EECE 281 – 202 Project 2 Report  
Section: L2D, Group: #19, Benches: 7A, 7B

**THUNDERBIRD HOUSE**

*This document serves as a complete documentation of the circuitry and functionality of the project. The project report should have sufficient detail that someone skilled in the art could reproduce or improve upon your results. Include component numbers and info, values, block diagrams, schematics, overall and detailed explanation, comments, when necessary.*

*You may only include code segments in the report whenever needed for explanations. As usual you will need to submit the complete code file separately, and also to include the complete code as an appendix to this report. The code must include sufficient comments for documentation.*

*The number of pages for the report should be less than 10 (not including appendices), double (or 1.5) spaced, ‘Arial’ or ‘Times New Roman’ font size 11 for text, and ‘Courier New’ font size 8 or 10 for the source code, approximately one inch margin for the top, bottom, left, and right margins. It should include the following sections.*

***A. Title page***

*It should include the course name and number, lab section, group and bench numbers, project name, student names, and student numbers. The title page should also include an estimated percentage of participation of each group member in the project.*

|  |  |  |
| --- | --- | --- |
| Name | ID Number | Contribution |
| Diksha Bansal | 45000122 |  |
| Anthony Chui | 38352134 |  |
| Logan Gilmore | 39016126 |  |
| Theresa Mammarella | 45578127 |  |
| Steven Olsen | 22341119 |  |

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# Contributions

*List and explain the contribution percentage of each team member, as well as the description of the task(s) each member worked on and completed. The sum of the individual percentages must add up to 100%. Ideally, group members should have equal participation in the project.*

*This estimate declaration (among other assessing points for contribution) will be used to scale the project mark to each group member. For example, assume that the estimated percentage is: Pedro 30%, John 20%, and Nancy 50% for a three-person group and the project mark is 14 out of 20, the marks will be Pedro =0.30\*(14\*3) = 12.6, John =0.20\*(14\*3) = 8.4, and Nancy=0.50\*(14\*3) = 20 (The mark caps at the max project grade).*

## Diksha

## Anthony

## Logan

## Theresa

## Steven

# Introduction and Motivations

*Include design objective and specifications.*

*Also Include the list and description of the files submitted for this lab (including code and Fritzing breadboard schematics)*

## File Submissions

### Code

### Fritzing Diagrams

# Project 2 Description and Overview

*This section is the main part of your project report and should have sub-headings.*

*Include the details of the project budget.*

*Include summary of each part of and the complete lab experiment. Overview of the overall design approach including system block diagrams for both the hardware and software designs.*

*Explain the design, and implementation procedures. During the lab if you selected a method over the others for any step, describe the second best alternative you considered.*

*Explain the evaluation/testing procedure and results. Include the problems you encounter and how to resolve them, as well as best practices you learned.*

## Planning and Preliminary Steps

This was the first project of EECE 281 to put all six team members together. Recognizing that a larger group would present organization and design challenges, we used our first meet-up to outline the schedule and basic idea of the robot. The planning session proved immensely helpful as it led us to spend the following two days studying data sheets, researching and interpreting them with an eye towards our project requirements.

## Power Supply

## Group Management

Great consideration was put into maintaining a positive group dynamic. To organize ourselves we added group 7A group members into group 7B’s GitHub organization.

While Git is typically used to only maintain version control over code, we also used it to maintain our report in text format (for eventual export to Microsoft Word), personal contribution journals to log what each group member did on a daily basis, and a section to store reference links in.

The purpose of this increased coverage of material is to ensure fair contribution levels for as many forms of contribution as possible. Specifically, when you only log code, and not documentation, research, etc. you can create a culture where coding is the only way to prove participation.

During the lecture about group dynamics, the lecturer made some good points— the effort you put in as an individual almost always seems like it's more than everyone else in the group. Using distributed source control and documentation allows everyone to compare themselves to the rest of the group and prevent potentially demoralizing group dynamic situations where it appears one person doesn't put in near the effort as the rest of the team. Seeing their journal, documentation, code, etc. commits are just a click away.

## Additional Functionalities and Considerations

# Conclusion

# References

# Appendix A: Arduino Code

# Appendix B