

Software Test Document

Road Trip Advisor Web Application

Version 1.0

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Road Trip Advisor Team

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Revisions

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1. Introduction

1.1 Purpose

The Software Test Document (STD) describes the test preparations, test cases, and test procedures to be used to determine if the system complies with the requirements and performs the functions for which it is intended and meets the organization's goals and user needs.

The audience of this document is the project team and the project management team. This document is also written for the extended test team. The test lead, testers, and any outsourced testers should be able to utilize this document to understand the scope of work that must be accomplished by the test team. The document is intended to accomplish its purpose only for the intended audiences.

1.2 Scope

The Road Trip Advisor web application system has a set of functionalities that will be tested to meet the user needs. In the first deployment of RTA, the functionalities available to the user will be as follow: display a landing page, display the current location and allow user to enter destination and display it on a page. These features will be displayed in details in section '*2.1 Features to be tested*' of this document.

1.3 Test Approach

We will use automated unit tests, test driven development, and automated regression testing to test the RTA. Automated unit testing will use pre-scripted tests on individual components of the software. With test driven development, we will write tests cases before developing new code. Finally, automated regression testing will be used to make sure changes to the code base don't break older parts of the program.

1.4 References

2. Test Plan

2.1 Features to be tested

2.1.1 'Search' Button Behavior

The landing page has a "Search" button which directs the user to a new page after entering a location and a destination.

2.1.2 Show Current Location page behaviour

Once the user successfully clicks the Get started button, page changes to show user their current location on a map. A marker will be placed on the map at the current location.

2.1.3 Marker has a pop-up on click

On clicking the marker, there will be a small pop up bubble above the marker

2.1.4 Popup show address of current location

Pop up will display address of the current location

2.1.5 Close marker pop-up when open, on click

The pop-up will have a small 'close' button. On clicking button, pop-up will disappear.

2.1.6 Google Map map features (zoom, rotate, different views)

The map will provide basic features that are offered by Google Maps such as zooming, dynamic map, satellite, map, street view, 360 rotation and also Pegman.

2.1.7 Enter Start Destination

User will enter the start destination of their trip

2.1.8 Enter End Destination

User will enter the end destination of their trip

2.1.9 Enter Departure time

User will enter the departure time of their trip

2.1.10 Enter user preferences

User will enter their personal preferences such as meal preferences, the number of people their travelling with, the age group of the travellers, the events that they are interested in visiting, if any.

2.1.11 Select one of suggested routes

Of the given trip details, the user will be suggested around 3 different optimized routes to select from for their trip.

2.1.12 Get direction between start and end destination

The user will receive a list of turn by turn instructions on how to get from their start to end destination

2.1.13 Disable preferences

The user has the option to disable their inserted preferences incase they want a general trip without considering their preferences

2.1.14 Log in to profile

If the users are members of the system, they can log into the system.

2.1.15 Log out of profile

If the users are members of the system, they can log out of the system.

2.1.16 Register to be a member

If the user wishes to have an account with RTA, they can register

2.1.17 Save trip to profile

A member of the system can save a trip to their profile and view or edit it later

2.1.18 View trip on profile

A registered member of RTA can view trips they saved on their profile

2.1.19 Download trip itinerary

Users can download their created itinerary and save it on their computer

2.1.20 Share trip itinerary

Users can share their itinerary on social media platforms like Facebook, Twitter

2.1.21 Delete trip

Users can delete trips they saved on their profile

2.1.22 Edit trip

Users can edit trips they saved on their profile

2.2 Features not to be tested

2.2.1 Two or more logged in user simultaneously editing a single trip

2.2.2 Import route created on other navigation applications apart from Google Maps

2.3 Testing Tools and Environment

Industry standard testing products will be used for testing the codebase. For testing React/Javascript code, Jest and Enzyme will be used. Jest is used by Facebook, and Enzyme was developed by AirBNB. Code written Java will be tested with JUnit. The code will be tested in Eclipse, Visual Studio, Visual Studio Code, or IntelliJ.

3. Test Cases

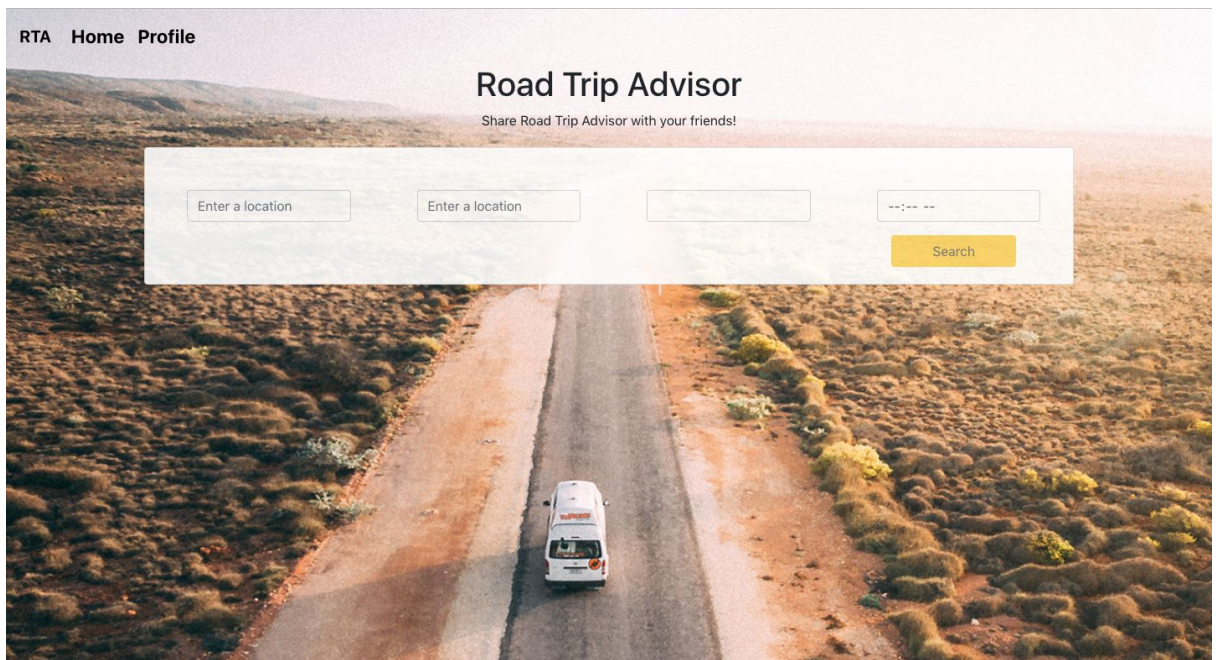
3.1 'Search' Button behaviour on the landing page

3.1.1 Purpose

The landing page is a static page that will be the first point of contact with the user and the web application. After entering a location and a destination, the user can click on the 'Search' button.

3.1.2 Input

The user clicks on the 'Search'.



3.1.3 Expected Output

The user will be taken to another page.

3.1.4 Pass/Fail Criteria

Pass: User is taken to the Map page.

Fail: The user stays on the landing page.

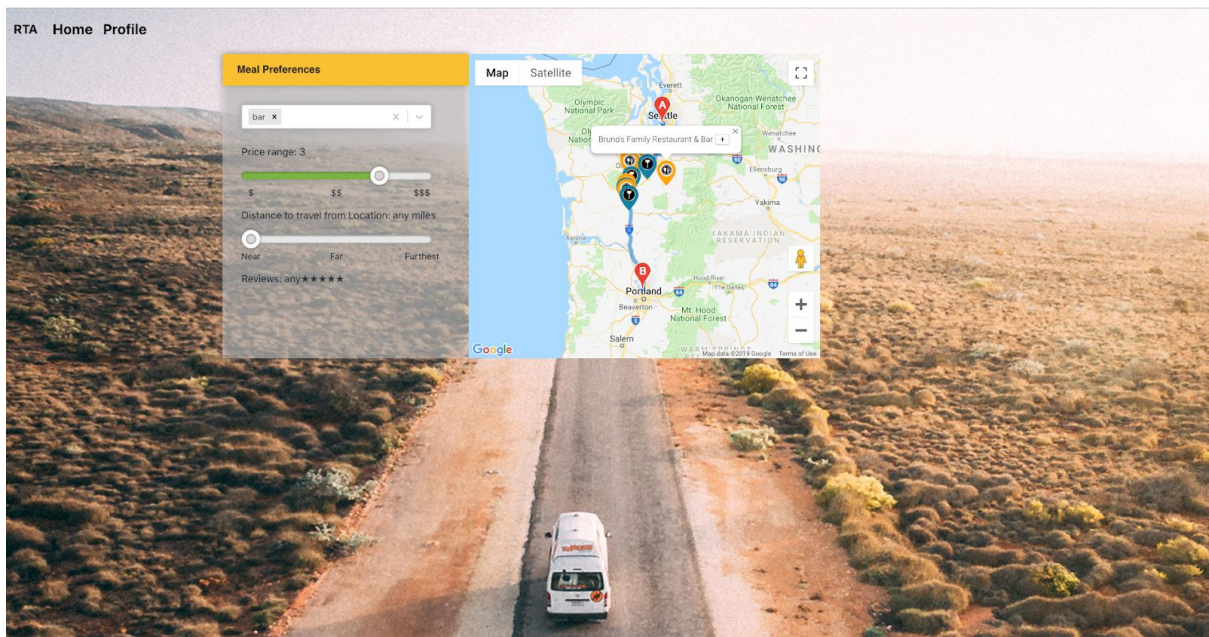
3.2 Show Current Location page behaviour

3.3 Marker has a pop-up on click

3.3.1 Purpose

The pop up in an area where the user can see the address of their current location on clicking the marker

3.3.2 Input



3.3.3 Expected Output

On clicking the marker, a pop up bubble will appear right above the marker

3.3.4 Pass/Fail Criteria

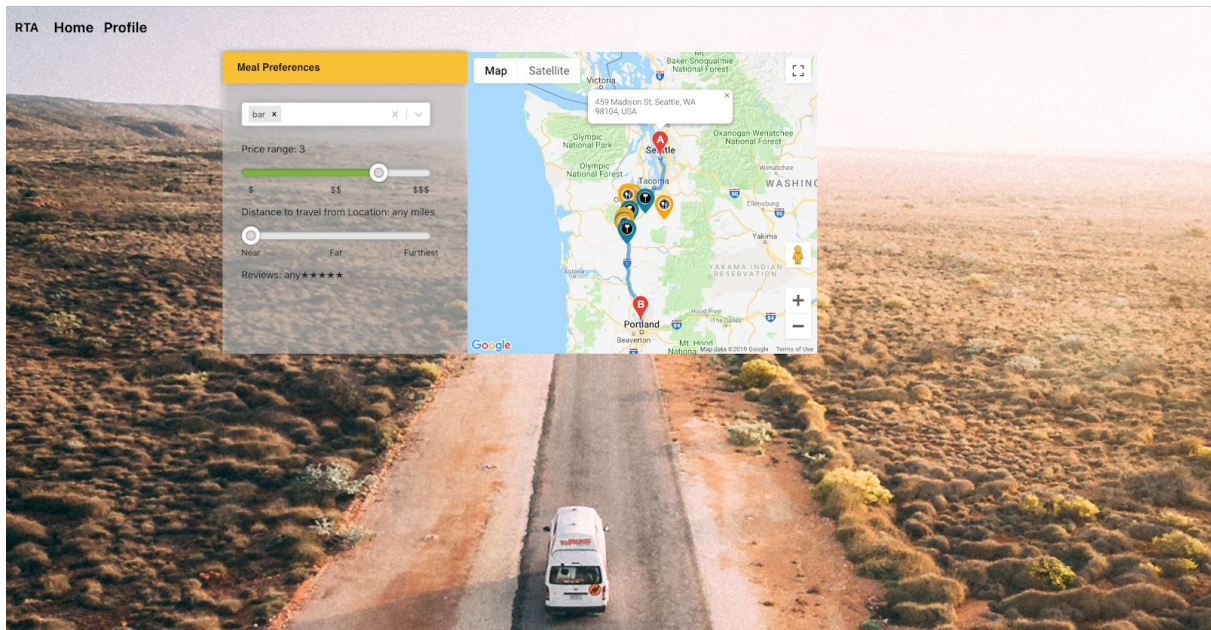
Pass: pop up bubble appears right above marker on clicking marker

Fail: pop up bubble doesn't appear on clicking marker

3.4 Popup show address of location or destination

3.4.1 Purpose

Enable the user to see the address of the location or destination that was entered.



3.4.2 Input

Longitude and latitudes collected off the machine will be used to extract the address of the location using Google's Geocode API.

```
Geocode.fromLatLng(coords.latitude, coords.longitude).then(response=>{  
  this.state.currentLocation.name_loc=response.results[0].formatted_address; }  
}
```

3.4.3 Expected Output

On clicking the marker, a pop up will appear right above the marker and will state the address of that position.

3.4.4 Pass/Fail Criteria

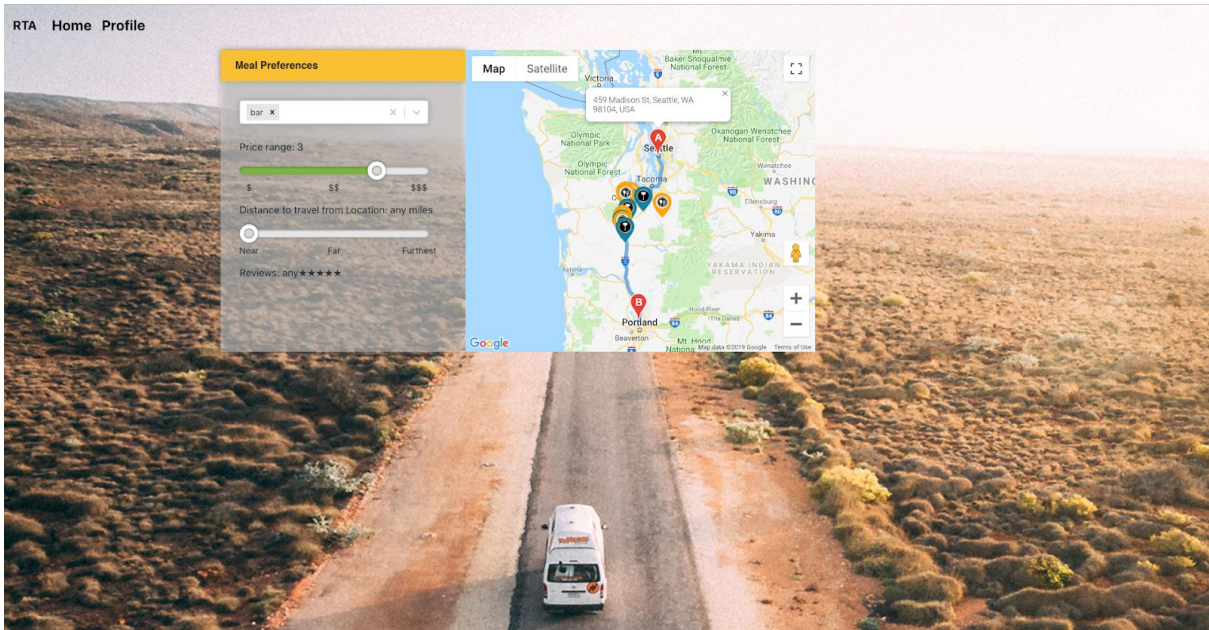
Pass: pop up appears with address of location or destination.

Fail: empty pop up appears with no address.

3.5 Close marker pop-up when open, on click

3.5.1 Purpose

Allow the user to hide the marker pop-up



3.5.2 Input

An open pop-up marker with an X in the top right

3.5.3 Expected Output

On clicking the X in the top right, the pop-up will close

3.5.4 Pass/Fail Criteria

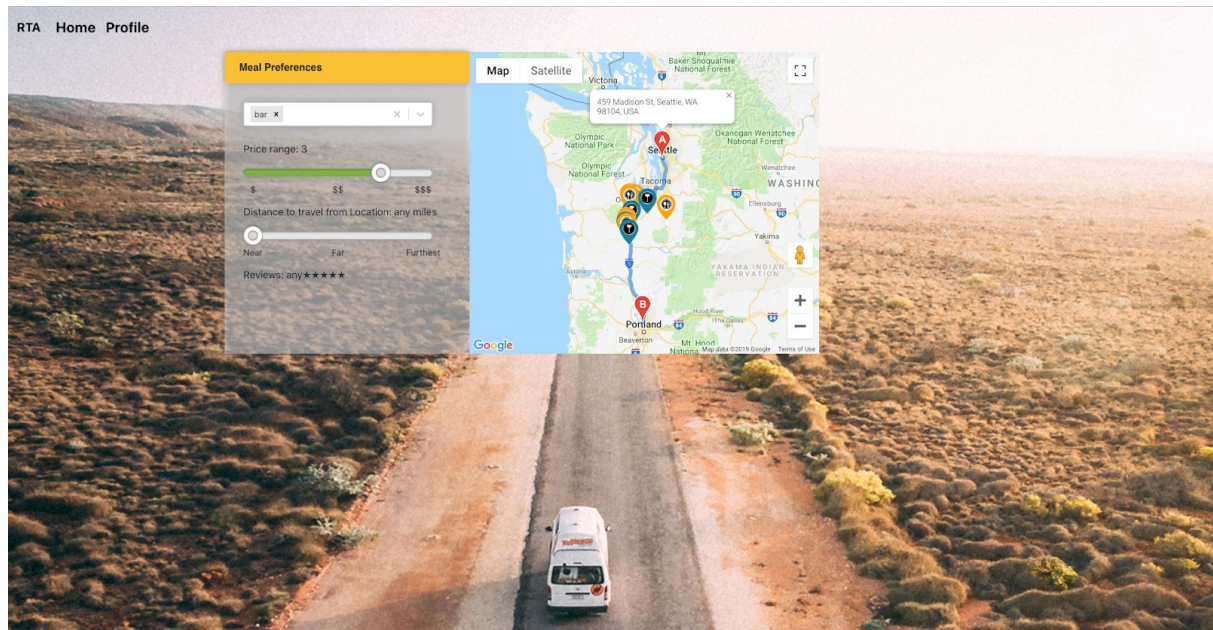
Pass: the pop-up closes

Fail: the pop-up doesn't close

3.6 Google Map map features (zoom, rotate, different views)

3.6.1 Purpose

User can use standard and intuitive google maps UI to navigate around the map



3.6.2 Input

An open google map component

3.6.3 Expected Output

Google map features are available to the user

3.6.4 Pass/Fail Criteria

Pass: User can zoom, rotate, and see different views

Fail: User can't zoom, rotate, or see different views

Future Test Cases

3.7 Enter Start Destination

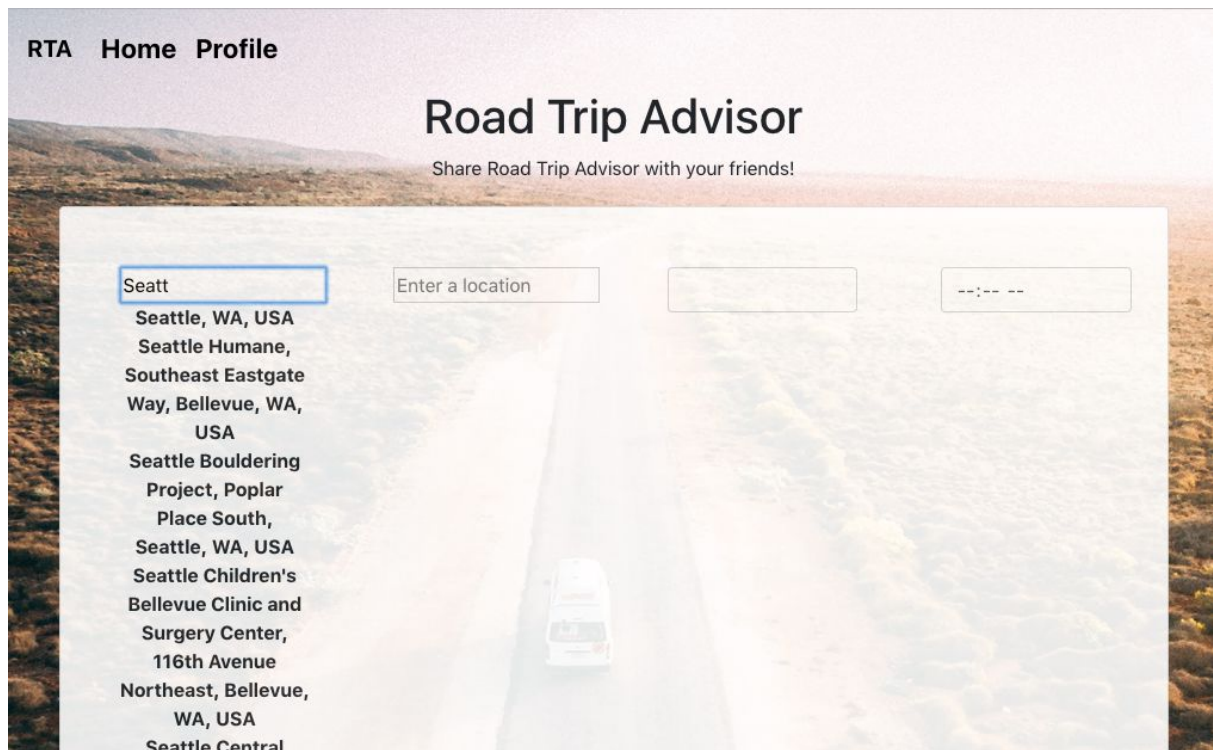
3.7.1 Purpose

User inputs a start destination.

3.7.2 Expected input

User can enter a destination, modify or delete the destination in the form. There is an autocomplete dropdown that the user can select places from.

3.7.3 Expected Output



3.7.4 Pass/Fail Criteria

Pass: User can enter, modify or delete the input. The state is saved by one of the component.

Fail: User cannot enter, modify or delete the input through the user interface. The state is not saved by the component.

3.8 Enter End Destination

3.8.1 Purpose

User inputs an end destination.

3.8.2 Expected input

User can enter an end destination, modify or delete the end destination in the form. There is an autocomplete dropdown that the user can select places from.

3.8.3 Expected output

Road Trip Advisor

Share Road Trip Advisor with your friends!

The screenshot shows a web application interface for a 'Road Trip Advisor'. At the top left, there are navigation links: 'RTA', 'Home', and 'Profile'. The main heading is 'Road Trip Advisor' with a subtext 'Share Road Trip Advisor with your friends!'. Below this is a search area with a text input field containing 'portl'. A dropdown menu is open, listing several location suggestions: 'Portland, OR, USA', 'Portland International Airport, Portland, OR, USA', 'Portland International Airport Station, Portland, OR, USA', 'Portland Avenue East, Tacoma, WA, USA', and 'Portland Vancouver Junction Railroad LLC, Southeast 36th Street, Bellevue, WA, USA'. To the right of the search field, there is a date input field with a placeholder '---:-- --'.

3.7.4 Pass/Fail Criteria

Pass: User can enter, modify or delete the input. The state is saved by one of the component.

Fail: User cannot enter, modify or delete the input through the user interface. The state is not saved by the component.

3.9 Enter Departure time

3.10 Enter user preferences

3.10.1 Enter user's meal preferences

3.10.1.1 Purpose

Select the type(s) of meals user would like to eat

Meal Preferences

Meal Type ▼

Price range: any

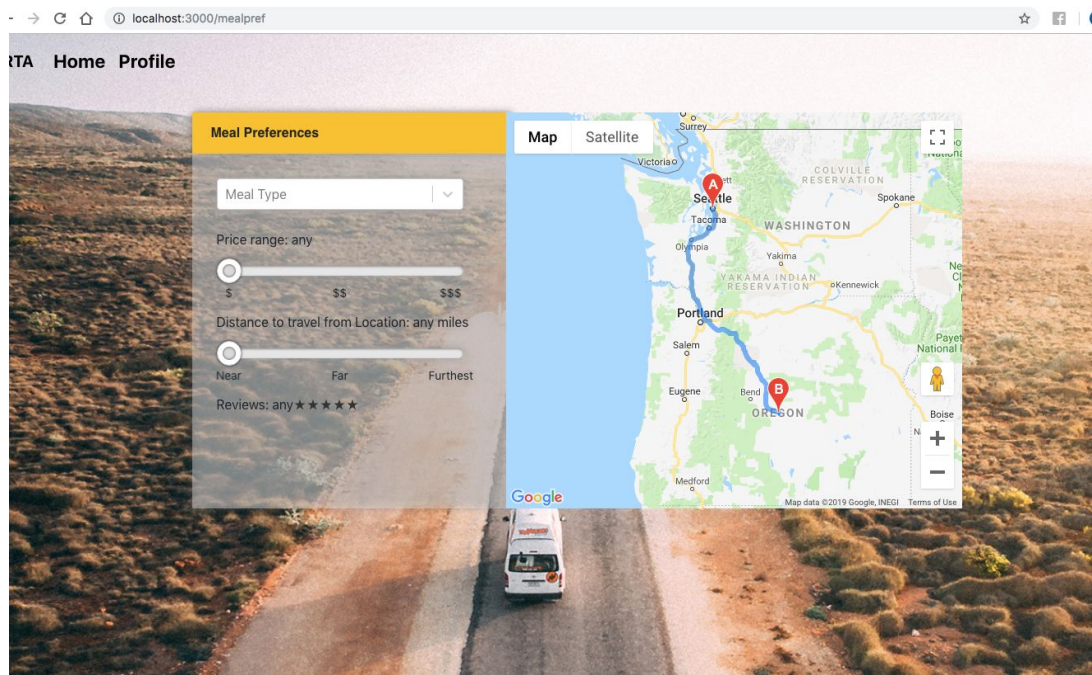
\$ \$\$ \$\$\$

Distance to travel from Location: any miles

Near Far Furthest

Reviews: any ★★★★★

Updated design:

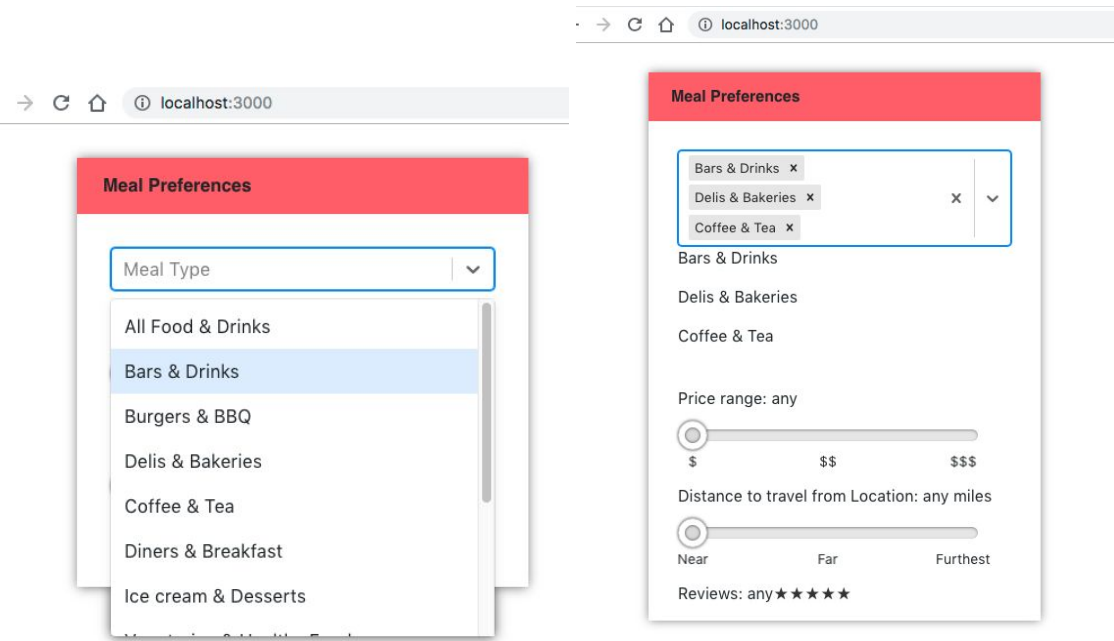


3.10.1.2 Input

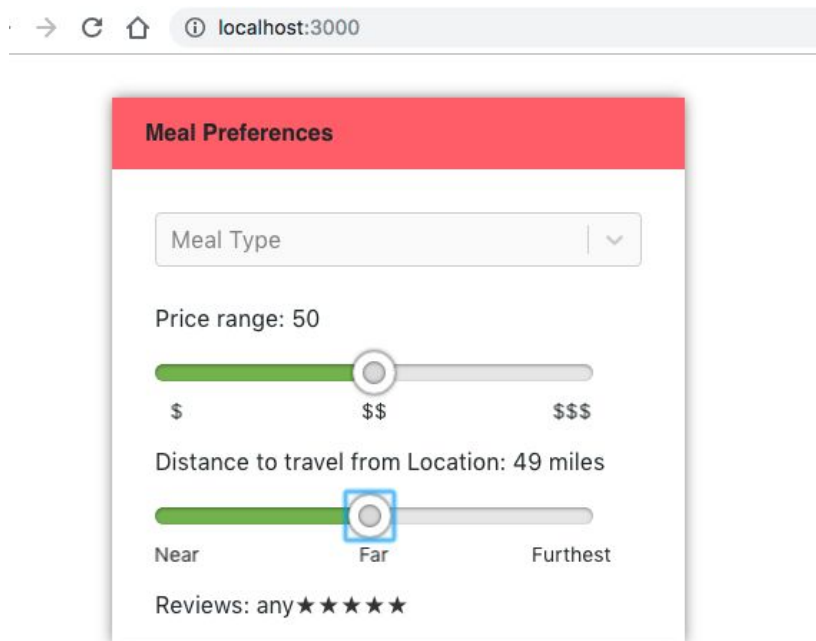
- User can select one or more types of meals they want to have during the trip via the default options provided by the Select bar.
- User can select how expensive they want the food to be via the price range bar.
- User can select how far away from their route they want the restaurant to be.
- User can select the how many ratings they would like their suggested restaurant to have.

3.10.1.3 Expected Output

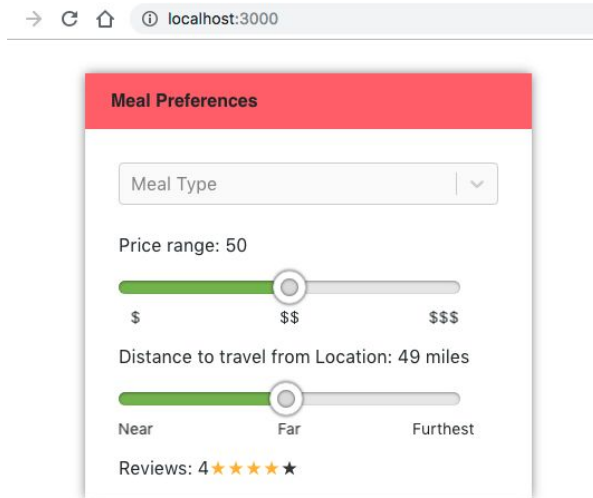
User's input values can be seen via the UI and are printed back on to the UI from the parent component. **Note:** readings seen below the Select bar are only used for debugging purposes to show that the value are in fact reaching back to the parent component and being printed in order from there.



3.10.1 Successful entry of user's choice of meal from options provided



3.10.2 User can successfully insert price range and distance via the slider interface. The quantitative readings show that values are being sent to parent component successfully.



3.10.3 User can successfully enter the desired restaurant rating via the Star Reviews component

3.10.1.4 Pass or Fail criteria

Pass: the user can successfully see the UI update based on their input and the values successfully print back indicating that values inserted by user through the UI's child component are being sent back to UI parent component.

Fail: the user is inserting values through the UI but UI isn't responsive. No updates are being registered within the UI.

3.10.2 Remove or adjust inserted meal preferences

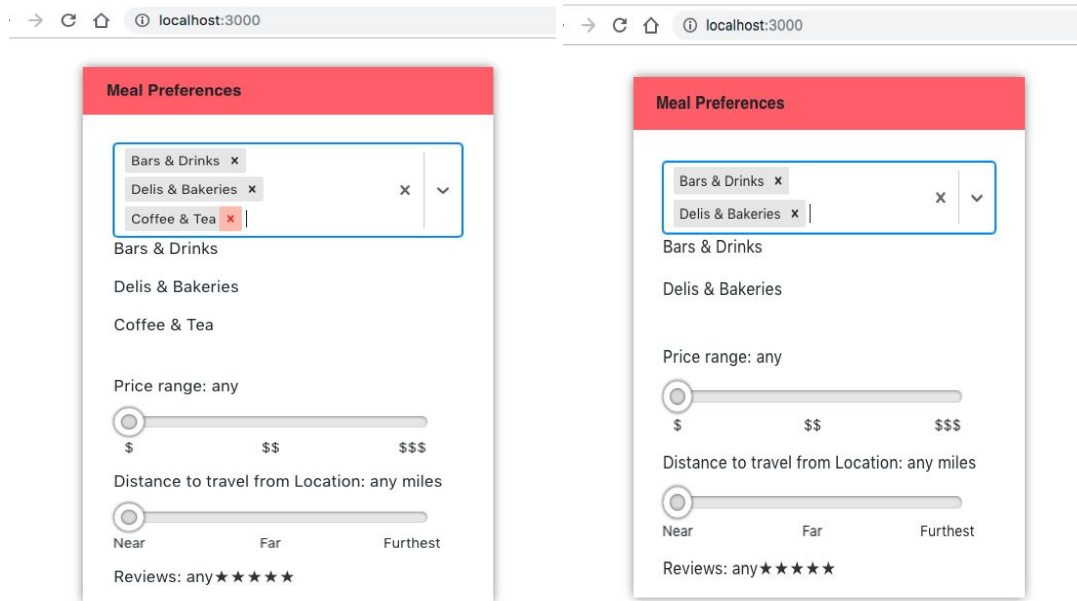
3.10.2.1 Purpose

User can modify the values they selected initially.

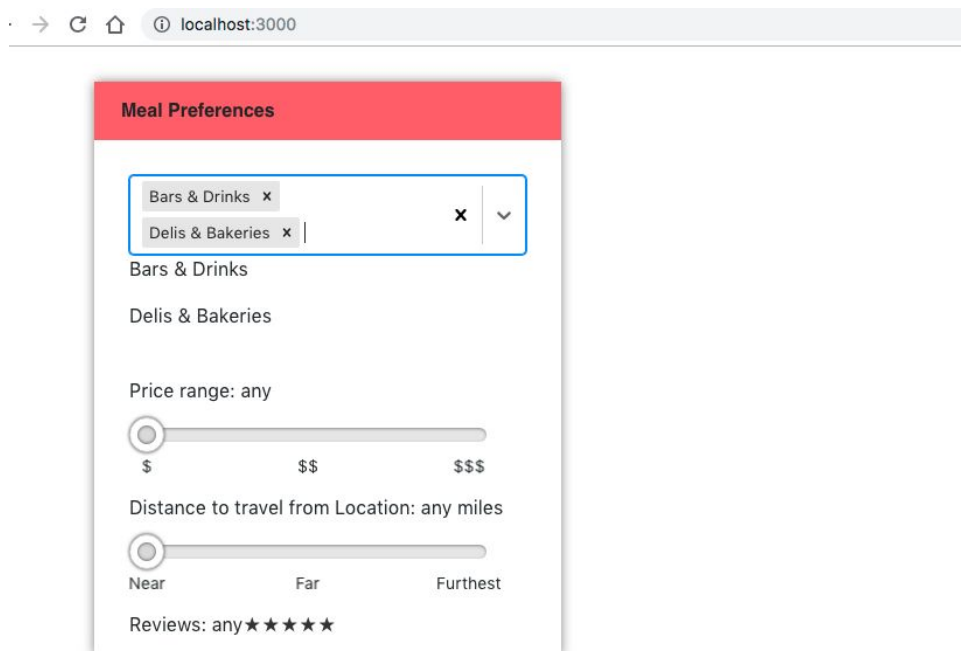
3.10.2.2 Input

- They can delete a single option in the Select bar or all the options.
- They can reset the range slider for both price range and distance to a new value.
- They can reset the star ratings to new values

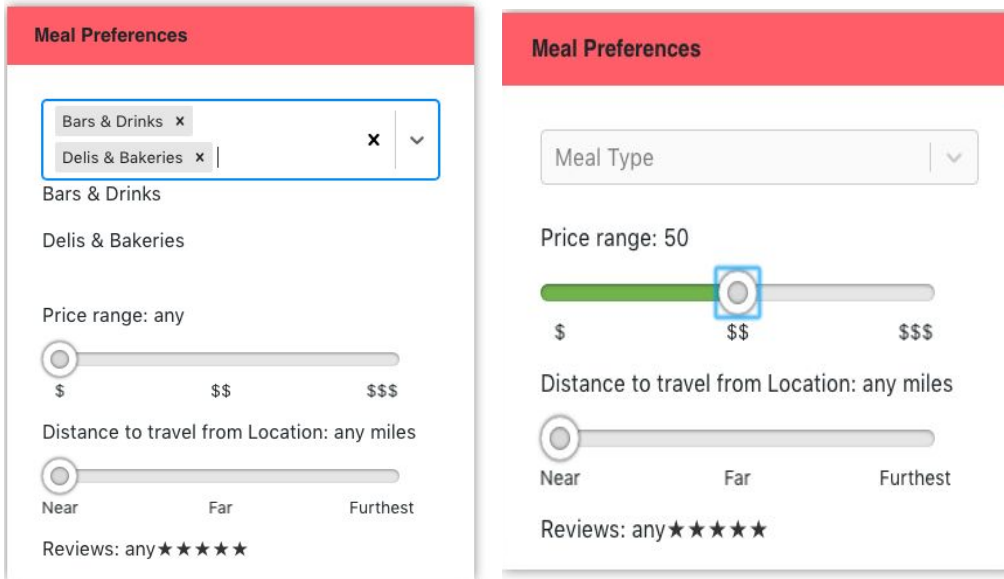
3.10.2.3 Expected Output



3.10.4 On selecting the red 'x' user can delete the option for 'Coffee & Tea'. The select bar is expected to update as well as the list below updates immediately indicating that the values in the parent interface have also been updated.



3.10.5 User can reset the entered values for Price range, Distance and Reviews. In this image, user has reset them to default value -any.



3.10.6 On selecting the bold 'x' to the far right of the select bar, user can remove all the selected options from the selection bar.

3.10.2.4 Pass/ Fail Criteria

Pass: User can successfully modify their input via the UI and the modified input is successfully registered by the parent component.

Fail: User can't modify initial input. Or, the user can modify their values via the UI, the UI displays a change in the value but there is no change in the values being printed from the parent component.

3.10.3 Increment age range of travelers in the card component

3.10.3.1 Purpose

Increment the input the age range of the people traveling

Profile

Adults (18-64)	- 0 +
Seniors (65+)	- 0 +
Youth (12-17)	- 0 +
Child (2-11)	- 0 +
Seat Infant (under 2)	- 0 +

3.10.3.2 Input

User can increment the number of people based on their age range

3.10.3.3 Expected Output

The number increments when the user uses the + button.

The image shows a screenshot of a travel booking interface. At the top, there is a red horizontal bar. Below it, there is a white card with a grey border. The card contains five rows, each representing an age range. Each row has a label on the left and a control on the right. The control consists of a minus sign button, a numerical value, and a plus sign button. The 'Adults (18-64)' row has a value of '1' and the plus sign button is highlighted with a blue border. The other rows have a value of '0'.

Adults (18-64)	-	1	+
Seniors (65+)	-	0	+
Youth (12-17)	-	0	+
Child (2-11)	-	0	+
Seat Infant (under 2)	-	0	+

3.10.3.4 Pass or Fail criteria

Pass: the user is able to increment the number of travelers whose ages fall in the appropriate range.

Fail: the user is not able to decrement the age range selected.

3.10.4 Decrement age range of travelers in the card component

3.10.4.1 Purpose

Decrement the input the age range of the people traveling

3.10.3.2 Input

User can decrement the number of people based on their age range

Adults (18-64)	-	0	+
Seniors (65+)	-	0	+
Youth (12-17)	-	0	+
Child (2-11)	-	0	+
Seat Infant (under 2)	-	0	+

3.10.3.3 Expected Output

The number decrements when the user uses the - button.

3.10.3.4 Pass or Fail criteria

Pass: the user is able to decrement the number of travelers whose ages fall in the appropriate range. Each button is independent.

Fail: the user is not able to decrement the age range selected. Decrement button does not go below zero

3.11 User meal preferences reflect on map

3.11.1 Purpose

Allow user to see their inserted preferences onto the map element

3.11.2 Input

User inserts the type(s) of meal they would like, the price range for their meal, the distance the spot can be from their route and the rating of the spot

3.11.3 Output

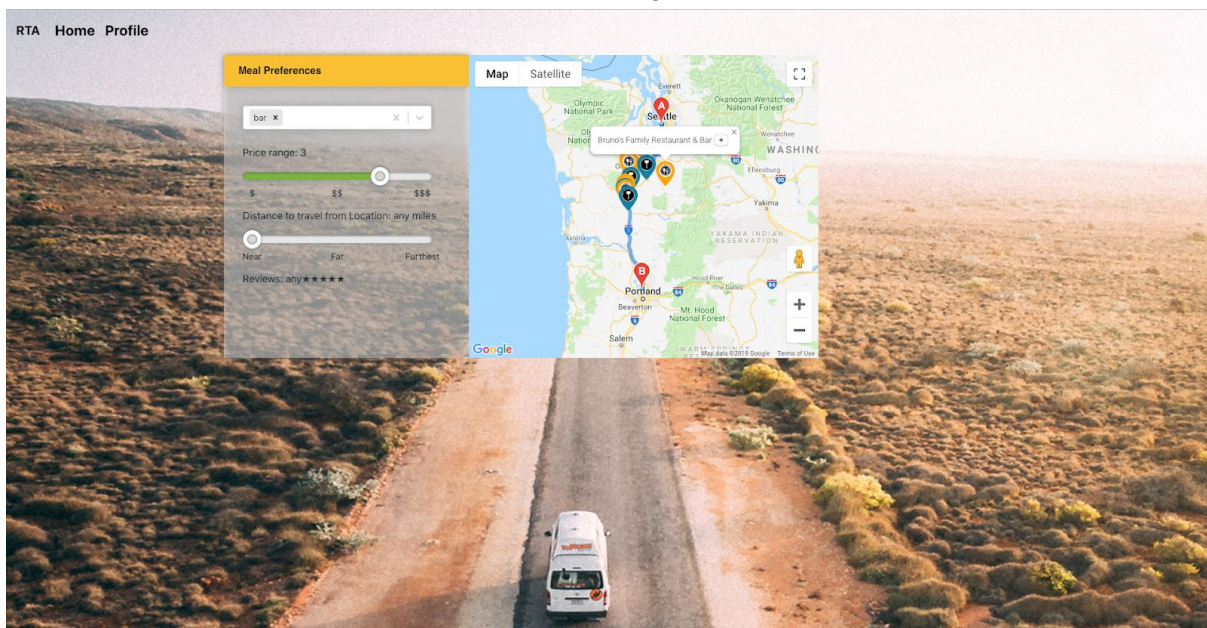
Maps updates each time a user changes their selection by displaying marker on every spot matching user criteria. On clicking marker, place name pops up on info window

3.11.4 Pass/Fail

Pass: map updates responding to change in users input and marker displays information window with place name on click

Fail: map doesn't update or respond to change in multiple users input

Fail: information window doesn't appear on clicking marker



3.12 Select one of suggested routes

3.12.1 Purpose

User can select from multiple routes to display a single route on map

3.12.2 Input

The user clicks on the route they want to view

3.12.3 Output

Maps updates each time a user updates their selection by displaying the route selected.

3.12.4 Pass/Fail

Pass: Map updates with the route selected on the map.

Fail: Map does not show route after selecting a route in the sidebar.

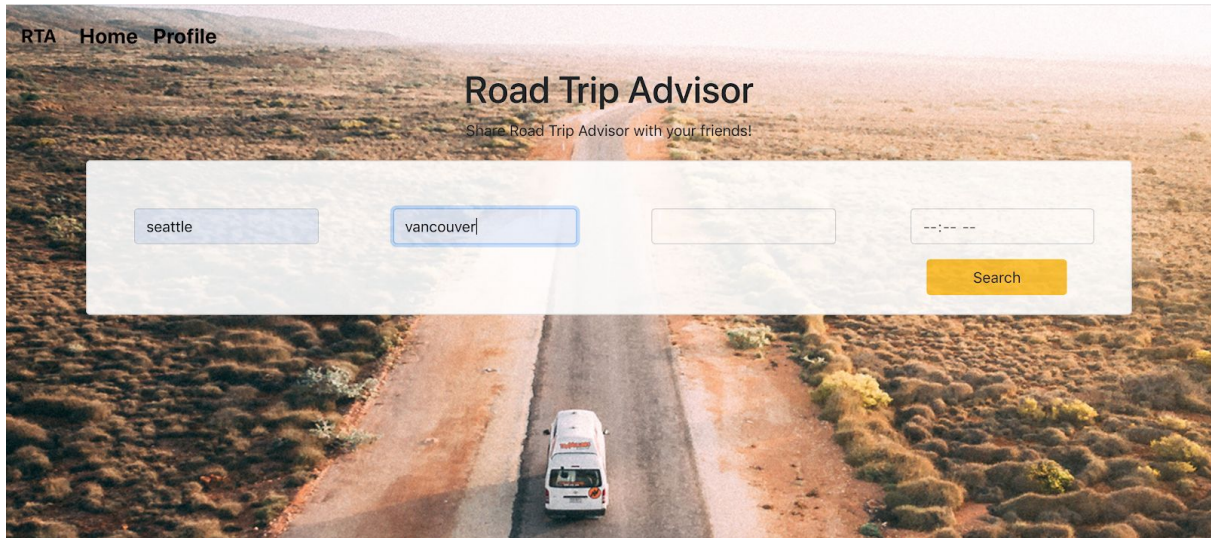
3.13 Get direction between start and end destination

3.13.1 Purpose

User can visualize a path between location and destination entered.

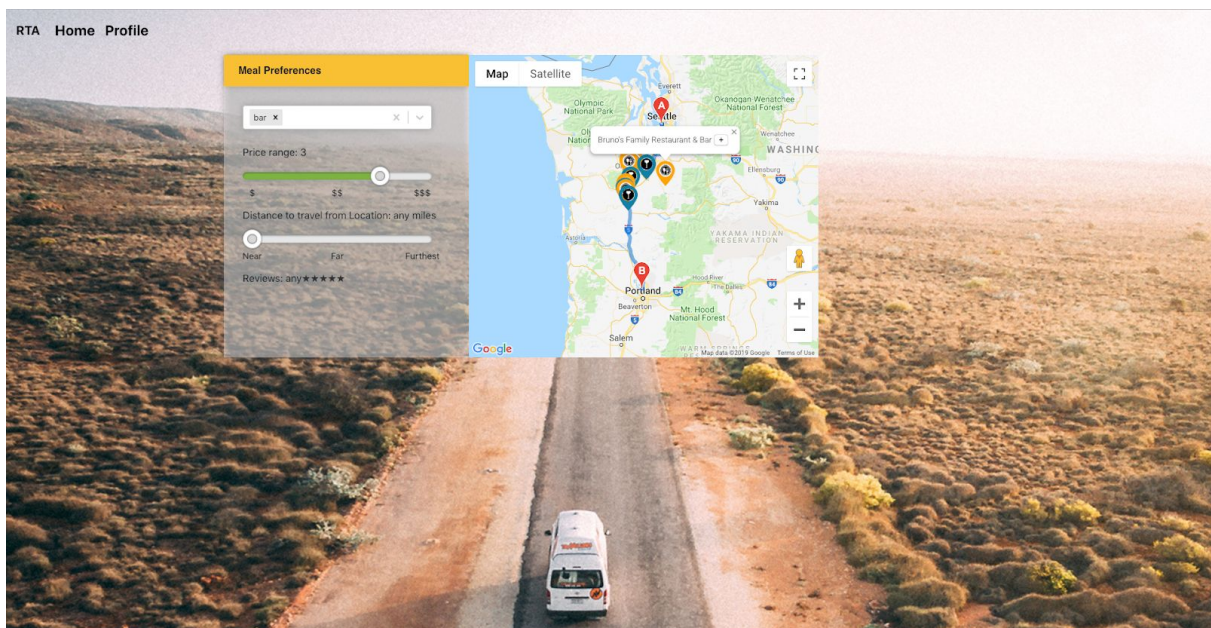
3.13.2 Input

The user enters a location and a destination and then presses 'Search'.



3.13.3 Output

Maps displays route based on the location and destination entered.



3.13.4 Pass/Fail

Pass: Map updates with the route selected on the map.

Fail: Map does not show route after selecting a route in the sidebar.

3.14 Disable preferences

3.15 Log in to profile

3.16 Log out of profile

3.17 Register to be RTA member

3.18 Save trip to profile

3.19 View trip on profile

3.20 Download trip itinerary

3.21 Share trip itinerary

3.22 Delete trip

3.23 Edit trip

3.24 Add Locations to Route

3.24.1 Purpose

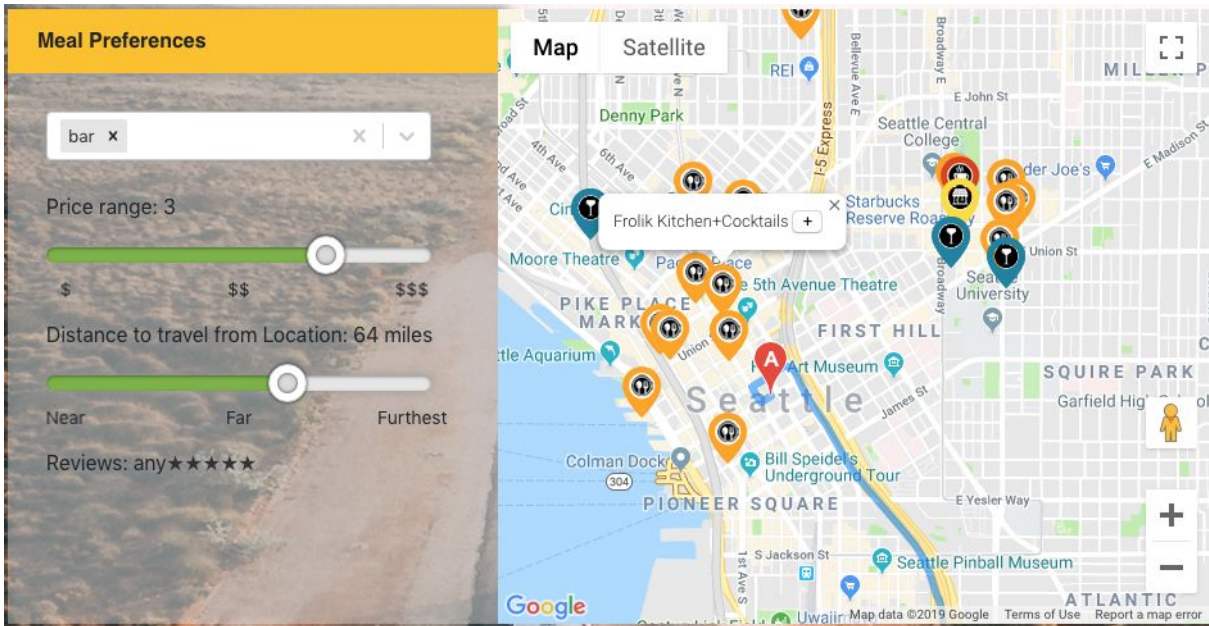
User can add locations to route from marker placed on the map

3.24.1 Input

A map with selectable markers

3.24.1 Output

The markers display a button that allow you to add the location to a route



3.24.1 Pass/Fail

Pass: Map and route update with the location added to the route in an order that makes sense

Fail: Selected location is not added to the map or route itinerary.

4. Requirements

Traceability Matrix

Requirement-ID	Requirement Description	Design Component	Test-Case #
3.2.1.1	User access to website	Component 3 from 3.1	3.1
3.2.1.2	Register a profile	Component 5 from 3.1	3.16
3.2.1.3	Planning a trip	Component 1 from 3.1	3.7 3.8 3.9 3.10 3.10.1 3.10.2 3.11 3.12 3.13
3.2.1.4	Login to profile (edit, plan, view saved trips)	Component 3 from 3.1	3.14 3.15 3.16

			3.18 3.19 3.20
3.2.2.1	Edit/adjust details for current and upcoming trips	Component 1 from 3.1	3.22

5. Responsibilities

5.1 Roles and Responsibilities

- **Test lead - Frederick Wirtz**

Responsibilities:

- Defines testing activities
- Select what features to test
- Resolves testing conflicts
- Ensures team members have resources required to perform testing
- Checks if testing is being completed with every phase of software development
- Create reports from tests
- Works with customers (project management)
- Informs project manager/lead of current testing progress
- Prioritize test cases
- Identify team members that require more training

- **Test engineers - All**

Responsibilities:

- Read and understand documentation and understand what needs to be tested
- Determine how to test software
- Let test lead know what resources are required to test software
- Create test cases
- Run test cases
- Analyze test results
- Report results of tests to test lead
- Run regression testing

- **Software test Automator - All**

Responsibilities:

- Create reusable automated testing scripts
- Read and understand documentation and understand what needs to be tested

6. Staffing and Training Needs

6.1 Staffing

The testing team will consist of one testing lead and three test engineers. If required, the testing lead may hire additional test engineers.

6.2 Training

All test engineers will be self-trained. Recommended training resources include Udemy, online tutorials, and YouTube videos. Test engineers will need to train themselves on the appropriate testing tools for the technologies used in the Road Trip Advisor web application.

7. Schedule

Fall 2018	Get Started Button behaviour Show Current Location page behaviour Marker has a pop-up on click Popup show address of current location Close marker pop-up when open, on click Google Map map features (zoom, rotate, different views)
Winter 2019	Enter Start Destination Enter End Destination Enter Departure time Enter user preferences Select one of suggested routes Get direction between start and end destination Disable preferences Log in to profile Log out of profile Register to be RTA member Save trip to profile View trip on profile Download trip itinerary Share trip itinerary Delete trip Edit trip