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18/ENG05/036

MECHATRONICS ENGINEERING

SOFTWARE DEVELOPMENT CYCLE

TOPIC: A WEB APPLICATION DESIGNED TO CONTROL COVID-19 OUTBREAK

Planning: the spread of the corona virus otherwise known as covid-19 has been relentless over a couple months now all around the world. The world health organisation (WHO) calls it a pandemic due to its massive spread in such a short period of time. A way of controlling the corona virus is by reducing the spread from person to person although that can be challenging especially after realizing how far the virus has gone. However, by developing an app which will be able to gather information on the symptoms ,location and demography around the world ,person to person contact can be reduced the information will be stored in a cloud data base which only accessed strictly by the health officers . Through higher knowledge on their exposure, users will be able to make more informed decisions on when to self quarantine .This will drastically help reduce the spread as the doctors try to device a cure

 SPECIFICATION:

* The app will be web based to enable wireless receiving and sending of information to the data base
* The cloud database will only be accessed by health personnel to allow them to get the analysis of the spread of the virus
* It will be a straight forward and easy to use app to allow people use of all sort to use it with ease
* Contacts and locations of the nearest health centre for the virus will be displayed
* The cloud will process the the survey questions , location data of both the health officials and the users
* The survey question will include data about the users demographics and the symptoms he possesses
* The program will open the microphone to listen to the cough of the user and save it to the cloud database for the doctors to analyse
* The application will ask users location of the device he/she is using
* It will also display suggestions gotten from doctors if the user has such symptom
* The suggestion will also be stored in the in the cloud database
* The suggestions will have example as like continue social distancing ,quarantine yourself or go for testing
* The results of the survey will be made available for doctors to analyse
* The cloud database will also store symptoms of the virus that will be compared the symptoms of the user

DESIGN OF THE WEB APP: the app will have a very simple procedure to reduce time wastage of impatient users. Making it straight to the point will mean that most users will end up completing the survey and doctors will get there valuable data

IMPLEMENTATION: Web based apps are usually written in html, sand transcript to enable it to be used on a wed browser to access the internet. JavaScript is a high level language that uses curly bracket syntax, dynamic typing prototype based object orientation and first class function. It will be used to write this app since it is used as a part of web page

TESTING AND DEBUGGING: to let the written program, various people are used to input information regarding their symptoms and locations. Any errors that occur during the testing stage will be removed through debugging

RELEASE AND MAINTENANCE: The app is released to the public and will be accessed through a web browser any new discoveries made by doctors will be implemented and sent as updates to the web app for users to benefit

HARDWARE AND SOFTWARE FEATURES: the software will be able to gather data from users through surveys and it will also be able to get locator data of those that have participated in the survey. The data can then be analysed by doctors through the cloud data base

 A web server and a data base which will work in conjunction with the apothem database is in the cloud so that information will be kept safe and there will be no need for a physical server to store the data. Each user will have his/her own space on the database to improve organization

 BOTTOM-UP APPROACH PROGRAMMING

In this case the subtasks modules and codes will be developed according to the needs of users and these will form the app needed

ALGORITHM

* START
* CLOUD DATABASE: Location data + survey questions (for demographics and symptoms) + suggestions +contacts of health officials + audio file + symptoms
* Location of user
* Add location data to cloud database
* Toggle on microphone
* Listen to cough of user
* Save in audio file
* Fetch all survey questions
* Display survey questions for demographics
* Add answers from users to cloud data base
* Display survey questions for symptoms
* Store symptoms in cloud database

Else

 End survey

* Display contact for nearest health centre
* Stop