

Prototype Description

Product Overview

The project prototype discussed for this project is a system that will handle four user types for uploading 3D model files to a HoloLens and passing an authorized actor the user feedback. The final software would be functional as is described throughout the following paragraph:

Each user will have different functionality, meaning that the actor will only be authorized to upload or retrieve data that is necessary to their role. All user types will have the general functionality of uploading a file and receiving feedback (whether it be an error log or the user feedback in a .txt file). The prototype will be made using a modular software architecture as most of the code will be reusable. It will demonstrate an actor's ability to upload an element to a HoloLens (or HoloLens emulator), and receive a sample file that resembles the results from a user test run as was described at length in the SRS file. The act of uploading to the HoloLens app from the system is of top priority as this is the main functionality.

Seeing that the scope of the prototype for the S E 409 class is a throwaway prototype, the following is the functionality to be expected in the presented prototype:

The system will have an user-friendly interface that will resemble what the client will desire in the final product. The throwaway UI will be made for one user as it is essentially the same UI due to similar functionality requirements for all of the users (except for the admin), so the prototype will only demonstrate this for one actor. The UI will have two panels, one labeled "Upload" will have select and upload buttons for the selected file to be loaded onto the HoloLens from the system. The other panel will contain any of the

feedback files from the test uploads and when a file is selected it will send the feedback as a downloadable .txt file. For the psychologist, this would be the answers to the survey, however for the UX Designer and Scenario Tester this will be the system logs (I.e. errors). When a scenario has been made available on the system, the prototype will have a successful upload 95% of the time from the system to the HoloLens.

We chose these two function points for the prototype because we believe they will have high satisfaction to our clients and properly demonstrates the desired functionality. The upload button is not functional due to lack of development resources available. If it were to work, and since we do not have complete scenarios, we would use the sample files that our clients referred to us. The sample files are .obj models that can be found at www.turbosquid.com. The prototype will be delivered as source code with an index file that may be viewed in the browser as it was created using web development skills as was the available development skills of the software development team. This will be a throw away prototype.

Upload Files to the HoloLens

The following image is of the sample upload page that an actor may interface with while attempting to upload their file to the HoloLens app. As was described, the prototype has a file upload feature. The user will select the file they wish to upload to their HoloLens app and then when they select "Upload," it will send the document to HoloLens. For the sake of the prototype for this specific project, the team attempted to upload the file to OneDrive to show that the software is capable of uploading a file to a designated location. (The team was unable to work the HoloLens/HoloLens Emulator/upload to onedrive and did not have the resources to create a throwaway HoloLens App to test uploading files. If the used would like, they may log into the HoloLens and retrieve their uploaded files from OneDrive by following the procedures described on the following Microsoft page:

https://developer.microsoft.com/en-us/windows/holographic/saving_and_finding_your_files

The following is more specific directions to accessing the files from HoloLens (navigate to the “file pickers” section:

https://developer.microsoft.com/en-us/windows/holographic/App_model.html#file_picker_s)

Any files that are available for upload to the HoloLens that have been successfully uploaded to the software will show up on the lower portion of the page. By selecting the file in the dropdown and selecting upload, it will load the file to the HoloLens. This portion is not functional but has been designed so that the client may visualize it.

The screenshot shows a web interface for the 'SE 409 Prototype'. At the top, there is a dark grey header bar with two tabs: 'Upload' and 'Retrieve'. The 'Upload' tab is active. Below the header, the word 'Upload' is displayed in a large, bold, black font. Underneath, a light grey box contains the text 'Please select a file to upload.' followed by a teal button labeled 'FILE'. Below this is another teal button labeled 'UPLOAD'. Further down, there is a section titled 'Uploaded files available to upload to the HoloLens app:'. Below this title, the text 'Available files:' is followed by a list item 'SampleFile.obj' and a downward-pointing triangle icon. At the bottom of this section is a teal button labeled 'UPLOAD'.

Retrieve Files from the HoloLens

The following image is of a sample retrieve file from HoloLens page that an actor may interface with while attempting to retrieve their feedback from the HoloLens app. As was described, the prototype has a feature to download the feedback files. The prototype does not download the file from the HoloLens directly as there was no HoloLens app to send

back feedback data, so a sample feedback file has been created and will download when clicked. If the prototype were entirely functional, selecting the “Retrieve feedback from HoloLens” button would retrieve any feedback or log files from the HoloLens app. The team's main focus for this functionality was to demonstrate the capabilities of downloading the file.

