Project Plan and Cost Estimate

GNG1103 - Engineering Design

Deliverable E - Project Plan and Budget

Group C13: Victoria Ajulo, Ryan Fabek, Mihir Jakhi, Koghulan Jeyapalasingham, & Hongjian Zhu

February 25, 2018

University of Ottawa

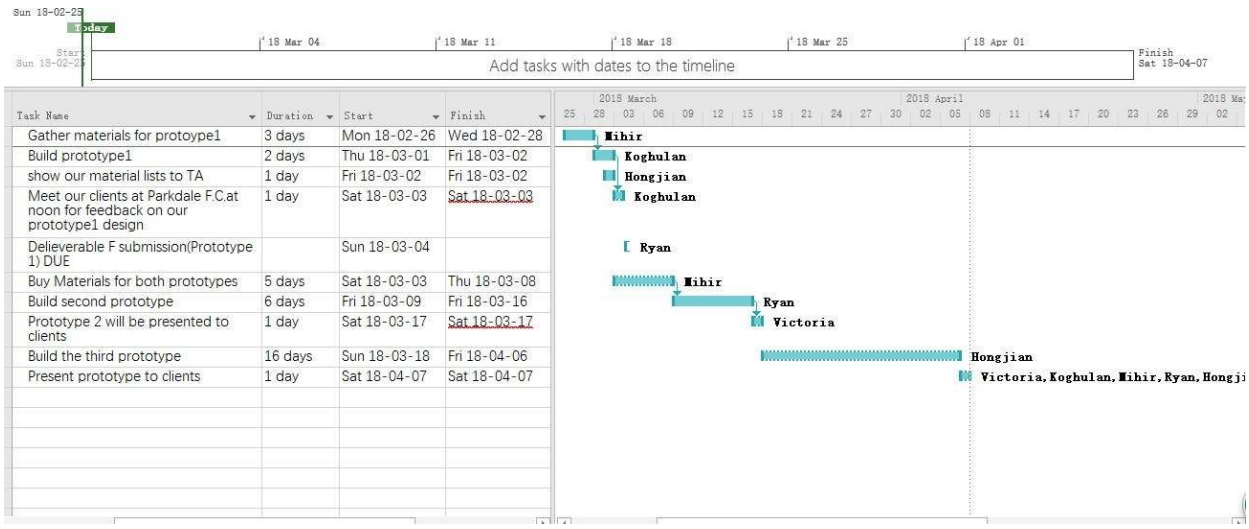
Introduction

This document outlines the projected project plan and budget for the Growing Futures hydroponic project. Firstly, the project budget for the three required prototypes will be listed in the spreadsheet titled “GNG1103 Deliverable E (Budget)”, which will be attached in the submission of this deliverable.This will go over the various materials for the models, including purchasing information. Secondly, the project plan will include a schedule of the tasks required to build and complete the models, as well as who, among the group members, will have primary responsibility for each task. This information will be provided on the MS Project file. Lastly, this document will discuss the various risks associated with the construction of these prototypes and offer solutions to minimize the risk associated with the project.

Project Budget

See attached spreadsheet titled “GNG1103 Deliverable E (Budget)”.

Project Schedule



Task Name	Duration	Start	Finish
Gather materials for protoype1	3 days	Mon 18-02-26	Wed 18-02-28
Build prototype1	2 days	Thu 18-03-01	Fri 18-03-02
show our material lists to TA	1 day	Fri 18-03-02	Fri 18-03-02
Meet our clients at Parkdale F.C.at noon for feedback on our prototype1 design	1 day	Sat 18-03-03	Sat 18-03-03
Delieverable F submission(Prototype 1) DUE		Sun 18-03-04	
Buy Materials for both prototypes	5 days	Sat 18-03-03	Thu 18-03-08
Build second prototype	6 days	Fri 18-03-09	Fri 18-03-16
Prototype 2 will be presented to clients	1 day	Sat 18-03-17	Sat 18-03-17
Build the third prototype	16 days	Sun 18-03-18	Fri 18-04-06
Present prototype to clients	1 day	Sat 18-04-07	Sat 18-04-07

Risk Management

During the development of these prototypes, there are many risks that will impede the success of this project. The main risk is the inability to produce a working prototype to show the client. This risk can be attributed to poor communication between team members and unanticipated prototype development costs or design flaws. In order to minimize this risk, all of our team members should be clear on the anticipated design of the prototype that is currently

being developed. Also, communication between team members should remain clear and detailed throughout the process and if anyone within the team has any concerns with the design, it should be immediately brought to the attention of the team.

Another risk within the development of the prototypes is the health and well being of the team. During the development of prototypes two and three, the team will be operating machinery in which there may be a significant risk for physical injury. In order to reduce this risk of any workplace accidents and injuries, each team member should wear proper safety materials and be fully knowledgeable with proper techniques to effectively operate the machines. Furthermore, having professional supervision of the staff will allow for greater safety, to ensure constant proper technique.

Also, the first prototype might not be able to convey the proof of concept effectively, as the model is meant to be a scrap-based model. This is where the effective communication between the team members, as mentioned earlier, will come in to play. Properly explaining the ideas behind the concepts is key, and the model, prototype 1, will need to be used simply as a frame of reference. By relying more on the explanation-based communication, the risks of losing the clients' understanding of the proof of concept is become more negligible. This risk can apply for the second model as well, seeing as it is entirely focused on the critical subsystem(s) of the design. This means that, again, the presentation of this prototype will rely heavily on the detailed explanations from the group members in order to effectively demonstrate the concepts and ideas from the design.

Conclusion

This document outlines how the team will create three prototypes within a budget of 100 dollars and a timeframe that extends to the end of this semester. Prototype 1 will focus on the proof-of-concept of the design, which means having a simplistic model made from scrap materials. Prototype 2 will focus on the essential subsystems that bring out the key aspects of the design. Prototype 3 will be a fully functioning model that allows the clients to see the entire design in action, and will allow them to test it out based on their needs. Of course, with each prototype, the idea is to incorporate the regular feedback presented to improve upon the design each time, allowing for the clients needs to be appropriately met.