**Final Project: Project Ideas**

**Matteo -**

**1.**  **List the source of and describe at least 1 potential data sets(8 total points)**

<https://www.kaggle.com/neuromusic/avocado-prices>

This dataset includes information about the date, average price of, the region it came from, total volume, and multiple PLUs (Product Lookup Codes) amount sold, and type of avocados sold in US markets.

**2.**  **Identify who your customer/s would be (8 total points)**

The customers would be people looking for the cheapest avocados available to them in the case they wanted to cut prices on avocados and save money!

**3.**  **Describe the problem that the proposed project solves and justify its need (10 total points)**

The problem that the proposed project solves and justifies is the unruly price of avocados in certain regions of the US market. This would allow for a consumer to pick an avocado that met their price range and cut this cost for themselves with this data.

**4.**  **State the product vision and how your web-based project would be useful to society (8 points)**

The product is a web application that allows a user to choose an avocado price that is within their price range and sort by type, region, and total volume of avocados at that price range. This would allow the user to better suit their avocado needs.

**5.**  **Identify the major features of each of the proposed projects (12 total points)**

Some of the major features would include: a price sorting tool, region lookup based on price, possible proximity based avocado availability/price range, an avocado type filter that only allows certain avocadoes to populate their screen in order for maximum avocado efficiency, and avocados by PLU in the case that the user wants only avocados with the PLU they desire.

**Seth -**

**ITSC 3155 Final Project Idea:**

**List the source of and describe at least 1 potential data sets (8 total points)**

“Charlotte NC Traffic Accidents 2018-2019” is a json file detailing traffic accidents that have occurred in the city of Charlotte over the years listed in the title. This dataset was found on Kaggle and was compiled from an open source github project that pulled its data from official CMPD records. The information contained in the dataset includes types of accidents, time, date, location, as well as environmental factors such as weather when the accident occurred.

**Identify who your customer/s would be (8 total points)**

Customers of this web app would be visitors and residents of Charlotte and the surrounding area that rely on rented or self-owned automotive transportation to and around the city.

**Describe the problem that the proposed project solves and justify its need (10 total points)**

Charlotte has been criticized by many for is high traffic, accidents, and road delays. This app could help to assist in this problem by taking a user’s location and desired destination while utilizing the dataset mentioned above and cross referencing weather data to determine the optimal route for the user to minimize potential delay, or bodily injury or death from car accident. By looking for patterns in the traffic data to see if there are correlations between location, weather, time, and date, the application may be able to accurately predict times and areas of higher probability of incident and recommend an adequate detour to minimize any transportation risk experienced by the user. This information could then be used inside of MapBox or be loaded into GoogleMaps to enable easy turn-by-turn navigation for the application’s user.

**State the product vision and how your web based project would be useful to society (8 points)**

Car accidents tragically end countless lives every year. Many traffic accidents are caused by predictable factors such as harsh weather that follows patterns throughout the year, or increased traffic density throughout the day. By looking for patterns in past weather and transportation incidents patterns can be drawn that can help to predict and protect app users from potentially unnecessary risk.

**Identify the major features of each of the proposed projects (12 total points)**

First and foremost an input field for a user to input their desired destination, as well as an input that will allow them to either manually report their current location or starting point, or a mechanism that will allow their GPS coordinates to be obtained automatically. Once this is submitted, the system can then look at the data sets, pull current weather information from an API (TBD) and then see if any weather, time, or date patterns in the current time correlate to any incidents or accidents that happened in the dataset, anywhere along the potential routes generated for the user. These routes can easily be generated by using the MapBox API. The app will then present its findings, its suggested route, and a percentage of the safeness of that route. If the user wants to take the apps advice, it can then run directions inside of a MapBox element, generate a directions list, or load the route externally into Apple or Google Maps.

**Jason** -

Check coronavirus infection and vaccination rates in areas around the world

<https://www.kaggle.com/gpreda/covid-world-vaccination-progress>

<https://www.kaggle.com/imdevskp/corona-virus-report>

App could use an interactive map to focus on areas of the world and provide statistics on the covid 19 incident rates, vaccination rates, and other relevant information about the virus. Depending on the specificity of the data set the map could allow precise zooming and location selection. Selecting a location on the map would also allow the user to view a page that visualizes the data for that area. This would be especially beneficial for making travel plans, as well as finding out about your own area and looking up others out of curiosity.

**Darren**

1. **List the source of and describe at least 1 potential data sets(8 total points)**

<https://www.kaggle.com/sogun3/uspollution>

<https://www.kaggle.com/chitwanmanchanda/indias-air-quality-index>

Both datasets include information about air pollution. The first link contains information regarding air pollution within the U.S. The U.S pollution dataset identifies four major pollutants, Nitrogen Dioxide, Sulfur Dioxide, Carbon Monoxide, and Ozone. The second gives information on the air pollution in India.

1. **Identify who your customer/s would  be (8 total points)**

The app would be oriented towards environmental workers or anyone in locations of high pollution or those traveling.

1. **Describe the problem that  the  proposed project solves and justify its need (10 total points)**

The project addresses the rising and global issue of air pollution. Millions of people are affected by poor air quality and those who actually reside in areas containing high levels of pollutants suffer even more. The app would have key features such as viewing and sorting countries by their levels of pollution and identifying which pollutant has the highest presence in a region.

1. **State the product vision and how your web-based project would be useful to society (8 points)**

It would be beneficial for those traveling to take caution in highly polluted areas. For environmental workers, it would also help to identify sources of pollution by identifying the pollutants with the highest presence.

1. **Identify the major features of each of the proposed projects (12 total points)**

The major features include; sorting by pollutant (either by specific pollutant or by presence). Sorting by pollutants would help environmental workers in hypothesizing sources of pollution. Sorting countries by the significance of air pollution. This feature could help people in determining whether or not a location is safe for travel. Location-based services to determine air pollution at your current location to assist with concerns towards your safety. In addition to the previous feature this one aims at providing more safety to the user as well.