**Week 11 Group 22 Journal**

**Date: 21/10/18**

1. **Action items from last week**

On Monday (26/11/18), we had a group meeting for 1 hour and 15 minutes, straight after supervisors meeting and we came to following conclusions:

* We agreed on the sensor circuit implementation in terms of its shape and dimensions
* We agreed on that the buggy design needs to be redone so that it is smaller in both length and width to allow for better navigation, Marlon was tasked with helping Abdullah finish his design by offering his opinion on dimensions and where the different pieces of the buggy will go
* We put all finished and unfinished drafts together to see how they fair with the page limit. After which what needs to be reduced and amended for submission. The introduction needed to be reduced to make space for the non-line sensors, the summary and the references

Group had another meeting on Wednesday (28/11/18) 1:30 pm for 1 hour 30 minutes, where they worked on putting the different parts of the sensor’s lab draft together for submission on Thursday:

* We put all finished and unfinished drafts together to see how they fair with the page limit. After which what needs to be reduced and amended for submission.
* We also agreed on who will do what to finish the unfinished parts. Osama would help Aarambh to complete the sensor circuit section by creating a block diagram of how the pins will connect to the sensor circuit and collect some more data for the line sensors.
* Marlon will do the Conclusion and fill in the blank table in his draft
* Aarambh will finish the sensor circuit on Wednesday on Altium
* Everyone will use an agreed upon caption font and colour and will use insert caption in their part

We met again on Thursday (28/11/18) at 11:15 am for 1 hour 15 minutes, to put all the finished drafts together and decide what to remove and what to keep and who will proof read it and who will send it off

* The report compilation went well and all we had to do was to put in the references and the summary. Everyone will put in the references and fill them out themselves
* Marlon will proof read it and send it off

1. **Project Status and statement of progress**

The group has completed the DR2 report. Now the group will start to work on planning for the proposal who will do which parts of it on Monday (10/12/2018). On Monday we will also reflect on any mistakes that we have done and lay down some ground rules to prevent them. Finally, we will start our work on the final engineering management assignment Review of proposed engineering project contract. All team members attended all the meetings on Monday, Wednesday and Thursday to complete the DR2 report.

1. **Individual Student Contributions**

Osama Othman:

* Helped Aarambh line sensors part by taking measurements for the TCRT5000 sensor and by completing the last bullet point of the sensors circuit section
* Researched the non-line sensors in great detail to understand how they work, their capabilities, their operational voltage and current. Which pins they can connect to the microcontroller and if that pin will allow supply the needed voltage and current and made relevant notes.
* Completed my non-line sensors section and proof read the line sensors and non-line sensors for technical mistakes
* Wrote the Weekly report for the group

Marlon Guanoluisa:

* I have made the last correction and the reference for the software section of the final DR2.
* I have helped Abdullah with the last design of the buggy, specifically where the batteries will go and how they will be attached to the buggy and I tried to get as much information as I could to do the stress analysis.
* I was part of the discussion of improving the whole DR2 along with all the members of the group
* I did the summary for DR2 and gave a quick look through it.

Subhi ALSous:

* Finalized the sensor implementation required with all spacings and alignments, that would suit the chosen algorithm
* Decided on the final control algorithm to be implemented next semester and completed the final draft of the control section of the DR2
* Helped the rest of the team on multiple meetings during the week to compile the DR2 sections together and finalize all required formatting
* Volunteered to write the Introduction section of the DR2 and finished writing it to be in alignment with the rest of the report.
* Referenced my DR2 work according to guidelines

Aarambh Sinha

* Completed the sensors schematic, final design included digital comparators as the group had chosen to use a digital implementation for the buggy. This would make the software design much simpler.
* Designed a custom-shaped PCB that would fit around the buggy and ensure that there are no possibilities of the PCB bumping into ramps causing damages.
* Completed the sensors research section of DR2, analysing the data and performing calculations that allowed us to decide on the best sensor.
* Referenced the sources used on my sections of the report.
* Helped initially put the sections of the report together and briefly checked all of the sections were meeting their criteria.

Abdullah Ahmed Akhtar

* Worked on a new design of the chassis, which was smaller in size, as other designs were considered to be bigger than expected.
* Finished the new design and put all the required holes on it and did the necessary calculation with the help of Marlon.
* Used solidworks to get 2D drawing of both plates of the chassis and placed on the necessary dimensions. Layout of the dimension was so that, they can be read easily by the marker.
* Used solidworks to do the stress and displacement analysis, to see if the chassis will be able to withstand the load.
* Finished writing the Hardware section of the DR2 report and included the 2D drawings and stress analysis screenshots in the report. And referenced the sources used to complete hardware section.
* Helped the group with assembling the final draft of the report. Proof read the report before it was submitted by Marlon.
* Created the DXF files of the chassis design and submitted the DXF files on the blackboard.