Test Plan

In this test plan we will be writing black box tests to test all the components of our product.

1. Acceptance Tests

Requirements of the product	Test Pass Status
User can create an account	
User can login and logout	
User can register and delete devices	
User can monitor device usage	
User can see a graph	
User can zoom on graph	
User can download data from graph	
User can adjust graph date ranges	
User can adjust granularity	
User can add plug emulator as a device to site and see the data in the graph	
User can add the raspberry pi as a device and see the data in the graph	
User can open any browser anywhere, anytime to view the site	

2. Golden Path Testing

3. Testing Broken Up by Page

I. Registration

A. Per Field in Registration Form
   1. Boundary testing for each field:
      - 0 characters
      - min # of characters
      - min # < x number < max #
      - max # of characters
      - max # of characters + 1
      - Ensure that all fields are filled in
   2. Validating Format
      - email field is in an email format

- phone number field matches a phone number format
- Optional Password format for security purposes

3. Concurrent Users
   - Username is unique

B. Multiple Users and Security
   1. Optional Confirmation Email.
   2. Optional force for user to enter email twice to confirm it.
   3. Optional force for user to enter password twice to confirm it.
   4. Is sensitive information being stored on cookies? Which data should we be encrypting?

C. Invalid data types
   1. Letters inside of phone number. Expected: fail.
   2. Parentheses and "-" inside of phone number. Expected: pass.
   3. Numbers inside of name. Expected: fail.
   4. Chars that are not numbers or letters in a username. Expected: fail.

D. Missing Fields
   - Test that each field is filled in: if there is a missing field, is the error obvious to the user?
   - Test what happens if no field is filled in
   - Test all fields being filled in. Expected: Pass.
   - Test all fields being filled in with characters that are not numbers or letters – decide if this is the expected result.

II. Dashboard

A. Deleting a Device
   - Device appears on the page
   - Device is NOT deleted from the database, but labeled as "inactive" for telemetry uses and the possibility if we would ever want to add a feature for the user to see a history of their activity.
   - Device is no longer marked as active in the database for that user.

B. Adding a Device
   - Device appears on page immediately
   - Device is added to database for that user, based on unique username
   - Device has visualization data to be shown immediately when it is plugged in.
   - Device has visualization data graph that is shown with no data on it, but in a presentable way at the time before they have added any data. Possible message to the user that they must first plug in their device to see data can be shown.

C. Unplugging a device and seeing an expected response on the Dashboard

D. Plugging in a device and seeing an expected response on the Dashboard. Classification popup of the appliance will happen automatically and give suggestions as to which device it is.

III. Visualization

A. Showing ALL data points with expected outcome.
B. Selection of each time frame shows data from the expected time frame.
C. Clicking rapidly on each button does not have an unexpected failure.
D. Going from a visualization page, then to another page, and then using the browser's "back" button to go back to the visualization page does not cause an unexpected error.
E. Clicking and dragging on the graph performs a zoom over the selected range
F. Sliding the granularity changes the number of points displayed over the given range
G. Date Pickers adjust the domain to a selected range

IV. Login

A. User Settings about Login Information
B. Trying to access a URL for logged in users only by hardcoding it in while NOT logged in.
C. User is logged in, closes browser, opens browser. Is user still logged in? Expected: Yes
D. User is logged in, shuts down computer, opens browser. Is user still logged in? Expected: Yes
E. User is logged in on browser X, opens browser Y, is user logged in on browser Y? Expected: NO
F. User is logged in for 2 days on same computer. Computer falls asleep during that time or does not fall asleep. In both cases, user is still logged in. Expected: Yes.
G. Use cases to be determined if User is in public setting, such as a library.

V. SEADS Plug Emulator

A. Plug emulator can be added to devices with no error
B. After navigating to the visualization page for the device, graph displays data

VI. Rasberry Pi

A. Rasberry Pi can be added to devices with no error
B. After navigating to the visualization page for the device, graph displays data

VII. Live Site

A. Site appears when navigating to db.seadsystem from any computer using any browser