CS 5002

CS Senior Design II

User Interface Specification

Authors:

Anna Chambers - chambaa@mail.uc.edu

Mario Eid - eidmj@mail.uc.edu

Reed Klein - kleinrj@mail.uc.edu

Veronica Ufferman - uffermvg@mail.uc.edu

Project Advisor: Jillian Aurisano

Introduction

Purpose of This Document

The purpose of this document is to identify and characterize the interfaces for the MARV. The objectives of this interface specification are to clearly define the User Interface Standards, Walkthrough, and Data Validation so that all stakeholders are on

the same page. The intended audience for this document is the project team, faculty advisor, professor, and any other stakeholders.

User Interface Standards

In order to maintain consistency in the user interface we followed a number of design standards. It was important to our team to keep the interface simple, modern, and easy to use with little instruction. For this reason, we decided to fit all the functionality of our application on one screen.

General Screen Layout

To maintain a consistent layout, we decided to use CSS flexboxes to properly align all of the components. We had three main sections of our application: search bar, data visualizations, and map. Each section was allotted one third of the space and each element was designed to fill the full space allotted.

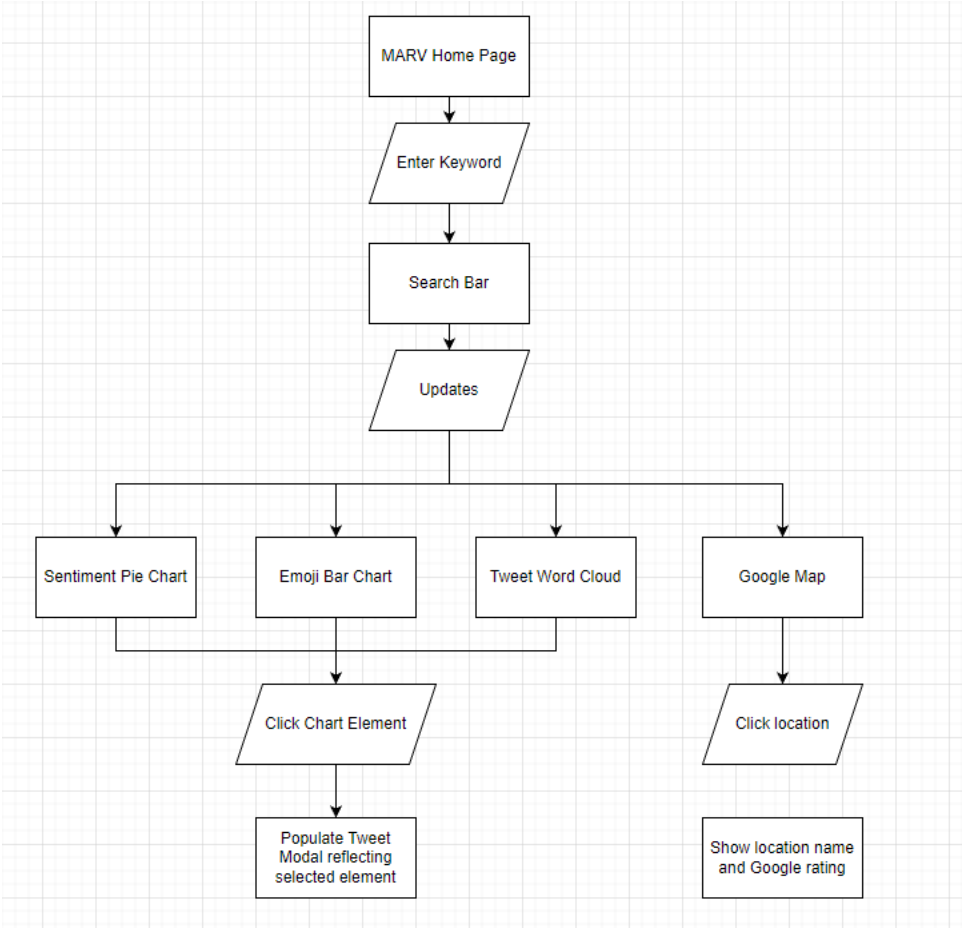
Common Components

We established common components to provide consistency in the look throughout our application. We had a consistent font and color scheme throughout. We pulled the color hex codes for the visualizations from the colors on the map to create a consistent color pallet.

General Error Handling

One common error that needs to be handled in our application is when no tweets are found with the requested keywork. To handle this, we have the interface show a message of “No Tweets were found” and the visualizations and map are not shown. This same technique is used for all error handling in our application

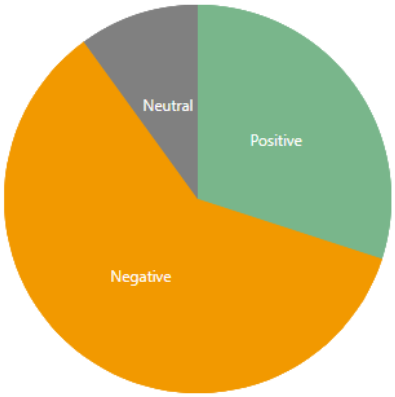
User Interface Walkthrough

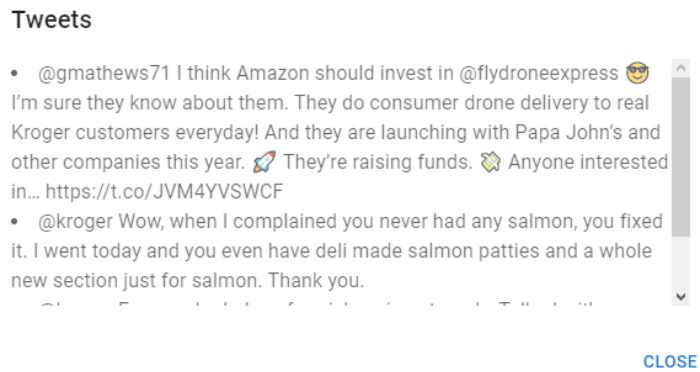


Search Bar

The first and only interactive element that shows upon the page loading is the search bar. Use the search bar to enter the name of a business to do a Twitter search on the 100 most recent tweets with that topic in the tweet. This will return Twitter results and will automatically send them to a sentiment analysis API that will estimate the sentiment behind each tweet. (NOTE: The keyword entered into the search bar does NOT need to be a business, but if there is no proximal location associated with the keyword, the map will not update).

Sentiment Pie Chart

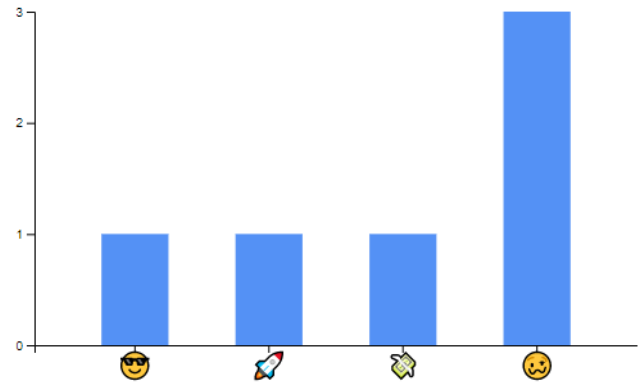




The next interactive element in the UI is the Sentiment Pie Chart displays the proportion of tweets that were deemed positive, neutral and negative by the sentiment analysis Api. When a portion of the pie chart is clicked a window is displayed showing the tweets associated with that sentiment. For example if

the negative section of the pie chart is selected all of the tweets fetched using the twitter Api that are negative are displayed.

Emoji Bar Chart



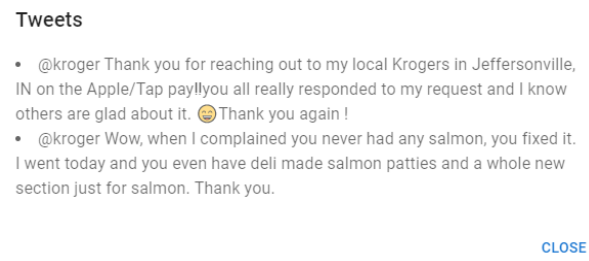
Tweets

- @gmathews71 I think Amazon should invest in @flydroneexpress 😎 I'm sure they know about them. They do consumer drone delivery to real Kroger customers everyday! And they are launching with Papa John's and other companies this year. 🚀 They're raising funds. 🏷 Anyone interested in... https://t.co/JVM4YVSWCF

CLOSE

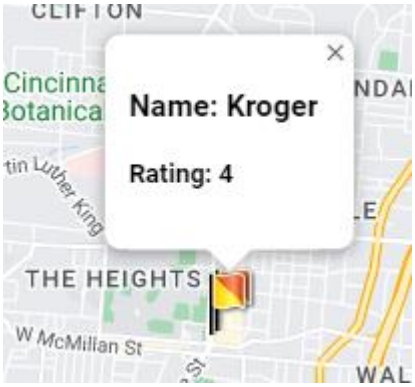
To the right of the sentiment pie chart is the emoji bar chart. It displays the number of each type of emoji used in the fetched tweets. When any bar is clicked on it displays a window containing each tweet that uses that emoji.

Tweet Word Cloud



To the right of the emoji bar chart is a word cloud displaying a word cloud of words in the tweets. The size of the word is correlated to the number of times that word is used in all of the tweets. So the largest words are used the most in the tweets. The color of the words displayed is related to their sentiment. When any word is clicked on a window pops up with the tweets that use that word displayed.

Google Map



The bottom half of the application displays the map which displays flag markers of all of the nearby locations. This map is generated using the google map places Api. When a flag is clicked on it displays the name of the location and the aggregated rating for that specific location.