NAME: ABUBAKAR HANNY OSHIOZOKHAI

MATRIC NO: 18/ENG05/003

DEPARTMENT: MECHATRONICS

COURSE TITLE: STRUCTURED COMPUTER PROGRAMMING

COURSE CODE: ENG 224

WEB BASED APPLICATION TO DETECT AND DETER THE SPREAD OF THE CORONA VIRUS

SOFTWARE DEVELOPMENT CYCLE

1. Conceptualization

This web based application monitors the user by making hourly and daily inquiries. It monitors the behavior of individuals within a certain range of proximity to determine whether they show symptoms of the infection of the corona virus. It keeps track of infected individuals. It provides contact to the appropriate authorities in case of suspicion of infected individuals. It also gathers information about areas of reported cases of the infection so as to serve as a route guide when moving around or within such areas. This app allows for donation to help the masses affected by the corona virus. This web based application is created to aid the general public, health workers as well as the affected masses.

With the use of this application, individuals can monitor themselves as well as those around them for symptoms of infection and report them. Individuals can also navigate properly areas of reported cases to prevent coming in contact with the virus. The application can help health workers keep track of infected individuals.

2. Specification

This web based application is developed to be used by individuals of all background and class. Therefore, the user interface must be simplistic, responsive and extremely user-friendly for optimum user-experience. The information must also be properly and efficiently stored and managed. To achieve this, front-end development will involve the use of HTML5, CSS and JavaScript. Back-end development will involve the use of SQL and Java.

3. Design

Algorithm

1. Start
2. Read username
3. If .login {
4. Read password
5. If password = True{

        Display login page

        If login makes changes {

            Save changes

        }

    Else password = False

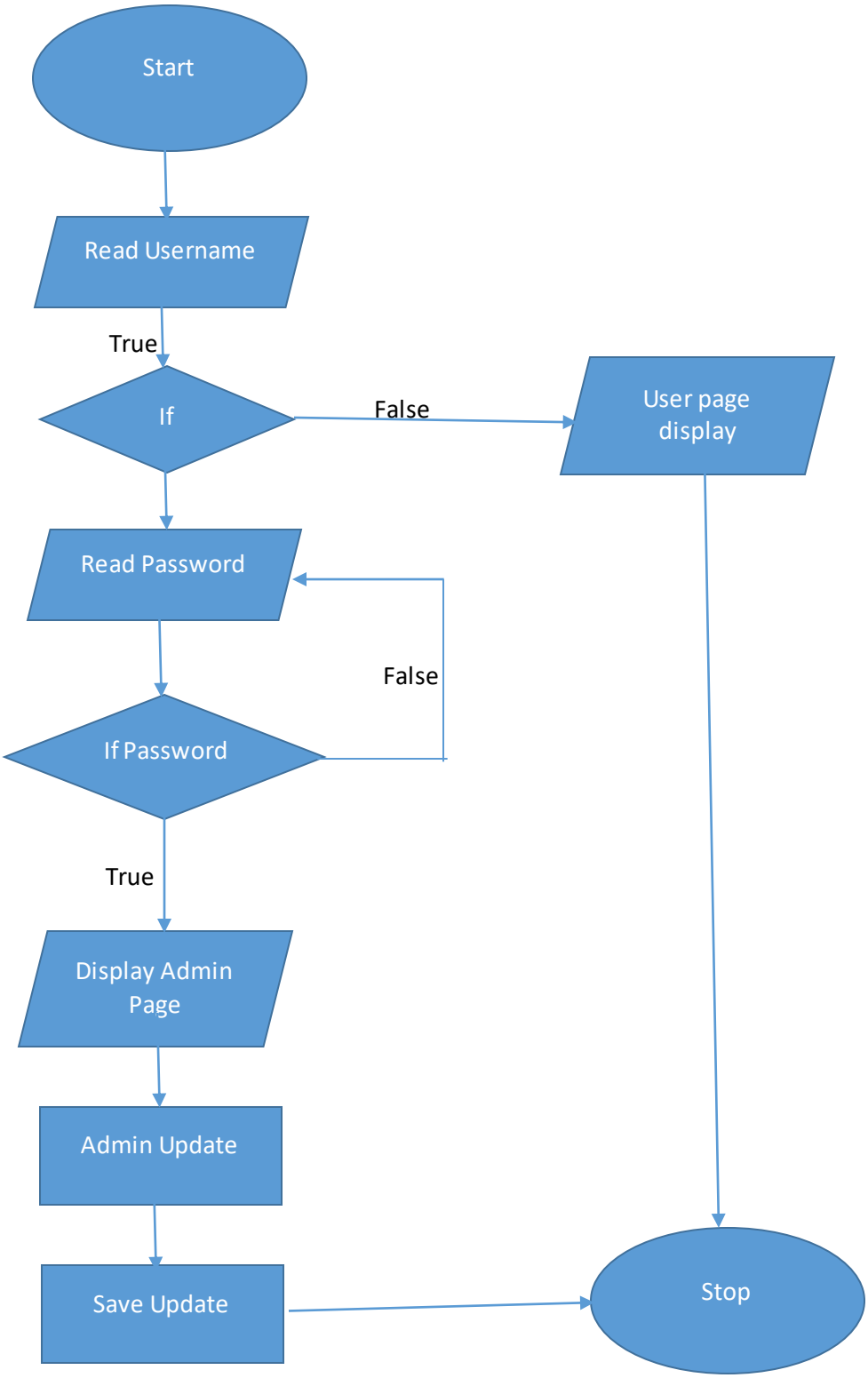
        Go back to line 2

    }

    }

6. Else display user page
7. End

Flowchart


Start
Read Username
True
If
False
User page display
Read Password
False
If Password
True
Display Admin Page
Admin Update
Save Update
Stop

4. Implementation

This web based application will be implemented using high level languages such as HTML5, CSS and JavaScript for front end development and high level languages such as SQL and Java for back end development.

5. Testing and Debugging

Using automated testing tools such as Selenium and Cucumber, unit testing, integration testing, load testing, performance testing, stress testing and regression testing will all be carried out under automated testing.

6. Release and update

The software is published to the application store for download. For infrastructure support, a fully functioning cloud service will be attached to the application. Application store optimization services will be used to ensure the application moves to the top of the search lists to gain and benefit more users. In order to satisfy the needs of the users, the application will be developed and updated regularly.

HARDWARE AND SOFTWARE FEATURES

1. Hardware features of the application will include the servers for the storage and management of user data as well as hand-held internet accessible devices such as mobile phones with a minimum specifications of:
    - RAM – 2GB
    - Processor – 0.8 GHz
    - RAM – 2GB
2. Software features of the application will include:
    - A login page which requires a username and password in order to identify the user of that account as well as bring up the profile.
    - An easy-to-use questionnaire that changes hourly and daily to monitor the health of the user.
    - A page that gives feedback to the user regarding suspected nearby behaviours of possibly infected individuals.
    - A contact page to aid reporting suspected symptoms of Corona virus.

- A page containing a map with showing concentrated areas of reported infection in order to guide the user.
- A page containing bank account details to aid donation to the masses affected by Corona virus.

TOP – DOWN APPROACH