#### Final Project: Immigration Recommendation System

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**The Problem:**

The USA is considered one of the most popular countries for immigrants. Every year U.S Citizenship and Immigration Services (USCIS) receives more than 2 million applications and grants around more than 800,000 applications.  With millions of applications coming up every year and immigrants continuing to find their past ethnic identification in the neighborhoods with the focus for acculturation to urban life, it’s becoming a challenge for immigration applicants to choose a place to settle in. Our team sees a clear need for an easier way to visualize a map based on past ethnic concentration of a specific nationality that will make the decision of choosing a state for an immigrant easier along with assessing personal security in a state.

**The Solution:**

We are planning to develop a flask application which will allow the users to choose which nationality they identify with and based on their selection we will show the states where people with the same nationality have settled in. We have chosen the datasets provided by Homeland Security to map out the concentrations of each immigrant’s nationality in the U.S and a dataset provided by FBI on hate crimes to assess personal security risks in each state. We will build an application that will recommend potential immigrants which states in the US are preferable for them to settle based on their nationality and hate crime rating.

**Overview:**

An application would be designed that would recommend potential immigrants, locations that are preferable for them to settle in. Google Maps API will be integrated into the application and the states where people from the user selected nationality are most commonly found. A virtual pin will be dropped on the preferable counties. Number of counties that will be recommended will depend on the user input. Number of hate crimes happening in the state where the county is located will be shown along with the hate crime rating. Thus, offering the user clearer and structured information. We would also incorporate a hate crime index for each state by analyzing the hate crime dataset and we will calculate a normalized crime index through statistical methods. Further mathematical modelling will give us a crime rating that would be shown in the application.

Once the user inputs the nationality, the algorithm compares that to the data it already has and recommends accordingly by dropping a pin on the county along with the hate crime rating of each state. While a specific county will be suggested by the algorithm, nevertheless, the user will have the option to explore other areas that they might seem interested in by changing the number of recommendations he/she needs.

**Potential Uses:**

* The users will be able to identify the potential settlements in the U.S where the cultural transition for them would be smoother and it’s more safe for them.
* The users will be able to plan for small local business opportunities assuming the clusters’ preferences and economic situation will be similar in those regions/states
* Users will be able to compare multiple regions that they are considering to settle in beforehand and they won’t have to rely on what advisors/ non-credible sources tell them.
* The academic researchers will be able to visualize the concentrations of immigrant groups across the states and may be able to predict some trends regarding living standards, income per household etc. within those areas
* Users will be able to see the number of hate crimes occurring in each state along with a hate crime rating. This will help the user in making a more informed decision about where to settle
* The U.S government could also use this data to find how many immigrants tend to stick to their own cultural niches and how it impacts the employment opportunities and cultural differences etc. in those regions.
* The U.S government can use this data to identify neighborhoods with a high immigrant population. Which can help the administration in keeping a track of how efficiently their policies are performing with regards to health and education in these respective regions.
* The U.S government can also use this data to identify the correlation between the prevalence of hate crime and immigrants’ settlements.

**Datasets Used:**

Dataset for immigrant’s admission

 New Lawful Permanent Residents by State of Residence, County of Residence, Country of Birth, and Major Class of Admission: Fiscal Year 2019

<https://www.dhs.gov/immigration-statistics/readingroom/LPR/LPRcounty>

Hate Crime Statistics 2018, FBI

<https://ucr.fbi.gov/hate-crime/2018/topic-pages/tables/table-11.xls>

Geopoints Data Set:

<https://public.opendatasoft.com/explore/dataset/us-county-boundaries/table/?disjunctive.statefp&disjunctive.countyfp&disjunctive.name&disjunctive.namelsad&disjunctive.stusab&disjunctive.state_name>