Final Project Proposal

Year: 2024 Semester: Spring Team: 05 Project: Dodgebot

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Team Members (#1 is Team Leader):

Member 1: Yusuf Jarada Email: yjarada@purdue.edu

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1.0 Project Description:

*DO NOT forget to remove all this red “prompt” text from this assignment before submitting. Your Project Description text and other work in this document should be non-italicized black text.*

*During the initial project proposal, you identified a problem and developed a proposed solution to that problem. On this section of the report, state formally the project you intend to undertake, particularly any changes to the project since it was initially proposed. This should be a relatively short but complete description (one or two paragraphs) that includes all the functionality that you intend to include in your project product. This description along with your final five PSDRs will be listed on your team website and your team’s integration grade is determined based on how successful your final project is in meeting this project description. This project description may be modified as necessary based on your prototyping results during the first five weeks of the course after which it will be “locked down” and your team will need course instructor permission to change.*

2.0 Team Member Expertise and Team Roles and Responsibilities:

*In this section you will be describing the current expertise of each team member and then assigning each team member a team role.*

2.1 Team Member Expertise:

*In the sections below for each team member, describe their current area(s) of expertise based on their previous experience and coursework and as it pertains to your project. This will help the team determine who might be best to take on different tasks for the project and for the Team Role leaders to help assign tasks.*

2.1.1 Team Member: <replace with name>:

2.1.2 Team Member: < replace with name >:

2.1.3 Team Member: < replace with name >:

2.1.4 Team Member: < replace with name >:

2.2 Team Roles and Responsibilities:

*Typical product design team roles include:*

1. *Team Lead – Maintains communication among team members, ensures team is progressing and assists fellow team members in addressing significant issues*
2. *Systems Lead – Responsible for high level functional overview of the system, including the theory of operation, block diagram, and component selection. Ensures components and systems on project work together coherently*
3. *Hardware Lead – Responsible for design of printed circuit board electrical schematics and layouts, often in charge of circuit board construction and packaging assembly*
4. *Software Lead – Responsible for design and implementation of source code. Undertakes functional prototyping efforts early in the semester to mitigate risk in the later stages of the design process*

*Each team member must be assigned to one of these Team Roles. Remember that the assigned team member is not tasked with doing all the work that is associated with that role, but to help keep track of and ensure that all the project tasks associated with that role are being completed as necessary for project completion. Also note that each team member must provide some significant contribution to the ECE engineering design effort for this project to pass this course (i.e., it is not acceptable for a team member to only work on the mechanical design or only on writing reports or creating presentations, etc.).*

|  |  |
| --- | --- |
| Role | Team Member |
| Team Lead |  |
| Systems Lead |  |
| Hardware Lead |  |
| Software Lead |  |

3.0 Homework Assignment Responsibilities

*ECE 47700 requires each student to write one design component report and one professional component report. In the table below, each team member must select the ONE design component report and the ONE professional report that they are responsible to complete. Note that while these are project reports, they must be written by the individual student assigned and be turned in by that student. If the assignments students must complete must be changed for some legitimate reason, please contact course staff.*

|  |  |  |  |
| --- | --- | --- | --- |
| *Design Component Report* | | *Professional Component Report* | |
| A3-Software Overview |  | A9-Legal Analysis |  |
| A4-Electrical Overview |  | A10-Reliability and Safety Analysis |  |
| A6-Mechanical Overview |  | A11-Ethical/Environmental Analysis |  |
| A8-Software Formalization |  | A12-User Manual |  |

4.0 Estimated Budget

*In this section, develop a first-cut estimation of the budget of your project, separated into categories. For each category, include a description of the category as well as a conservative estimated cost. Include a total estimated cost at the end of the estimated budget. See the example Final Project Proposal for more details.*

5.0 Project Specific Design Requirements

*ECE 47700 requires teams to develop a set of 5 Project Specific Requirements (PSDRs). These five PSDRs are the engineering requirements of the project in which the team will focus their engineering design efforts to meet the minimum ECE design criteria for the School and ABET. A team must successfully achieve at least three of these PSDRs in preliminary testing on the final project hardware in order to meet ABET requirements and pass the course. Please note that there are specific course policies that must be observed when selecting project specific design requirements and when demonstrating their achievement. More information on these course policies can be found in the “PSDR Policy” document, available on Brightspace.*

*List here and later on your team webpage, a first draft of the 5 PSDRs you plan to use for your project. Read the PSDR Policy document and see the Example PSDRs (previously called PSSCs) from previous semesters that are posted on Brightspace. These five PSDRs may be modified as necessary based on your prototyping results during the first five weeks of the course after which they will be “locked down” and your team will need course instructor permission to change.*

6.0 Sources Cited:

*Throughout this and other papers, use of the IEEE citation style should be used. Use of embedded hyperlinks for all web-based sources is required. A reference to the IEEE citation style format is provided* [*here*](https://owl.purdue.edu/owl/research_and_citation/ieee_style/ieee_overview.html)*.*