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Project Plan of

Embedded Connectivity & Security

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Submited to

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Project Title

COVID-19 self-assessment test

Overview

The coronavirus outbreak has infected over 18 lac people around the world and, doctors, healthcare professionals, medical staff and researchers in the scientific community at the frontline of the pandemic have gone above and beyond the line of duty to provide care for patients**.** The goal is to develop an online COVID-19 self-assessment test that anyone can take if they are concerned they might have COVID-19. Alongside the website and potentially more important. You will be able to find "state-based information, safety and prevention tips, and search trends related to COVID-19, and further resources for individuals, educators and businesses.

Background

A COVID-19 self-assessment system has several components. Through this system we can save our time and fast prioritizing amongst patients and save lives that might have COVID-19. COVID-19 systems allow to user to self-assessment test. After the self-assessment, the system displays the probability high or low as (45.25 or 75.25) those cross more than 50% result in its high then he/she will be treated on high priority. This act can save lots of lives, time and money. We will set our test system parameters as per the recommendation of the health specialist and well experience doctors to find exact true figure out the result. We can be deployed systems in hospitals. It also helps among large scales patients.

The Idea

- The idea is to stop the transmission by prioritizing tests and hence detecting the cases quickly.
- Data can be collected on the symptoms of COVID-19.
- A machine learning model is then trained on the data to find out the probability of a person having the infection.
- The model is then used to find out whom to test for the infection first under a limited testing capacity.
- The same model can be used to find potential candidates for conducting random tests.

Implementation Strategy

The project will be developed according to Agile and Scrum principles. Small sprints will be developed each week. This will be the language for programming in this project. **Python Core** is a free and open-source and Flask web framework developed by the python community. Flask gives the developer varieties of choice when developing web applications; it provides us with tools, libraries, and mechanics that allow you to build a web application. We will be using a JuPyter notebook for the initial development Data to be randomly-generated for the prototype after that we will deploy in our system. Further we will create a UI with self-assessment test forms, capable of storing inferring the input data from the trained model.

We will deploy **NumPy** is the most basic yet powerful package for scientific computing and data manipulation in **Python**, moreover like Pandas sklearn TensorFlow , Pickle. SQLite will be Database and MVC(Model View Controller) will the software pattern used in this project.

At the moment I am not 100 % sure about the mentioned Modules we will make some changes as per requirements in our system but now as a prototype.

Tasks

The system will start providing more enhanced information for people who search for terms related to the coronavirus. There will be information tabs for symptoms, Self-Assignment, Emergency Response services, prevention, global statics, and locally relevant information. Users will be able to find "state-based information, safety and prevention tips, and search trends related to COVID-19, and further resources for individuals, educators, and businesses.

The website will contain the following pages:

the homepage contains all these pages and in the future maybe we will gain more pages as per the requirements out system.

Self-Assignment test
Emergency response
Current situation
Safety and security
Contact us

Self-Assignment test :

- Self Test
- Test result
- Epidemiological summary

Emergency response

- Contact the nearest hospital
- Call ambulance
- Call the doctor

Current situation :

- COVID-19 outbreak update
- Digital tools
- Call out for medical supplies
- Tell us how COVID-19 has affected you

Safety and security:

- Being prepared
- Germany-borders situations,
- False and misleading claims
- Laws and regulations protecting Germans

Contact us:

- Call
- Email
- Form submit
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Some of the technical details are given below:

The core of the project: Python (Flask)
Target OS: Windows, Linux, and Mac

Libraries:
Technologies for front-end: HTML, CSS, Bootstrap, jQuery and JavaScript.
Database: SQLite Database.
Technologies for Back-end: Python