



Axolotl Industries

Team B03-2

Deliverable E - Project Plan and Cost Estimate

Engineering Design - GNG1103

Team Members

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ABSTRACT

In the previous deliverable, conceptual designs were created and the top three were chosen as the best designs. For this deliverable, a project plan was created to execute the best design. Members found Unity asset packages that will help the design of our product. Our team came up with a project plan for the B.I.M AR project and made a Gantt chart out of it. Each task was assigned to a team member and possible risks were considered when coming up with its duration. In the end, we decided on a cost of \$34.11 CAD for our bill of materials.

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1. Introduction

In the previous deliverable, various conceptual designs of the AR model visualization application were created and its features were described. All designs were made according to the design criteria, and the concept was benchmarked against market applications to offer an outline of the application. The purpose of this deliverable is to create a project schedule and plan for the three prototypes, as well as develop the project costs and components. This deliverable will also put in place risk assessment and contingency plans.

2. Project Plan and Schedule

Each task is assigned more time than estimated to make up for future obstacles that will hinder the completion of the task. Dependencies are based on any previous task that affects the starting of another task and is only assigned to tasks with a direct connection. For instance, a deliverable, which is a milestone, is dependent on all the previous tasks and has no direct dependencies, but a task such as building prototype I would depend directly on the research stage. The owner of each deliverable is responsible for submitting it.

Number	Task	Dependencies	Owner	Duration	Due date
#1	Deliverable E: Project Schedule and Cost	None	Aisven	Milestone	28/10/2020
#2	Research and Development of Unity	None	Everyone	7 days (Reading week)	01/11/2020
#3	Build Prototype I	#2	Everyone	10 days	03/11/2020
#4	Client Meet 3: Prototype I Presentation	#2 and #3	Everyone	1 day	04/11/2020 06/11/2020
#5	Deliverable F: Prototype 1 and Customer Feedback	None	Tasfiq	Milestone	05/11/2020

#6	Client Feedback and Iterative Prototyping for Prototype II	None	Everyone	1 week	12/11/2020
#7	Deliverable G: Prototype II and Customer Feedback	None	Tatiana	Milestone	12/11/2020
#8	Iterative Prototyping for Prototype III	#6	Everyone	2 weeks	25/11/2020
#9	Deliverable H: Prototype III and Customer Feedback	None	Yasser	Milestone	26/11/2020
#10	Deliverable I: Design Day	None	Aisven	Milestone	26/11/2020
#11	Deliverable J: Project Presentations	None	Tasfiq	Milestone	27/11/2020
#12	Deliverable K: User Guide	None	Tatiana	Milestone	3/12/2020

Table 1. Project Plan and Schedule

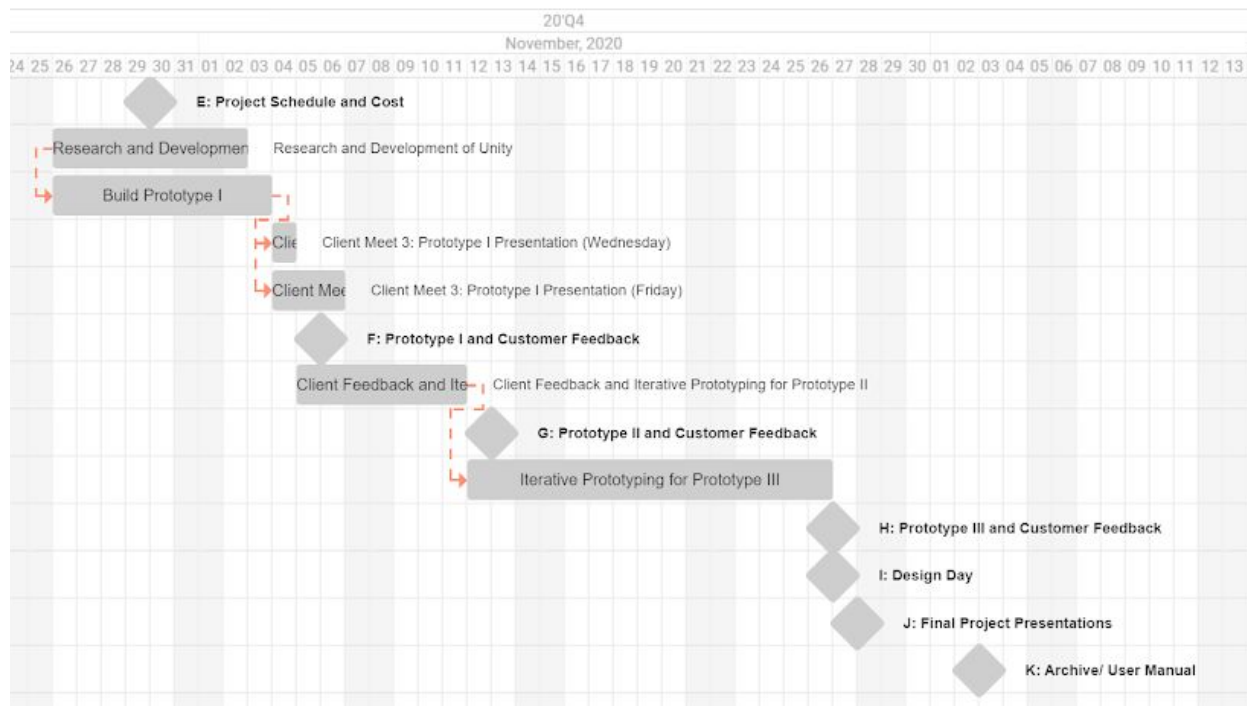


Figure. 1. Gantt chart of Project Plan

TITLE	MEMBERS	LABELS	STATUS	
E: Project Schedule and	AD TH TZ YA	Urgent	OPEN	
Research and Developm	AD TH TZ YA		OPEN	
Build Prototype I	AD TH TZ YA		OPEN	
Client Meet 3: Prototype	AD TH TZ YA		OPEN	
Client Meet 3: Prototype	AD TH TZ YA		OPEN	
F: Prototype I and Custo	AD TH TZ YA	Still some time left	OPEN	
Client Feedback and Iter	AD TH TZ YA		OPEN	
G: Prototype II and Cust	AD TH TZ YA	Still some time left	OPEN	
Iterative Prototyping for	AD TH TZ YA		OPEN	
H: Prototype III and Cust	AD TH TZ YA	Still some time left	OPEN	
I: Design Day	AD TH TZ YA	Still some time left	OPEN	
J: Final Project Presenta	AD TH TZ YA	Still some time left	OPEN	
K: Archive/ User Manual	AD TH TZ YA	Still some time left	OPEN	

Figure. 2. List of Project Tasks and Milestones

3. Risk Assessment and Contingency Plans

This section will focus on outlining the risks associated with this project, and contingency plans put in place if it were to happen. The types of risks possible range from risks associated with the members to software risks. These risks are then classified by their probability of occurring and the impact it would have on the progress of the project. Furthermore, contingencies are suggested based on hindering the impact and putting in place measures to avoid it in the future. All risks and contingency plans are discussed in the table below.

Risks	Probability	Impact	Contingency
Possibility of low performance and co-operation of teammates due to virtual restrictions	Moderate	Low	Having weekly “virtual” meetings to recap last week’s work, and assign the upcoming tasks.
Members failing to complete tasks	Low	High	Such members should inform the group as soon as possible, and the remaining members would complete the task instead.
Compiling issues	High	Moderate	Request help from TA and other online resources to solve the issue.
Group conflicts	Very Low	High	Work together as a team to solve the conflict.
Losing Save data and files	Low	Very High	Externally save project files and build on a google drive folder.

Table 2. Risk Assessment and Contingencies

4. Bill of Materials

Part #	Part Name	Description	Quantity	Unit Cost	Cost (USD)	Cost (CAD)
1	AR Foundation (ARkit and ARcore)	Allows the use of AR in Unity, iOS, and Android	1	Free	Free	Free
2	BIM Part (STEM building)	The BIM file for the STEM building	1	Free	Free	Free
3	Streetview Pack 2D Textures & Materials Unity Asset Store	For the Google Streets View Aspect	1	\$8.99	\$8.99	\$11.80
4	UI icon package	This is a package with multiple icons that we can use in our app	1	\$7	\$7	\$9.18
5	Dimensioning box	Allows us to dimension different models and parts in the BIM	1	\$10	\$10	\$13.13
Total					\$34.11 CAD	

Table 3. Bill of materials and costs

5. Conclusion

In this deliverable, the project plan and schedule were organized and discussed. Risk analysis and contingency planning were also done in the event that such issues and delays occur. Additionally, a bill of materials was created to estimate a total cost of \$34.11 CAD, which is within budget for the project. Overall, the project is planned out, and under the assumption that everything follows the schedule, the application will be fully developed for Design day.