University of Groningen

Software Engineering

Traceability matrix

GreenerSimulation

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1 Matrix

Requirement	Module	Files affected	Test	Passed?
3.1	Server	battery.py	T1	Yes
3.2	Simulation, Configuration	csvreader.py, simulation.py	T2	Yes
3.3	Simulation	simulation_super.py, simulation.py	T3	Yes
3.4	Configuration, Simulation	env.py, simulation.py	T4	Yes
4.1	Configuration	env.py	T5	Yes
4.2	Server, Configuration	payload_handler.py, env.py	T6	Yes
5.1	Output manipulation, Simulation, Configuration	database.py, simulation_super.py, env.py	T7	Yes
5.2	Configuration	env.py	T8	Yes
5.3	Output manipulation, Simulation, Configuration	graph.py, simulation_super, env.py	T9	Yes
6.1	Server	battery.py, payload_handler.py	T10	Yes
6.2	Simulation, Configuration	simulation.py, env.py	T11	Yes
6.3	Output manipulation	graph.py	T12	Yes

2 Tests description

T1: test_battery.py

T2:

1. Place a file in the .csv format into 'csvs' folder
2. In `env` in dictionary `'from_csv'` provide a key-value pair of the form field_name: csv_name (note, that the field name should be the same as in the column in a .csv file)
3. In `simulation` override a method with using `self.csv_reader.get_from_csv(field_name)` call
4. Run `main.py`

T3:

1. Create/modify a class extending from `SimulationSuper`
2. Override methods for `(re)_active_power_in/out`
3. Override any other methods of your choice
4. Run `main.py`

T4:

1. Add a key-value pair into `'fields'` (`env`) dictionary

2. Optionally, define a method for updating in `simulation` and modify method `update_custom()` using the new method
3. Run `main.py`

T5:

1. Fill in the dictionary `'fields'` in `env`.(The format is explained in the pydocs)
2. Run `main.py`

T6: `test_payload.py`

T7:

1. Set `'enabled'` to True in `'database'` dictionary (`env`)
2. Run `main.py`

T8:

1. Set the desired value in the `'update_delay'`-delay pair (`env`)
2. Run `main.py`

T9:

1. Set `'enabled'` to True in `'graph'` dictionary (`env`)
2. Provide a list of field names to be shown in the graph
3. Run `main.py`

T10: `test_battery.py`, `test_payload.py`

T11:

1. Fill in the `env` dictionary according to your needs (documentation is present)
2. Perform T3

Note: the client was asked to try the software and he confirmed that it was easy to understand with the software. The detailed instructions are provided in pydocs and in `README` in the repository

T12:

1. Set `'enabled'` to True in `'graph'` dictionary (`env`)
2. Provide a list of field names to be shown in the graph
3. Run `main.py`