah Ahmed Akhtar:

- Attended a meeting before motors lab and discussed, how we will do the lab.
- Attended the motors lab along with Subhi and Marlon, I actively participated in the lab and at the end we managed to get good results.
- I've gone through the relevant pages of the technical hand book to prepare for the sensor's lab (if I am chosen for the lab).
- In the second meeting, it was decided that I will write the introduction for the motor's lab report, therefore I've started writing the introduction.

Marlon Guanoluisa:

- I prepared in advance the tables in Excel that we used for plotting and calculating the armature resistance, V_b , K_T and K_E .
- I attended to the laboratory about motors along with Abdullah and Subhi, a series of experiments were carried out and the results obtained at the end of it seem to be very reasonable.
- Concerning the report, the section about Motor characterisation were assigned to Aarambh and I. I started doing the first draft of it.

Osama Othman:

- Read the prelab and lab instructions for the motor force measurement lab by listing all the steps I will do as soon as I enter the lab. This helped as I my results agree with the theory
- After the force measurements load experiment, wrote the results on a excel sheet and done the necessary calculations in excel
- Wrote a 2-page draft for the DR1 motors lab report section of load measurements based on my findings
- Watched lecture 2 of ESP that talks about the line sensors and sensors lab
- Watch a 3-minute video introducing a stripboard and how to solder on them

Subhi Alsous:

- Prepared for the motors lab the day before by listing out all the steps and tasks we need to do
- Attended the motors lab, alongside Abdullah and Marlon, where we completed all intended tasks smoothly and acquired the results and graphs we were looking for

- During our last meeting, I was assigned the responsibility of writing the gearbox selection part of the DR1 Report, in which I have made some calculations later in order to select the right option
- Started shaping the format and content of my DR1 report's section
- Read Lecture 3 slides and pages 53-64 in the technical handbook regarding Lab2: Line Sensors and made relevant notes for my understanding.
- Read and analysed the TCRT5000 datasheet

4. Other issues

As a team, we did not experience any issues throughout the week.