Weather Station Test Case Specification

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REPRESENTATIVES

Brandon Jackson

Brian Atiyeh

Jeswanth Kodali

Trevor Malarkey

Revision History

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03/07/2018	v1.0	Brandon Jackson	Document skeleton
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Functional Test Cases

User Login

Test Case Name	User Login: Invalid Username/Password
Test Case ID	TC-1
Priority	High
Preconditions	Execute Script DBS-01
Postconditions	Message 'Invalid Username/Password' has passed in testing suite
Test Steps	1. Navigate to the website folder in the terminal 2. Execute command 'npm test src/test/login.test.js' 3. Verify pass or fail status of test
Expected Results	Message 'Invalid Username/Password' has passed in testing suite

Test Case Name	User Login: Register Button
Test Case ID	TC-2
Priority	High
Preconditions	Tester has finished following testing steps detailed in TC-1
Postconditions	Message 'Register Button' has passed in testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Register Button' has passed in testing suite

Test Case Name	User Login: Forgot Password

Test Case ID	TC-3
Priority	Medium
Preconditions	Tester has finished following testing steps detailed in TC-1
Postconditions	Message 'Forgot Password' has passed in testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Forgot Password' has passed in testing suite

Test Case Name	User Login: Login
Test Case ID	TC-4
Priority	High
Preconditions	Tester has finished following testing steps detailed in TC-1
Postconditions	Message 'Login' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Login' has passed in the testing suite

New Account Requirements

Test Case Name	New Account Requirements: Blank Username
Test Case ID	TC-5
Priority	Moderate
Preconditions	Execute Script DBS-01
Postconditions	Message 'Blank Username' has passed in the testing suite
Test Steps	1. Navigate to the website folder in the terminal 2. Execute command 'npm test src/test/newAccountReqs.test.js' 3. Verify pass or fail status of test
Expected Results	Message 'Blank Username' has passed in the testing suite

Test Case Name	New Account Requirements: Invalid Username
Test Case ID	TC-6
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Invalid Username' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Invalid Username' has passed in the testing suite

Test Case Name	New Account Requirements: Duplicate Username
Test Case ID	TC-7
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Duplicate Username' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Duplicate Username' has passed in the testing suite

Test Case Name	New Account Requirements: Blank Email
Test Case ID	TC-8
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Blank Email' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Blank Email' has passed in the testing suite

Test Case Name	New Account Requirements: Invalid Email
Test Case ID	TC-9

Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Invalid Email' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Invalid Email' has passed in the testing suite

Test Case Name	New Account Requirements: Duplicate Email
Test Case ID	TC-10
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Duplicate Email' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Duplicate Email' has passed in the testing suite

Test Case Name	New Account Requirements: Short Password
Test Case ID	TC-11
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Short Password' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Short Password' has passed in the testing suite

Test Case Name	New Account Requirements: Password doesn't meet string requirements
Test Case ID	TC-12
Priority	Moderate

Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Password doesn't meet string requirements ' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Password doesn't meet string requirements ' has passed in the testing suite

Test Case Name	New Account Requirements: Passwords do not match
Test Case ID	TC-13
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-5
Postconditions	Message 'Passwords do not match' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Passwords do not match' has passed in the testing suite

Create Account

Test Case Name	Create Account: Create Account Submit
Test Case ID	TC-14
Priority	Moderate
Preconditions	Execute Script DBS-01
Postconditions	Message 'Create Account Submit' has passed in the testing suite
Test Steps	1. Navigate to the website folder in the terminal 2. Execute command 'npm test src/test/createAccount.test.js' 3. Verify pass or fail status of test
Expected Results	Message 'Create Account Submit' has passed in the testing suite

Test Case Name	Create Account: Return Button

Test Case ID	TC-15
Priority	Low
Preconditions	Tester has finished following testing steps detailed in TC-14
Postconditions	Message 'Return Button' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Return Button' has passed in the testing suite

Password Reset

Test Case Name	Password Reset: Invalid Email
Test Case ID	TC-16
Priority	Moderate
Preconditions	Execute Script DBS-01
Postconditions	Message 'Invalid Email' has passed in the testing suite
Test Steps	1. Navigate to the website folder in the terminal 2. Execute command 'npm test src/test/passwordReset.test.js' 3. Verify pass or fail status of test
Expected Results	Message 'Invalid Email' has passed in the testing suite

Test Case Name	Password Reset: Recover Password Button
Test Case ID	TC-17
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16
Postconditions	Message 'Recover Password Button' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test 2. Log into testing email 3. Check email for reset password email
Expected Results	Message 'Recover Password Button' has passed in the testing suite

Test Case Name	Password Reset: Return Button
Test Case ID	TC-18
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16
Postconditions	Message 'Return Button' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Return Button' has passed in the testing suite

Test Case Name	Password Reset: Email Link
Test Case ID	TC-19
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16. TC-17 has successfully passed.
Postconditions	Tester is redirected to Password Reset page with token in url
Test Steps	1. Log into testing email 2. Open reset password email and click link 3. Verify that the page renders correctly
Expected Results	Tester is redirected to Password Reset page with token in url

Test Case Name	Password Reset: Short Password
Test Case ID	TC-20
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16
Postconditions	Message 'Short Password' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Short Password' has passed in the testing suite

Test Case Name	Password Reset: Passwords do not Match
Test Case ID	TC-21
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16
Postconditions	Message 'Passwords do not match' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Passwords do not match' has passed in the testing suite

Test Case Name	Password Reset: Expired Token
Test Case ID	TC-22
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16 Execute Script DBS-07.
Postconditions	Message 'Expired Token' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Expired Token' has passed in the testing suite

Test Case Name	Password Reset: Invalid Token
Test Case ID	TC-23
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16 and TC-22.
Postconditions	Message 'Invalid Token' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Invalid Token' has passed in the testing suite

Test Case Name	Password Reset: Success Redirect and Login
Test Case ID	TC-24
Priority	Moderate
Preconditions	Tester has finished following testing steps detailed in TC-16
Postconditions	Message 'Success Redirect and Login' has passed in the testing suite
Test Steps	1. Verify pass or fail status of test
Expected Results	Message 'Success Redirect and Login' has passed in the testing suite

User Logout

Test Case Name	User Logout: Logout
Test Case ID	TC-25
Priority	High
Preconditions	Execute script DBS-01
Postconditions	Message 'Logout' has passed in the testing suite
Test Steps	1. Navigate to the website folder in the terminal 2. Execute command 'npm test src/test/logout.test.js' 3. Verify pass or fail status of test
Expected Results	Message 'Logout' has passed in the testing suite

View Stations

Test Case Name	View Stations: No Stations Connected
Test Case ID	TC-26
Priority	Low
Preconditions	Execute Script DBS-01
Postconditions	No stations are loaded on the stations page.
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. View page

Expected Results	An error message that reads "no stations available" is displayed.

Test Case Name	View Stations: Connected Station
Test Case ID	TC-27
Priority	High
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	A station card is displayed.
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. View page
Expected Results	A single station card is displayed back to the user with a green connection indicator.

Test Case Name	View Stations: Disconnected Station
Test Case ID	TC-28
Priority	High
Preconditions	Execute Scripts DBS-01, DBS-03
Postconditions	A station card is displayed.
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. View page
Expected Results	A single station card is displayed back to the user with a red connection indicator.

Test Case Name	View Stations: List Mode
Test Case ID	TC-29
Priority	Moderate
Preconditions	Execute Scripts DBS-01, DBS-04
Postconditions	Station cards are displayed on the page

Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. Click on the "list" image button at the top right side of the filter input.
Expected Results	All station cards are displayed in a list format.

Test Case Name	View Stations: Grid Mode
Test Case ID	TC-30
Priority	Moderate
Preconditions	Execute Scripts DBS-01, DBS-04
Postconditions	Station cards are displayed on the page
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. Click on the "list" image button at the top right side of the filter input.
Expected Results	All station cards are displayed in a grid format on the page with two columns.

Test Case Name	View Stations: View Mode is Saved
Test Case ID	TC-31
Priority	Moderate
Preconditions	Execute Scripts DBS-05, DBS-04
Postconditions	View mode cookie is updated
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. Change the view mode on the stations page (starts as list mode by default). 3. Click the "map" page in the Navigation Bar. 4. Click the "stations" page in the Navigation Bar.
Expected Results	The view mode does not change when navigating away and returning to the page.

View Station Details

Test Case Name	View Station Details: Regular User
Test Case ID	TC-32
Priority	Moderate
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	Modal with no name change input and weather data is displayed.
Test Steps	1. Click on the "stations" page in the Navigation Bar 2. Click on the station card with the name "Test Station" 3. View modal
Expected Results	A modal is displayed to the user and there is no text input for the station name.

Test Case Name	View Station Details: Admin User
Test Case ID	TC-33
Priority	Moderate
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	Modal with the current name within a text input and weather data is displayed.
Test Steps	1. Click on the "stations" page in the Navigation Bar 2. Click on the station card with the name "Test Station" 3. View modal
Expected Results	A modal is displayed to the user and there is a text input for the station name.

Test Case Name	View Station Details: Change Station Name
Test Case ID	TC-34
Priority	Moderate
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	The name of the station is changed.

Test Steps	1. Click on the "stations" page in the Navigation Bar
	2. Click on the station card with the name "Test Station"
	3. Change the name of the station to "Test Station 2"
	4. Click "Save Changes"
Expected Results	The name of the "Test Station" is changed to "Test Station 2."

View Individual Station Location

Test Case Name	View Individual Station Location: Valid latitude and longitude coordinates.
Test Case ID	TC-35
Priority	High
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	A marker is displayed within a Google Maps instance for the location of the station.
Test Steps	1. Click on the "stations" page in the Navigation Bar
	2. Click on the station card with the name "Test Station"
	3. View bottom of modal
Expected Results	1. A Google Maps instance is displayed at the bottom of the station details modal.
	2. A marker is displayed within the map indicating the location of the station.

Test Case Name	View Individual Station Location: No latitude and longitude coordinates
Test Case ID	TC-36
Priority	High
Preconditions	Execute Scripts DBS-01, DBS-03
Postconditions	An empty Google Maps instance is displayed
Test Steps	1. Click on the "stations" page in the Navigation Bar
	2. Click on the station card with the name "Test Station"
	3. View bottom of modal

Expected Results	An empty Google Maps instance is displayed at the bottom of the station details modal.

View Station Map

Test Case Name	View Station Map: No stations with latitude/longitude
Test Case ID	TC-37
Priority	Low
Preconditions	Execute Scripts DBS-01
Postconditions	Display an alert that states "There are no stations with GPS data."
Test Steps	1. Click on the "map" page in the Navigation Bar 2. View sidebar
Expected Results	1. An alert that states "There are no stations with GPS data" is displayed at the top of the sidebar 2. The map does not have any markers

Test Case Name	View Station Map: At least one station with latitude/longitude coordinates
Test Case ID	TC-38
Priority	High
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	A list of stations is displayed in the sidebar and markers are displayed on the map
Test Steps	1. Click on the "map" page in the Navigation Bar 2. View page
Expected Results	1. The sidebar displays a list of all stations with their latitude and longitude under each station name 2. The map displays a teal marker for each station's latitude and longitude coordinates

Test Case Name	View Station Map: Hover mouse on station marker

Test Case ID	TC-39
Priority	High
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	A box displaying the "Test Station's" latest weather data is shown above the station's marker
Test Steps	1. Click on the "map" page in the Navigation Bar 2. Move mouse cursor over the "Test Station"
Expected Results	The opacity of the marker's weather info box is changed from 0 to 1.

Test Case Name	View Station Map: Hide station
Test Case ID	TC-40
Priority	Moderate
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	The "Test Station" marker is no longer displayed on the map.
Test Steps	1. Click on the "map" page in the Navigation Bar 2. Click on the checkbox next to "Test Station" in the sidebar
Expected Results	1. "Test Station" is removed from the list of checked stations 2. The "Test Station" marker is no longer displayed on the map

Test Case Name	View Station Map: Show station
Test Case ID	TC-41
Priority	Moderate
Preconditions	TC-40 has been completed and passed
Postconditions	The "Test Station" marker is displayed on the map.
Test Steps	1. Click on the checkbox next to "Test Station"
Expected Results	1. "Test Station" is added to the list of checked stations 2. The "Test Station" marker is displayed on the map

Test Case Name	View Station Map: Hide all stations
Test Case ID	TC-42
Priority	Low
Preconditions	Execute Scripts DBS-01, DBS-04
Postconditions	All station markers are hidden from the map
Test Steps	1. Click "map" in the Navigation Bar. 2. Click the checkbox next to 'All" above the filter input
Expected Results	1. All stations are removed from the list of checked stations 2. All station markers are not displayed on the map

Test Case Name	View Station Map: Show all stations
Test Case ID	TC-43
Priority	Low
Preconditions	TC-42 has been completed and passed
Postconditions	All station markers are displayed on the map
Test Steps	1. Click the checkbox next to 'All" above the filter input
Expected Results	1. All stations are added to the list of checked stations 2. All station markers are displayed on the map

Test Case Name	View Station Map: Hide station labels
Test Case ID	TC-44
Priority	Low
Preconditions	Execute Scripts DBS-01, DBS-02
Postconditions	The labels above each station marker on the map are hidden
Test Steps	1. Click on the "map" page in the Navigation Bar 2. Click the checkbox next to "Show labels" above the filter input box
Expected Results	The opacity for each marker label is changed from 1 to 0

Test Case Name	View Station Map: Show station labels
Test Case ID	TC-45
Priority	Low
Preconditions	TC-44 has been completed and passed
Postconditions	The labels above each station marker on the map are shown
Test Steps	1. Click the checkbox next to "Show labels" above the filter input box
Expected Results	The opacity for each marker label is changed from 0 to 1

Administrator Permissions

Test Case Name	Administrator Permissions: Promote user
Test Case ID	TC-46
Priority	High
Preconditions	Execute DBS-05 and DBS-01. Logged in to "testsuper" created from DBS-01.
Postconditions	Account now has admin permissions
Test Steps	1. Click "testsuper" on the right corner of the Navigation bar. 2. In the drop down click "admin" 3. Locate the account "testuser" created by DBS-05in the user table. 4. Click "promote"
Expected Results	The account "testuser" now has administrator permissions to the site.

Test Case Name	Administrator Permissions: Demote user
Test Case ID	TC-47
Priority	High
Preconditions	TC(promote user) has been completed and passed

Postconditions	Account no longer has admin permissions
Test Steps	1. Click "testsuper" on the right corner of the Navigation bar. 2. In the drop down click "admin" 3. Locate the account "testuser" created by DBS-05in the user table. 4. Click "demote"
Expected Results	The account "testuser" now does not have administrator permissions to the site.

Test Case Name	Administrator Permissions: Demote admin
Test Case ID	TC-48
Priority	High
Preconditions	Logged in to "testsuper" created from DBS-01, Execute DBS-09.
Postconditions	"testadmin" is demoted by the superuser account
Test Steps	1. Click "testsuper" on the right corner of the Navigation bar. 2. In the drop down click "admin" 3. Locate the account created in "testadmin" in the user table. 4. Click "demote"
Expected Results	The account "testadmin" no longer has admin privileges on the site.

New User Account Approval

Test Case Name	New User Account Approval: Request Email
Test Case ID	TC-49
Priority	High
Preconditions	Execute Script DBS-01
Postconditions	Test account receives email that a user is request access to the site
Test Steps	1. Click the "register" button on the login screen. 2. Fill in the Username, Email, and Password with 3. Click "submit" 4. Go to the test account email "weatherstationtest@gmail.com" 5. Open email from "wstationtestdod@gmail.com".

	6. View email from
Expected Results	The email contains a request for an account from the newly registered account.

Test Case Name	New User Account Approval: Email Link
Test Case ID	TC-50
Priority	High
Preconditions	TC(Request email)
Postconditions	The link loads the admin page
Test Steps	1. Open email from "wstationtestdod@gmail.com". 2. Click the link in the email. 3. View admin page
Expected Results	The admin page of the site has loaded and you can see the requested account in the users table.

Test Case Name	New User Account Approval: Approve User
Test Case ID	TC-51
Priority	High
Preconditions	TC(Email link)
Postconditions	The new account is approved
Test Steps	1. Locate the requested account in the drop down 2. Click "approve" 3. Go to the login of the site 4. Login with the new account credentials made in TC(request email) 5. Access the site
Expected Results	The requested account is now approved and able to access the site.

Test Case Name	New User Account Approval: Deny User
Test Case ID	TC-52

Priority	High
Preconditions	Complete TC(request email) and TC(Email link) again
Postconditions	The new account is denied
Test Steps	1. Locate the requested account in the drop down 2. Click "deny" 3. Go to the login of the site 4. Login with the new account credentials made in TC(request email) 5. Login fails.
Expected Results	The requested account is denied and unable to access the site.

Test Case Name	New User Account Approval: Confirmation Email
Test Case ID	TC-53
Priority	High
Preconditions	TC(Approve user)
Postconditions	Email sent notifying the new user of account approval
Test Steps	1. Go to the email of the account created in TC(request email) 2. Open email from "wstationtestdod@gmail.com". 3. View email.
Expected Results	Email contains a message saying the account has been approved.

Edit Station Name

Test Case Name	Edit Station Name: Admin clicks on weather station card
Test Case ID	TC-54
Priority	Moderate
Preconditions	Logged in to "testsuper" created from DBS-01, execute DBS-02
Postconditions	The weather station card allows editing of the station name
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. Click on the "Test Station" station card in the list. 3. View station modal.

Expected Results	In the station modal the name of the station is in an input box and can be edited.

Test Case Name	Edit Station Name: Admin saves changes
Test Case ID	TC-55
Priority	Moderate
Preconditions	TC(Admin clicks on weather station card) is completed and passed
Postconditions	The name of the station has been changed.
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. Click on the "Test Station" station card in the list. 3. View station modal. 4. Click the input box containing the the station name. 5. Highlight and delete the station name. 6. Type in "New Station" 7. Click save changes at bottom of the modal. 8. View stations list on stations page.
Expected Results	The station card for "Test Station" in the stations list is now named "New Station".

Test Case Name	Edit Station Name: Operator clicks on weather station card
Test Case ID	TC-56
Priority	Moderate
Preconditions	Execute DBS-02 and Log in to user account created in DBS-05
Postconditions	User will be unable to edit station name
Test Steps	4. Click on the "stations" page in the Navigation Bar. 5. Click on the "Test Station" station card in the list. 6. View station modal.
Expected Results	The name "Test Station" will be at the top of station card but user will be unable to edit the name in anyway.

View Historical Data

Test Case Name	View Historical Data: View page with data
Test Case ID	TC-57
Priority	High
Preconditions	Logged in to test account, execute Script DBS-02
Postconditions	The historical graph renders on the page.
Test Steps	1. Click " historical" page in the Navigation bar. 2. View the graph on the page.
Expected Results	The historical graph loads with the temperature data for all stations the last 24 hours.

Test Case Name	View Historical Data: View page with no data
Test Case ID	TC-58
Priority	High
Preconditions	Execute Script DBS-01 and log in to test account
Postconditions	Message displaying no data appears
Test Steps	1. Click " historical" page in the Navigation bar. 2. User views the page
Expected Results	The historical graph should not render, a no data for that filter message will appear in a blue box.

Filter Historical Data

Test Case Name	Filter Historical Data: Click Filter
Test Case ID	TC-59
Priority	High
Preconditions	Logged in to test account, DBS-02
Postconditions	Filter modal displays

Test Steps	1. Click " historical" page in the Navigation bar.
	2. Click on "Filter" button on page.
	3. View filter modal
Expected Results	A modal is displayed to the user that contains a drop down menu to select sensor type, a date and time picker for from and to, and a stations multi-select box with a station "test station".

Test Case Name	Filter Historical Data: Click Submit
Test Case ID	TC-60
Priority	High
Preconditions	Executed TC(click filter)
Postconditions	Page shall reload
Test Steps	1. Click " historical" page in the Navigation bar.
	2. Click on "Filter" button on page.
	3. Click submit in bottom right corner of modal
	4. View reloaded historical page.
Expected Results	The historical page will reload but the graph will remain as the default graph from TC

Test Case Name	Filter Historical Data: Click Cancel
Test Case ID	TC-61
Priority	High
Preconditions	Executed TC(click filter)
Postconditions	Modal will close out
Test Steps	1. Click " historical" page in the Navigation bar.
	2. Click on "Filter" button on page.
	3. Click "submit"button on bottom right corner of modal
	4. View historical page as it was before modal opened.
Expected Results	Modal window will close out and no changes will be made to the historical graph.

Test Case Name	Filter Historical Data: Filter by Pressure
Test Case ID	TC-62
Priority	High
Preconditions	Logged in to test account, execute script DBS-06
Postconditions	Historical graph will re-render on the page.
Test Steps	1. Click " historical" page in the Navigation bar if . 2. Click on "Filter" button on page. 3. In the sensor type drop down select "pressure" 4. Click "submit"button on bottom right corner of modal 5. View reloaded historical page.
Expected Results	The historical page will reload with a new graph that displays pressure from all stations for the last 24 hours.

Test Case Name	Filter Historical Data: Filter By Temperature
Test Case ID	TC-63
Priority	High
Preconditions	Execute Script DBS-06
Postconditions	Historical graph will re-render on the page.
Test Steps	1. Click " historical" page in the Navigation bar if . 2. Click on "Filter" button on page. 3. In the sensor type drop down select "temperature" 4. Click "submit"button on bottom right corner of modal 5. View reloaded historical page.
Expected Results	The historical page will reload with a new graph that displays temperature from all stations for the last 24 hours.

Test Case Name	Filter Historical Data: Filter By Humidity
Test Case ID	TC-64
Priority	High
Preconditions	Execute Script DBS-06

Postconditions	Historical graph will re-render on the page.
Test Steps	1. Click " historical" page in the Navigation bar if . 2. Click on "Filter" button on page. 3. In the sensor type drop down select "humidity" 4. Click "submit"button on bottom right corner of modal 5. View reloaded historical page.
Expected Results	The historical page will reload with a new graph that displays humidity from all stations for the last 24 hours.

Test Case Name	Filter Historical Data: Filter by time
Test Case ID	TC-65
Priority	High
Preconditions	Make sure data for at least the previous day has been stored.
Postconditions	Historical graph will re-render on the page.
Test Steps	1. Click " historical" page in the Navigation bar if . 2. Click on "Filter" button on page. 3. For the "From" date picker select the previous day on the calendar. 4. Click "submit"button on bottom right corner of modal 5. View reloaded historical page.
Expected Results	The historical graph should show the data for the previous 48 hours.

Test Case Name	Filter Historical Data: Filter by invalid time
Test Case ID	TC-66
Priority	High
Preconditions	TC-59
Postconditions	Historical graph will re-render on the page.
Test Steps	1. Click " historical" page in the Navigation bar if . 2. Click on "Filter" button on page. 3. For the "To" datepicker select the one day in to the future on the calendar. 4. Click "submit"button on bottom right corner of modal

	5. View reloaded historical page.
Expected Results	The historical graph should not render, a no data for that filter message will appear in a blue box.

Test Case Name	Filter Historical Data: Filter by station name
Test Case ID	TC-67
Priority	High
Preconditions	Execute Script DBS-04 (allow for it to run for over 30 mins so there is a sufficient amount of data points)
Postconditions	Historical graph will re-render on the page.
Test Steps	1. Click " historical" page in the Navigation bar if . 2. Click on "Filter" button on page. 3. Select the second station in the multiselect stations list. 4. Click "submit"button on bottom right corner of modal 5. View reloaded historical page.
Expected Results	The historical graph should show the data for only the selected station.

Test Case Name	Filter Historical Data: Filter by no station
Test Case ID	TC-68
Priority	High
Preconditions	Execute Script DBS-04 (allow for it to run for over 30 mins so there is a sufficient amount of data points)
Postconditions	Historical graph will re-render on the page.
Test Steps	1. Click " historical" page in the Navigation bar if . 2. Click on "Filter" button on page. 3. Select the no stations in the multiselect stations list. 4. Click "submit"button on bottom right corner of modal 5. View reloaded historical page.
Expected Results	The historical graph should show the data for the default graph.

User Profile

Test Case Name	User Profile: Render User Data
Test Case ID	TC- 69
Priority	Low
Preconditions	Tester is logged in and on the profile page
Postconditions	User data is returned from back end
Test Steps	1. Verify that the account data rendered on the page is correct
Expected Results	User data is rendered in associated fields and displays correct information

Test Case Name	User Profile: Duplicate Email
Test Case ID	TC- 70
Priority	Low
Preconditions	Tester is logged in and on the profile page
Postconditions	Error message is returned from backend
Test Steps	1. Enter email address for currently logged in account 2. Click 'Save Changes'
Expected Results	'Email already exists' error message will appear on the screen

Test Case Name	User Profile: Update Email
Test Case ID	TC- 71
Priority	Low
Preconditions	Tester is logged in and on the profile page.
Postconditions	Success message is returned from backend.
Test Steps	1. Enter 'newemail@gmail.com' in the email field 2. Click 'Save Changes'
Expected Results	'Profile Updated' message will appear on the screen

Test Case Name	User Profile: Invalid Phone Number
Test Case ID	TC- 72
Priority	Low
Preconditions	Tester is logged in and on the profile page.
Postconditions	Error message is returned from backend
Test Steps	1. Enter 'abc123efgh' in the phone number field 2. Click 'Save Changes'
Expected Results	'Invalid Phone Number' message will appear on the screen

Test Case Name	User Profile: Duplicate Phone Number
Test Case ID	TC- 73
Priority	Low
Preconditions	Tester is logged in and on the profile page.
Postconditions	Error message is returned from backend
Test Steps	1. 'Enter phone number '13135555555' in the phone number field 2. Click 'Save Changes'
Expected Results	'Duplicate phone number' message will appear on the screen

Test Case Name	User Profile: Update Phone Number
Test Case ID	TC- 74
Priority	Low
Preconditions	Tester is logged in and on the profile page
Postconditions	Success message is returned from backend
Test Steps	1. Enter phone number '13131234567' in the phone number field 2. Click 'Save Changes'

Expected Results	'Profile Updated' message will appear on the screen

Test Case Name	User Profile: Short Password
Test Case ID	TC- 75
Priority	Low
Preconditions	Tester is logged in and on the profile page
Postconditions	Error message is returned from backend
Test Steps	1. Click 'Change' button in password field 2. Enter 'testing123' in the current password field 3. Enter 'a1' in the New Password and Confirm Password fields 4. Click 'Change Password'
Expected Results	'Password must be 8 characters or longer' message will appear on screen

Test Case Name	User Profile: Passwords do not match
Test Case ID	TC- 76
Priority	Low
Preconditions	Tester is logged in and on the profile page
Postconditions	Error message is returned from backend
Test Steps	1. Click 'Change' button in password field 2. Enter 'testing123' in the current password field 3. Enter 'newpass123' in the New Password field 4. Enter 'NEWPASS123' in the Confirm Password field 5. Click 'Change password'
Expected Results	'Passwords do not match' message will appear on screen

Test Case Name	User Profile: Password Update
Test Case ID	TC-77
Priority	Low

Preconditions	Tester is logged in and on the profile page
Postconditions	Success message is returned from backend
Test Steps	1. Click 'Change' button in password field 2. 'Enter 'testing123' in the current password field 3. Enter 'newpass123' in the New Password and Confirm Password fields 4. Click 'Change Password 5. Logout 6. Login using the new login information
Expected Results	'Profile updated' message will appear on screen after password is updated. Tester will be able to login with new password.

Weather Alerts

Test Case Name	Weather Alerts: Add Alert Button
Test Case ID	TC-78
Priority	High
Preconditions	Tester is logged in and on the Alerts page. Execute Script DBS-02.
Postconditions	Modal will open
Test Steps	1. Click the Add Alert button
Expected Results	Modal will open

Test Case Name	Weather Alerts: Disable Add Alert Button
Test Case ID	TC-79
Priority	High
Preconditions	Tester is logged in and on the Alerts page. Execute Script DBS-02.
Postconditions	Alert button is unable to be clicked
Test Steps	1. Navigate to the Admin page 2. Delete all stations

	3. Return to Alerts page 4. Click the Add Alert button
Expected Results	Add Alert button is unable to be clicked

Test Case Name	Weather Alerts: Station Dropdown
Test Case ID	TC-80
Priority	High
Preconditions	Tester is logged in and on the Alerts page. Execute Script DBS-02.
Postconditions	Stations dropdown is populated with all connected stations
Test Steps	1. Click Add Alert button 2. Click on the Stations drop down 3. Verify 'Test Station' is in the list
Expected Results	Stations dropdown has 'Test Station' in the list

Test Case Name	Weather Alerts: Multiple Value toggle
Test Case ID	TC-81
Priority	High
Preconditions	Tester is logged in and on the Alerts page. Execute Script DBS-02.
Postconditions	Number of input boxes changed from one to two
Test Steps	1. Click Add Alert button 2. Click on the keyword dropdown and select 'between' 3. Verify that there are now two input boxes for 'Value'
Expected Results	Number of input boxes changed from one to two

Test Case Name	Weather Alerts: Invalid Value Input
Test Case ID	TC-82
Priority	High

Preconditions	Tester is logged in and on the Alerts page.
	Execute Script DBS-02.
Postconditions	Error message is returned from backend
Test Steps	1. Click Add Alert button
	2. Enter 'abc' in the 'Value' field
	3. Click 'Create Alert'
Expected Results	'Invalid value input' message will appear on screen

Test Case Name	Weather Alerts: Multiple Values in Wrong Order
Test Case ID	TC-83
Priority	High
Preconditions	Tester is logged in and on the Alerts page.
	Execute Script DBS-02.
Postconditions	Error message is returned from backend
Test Steps	1. Click Add Alert button
	2. Select 'between' in the in the keyword dropdown
	3. Enter 100 in the first box and 50 in the second box
	4. Click 'Create Alert'
Expected Results	'Invalid value input' message will appear on screen

Test Case Name	Weather Alerts: Edit Alert
Test Case ID	TC-84
Priority	High
Preconditions	Tester is logged in and on the Alerts page.
	Execute Script DBS-02.
Postconditions	Existing Alert is updated
Test Steps	1. Click Add Alert button
	2. Enter 75 in the value field
	3. Click 'Create Alert'
	4. Click on the newly created alert
	5. Change 75 to 100

	6. Click 'Update Alert' 7. Verify that the value on the alert has changed successfully
Expected Results	Existing alert is updated

Test Case Name	Weather Alerts: Cancel Button
Test Case ID	TC-85
Priority	High
Preconditions	Tester is logged in and on the Alerts page. Execute Script DBS-02.
Postconditions	Modal will close
Test Steps	1. Click 'Add Alert' button 2. Click 'Cancel' button
Expected Results	Modal will close

Test Case Name	Weather Alerts: Delete Button
Test Case ID	TC-86
Priority	High
Preconditions	Tester is logged in and on the Alerts page. Execute Script DBS-02.
Postconditions	'No alerts' message will appear on screen
Test Steps	1. Click 'Add Alert' button 2. Enter '75' in the value box 3. Click 'Create Alert' 4. Click on the newly created alert 5. Click 'Delete' button 6. Verify that alert has been deleted
Expected Results	'No alerts' message will appear on screen

Email Alerts

Test Case Name	Email Alerts: Add email alert method
Test Case ID	TC-87
Priority	High
Preconditions	Execute Script DBS-01, DBS-02
Postconditions	Alert card is added to the list on the page
Test Steps	1. Click "alerts" page in the Navigation bar if . 2. Click on "add" button on page. 3. Check off email as the alert method in the modal. 4. Select "test station" from the drop down. 5. Select "temperature" as the data type. 6. Select keyword to be "above". 7. Set the value to be 0. 8. Click "create alert"button on bottom right corner of modal. 9. View alert card in the list.
Expected Results	Alert card should be added to list of alerts with email as the selected method of alerting, verified by the tag on the card containing "email".

Test Case Name	Email Alerts: Receive email alert
Test Case ID	TC-88
Priority	High
Preconditions	Complete TC (add email alert method)
Postconditions	Email has been received
Test Steps	1. After completing TC(add email alert) wait 5 minutes after creation of the alert. 2. Log in to "weatherstationtest@gmail.com". 3. Open email from "wstationtestdod@gmail.com". 4. View email.
Expected Results	Email should contain alert details that were set in TC(add email alert)

Test Case Name	Email Alerts: Remove email alert method
Test Case ID	TC-89
Priority	High
Preconditions	Complete TC (add email alert method)
Postconditions	Email is no longer the alert method for the card.
Test Steps	1. Click the alert card from the alert list, created in TC (add email alert method). 2. Uncheck email as the alert method at the top of the modal. 3. Click "save changes" at the bottom of the modal. 4. View the alert card in the list.
Expected Results	The tag on the alert card will no longer contain "email" as one of the tags.

SMS Alerts

Test Case Name	SMS Alerts: Add sms alert method
Test Case ID	TC-90
Priority	High
Preconditions	Execute Script DBS-01, DBS-02
Postconditions	Alert card is added to the list on the page
Test Steps	1. Click "alerts" page in the Navigation bar if . 2. Click on "add" button on page. 3. Check off sms as the alert method in the modal. 4. Select "test station" from the drop down. 5. Select "temperature" as the data type 6. Select keyword to be "above" 7. Set the value to be 0 8. Click "create alert"button on bottom right corner of modal 9. View alert card in the list.
Expected Results	Alert card should be added to list of alerts with sms as the selected method of alerting, verified by the tag on the card containing "sms".

Test Case Name	SMS Alerts: Receive sms alert

Test Case ID	TC-91
Priority	High
Preconditions	Complete TC (add sms alert method), set test account phone number to testers cell phone number.
Postconditions	Sms has been received
Test Steps	1. After completing TC(add sms alert) wait 5 minutes after creation of the alert. 2. Check phone for text message. 3. Open email from open text message. 4. View message.
Expected Results	Sms should contain alert details that were set in TC(add sms alert)

Test Case Name	SMS Alerts: Remove sms alert method
Test Case ID	TC-92
Priority	High
Preconditions	Execute Script DBS-01
Postconditions	Sms is no longer the alert method for the card.
Test Steps	1. Click the alert card from the alert list, created in TC (add sms alert method). 2. Uncheck sms as the alert method at the top of the modal. 3. Click "save changes" at the bottom of the modal. 4. View the alert card in the list.
Expected Results	The tag on the alert card will no longer contain "sms" as one of the tags.

Webpage Alerts

Test Case Name	Webpage Alerts: Add webpage alert method
Test Case ID	TC-93
Priority	High
Preconditions	Execute Script DBS-01, DBS-02

Postconditions	Alert card is added to the list on the page
Test Steps	1. Click "alerts" page in the Navigation bar if . 2. Click on "add" button on page. 3. Check off webpage as the alert method in the modal. 4. Select "test station" from the drop down. 5. Select "temperature" as the data type 6. Select keyword to be "above" 7. Set the value to be 0 8. Click "create alert"button on bottom right corner of modal 9. View alert card in the list.
Expected Results	Alert card should be added to list of alerts with webpagel as the selected method of alerting, verified by the tag on the card containing "webpage".

Test Case Name	Webpage Alerts: Receive webpage alert
Test Case ID	TC-94
Priority	High
Preconditions	Complete TC (add webpage alert method)
Postconditions	Webpage alert has been received
Test Steps	1. After completing TC(add webpage alert) wait 5 minutes after creation of the alert. 2. Remain on the "alerts" page. 3. The bell icon in the upper right hand corner next to profile name will show a notification number. (1 for if there were no previous notifications.) 4. Click the bell. 5. A drop down of the triggered alerts will show. 6. View triggered alert created in TC(add webpage alert).
Expected Results	Alerts drop down should contain alert details that were set in TC(add webpage alert).

Test Case Name	Webpage Alerts: Remove webpage alert method
Test Case ID	TC-95
Priority	High

Preconditions	Complete TC (add webpage alert method)
Postconditions	Webpage is no longer the alert method for the card.
Test Steps	1. Click the alert card from the alert list, created in TC (add webpage alert method). 2. Uncheck webpage as the alert method at the top of the modal. 3. Click "save changes" at the bottom of the modal. 4. View the alert card in the list.
Expected Results	The tag on the alert card will no longer contain "webpage" as one of the tags.

Station Connection Quality Indicator

Test Case Name	Station Connection Quality Indicator: Good Connection Quality
Test Case ID	TC-96
Priority	High
Preconditions	Execute Script DBS-01, DBS-02
Postconditions	"Test Station's" connection quality indicator is displayed as green.
Test Steps	1. Click on the "stations" page in the Navigation Bar 2. View connection quality indicator on left side of the "Test Station" card
Expected Results	The connection quality indicator on the left side of the "Test Station" card is green

Test Case Name	Station Connection Quality Indicator: Okay Connection Quality
Test Case ID	TC-97
Priority	High
Preconditions	TC-96 has been completed and passed
Postconditions	"Test Station's" connection quality indicator is displayed as yellow.
Test Steps	1. Disconnect the station running in DBS-02 2. Wait 10 seconds 3. Watch the connection status indicator change from green to yellow.

Expected Results	The connection quality indicator on the left side of the "Test Station" card is yellow

Test Case Name	Station Connection Quality Indicator: Poor Connection Quality
Test Case ID	TC-98
Priority	High
Preconditions	TC-97 has been completed and passed
Postconditions	"Test Station's" connection quality indicator is displayed as red.
Test Steps	7. Wait 20 seconds 8. Watch the connection status indicator change from yellow to red
Expected Results	The connection quality indicator on the left side of the "Test Station" card is red

Save Station Data Locally

Test Case Name	Save Station Data Locally: Station Saves Locally
Test Case ID	TC-99
Priority	High
Preconditions	1. TC-108 or TC-109 has been completed and passed) 2. The station is currently sending data to the site. 3. Logged in to test account from DBS-01 4. Observing the "stations" page
Postconditions	A text file with weather data is created.
Test Steps	1. Disconnect the Raspberry Pi from the internet. 2. Watch the connection status indicator change from yellow to red 3. On the Raspberry Pi open the folders browser 4. Navigate to /home/pi/weatherstation/ 5. The folder should now contain a folder named "data" double click it 6. View its contents.
Expected Results	A text file with the days date is stored in the "data" folder. The

	contents of the file is the weather data since loss of internet connection.

Test Case Name	Save Station Data Locally: Station Reconnects
Test Case ID	TC-100
Priority	High
Preconditions	Complete TC(Station Saves Locally)
Postconditions	Weather data collected while offline is sent to the site.
Test Steps	1. Reconnect the Raspberry Pi to the internet. 2. Watch the connection status indicator change from red to green 3. On the Raspberry Pi open the folders browser 4. Navigate to /home/pi/weatherstation/ 5. Double click the folder named "data" 6. View its contents.
Expected Results	The folder should now be empty because after sending the stored data to the site the file is deleted.

Filter By Station Name

Test Case Name	Filter By Station Name: Matching name
Test Case ID	TC-101
Priority	Low
Preconditions	Execute Script DBS-04
Postconditions	The only station card in the station list should be the "Test Station 2"
Test Steps	1. Click " Stations" page in the Navigation bar. 2. Type in "Test Station 2" in to the filter bar on top of the page. 3. View station list.
Expected Results	All other stations have been hidden on the stations list, only Test Station 2's card is visible on the list.

Test Case Name	Filter By Station Name: No Matching Name
Test Case ID	TC-102
Priority	Low
Preconditions	TC-101 has been completed
Postconditions	No stations are shown in the stations list.
Test Steps	4. Click " Stations" page in the Navigation bar. 5. Type in "ZZZ" in to the filter bar on top of the page. 6. View station list.
Expected Results	No station cards are rendered in the stations list because "ZZZ" should not match any of the stations name.

Connect Stations Automatically

Test Case Name	Connect Stations Automatically: On Startup
Test Case ID	TC-103
Priority	High
Preconditions	TC-108 or TC-109 has been completed and passed and logged in to site using test account.
Postconditions	The Station automatically connects to the site
Test Steps	1. On the weather station Raspberry Pi open the terminal. 2. Type "sudo nano .bashrc" and hit enter. 3. Go to the end of the file and add "cd path/to/weatherstation/binary; ./weatherstation > /dev/null 2> /dev/null &" 4. Press ctrl+o to exit the file and save it. 5. Type "reboot" and hit enter. 6. View the "stations" page on the site. 7. Watch the station connection indicator for the Raspberry Pi station.
Expected Results	The station upon rebooting will automatically connect to the site and the station connection indicator will go from red to green and begin to send data.

Test Case Name	Connect Stations Automatically: Connect with API Key
Test Case ID	TC-104
Priority	High
Preconditions	TC(Connect Stations Automatically: On Startup) completed and passed
Postconditions	Station automatically connects to the site.
Test Steps	1. Restart the Raspberry Pi weather station. 2. View the "stations" page on the site. 3. Watch the station connection indicator for the Raspberry Pi station.
Expected Results	1. With a valid API key the station will connect automatically. 2. The station connection indicator will go from red to green. 3. Weather data will be sent to the site.

Test Case Name	Connect Stations Automatically: Connect with Invalid API Key
Test Case ID	TC-105
Priority	High
Preconditions	TC(Connect Stations Automatically: On Startup) completed and passed
Postconditions	The Station will not connect to the site.
Test Steps	1. On the Raspberry Pi weather station navigate to the folder with the binary. 2. Double click the "api-key" text file. 3. Change the API Key to "10000000000000000000" 4. Save the file. 5. Reboot the Raspberry Pi 6. Watch the station indicator for the Raspberry Pi station on the site.
Expected Results	The station connection indicator will remain red as the weather station will be unable to connect with an invalid API Key.

Add a Station

Test Case Name	Add a Station: Duplicate Station Name
Test Case ID	TC-106
Priority	High
Preconditions	Execute script DBS-01, DBS-02
Postconditions	No station is added to the database

Test Steps	1. Click on the "admin" page in the Navigation Bar
	2. Click on the "Add" button at the top right corner of the station list
	3. Enter in the following information to the form:
	   a. Name: Test Station
	   b. Expiration:
	4. Click the "Submit" button at the bottom of the form

Expected Results	7. The station name input box is given a red border. 8. Below the station name input box, the text "A station with this name already exists" appears. 9. No station is added to the database.

Test Case Name	Add a Station: Successfully Add New Station
Test Case ID	TC-107
Priority	High
Preconditions	Execute script DBS-01
Postconditions	A new station is added to the station list

Test Steps	1. Click on the "admin" page in the Navigation Bar
	2. Click on the "Add" button at the top right corner of the station list
	3. Enter in the following information to the form:
	   a. Name: Test Station
	   b. Expiration: Today's Date
	4. Click the "Submit" button at the bottom of the form

Expected Results	1. The add a station modal is closed 2. A new station is added to the station list

Install New Station

Test Case Name	Install New Station: Sense Hat Station
Test Case ID	TC-108
Priority	High
Preconditions	TC-107 has been completed and passed
Postconditions	The weatherstation client is asking for an API key.
Test Steps	1. Click on the "client" dropdown item in the Navigation Bar to be redirected to the client download page 2. Click "Download Weatherstation Client for Python 3.5" 3. Create the following folder on the Raspberry Pi: /home/pi/weatherstation/ 4. Extract all contents of the downloaded binary into the new folder 5. Double click on the "weatherstation" file 6. Click "Execute in Terminal"
Expected Results	The weatherstation client is asking for an API key.

Test Case Name	Install New Station: Individual Sensors Station
Test Case ID	TC-109
Priority	High
Preconditions	TC-107 has been completed and passed
Postconditions	The weatherstation client is asking for an API key.
Test Steps	1. Click on the "client" dropdown item in the Navigation Bar to be redirected to the client download page 2. Click "Download Weatherstation Client for Python 2.7" 3. Create the following folder on the Raspberry Pi: /home/pi/weatherstation/ 4. Extract all contents of the downloaded binary into the new folder 5. Double click on the "weatherstation" file 6. Click "Execute in Terminal"
Expected Results	The weatherstation client asks for an API key.

Webpage Alerts Display

Test Case Name	Webpage Alerts Display: Render Notification Number
Test Case ID	TC-110
Priority	Moderate
Preconditions	Execute Script DBS-08.
Postconditions	Two unread alerts notification
Test Steps	1. Verify that there is a red '2' on the bell icon
Expected Results	Two unread alerts notification

Test Case Name	Webpage Alerts Display: Toggle Dropdown
Test Case ID	TC-111
Priority	Moderate
Preconditions	Execute Script DBS-08.
Postconditions	Dropdown will open
Test Steps	1. Click the notification bell 2. Verify dropdown has opened
Expected Results	Dropdown will open

Test Case Name	Webpage Alerts Display: Mark Read
Test Case ID	TC-112
Priority	Moderate
Preconditions	Execute Script DBS-08.
Postconditions	Alerts will be marked as read in the database
Test Steps	1. Click the notification bell 2. Verify the bell icon has updated
Expected Results	Bell icon will lose the red '2' icon

Test Case Name	Webpage Alerts Display: Render Alerts
Test Case ID	TC-113
Priority	Moderate
Preconditions	Execute Script DBS-08.
Postconditions	Backend will return all webpage alerts
Test Steps	1. Click the notification bell 2. Verify two webpage alerts have rendered
Expected Results	Two webpage alerts will render with the alert details

Test Case Name	Webpage Alerts Display: View Alert Details
Test Case ID	TC-114
Priority	Moderate
Preconditions	Execute Script DBS-08.
Postconditions	Backend will return details of weather station at time alert was triggered
Test Steps	1. Click the notification bell 2. Click on a webpage alert 3. Verify that details about the alert are rendered in a modal on the screen
Expected Results	Modal will open and details about the alert when it was triggered will render

Test Case Name	Webpage Alerts Display: Dismiss Alerts
Test Case ID	TC-115
Priority	Moderate
Preconditions	Execute Script DBS-08.
Postconditions	All webpage alerts will be marked as dismissed in database

Test Steps	1. Click the notification bell 2. Click 'Dismiss all notifications' 3. Verify that all notifications have been dismissed
Expected Results	'You have no notifications' message will appear in dropdown

Average Weather Data

Test Case Name	Average Weather Data: Single Station
Test Case ID	TC-116
Priority	Low
Preconditions	Execute scripts DBS-01, DBS-02
Postconditions	A box is displayed in the center of the circle which shows the single station's temperature, humidity, and pressure.
Test Steps	1. Click on the "map" page in the Navigation Bar 2. Click "Average Weather" in the sidebar on the left side of the screen 3. Click on the map and drag the mouse so that the "Test Station" marker is within the radius of the circle
Expected Results	A box is displayed in the center of the circle which shows the single station's temperature, humidity, and pressure.

Test Case Name	Average Weather Data: Multiple Stations
Test Case ID	TC-117
Priority	Moderate
Preconditions	Execute scripts, DBS-01, DBS-04
Postconditions	A box is displayed in the center of the circle which shows the mean average of both stations' temperature, humidity, and pressure.
Test Steps	1. Click on the "map" page in the Navigation Bar 2. Click "Average Weather" in the sidebar on the left side of the screen 3. Click on the map and drag the mouse so that the "Test Station" and "Test Station 2" markers are within the radius of the circle

Expected Results	A box is displayed in the center of the circle which shows the mean average of both stations' temperature, humidity, and pressure.

Test Case Name	Average Weather Data: No Stations
Test Case ID	TC-118
Priority	Low
Preconditions	Execute script DBS-01
Postconditions	A box is displayed in the center of the circle which shows zero values for temperature, humidity, and pressure.
Test Steps	1. Click on the "map" page in the Navigation Bar 2. Click "Average Weather" in the sidebar on the left side of the screen 3. Click on the map and drag the mouse until a circle is made
Expected Results	A box is displayed in the center of the circle which shows zero values for temperature, humidity, and pressure.

Historic Alerts

Test Case Name	Historic Alerts: Render Historic Alerts
Test Case ID	TC-119
Priority	Low
Preconditions	Execute script DBS-08
Postconditions	Two Triggered alerts are returned from backend
Test Steps	1. Verify there are two alerts in the alert history section
Expected Results	Two Alerts are rendered in the alert history section

Test Case Name	Historic Alerts: Filter Historic Alerts By Date
Test Case ID	TC-120
Priority	Low

Preconditions	Execute script DBS-08
Postconditions	Alerts only for selected date are rendered on screen
Test Steps	1. Select the date of one of the two alerts 2. Verify that that alert is the only one that remains on the screen 3. Select the date of the second alert 4. Verify that that alert is the only one that remains on the screen
Expected Results	Alerts for selected day are rendered only

Test Case Name	Historic Alerts: Filter Historic Alerts by Station
Test Case ID	TC-121
Priority	Low
Preconditions	Execute script DBS-08
Postconditions	Alerts only for selected station are rendered
Test Steps	1. Selected 'Test Station' from dropdown 2. Verify that the only alert rendered is for Test Station
Expected Results	Only alerts for 'Test Station' are rendered

Test Case Name	Historic Alerts: View Historic Alert Details
Test Case ID	TC-122
Priority	Low
Preconditions	Execute script DBS-08
Postconditions	Alert details for when alert was triggered are returned from backend
Test Steps	1. Click on an alert in the alert history 2. Verify that a modal opened with the alert details in it
Expected Results	Modal will open, alert details for when it was triggered will render

Integration Test Cases

Open Weather Map API

Test Case Name	Open Weather Map API: Valid Latitude and Longitude Coordinates
Test Case ID	TC-123
Priority	High
Preconditions	Execute Script DBS-01
Postconditions	The right hand side of the station card appears with visibility, wind speed, and wind direction data.
Test Steps	1. Click the "stations" page in the Navigation Bar 2. Execute Script DBS-02 3. View station card for "Test Station"
Expected Results	The right hand side of the station card appears with visibility, wind speed, and wind direction data.

Test Case Name	Open Weather Map API: Invalid Latitude and Longitude Coordinates
Test Case ID	TC-124
Priority	High
Preconditions	Execute script DBS-01
Postconditions	The right hand side of the station card remains blank.
Test Steps	1. Click the "stations" page in the Navigation Bar 2. Execute Script DBS-03 3. View station card for "Test Station"
Expected Results	The right hand side of the station card named "Test Station" remains blank.

Station Communication

Test Case Name	Station Communication: Send Weather Data
Test Case ID	TC-125
Priority	High
Preconditions	1. Execute script DBS-01 2. A station has been installed by following TC-108 or TC-109
Postconditions	A station card appears on the stations page with a green connection indicator
Test Steps	1. Execute the "weatherstation" binary file 2. Click "Execute in Terminal"
Expected Results	A station card appears on the stations page with a green connection indicator

Test Case Name	Station Communication: Send Stored Weather Data
Test Case ID	TC-126
Priority	High
Preconditions	Execute script DBS-01, DBS-02
Postconditions	All stored data is sent to the server and stored.
Test Steps	1. Shutdown the development server 2. Wait 1 minute 3. Turn the development server back on
Expected Results	All stored data is sent to the server and stored.

Test Case Name	Station Communication: Valid API Key
Test Case ID	TC-127
Priority	High
Preconditions	TC-108 or TC-109 has been completed and passed
Postconditions	The terminal reads "API Key Verified"

Test Steps	1. Enter in a valid API Key to the terminal 2. Press the Enter key
Expected Results	1. The terminal reads "API Key Verified" 2. The station with the corresponding API key is marked as taken in the database

Test Case Name	Station Communication: API Key in Use
Test Case ID	TC-128
Priority	High
Preconditions	1. Execute scripts DBS-01, DBS-02 2. TC-108 or TC-109 has been completed and passed
Postconditions	The terminal reads "Invalid API key. Please try again."
Test Steps	1. Enter the API Key "00000000000000000000" (20 zeros) into the terminal when prompted for an API key 2. Press the Enter key
Expected Results	The terminal reads "Invalid API key. Please try again."

Test Case Name	Station Communication: API Key Does Not Exist
Test Case ID	TC-129
Priority	High
Preconditions	1. Execute script DBS-01 2. TC-108 or TC-109 has been completed and passed
Postconditions	The terminal reads "Invalid API key. Please try again."
Test Steps	1. Enter the word "test" into the terminal when prompted for an API key 2. Press the Enter key
Expected Results	The terminal reads "Invalid API key. Please try again."

System Test Cases

Test Case Name	Superuser Login
Test Case ID	TC-130
Priority	High
Preconditions	Execute Script DBS-01
Postconditions	Tester is logged in as a superuser
Parameters	username: "testsuper" password: "testing123"
Test Steps	1. Enter in the URL of the location of the website 2. Enter in the above parameters on the login screen 3. Click "Login"
Expected Results	1. Tester is redirected to the stations page 2. Tester is logged in as a superuser

Test Case Name	Add a Station
Test Case ID	TC-131
Priority	High
Preconditions	TC-130 was completed and passed.
Postconditions	A station named "Test Station" is added to the stations list.
Parameters	name: "Test Station" expiration: Leave Blank
Test Steps	1. Navigate to the admin page by clicking "admin" in the dropdown in the Navigation Bar. 2. Click on the "Add" button at the top right corner of the station list. 3. Enter in the information from the parameters section in the form. 4. Click the "Submit" button at the bottom of the form.

Expected Results	A new station is added to the list of stations on the admin page.

Test Case Name	Install a Station
Test Case ID	TC-132
Priority	High
Preconditions	TC-131 was completed and passed.
Postconditions	The station is sending weather data to the backend server
Parameters	API Key: Retrieve from the added station in the previous test case.
Test Steps	1. Click on the "client" dropdown item in the Navigation Bar to be redirected to the client download page 2. Click "Download Weatherstation Client for Python 3.5" 3. Create the following folder on the Raspberry Pi: /home/pi/weatherstation/ 4. Extract all contents of the downloaded binary into the new folder 5. Double click on the "weatherstation" file 6. Click "Execute in Terminal" 7. Enter the API Key from the station added in the previou test case.
Expected Results	The station is sending weather data to the backend server

Test Case Name	View Stations
Test Case ID	TC-133
Priority	High
Preconditions	TC-132 was completed and passed.
Postconditions	A station card is displayed.
Parameters	N/A
Test Steps	1. Click on the "stations" page in the Navigation Bar. 2. View page
Expected Results	A single station card with the name "Test Station" is displayed back to the user with a green connection indicator.

Test Case Name	Change Station Name
Test Case ID	TC-134
Priority	Moderate
Preconditions	TC-133 was completed and passed.
Postconditions	The name of the station is changed.
Parameters	Name: "Test Station 2"
Test Steps	1. Click on the "stations" page in the Navigation Bar 2. Click on the station card with the name "Test Station" 3. Change the name of the station to "Test Station 2" 4. Click "Save Changes"
Expected Results	The name of the "Test Station" is changed to "Test Station 2."

Test Case Name	View Station Map
Test Case ID	TC-135
Priority	High
Preconditions	TC-134 was completed and passed.
Postconditions	The single connected station is displayed in the sidebar and markers are displayed on the map
Parameters	N/A
Test Steps	1. Click on the "map" page in the Navigation Bar 2. View page
Expected Results	1. The sidebar displays the "Test Station 2" with its latitude and longitude coordinates. 2. The map displays a teal marker for "Test Station 2"

Test Case Name	Hover Station Marker
Test Case ID	TC-136
Priority	High

Preconditions	TC-135 was completed and passed.
Postconditions	A box displaying the "Test Station 2's" latest weather data is shown above the station's marker
Parameters	N/A
Test Steps	1. Move mouse cursor over the "Test Station 2" marker.
Expected Results	The opacity of the marker's weather info box is changed from 0 to 1.

Test Case Name	Hide / Show Station
Test Case ID	TC-137
Priority	Moderate
Preconditions	TC-136 was completed and passed.
Postconditions	The station marker for "Test Station 2" is hidden and then displayed again.
Parameters	N/A
Test Steps	1. Click the checkbox for "Test Station 2" in the sidebar to hide the station marker 2. Click the checkbox for "Test Station 2" in the sidebar again to show the station marker
Expected Results	The station marker for "Test Station 2" is hidden and then displayed again.

Test Case Name	Hide / Show Station Labels
Test Case ID	TC-138
Priority	Low
Preconditions	TC-137 was completed and passed.
Postconditions	The station label for "Test Station 2" is hidden and then displayed again.
Parameters	N/A

Test Steps	1. Click the checkbox for "Show Labels" in the sidebar to hide the labels 2. Click the checkbox for "Show Labels" in the sidebar again to show the labels
Expected Results	The station label for "Test Station 2" is hidden and then displayed again.

Test Case Name	Average Weather
Test Case ID	TC-139
Priority	Low
Preconditions	TC-138 was completed and passed.
Postconditions	Average weather data label will appear at the center of the circle
Parameters	N/A
Test Steps	1. Click the 'Average Weather' button in the side bar 2. Click and drag on the map so that the circle encloses the station marker 3. Verify that the average weather data is correct
Expected Results	Weather data is averaged and displayed in the center of the circle

Test Case Name	Add Alert
Test Case ID	TC-140
Priority	Low
Preconditions	TC-139 was completed and passed.
Postconditions	A new Alert will appear on the alerts page with the parameters entered
Parameters	'Email', 'Webpage', '0'
Test Steps	1. Navigate to the Alerts page 2. Click the 'Add Alert' button

	3. Check the boxes for Email and Webpage 4. Input 0 in the value field 5. Click the 'Create Alert' button
Expected Results	A new Alert will appear on the alerts page with the parameters entered

Test Case Name	View Webpage Alert
Test Case ID	TC-141
Priority	Low
Preconditions	One minute has passed since TC-140 was completed and passed.
Postconditions	The webpage alert dropdown will open when clicked and render all alerts
Parameters	N/A
Test Steps	1. Click the notification icon in the navigation bar 2. Verify that the dropdown has opened and has populated with at least one alert for the alert created in TC-140
Expected Results	The webpage alert dropdown will open when clicked and render all alerts

Test Case Name	View Weather Data at Time of Alert
Test Case ID	TC-142
Priority	Low
Preconditions	TC-141 was completed and passed.
Postconditions	Modal will open with weather data from time alert was triggered
Parameters	N/A
Test Steps	1. Click on the notification icon in the navigation bar 2. Click on one of the alerts rendered in the dropdown 3. Verify that the modal opened and that the weather data displayed is correct

Expected Results	Modal will open with the weather data from the time alert was triggered

Test Case Name	View Alert History
Test Case ID	TC-143
Priority	Low
Preconditions	TC-142 was completed and passed.
Postconditions	All triggered alerts will render in the alert history
Parameters	N/A
Test Steps	1. Verify that the alerts history section is populated with at least one alert
Expected Results	All triggered alerts will render in the alert history

Test Case Name	Filter Alert History By Day
Test Case ID	TC-144
Priority	Low
Preconditions	TC-143 was completed and passed.
Postconditions	All alerts for the selected day will render on the page
Parameters	N/A
Test Steps	1. Click on the filter date button 2. Click on the previous date 3. Verify that the alerts rendered on the page are for only the date selected
Expected Results	All alerts for the selected day will render on the page

Test Case Name	Edit Alert
Test Case ID	TC-145
Priority	Low

Preconditions	TC-144 was completed and passed.
Postconditions	Alert will be updated with new parameters
Parameters	N/A
Test Steps	1. Click on a currently existing alert 2. Change the value input so that is has the number '25' in it 3. Change the Datatype to pressure 4. Change the keyword to below 5. Click 'Save changes' 6. Verify that the alert has been updated with the newly input values
Expected Results	Alert will be updated with the new parameters

Test Case Name	Delete Alert
Test Case ID	TC-146
Priority	Low
Preconditions	TC-145 was completed and passed.
Postconditions	Alert is deleted from the alert list
Parameters	N/A
Test Steps	1. Click on a currently existing alert 2. Click on the delete button in the bottom left hand cornder of the edit alert modal. 3. Verify that the alert has been deleted
Expected Results	Alert is deleted from the alert list

Test Case Name	View Historical Data
Test Case ID	TC-147
Priority	Low
Preconditions	30 minutes have passed since TC-146 was completed and passed.
Postconditions	Graph will render and provide detailed weather information for the station connected

Parameters	N/A
Test Steps	1. Go to the historical page 2. Verify that the graph has rendered 3. Verify that there are at least two nodes on the page 4. Verify that the x and y axis are scaled correctly 5. Verify that the nodes will display weather data
Expected Results	Graph will render and provide detailed weather information for the station connected

Test Case Name	Filter Historical Data By Day
Test Case ID	TC-148
Priority	Low
Preconditions	30 minutes have passed since TC-147 was completed and passed.
Postconditions	Graph will render with the selected date and time range from the filter.
Parameters	N/A
Test Steps	1. Click on "Filter" button on page. 2. Select a from and to date range from the date picker. 3. Click "submit". 4. Verify that graph has re-rendered. 5. Verify that the correct data type is being graphed. 6. Verify that the x axis has the correct date range.
Expected Results	Graph will render and provide detailed weather information for the selected date range for the station.

Test Case Name	Filter Historical Data by Data Type
Test Case ID	TC-149
Priority	Low
Preconditions	30 minutes have passed since TC-148 was completed and passed.
Postconditions	Graph will render with the selected Data Type from the filter
Parameters	N/A

Test Steps	1. Click on "Filter" button on page.
	2. Select a data type from the drop down.
	3. Click "submit".
	4. Verify that graph has re-rendered.
	5. Verify that the correct data type is being graphed.
	6. Verify that the y axis has the correct label.
Expected Results	Graph will render and provide detailed weather information for the selected data type for the station.

Test Case Name	View Profile Information
Test Case ID	TC-150
Priority	Low
Preconditions	TC-149 was completed and passed.
Postconditions	Profile page renders with users information
Parameters	N/A
Test Steps	1. Click "testsuper" in the Navigation Bar.
	2. Click "profile" in the drop down.
	3. Verify the Profile page has rendered.
	4. Verify that username is the correct username.
	5. Verify that the email is the correct email.
Expected Results	Profile page has rendered with all the correct information for the logged in account.

Test Case Name	Update Phone Number
Test Case ID	TC-151
Priority	Low
Preconditions	TC-150 was completed and passed.
Postconditions	The phone number for the account is updated.
Parameters	N/A
Test Steps	1. Click on phone number input box.
	2. Enter a phone number "31355555555".

	3. Click save changes. 4. Verify that success pop-up loads. 5. Refresh the page. 6. Verify that the number was changed to "31355555555".
Expected Results	The phone number for the account is now updated to "31355555555".

Test Case Name	Change Password
Test Case ID	TC-152
Priority	Low
Preconditions	TC-151 was completed and passed.
Postconditions	The password for the account is changed.
Parameters	N/A
Test Steps	1. Click the change button next to password. 2. Type the current password into the current password input box, "testing123". 3. Type new password into the new password input box, "password123". 4. Type the new password into the confirm password input box, "password123" 5. Click change password.
Expected Results	The password for the account has changed to "password123".

Test Case Name	Logout
Test Case ID	TC-153
Priority	Low
Preconditions	TC-152 was completed and passed.
Postconditions	Account is logged out of the site.
Parameters	N/A
Test Steps	1. Click "testsuper" in the Navigation Bar. 2. Click "logout" in the drop down.

	3. Verify the Login page has rendered.
Expected Results	Account is no longer logged into the site and is now on the login page of the site.

Test Case Name	Login With New Password
Test Case ID	TC-154
Priority	Low
Preconditions	TC-153 was completed and passed.
Postconditions	The new password to the site allows account to login.
Parameters	N/A
Test Steps	1. Type in the username input box "testsuper". 2. Type in the password input box "password123". 3. Click login. 4. Verify that account has been logged in. 5. Verify that the stations page has rendered.
Expected Results	The new password logged the account into the site and has loaded the stations page.

Test Case Name	Disconnect Station
Test Case ID	TC-155
Priority	Low
Preconditions	TC-154 was completed and passed.
Postconditions	Station is no longer sending data to the site.
Parameters	N/A
Test Steps	1. Remove the power source from the Raspberry Pi weather station. 2. Verify on the stations page that the status indicator for the weather station has turned red.
Expected Results	The weather station has disconnected from the site and is no longer sending weather data.

Test Case Name	Delete Station
Test Case ID	TC-156
Priority	Low
Preconditions	TC-155 was completed and passed.
Postconditions	The station card for the station no longer appears in the stations list.
Parameters	N/A
Test Steps	1. Click "testsuper" in the Navigation Bar. 2. Click "admin" in the drop down. 3. Verify the Admin page has rendered. 4. Click the station card. 5. Click delete in the modal. 6. Verify that the station no longer appears on the Admin page. 7. Navigate back to the Stations page. 8. Verify that the station no longer appears on the stations page.
Expected Results	The station has been deleted from the site and no longer appears on stations page or admin page.

Appendix

Database Scripts

Script ID	Data Description
DBS-01	Empties entire database except for one superuser. username = "testsuper" password="testing123" email="weatherstationtest@gmail.com" phone='13135555555' reset_token='d770ddafa1786f620781'
DBS-02	"Connects" a weather station named "Test Station" which sends weather data to the backend every 5 seconds. apikey="00000000000000000000" (20 zeros)

DBS-03	1. Adds a weather station named "Test Station" with apikey="00000000000000000000" (20 zeros) 2. Inserts one row of weather data with random numbers into the weather table. 3. Inserts one row into the latest weather table with a foreign key to that weather row.
DBS-04	"Connects" two weather stations named "Test Station" and "Test Station 2" which send weather data to the backend every 5 seconds.
DBS-05	Empties entire database except for one super user and one regular user. username = "testuser" password="testing123"
DBS-06	Inserts 360 rows of weather data with random numbers into the weather table that increases in time by 5 seconds for each row for apikey= "00000000000000000000" (20 zeros).
DBS-07	Inserts an expired password reset token 'd770ddafa1786f620786' into the database for user created in DBS-01
DBS-08	Inserts 2 unread webpage alerts into the triggered alerts table
DBS-09	Inserts one user to the database with admin permissions. username = "testadmin" Password = "admin123"