Assignment: *Test Plan*

Software Testing Plan *Template from:* <http://softwaretestingfundamentals.com/test-plan/>

Project Name: 'Big Data for Weather'

Team Name: Quotaero

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Revision History: n/a

Introduction:

This testing plan for the 'Big Data for Weather' project will focus on elements of the Nullschool modified API. The goal of this testing plan is test the preservation the the highly response of the Nullschool API while adding the an interactive Nullschool layer, essentially double the amount of weather data visualized in one frame. Similarly testing should show the capability to display each layer (Modeled vs Actual) independent and without adverse effect on each other. On the backend the Modified Nullschool's code base should be able to pull any properly formatted weather data source and display such data in corresponding geographic coordinates. Rendering will be constrained by the hosted environment (Amazon QC2) and the capabilities of the nodejs. Additionally the format and data volume will constraint rendering speeds. This testing plan is based on the assumption that the additional layer can be extended to work with interchangeable set of data, in other words the current code base is not built around a static data set and modifications there of would entail and entire rebuilding of the backend. This testing plan depends on the hosted environment providing relatively stable rendering time to the NullSchool Earth.

Overall testing goals include:

- Maintaining close (less than x2) the per second rendering of the Nullschool layer, zoom and other elements from the original,built in layer, functioning platform

Test Item Pass/Fail Criteria

Action	Time	Pass	Fail
Render Earth & Default Data	313 msec	< 626 msec	> 626 msec
Pan map Render	321 msec	< 642 msec	> 642 msec
Zoom MAX	518 msec	< 1036 msec	> 1036 msec
Zoom Min	260 msec	< 520 msec	> 520 msec
Pan + Zoom	483 msec	< 966 msec	> 966 msec
Menu Pop-up	098 msec	< 196 msec	> 196 msec
Layer Change	242 msec	< 484 msec	> 484 msec
Menu Collapse	092 msec	< 184 msec	> 184 msec
Resize	None, does not resize	< 626 msec	> 626 msec
Click and retrieve	052 msec	< 104 msec	> 104 msec
Change Map Projection	250 msec (dependant on projection)	<500 msec	>500 msec

Example Scenario/Use case

Scenario 1:

1. Weather Scientist (WS): Navigates to hosted solution
2. WS sees observed data default on Orbital Project Map
3. WS clicks on Modeled layer
4. WS clicks ‘Live Data View’
5. System Displays Actual layer

Scenario 2:

6. Weather Scientist (WS): Navigates to hosted solution
7. WS sees observed data default on Orbital Project Map
8. WS clicks on Menu
9. WS clicks ‘Mixed Data View
10. System Displays Modeled & Actual layer

System Test Suite

(http://www.softwaretestinghelp.com/how-to-write-effective-test-cases-test-cases-procedures-and-definitions/)

Test Case ID	001
Unit to test:	Nullschool Code GUI Render Unit
Steps to be executed:	1. Navigate to hosted project
Expected results:	Default earther render and data visible in less than < 626 msec
Result:	
Pass/Fail:	
Comments:	//basic startup functionality

Test Case ID	002
Unit to test:	Nullschool Code GUI Pan/Zoom
Steps to be executed:	1. From default earth view click on map 2. Drag left, right, up or down to maximum reach 3. Allow rendering to occur
Expected results:	Render new map center in < 642 msec
Result:	
Pass/Fail:	
Comments:	//Pan and render feature

Test Case ID	003
Unit to test:	Nullschool Code GUI Pan/Zoom
Steps to be executed:	1. From default earth view click on map 2. Hold mouse pointer over any location 3. Zoom to Maximum Allowable level (3000 level scale) 4. Allow rendering to occur
Expected results:	Render new zoom level < 1036 msec URL display: http://earth.nullschool.net/#current/wind/surface/level/orthographic=-128.24,-1.09,3000 Note indicate: 3000 at end of URL
Result:	
Pass/Fail:	
Comments:	//Max zoom

Test Case ID	004
Unit to test:	Nullschool GUI Pan/Zoom
Steps to be executed:	5. From default earth view click on map 6. Hold mouse pointer over any location 7. Zoom to Minimum Allowable level (25 level scale) 8. Allow rendering to occur
Expected results:	Render new zoom level in < 520 msec URL display: http://earth.nullschool.net/#current/wind/surface/level/orthographic=-128.24,-1.09,25 Note indicate: 25 at end of URL
Result:	
Pass/Fail:	
Comments:	//Min zoom

Test Case ID	005
Unit to test:	Nullschool GUI Menu Interface
Steps to be executed:	1. From default earth view click 2. Click ‘Earth’ or ‘Quotaero’ text 3. Allow menu to popup
Expected results:	Menu appears in < 196 msec
Result:	
Pass/Fail:	
Comments:	//Menu popup

Test Case ID	006
Unit to test:	Nullschool GUI Projection Menu
Steps to be executed:	1. From default earth view click on menu 2. Click ‘Earth’ or ‘Quotaero’ text 3. Allow menu to popup 4. Choose projection 5. Allow selected projection to render
Expected results:	New project appear in < 500 msec
Result:	
Pass/Fail:	
Comments:	//Projection Change

Test Deliverables:

- Test Plan (this document)
- Test Scripts
- Defect/Enhancement Logs
- Test Reports