

Engineering Notes No. 12.2

INFORMATION

NAME: William Reimer

DATE: 03/26/25 - 04/01/25

Sprint: 12

JIRA BACKLOG

Responsible for:

Investigating OpenStreetMap export to for SUMO once operational

Learning the Scenic programming language

Researching how .blend and .osm files can be converted into .xml for Scenic and SUMO

Contributed to:

Installation and troubleshooting of Scenic and SUMO

Map generation and scenario design discussions

RESOURCES & DOCUMENTS CONTRIBUTED TO

Table 1 - Contributions

Date	Resource/Document	Location	Contribution Description
03/28/25	SUMO	Micaplex	Installed and tested with Quentin's help
03/29/25	Converting .blend to .xml	Blender	Figured out how to convert file natively in blender using python script. Whether it works or not is a different story

COMPONENTS TESTED

Table 2 - Testing

Date Tested	Component	Result	Comments
03/30	.xml conversion	Failure	Was able to convert .blend to .xml, however, the information in the .xml file wasn't useful, and Scenic was unable to properly display the map
04/01	.xml conversion continued	Partial Success	Found out that .xml files need to be combined into a .net.xml file.

PROBLEMS SOLVED

Table 3 - Solutions

Date	Problem	Solution & Notes
04/01	Having trouble with conversion from .blend to .xml	So far, I have learned that Scenic accepts .net.xml files in order to run the simulation. I am able to generate these and import them into Scenic, but they immediately crash upon launch.

PROBLEMS TO ADDRESS NEXT

Table 4 - Future Problems

Problem	Description
Scenic scenario creation	Need to fix the issue of my custom maps immediately crashing. Will both analyze .net.xml files that I know work and consult other documentation on the subject

MEETING NARRATIVE NOTES:

Table 5 - Meeting 1

MM/DD/YY	Meeting Type: StandUp/Class/ETC	
Met with Product Owner(s): Y/N		
Problems Brought Up:		
Problem	Proposed Solution	
Potential compatibility/version issues suspected	Begin reviewing examples and map generation tools	
	Work more with .net.xml files	
Other Items Updated on:		
N/A		
Additional Notes:		
N/A		

Table 6 - Meeting 2

MM/DD/YY	Meeting Type: StandUp/Class/ETC	
Met with Product Owner(s): Y/N		
Problems Brought Up:		
Problem	Proposed Solution	
Having issues with generating maps in scenic	Work more with .net.xml files	
Other Items Updated on:		
N/A		
Additional Notes:		
N/A		

NOTES:

Unedited Notes:

03/27

Met in MicaPlex 224

Scenic is working!!!

Ensure that all proper compatible versions are installed,
possible different way to run it or possibly missing something

Quentin is helping us out.

He got Scenic and SUMO installed!!! Yay!

SUMO files are dependent on specific maps. SUMO comes with a
built in map generator, need to design and create the scenario
cases.

Can import files from .OSM

Read up on Quentin's publications about ScenicSumo

Plan to implement VerifAI with ScenicSumo to automate the test
cases

Review the examples folder for ideas.

Final Test plan due on April 15th

FURC discovery day Wednesday April 16th

04/01

Met in LB 374

Showed Akbas the videos,

Map is generated, but needs to be implemented (AFAIK)

Maps are .net.xml files

CS491 - Autonomous Vehicle Design

Final Test Plan is due two week from today, going to need quite a bit of revisions

- Likely mostly cutting out the PolyVerif components and replacing it with QSS.
- We can focus on actually testing simulations now