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MATRIC NUMBER: 18/ENG08/022

DEPARTMENT: BIOMEDICAL ENGINEERING

COURSE: STRUCTURED PROGRAMMING(ENG224)

CONCEPTUALIZATION: The title of this project is A HEALTH, and it's targeted audience are the people that are unable to get to the nearest hospitals to test if positive for COVID 19. This is a web-based application that can detect, display, rate (degree of infection), store, transmit data obtained wirelessly and access the data via the web. It will be able to run a test that will inform a person if he is positive or negative, without the knowledge of where he has been to in the past 60 days.

SPECIFICATION

- **HARDWARE COMPONENTS**

- A. **Display Unit:**This is a projecting mechanism that displays the output result after detection has been carried out; it displays the test confirmation, whether it is positive or negative.
- B. **Main Memory (RAM):**This unit helps to store data that is currently being processed. It stores data after detection and virus positivity confirmation, and it helps for easy retrieval of the data when needed for analysis.
- C. **Micro-processor Unit:** This is the control unit of the web-based application server where all the functions assigned to the web-based app are carried out in their order of sequence; from detection to display, to analysis and to data storage.

- **SOFTWARE COMPONENTS**

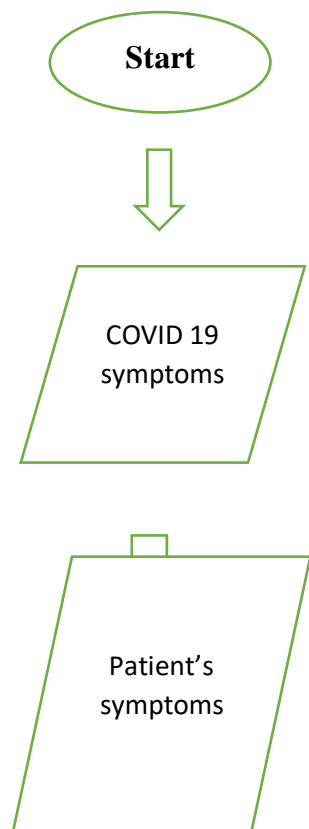
- A. **Symptom Checker:** This is an automatic smart software agent that can ask question to patient about their problem and it analyses the problems and diagnosis the debases of the patient
- B. **Chat Services:** Patients will be able to chat with doctors.
- C. **Messaging:** User can send messages to each other on the app
- D. **CMS(Content management System) :** Admin can create, update and delete pages.
- E. **Secure and configurable user access** through individual user logins and passwords.
- F. **Client server:**
- G. **Band width:**
- H. **Database Management System:** A database program helps in easy manipulation of data, and allows users to perform multiple tasks with ease. It assigns data to their storage

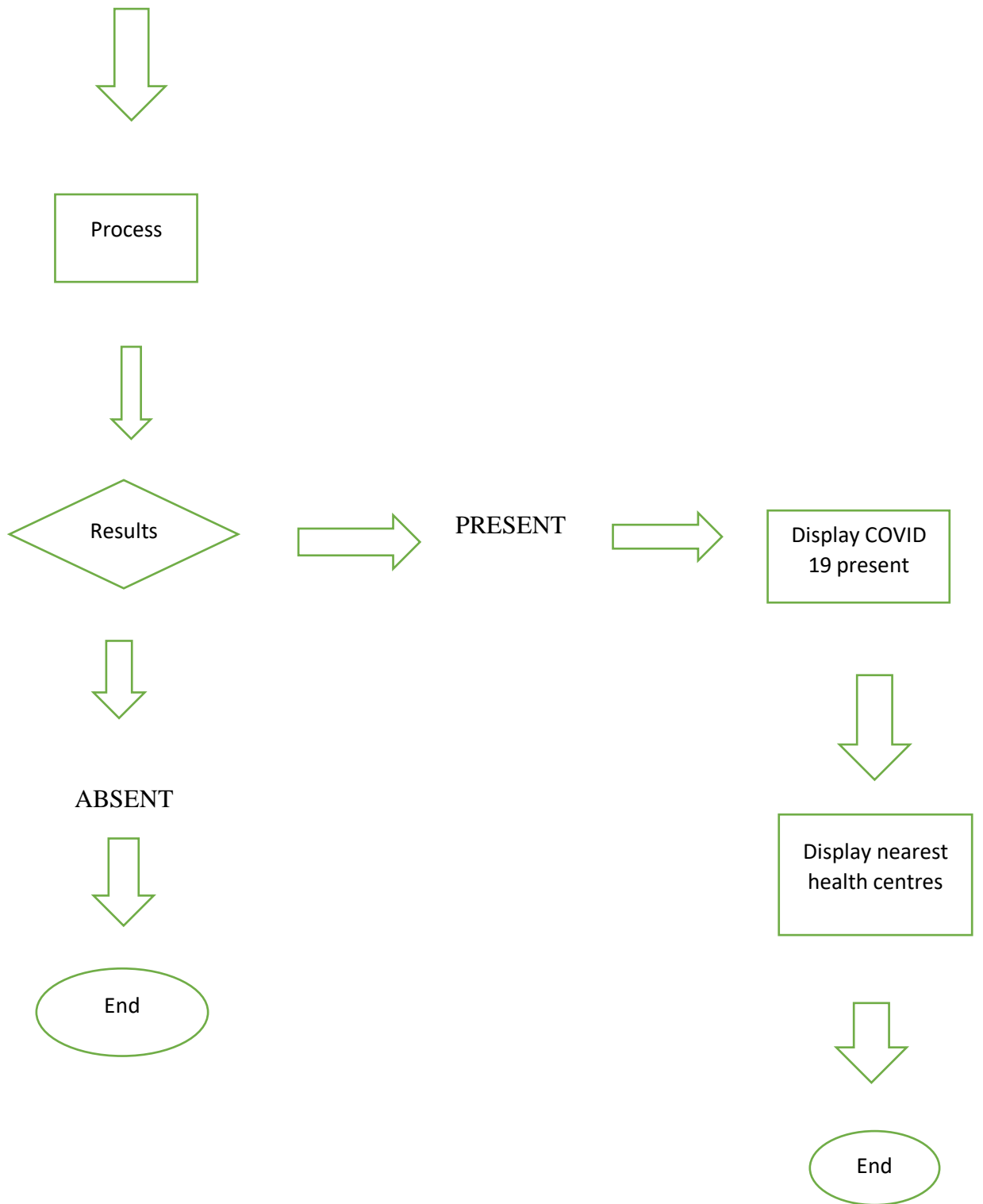
locations; organizes, and manages a large amount of information within the web-based application.

- I. Database Security: This is concerned with protecting the contents of the database from malware functions which can cause incidents like data leakage and interruption. It will also help in protecting data from design flaws and program bugs in database, and also data manipulation or loss.
- J. Virtual Sensor: This will produce signals which effectively analyze biological operations in the human system under detection, in order to determine whether the system is positive to the virus or not.
- K. Wireless Data Transfer: This will help to wirelessly transfer the data gotten from the database of the web-based application to the web server after analysis, categorization, and information output.
- L. GUI (Graphic User Interface): It will be a system of interactive visual components for the computer software. The GUI will display texts, objects that convey information about coronavirus and represent actions (i.e pushbutton) that will be taken by the user.
- M. Access control system: This will be the electronic system that is designed to control the in and out of the web page and more through a network and it would have an access to a network. The access control system will recognize authenticates and authorizes entry of a doctor to enter into the premise thereby giving complete protection ensuring security with the system.

DESIGN:

Flowchart





Algorithm

Step 1: Start

Step 2: COVID 19 symptoms ==A

Step 3: Patient's symptoms ==B

Step 4: If D==A

Print "Positive"

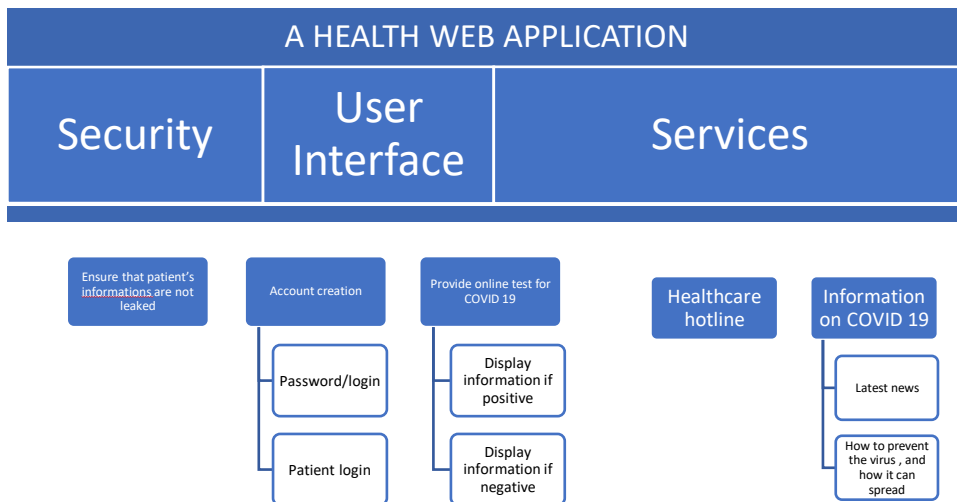
Display nearest health centers.

Else

Print "Negative"

Step 5: Stop

TOP-DOWN DESIGN



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IMPLEMENTATION: For this web app, javascript will be used to write the codes.