Assignment 1A Report

EECE 443

Team 2: MCU TNC Design

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Pier Review of Team 1: Package Delivery Robot

Organization

The sections of this report are laid out very nicely and are easy to follow and understand. However, with this structure it is obvious that things are missing. A fault in the organization of this paper is the need for an entire extra page for their figures rather than placing them strategically in the documents. In addition, these figures are not referenced in the paper. Lastly, through review of the entire paper we believe some sections were repetitive and some sections could be replaced by others. For instance, we believe the scope of work could be entirely replaced by the requirement specifications and explain the topic scope of the project a lot more thoroughly.

Coversheet

There was no cover sheet in the copy supplied to us. So, this needs to be added to the report.

Scholarly Paper and Formatting

The report lacks the formatting of a scholarly paper. It does not follow the specifications set by Dr. Darby for this paper and needs to be reformatted in the required manner. I would also recommend not using google documents for this form of a paper.

Section II – Research Done by Others

There was no research done by other supplied to us in this paper. We would recommend doing some research on whether this project was done before and what strategies they used and what problems they ran into. Another good thing to include in this section would be some research done on image processing and robotic movement.

Section III – Feasibility / Alts and Tradeoffs

The project was analyzed very well in the terms of whether it was feasible or not. The team took the time to look at cost, time, and technological feasibility with each organized into their individual sections. The alternatives to a few subsystems of the project were looked into and analyzed but we feel as if more alternatives could be looked into for the arms of robot. Lastly, this section needs to have an appendices entry which this report lacks. This is most likely where a parts list and a few figures would fit in for a more visual comparison of the tradeoffs and feasibility.

Scope of Work

The scope of work of this paper explained what the project as about as well as some requirements and deadlines to meet. This was well organized but lacked detail. For someone with a lack of knowledge on the subject, this section could be hard to understand exactly what the team is trying to do. In addition, some concepts need to be explained in greater detail. The section called Requirement Specifications would serve as a better version of the scope of work.

Objective Tree

We believe the objective tree was very well done and very detailed. In reference to whether it considered safety and environment, we believe this section of the objective tree is not necessarily due to the size of the robot and lack of high voltage risk.

Level 0 Diagram

- System Start-up input is vague.
- Consider the “location of blocks” as an input.
- Is the delivery code the program itself? If so, shouldn’t that be a given?
- Consider “video stream” as an input
- Consider “package recognition” as an input.
- Remove “mobility”
- Specify Telemetry in scope of work.

Functional Requirements Specifications

This section of the paper is well written and detailed. However, some of the details are worded incorrectly and need reference points. We also think it needs to define:

- How the robot acquires box locations or are all the boxes at the start point?
- How the robot knows where to bring the blocks to?
- Does robot need to return to the starting position at the end?

Lastly, the telemetry system shown on the Level 0 diagram needs to be referenced and explained in this section.

Preliminary Feasibility Analysis/ Preliminary Design/Subsystem Design Alternatives Detail

The feasibility of the project is well analyzed but lacks detail. For instance, why is the pixie cam 2 the best option? In many parts of the paper, the arms seem to be a main challenge, but no alternatives and trade offs are really referenced in detail. Lastly, it is not clearly stated why black and white differentiation is such a difficult process.

Appendix