GNG 1103-B

Project Deliverable E

Project Plan and Cost

Professor M. Majeed
Group B03-4

Submitted by:

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Introduction

During the last few weeks, the students at the uOttawa faculty of engineering have worked diligently with the construction giant *Ellis Don* to advance their AR-based building simulation project. After an initial interview with the company's representative, they established project criteria in order to meet the specified needs, and followed that up by formulating a design on which they will base their prototypes.

For this deliverable, with their design now complete (and approved), students must create a formalized plan which will lay out the project timeline, tasks, and subtasks, as well as the budget required for the optimal completion of this project.

Project Plan

Task List

Prototype 1 (Proof of concept) - Nov 5th

Objective:

- Rudimentary opening menu. (File loading + Start)
- AR Camera: Building placement and full view.

#	Task	Brief Description	Duration	Team Member(s)
1	Basic Main Menu	Main menu skeleton with list of functions.	2 days	Joseph
2	Basic Settings Interface	Basic settings menu skeleton	2 days	Daniel
3	Basic Files Interface	Ability to import and export files locally from device.	3 days	Mikael
4	Basic App AR Interface	Simple interface overlayed on top of camera view.	3 days	Matthew

Prototype 2 (Critical parts) - Nov 12th

Objective:

- Expanded Main Menu
- AR Camera: swipe to switch views
- Bare bones tutorial

#	Task	Brief Description	Duration	Team Member(s)
1	AR views Selections	Ability to select different views of the 3D Building Model will be implemented	3 days	Matthew Mikael
2	Tutorial Walkthrough	Tutorial Guide is fully designed and set up in a basic format	7 days	Joseph Mikael
3	Main Menu (ii)	Files, Tutorial, Share Interface to be added into Unity Project	3 days	Joseph
4	Hazards Screen	Displays all potential hazards in the build.	2 days	Matthew
5	Basic Mini Map	Basic 2D mini map in AR view that displays user location in the build.	3 days	Daniel
6	Personal Account Interface	Sign-In ability with account username and password.	2 days	Daniel

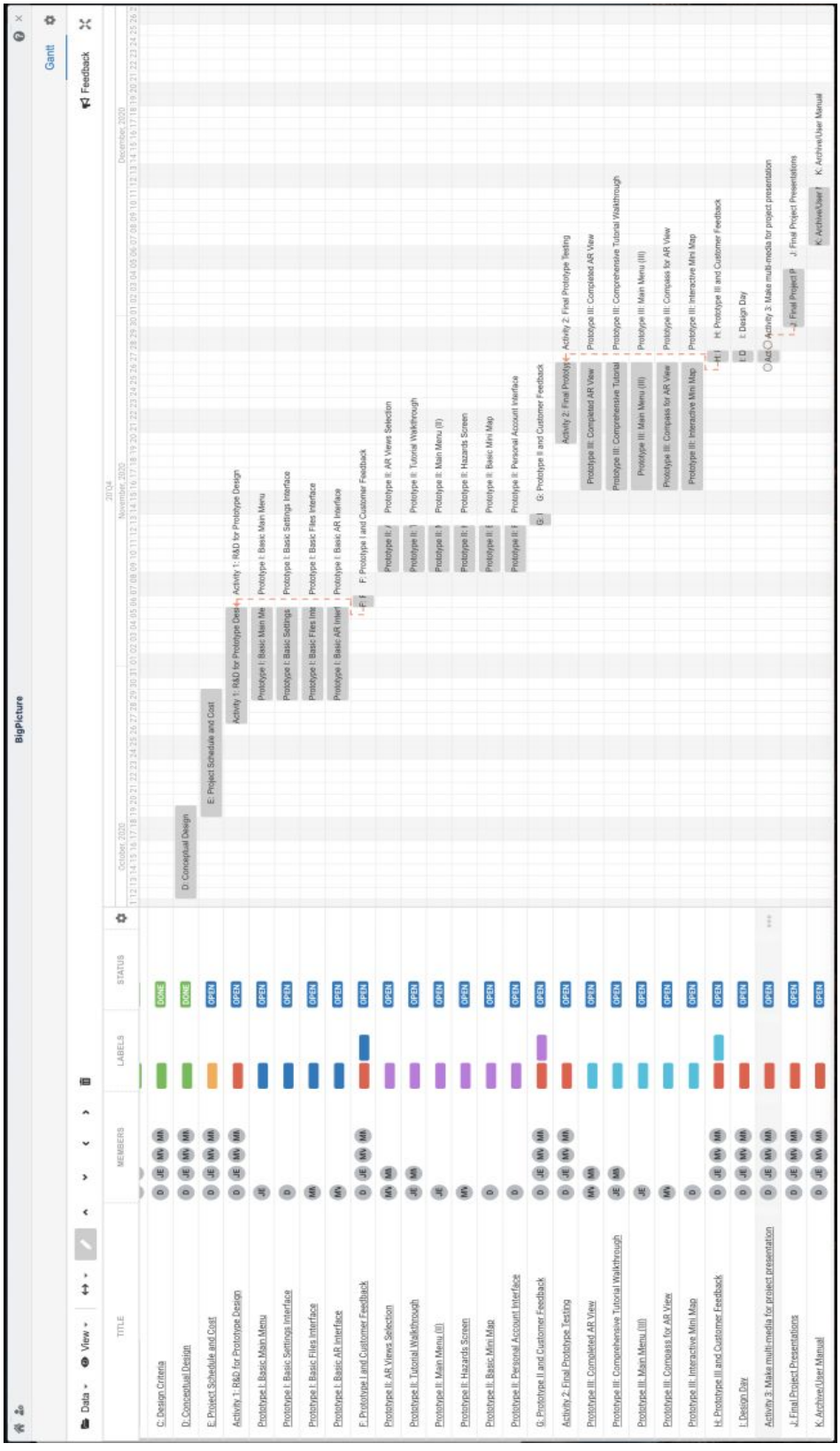
Prototype 3 (Fully functional) - Nov 26th

Objective:

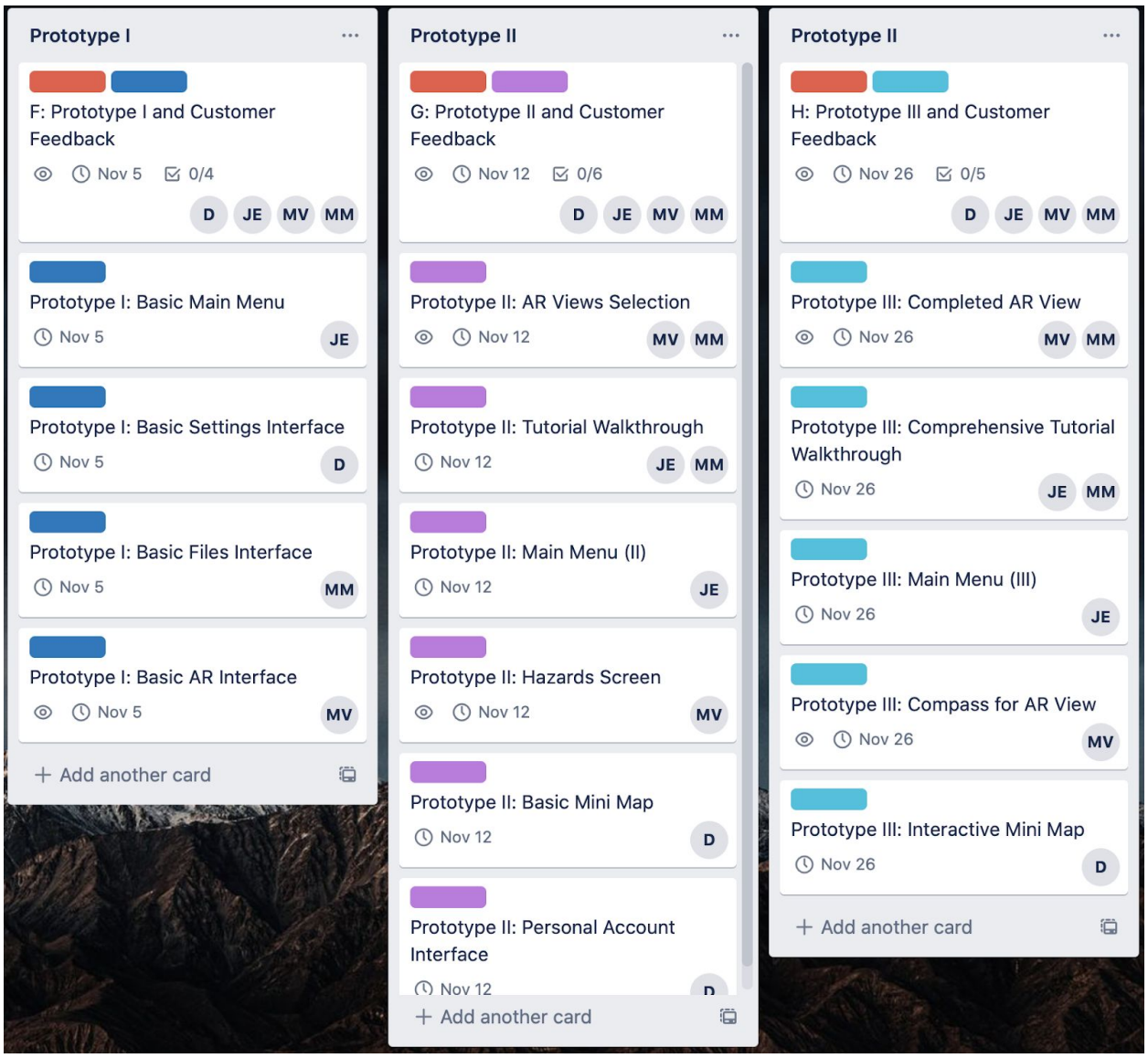
- Fully equipped Main Menu
- Optimized, complete AR view with BIM layers
- Comprehensive Tutorial

#	Task	Brief Description	Duration	Team Member
1	Completed AR View	Ability to select and see individual BIM layers on a working build, access settings, tutorial screen, and hazards screen from the user interface.	7 days	Matthew Mikael
2	Comprehensive Tutorial Walkthrough	Sample file and tutorial guide fully completed and functional from the main menu and AR view screen.	5 days	Joseph Mikael
3	Main Menu (iii)	Fully integrated main menu functions complete with access to settings, tutorial, account, files, and AR view.	4 days	Joseph
4	Compass for AR View	Integrated compass to orient users in the building's space.	2 days	Matthew
5	Interactive Mini Map	Completed mini map which displays user location in the build as well as ability to switch between rooms and floors.	4 days	Daniel

Gantt Chart


BigPicture
Gantt
Feedback
Data
View
TITLE
MEMBERS
LABELS
STATUS
October 2020
November 2020
December 2020
C: Design Criteria
D: Conceptual Design
E: Project Schedule and Cost
Activity 1: R&D for Prototype Design
Prototype I: Basic Main Menu
Prototype I: Basic Settings Interface
Prototype I: Basic Files Interface
Prototype I: Basic AR Interface
F: Prototype I and Customer Feedback
Prototype II: AR Views Selection
Prototype II: Tutorial Walkthrough
Prototype II: Main Menu (II)
Prototype II: Hazards Screen
Prototype II: Basic Mini Map
Prototype II: Personal Account Interface
G: Prototype II and Customer Feedback
Activity 2: Final Prototype Testing
Prototype III: Completed AR View
Prototype III: Comprehensive Tutorial Walkthrough
Prototype III: Main Menu (III)
Prototype III: Compass for AR View
Prototype III: Interactive Mini Map
H: Prototype III and Customer Feedback
I: Design Day
Activity 3: Make multi-media for project presentation
J: Final Project Presentations
K: Archive/User Manual

Trello/SCRUM Board



Project Risks

Risk	Contingency Plan
Time Mismanagement	● Remove unnecessary subtasks to the core functionality of the app (e.g. AR compass, user account system, mini map).
File Corruption/Loss	● Have core files backed up onto multiple devices regularly.
Infeasible Task/Subtask	● Keep in store a set of alternate implementation paths which can be explored to achieve similar results

Materials and Budget

#	Item Name	Reason to Purchase	Estimated Price
1	Unity Hub	Good engine for creating AR games	Free
2	STEM building file	We are trying to represent the STEM building in AR	Free
3	App store developer account	We need this to submit our app to the app store	Free
4	App builder	We could use this as a build for the app itself	$5/month
5	VS code	Software we could use to program our app	Free
6	Pre-made building files	We could have them as reference or practice options	< $20

Conclusion

In this deliverable, students were able to establish a project plan which details the tasks, timeline and budget for the AR construction project that was requested by *Ellis Don*.

They successfully formulated detailed lists of the subtasks required to complete each prototype, making sure to assign work evenly between team members. Each subtask was given a time estimate based on the three prototype due dates, and was subsequently added to the group's Gantt chart. Additionally, the materials and budget were outlined, and are estimated to be well below the allocated amount of $100.

Over the next few weeks, the students will diligently work to complete the tasks associated with each prototype, and should find themselves that much closer to completing their goal of creating an interactive AR construction app which will fulfill the needs of their client.