Test Plan and Cases (TPC)

Siitch App

Team 03

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Yu Gao  Tester/Feasibility Analyst
Drew Aveling  Client

November 23, 2020
## Version History

<table>
<thead>
<tr>
<th>Date</th>
<th>Author</th>
<th>Version</th>
<th>Changes made</th>
<th>Rationale</th>
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<tr>
<td>11/14/20</td>
<td>Nikitha Adira, Vartika Bhatia, Akshata Patangi</td>
<td>1.0</td>
<td>• Original template for use for Siitch App</td>
<td>• Initial draft for use for Siitch App</td>
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<td>11/19/20</td>
<td>Nikitha Adira</td>
<td>1.1</td>
<td>• Added Test Cases for Rank and Compare</td>
<td>• Needed to add Tables for Test Cases</td>
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<td>11/20/20</td>
<td>Vartika Bhatia</td>
<td>1.2</td>
<td>• Added Test Cases for Search</td>
<td>• Needed to add Tables for Test Cases</td>
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<tr>
<td>11/2020</td>
<td>Akshata Patangi</td>
<td>1.3</td>
<td>• Added Test Cases for Calculate</td>
<td>• Needed to add Tables for Test Cases</td>
</tr>
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1. Introduction

The testing will focus on thoroughly assessing the quality of software provided for the Siitch app. The purpose of testing the Siitch App is to validate that the application satisfies technical and business requirements mentioned by the stakeholders. In this document, the deliverables, objectives, schedules and resources that are required for testing the Siitch App will be broken down in detail.

The scope of testing the project includes functional and non-functional requirements within the application. This test plan focuses on the integration of all the core functionalities and their requirements as requested by the stakeholders and the business use cases.

This Test Plan requires the Quality Assurance of the features via Black Box testing. Also requires unit testing to assure each component of the application is working seamlessly. This test plan includes system and integration testing to make sure that each component can work alongside the other without bugs or defects. Additionally, the application will be tested via user acceptance.
2. Test Strategy and Preparation

The test strategy is to perform manual testing which will involve performing black box testing on all the developed features. Black box testing will involve testing functionality of an application without going in depth about the internal structure. We are following the agile continuous integration with concurrent development, which will involve doing a clean build multiple times to validate the functionalities of the features.

The plan is to identify the main objective and to prepare a test plan to verify the development of these features. For each feature, list of test cases to be executed will be created which will cover a wide range of functionality from basic to boundary conditions. These test cases results check the alignment of the developed features of the objectives. Next step will involve executing the test cases based on priority and maintaining the record of the results. A log has to be maintained for each test cases which will later be referred to fix defects and re-verify the content.

2.1 Hardware preparation
Siitch App does not require any hardware preparation for Testing.

2.2 Software preparation

Steps to prepare software for testing:
- Pull the latest version of the source code from git repository.
- Launch react native and XCode simulator to run the system for manual testing
- Access the Firebase database to validate the contents of the app.

Software to be used:
- Our team used the XCode Simulator, Version: 12.2, and our team ran React Native app using the XCode Simulator.
- Our team used the VSCode text editor, Version: 1.51.1, in order to update code.
- Our team used Firebase as the database to hold our data.
- Our team used Test Flight, Version: 2.7.0, to launch our app so that end users can play around with our application.

Languages and frameworks used:
- NodeJS, version: 6.14.8
- React Native, version: 2.0.1
- JavaScript, version: ES6

The test data which is stored in firebase is used for manual testing to validate the contents of the front end. Test data usually consists of item name, item water consumption (different types of water consumption), item image and URLs linked to different websites which needs to be validated.
2.3 Other pre-test preparations
Switch App require no other pre-test preparations.

2.4 Requirements Traceability

<table>
<thead>
<tr>
<th>Requirement ID</th>
<th>Verification Type</th>
<th>Test Case ID (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR-1 Zero Monetary budget</td>
<td>Demonstration</td>
<td>N/A</td>
</tr>
<tr>
<td>PR-2 Availability</td>
<td>Demonstration</td>
<td>N/A</td>
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<tr>
<td>PR-3 Data Correctness</td>
<td>Demonstration</td>
<td>TC-01, TC-02, TC-03, TC-04</td>
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<tr>
<td>PR-4 Scalability</td>
<td>Demonstration</td>
<td>N/A</td>
</tr>
<tr>
<td>PR-5 Response Time</td>
<td>Demonstration</td>
<td>N/A</td>
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<tr>
<td>CR-1 Search Tool</td>
<td>Testing</td>
<td>TC-03: Search Functionality</td>
</tr>
<tr>
<td>CR-2 Compare Tool</td>
<td>Testing</td>
<td>TC-04: Compare Functionality</td>
</tr>
<tr>
<td>CR-3 Calculator Tool</td>
<td>Testing</td>
<td>TC-02: Calculate Functionality</td>
</tr>
<tr>
<td>CR-4 Ranking Tool</td>
<td>Testing</td>
<td>TC-01: Rank Functionality</td>
</tr>
<tr>
<td>CR-5 Database Maintenance</td>
<td>Inspection</td>
<td>N/A</td>
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</tbody>
</table>

3. Test Identification

3.1 Test Identifier
TC-01: Rank Functionality. In this test case, we are testing out that the rank feature to make sure that the highest to lowest environmental cost for each category appears.

3.1.1 Test Level
Rank Functionality will be tested at software item level.

3.1.2 Test Class
Rank Functionality will be tested via erroneous test.

3.1.3 Test Completion Criteria
The test for Rank Functionality will be completed when:
- Within each category the items will be correctly sorted in a descending order of water consumption (environmental costs).
- Each item will have correct relevant images to item name
- The water consumption is correctly displayed with each item
- Gallon/Liter button correctly displays the metrics for each item
## 3.1.4 Test Cases

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-01-01</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Test Item</th>
<th>Rank Button in Bottom Navigation Bar, Test if Rank button will go to Rank Homepage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>This button must be tappable and go to Rank Homepage</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After Rank Button is tapped, Rank Homepage appears</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Button is Tapped on.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Go to Homepage for Rank</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when after button is tapped on, user is re-directed to the homepage of Rank with the category grid listed</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Application is launched without errors.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>Application must be launched.</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-4</td>
</tr>
</tbody>
</table>
### TC-01-02 Opening a Category in Rank Functionality

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-01-02</th>
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</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Opening a Category in Ranking Tool, tap into a Category on Rank Page and check if it opens.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Each Category must be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After a Category is clicked, the Rank of each item is listed in a descending order of highest to lowest based on water consumption.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on a Category</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>After a Category is clicked, the Rank of each item should be listed in a descending order of highest to lowest based on water consumption.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when all categories open into the rank functionality page.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Data is up to date in Database.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>Application must be launched, should be in Rank Homepage.</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-4</td>
</tr>
</tbody>
</table>
**Table 4: TC-01-03 Data Verification**

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-01-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Data Verification: Check Data correctness that's being displayed in Rank to be consistent with what's in the firebase database.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Have connection with Database &amp; the Data in Database to be up to date. Tap on each Category to verify water consumption of the items listed.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After data is pulled in Rank categories, the water consumption number should be the same as what's listed in the items in the database for each item.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Water consumption data (g/l) listed next to each item after tapping on an category in Rank Homepage.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>All environmental costs are consistent with the Firebase data.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when data pulled from Firebase database is consistent with the data shown in the front end of the rank functionality.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Data is up to date in Database.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-01-01, TC-01-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-4</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-01-04</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Learn-More Popup: Popup Opens and content within the modal is accurate.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Must be in any category and must scroll down to the end of rank category page to see the “Learn More” button</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Learn More Modal must pop up with appropriate content and a close button.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>After tapping into a category and scrolling down the learn-more popup is tappable and appears in each category or rank.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Modal Popups with images and information consistent with Figma File</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when in all categories and when Learn More is tapped on and a Modal Popup appears.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-01-01, TC-01-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-4</td>
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**Table 6: TC-01-05 Liter/Gallon Functionality**

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-01-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Liter/Gallon Functionality for Ranking Tool, (Gallon Default): Check if the toggle button works as expected.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Must be in any category and the “G/L” button should appear in every category. The default metrics should be in gallons.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Check if the button switches from G/L and if the metrics for water consumption switches from gallons to liters and vice versa.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>In any category of the rank functionality, G/L button appears on the top left corner and is tappable.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>After tapping on the G/L button, environmental costs (water consumption costs for each item) should correctly convert between Liters and Gallons on toggle</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when in a metric switch from gallons to liters and vice versa.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Data is up to date in the Database.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-01-01, TC-01-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-4</td>
</tr>
</tbody>
</table>
## Table 7: TC-01-06 PNG Files Verification

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-01-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Check PNG Files for every item in a category</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Must be in any category and the items that appear should be consistent with the item name</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>PNG image of the item should be as the item name listed. Ex: Beef has an image of a cow.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>After Tapping into any category listed in the rank functionality, the item name with the correlated image and water costs should appear.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>All items should have their image displayed along with their name and bar</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when all PNG files match every item name.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>All images are up to date and consistent with the proper names in the image folder.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-01-01, TC-01-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-4</td>
</tr>
</tbody>
</table>
3.2 Test Identifier
TC-02: Calculate Functionality. In this test case, we are testing out that the Calculate Feature to calculate the water consumption cost of an item.

3.2.1 Test Level
Calculate Functionality will be tested at software item level.

3.2.2 Test Class
Calculate Functionality will be tested via erroneous test.

3.2.3 Test Completion Criteria
The test for Calculate Functionality will be completed when:
- The search input and frequency are selected and the calculate button is tapped.
- Yearly Total and Individual Total are appropriately displayed.
- Yearly Total is accurately calculated.
- Clear button works as functionally expected.
- Challenge button is tapped on, a Popup with a text should appear.
- Gallon/Liter button correctly displays the metrics for each item.
### 3.2.4 Test Cases

**Table 8: TC-02-01 Calculate Button in Bottom Navigation Bar**

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-02-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Tap Calculate Button in Bottom Navigation Bar, Test if User will go to Calculate Homepage.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>This button must be clickable and go to Calculate Homepage</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After Calculate Button is clicked, Calculate Homepage appears</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Button is Tapped on.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Goes to Homepage of Calculate.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when after button is tapped on, user is redirected to the homepage of Calculate with the category grid listed</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Application must be launched without errors.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>Application must be launched.</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
<tr>
<td><strong>Test Case Number</strong></td>
<td><strong>TC-02-02</strong></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Test Item</strong></td>
<td>Tap on the Search input field and type an item to search and select a frequency.</td>
</tr>
<tr>
<td><strong>Test Priority</strong></td>
<td>M</td>
</tr>
<tr>
<td><strong>Pre-conditions</strong></td>
<td>Calculate homepage should have both search input and frequency drop down as well as calculate button. Calculate button should be clickable</td>
</tr>
<tr>
<td><strong>Post-conditions</strong></td>
<td>After Calculate Button is clicked, new fields should appear: Individual Cost as well as Yearly Cost fields, Clear button and Challenge Button.</td>
</tr>
<tr>
<td><strong>Input Specifications</strong></td>
<td>Search Input Field with item name. Ex. Beef and Frequency Input selected with how often a user buys item. Ex: 1x a week, 2x a week &amp; etc.</td>
</tr>
<tr>
<td><strong>Expected Output Specifications</strong></td>
<td>Yearly Cost, Individual Cost, Clear button and Challenge Button appears with the proper metrics for Yearly Cost &amp; Individual Costs.</td>
</tr>
<tr>
<td><strong>Pass/Fail Criteria</strong></td>
<td>Pass when yearly cost, individual cost, clear button, challenge button and specific image for the item appears.</td>
</tr>
<tr>
<td><strong>Assumptions and Constraints</strong></td>
<td>Item is in Database with the proper individual cost (water consumption)</td>
</tr>
<tr>
<td><strong>Dependencies</strong></td>
<td>TC-02-01</td>
</tr>
<tr>
<td><strong>Traceability</strong></td>
<td>CR-3</td>
</tr>
</tbody>
</table>
### Table 10: TC-02-03 Individual Cost Verification

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-02-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Check to see if individual cost aligns with the database water consumption values.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Search for Item &amp; Select a Frequency to find Individual Cost.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Individual Cost posted on calculate page should align with the data in database</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search Input Field with item name. Ex. Beef and Frequency Input selected with how often a user buys item. Ex: 1x a week, 2x a week &amp; etc.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Individual Cost appears with the proper metrics for Individual Costs.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when individual cost aligns with database water consumption value for all items.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Data in Database is consistent with Item Name</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01, TC-02-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-02-04</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Image Verification: Check to see if the image displayed matches the item searched for.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Search for Item &amp; Select a Frequency to find Image.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Image posted on the calculate page should align with the item name typed in the Search input field.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search Input Field with item name. Ex. Beef and Frequency Input selected with how often a user buys item. Ex: 1x a week, 2x a week &amp; etc.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Correct Image appears.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when every image displayed matches the item name searched for.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Images are all up to date in the Image file.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01, TC-02-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-02-05</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Math Verification: Checking the Frequency Field math for consistency.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Search for Item &amp; Select a Frequency to find Image.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Yearly cost appears on the calculate page should align with the item name typed in the Search input field and the frequency selected.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search Input Field with item name. Ex. Beef and Frequency Input selected with how often a user buys item. Ex: 1x a week, 2x a week &amp; etc.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Correct Yearly Cost is calculated by getting the frequency and the individual cost of the item over the course of year.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when yearly cost shows the proper value when multiplied by the frequency field consistency.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Year is estimated as:365 days. &amp; Data is up to date in Database</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01, TC-02-02, TC-02-03</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
</tbody>
</table>
### Test Plan and Cases (TPC)

#### Table 13: TC-02-06 Challenge Button Popup

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-02-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Challenge Popup: Popup comes up once tapped on.</td>
</tr>
<tr>
<td>Test Priority</td>
<td>W</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Search for an Item &amp; Select a Frequency to find Image. After Calculate Button is clicked, new fields should appear: Individual Cost as well as Yearly Cost fields, Clear button and Challenge Button. Tap on Challenge Button.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Popup with proper text should appear.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search for an Item &amp; Select a Frequency to show the yearly cost, individual cost, clear button and challenge button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Challenge button tapped on will show a Popup with proper text &amp; close button.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when challenge button is tapped, and popup appears with text and close button.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01, TC-02-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-02-07</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Liter/Gallon Functionality, (Gallon Default)</td>
</tr>
<tr>
<td>Test Priority</td>
<td>W</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Search for an Item &amp; Select a Frequency to find Image. After Calculate Button is clicked, new fields should appear: Individual Cost as well as Yearly Cost fields, Clear button and Challenge Button. Tap on Challenge Button.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>G/L button should be tappable.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search for an Item &amp; Select a Frequency to show the yearly cost, individual cost, clear button and challenge button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Text for Yearly Cost and Individual should be able to toggle between Gallons and Liters.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when the yearly cost and individual cost toggles from gallons to liters and vice versa for every item &amp; values are correct.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Constrained by the data in the database information.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01, TC-02-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
<tr>
<td>Table 15: TC-02-08 Item not in Database</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Test Case Number</strong></td>
<td>TC-02-08</td>
</tr>
<tr>
<td><strong>Test Item</strong></td>
<td>Item searched is not found in the database</td>
</tr>
<tr>
<td><strong>Test Priority</strong></td>
<td>W</td>
</tr>
<tr>
<td><strong>Pre-conditions</strong></td>
<td>Search for an Item that's not currently in the Database &amp; Select a Frequency.</td>
</tr>
<tr>
<td><strong>Post-conditions</strong></td>
<td>Alert relaying item is not found.</td>
</tr>
<tr>
<td><strong>Input Specifications</strong></td>
<td>Search for an Item that's not currently in the Database &amp; Select a Frequency.</td>
</tr>
<tr>
<td><strong>Expected Output Specifications</strong></td>
<td>iPhone Alert will appear with an alert message relaying that item is not found</td>
</tr>
<tr>
<td><strong>Pass/Fail Criteria</strong></td>
<td>Pass when user is alerted with a popup/alert message informing user that item searched for is not in the database.</td>
</tr>
<tr>
<td><strong>Assumptions and Constraints</strong></td>
<td>Item is not in the database.</td>
</tr>
<tr>
<td><strong>Dependencies</strong></td>
<td>TC-02-01</td>
</tr>
<tr>
<td><strong>Traceability</strong></td>
<td>CR-3</td>
</tr>
</tbody>
</table>
### Table 16: TC-02-09 Item not searched

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-02-09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Item is not searched, alert should appear</td>
</tr>
<tr>
<td>Test Priority</td>
<td>W</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Leave a Select field empty and select a Frequency.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Alert relaying to search for an item.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Leave a Select field empty and select a Frequency.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>iPhone Alert will appear with an alert message relaying that item field is empty</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when item is not searched for, user is alerted that they need to type an item in the search field in order to search.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
</tbody>
</table>
### Table 17: TC-02-10 Frequency not selected

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-02-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Frequency is not select, alert should appear</td>
</tr>
<tr>
<td>Test Priority</td>
<td>W</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Type an item in Select field and do not select a Frequency.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Alert relaying to select a frequency.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Type an item in Select field and do not select a Frequency.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>iPhone Alert will appear with an alert message relaying that frequency field is empty</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user is alerted with a popup/alert message alerting them that the frequency field is empty/no value is selected.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
</tbody>
</table>
**Table 18: TC-02-11 Clear Button Functionality**

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-02-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Clear Button Functionality</td>
</tr>
<tr>
<td>Test Priority</td>
<td>W</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Search for an Item &amp; Select a Frequency After Calculate Button is clicked, new fields should appear: Individual Cost as well as Yearly Cost fields, Clear button and Challenge Button. Tap on Clear Button.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>New Fields disappear, and Search Field empties and frequency is set back to null.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search for an Item &amp; Select a Frequency After Calculate Button is clicked, new fields should appear: Individual Cost as well as Yearly Cost fields, Clear button and Challenge Button. Tap on Clear Button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>The search input field is cleared, and frequency field is set to null</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when clear button is tapped on and the calculate homepage default values come up: Search text input is empty &amp; Frequency field is set to null.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-02-01, TC-02-02, TC-02-03</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-3</td>
</tr>
</tbody>
</table>
3.3 Test Identifier
TC-03: Search Functionality. In this test case, we are testing out that the Search Feature find information about what they are searching for.

3.3.1 Test Level
Search Functionality will be tested at software item level.

3.3.2 Test Class
Search Functionality will be tested via erroneous test.

3.3.3 Test Completion Criteria
The test for Search Functionality will be completed when:
- Display all the items in the search homepage as clickable buttons with the proper item image
- Search input is filled and page for item pops up
- Customized items have customized navigation bar with water, compare, earth, health and recycle buttons.
- Customized items in water page has the proper metrics & images for water details
- Customized items in compare page has the proper a breakdown & images for compare page
- Customized items in earth page has the proper details & images for earth
- Customized items in health page has the proper metrics & images for health
- Customized items in recycle page has the proper recycle measures & images for recycle
- Each customized page has a “What Can I Do?” button that leads user to new page with information on what a user can do to make less of a bad impact on the environment.
- Each customized page has different brands to access as buttons.
3.3.4 Test Cases

Table 19: TC-03-01 Search Button in Bottom Navigation Bar

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Tap Search Button in Bottom Navigation Bar, Test if Search button will go to search Homepage</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>The button must be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After search Button is clicked, search homepage appears</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>N/A</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Goes to Homepage for Search</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when go to Homepage for Search</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Button is tappable &amp; application launched without errors.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>Application must be launched.</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-1</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-03-02</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Testing UI elements for Meat, Jeans, Makeup</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>The icons must be clickable or searchable and go to search page of the items selected</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After an item is clicked or searched, product details of the items occur</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search or Tap Meats/Jeans/Makeup</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>UI elements for these three items should be as per Figma files given by the client</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user opens Meat, Jeans, Makeup pages</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-1</td>
</tr>
</tbody>
</table>
### Table 21: TC-03-03 Checking details for items except Meat, Jeans, Makeup

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Checking details for items except Meat, Jeans, Makeup</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>The icons must be clickable or searchable and go to the search page of the items selected.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After an item is clicked, product details of the items occur</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search ProductName or Tap</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Details displayed should be same as given in the database</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user opens a detail page for the items searched or clicked with correct details</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
</tbody>
</table>
Table 22: TC-03-04 Testing UI for Meat/Jeans/Makeup: Earth Page

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Testing UI for Meat/Jeans/Makeup: Earth Page</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Should be inside the search page of Meat/Jeans/Makeup. The icon in the navigation bar must be clickable.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Opens Earth Page for Meat/Jeans/Makeup</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>N/A</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>UI elements should be similar to the ones given in the Figma files</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when opens Earth Page for Meat/Jeans/Makeup with correct details.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01, TC-03-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
<tr>
<td><strong>Table 23: TC-03-05 Testing UI for Meat/Jeans/Makeup: Heart Page</strong></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Test Case Number</strong></td>
<td>TC-03-05</td>
</tr>
<tr>
<td><strong>Test Item</strong></td>
<td>Testing UI for Meat/Jeans/Makeup: Heart Page</td>
</tr>
<tr>
<td><strong>Test Priority</strong></td>
<td>M</td>
</tr>
<tr>
<td><strong>Pre-conditions</strong></td>
<td>Should be inside the search page of Meat/Jeans/Makeup. The icon in the navigation bar must be clickable.</td>
</tr>
<tr>
<td><strong>Post-conditions</strong></td>
<td>Opens Heart Page for Meat/Jeans/Makeup</td>
</tr>
<tr>
<td><strong>Input Specifications</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Expected Output Specifications</strong></td>
<td>UI elements should be similar to the ones given in the Figma files</td>
</tr>
<tr>
<td><strong>Pass/Fail Criteria</strong></td>
<td>Pass when opens Heart Page for Meat/Jeans/Makeup with correct details.</td>
</tr>
<tr>
<td><strong>Assumptions and Constraints</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Dependencies</strong></td>
<td>TC-03-01, TC-03-02</td>
</tr>
<tr>
<td><strong>Traceability</strong></td>
<td>CR -1</td>
</tr>
<tr>
<td><strong>Table 24: TC-03-06 Testing UI for Meat/Jeans/Makeup: Recycling Page</strong></td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Test Case Number</strong></td>
<td>TC-03-06</td>
</tr>
<tr>
<td><strong>Test Item</strong></td>
<td>Testing UI for Meat/Jeans/Makeup: Recycling Page</td>
</tr>
<tr>
<td><strong>Test Priority</strong></td>
<td>M</td>
</tr>
<tr>
<td><strong>Pre-conditions</strong></td>
<td>Should be inside the search page of Meat/Jeans/Makeup. The icon in the navigation bar must be clickable.</td>
</tr>
<tr>
<td><strong>Post-conditions</strong></td>
<td>Opens Recycling Page for Meat/Jeans/Makeup</td>
</tr>
<tr>
<td><strong>Input Specifications</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Expected Output Specifications</strong></td>
<td>UI elements should be similar to the ones given in the Figma files</td>
</tr>
<tr>
<td><strong>Pass/Fail Criteria</strong></td>
<td>Pass when user opens Recycling Page for Meat/Jeans/Makeup with correct details.</td>
</tr>
<tr>
<td><strong>Assumptions and Constraints</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Dependencies</strong></td>
<td>TC-03-01, TC-03-02</td>
</tr>
<tr>
<td><strong>Traceability</strong></td>
<td>CR -1</td>
</tr>
</tbody>
</table>
### Table 25: TC-03-07 Testing UI for Meat/Jeans/Makeup: Compare Page

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Testing UI for Meat/Jeans/Makeup: Compare Page</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Should be inside the search page of Meat/Jeans/Makeup. The icon in the navigation bar must be clickable.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Opens Compare Page for Meat/Jeans/Makeup</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>N/A</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>UI elements should be similar to the ones given in the Figma files</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user opens Compare Page for Meat/Jeans/Makeup with correct details.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01, TC-03-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-03-08</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Testing UI for Meat/Jeans/Makeup: Water Page</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Should be inside the search page of Meat/Jeans/Makeup. The icon in the navigation bar must be clickable.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Opens Water Page for Meat/Jeans/Makeup</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>N/A</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>UI elements should be similar to the ones given in the Figma files</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user opens Water Page for Meat/Jeans/Makeup with correct details.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01, TC-03-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
</tbody>
</table>
### Table 27: TC-03-09 Images matches item searched or clicked in search page

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Image displayed matches item searched or clicked in search page</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>An item should be searchable, or an image should be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Opens product information page with the image/s.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Search ProductName or tap</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Image displayed should be for that selected item only.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when details for that item is displayed along with the correct image.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
</tbody>
</table>
**Table 28: TC-03-10 Testing if all the URLs are working**

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Testing if all the URLs are working</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>URLs available in all pages should be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Redirects to a website</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>App redirects to the linked website</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when link redirects to the relevant website</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
</tbody>
</table>
### Table 29: TC-03-11 Testing the “What can I do” button

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Testing the “What can I do” button</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>“What can I do” button should be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Displays details regarding what user can do to save environment while using/consuming that selected item</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on Button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Details available should be specific to item selected as per the Figma file</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when displays details regarding what user can do to save environment while using/consuming that selected item</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-03-12</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Back Button Functionality</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Back button should be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Goes to back to previous page in search page</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on Button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Should go back to previous page in search page</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user goes to back to previous page in search page</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-03-13</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Home Button Functionality</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Home button should be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Goes to main search page</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on Button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Should go to main search page</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user goes to main search page</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
</tbody>
</table>
### Table 32: TC-03-14 Test if all the Images are linked to their detail page/URL

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-03-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Test if all the Images are linked to their detail page/URL</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Images in the search pages should be clickable</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Opens details page or redirects to a linked website</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on Button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Should open a detail page for the clicked item or redirect to the website for brand images.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when user opens details page or redirects to a linked website.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>URL’s are existing.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-03-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR -1</td>
</tr>
</tbody>
</table>
3.4 Test Identifier
TC-04: Compare Functionality. In this test case, we are testing out that the Compare Feature to instantly compare items.

3.4.1 Test Level
Compare Functionality will be tested at software item level.

3.4.2 Test Class
Compare Functionality will be tested via erroneous test.

3.4.3 Test Completion Criteria
The test for Compare Functionality will be completed when:
- Two or more items are selected in the input fields and compare button is tapped on.
- Items searched for in compare should have the correct image for item name and correct water consumption details.
- Lowest water consumption item should be highlighted green.
- Breakdown, Rain, Irrigation and Cleaning Dropdowns should appear below items.
- Gallon/Liter button correctly displays the metrics for each item.
### 3.4.4 Test Cases

#### Table 33: TC-04-01 Compare Button in Bottom Navigation Bar

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-04-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Compare Button in Bottom Navigation Bar, Test if Compare button will go to Compare Homepage</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>This button must be clickable and go to Compare Homepage</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After Compare Button is clicked, Compare Homepage appears</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Compare Button is Tapped on.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Go to Homepage for Compare</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Goes to Homepage for Compare</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>Application must be launched.</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-04-02</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Compare two or more separate items and tap Compare</td>
</tr>
<tr>
<td>Test Priority</td>
<td>M</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Compare button must be clickable and go to Compare items page</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After Compare Button is clicked, compare item page appears with details</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Select items to compare and tap on the compare button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>The items should appear and highlight the item with the least amount of water consumption with the appropriate items and water consumption listed below</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when items with their water consumption appears with the lowest water consumption highlighted.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Data is up to date in Database.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
</tbody>
</table>
### Table 35: TC-04-03 Image displayed matches items selected

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-04-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Image displayed matches items selected</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>The items that appear should be consistent with the item name</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>PNG image of the item should be as the item name listed. Ex: Beef has an image of a cow.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Select items to compare and tap on the compare button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>The items should appear and highlight the item with the least amount of water consumption with the appropriate items and their appropriate images.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when after the compare button is tapped relevant items appear with correct images.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>All images are up to date and consistent with the proper names in the image folder.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-01, TC-04-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
<tr>
<td>Test Case Number</td>
<td>TC-04-04</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Test Item</td>
<td>Drinks (Qualifiers)</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Qualifiers should be displayed for drinkable items as per the database</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After Compare button is clicked for drinks, qualifiers for the selected items must be displayed</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Select Drinkable items and tap on Compare</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Qualifiers should be displayed for drinkable items as per the database</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when drinkable items are compared, relevant qualifiers are displayed.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Database is up to date with the qualifiers details.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
</tbody>
</table>

Table 36: TC-04-04 Drinks (Qualifiers)
<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-04-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Notes for item, if present</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Notes should be displayed for items if present as per the database</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After Compare button is clicked for items, notes for the selected items must be displayed if present.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Select items to compare and tap on the compare button.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Notes should be displayed for items as per the database if present.</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when notes for the items are displayed if they exist in database.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Database is up to date with the notes details for the items.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
</tbody>
</table>
### Table 38: TC-04-06 Liter/Gallon Functionality for compare functionality

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-04-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Liter/Gallon Functionality for compare functionality, (Gallon Default)</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Must be in any compare item page and the “G/L” button should appear for every compare. The default metrics should be in gallons.</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>Check if the button switches from G/L and if the metrics for water consumption switches from gallons to liters and vice versa.</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>In the compare items page, the G/L button appears on the top left corner and is tappable.</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Environmental costs (water consumption costs for each item) should correctly convert between Liters and Gallons on toggle</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when after tapping G/L functionality environmental costs should correctly toggle between Liters and Gallons.</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>Data is up to date in the Database.</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-02</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
</tbody>
</table>
## Table 39: TC-04-07 Clear Button Functionality

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-04-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Clear Button Functionality</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>Clear button must be clickable and must clear input fields</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After Clear Button is clicked, all the input fields are cleared</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on Clear button after selecting inputs in the separate input fields</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>Input fields should become empty</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when after tapping on clear button, input fields should become empty</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
</tbody>
</table>
Table 40: TC-04-08 Any field left empty, there should be an alert

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-04-08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>Any field left empty, there should be an alert</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>N/A</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After tapping on compare with an input field empty, an alert pop ups asking user to select an item</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on Compare button by leaving a field empty</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>An alert should appear asking user to select an item</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when an alert appears asking user to select an item</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
</tbody>
</table>
### Table 41: TC-04-09 If two similar Items are selected, there should be an alert

<table>
<thead>
<tr>
<th>Test Case Number</th>
<th>TC-04-09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item</td>
<td>If two similar Items are selected, there should be an alert</td>
</tr>
<tr>
<td>Test Priority</td>
<td>S</td>
</tr>
<tr>
<td>Pre-conditions</td>
<td>N/A</td>
</tr>
<tr>
<td>Post-conditions</td>
<td>After tapping on compare with same items, an alert pop ups asking user to select different items</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Tap on Compare button by selecting same items for comparison</td>
</tr>
<tr>
<td>Expected Output Specifications</td>
<td>An alert should appear asking user to select different items</td>
</tr>
<tr>
<td>Pass/Fail Criteria</td>
<td>Pass when an alert appears asking user to select different items</td>
</tr>
<tr>
<td>Assumptions and Constraints</td>
<td>N/A</td>
</tr>
<tr>
<td>Dependencies</td>
<td>TC-04-01</td>
</tr>
<tr>
<td>Traceability</td>
<td>CR-2</td>
</tr>
</tbody>
</table>
4. Resources and schedule
In this section, we’ll specify the resources allocated to test the Siiitch Application.

4.1 Resources
Our Project is a Zero Monetary Budget and the resources required for testing includes test data from Firebase Database.
Software required to test:
- TestFlight
- XCode Simulator
- Terminal
- React Native
- VSCode Text Editor

4.2 Staffing and Training Needs
Group 1: Vyom Unadkat & Nikita Chhatbar, responsible for providing items to be tested for Compare.
Group 2: Akshata Patangi & Hsin-Yu Lai, responsible for providing items to be tested for Search.
Group 2: Patrick Assaf & Vartika Bhatia, responsible for providing items to be tested for Rank.
Group 4: Nikitha Adira & Yu Gao, responsible for providing items to be tested for Calculate.

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Responsibility</th>
<th>Skill Level</th>
<th>Training Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nikitha Adira</td>
<td>Managing, Designing</td>
<td>High</td>
<td>None</td>
</tr>
<tr>
<td>Akshata Patangi</td>
<td>Executing</td>
<td>High</td>
<td>None</td>
</tr>
<tr>
<td>Vartika Bhatia</td>
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<tr>
<td>Hsin-Yu Lai</td>
<td>Witnessing</td>
<td>Moderate</td>
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<td>Yu Gao</td>
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## 4.3 Schedule

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<th>Resources</th>
<th>Training needs</th>
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<td>TC-01-01 to TC-01-06</td>
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<td>Test Data sets given from database</td>
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<td>Akshata Patangi</td>
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