

**Project Deliverable E: Project Plan and Cost Estimate**  
GNG 1103 – Engineering Design  
Faculty of Engineering – University of Ottawa

**Team Members:**

Shiven Joshi

Joan Berghuijs

Nick Chen

Joshua Liu

1. Detailed Sketch



Details shown:

Main 'Enemy' is a drone

Main plot point will be the AI retargeting to a hiding civilian after losing sight of the player character.

Action timer and interaction label with icon.

2. Budget Plan/Bill of Materials thingy

Total Budget: 400\$

Items	Price range
A computer that's capable of running 3D unity	We use Joshua's Computer
Paid Assets	250\$

VR system	150\$ around ?! (Depends on the brand of the goggles)
SketchFab	Free
Mixamo	Free
another VR system (if possible)	-

Things to note:

- Don't intend to spend the entire budget. Save some to return them back to the senders.
- Look for the FREE item first before we even spend money on paid assets.
- We should at least keep 250\$ of budget for various assets.

### 3. Equipment Needed (Software AND Hardware)

#### a. Software

All prototypes:

- Unity Engine for all members
- Blender or CAD software such as SketchFab for 3D modeling (though by far the former works better with the Unity workflow, the latter is suggested by the course and therefore cannot be ignored entirely)
- Mixamo.com for automatic character rigging for animations
- Unity Asset Store and SketchFab to find premade assets for use in the project, especially during early prototyping phases where we cannot overcommit to any single design

1st prototype specifically:

- Free assets to test the general idea before committing

2nd and 3rd prototypes specifically:

- If necessary, an animation workflow enhancement plugin for Unity may be used to speed up or improve the quality of the animation process, as Unity's Mechanim Animator system is not without flaws
- Paid assets of higher quality as the ideal design is converged upon

#### b. Hardware

All Prototypes:

- A computer for all members capable of running Unity 3D (¾ complete)
- A VR system to test the product (as-of-yet unissued but provided)
- Another VR system, if possible, so as to make sure that the project is compatible with other VR experiences

Nothing more is needed for the project in terms of hardware, between all of the different prototypes.

### 4. Risks and Contingencies

Risks	Contingencies
VR software at UOttawa is not working or available.	Use another VR setup and software (shive has one)
Drastic circumstances occur to one of the group members.	Redistribution of work.
Work is lost due to forgetting to save.	Multiple saves with multiple group members.
More money is required for some aspects of the project than previously assumed. Putting group above budget.	Group members will split the cost.

### 5. Prototype Testing Plan

All prototyping will be tested using virtual reality software at the University of Ottawa. Prototyping will be done at different milestones that the group sets. These milestones could be at the completion of a scene, or when any important changes are made. We have decided to frequently test our prototypes at different levels to make sure that our product has gone through lots of vetting and is the best version that it can be.

#### Prototypes

#### Tests

#	Type	Objective	Fidelity	Feedback	Objective	Result
1	Testing of intro scene.	Performance of the first scene.	Low	No client involved	Making sure the scene makes sense Analysing key features in action Verifying feasibility	Scene runs smoothly, makes sense, and stays true to our vision
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	-
5	-	-	-	-	-	-

Our first prototype testing process will follow this plan. Our group will follow this template to keep track of our prototypes and our progress while also taking the feedback of the client into account.