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**EE/CprE/SE 492 BIWEEKLY REPORT 6**

**March 22<sup>nd</sup> – April 4<sup>th</sup>**

**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

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<b><u>NAME</u></b>	<b><u>Contributions</u></b>	<b><u>Hours this period</u></b>	<b><u>HOURS cumulative</u></b>
Evan Snitkey	Fixed texture rendering on obj viewer VR and non-VR	7	50
Blake Agey	Almost done with the touch movement feature of non-VR viewer	8	46
David Schmadeke	Started working on the poster	6	32
Yangxiao Wang	Restructured the layout of the application, minor bug fixes	8	50

- **Period Summary (Short summary about what you did this week)**
  - We were able to complete the following tasks – fixing the texture renderer, almost completed touch movement on the viewer, started work on the poster, fixed minor bugs, and restructured the look of the file layout.

- **Past period accomplishments (please describe as what was done, by whom, when or collectively as a group)**
  - Evan fixed the texture renderer within the JCPT ae OBJ viewer by switching the JPG textures to bitmap file types. Blake has almost completed the touch viewer movement on non-VR OBJ viewer (all he has left is the pinch zoom in and out). David started working on the poster. Yangxiao fixed some minor bugs and restructured the look of the file structure within the application.
  
- **Pending issues (if applicable)**
  - The head movement tracking in VR is tough because we are required to merge two API's together (JPCT-ae and Google Cardboard), while trying to keep each of the API's functionalities working together.
  
- **Plan for upcoming period (please describe as what, who, when)**
  - Evan will be working on the VR head movement tracking. Blake will be finishing the pinch zoom in and out features of the standard 3d OBJ viewer and once he is done, will be joining Evan. David will continue to work on the image previews this sprint, and at the end of the sprint, he will be distributing the user testing survey. Yangxiao will be creating a button that will have seamless integration between VR and non VR OBJ viewers.
  
- **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	2	3 / 5

	when it 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.	4	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 mtl and jpg files when clicking on OBJ file in file structure	Download all mtl 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.	4	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
Finalize navigation side bar	The Navigation side bar will be used to navigate throughout the application, this will involve designing a user friendly GUI with all of the essential pages of the application linked on the side bar.	2	4/4

Extraneous testing (phone lead)	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 <del>CANCELED DUE TO NEW FILE STRUCTURE</del>	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	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 allotted 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 handover to client (this task involves everyone).	4	40 (10 per member)

**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