

*Group number: DEC1707*

*Project title: Electromagnetic Train*

*Client &/Advisor: Professor Song Jimming*

*Team Members/Role:*

- 1. Yap Yong Sheng (Team Leader)*
  - 2. Norfarahin Nordin (Communication Leader)*
  - 3. Chung Sheng Su (Webmaster)*
  - 4. Shi Xiang Lim, Larry (Concept Key Holder 1)*
  - 5. Mustafa Hafez(Concept Key Holder 2)*
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○ **Weekly Summary**

Throughout this week we finally showed the demo of the mini model of the electromagnetic train to our advisor. The demonstration consists of the track made from turns of the copper coil, the battery and the neodymium magnet. We manipulated the number of turns based on the analytical calculation to get the optimum turn for the electromagnetic turns. As the number of the magnet put at both end of the battery increase we realized that this situation creates a drag force causing the train to move at slower rate.

• **Past week accomplishments**

***Yong Shen***

We showed the demo to Professor Song in the meeting and discussed what should we do for the following weeks. We need to get a cupboard paper to form the base of the tracks (coil) to support the tracks and make sure the tracks can last more than 2 years without changing its shape. The cupboard paper should be light weight and not easy to fold. Shi Xiang gave an idea to me what we should get for the cupboard and I am still finding it. I found

some in Walmart but they are too heavy. By next week, we need to should the demo to Professor Song.

**Larry Lim**

Analyzing calculations involved in the projects based on research papers found

**Chung Sheng Su**

Updating the website and web design.

**Norfarahin Nordin**

Throughout this week, I worked on improving the parameters on making the track in variety case. I realized as I lift up the track into the slanted position by small angle, the train does not have enough force that drives it to pass through the track. Other than that, I realized that the gap or distance between the coil need to be uniformed as sometime due to the speed of train, and the inconsistency of the gap, causing the train to be out of the track. I am working on the solutions to these issues.

○ **Pending issues**

Some materials such as base for the track; the board are needed. Support for the track such as plastic tube is also needed.

○ **Individual contributions**

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b>	<b><u>Hours this week</u></b>	<b><u>HOURS cumulative</u></b>
Yong Shen	Find the correct diameter of stick that has to be used as a based to form the turns.	3	26
Farah Nordin	Merged design document, and all the reports for the website	3	31
Larry Lim	Worked on the research of improving the design.	3	31
Chung Sheng	Worked on the website for the group project.	3	28
Mustafa Hafez	Worked on the theoretical principle of the project.	3	25

○ **Comments and extended discussion**

The optimum number of turns are calculated and found, thus the track need to be varied in terms of slanting it into some angles.

- **Plan for coming week**

Overcoming the issue of avoiding the train to be out of track when it moves really fast.

- **Summary of weekly advisor meeting**

The additional items needed for the project are discussed.