# Application Test Cases

1. Application Visibility

| Page Display Tested On | Status (Full Screen Visibility) |
|---|---|
| 1080 x 1920 pixels | Passed |
| 1125 x 2436 pixels | Passed |
| 1242 x 2688 pixels | Passed |
| 750 x 1334  pixels | Failed |

**Functional Display Ranges:**
1080x1920 pixels - 1242x2688 pixels

2. Application Latency

| Page Transitions | Transition Speed (Upon Button Pressed) |
|---|---|
| Home to Results | 590ms |
| Results to Graphs | 850ms |
| Graphs to Results | 590ms |
| Results to Home | 650ms |
| Home to Feedback | 660ms |
| Feedback to Home | 760ms |
| **Total Average Time** | **670ms** |

3. Graph-Value Range Testing

Testing was performed on arrays of values not close in range, to determine what would be the most comfortable viewing range for them together. The following table represents the results of viewing the resulting graph with the axes accommodating for the largest value in the array.

| Max Axes Value Tested (Based off Resistance Values) | Viewing Capacity of all Points |
|---|---|
| 4,777,619.06 (Millions) | Not Visible |
| 777,619.06 (Hundredth Thousands) | Not Visible |
| 77, 619.06 (Ten Thousands) | Visible |
| 7, 619.06 (Thousands) | Visible |
| 619.06 (Hundreths) | Visible |
| 19.06 (Tenths) | Visible |
| **Comfortable Max Axes Value Range** | **(Ten Thousands - Tenths)** |

4. Feedback Insertion Testing

Testing for insertion to the feedback table on MySQL, was done by submitting feedback through the application, which prompts the PHP script on the server to perform insert queries on the database. To test, the 'INSERT TO' query on the PHP script is timed and its output is shown in the terminal of Xcode. Functionality was tested across a total of 10 queries. Each of the queries contained a couple of sentences that go together with the field they're inputted in, likes and things that can be improved.

| Feedback Query | Time Taken To Insert to Table |
|---|---|
| "everything!"<br>"nothing" | 0.012159ms =<br>12.159micros |
| "My favorite part is the home page!"<br>"Maybe change the color a little" | 0.028133ms =<br>28.133micros |
| "the colors"<br>"everything is perfect" | 0.024080ms =<br>24.080micros |
| "I really like the theme"<br>"Maybe add a social media link!" | 0.014066ms =<br>14.066micros |
| "I like how easy I can get my readings!"<br>"I would like to see maybe a setting that allows for sharing of my readings." | 0.023172ms =<br>23.172micros |
| "I hate it!"<br>"Evrything" | 0.013157ms =<br>13.157micros |
| "Gives me accurate values each time!"<br>"Make one for android!" | 0.027143ms =<br>27.143micros |
| "Nothing"<br>"Destroy this app" | 0.023980ms =<br>23.980micros |
| "the accessability"<br>"make it global" | 0.014032ms =<br>14.032micros |
| "I hate that I love it"<br>"more colors" | 0.012267ms =<br>12.267micros |
| **Average Time to insert across Queries** | **20 micro seconds** |

5. Table Retrieval Testing

To test the functionality of data retrieval from the database, a base of 5 rows had already been added to the Measurements Table. These rows contained values reflecting the should-be contents from the table columns (voltage, resistance, current, capacitance and continuity). From these initial rows, the table was queried to be outputted in the server, then another row was added to the table. This process was repeated a total of ten times. The process of retrieval was once again timed inside the PHP script in charge of querying the data. The time it took for retrieving the table is outputted in the server along with the table.

| Row Entries inside Table | Time of Retrieval |
|---|---|
| 5 entries(Base) | 0.0009ms |
| 6 entries | 0ms |
| 7 entries | 0.0009ms |
| 8 entries | 0.0009ms |
| 9 entries | 0ms |
| 10 entries | 0.0009ms |
| 11 entries | 0.0009ms |
| 12 entries | 0ms |
| 13 entries | 0.0009ms |
| 14 entries | 0ms |
| **Average Time Across Queries** | **0.00054ms** |

6.  Server Connection Testing

    The way to see that the Database is retrieving data from the Application is through the viewing of newly added entries to the table. Similarly, to view that data retrieval is possible, the data is displayed in the local server.