CS490 – Autonomous Vehicle Design

Engineering Notes No. 5.1

INFORMATION

NAME: Serena Conticello

DATE: 11/12/24 - 11/18/24

Sprint: 5

JIRA BACKLOG

Responsible for:

- High - level Architecture Diagram

Contributed to:

- Troubleshoot PolyVerif's new install
- Complete SDD Document following same breakdown as SRS
- Determine Goals with Acclivis
- Install Polyverif on Serena's Laptop

CS490 – Autonomous Vehicle Design

RESOURCES & DOCUMENTS CONTRIBUTED TO

Table 1 - Contributions

Date	Resource/Document	Location	Contribution Description
sprint	Personal Engineering Notes	One Drive & GitHub	Completed engineering notes

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COMPONENTS TESTED

Table 2 - Testing

Date Tested	Component	Result	Comments
n/a	n/a	n/a	n/a

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PROBLEMS SOLVED

Table 3 - Solutions

Date	Problem	Solution & Notes
n/a	n/a	n/a

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PROBLEMS TO ADDRESS NEXT

Table 4 – Future Problems

Problem	Description
Dual Boot Serena's Computer	Put ubuntu on laptop. Not going to be done until PolyVerif issues are figured out so my computer does not get bricked.
Basic Simulation Working	Have a basic simulation running on the PolyVerif computer in the MicaPlex.
Uploading 3D Map of Campus	Reverse engineer software and reach out to PolyVerif contacts.
Get Recording	Record the simulation for demonstration and record keeping.
PolyVerif Not Working	Likely an Operating System issue. Hardware seems to be compatible and operable.
Complete SDD Document	Work on it.

CS490 – Autonomous Vehicle Design

MEETING NARRATIVE NOTES:

Table 5 – Meeting 1

11/12/24	Meeting Type: Class
Met with Product Owner(s): Y – Dr. Akbas, Clay	
Problems Brought Up:	
Problem	**Proposed Solution**
n/a	n/a
Other Items Updated on:	
n/a	
Additional Notes:	
Watched other presentations in class.	

Table 6 – Meeting 2

11/13/24	Meeting Type: Micaplex
Met with Product Owner(s): N	
Problems Brought Up:	
Problem	**Proposed Solution**
OS Issue with Installation	Reach out to Bidur for further steps.
Other Items Updated on:	
- Was able to run a new installation from the instructions Bidur sent, no longer having Docker installation issues but now OS issues. - Seems we need to update GLIBC_2.34 and then Qt_5.15, but that is only available on 21.xx and 22.xx Ubuntu, and we are currently on 20.04. - Might need to reinstall (refresh) or upgrade OS so the upgrades do not brick our current system. - Hannah reached out to Bidur for further guidance.	

CS490 – Autonomous Vehicle Design

Additional Notes:
n/a

Table 7 – Meeting 3

11/14/24	Meeting Type: Micaplex
Met with Product Owner(s): N	
Problems Brought Up:	

Problem	Proposed Solution
n/a	n/a

Other Items Updated on:
• Seems to be an OS incompatibility as to why PolyVerif is not working.

Additional Notes:
n/a

`CS490 - Autonomous Vehicle Design`

`NOTES:`

PolyVerification Suite Setup and Configuration

This document contains the information for setting up and installing the PolyVerification suite on Linux/Unix. We have modified some open-source packages which are added in the repository.

System Requirements:

- CPU: at least 8 core CPU
- GPU: Nvidia GTX 1080 (8GB memory) or higher
- OS: Ubuntu 18.04 or 20.04 (20.04 is recommended)
- Python 3.8

1. Setup Docker

For Docker installation, please refer to Docker_Installation.html found in the Documents directory. Alternatively, you can visit the PolyVerif GitHub repository.

2. PolyVerif Setup

For PolyVerif setup, run the below commands. It will automatically set up and install all packages of the PolyVerif suite.

```
$ docker pull polyverif/ossdc-sim:v1.1 && docker run -it -e HOST_USERNAME=$USER -v $HOME:/host-home polyverif/ossdc-sim:v1.1
```
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```
$ ./adehome/build_env.sh
```
Copy

NOTE: This is an error during the repository updates that will not affect anything.

E: The repository 'http://packages.ros.org/ros2/ubuntu focal In Release' is not signed.

NOTE:If you are facing any difficulties while runnig just rebuild polyverif by running ./adehome/build_env.sh