EE/CprE/SE 492 BIWEEKLY REPORT 7

March 5th – April 18th

Group number: sdmay18-07

Project title: InfraDrone Android VR Application

Client &/Advisor: InfraDrone, Mitra

Team Members/Role:
Evan Snitkey — Team Project Manager
Blake Agey — Team Scrum Master
David Schmadeke — Team Quality Assurance
Yangxiao Wang — Team Webmaster

NAME	Contributions	Hours this period	HOURS cumulative
Evan Snitkey	Fixed texture rendering on obj viewer VR and non-VR	12	62
Blake Agey	Almost done with the touch movement feature of non-VR viewer	6	52
David Schmadeke	Started working on the poster	5	37
Yangxiao Wang	Restructured the layout of the application, minor bug fixes	7	57

- **Period Summary (Short summary about what you did this week)**
  - We were able to finish development on the VR component (head tracking now works). We added the button for non-VR to VR view seamless transitioning. We finished the poster, and started working on the final report and presentation slides as well.

o **Past period accomplishments (please describe as what was done, by whom, when or collectively as a group)**

- Evan was able to finish the development on the VR component by finishing the head tracking functionality and Yangxiao finished the button for VR transitioning without having to rerender the objects. We all spent some time working on the final report, presentation slides, and poster.

o **Pending issues (if applicable)**

- The only issue we have left is the object direction is incorrect so tracking up and down will result in it rotating around the wrong axis like steering a steering wheel. As of right now, the tracking is locked to the left and right, but we want to fix this for the presentation next week.

o **Plan for upcoming period (please describe as what, who, when)**

- Evan will be fixing the axis for rotating so that tracking up and down will work correctly. David will be distributing the UI testing surveys so we can use that data for the presentation. Blake will be finalizing the zoom in and out features of the non-VR viewer. Yangxiao will be creating an interface for an object rendering screen since it takes about 30 seconds to render an object. Lastly, we need to finish our final report and presentation by Wednesday (the day before our presentation).

o **Summary of biweekly advisor meeting**

- As stated before, our advisor had us create a page-long checklist which we are going to talk about tomorrow so that we can assign tasks. Here is the current state of the checklist:

Checklist	Task Description	Weight (1-lowest, 5-highest)	Hours Estimated (initial / new)
Merge VR code with current app	Merge Evan's VR code into master, this involves copying over some methods and refactoring them so they align with the current app structure.	3	2 / 9
Finalize file structure	We must restructure the way that the directories work in our app to match the new bucket that we were given to from the client.	5	8 / 20
PDF swipe to change page	This will be used for the PDF viewer but could also be used for the image viewer. This will include tracking a persons finger location from when it touches the screen to when it	2	3 / 5

	~~lifts off of the screen. A decision will then be made whether there was a left or right swipe or neither. With this information the page of the PDF that the user is viewing will increment or decrement.~~		
~~Text file scrolling~~	~~Allow vertical scrolling within text files.~~	~~1~~	~~2 / 2~~
~~Client & Advisor Demo 1 = 2/21 Sam, 2/15 Mitra~~	~~Preparing for demo - involves merging everyone's code to master, preparing a PowerPoint presentation, and practicing going over live demo (this task involves everyone).~~	~~3~~	~~20 (5 per member)~~
~~Render client objs properly~~	~~This bug we have been stuck on for many weeks in the past semester, hopefully after merging the VR code with master, it will be easier to debug with actual client data instead of test data. We must be able to use the jpeg files that go with 3D obj files to color the 3D object with textures.~~	~~5~~	~~12/ 25~~
~~Download all mlt and jpg files when clicking on OBJ file in file structure~~	~~Download all mlt and jpg files when clicking on OBJ file in file structure~~	~~2~~	~~3 / 3~~
~~Readjust obj size and camera distance properly~~	~~All OBJ files are different sizes and have different distances from the camera, this needs to be dynamically set to fit the whole obj in the camera position~~	~~3~~	~~5 / 5~~
~~Fix textures not loading in on 3d obj rendering~~	~~After getting the new jPCT api working on rendering objs, the textures are not loading properly~~	~~2~~	~~3 / 8~~
~~Set head movement to move obj in VR~~	~~Set head movement to move obj in VR~~	~~4~~	~~5 / 5~~
~~Connect 3D model view to VR view with button~~	~~This consists of a VR button at the bottom corner of the 3D obj viewer screen, when pressed, it will transition into a VR view of the current 3D object.~~	~~4~~	~~3 / 3~~
~~Make sure that we can view any type of file (text, other images, etc)~~	~~The app should provide viewer for any types of file from our client's AWS storage.~~	~~3~~	~~5 / 9 (tif?)~~
~~Make UI testing survey~~	~~Creating basic survey through Microsoft Office (5-10 questions with 1-5 type answers), printing 10 copies.~~	~~1~~	~~2 / 5~~
3D viewer touch movement	Allowing a 3D object to be moved with either the tilt of a phone or the swipe of a finger. We must translate and render the object file based on the new positions in the rotation matrix for the object.	3	3 / 5
OBJ rendering loading screen	A loading screen that will display from time of clicking the obj to view to when it is actually ready and rendered on screen	3	3 / 3
~~Finalize navigation side bar~~	~~The Navigation side bar will be used to navigate throughout the application, this will~~	~~2~~	~~4 / 4~~

	involve designing a user friendly GUI with all of the essential pages of the application linked on the side bar.		
Extraneous testing (phone load)	We will be setting aside four hours of time to research and implement ways to test how our app can handle extraneous use and average time to complete certain functions.	4	4 / 6
File type filter - filter within current directory CANCELED DUE TO NEW FILE STRUCTURE	The file type filter will be used to filter the file types within the users current directory, so that only the information that the user wants to see will be shown. This will involve scanning all of the file names to find the file type and then showing the wanted files while hiding the unwanted files.	4	7 / 10
Image preview on file structure list SET TO GENERIC ICONS DUE TO TIME CONSTRAINTS	Instead of just displaying the file name as the icon 'button' in the directory structure listing, we will need to also need to display a small preview icon above the file name to make the UI easier to use. If we cannot get the 3D object previews to work in the alloted hours, we will just default to generic 3D object file symbols instead of the previews.	4	7 / 7
File downloading animation	This is a progress bar that will be shown when files are downloading. This will let the user know the progress of the download. To complete this we will need to find and extract the download status of each download through the download manager and use that information to create a progress bar animation.	2	4 / 4
Client & Advisor Demo 2 = 3/21 Sam, 3/29 Mitra	Preparing for demo - involves merging everyone's code to master, preparing a PowerPoint presentation, and practicing going over live demo (this task involves everyone).	3	20 (5 per member)
Security testing (Fully use authorized role)	Security testing, make sure user's information and AWS's information cannot be easily read by any unauthorized access.	3	5 / 5
User experience testing (focus group - 10 users)	Contact 10 different people and have them test our application (after code freeze) and fill out the printed surveys. We will be using this information in our final presentation.	3	4 / 4
Create code coverage tests (eliminate all bugs, navigation bar lag)	We will break up the 20 hours of allotted time for this task into 5 hours per member. Each member will be creating code coverage tests on the lines of code that he wrote. This will eliminate the chance for bugs to occur.	4	20 (5 per member)
Client & Advisor Demo 3 = 4/18 Sam, 4/19 Mitra	Preparing for FINAL demo - involves merging everyone's code to master, preparing a PowerPoint presentation, practicing going over live demo, and preparing project for	4	40 (10 per member)

	handover to client (this task involves everyone).		
NOTE: ONLY ACCOUNTS FOR CODING AND PREPARING FOR DEMOS, DOES NOT INCLUDE ANY TIME SPENT ON DOCUMENTATION, BIWEEKLY REPORTS, OR THE FINAL POSTER			TOTAL HOURS: ~194 - 226