

Jenna Weldon and Gabby Fama

Mr. Detrick

Honors Advanced Topics Block G

29 March 2022

Final Write Up

- **What were your original goals for this learning module?**

Gabby and Jenna's original goals for this learning module were to learn the basics of 2D Unity. They wanted to familiarize themselves with Unity and its interface, create a 2D platform game, and use any extra time to further develop their game to make it more complex. They wanted to be able to make an entire game using Unity and they used tutorials on Youtube to help them along the way. Gabby and Jenna's end goal for this learning module was to understand how Unity works and take what they have learned to make a game using Unity.

- **What problems did you encounter and how did you deal with them?**

For most of this learning module, Gabby and Jenna were able to avoid frustrating errors. In the very beginning of their module, they experienced minor errors when they completed a UI Toolkit, helping familiarize them with Unity's interface. There were a few problems with their QuickTool script code, when the Toolkit instructed them to copy and paste a few lines of code into the script. When Gabby and Jenna tried to use the provided code, the program was not working correctly. However, Gabby and Jenna were able to solve this issue when they continued reading the kit's instructions (as they needed to keep adding all of the provided code in future steps for it to all work together). Later on in the module, when using Alvin Roe's YouTube tutorial series, Gabby and Jenna experienced more logical errors, some weren't as fixable. At one point during the creation of the 2D platformer game, Gabby's code was throwing an error while Jenna's code was working fine. After a session of troubleshooting, Gabby realized that she had

accidentally used incorrect capitalization for the name of one of her methods. After fixing this, her program worked; this shows how one silly mistake can cause a lot of issues. After finishing video #15 in the platformer game series, the sprites in both Jenna and Gabby's programs weren't running and turning correctly, like they had been before. Jenna and Gabby suspected that it was the edits they had made in the video that messed something up. After retracing their steps, rewatching the video, and doing a deep search of their code Gabby and Jenna couldn't find the cause of the error. They were never able to determine the root of this problem, but their progress and hard work is still shown through their end product. Another problem they encountered was time, as they did not have ample time to actually finish creating the game, although they accomplished a lot, and wish they could have had more time to complete the module.

- **What did you actually accomplish?**

By the end of this learning module Gabby and Jenna had started creating a 2D game using Unity, but unfortunately weren't able to finish as this module was not long enough to finish an entire game. However, Gabby and Jenna achieved their goal of becoming much more familiar with C# as well as Unity with this project. They used their knowledge of Java and understanding of basic coding concepts to aid them in putting together this platformer game. In their game, Gabby and Jenna programmed their sprite to run, jump, & turn. Gabby and Jenna both created custom backgrounds for their sprite to run on and taught their sprite how to change its animation based on if it was idling, running, and jumping. Learning how to work efficiently with the Unity interface was a big accomplishment for both of them during this module.

- **What did you learn from this activity?**

From this activity, Gabby and Jenna learned the importance of being tedious and patient with their work. While they barely experienced errors, they learned that it is important to be slow and thorough with their work, as one mistake can set one back very quickly.

Additionally they learned a lot about how Unity works, and how to manipulate it to interact with their code scripts. The YouTube tutorial taught Gabby and Jenna the steps on *how* to execute a program, but also emphasized *why* certain steps were being taken and how each additional step contributed to the game. C# was not hard for Gabby and Jenna to get used to, as they already knew how to code in Java which is a similar coding language.

- **What would you have done differently if you did this again?**

If Gabby and Jenna had to complete this project again, they would utilize more of their study halls to keep working after their Advanced Topics period. Since class periods are barely over 40 minutes, it is hard to have a really productive work session. When Gabby and Jenna stayed after in Mr. Detrick's room or worked in their study hall, they were able to accomplish more, since they already had their project opened and ready to go, and didn't waste time getting Unity up and loaded. Additionally, it is easier to solve errors when one has a larger block of uninterrupted time, rather than two shorter work periods that are broken up.

- **What suggestions do you have for others who might pursue this activity?**

For other students who might pursue this activity, Gabby and Jenna advise that they **work with a partner** and try to stay at the same step as the other person. There were numerous instances where Gabby and Jenna were able to offer help or advice to one another because they were in (relatively) the same part of the tutorial. If they had separated and worked at different paces, they wouldn't have been able to help each other or troubleshoot together.

- **What additional things could you pursue with this activity in the future?**

In the future, Gabby and Jenna would like to finish out the video series on YouTube and fully finish their platform game. If they ever decide to revisit this project and finish out their game, Gabby and Jenna would like to take what they made using Alvin Roe's

tutorial and make it more unique and creative, outside of the tutorial. Additionally, Gabby and Jenna could further pursue this learning module by attempting a 3D game with Unity, now that they have a better grasp and understanding on the basics of Unity/C# and how it works.

- **A summary of your experience.**

Overall, this was a productive and successful project for Gabby and Jenna. While they weren't able to fully finish their game or the tutorial, they are still proud of the work they've done and the result that they came up with. It was a lot of fun playing around in Unity, programming the sprite to move all around. This project allowed Jenna and Gabby to get creative, creating their own custom backgrounds. This was a great partnership and allowed both students to bring out the best qualities in one another.

Resource Page

“UI Tool Kit - First Steps” Tutorial

<https://learn.unity.com/tutorial/ui-toolkit-first-steps?signup=true#61df0c5cedbc2a6f9c3d0c82>

“Simple UI Setup” YouTube video tutorial

<https://www.youtube.com/watch?v=VHFJgQraVUs>

“How To Build a 2D Platformer Game in Unity” YouTube video tutorial playlist (including all 39 videos we used in class)

<https://www.youtube.com/playlist?list=PLpj8TZGNIBNy51EtRuyix-NYGmcfkNAuH>

