OKOPIDO UBONGABASI INI

18/ENG03/045

CIVIL ENGINEERING

ENG 224

CLASS WORK

OUTLINE

- Introduction and definition (conceptualization)
- Specification and activities
- Project Design; flowchart
  Algorithm
- Brief analysis and concept of the the application
- Testing and debugging
- Release and update
- Hardware and software features
- Top-down representation of the application
- Conclusion

INTRODUCTION AND DEFINITIONS

It came to my knowledge that the board of governors plan to automate the Afe Babalola University, Ado Ekiti framing irrigation system due to certain problems encountered mostly during the dry season. As a software developer I have designed an application that interacts with the machine. The software is an application software specifically designed for the sole purpose of interacting with the machine and make work easier, less stressful and more efficient. It serves as an interface between the farming operator and the irrigation system.

SPECIFICATION

The project through the machine would be able to;

- Monitor the soil temperature
- Determine the moisture content of the soil

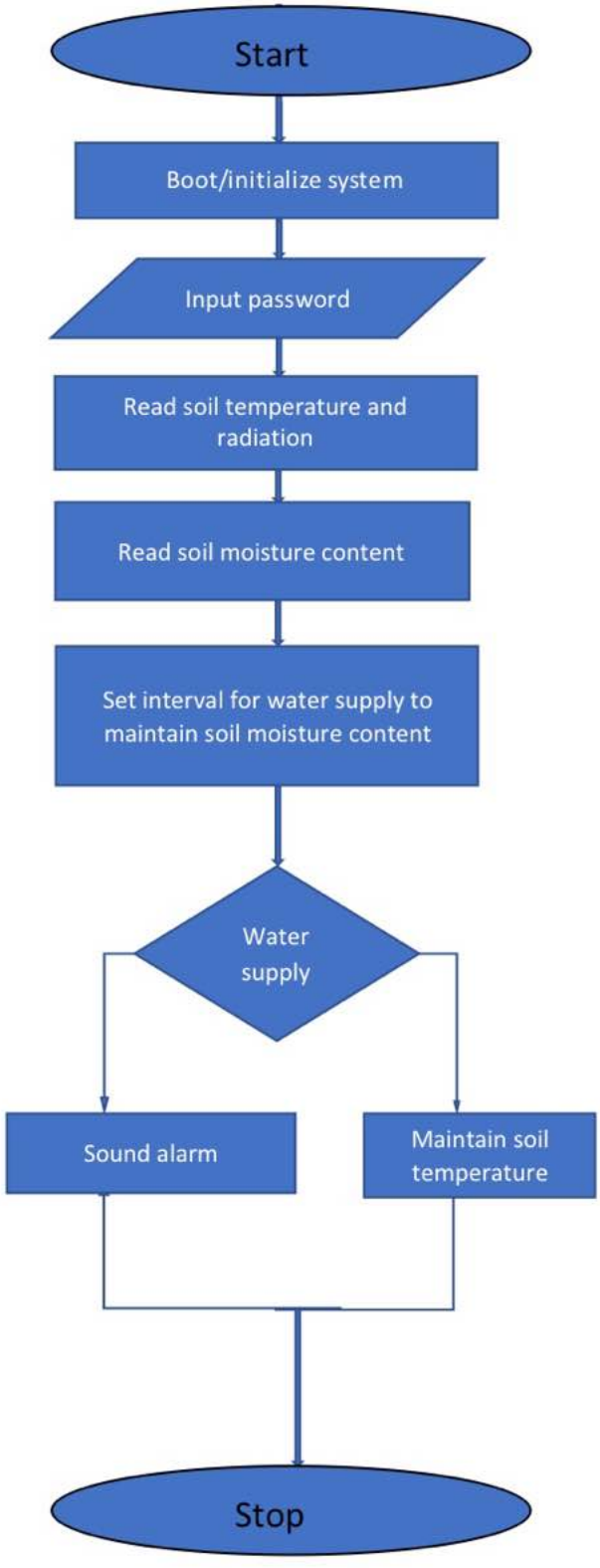
- Determine the time ooo interval for water supply
- Trigger an alarm if water is insufficient for irrigation
- Enable password for the system

DESIGN

Algorithm:

Step 1: Start
Step 2: Boot/initialize system
Step 3: Input password
    If password correct
    Print “home page”
    Else
    Print “Try again”
Step 4: Read soil temperature and radiation
Step 5: Read soil moisture content
Step 6: Set time interval for water supply to maintain regular to maintain regular soil moisture content
    If water level is low,
    Then sound alarm
    Else maintain soil moisture
Step 7: stop

FLOWCHART


Start
Boot/initialize system
Input password
Read soil temperature and radiation
Read soil moisture content
Set interval for water supply to maintain soil moisture content
Water supply
Sound alarm
Maintain soil temperature
Stop

ANALYSIS AND CONCEPT

The program is written in a high level language including the necessary features.
The application start from installing the app on phone then open the application.
First of all, the main screen of the app will be loaded after the system is being connected to the said device through a Bluetooth share medium or a WiFi medium. The system will check if the device is connected, if connected, it will proceed to the main screen. otherwise notify the user device is not connected. In the main screen, the user can directly switch the entire system on or off. In this Screen user will able to see all details related to whole system.

TESTING AND DEBUGGING

Testing and Debugging, involves checking the performance and accuracy of the system for errors, and the removal of these errors.
This process would be done after every step in the design and the implementation process . After this has being done, the hardware component would also be tested for errors, and if any, measures would be taken to debug and fix the system.

RELEASE AND UPDATE

After testing and debugging the application, it's is then being release to the public for use. Given a specific time interval (say

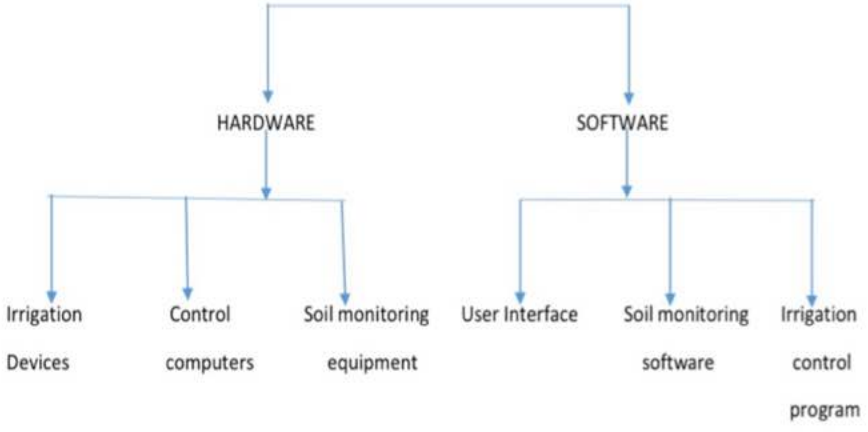
six to nine months) and update will be released to help keep the app I up to speed. This will be based on viewers reports, ratings and comments.

HARDWARE AND SOFTWARE FEATURES.

- User interface software: A friendly and easily operated interface that interacts with the user and servers as a guide.
- Irrigation devices
- Control computers: These include a variety is hardware component that oversees the general working principle of the application. They receive instructions form the software parts and display it as output on the screen or in hard copy for the user.
- **Irrigation control program: This includes:**
- Moisture Sensor: The soil moisture sensor comprises of two tests that are utilized to the degree the volumetric substance of water. The two tests permit the current to pass through the soil, which gives the resistance esteem to the degree the dampness esteem. When there is water in the soil there will be less resistance and the soil will handle more power. But if the soil is dry it conduct power weekly and needs less power and more resistance.
- Temperature Sensor: A temperature sensor is sensor to measure the present temperature of the soil. This sensor has three reading the positive, the neutral, and a negative
- Water Level Sensor: The water-level pointer is utilized to display the water level in the tank, by using this sensor we

can control the flow of the water in and out of the tanker as well know the level of the water in the tank.

TOP-DOWN REPRESENTATION



CONCLUSION

Im the end the project to make an automated irrigation application software for the Afe Babalola University, Ado Ekiti farm was a successful one. The software was made, tested and double checked. Concepts, representations diagrams, specification and much more were

stated you help users and workers have a better understanding of its working principle and make operation very easy.
Updates are already being prepared and compiled as a few improvements with regards to weather conditions have been made.
In a bit shell ups like to say this experiment was a huge success.