Deliverable H – Prototype III & Customer Feedback

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GNG1103 – Group 2

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Abstract

This deliverable will display our third prototype of our design for Mines Action Canada. The prototype follows the structure outlined in the previous deliverable and builds on our previous developments in Unity. Additionally, this prototype includes the feedback we gathered from our last presentation. Lastly, this document highlights our progression through the prototype stage of the design process.

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Client Feedback, Interpretations, and Implementations

Feedback	Interpretation	Implementation
The Unity sketches are too dark and may cause some complications with our clients on design day.	We might find that when presenting our video on design day, some of the viewers may have issues seeing the environment.	In prototype 3, we will implement more lighting into our environment using lamps and other realistic lighting equipment.
There is no real way to ensure the users will follow the intended path while within the environment.	Some of our users may wander while within the environment and miss some key elements of the design.	We will implement cues into our environment to guide the user down the right path. These cues will include lighting (lamps) and sound effects.
Be aware of the time it will take for the character in the environment to complete the required tasks you have implemented.	Be sure that will all the interactions you have within your storyline that everything can get done within approximately 1 minute per the design criteria.	Within prototype 3 tests will be run to ensure all tasks can be completed within the time frame. If any tests are unsuccessful, the least crucial task will be removed from the final video.
Do not over complicate the storyline.	There may be too much going on in the video and there is a risk of confusing viewers.	In prototype 3 we have decided to eliminate the final part of the video. Our character will reach his mothers apartment with the medicine, but we will not show him entering the apartment to deliver it to her.

Prototype III (information)

Why?

The purpose of prototype 3 was ultimately to complete our VR design to an acceptable standard and allow for lots of time before design day to make small adjustments and improvements. The goal for prototype 3 was to continue improving the immersive experience of the landscape, and really testing the VR functionality. This way we could ensure the product was at least good enough to act out a video in.

What?

Prototype 3 is a nearly finished version of our design for Mines Action Canada. We built on our progress in prototype 2 by making our VR environment traversable. This prototype allows our character to move smoothly throughout the entire environment and listen to ambient and 3d location-based sounds. Additionally, this prototype includes detailed aspects added to the environment from prototype 2. The level is now completely interconnected and the player can get through the level without needing to enter a new scene. There are also sounds that play as the player goes through the building, and locational ambient sounds like the lamp humming.

When?

Prototype 3 is very nearly complete, aside from a few minor details. By completing all the goals we set for prototype 3 our team is now in a great position despite the close proximity of design day. We will now have the remaining weeks to make any improvements we feel are needed. With most of the design complete with prototype 3 we feel confident as a group that we will be ready to present a great project to Mines Action Canada come design day.

Prototype III (results)

To analyze the progress of prototype 3 we need to recall our testing plan from the last deliverable.

Why?	This prototype's purpose is to test interactive functions and identify potential issues that might occur while interacting with the environment.
What?	We will create object control in response to our character's actions, navigation control and include graphics like news posters, light, and audios to immerse our audience.
When?	We hope to have produced this prototype in five days by the time of our next presentation. With the creation of the interaction happening in the first three days and the testing and playtesting happening in the last two.

Our team was unable to fully carry out all our test plans for prototype 3. However, we managed to complete the most important task given that this week was exam week and

made it difficult to complete something convincing. Prototype 3 will be Erfun walking through and talking. Feel free to watch in 2x speed as he talks very slow.

https://youtu.be/jalFj1fm8n0

Prototype III Analysis & Explanation of Results

Analyzing prototype III involves the evaluation of the design criteria of the project and its relation to prototype III. Now that the design is complete, we can evaluate the success of all the design criteria.

	Design Specification	Relation (>, <, =)	Value	Units	Verification
1	Create a real-world environment where lethal autonomous weapons rule.	=	yes	N/A	Testing Final Product
2	Produce a video demonstrating the final	=	yes	N/A	Testing Final Product

	product that can be shown to lawmakers				
3	Emotionally move audience	=	yes	N/A	Testing
4	Demonstrate how civilians would adapt or lives would change under this law.	=	yes	N/A	Testing
5	Tell a story	=	yes	N/A	Testing

Recalling our design criteria, we can now analyze the third and final prototype and determine whether it is meeting our client's needs.

1. Create a real-world environment where lethal autonomous weapons rule.
   - We have created a mostly complete environment that portrays civilians stripped of their basic human rights like freedom of movement and completely controlled by autonomous weapons.
   - This is portrayed in the environment by the different tools like boarded up windows, crawl spaces used by our character to conform to the city-wide curfews despite his mother's dire circumstances.
   - This is proved further when our character will pick up a phone call from his sick mother and cannot safely take care of her.
   - This was tested in client meeting number 1 when Mines Action Canada agreed that the storyline illustrated an environment ruled by autonomous weapons.

2. Produce a video demonstrating the final product that can be shown to lawmakers.
   - With the completion of prototype 3 our team is now in a position where we can create a video that can be shown to lawmakers.
   - Despite the possible addition of some minor details, we are ready to create our final video for lawmakers and Mines Action Canada.

3. Emotionally move audience.
   - By providing context about the dire circumstances our character's mother's life is in and the effort and measures that our character must take to get her medication to her, we hope to emotionally move the audience to act.
   - The storyline evoked emotions like unease and empathy.

- With the interactivity of the phone call from our character's mother, our users will be able to hear a real voice coming over the phone and hear the fright and hopelessness in her voice, further creating emotion within our audience.
- This was tested in client meeting number 2 when Mines Action Canada agreed that the storyline evoked emotions from its audience.
- This was tested further in our class presentations, where our peers and professor noted the emotions our storyline and environment convey.

4. Demonstrate how civilians would adapt or lives would change under this law.
   - We have demonstrated the way civilians would adapt to protect themselves from autonomous weapons through the environment of the VR.
   - The crawl holes, protective shield would be used to demonstrate the drastic change in the routines of civilians when moving around their homes to protect themselves from surveillance of autonomous weapons and conforming to the new law.
   - The addition of the news broadcast will further prove the drastic change to life as we know it. With the use of sound, we can further convey the changes that would take place under the rule of autonomous weapons.
   - These measures have been tested in client meeting number 2 when Mines Action Canada agreed that the measures demonstrate civilian's adaption under this law.

5. Tell a story.
- This design tells a story through the adaptation in VR environment, and its drastic differences from what a normal apartment building would look like when the city is not under the control of autonomous weapons.
- The interactivity of the environment developed into prototype 3 is the key to how we will tell our viewers a story within the 1-minute video.
- The sound from the phone call and news program will provide background to the viewers and inform them of the current world our character exists in.
- The picking up and delivering of the medicine highlights our main storyline, our character delivering vital medicine to his mother after curfew.
- The adaptations to the apartment building portray the danger of disregarding the autonomous weapons rules, and what our character must do to avoid them.
- These components have been approved in client meeting number 2 when Mines Action Canada.

- This was further tested in our class presentation, when our deep storyline was highlighted as one of our teams strongest attributes by the audience.

Updated BOM

Item #	Item Description	Quantity	Unit Price ($)	Total Price ($)
1	Alleys and City Pack	1	45.00	45.00
2	Assault Cyborg	1	10.00	10.00
3	War Sound Effects	1	5.00	5.00
4	City Sounds	1	5.00	5.00
Total: $65 ($73.45 after tax)				

Recalling our original Bill of Materials, some updates need to be made. Within the development of all three prototypes our team managed to find free assets to develop our environment in Unity. Therefore, with the conclusion of the prototyping stage, our team has spent no money. Therefore, our final cost is $0.

Note: Design specifications have not been influenced with the development of any prototypes.

Conclusion

With the completion of prototype 3 we now have our comprehensive prototype. This means we have developed a near complete version of the game.

Prototype 3 is the completion of a lengthy process that started with prototype 1. We began by developing a storyline in prototype 1 that we felt would meet the design criteria given to us by Mines action Canada. Within this prototype we brainstormed various aspects we could implement into our VR environment. Some of these aspects included hidden crawl spaces and autonomous weapon lasers shining through the windows of our characters apartment building. With the completion of prototype 1 our team felt we had a solid foundation to start designing.
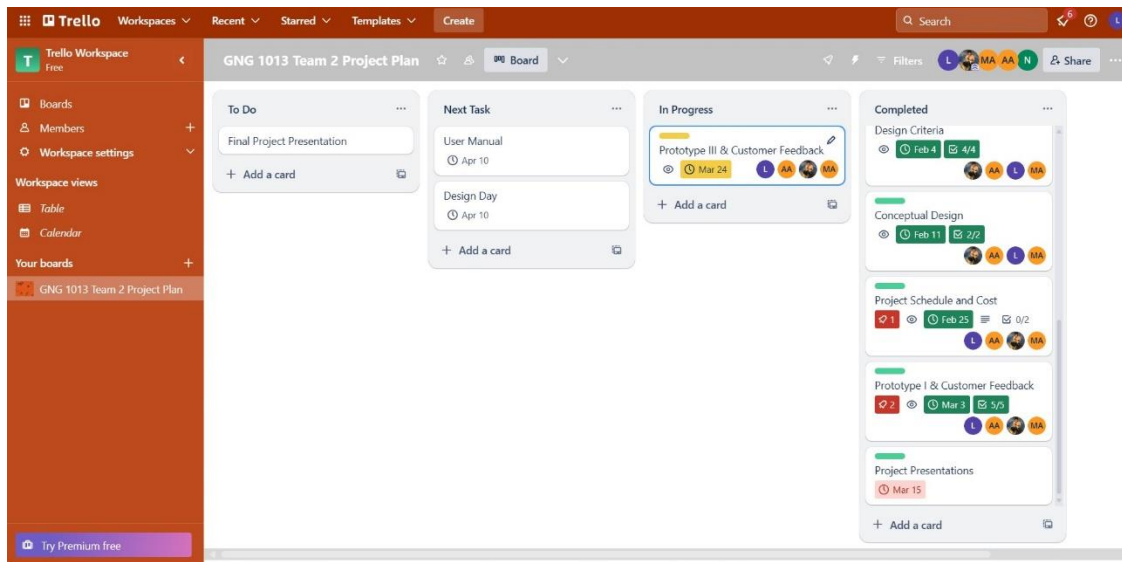
This foundation was our guide through prototype 2. Prototype 2 consisted of the creation of the environment outlined in the storyboard of prototype 1. The goal for this second

prototype was to get our setting designed (i.e. the apartment building). We designed the apartment, laundry room, hallway, and foyer.

With the creation of the setting complete our team was ready to make that setting interactive in prototype 3. This meant giving our character the ability to traverse through the entirety of the map. Specifically, we needed to make it possible for our character to go from room to room. The last key aspect of prototype 3 was to add sound to our environment. This was necessary to create ambiance.

By progressing through the different stages of the design with each prototype we hope to reach our ultimate goal of creating our comprehensive experience by design day. Our team now feels more confident in our final design and are eager to share it with our clients and many others.

Trello Task Board Update

Link: https://trello.com/b/A9O6vj6r/gng-1013-team-2-project-plan