

sdmay18-02: Augmented Reality Mechanical Design Solution

Report 3

September 15 – September 29

Team Members

Bhimesh S. Chauhan — *Client Coordinator, Project Manager, Backend and Pipelining Team*

Vaibhav Malhotra — *Backend Developer*

Cole Chapin — *UI Design Engineer*

Ryan Luck — *UX Engineer*

Cal-Vert Wong — *Pipelining*

Summary of Progress this Report

We have following issues addressed this week:

1. We have defined the scale of the project and discussed the scope of our project with our advisor
 2. We have discussed with our client what is wanted in our project and brainstormed ways to break up our project into steps.
 3. Researched the difference between using both Unity and OpenGL and just OpenGL for rendering objects on VR displays.
 4. Researched basic 3D design files and chose .stl files as the type of file we will import into our program.
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Pending Issues

We have following pending issues for the next week:

1. We determined that .stl files are very common design files but we need to be able to parse the file to determine how to import them.
 2. We need to be able to work with the VR simulator such that we can take points of data in a 3D space and render items such that they are viewable.
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Plans for Upcoming Reporting Period

We have following upcoming reporting period:

1. Push first progress to repository and progress report to the team next week.
 2. Determine if we are going to use both Unity and OpenGL or just use OpenGL.
 3. Research details on the .stl file and start to work on parsing the data within the files.
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Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Bhimesh S. Chauhan	<ul style="list-style-type: none">• Researched the pros and cons of using Unity and OpenGL versus just OpenGL to render our 3D objects in VR.	7	24
Vaibhav Malhotra	<ul style="list-style-type: none">• Researched the multiple different 3D files and did research on which file type we should start with.	7	21
Cole Chapin	<ul style="list-style-type: none">• Researched UI of other VR products to optimize our UI	4	19
Ryan Luckinbill	<ul style="list-style-type: none">• Researched different ways to import files, parse them, and input them into OpenGL.	7	20
Cal-Vert Wong	<ul style="list-style-type: none">• Design pipeline and understanding of the architecture of file conversion and research on the binary transformation of file for various existing schemes like pdf to word.	7	22

Summary of weekly advisor meeting (if applicable/optional)

We discussed the following topics with our advisor:

1. Do we understand exactly what our client is expecting from us and the scope of the project?
 2. In which ways are we going to divide up the group and what is everyone interested in.
 3. What is the most simple way to render a 3D design file on a VR device.
 4. How could we, as a group, acquire a Oculus Rift or HTC Vive such that we can test our project.
 5. Contacted multiple school resources requesting the above devices.
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