**Homelessness Health and Nutrition**

Team Invictus

**Design Process (explain how you went about developing your solution and the different tasks involved, as well as who worked on which tasks)**

The design to tackle one of the three major problems with the increasing number of homeless people in Toronto, helping them and informing others of their situation. As such, our team chose to deal with the health and nutrition problems homeless people face in their lives due to a lack of access to enough food to eat. We devised a plan for a website that will let homeless people know about any food that is available for free near them regularly. It also helps inform other users of the vulnerability homeless people are left with due to malnutrition which leads to health problems.

To do this, our website (called FoodBack) would act like a “food locator”, showing places such as foodbanks and soup kitchens which would provide food on a regular basis. This website would also list local restaurants which instead of throwing out leftover food, would give that food to those who need it outside their restaurant after closing. These restaurants would be able to proudly display their charity to those in need, spreading the awareness and visibility of homeless people to regular customers.

The website will also contain information on needed nutritional information, such as how much vitamin C should be eaten in a week to avoid serious health issues such as scurvy, which should no longer be an issue in our day and age. This information page also contains links to help those with mental health and addiction issues provided by the Canadian Government.

This website is broken down into 3 parts, the first being the database which holds the location of the free food locations and accounts of the restaurant owners that partake in FoodBack. These accounts can be used to verify whether restaurant is really giving away leftovers regularly and allow them to change how frequently they give away their leftovers based on what they do have. The second part is the map interface, which required an API to display the map and the database to fill it with markers to be shown on the map. The final part was the front-end display, which involved the user’s view of the web design and their navigation through it. Mahmoud and Alari worked on the Database as it held most of the back-end code linking everything together, while Taniya build the front-end of the website, and Jonathan created the interactive map and markers. The code was programmed with a mix of JavaScript for the back-end code and databases, while the front-end was made with HTML5.

**Design Justification**

We chose to deal with feeding the homeless in order to help with health and nutrition, as the overall physical and mental health of a well-fed individual is much better than those without food. By making this website we create a simple centralized information hub so that homeless people will be able to access a public computer and see all the places near them that offer food. The website would also allow all users to see the required nutrition to prevent serious health issues and raise awareness in the general public of the dire circumstances that homeless people face when not receiving the proper nutrition they desperately need. In addition, having restaurants in the local area promote their charity by donating otherwise wasted food to FoodBack helps inform both the customers, of the restaurants charity, and homeless of the opportunity to get a meal they need. The customers and homeless would learn about a useful resource that provides them a one-stop-shop for all their health and nutritional needs. The mental health and addiction links are provided for those in need of immediate help and to inform the public of their existence, as homeless people who regularly use the website will know where to get the information when facing these problems.

The choice of our coding language being HTML5 for the front-end website display and JavaScript for the back-end code was due to their wonderful compatibility and ease of use. HTML5 easily can be accessed through a web browser locally on our own computers, and thus allows us to ensure the user will easily see the needed information. JavaScript meanwhile, has plenty of API modules and great integration with HTML5 code, allowing use to offload complex code such as creating an interactive Google map with markers and get more done in a shorter amount of time. The code was made first by creating the framework of each piece, then put together and smoothed out to create our website.

**Code Explanation**

The maps page of the website uses a google maps API module to showcase the city of Toronto and the locations in which a homeless person would find free and discounted food. These locations are marked by markers, declared as variables with longitude and latitude which can be accepted as locations from other sources. This API and its related code was used to easily show where a homeless person could get the food they need.

For the database we had one store all of the location data to be plotted on the map, where we stored the name, description, type of offer (free vs discounted food), longitude and latitude. We also had another database to save accounts for the restaurants and people who will be supporting by giving out leftover and free food. This database had a username and password along with the name and description of the supporter. In addition to these the database stored a verify account Boolean where the admin can revoke access in the event that issues with a given supporter arises.