

Testing report

Types of testing techniques	Used?
Unit tests	Yes
Integration tests	Yes
User tests	Yes

Unit tests

We have created unit tests for the SimulationDao class, which is the backbone class for all the REST functions. To not mess up the existing data in the sample database and to save execution time, we only test the data retrieval functions. Also, due to the unpredictable nature of the data contained in the database, we don't really test the contents of the returned value, but only if it returns the values in the expected format. These tests, of course, all succeed on the latest commit of the git repository.

Integration tests

We used Selenium to create some integration tests for the frontend. We test some of the most used functions of the application, such as logging in (including failing to log in), logging out, viewing, editing and deleting a simulation. This tests the whole application including frontend, backend and the database. We couldn't test the actual map, because the Sylvereye widget does not have a presence in the DOM, which Selenium uses to execute its tests. We created a test suite from these tests, executing them in the right order, and put it in the SUMO Tests.side file in the src folder. To execute these tests, you need to be logged out.

User/Usability test

Teste: Jelte Koornstra.

Questions

1. Can you register?
 - a. The user was able to register without any problems.
2. Can you login with a registered account?
 - a. The user was able to login with a newly registered account.
3. Is it clear how to upload a simulation?Please explain step by step.
 - a. The user had no problem uploading the simulation.
4. Can you view simulation 1?
 - a. The user was able to select and view simulation 1.
5. Can you view simulation 1 timestep 500?
 - a. The user was able to select and view simulation 1.
6. Can you view the simulation 1 timestep 1750?

- a. The user was able to use the slider and the input box to select the time steps(But the user mentioned that having the input box for time steps a bit higher would be better).
- 7. What is the slowest vehicle in timestep 1938(1926)?
 - a. The user was able to choose a specific time step and find out the slowest vehicle.
- 8. How many vehicles does the busiest edge have at time step 2000(14)?
 - a. The user was able to choose a specific time step and find out the vehicle number in the busiest edge.
- 9. What's the maximum number of vehicles in the whole simulation? (649)
 - a. The user was able to determine the maximum number of vehicles inside the simulation with the help of charts.
- 10. Can you view simulation 2?
 - a. The user was able to view different simulations.
- 11. Can you change simulation 2 name to "testing simulation"?
 - a. The user was able to change simulation metadata.
- 12. Can you delete that simulation ?
 - a. The user was able to delete the simulation.
- 13. Can you log out?
 - a. The user was able to log out.
- 14. Are you able to log in again?
 - a. The user was able to log in after login out.

The usability test was successful as the user was able to perform all the tasks without any external output. Also the user was able to pinpoint some bugs and suggest some design improvements as moving the input box higher.