NAME:ONOFIOK ABASIFREKE VICTOR

MAT NO:18/ENG03/050

COURSE:ENG 224

DEPARTMENT: CIVIL ENGINEERING

**SOFTWARE DEVELOPMENT LIFE CYCLE(SDLC)**

SDLC is a process used by the software industry to design, develop and test high quality software. The SDLC is a process followed for a software project, within a software organisation. It consists of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software. The life cycle defines a methodology for improving the quality of software and the overall development process.

**SOFTWARE DEVELOPMENT PROCESS STEPS:**

* CONCEPTUALIZATION
* SPECIFICATION
* DESIGN
* IMPLEMENTATION
* TESTING&DEBUGGING
* RELEASE AND UPDATE

**1a)**

It lowers the temperature and makes the locality damp due to the presence of irrigation water. Excessive seepage and leaking of water forms marshes and ponds all along the channels making it hard for farming.

The implementation development of software that interrelate with the machine backing the System development cycle:

1)**Conceptualization:** This is an ability to invent or formulate an idea or concept. Since the irrigation system is making things really hard on the farm soil, we aim at stopping irrigation my enforcing ways to manage and control the irrigation by enforcing automation that is control systems for operations in this case IRRIGATION.

2)**Specification:** The aim is to break the application software into modules and breaking the complex task into subtask. **HARDWARE:** Sprinkles, pipe system , sensor, moisture, source of water. **SOFTWARE:** GUI(Graphical user interface);push button, text view ,edit view, dialogue box, e.t.c),Timer-(to time the water flow),Error detection (to know ..if there is a leakage in pipes),Access control(password).

3)**DESIGN:** This has to deal with testing the various conditions of the moudules been derived from taking alternate part in the procedure depending on the outcome of the test .So in opening the app you’ll be asked to sign in(for new users) or sign up (for already registered users),you’ll be let known to establish a password so as to keep every data safe and stored, this app is a simple tool to use recording tool for the application of irrigation water onto agricultural land. The app is designed to allow the user the ability to create irrigation management zones within their farming operation. Users can then assign pumps to the irrigation zones and record irrigation events against them.

4)**IMPLEMENTATION:** The use of high level language ,that’s the code for the application is then put into effect example :c++ which are high level languages for the application to work.

5)**TESTING AND DEBUGGING:** The application is then checked through finding bugs or errors in a software product that is done manually by our testers or which can be automated .Debugging process of fixing bug which is found in the testing phase.

6)**RELEASE AND UPDATE:**The app is then released for public use and the updates will improve with great and better features in time and also debugging.

1B)

**HARDWARE AND SOFTWARE FEAUTURES:** The hardware features consist of the sprinklers ,which are used to sprinkle on the plants in the farm ,pipesystem ; where the water flows to spread the water and also you cant forget a good source of water ;where water will be gotten to water the soil and the plants

**Going into *SOFTWARE FEAUTURES:***This consists of the graphic user interfacewhich allows users to interact with electronic devices through graphical icons and audio indicator.such examples are:push button;text view,also another software;timer(to time the water flow),error detection(to know if there is a leakage in the pipes),access control;example :password.

1C)**ALGORITHM:**

1. Start
2. Enter password if password correct print “Home page”Else Print “Main page”
3. Open home page
4. Read Temperature of Soil if above 40 degrees sprinkler rises Else sprinkler remains node.
5. READ Moisture of Soil If above 400Sprinkler rises Else Sprinklers Remain node.

NOTE:WS=water supply

START

START UP SYSTEM

ENT Password

CHECK SOIL TEMP

STOP

WS CD

Maintain soil mmmmmoisture

Sound alarm

SET TIME INTERVAL FOR WATER SUPPLY TO MAINTAI SOIL MOISTU

REAL SOIL MOISTURE CONT CONTENT

CONTENT

1D)

Turn on/off pump

Trigger alarm

SUFFICIENT

BELOW

10%

OPEN SPRINKLERS

BELOW 60 DEG

SPRINKLERS OPEN

REGISTER

NEW USER

END

Water supply

Set water interval

Read soil moistutre

Read soil temperature

LOG IN

START