

Weekly Report 8

January 28th – February 13th, 2020

Group 33 | VIRA (Virtual Insight into Real Athletics)

General Information

Advisor

Dr. Diane Rover

Team Members

Katie Perkins – Team Lead

Nate Irmiter – Stakeholder Communicator

Bailey Righi – Product Manager

Willem Paul – Standardization Manager

Caroline Rankin – Meeting Facilitator

Weekly Summary

This past week our goals were populating our database with test data, creating and connecting basic UI screens, and learning about procedural animation. We were able to reach these goals and have made great progress, especially with our work on procedural animation. Next week we hope to continue what we've been doing along with pulling more data from the database to the UI.

Past Week Accomplishments

Katie

I took the project that used robotic arms in VR and loaded it into Unity, but we found that the project was about three years old and used an older version of Unity. While I was researching joints, I came across a vocabulary term that we hadn't had a word for: procedural animation. This is the kind of animation that we need for the arm movement, and it is code driven. I found a tutorial that was the source of the robotic arms that were used in the original VR project, and used it to learn about forward kinematics, inverse kinematics, quaternions, and other things relating to 3D graphics and mathematics. After that, I was able to find a procedural animation tutorial for animating a gecko to walk. I am currently in the middle of working on that tutorial.

Nate

I worked on our server with Willem. We got our code working to the point where the framework for our server code and database code is all set up, so we can make HTTP GET and POST requests.

Bailey

I've been making UI screens for things like the guided mode and mode selection. I got buttons working to switch between scenes in the app as well as moving the camera around during gameplay. I also made screen sketches for our performance dashboard.

Willem

I worked on our server with Nate. We were able to properly implement the Hibernate aspect of the server, so the server can now receive HTTP requests, retrieve the relevant data from the database, and send it back.

Caroline

I have been able to start using Unity to create basic UI screens for things like User Profile Selection and the User Dashboard. I had some issues with using Unity but was able to resolve the issues with Bailey.

Individual Contributions

Name	Hours This Week	Cumulative Hours
Katie	8	13
Nate	6	12
Bailey	7	11
Willem	8	16
Caroline	8	12

Plans for the Upcoming Week

Katie

This upcoming week I plan to complete the procedural animation tutorial I am working on and then attempt to apply the scripts to the arm of the humanoid model that Nate has already made. I hope to get that working on just a laptop first before I convert it to being usable in VR.

Nate

I'm going to work with Willem in the coming week on code for our server side so that we can set up the proper access points for our frontend. If Katie needs any help/has any questions regarding the Blender models that we've implemented in Unity, I plan on assisting with those.

Bailey

This next week, I'll make the basic graphics for the performance dashboard and put some server requests in our code on scene switches or button clicks. I will also code the transition from selecting to starting a module.

Willem

I plan to implement the necessary data retrievals in our server. More specifically, after determining what Caroline and Bailey need from the database to populate their screens, I will add the code necessary to retrieve that information. I also plan to move the code to the server so that we can access it from the application.

Caroline

My plans for the coming week are to start pulling information from our database to be displayed on some of the created UI screens. I will also continue creating and connecting simple UI graphics.

Summary of Our Weekly Advisor Meeting

At our advisor meeting, we discussed what we had accomplished and what we are hoping to accomplish in the coming two weeks. We were able to show Dr. Rover some of our UI screens, the work we had done on procedural animation, and an example of our functioning server. Dr. Rover also suggested that we start working with an athletic trainer earlier than planned so that we can receive feedback as we go.