IMPLEMENTATION

The model of irrigation system is designed by using Solid software. This desgin helps the fram move in the system.

TESTING AND DEBUGGING

Although the appication 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 beforeit is deployed to the market to ensure its smooth running.

RELEASE AND UPDATE

This to ensure the application is in the market using real time interfacing to maintain it afix bugs as they appear. It also involve getting review from users and updating the applivation when and where necessary.

HARDWARE FEATURES

1. bolt and nut
2. drill
3. MIG wedding
4. pipe
5. sprinkler
6. solenoid valve
7. soil moisture sensor
8. mircocontroller

SOFTWARE FREATURES

1. Moisture sensor
2. Breadboard
3. Real time clock
4. Arduino uno
5. Power window motor

6. If water is low
   Print("send signal for pumping')
   Else
   print("check the temperature of the soil ")
7. Read pump water

8. Read the temperature of the soil as 100 degree centigrade
9. If the temperature is less than 100 degree centigrade
   Print("start irrigation and stop after 3 minutes")
   Else
   Print("check the moisture of the soil")

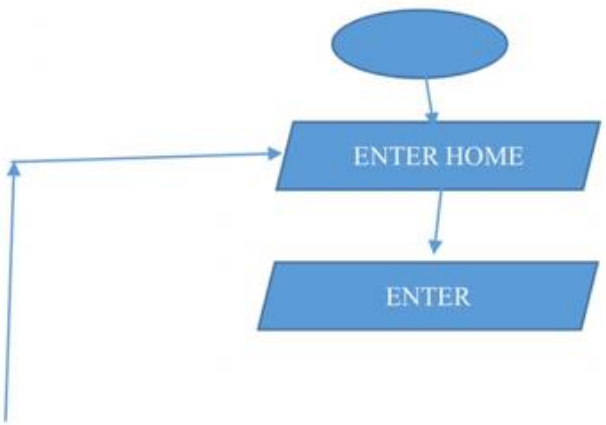
10. Check the moisture of the soil

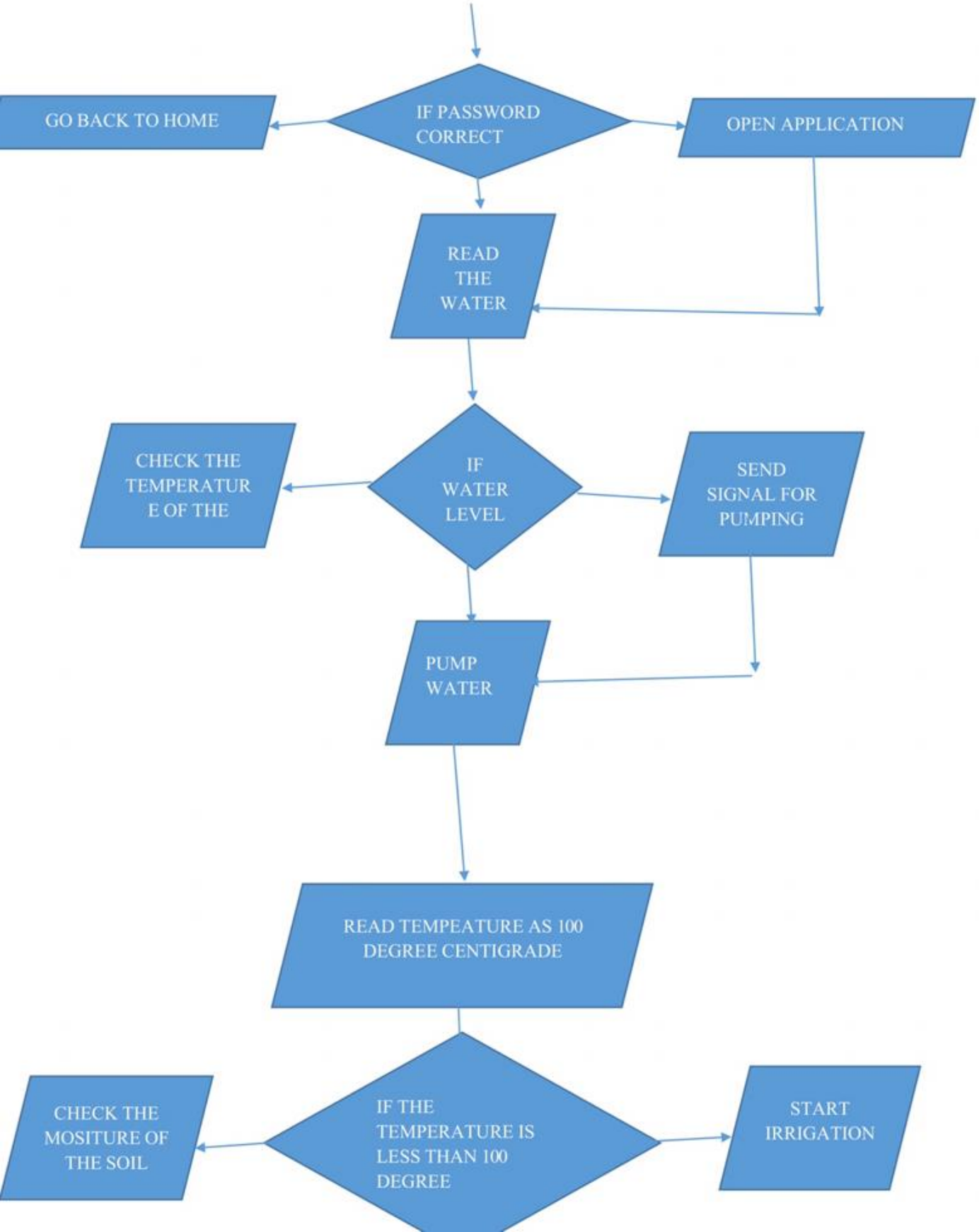
11. If the soil moisture is low
    Print("start irrigation and stop after 3 minutes")
    Else
    Print("go back to home page")

12. Read time interval as 3 minutes
13. If the irrigation is less than 3 minutes
    Print("continue irrigation")
    Else
    Print("stop")

14. Stop.

b. <u>Flowchart:</u>




IF PASSWORD CORRECT
GO BACK TO HOME
OPEN APPLICATION
READ THE WATER
IF WATER LEVEL
CHECK THE TEMPERATUR E OF THE
SEND SIGNAL FOR PUMPING
PUMP WATER
READ TEMPEATURE AS 100 DEGREE CENTIGRADE
IF THE TEMPERATURE IS LESS THAN 100 DEGREE
CHECK THE MOSITURE OF THE SOIL
START IRRIGATION

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18/ENG05/041

MECHATRONICS ENGR

ENG 224

CONCEPTULIZATION

Irrigation is the artificial application of water to the land or soil. It is used to assist in the growing of agriculture crops, maintenance of landscapes, and revegetation of disturbed soils in dry areas and during periods of inadequate rainfall the modern challenge of improving the growth of plant.

SPECIFICATION

This system is developed to make watering process in agriculture more convenient, by helping to reduce the amount of manpower needed for watering process, ultimately save time as well. Soil moisture sensor is needed for this.

DESIGN

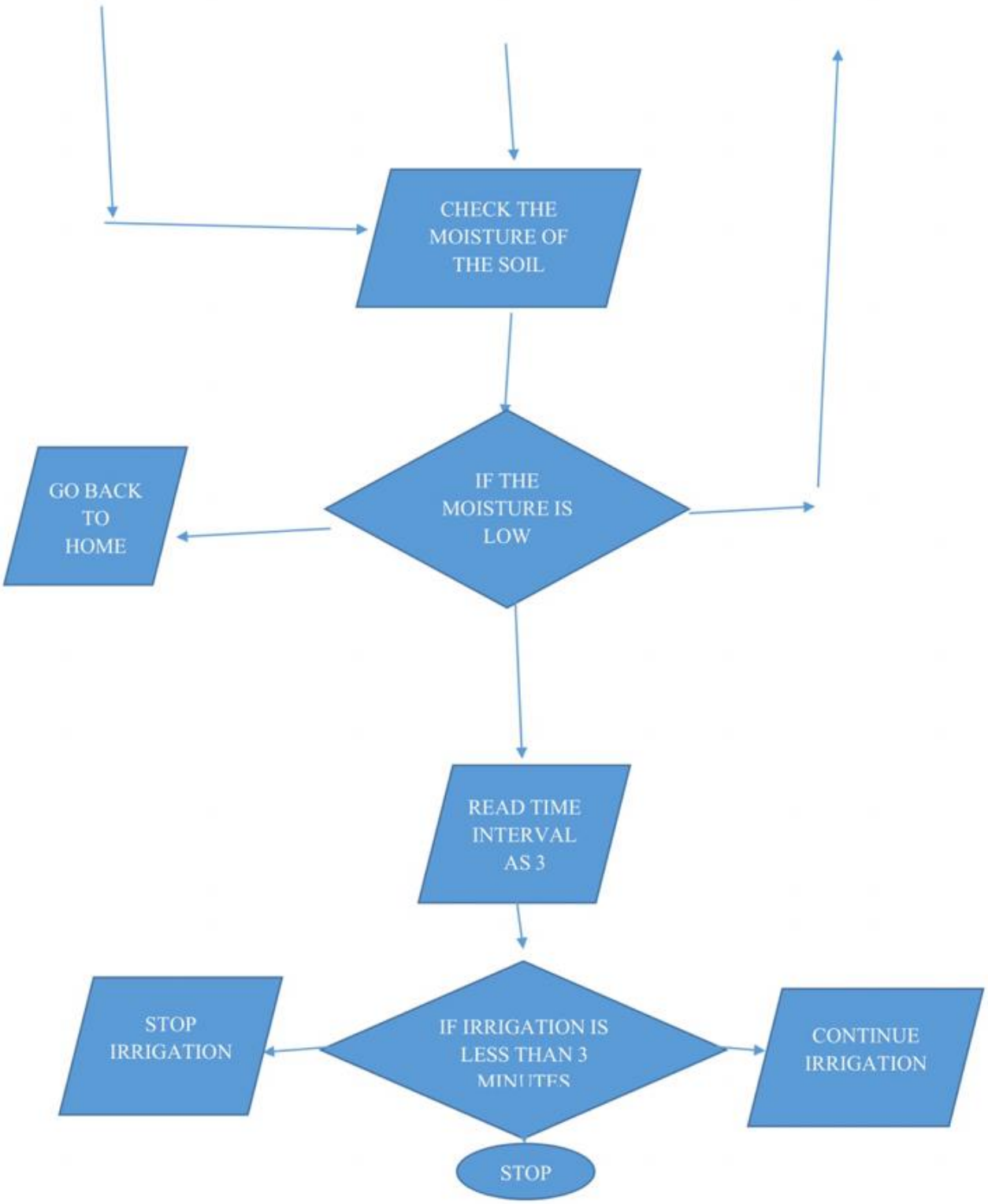
The design involves the use of an algorithm and a flowchart.

a. Algorithm:

1. Start
2. Enter home page
3. Enter password
4. If password is correct
   Print("open application")

   Else
   print("go back to home page")

5. Read the water level of the tank


CHECK THE MOISTURE OF THE SOIL
IF THE MOISTURE IS LOW
GO BACK TO HOME
READ TIME INTERVAL AS 3
IF IRRIGATION IS LESS THAN 3 MINUTES
STOP IRRIGATION
CONTINUE IRRIGATION
STOP

6. Resistor
7. Diode
8. Transistor
9. Wiring
10. Mechanical switch
11. Motor driver

W