**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 not having enough food to eat. We devised a plan for a website to educate the homeless of food available for free near them regularly, and other users to the vulnerability of homeless people.

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. The 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 would also contain information on needed nutritional information, such as how much vitamin C should be eaten in a week to avoid serious health issues. This information page also contains links to help those with mental health and addiction issues provided by the Canadian Government.

This website would be broken down into 3 parts to make, 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 a restaurant is really giving away leftovers regularly and allow them to change how frequently they give away their leftovers when they want to. The second part was the map interface, which required an API to display and the database to fill it with markers. 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 when trying to help with health and nutrition, as the overall 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 getting proper nutrition. In addition, having restaurants in the local area promote their charity by donating otherwise wasted food to FoodBack helps inform both the customers and homeless. 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 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 used a google maps API module to showcase the location of Toronto, and the locations where a homeless person would find useful in getting food. These locations were marked by markers, declared as variables with longitude and latitude to accept 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.