

CS 1632 - Deliverable 3: Automated System Testing of a
Web Application

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<https://github.com/jmcglone75/D3>

Issues and Concerns:

When first starting this project, I was faced with the issue of figuring out how to properly link up the clicking of the 'Show truth table' button with the various associated views that can appear based on the format of the parameters. I determined that the best way to go about doing this was to set the action of the button to '/display', and then to return the error/invalid page if need be (otherwise, it shall proceed into the typical view that displays the table).

One issue that I initially faced with regards to the parameters was when they were empty in the specified URL (<http://localhost:4567/display?true=&false=&size=>). I didn't account for this case when I was checking parameters, and typing in that URL was resulting in an unwanted sinatra error page. To fix this, I simply handled this case as I do the default case.

Another issue that I faced was figuring out how to properly test the 'existence' and format of the home page. I knew that I would need to open the page, but I didn't initially have a good idea of what I would need to assert in order to claim the validity of my implementation. I then realized that asserting the text of the labels and the attributes of the types of the inputs would suffice. To this end, we can claim to know that our home page does meet the requirements specified.

Screenshot:

The screenshot displays the Katalon Recorder 3.6.11 interface. At the top, there is a toolbar with buttons for New, Record, Play, Play Suite, Play All, Pause, and Export. Below the toolbar, the main workspace is divided into three sections: Test Suites, Command/Target/Value table, and a Log pane.

Test Suites: A list of test suites is shown on the left. The selected suite is **test_valid_size_boundary**. Other suites include test_logical_and_default, test_large_truth_table_header, test_back_to_main_invalid_address, test_invalid_address, test_invalid_symbol_params, test_back_to_main_invalid_params, test_back_to_main_table_display, test_reload_page, test_open_home_page, test_same_true_false_symbol, and test_invalid_size_boundary.

Command/Target/Value Table: This table shows the steps of the selected test suite. The steps are:

Command	Target	Value
open	http://localhost:4567	
click	//html/body/form/dl/dt[3]/input	
type	//html/body/form/dl/dt[3]/input	2
click	//html/body/form/dl/dt[4]/input	
assertText	//tr[1]	1 0 AND OR XOR

Below the table, there are input fields for Command, Target, and Value, along with icons for adding, deleting, and copying steps.

Log: The log pane at the bottom shows the execution details of the test case. The log entries are:

```
[info] Executing: | open | http://localhost:4567 | |
[info] Executing: | click | //html/body/form/dl/dt[3]/input | |
[info] Executing: | type | //html/body/form/dl/dt[3]/input | 2 |
[info] Executing: | click | //html/body/form/dl/dt[4]/input | |
[info] Executing: | assertText | //tr[1] | 1 0 AND OR XOR |
[info] Time: Sun Nov 11 2018 22:48:35 GMT-0500 (EST) Timestamp: 1541994515241
[info] Test case passed
```

The bottom status bar shows the file name **D3 Test Suite.html** and a **Show all** button.

Traceability Matrix:

Req 1: *test_open_home_page*
Req 2: *test_reload_page, test_back_to_main_table_display,*
test_back_to_main_invalid_params,
test_back_to_main_invalid_address
Req 3: *test_same_true_false_symbol,*
test_invalid_size_boundary, test_invalid_symbol_params,
test_invalid_page
Req 4: *test_valid_size_boundary*
Req 5: *test_large_truth_table_header*
Req 6: *test_logical_and_default, test_logical_or_default,*
test_logical_xor_default, test_logical_ops_smallest
Req 7: *test_default_truth_table*
Req 8: *test_invalid_address*

