

Weekly Report 4

October 23rd – November 1st, 2019

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 we decided to change our guided modules to walk users through special tests instead of a patient evaluation and diagnosis scenario. Another goal was to create a detailed plan to follow for the rest of the semester. Originally, we kept track of our project using Trello made a group decision to use GitLab because our code and goals can be concentrated into one place. On Gitlab, we are able to keep track of tasks for our project such as practicing making programs in Unity and creating screen sketches. We were able to create goals that would help us learn the technologies we will be using as well as getting used to the Oculus headset.

Past Week Accomplishments

Katie

I helped revise our tasks based on the change we made to our guided modules and made a schedule of tasks to complete for the rest of this semester. I also helped Bailey make sure all the tasks in GitLab were updated. I also went to a Unity MLH workshop held by Squirrel Hacks, which gave me a lot of ideas about what tutorials to look at.

Nate

This past week I did a lot of research on what is available to us in terms of models of medical grade that we might be able to import into Unity3D. It appears that most of the options that are available cost money. I did find a really good model that was made off of a scan of the human body that would be incredibly useful if I can manage to figure out Blender well enough to rig it up properly. I spent a lot of time getting it to move, but ran

into issues where the movement was streaking so I've changed my strategy and am going to do everything I can to simplify the model without sacrificing much quality in hopes we can use it in our modules. Additionally, I spent some time working with our VR headset playing games as well as attempting to import a Unity3D module into our Oculus headset.

Bailey

This past week I worked a lot with GitLab. I helped go through our newly defined tasks and divided them among the milestones in GitLab. I also set the deadlines for our upcoming tasks. I talked with the athletic trainer more about what practice modules would look like and got some information on how we can adjust our project to better fit the needs of the students. For Unity, I found several tutorials relevant to our project that will be helpful as we begin development. I looked a little at some IEEE standards as well.

Willem

I helped revise our list of tasks. I also spent some time getting my development environment set up to work with the Quest and experimenting with the Quest to get a feel for how VR applications are typically laid out.

Caroline

Over the last week I helped revise our design document with updates on testing and functionality of the project. I also took notes from our appointment with our advisor and used this to update our design document. I also did some research and found a free and professional screen sketch software for VR applications. This could help us create a consistent design for our application.

Pending Issues

Nate was working on a model that might end up being too complex to animate unless he finds a sufficient way to reduce the vertices. Otherwise they will be too dense and we won't get good movement out of the model. He is not sure exactly what the best way to do this is, but he has started by trying things like deleting all of the extra organs within the model but might have to learn how to do something like re-topo the model so the outside has a smoother appearance so we can get more accurate movement.

Individual Contributions

Name	Hours This Week	Cumulative Hours
Katie	6.5	24
Nate	11	29
Bailey	6	20.5
Willem	6.5	20.5
Caroline	7.5	21.5

Plans for the Upcoming Week

Katie

I plan to work on learning Unity by doing tutorials, especially ones focused on UI for the Oculus Quest. I also am going to help accomplish the tasks we have planned for the upcoming week, such as working on screen sketches and establishing the database architecture.

Nate

My goals for the week are to continue tweaking the model that I found that we'd potentially be able to use instead of trying to find one that costs money. Additionally, I'd like to see what VR has to offer so we can figure out how we might consider movements, organize our screen, and do things like pan the camera, etc.

Bailey

I will do Unity tutorials and keep GitLab updated in addition to completing group tasks such as screen sketches.

Willem

I plan to finish setting up my environment and to work through a tutorial on creating a basic VR game. I will also be working with the team to create basic screen sketches.

Caroline

My goals for the coming week are to design professional screen sketches using an online software that I found as well as working with Unity to make modules with the Quest. Another project I want to help with would be helping break down our suggested tasks for the week so that we can work as efficiently as possible.

Summary of Our Weekly Advisor Meeting

During our advisor meeting, we reviewed our scheduled tasks for the rest of the semester with Dr. Rover. After reviewing what we'd like to finish at the end of the semester, she approved our schedule. We also are working towards having a demo ready for her to see at our next meeting. Dr. Rover also mentioned that we needed to research ways to test the hardware (Oculus Quest) while also testing the software itself and end-user testing.