EE/CprE/SE 491 WEEKLY REPORT 2

02.13.24 - 02.020.24

Group Number: 07

Project Title: Gamified Security Awareness

Advisor: Thomas Daniels | **Client:** Sudesh Kannan

Team Members/Role:

Charan Gurramkonda - Team Organizer + Primary Communication
Charles Millar - Testing/Developing
Caleb Lemmons - Information Application Lead
Parker Schmitz - Technical Lead
Brayden Lamb - Design/Visual Lead
Derek Lengemann - Testing/Developing

- **Weekly Summary**
  - Last week was devoted to wrapping up our ultimate game retrospective and assigning specific tasks in preparation for this week's meeting with our client. Unfortunately, we couldn't secure a meeting with them last week due to their hectic schedule, yet we kept them informed of our progress and offered plans for this Thursday. To date, we've allocated tasks for investigating software options to bring our solution to life and creating screen sketches. Our participation in the Senior Design has enhanced our grasp of client requirements, affording us a more informed perspective on the direction of our project.

- **Past week accomplishments**
  - **Charan Gurramkonda:** Brayden and I were responsible for creating screen sketches and providing detailed explanations. While Brayden focuses on crafting these sketches, my role involves explaining them and ensuring they align with our narrative and client requirements. Additionally, I undertake sketches independently, allowing us to compare and refine our thought processes. Given Brayden's position as the design lead, it's crucial for me, serving as the organizer of our group, to be on the same page and spread it to everyone else.

- **Charles Millar:** In the past week, I have been researching popular 2D games and what game engine was used to design them. I created a list of 2D game engines with details about the strengths and weaknesses of each. This list will help us come to a decision on which game engine we will use. I also worked on further developing the final game concept. I thought of a few options on how the storage/backpack system could work.

- **Caleb L:** I researched the most optimal game engine/software and reported to the team with ideas to expand upon. Through my research, I found that Unity stands out as an ideal game engine for our game. It is big on cross-platform development and has the most versatile support for 2D and 3D games. This, along with the vast asset store full of tools and assets, will help expedite our development process. The team previously discussed the usage of Unity, confirming my stance on the matter. I also was tasked with searching out the necessity of a database for our game. I learned that our game's structure (Save states, dynamic levels, etc.) will need a backend to some degree. Though MySQL is my strong suit, I found that Redis is a popular DB used for games because of its fast read and write speeds, "It is particularly useful for caching frequently accessed data, such as player profiles and game state." -ChatGPT. I am still unaware of the connective pipeline between Unity, Redis, or MySQL, but I will continue researching next week. To conclude, I refined and added a Cyber Security concept idea for our Gamification process.

- **Brayden Lamb:** I was tasked with working on visuals to show the client on Thursday, along with our description for our first two stages of the game. This week, I worked completely on the visuals of the concept we had written down for the final game. I used pixelart.com, which was perfect for now because we haven't chosen the platform we want to work with yet, and it was really easy to use.

- **Derek Lengemann:** This week, I researched various game engines and platforms we could use. Unity, which I have a little experience with, jumps out to me as a remarkably viable option. While we will need to look up tutorials on using Unity, its interface seems intuitive, it comes with assets we can use. Its ability to be implemented on many platforms, such as iOS or Android, makes it versatile.

- **Parker Schmitz:** I did some research on the Godot game engine, as it is another potential candidate for our game engine of choice. From what I've found, it bears some similarities to Unity, though in some regards it might be simpler. Godot supports multiple scripting languages, though it primarily supports its own scripting language, GDScript, and C#. GDScript is similar to Python in syntax, but C# might be more familiar to us, as we have experience with C-based languages.

- **Pending issues**
  - **Charan Gurramkonda:** No pending issues on my side. Everyone is doing their job!
  - **Charles Millar:** I have no pending issues.
  - **Caleb L:** There are no pending issues on my part.
  - **Parker Schmitz:** No issues.
  - **Brayden Lamb:** My only issue is that I suck at making characters for the visuals.
  - **Derek Lengemann:** There are no pending issues.

Individual contributions

NAME	Individual Contributions	Hours This Week	HOURS Cumulative
Charan G.	- Screen Sketches - Communicating W/ Brayden - Explaining Screen Sketches	4	15
Charles M.	- Storage/backpack system ideas - Game engines list - Popular 2D game research	3	12
Caleb L.	- Ideal Game Engine & Backend Research - Expanding on Gamification Ideas	4	15
Parker S.	- Godot research and experimentation	4	13
Brayden L.	- Visuals for the Client on Thursday from scratch	8	22
Derek L.	- Game Engine & Backend Research - Unity Tutorials & Unity platform research	6	20

- **Plans for the upcoming week (02.14 - 02.21)**
  - **Charan Gurramkonda:** In the upcoming week, I aim to present our software concepts and screen sketches to our client and review constructive feedback. Based on their insights, we'll refine our ideas and begin prototyping. Meanwhile, I'll channel this feedback to our team, overseeing our progress. Additionally, I'm ready to assist with research as needed and continue developing the game's initial levels.
  - **Charles Millar:** In the upcoming week, I hope the group will get good feedback from our client. I think the client's feedback will be essential for the next steps going forward. We have developed a good final game idea document.

From this document, I would like to further break down the story to the levels/parts of the game they will correspond to.

- **Caleb L:** The plan until the next meeting will be to focus on continuing to expand on the gamification ideas. The goal is to have two full mock-level designs that clearly implement cybersecurity concepts in the CyEscape world. I will report my findings to the group during the meeting and go from there.

- **Parker Schmitz:** In the upcoming week, I will further test drive Godot, primarily to test its capabilities. How user interfaces are implemented and how elaborate scripts can get are some of the aspects that I'm most interested in, as I have a feeling that will be important for our current game ideas.

- **Brayden Lamb:** The plan for the next week is to meet with the Client and get feedback on our ideas and visuals. We will regroup to address the feedback we got and finalize the game plan and a platform to begin experimenting if it will work.

- **Derek L:** The plan for the upcoming week will be to meet with the client and to get their feedback on our ideas. We have a good idea the client will like and we will hopefully be able to flesh out multiple level designs by the end of this week.

- **Summary of weekly advisor meeting**
  Not applicable for this week so far. We are meeting with him later this week.