Stage 1: Project Proposal

Ananya Rajagopal, Haley Shah, Yoon Ki Jin, Sally Rong

Dataset

The dataset we are using is Chronic Illness: symptoms, treatment, and triggers. This data has been collected from an app called Flaredown in which users (those who have chronic autoimmune and invisible illnesses) input data such as their symptom severity (on a scale of 0-4), treatments and doses (number of times a day x dosage) and environmental triggers they experience every day to improve their symptoms through tracking. The data also includes the userID, age and sex.

Basic Functions

Users will be able to create an account to track their symptoms, triggers, and environments which will also track their searches. They will be able to search for their symptoms and see a list of possible illnesses they might have. Users will be able to input their illness and see treatments and doses that have improved others' conditions as well as the triggers that would be best to avoid for further possible improvement. Users can also enter their age and sex to display the recorded data of others with the same illness, age, and sex.

Creative Component

A creative component that we feel would improve the functionality of our web app would be to allow the user to input their symptoms-data not in a single stage, but in multiple stages(progressive pages within the web app) that would create "filters" at each stage to "hone in" on their potential conditions. This would help the user to input their symptoms better as trying to input all their symptoms in a single take may lead to users not catching all the potential input options to accurately assess their state.

Project Title: SymptoCheck

Project Summary

Oftentimes in our daily, busy lives, we encounter a variety of medical symptoms that make us feel unwell. In these times we are often too busy to go see a doctor, and sometimes, even reading through multiple web articles may feel too time consuming as well. Our project aims to deliver a web app where users can quickly find solutions for their medical needs. Users can input the symptoms they are experiencing and our web app would output potential conditions (illnesses, diseases, etc.) they may be experiencing as well as treatments for the conditions. This would help reduce the time users would need in finding answers based on their medical symptoms as they would

need to read through multiple web pages if they were to perform a simple "Google-search" and skim through several articles.

Users would input data on their symptoms by typing in their symptoms into a type-bar, and their search inputs would be pattern-matched with what data we have. The output would be text based information but would be supported with additional design aspects such that the web app has an appealing UI. This is all done after the user has made an account and has logged in. This way, their search and results would be saved as well, saving even more time for them to review what results they had received for their last search.

Description

Our web app is aimed at a "Google-search" engine specially designed for searching for health conditions. There is a lot of noise when applying to any search engine. We want our web application to help with uncomfortable people more accurately and faster. The main part will be a symptom searching interface. The interface will provide users a form in which they can select symptoms. Based on these descriptions, algorithms will be matched into the most similar conditions(illnesses, diseases, etc.). Treatments for these conditions will be shown as well on the page.

Usefulness

Using our web app, people can find relief for their symptoms in one place. Our app is based on millions of data entries from other people who have experienced these symptoms, so our app functions as a way for users to find crowd sourced solutions for their symptoms. There are similar applications, but they do not provide crowd sourced solutions like we do. Additionally, we are allowing users to save their searches so that they can go back and look at treatments for their chronic illnesses

Realness

The data is taken from an app which users with chronic illnesses use to record their symptoms, treatments, doses, environmental factors, etc with the purpose of attempting to improve their conditions. This dataset is from the list provided by the class, and we will be downloading it directly from the app's description on Kaggle.

Functionality

Users start by creating an account that holds their basic information and their most recent search and results history. This way users can create new data records in a table containing each account's information(user info and search history). Their symptoms-records would be updated with new information whenever they make new searches if their symptoms may have changed.

Regarding searches, there will be a search function for users to find potential conditions based on what they input. Potential conditions based on input symptoms will be outputted for users to view.

Finally, users can decide to delete their accounts if they want to.

Project work distribution

We will work on preprocessing the data together and designing the schema, determining as a group what data we need and don't need. Since we aren't experienced in web development, we will pair up on activities. **Ananya and Sally** will work on creating the schemas and loading the data into a SQL database. **Sally and Yoon Ki** will develop the web interface and overall layout of the site. **Ananya and Haley** will design the front and back end of the symptoms feature. **Haley and Yoon Ki** will implement the front and back end of the feature allowing users to create and store account information.

Mockup

SymptoCheck │ *Find solutions for your symptoms*

First, let's set up your account.

username:

Password:

Sex: Male Female Other

Age:

Figure 1. Account set up.

SymptoCheck │ *Find solutions for your symptoms*

What symptoms are you experiencing?

Type your symptoms here

My symptoms

Headaches

Dizziness

Figure 2. Screen for users to input their symptoms

Conditions that match your search

Anemia

Hypertension

Treatments

1. Vitamin – B12
2. ....

Figure 3. Displaying potential conditions and treatments.

Your Information:

Sex: Female   Age: 22

My Symptoms

Headaches

Dizziness

Associated Conditions

Anemia

Hypertension

Delete Account 🗑

Figure 4. Saved information from an account, including personal information and previous identified symptoms and conditions. There is also a delete option.