Engineering Notes No. 0

## INFORMATITON

**NAME:** Isabella Acosta

**DATE:** 08/27/24 - 09/16/24

**Sprint:** N/A

## JIRA BACKLOG

**Responsible for:**

* N/A

**Contributed to:**

* N/A

## RESOURCES & DOCUMENTS CONTRIBUTED TO

***Table 1 - Contributions***

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Resource/Document** | **Location** | **Contribution Description** |
| 09/12/24 | Autonomous Vehicle Verification Consortium | Discord | I posted the link to the Autonomous Vehicle Verification Consortium page to the links and resources page on Discord |
| 09/16/2024 | SUMO User Documentation | Discord | I posted the link to the SUMO User Documentation page to the links and resources page on Discord |
| 09/16/2024 | PolyVerif Framework Diagram | Discord | I posted a screenshot of the PolyVerif Diagram to the links and resources page on Discord |

## COMPONENTS TESTED

***Table 2 - Testing***

|  |  |  |  |
| --- | --- | --- | --- |
| **Date Tested** | **Component** | **Result** | **Comments** |
| N/A | N/A | N/A | N/A |

## PROBLEMS SOLVED

***Table 3 - Solutions***

|  |  |  |
| --- | --- | --- |
| **Date** | **Problem** | **Solution & Notes** |
| 09/10/2024 | Need compatible hardware and operating systems that we can use | We will gain access to the Micaplex Lab and send IDs for parking passes to Dr. Akbas |
| 09/12/2024 | Establish meeting times | Send out When2meet and establish reoccurring meeting times |
| 09/12/2024 | Gain understanding of PolyVerif and other programs/software we are going to use | Read documentation provided (research papers) and any other resources found and watch videos using the software |
| 09/12/2024 | Sprint 1 advancement | Create backlog items |
| Finish before 9/17/2024 | Finish project proposal | Add a vision statement and continue to work on completing the Project Proposal |
| Finish before 9/17/2024 | Sprint 1 backlog items | Finish adding and refining backlog items  (mark backlog items as finished in Jira) |

## PROBLEMS TO ADDRESS NEXT

***Table 4 – Future Problems***

|  |  |
| --- | --- |
| **Problem** | **Description** |
| Project Design and Project Proposal | Need to establish the project design and scope, along with tasks and backlog items for Sprint 1. Need to be working on project proposal using the given template. |
| Project Goals and Timeline | Need to establish project goals within our scope and a rough timeline based on the goals within each sprint. |
| Contact individuals/organizations for references on PolyVerif | Obtain contact information from Dr. Akbas about PolyVerif information and contact them in the future regarding PolyVerif tools. |
| Learn Scenic, SUMO, Polyverif | Research each program on our own and familiarize with the Basics, once we get access to the Micaplex we can use the programs and put them to practical use |

## MEETING NARRATIVE NOTES:

***Table 5 – Meeting 1***

|  |  |  |
| --- | --- | --- |
| **9/10/2024** | **Meeting Type:** StandUp/**Class**/ETC | |
| Met with Product Owner(s): Y/N | | |
| **Problems Brought Up:** | | |
| **Problem** | | **Proposed Solution** |
| Need GPUs to run PolyVerif | | Gain access to a computer lab (location to be disclosed) |
| Need to establish meeting days | | General meeting days on Sundays |
|  | |  |
| **Other Items Updated on:** | | |
|  | | |
| **Additional Notes:** | | |
| Initial groups made | | |

***Table 6 – Meeting 2***

|  |  |  |
| --- | --- | --- |
| **09/12/2024** | **Meeting Type:** StandUp/**Class**/ETC | |
| Met with Product Owner(s): Y/N | | |
| **Problems Brought Up:** | | |
| **Problem** | | **Proposed Solution** |
| Work on Project Proposal | | Need to include what we want to get one by the end of the semester and next semester, and how/what we are going to do to achieve that |
| Dr. Akbas Goals for us for the end of the semester | | Create folder on PolyVerifFramework in GitHub called “ERAU2024SeniorDesign” and add to it as needed |
| See and understand how the autonomous vehicle performs | | Establish a formal language for describing scenarios (refer to scenic opensource UC Berkeley) as well as defining the scenarios in SUMO |
| Determine scenarios to run | | Find the best scenarios to run and what the best combinations of variables would be and integrate them into PolyVerif |
| Parking passes for Micaplex | | Send Dr. Akbas student IDs |
| Map ERAU Campus by sections | | Start mapping intersection by ICI Center and Clyde Morris Blvd |
| How are we going to map out | | Google Maps 3D rendering along with Blender |
| **Other Items Updated on:** | | |
|  | | |
| **Additional Notes:** | | |
|  | | |

***Table 7 – Meeting 3***

***Did not have another meeting in this timeframe***

|  |  |  |
| --- | --- | --- |
| **09/12/2024** | **Meeting Type:** StandUp/**Class**/ETC | |
| Met with Product Owner(s): Y/N | | |
| **Problems Brought Up:** | | |
| **Problem** | | **Proposed Solution** |
|  | |  |
|  | |  |
|  | |  |
| **Other Items Updated on:** | | |
|  | | |
| **Additional Notes:** | | |
|  | | |

## NOTES:

Our initial groups were created, and we promptly spoke to our product owner to understand and get a basic introduction to our project.

Along with this, we need to establish a rough estimate of what we want to see at the end of the year and what we are going to do to get it done. We have to become familiar with Polyverif, there is an example project on GitHub we can use for reference. There are already some traffic scenarios with autonomous vehicles, and the scenarios are being done at multiple levels. We need to view the AV SIM simulator and with this determine the best combination of vehicles to use within those simulations. Once we get access to the lab, we need to install PolyVerif on the computer and have a working, stable version of PolyVerif. We need to then determine what times we can visit the lab, we do not always need to be running simulations scripting and documentation can be done remotely. We are also working with a company that controls Polyverif and we will get guidance from them. We must also determine our roles and complete our project proposal and continue making progress on backlog items during this “pre – sprint” timeframe.