

Course: WEB/MOBILE PROGRAMMING

Semester: Spring 2020

PROJECT INCREMENT-1

ON

DATA VISUALIZATION ON LANDMARK ISSUES

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**INTRODUCTION**

In this project, We are planning to identify various issues associated with properties (which includes buildings, apartments etc) across various states all across the United States. As a team, we are planning to identify the various types of landmark problems associated with each building and then perform data analysis and visualizations to draw out interesting analytics from the collected data. We are planning to make API calls to fetch the data and perform data visualizations on it.

**MOTIVATION**

It is particularly important to consider landmark violations. We particularly as a team got immense interest in analyzing landmark violations and presenting interesting data visualizations. Apart from this, We are also driven by a personal motivation of being daunted by out landlord for not following landmark rules and regulations properly. This drove us in learning more about landmark properties and use the data available on the internet and make the most interesting and useful analytics out of it.

* Every city has its own rules and regulations that the citizens of the state needs to abide by.
* Fetching the data from the internet about landmark violations and making useful analysis would actually help us to understand information regarding crime rate, hygiene conditions and many other factors of a neighborhood

**SIGNIFICANCE**

We personally think this project is useful for the community and the residents of the United States to analyze which city would be the best place to live in terms of hygiene and safety.

**OBJECTIVE**

* Our main objective is to analyze and extract the open source data regarding landmark and property violations. Later, We are planning to use this data and identify the best and useful analytics we can get out from the data and then perform data visualizations.
* We plan to segregate these data analysis and visualizations based on cities all across the country (United States) and then display them on an aesthetically pleasing web application.
* We plan on enhancing our skills using front-end technologies as well as getting a full-stack web application development experience.

**FEATURES**

This project is going to be a web application that can show information regarding landmark violations in a beautiful form of various graphs.

This is a data visualization project where in we as a team have analyzed various landmark issues in Kansas City. In this project increment we would like to present you with the initial work we have done.

To perform analysis on property violations, we need proper data to use and perform analysis and visualizations.

For this, we are making use of SODA API to make API calls and fetch the data, filter the data that is needed and use Google Charts to visualize the data.

**DATASETS USED**

Instead of using a database to store the data and retrieve the data from the database, we are using API calls to fetch the data and subsequently visualize it. We would analyze a decade of data from 2010 to 2019

The following datasets are being used for making API calls,

1. Census agency has demographic survey of United States citizens from 2010 to 2019. It is American Community Survey dataset. It contains the needed demographic information such as race, age and gender of people living locality wise (zipcode wise).

<https://www.census.gov/data/developers/data-sets/acs-1year.html>

1. Data.gov is the federal government’s open data site. We are using information provided by this website to fetch data.

<https://www.data.gov/open-gov/>

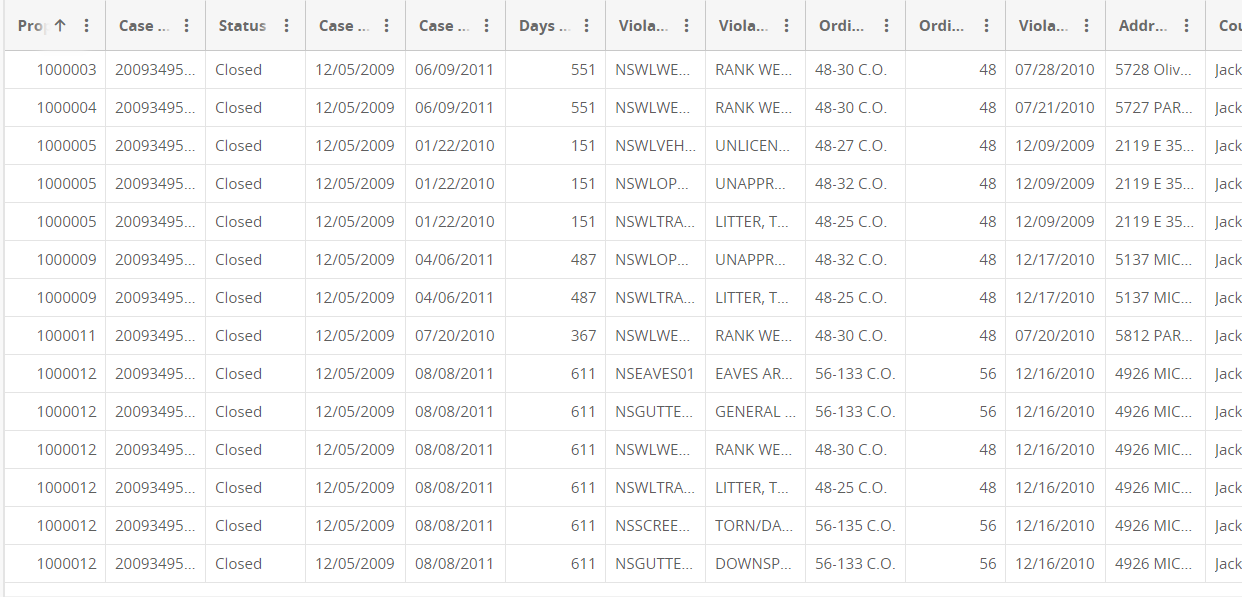
**TECHNOLOGIES USED**

* HTML,CSS
* Javascript
* Angular JS

**WORK DONE SO FAR (Improvement from the proposal stage)**

We have started studying the documentation of API’s since API calls varies from dataset to a dataset.

The sample data from open government looks as follows,



We have designed a homepage, This looks as follows,

A view of a city

Description automatically generated

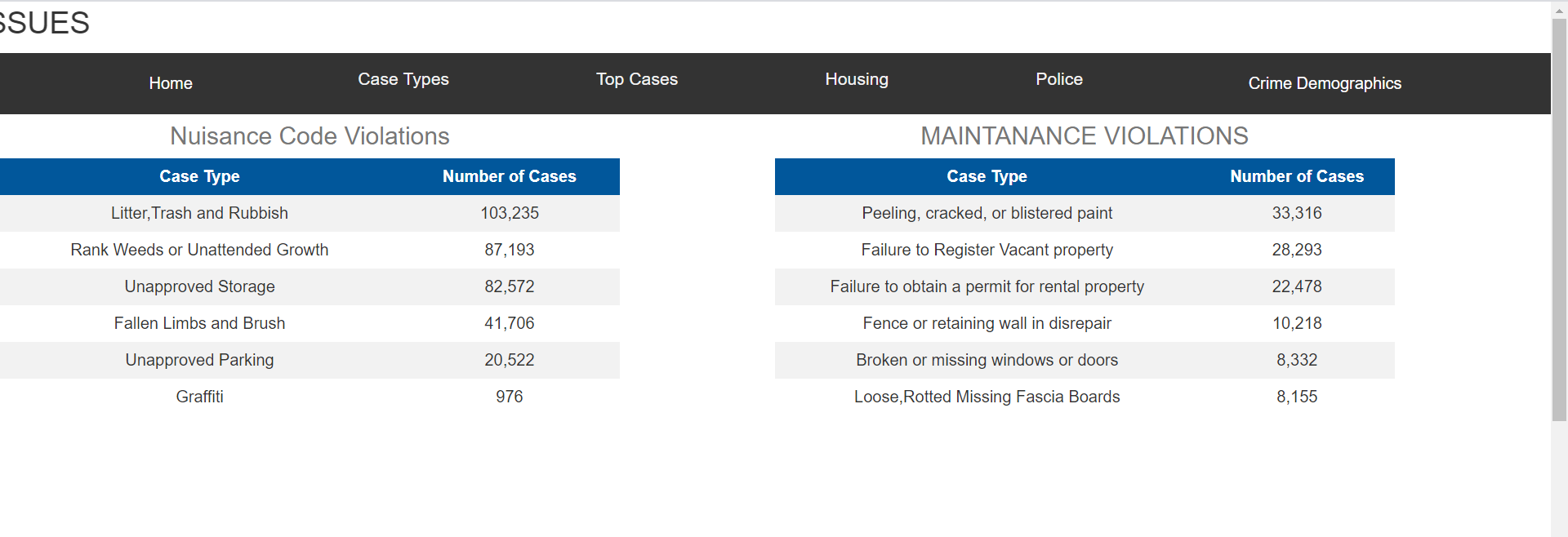
There are two buttons designed. Clicking on the city’s name would redirect to a new page that displays a series of valuable and useful information.

A screenshot of a cell phone

Description automatically generated

So far, the following are the visualizations we have worked on.

From the open city data, we collected and identified the top 10 landmark/ property violations that happens the most in Kansas City, Missouri. The following is the result for it.



The same in a pie-chart representation is as follows,

A screenshot of a cell phone

Description automatically generated

The bar graph representational diagram displaying the number of cases filed over the decade from 2010 to 2019 can be clearly seen as follows,

A screenshot of a cell phone

Description automatically generated

It can be observed from the above graph that 2018 was the year where least number of cases while filed the most while 2014 was the year with highest number of cases filed.

A pie chart and bar graph representation of how effectively the police works in Kansas City regarding these cases can be seen below.

A screenshot of a cell phone

Description automatically generated

The same in the pie-chart representation,

A screenshot of a cell phone

Description automatically generated

**GITHUB LINK**

<https://github.com/navyagonug/CSEE5590-WEB-AND-MOBILE-PROGRAMMING/tree/master/PROJECT>

**WORK SHARING AMONG TEAMMATES**

As a team of three, we have collectively worked together for this project. Navya was involved in reading the documentation of API and figuring out on how to make API calls by using http service and fetch the data. We have used Angular for this purpose. Madhuri was involved in using google charts API and design aesthetically pleasing charts and diagrams. Jaya Prakash was involved in designing front-end. However, we are sound in every aspect since we are having zoom meetings together and teaching each other’s work among ourselves and integrating the work together to design this project.

**WORK TO BE SHOWN IN INCREMENT-2**

We have not incorporated Census data yet in our project. We would use the data by making API calls and using it in our project. In addition , We would also perform more visualizations and identify interesting information for not use Kansas City but also for other cities such as Chicago and New York City. Additionally, We are yet to perform data analysis and visualizations on demographics of Kansas city landmark issues.

**REFERENCES**

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