Quad-Copter

Final Project Report

EE449

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I.   Project Performance

The goals of the Quad-Copter project were to have manual control, take off autonomously, hover autonomously, identify objects, and react to visual commands. The goals for this project were not met due to continuous setbacks and an early termination. The only goal that was met was getting the copter functioning properly through manual use. Many of the setbacks came from trying to setup the copter through RC means. This would have been a much simpler and faster task if proper closeout information was provided from previous teams that worked on this drone. To ensure progression for future projects using the drone, I think that information on setting the drone up for RC use and basic information on the drone is necessary and will allow future students to easily pick up where the project left off. Overall, the state that the project is in would not satisfy customers based on the given goals. If the customer were to request a remote controlled drone, I would say that the state the copter is in would meet their needs.

II.   Administrative Performance

The administration for this the copter project provided all of the necessary resources in a timely manner. At the start of the project the administration was able to bring in a technician to help with the initial setup of the drone. This was beneficially to bounce ideas off of each other, but in the end we could not get the drone to function as intended. Secondary components were brought in to test various aspects of the drone and the drone still did not function properly. Overall the admiration provided the resources that were available in a timely manner and was motivated to help get the project started in the proper direction to meet help meet the goals set out for the quad-copter.

III.   Organizational Structure

This project allowed for a real world simulation within a class room setting. There were set goals for the quad-copter project that needed to be completed by certain deadlines. Each week there was set time slots to work in the lab to work toward completing the goals for your project. Similar to industry, each week a progress report was given to the supervisor. The reports consisted of what had been accomplished and what your plans are moving forward. This allowed the supervisor and the team working on the project have a general consensus on the progression of the project and how much longer it is going to take.

IV.   Team Performance

The team for the quad-copter project consisted of only one member. I think that this project can be completed by only one person if more time was given on for the completion of the project, especially when there is limited information on the previous progress of the project.

V.   Techniques of Project Management

A work breakdown structure was used to manage the quad-copter project. The work breakdown structure contains all the materials needed for the project and a breakdown of all the parts for the project and the times that progress needs to be reported. The breakdown can be visually seen in the form of a Gantt chart and pert chart. The Gantt chart shows, in horizontal organization, what parts of the project were completed in certain blocks of time. It allows the team to manage their time to successfully complete the project by the given deadline. The pert chart on the other hand allows the team to understand what components of the project depend on other components, so the team is able to prioritize their tasks accordingly. The completion of the work breakdown structure, Gantt chart, and pert chart, are vital components to successfully complete a project. I found these methods useful for organizational purposes as it allowed me to

understand what tasks needed to get done and how much time I had to complete the tasks. I would suggest these techniques to future students in order to manage their goals and deadlines for their projects.

VI.   Benefits to the Organization and the Customer

Overall, I believe that the quad-copter project with the goals listed above is a great project for this class. The project combines the knowledge of hardware, software, and mechanical components. This project does a good job at simulating different aspects of a "real" industry project because it combines aspects from multiple disciplines. Although I was not capable of finishing the project by the desired completion date, I think that the finished product would be a great way to show off the capabilities and knowledge of the student in the fields of electronics and programming.