A WORK BY CHIDI MILESTONE MIRACLE.   .   **Chemical engineering 18/ENG01/005**
TO DESIGN A SOFTWARE APPLICATION TO REGULATE THE IRRIGATION SYSTEM OF THE ABUAD FARM. (SPRINKLER SYSTEM)

CONCEPTION- Considering thé location of the ABUAD farm which is Ado Ekiti, the soil of the farm is known to be dry and hot. I am to create a software application system that with the aid of other physical equipment (hardware) I will be able to regulate the irrigation system on the farm to regulate the dryness and hotness of the soil to make it better for plants growth.

SPECIFICATIONS—The hardware and software components in the designing of the web based application.

Hardware.
Soil Moisture sensor
Soil thermometer
Pipes & hose
Sprinklers
Soil heaters

Software
GUI (Graphical User Interface)
API(Application programmable interface)
Text Editors
Timer/alarm

IMPLEMENTATION- The soil moisture sensors and soil thermometers on the farm reading the temperature or moisture of the farm, if it is too hort and dry immediately sends a signal which triggers the application on the system to either permit the irrigation system by also sending signals to the soil sprinklers if it's too hot and dry or heater if it is too cold for the plants.

ALGORITHM
1) Start
2) Run GUI
3) Enter user Login
4) require password;
   "Password:= Milestone"
5) Enter password
      If password=true
      Then enter Admin page
      Else if password= false
      Then show "incorrect password. Retry password again"
      End if
6) Run timer
7) Read temperature of soil using soil moisture sensor every 20mins
8) Sends signals to software through API
9) IF soil dry and hot; i.e If reading = true
   Then activate sprinklers automatically;
   Else if reading =false
   End if
   }
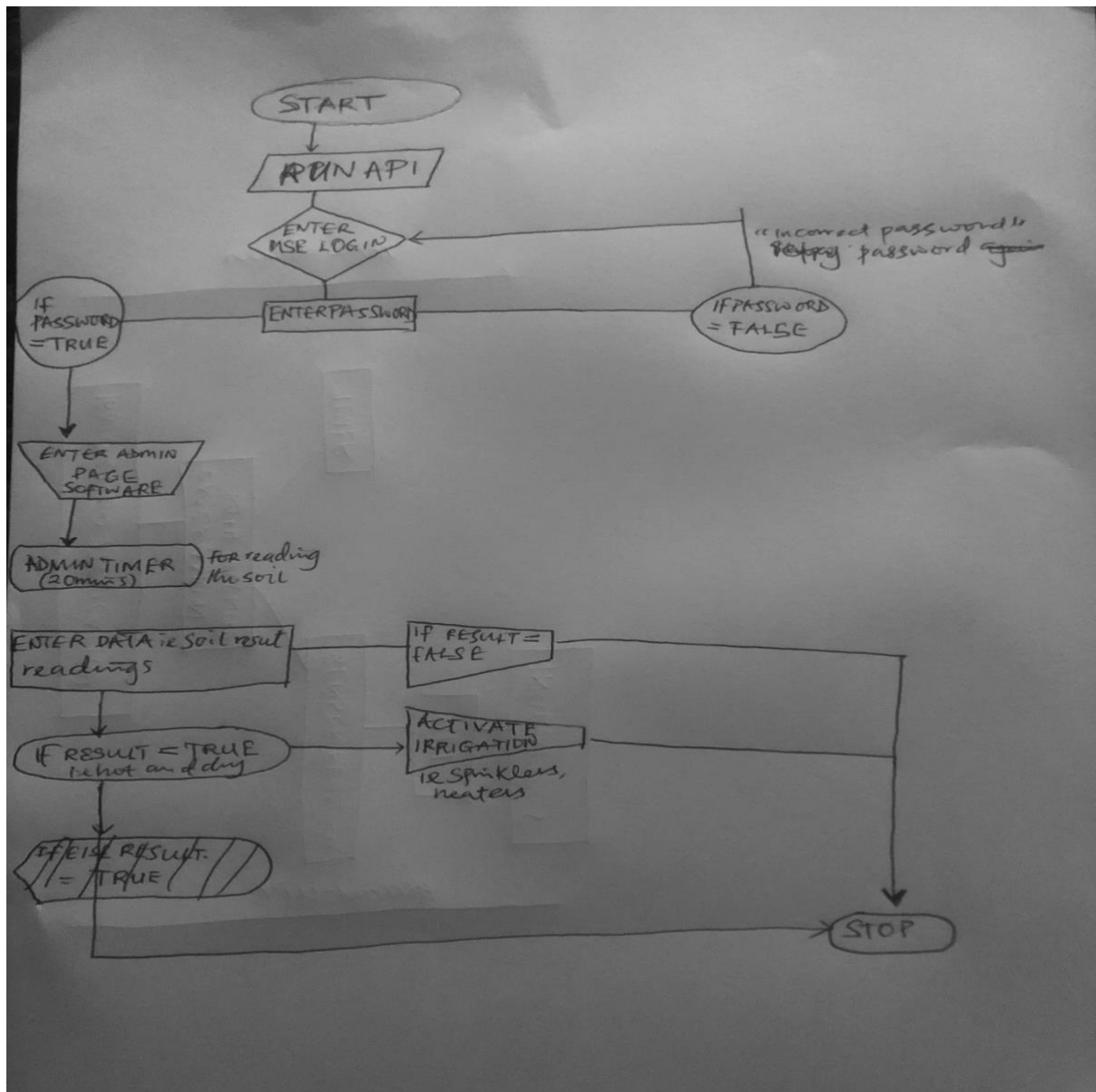   If else soil cool and too wet i.e if reading = true

Then activate soil heaters automatically;
Else if reading = false
End if Else
}
10) Stop

MAINTENANCE

To deploy and maintain the application a domain and a hosting site are needed. These can all be done using the google cloud platform. The application software will be registered on the internet for updates to prevent crashes and increase efficiency.

FLOWCHART

TOP-down/ BOTTOM-up Approach