2017 BIG DATA HACKATHON PROJECT SUBMISSION FORM

Complete the following information and upload to your team number GitHub repository (github.com/BigDataForSanDiego) by 12 p.m. on Sunday (along with your team's final pitch presentation)

TEAM NUMBER: 212

TEAM NAME: SanDiego++

TEAM MEMBERS' NAMES AND EMAILS:
Nishant Billava: nishant.billava@gmail.com
Anish Bivalkar: anish.bivalkar@gmail.com
Kaivalya Deshpande: deshpande.kaivalya90@gmail.com
Alpita Masurkar: masurkar.alpita@gmail.com
Deep Sanghvi: deepsanghvi2810@gmail.com
Gowtham Balasubramanian: gowthamkopite@gmail.com
Charles Weng: cweng8849@gmail.com

TEAM LEADER:
Anish Bivalkar and Alpita Masurkar

PUBLIC HEALTH QUESTION YOU ARE ANSWERING:
Issues:
Health/Disease/Disorder Monitoring
Health Communication and Campaign

Challenging Questions:
What are the most concerning public health issues for Californians/San Diegans today?
Where can we find the data and analytical tools for the most concerning public health issues in San Diego?
How can we analyze public health data and provide some recommendations for intervention and policy changes?
How can we share useful public health information and analytical tools in our local community?
How does availability and access to financial resources contribute to public health issues in California?

YOUR TEAM'S HACKATHON IDEA (IN TWO SENTENCES):
Our war veterans have served the country for long, can we do something for them in return?
War veterans (240,000 in 2016) and their families form a big part of San Diego community. Many of them suffer from physical and mental health issues and a significant population is pushed into homelessness (the reasons obtained from data are many- claims are not processed on time (319 days in San Diego, 2012-13), disability

prevents them from getting a job, PTSD, difficulty reaching out to family and friends, difficulty integrating into the society).

But there is a gap between the information about homeless veterans that the county of San Diego has and the time it takes to get this information to them from the Department of Veteran Affairs, Department of Defense and the federal government.
So, even though the county and its people might have resources to help these veterans, it is hard to just reach out to them.

Current approaches on obtaining data about the homeless population of county includes manually going to a location and filling out forms about them and is done by volunteers who are specifically assigned to this task. Our app is designed to automate this data generation, storage and analysis and get the people of San Diego involved in generating this information which will help the war veteran community of San Diego.

The first version of our project that was built for this Hackathon is an android app that allows a user to sign up and report veterans (and what they need) if they see them on the streets.

DATASET(S) YOU ARE USING FOR THE PROJECT (PROVIDE NAME AND URL):
The data will be generated as a result of this project.
The technologies used for this project and the various modules where they were used:
Android app as front end
Rest Service hosted on EC2 that takes the data and pushes to RDS (MySQL) on AWS
All code is written in Java
The dataset generated will be used by the county to know the count and location of homeless veterans in San Diego (We can also give count of general homeless people).
Some of the current data fields used for information are:
Position(lat/long): This can be reverse geocoded to zip codes when data is given to the county or other researchers and can be used for identifying areas by zip code where they are most prevalent.
Timestamp: Time when this data was reported
Payload(food,clothes,jobs, gender, camera others): Fields will have easily identifiable information about veterans and the information from the signs that veterans hold telling us about the help that they are seeking.
county_flag: Check whether the county has pulled this data (will be used to reset our cache on the client side- some of this will be implemented in the future)
veteran_flag: Whether veteran or not a veteran
soft_delete_flag: If another user passes the same location, check whether the veteran has been reported in a recent time slice (to prevent duplicates)
Log in information of users

The user-based data will be generated over a period of time and can be used to analyze areas where they are most prevalent, what are their most important needs as identified by the signs that they hold and if a location is hit multiple times on consecutive days, it

will also give us information like that amount of time a veteran has gone without adequate assistance and still waiting on the street seeking help.

THE IMPACT OF THIS PROJECT ON PUBLIC HEALTH:

There is a strong correlation between health issues and how it pushes war veterans into homelessness. The intent of the first version of this project is to help veterans who are homeless or on the verge of homelessness. Gathering this user based data will allow the county of San Diego and its people to intervene and try to improve the conditions for some of the war veterans.

THE NEXT STEPS NEEDED TO LAUNCH THE PROJECT:

The idea is to not just help out homeless veterans but also other veterans who live in San Diego.

The next modules of this project will have:

- UI improvements, REST backend will be deployed on EC2, data transfer will be made Async. More security features will be added.
- Separate mode for all war veterans to access different kinds of facilities that might be available to them in San Diego
- Give the County of San Diego and researchers various options to download and use data
- See what other information the County of San Diego needs and get it to them
- Build a Donation Platform (Version 2 will have this): This will host a homeless veteran's profile (validated by the County of San Diego) and the help he/she seeks to bring them out of homelessness. It will allow users to donate as little as $1 towards bettering the situation for the veterans
- Speech recognition library: In our research, we also observed that those veterans who come back from combat zones have hearing impairment. The speech recognition can be used by the veteran (or anyone else) to talk to the phone and get it converted to text. A use case will be going to a store and talking to a salesperson or cashier to purchase some item or asking for directions on the road.

Team Contributions:

Project Idea: Alpita Masurkar
Design and Architecture: Anish Bivalkar, Alpita Masurkar with the help of the rest of the team
UI: Gowtham Balasubramaniam, Alpita Masurkar, Charles Weng
Database: Nishant Billava, Anish Bivalkar, Deep Sanghvi
Backend: Anish Bivalkar, Nishant Billava, Kaivalya Deshpande
Deployment, Support: Anish Bivalkar, Deep Sanghvi
Component Integration: Charles Weng
Presentations and Pitch: Alpita Masurkar
Spikes and learning Technologies that would be needed to build this entire project: Everyone on the team learnt and helped each other build the project. The above list is the names of major contributors to each of the segments but others helped them too.