Engineering Notes No. 0

## INFORMATION

**NAME:** William Reimer

**DATE:** Start of Class – 9-16-24

**Sprint:** Pre-Sprint

## JIRA BACKLOG

**Responsible for:**

Note: While the first sprint hasn’t officially started, the following backlog items were delegated to me

* ERPOLYV-9: Research 3D Render of ERAU Campus
* ERPOLYV-10: Create Basic Render of ERAU Campus
* ERPOLYV-12: Research RenderDoc
* ERPOLYV-16: Create Tutorial for Rendering in Blender

**Contributed to:**

N/A

## RESOURCES & DOCUMENTS CONTRIBUTED TO

***Table 1 - Contributions***

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Resource/Document** | **Location** | **Contribution Description** |
| 09-12-24 to  09-16-24 | ERPOLYV-12 | N/A | I researched the applicability of RenderDoc to 3D renders of the ERAU campus. With the addition of Google Maps, Blender v3.5, and the plugin: MapsModelsImporter v0.6.2, a full 3D model of the ERAU campus can be generated and potentially used to create, test, and implement future scenarios. |
| 09-10-24 to 09-16-24 | ERPOLYV-8 | N/A | I participated in the research of PolyVerif, how it works, and how to use it |

## COMPONENTS TESTED

***Table 2 - Testing***

|  |  |  |  |
| --- | --- | --- | --- |
| **Date Tested** | **Component** | **Result** | **Comments** |
| 09/16/24 | ERPOLYV-10:  Creating a test render of an intersection of the ERAU campus | Failure: Unable to create a full 3D render. Results renged from partial renders, to error messages. | The versions of Blender, RenderDoc, and the MapModelsImporter plugin are incompatible. Need to consult the RenderDoc and MapModelsImporter github pages to resolve compatibility issues. |
|  |  |  |  |

## PROBLEMS SOLVED

***Table 3 - Solutions***

|  |  |  |
| --- | --- | --- |
| **Date** | **Problem** | **Solution & Notes** |
| mm/dd/yy | Problem description | Solution and notes if applicable |
| 09-12-24 | Create Meeting times | Communicate with rest of team to establish weekly meeting times |
| 09-12-24 | Need access to GPU to properly run PolyVerif | Meet with Dr. Akbas to use hardware in the Micaplex building that can run PolyVerif. |
| 09-12-24 | Create Sprint 1 | Complete all the backlog items that will be implemented into Sprint 1 |
| 09-12-24 – Sprint 1 | Create Project Proposal | Meet with Group to discuss scope of project and project goals to include in the Project Proposal. |

## PROBLEMS TO ADDRESS NEXT

***Table 4 – Future Problems***

|  |  |
| --- | --- |
| **Problem** | **Description** |
| Creating a successful test render of a portion of the ERAU campus. | Several attempts were made to create a successful render, with differing and unpredictable results. The majority of attempts return a generic error message stating to ensure the version of the .rdc file is compatible with Blender, or check that the file is formatted correctly.  Interestingly, I had more consistent results when using Google Earth for the campus 3D capture instead of Google maps, however, instead of errors, I was only getting partial captures that didn’t save properly.  The next course of action will be to consult the RenderDoc Github Q&A, and the MapModelImporter Plugin Q&A for the next course of action |
|  |  |

## MEETING NARRATIVE NOTES:

***Table 5 – Meeting 1***

|  |  |  |
| --- | --- | --- |
| **09/10/24** | **Meeting Type:** StandUp/**Class**/ETC | |
| Met with Product Owner(s): Y/N | | |
| **Problems Brought Up:** | | |
| **Problem** | | **Proposed Solution** |
| Need GPU’s | | Use computers in the Micaplex |
| Establish meeting days | | Meet up on Sunday’s in addition to class time |
|  | |  |
| **Other Items Updated on:** | | |
|  | | |
| **Additional Notes:** | | |
|  | | |

***Table 6 – Meeting 2***

|  |  |  |
| --- | --- | --- |
| **09/12/24** | **Meeting Type:** StandUp/**Class**/ETC | |
| Met with Product Owner(s): Y/N | | |
| **Problems Brought Up:** | | |
| **Problem** | | **Proposed Solution** |
| What we want to see done at end of year | | Work on Project Proposal and work with Dr. Akbas (product owner) to determine scope and goals of project. |
| Create traffic scenario with autonomous vehicle | | Use PolyVerif, SUMO, and AV SIM autoware simulator. Become familiar with software, and collaborate on creating general scenarios that can be tested. |
| How create map of ERAU campus | | Use Google maps, Blender, and RenderDoc to create 3D render of ERAU campus |
| Need hardware to run PolyVerif | | Use computers in Micaplex lab |
| **Other Items Updated on:** | | |
|  | | |
| **Additional Notes:** | | |
|  | | |

## NOTES:

With the team established and a rough idea of what’s expected, now is the time to figure out the resources needed, topics that need to be researched, and a potential timetable. Will be started in Sprint 1.