Engineering Notes No. 3.2

## INFORMATION

**NAME:** William Reimer

**DATE:** 10/22/24 - 10/28/24

**Sprint:** 3

## JIRA BACKLOG

**Responsible for:**

* [ERPOLYV-19](https://ramsdenh.atlassian.net/browse/ERPOLYV-19): Refine Render of Campus

**Contributed to:**

* ERPOLYV-18: Become Familiarized with Equipment in Micaplex
* ERPOLYV-24: Determine Beginning Scenario Within Intersection
* ERPOLYV-32: Scene Creation in Polyverif to Model ERAU Campus

## RESOURCES & DOCUMENTS CONTRIBUTED TO

***Table 1 - Contributions***

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Resource/Document** | **Location** | **Contribution Description** |
| 10/24/24 | [ERPOLYV-19](https://ramsdenh.atlassian.net/browse/ERPOLYV-19) | Blender/OSM | Had to transition to using OSM to generate a 3D render that successfully opened in both Unity and Blender |
| 10/22/24 | ERPOLYV-18 | Micaplex | Helped set up proper meeting times to work in the Micaplex. |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## COMPONENTS TESTED

***Table 2 - Testing***

|  |  |  |  |
| --- | --- | --- | --- |
| **Date Tested** | **Component** | **Result** | **Comments** |
| 10/24/24 | ERPOLYV-32 | Failure | Moving the blender file from a Windows Machine to the Linux workstation resulted in broken textures in the 3D model. |
| 10/24/24  \*later in the day | ERPOLYV-32 | Success | Transitioning to using OSM worked successfully, creating a .obj file, a file type that successfully opens in blender and unity. |

## PROBLEMS SOLVED

***Table 3 - Solutions***

|  |  |  |
| --- | --- | --- |
| **Date** | **Problem** | **Solution & Notes** |
|  |  |  |
| 10/24/24 | ERPOLYV-32 | Will attempt to locally recreate the render on the Linux Micaplex workstation. |

## PROBLEMS TO ADDRESS NEXT

***Table 4 – Future Problems***

|  |  |
| --- | --- |
| **Problem** | **Description** |
| Will have to work on loading the render on polyVerif | Just because we now have the 3D render doesn’t necessarily mean it will automatically run on polyVerif. More research will need to be done to figure out how to transfer the render from Blender or Unity to polyVerif |
|  |  |

## MEETING NARRATIVE NOTES:

***Table 5 – Meeting 1***

|  |  |  |
| --- | --- | --- |
| **10/22/24** | **Meeting Type:** StandUp/Class/ETC | |
| Met with Product Owner(s): Y/N | | |
| **Problems Brought Up:** | | |
| **Problem** | | **Proposed Solution** |
| Need to complete SRS document | | Finished SRS document after meeting |
| Neet to schedule consistent time to work at the Micaplex. | | Will meet on Thursday’s at the Micaplex. |
|  | |  |
| **Other Items Updated on:** | | |
|  | | |
| **Additional Notes:** | | |

|  |  |  |
| --- | --- | --- |
| **10/24/24** | **Meeting Type:** StandUp/Class/ETC | |
| Met with Product Owner(s): Y/N | | |
| **Problems Brought Up:** | | |
| **Problem** | | **Proposed Solution** |
| Issue with 3D render of ERAU campus successfully being uploaded to the machine in the Micaplex | | Test if there is anyway to successfully load the files. If not, consider alternatives.  Ended up using OpenStreetMap, was able to create a .obj file which can be loaded in both blender and unity. |
|  | |  |
|  | |  |
| **Other Items Updated on:** | | |
|  | | |
| **Additional Notes:** | | |
| Will end up having to figure out how to move this file from Blender or Unity to PolyVerif | | |

## NOTES:

* Met in MP 224 to try to get Unity installed on the Linux computer to be able to run PolyVerif.
* \*Did not meet with product owners
* Completed Engineering Notes (due tonight).
* Successfully installed Unity Hub (without Sandbox)! Yippie!
* Sandbox is giving errors, unable to install it due to lack of updates.
* Figuring out how to upload the 3D model of the Campus.
* Switched from Ubuntu Version 18.04 to 24.04.1 LTS – no current issues.
* Having issues with loading in blender file of map. Most likely needing to do it locally, as there may be hidden files within blender that store the texture.
  + Image loading in purple, and all texture gone
  + Working around this by locally installing Blender and RenderDoc
* Planning on Uploading map and copying BASIC Test file to Polyverif
  + To circumvent the paywall originally used by Jacksonville, used OSM and OSM2World
    - OSM, Open Street Map, is a completely free website that lets you download 3D map information from satellite scans into .osm files
      * <https://www.openstreetmap.org/export#map=16/29.19057/-81.04786>
    - OSM2World is an accompanying Java executable that allows you to view .osm files and turn them into .obj files for use in blender and unity.
      * <https://osm2world.org/download/>
  + First, the user must select a city that they want to pull Data from.
  + Then, the user must load the program using the edit drop down, which allows for 3D scans instead of 2D (3D scans require a FREE account)
  + Must select edit with iD
  + Export selected data, and import it into OSM2World
  + Let it load, and export it as an obj file. Can then be used in blender and unity
* Uploading map to PolyVerif is not possible right now, as we are working on reverse engineering the structure of the format.