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DEPARTMENT: Mechatronics

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COURSE TITLE: Structured Computer Programing

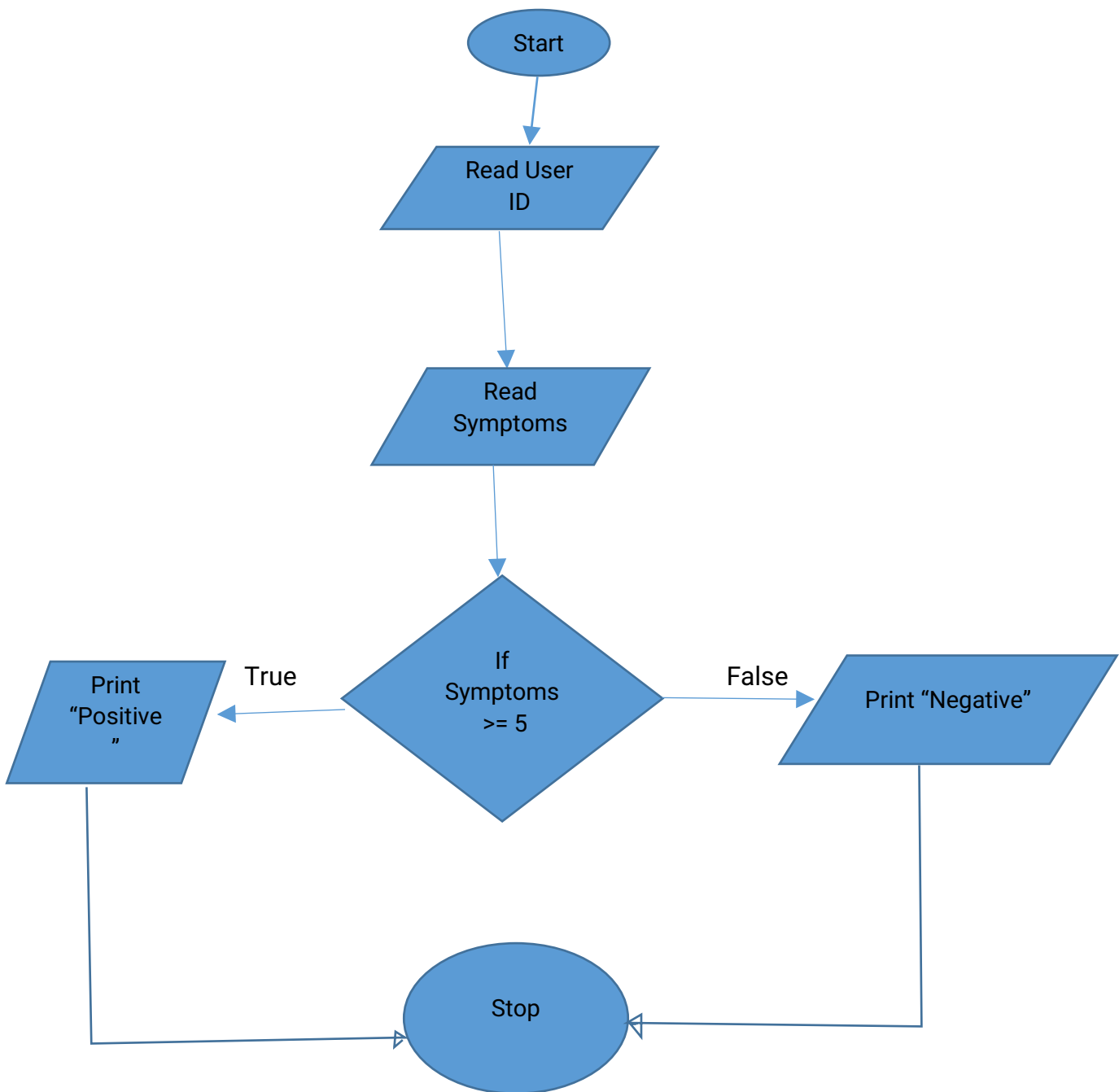
## Web Based Application for COVID-19

The web application is designed to detect, display, rate (degree of infection), store, and transmit data obtained wirelessly and access the data via the web along with other features in the mobile phone.

### Software Development Cycle

1. **Conceptualization:** It would monitor corona-like symptoms asking questions based on the covid-19 symptoms to the mobile phone owner daily. Through this health workers will be able to track the infection and recovery rate efficiently. People will also be able to monitor areas that are highly infected to avoid them and stay infection free.
  
2. **Specification:** The application is to have user friendly interface that simplifies it to the barest minimum and with the shortest possible response time. It would require adequate software and hardware features for its efficient utilization.
  
  
  
  
  
  
  
  
  
  
3. **Design:** the design involves the use of an algorithm and a flowchart.
  - a. Algorithm
    1. Start
    2. Read user ID
    3. Read symptoms
    4. If symptoms  $\geq 5$ 
      - Print "positive"
    5. Else print "negative"
    6. End

b. Flowchart



4. **Implementation:** The application will be addressed using programming languages such as HTML (Hypertext Markup Language) for documents designed to be displayed in a web browser and Ruby on Rails language to create the database as it is more cost effective.
  
5. **Testing and Debugging:** Although the application is tested at every stage of its development, after the front end and back end development. The final integrated testing is carried out over the web to fix final bugs before it is deployed to the market to ensure its smooth running and user friendly interface.
  
6. **Release and Update:** This is to ensure the application is in the market using real time interfacing to maintain it a fix bugs as they appear. It also involve getting review form users and updating the application when and where necessary.

### Hardware And Software Features

Software features should include;

- Questionnaire based on known disease symptoms
- Contact page for health officials
- User profile page
- Access controls
- Graphic user interface (GUI)

Hardware features of the application essentially involve any device capable of accessing the internet with at least 2MB RAM and microprocessors.

**TOP-DOWN DESIGN APPROACH**

