



# **Lavallee Industries**

**Lab Section 1 – Group 4**

**Deliverable E – Project Plan and Cost Estimate**

**Engineering Design - GNG1103**

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## **Abstract**

*The top three conceptual concepts from the prior delivery were selected to elaborate upon. A project plan was made to carry out the optimum design for this deliverable.*

*Our group also created a Gantt chart using the project plan for our 3D tracking system project. When it came to the assignment of tasks for team members, potential problems were taken into account in order to create solutions. Finally, we settled on a bill of materials with a cost of \$49.44 (CAD).*



## Table of Contents

<b>Abstract</b>	<b>2</b>
<b>Table of Contents</b>	<b>3</b>
<b>Introduction</b>	<b>4</b>
<b>Project Plan and Schedule</b>	<b>5</b>
<b>Risk Assessment and Contingency Plans</b>	<b>7</b>
<b>Bill of Materials</b>	<b>8</b>
<b>Conclusion</b>	<b>8</b>

## List of Figures

<i>Figure 1</i> Gantt Chart of Project Plan.....	<b>6</b>
<i>Figure 2</i> List of Project Tasks and Importance.....	<b>6</b>

## List of Tables

<i>Table 1.</i> Project Plan and Schedule.....	<b>6</b>
<i>Table 2.</i> Risk Assessment and Contingencies.....	<b>7</b>
<i>Table 3.</i> Bill of materials.....	<b>8</b>



## **Introduction**

In the last deliverable, we conceptualized possible designs for a 3D coordinate tracking system. These concepts allowed us to form applicable solutions to our main project goals while staying true to our initial design criteria. In this deliverable, we shall focus on the framework of our design process; starting with a project plan and schedule for our prototypes, forming a bill of materials to break down cost constraints and creating a Risk Assessment & Contingency plan.



## Project Plan and Schedule

We have organized each task with enough time to get the assigned tasks completed even if obstacles are encountered. The dependencies are focused on the previous tasks that affect the starting of the proceeding task. The task is only assigned with a direct connection. For example, a Deliverable is a milestone, Deliverable G cannot begin until Deliverable F is completed. Therefore, the Building and Working on Prototype 2 cannot begin until Deliverable F is submitted. Robert is responsible for submitting each deliverable on time.

Number	Task	Dependencies	Owner	Duration	Due Date
1.	Deliverable E: Project Schedule and Cost	None	Robert	Milestone	24/10/2022
2.	Unity Research and Development	None	Everyone	Eight Days	31/10/2022
3.	Building and Working on Prototype 1	2.	Everyone	One Week	07/11/2022
4.	Deliverable F: Prototype I and Customer Feedback	None	Daniel	Milestone	07/11/2022
5.	Building and Working on Prototype 2	3.	Everyone	One Week	14/11/2022
6.	Deliverable G: Prototype II and Customer Feedback	None	Mohammad	Milestone	14/11/2022
7.	Building and Working on Prototype 3	5.	Everyone	Two Weeks	28/11/2022
8.	Deliverable H: Prototype III and Customer Feedback	None	Robert	Milestone	28/11/2022
9.	Deliverable I: Design day Presentation Material	None	Amro	Milestone	30/11/2022



10.	Deliverable J: Final Project Presentations	None	Ali	Milestone	06/12/2022
11.	Deliverable K: User Manual	None	Daniel	Milestone	07/12/2022

Table 1. Project Plan and Schedule

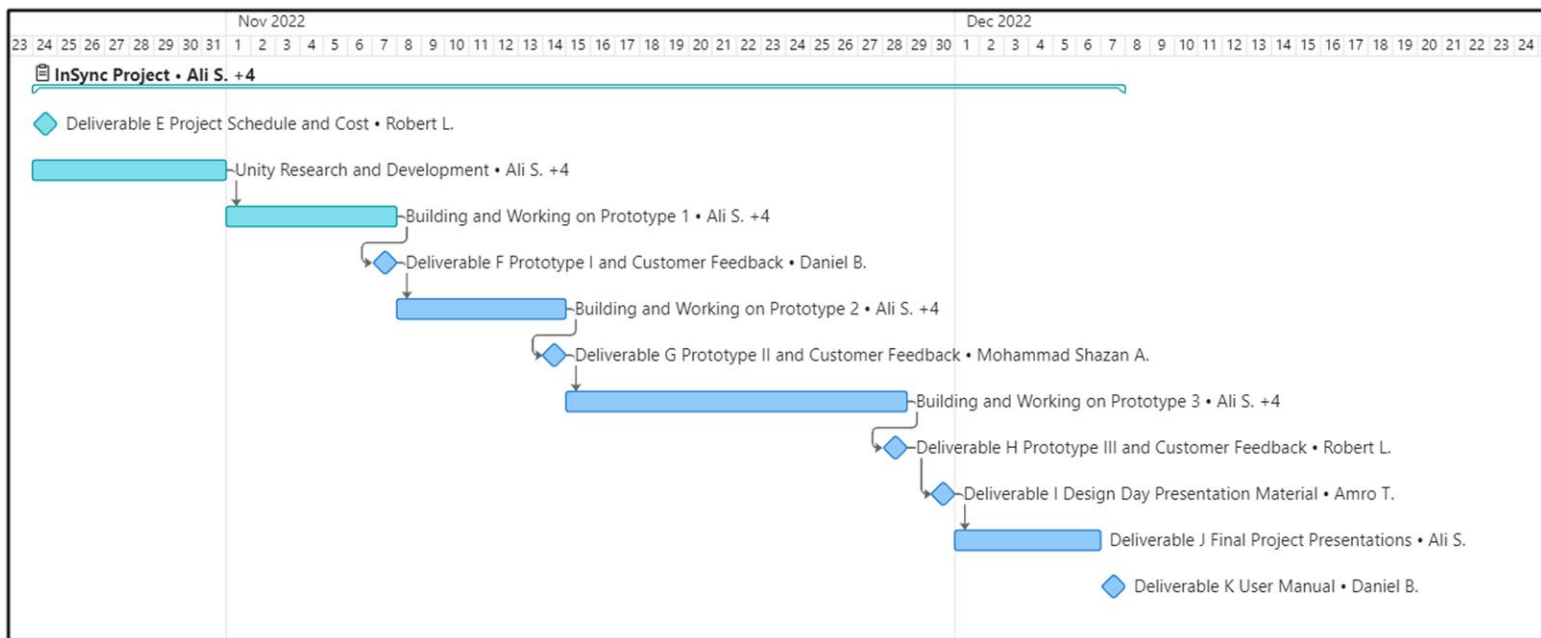


Figure 4 Gantt Chart of Project Plan

Name	Assignee	Status	Importance
✓ InSync Project	Ali Sherry, Mohammad Shazan Abba...	In Progress	
Deliverable E Project Schedule and Cost	Robert Lavallee	In Progress	High
Unity Research and Development	Ali Sherry, Mohammad Shazan Abba...	In Progress	Normal
Building and Working on Prototype 1	Ali Sherry, Mohammad Shazan Abba...	In Progress	Normal
Deliverable F Prototype I and Customer Feedback	Daniel Bonakdari	New	High
Building and Working on Prototype 2	Ali Sherry, Mohammad Shazan Abba...	New	Normal
Deliverable G Prototype II and Customer Feedback	Mohammad Shazan Abbas	New	High
Building and Working on Prototype 3	Ali Sherry, Mohammad Shazan Abba...	New	Normal
Deliverable H Prototype III and Customer Feedback	Robert Lavallee	New	High
Deliverable I Design Day Presentation Material	Amro Tabche	New	High
Deliverable J Final Project Presentations	Ali Sherry	New	High
Deliverable K User Manual	Daniel Bonakdari	New	High

Figure 3 List of Project Tasks and Importance



## Risk Assessment and Contingency Plans

The following section will outline the risks involved in this project. The section will also include contingency plans put into place if needed. The risks vary from risks occurring due to team members to software risks. The risks are then classified by their chance of occurrence and the amount of impact it would have on the project. Additionally, the contingencies are then recommended by the level of impact that a risk proposes. Contingencies are then put into place to avoid the risks, so they don't happen in the future. The risks and contingencies are seen in the table below.

Risks	Probability	Impact	Contingency
Lack of performance and engagement by teammates	Moderate	Low	Meetings each week to discuss plans and deliverables.
Team members not completing tasks	Low	High	Inform team members so that they have time to complete the extra tasks.
Code Compiling Issues	High	Moderate	Utilize online resources and ask TA's and PM's for help.
Group Arguments	Low	High	Emergency team meeting to dispute and settle the argument.
Losing important files and information	Low	Extremely High	Save all important files to our group OneDrive.

Table 5 Risk Assessment and Contingencies



## Bill of Materials

Part #	Part Name	Description	Quantity	Unit Cost	Cost (USD)	Cost (CAD)
1	<b>Camara</b>	<b>Phone camara</b>	<b>4+</b>	<b>0</b>	<b>0</b>	<b>0</b>
2	<b>Python</b>	<b>Programing language</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
3	<b>Unity</b>	<b>Game engine</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
4	<b>Tripod Phone holder</b>	<b>Phone holder</b>	<b>3</b>	<b>12.66</b>	<b>32.00</b>	<b>43.70</b>
5	<b>Unity Asset Store</b>	<b>157 Sport Items! Asset pack</b>	<b>1</b>	<b>4.99</b>	<b>4.21</b>	<b>5.74</b>
<b>Total</b>						<b>49.44</b>

Table 3 Bill of Materials

## Conclusion

This deliverable first starts with describing and arranging the project plan and schedule. Risk assessment and contingency plans follow. This was done in case difficulties and delays arise. Finally, the bill of materials was created to estimate the project's budget, which was \$49.44 CAD, which falls within the project's budget. Everything is well planned for the project, and if things go according to schedule, the project will be ready for Design Day.