Smart Health Prediction System

Lab 2 Report

Software Project Management

Ammar Salmawy - 100756573
Jachimike Ezenwamadu - 100783161
Abdul Moiz Mateen - 100746961
Fayomi Toyin - 100765921

CRN: 74669
Group 10
TA: Ammar Elmoghazy
Tuesday, Mar 14,2023

I. QUESTION I

A description of why you chose your topic, which can include an introduction to the topic's idea, the problems your topic is tackling and what you hope to accomplish with it.

The topic we chose for our project was a smart health prediction system. We recently went through a pandemic which affected our lives in different ways. The healthcare system was one of the different sectors that felt the impact of COVID. The waiting times we experience in our hospitals have seen a huge increase. According to the Health Quality Ontario (HQO), new data shows patients spent an average of 22.9 hours in an emergency room that month waiting to be admitted which is an increase from 21.3 hours in September and 20.7 in August. Even the patients who weren't admitted usually had to wait between 4-8 hours to be able to have their issues addressed. Also, people these days fall prey to disinformation and misinform people. The influence of social media in our day and age is huge. People with large followings sometimes use their platforms to spread lies and confuse others especially when it comes to health-related issues. Among YouTube videos about emerging infectious diseases, 20–30% were found to contain inaccurate or misleading information. These are the reasons why we decided to create an online consultation system for people suffering from a disease or those related to them. We hope to create a system that can predict the people's condition based on data obtained from trusted sources and allow them to talk to professionals. After the system has given them a diagnosis it then suggests medical specialists from various institutions. The platform will offer contact details of medical experts and practitioners, enabling patients to easily connect with them through the app.

II. QUESTION II

Clearly outline your project's objectives.

1- Provide the best health care services to people who are unable to access them or find it hard to by creating a platform that is user-friendly and always accessible.

2- Develop a comprehensive and accurate database of healthcare data, including symptoms and the diseases or health issues associated with those symptoms.

3- Ensure the app's accuracy and reliability by thoroughly testing and validating the system's results, and incorporating feedback from users and medical professionals.

4- Integrate a feature into the app that enables users to easily connect with nearby medical specialists and practitioners for further treatment, if required.

5- Create an intelligent health prediction system that utilizes data mining algorithms to accurately match a user's symptoms to the most relevant illness or disease in the database.

III. QUESTION III

Outline your project's measures of success:

1. Adoption and usage: high number of people using the platform for disease diagnosis.

2. Improvement in the wait time in Hospitals: less wait times at hospitals as people are now aware of other hospitals and pharmacies that can help resolve their issues.

3. User satisfaction: lots of reviews from users on the platform stating that it helped them.

4. Accuracy of diagnosis: Success can be measured by the accuracy of the system's diagnosis and the percentage of cases where the system accurately predicts the illness or disease associated with a user's symptoms.

5. Data-driven Insights: success can be measured by being able to identify trends and patterns in symptoms, thus better and more accurate predictions.

IV. QUESTION IV

state the infrastructure, be it hardware or software, you'll need for your project.

a. Machine Learning and Artificial Intelligence Libraries: Data mining can improve the process by searching for certain patterns that come in the database and utilize the information to build up predictive models.

b. Cloud Computing Platform: Cloud server to host the application for better data management and handling of system's workload. Cloud platforms offers security and scalability as well which are necessarily for the application. Web Services (AWS), Google Cloud, or Microsoft Azure are option to consider.

c. Communication Infrastructure: We would require a form of connection with other health care agencies to serve as professionals the customers could talk to.

d. Database Management System: The system would require a reliable and scalable database management system (DBMS). MySQL or MongoDB

Reference

1. DeClerq. K,"Average ER wait times in Ontario reaches new high, data shows" *CTV News Toronto,* Dec 8, 2022. Available: https://docs.google.com/document/d/1j0DcWk7po1FIqprDg62qKaR9ql7ZLcC3z2XNJjWc93Y/edit (Accessed: Feb 6, 2023).
2. WHO,"Infodemics and misinformation negatively affect people's health behaviors, new WHO review finds" *WHO,* Sep 1, 2022. Available: Infodemics and misinformation negatively affect people's health behaviours, new WHO review finds(Accessed: Feb 6,2023)