

Introduction

The coronavirus disease 19 (COVID-19) is a highly transmittable and pathogenic viral infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which emerged in Wuhan, China and spread around the world. Genomic analysis revealed that SARS-CoV-2 is phylogenetically related to severe acute respiratory syndrome-like (SARS-like) bat viruses, therefore bats could be the possible primary reservoir. The intermediate source of origin and transfer to humans is not known, however, the rapid human to human transfer has been confirmed widely. There is no clinically approved antiviral drug or vaccine available to be used against COVID-19. However, few broad-spectrum antiviral drugs have been evaluated against COVID-19 in clinical trials, resulted in clinical recovery.

Application Design following software development cycle

1) Conceptualization:

The Corona Virus is a disease which spreads through contact from an infected person to and uninfected person. It is important that a software which can detect and contain the virus at point of entry into a country or public places is produced. For example, An app that can access your inputted data and temperature from a digital thermometer in order to detect the virus.

2) Specifications

- Main Page

This is broken into sub modules:

- Log In page

The user inputs his or her account details for an already existing account

- Home

This gives you information about the virus and the spread so far.

- News

This gives you update on the virus, recent confirmed cases and more insights concerning the spread of the virus and the rate of infection around you

- User Data

This accumulates all the data input by user about his or her self concerning for example, Nationality, Health status and Current wellbeing/Symptoms if any

- Test

This collects data from the web application and the thermometer which has been connected to the application to detect if the user might be portraying valid symptoms of the virus.

- Contact us

This will contain a phone number which a patient with the virus in need of immediate assistance can reach out to get adequate care.

3) Design

- Algorithm

Step 1: Visit Website

Step 2: Go to Main Page

Step 3: Login

Step 4: Input Login Information

Step 5: If the Login is valid

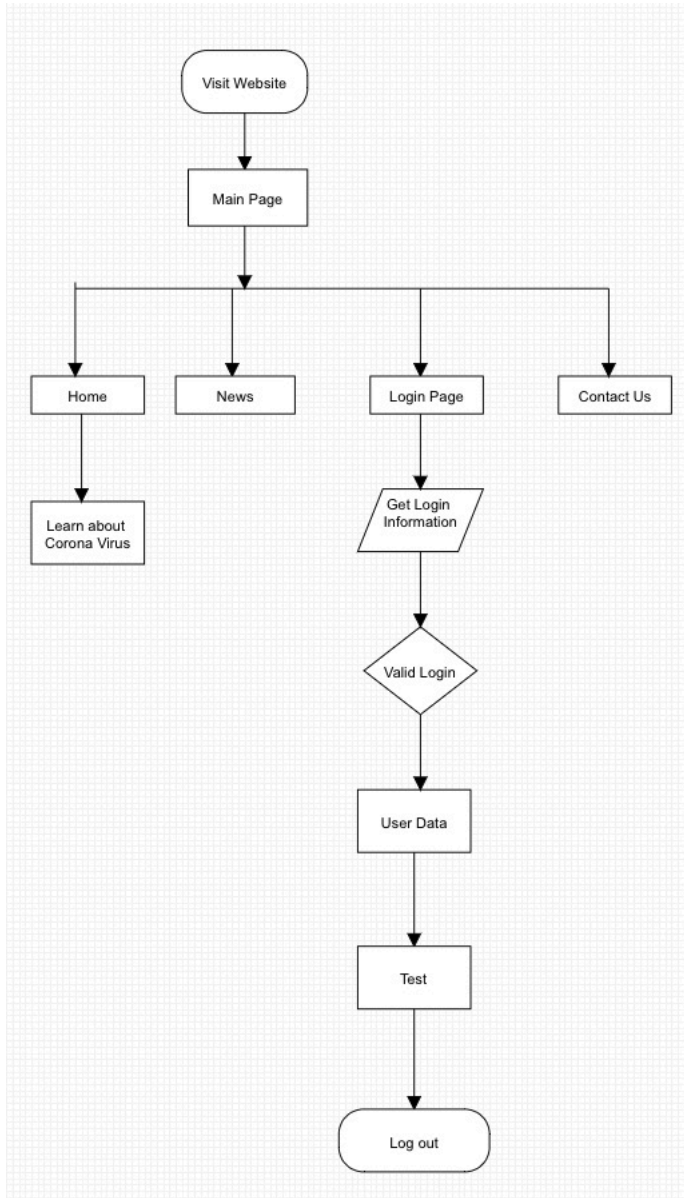
Step 6: Input User Data

Step 7: Test

Step 8: Log out

Step 9: End

- Flowchart



4) Implementation

The application software are implemented using various programming languages respectively.

- Design the Interface
These codes can be used to design the front end of the web application, the visual aspect of what the web application would look like
HTML,CSS and Java Script on Sub Lime Text
- The Coding
C++ on Code blocks
- Database Management System
SQL is used for the back end of the web application.

5) Testing and Debugging

The Program can be test run initially by the programmers to identify bugs if there are any before launching it to the public.

The bugs in the program due to logical and syntax error can be removed by a process called "debugging". The errors in the program are checked by testing it out at different stages using test data and diagnostic tools such as step in, step out, breakpoint.

6) Released Update

The program is scheduled to be released on the 1st of June, 2020. Whereby real time data of the virus and updates will be input daily for the users to be able to keep track of the progress of the widespread of the virus in their environs

2) Critically discuss hardware and software features.

Hardware

The phone or a laptop can be used to run the application using web browsers like google chrome etc
The hardware features consists of:

- The glass
- The frame
- The camera
- Temperature Sensor
- Depth sensor
- Proximity Sensor

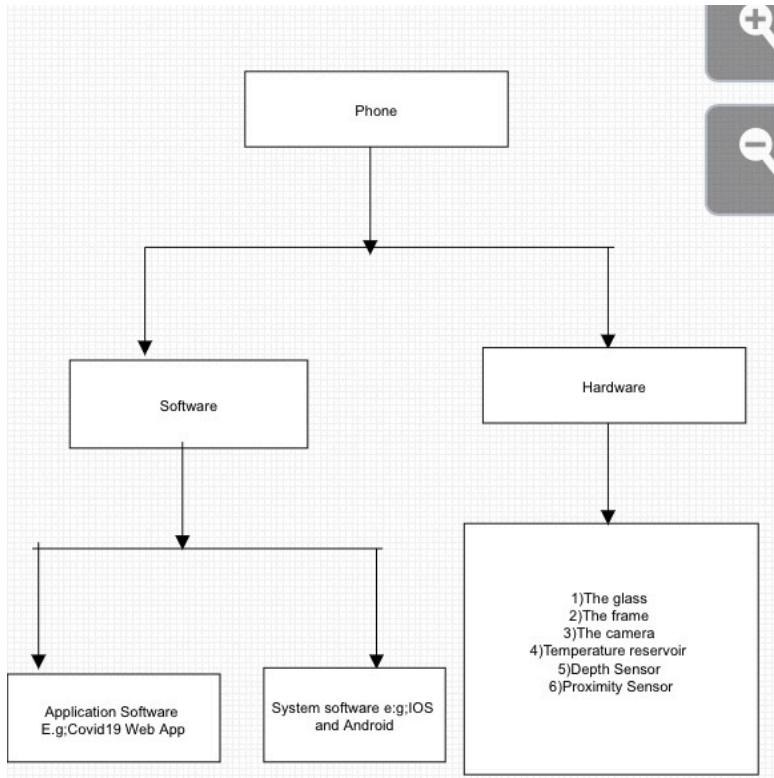
Software

This can be further divided into

- System Software Like IOS and Android
- Application Software Like Mobile Application, Web Based Application and Standalone Application.

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Algorithm

Step 1:Start

Step 2: Open Application on device

Step 3: Visit webpage

Step 4: Input Login Details

Step 5: Test for virus

Step 6: Log out

Step 7: End

4) Top down design approach of the application

