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COURSE: ENG 224 ASSIGNMENT

APPLICATION DESIGN FOLLOWING SOFTWARE DEVELOPMENT CYCLE

1. **Conceptualization**:

The purpose of this software is to provide sufficient irrigation in Abuad farm, Ado Ekiti during dry season which has resulted in the loss of crops and loss of revenue. It serves as an interface between the farming operator and the irrigation system.

2. **Specification:**
   Modus:
   a. Water supply
   b. Moisture Determination
   c. Soil sampling
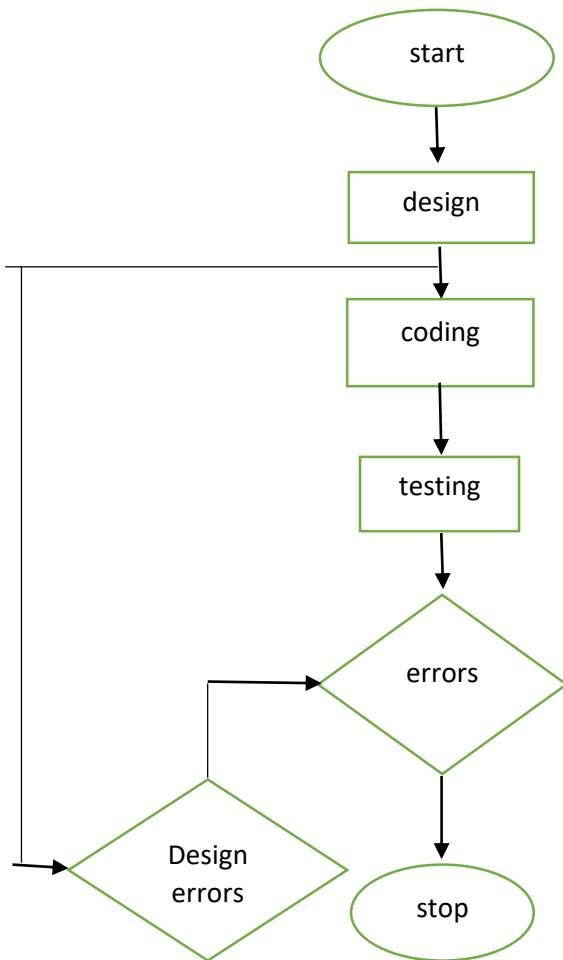   d. Temperature monitor
   e. Alarm system
3. **Design**
   There are two ways of accomplishing software design, which are Algorithm and Flowchart
   Algorithm
   1. Start
   2. Design the application layout
   3. Coding of the program
   4. Testing of the software for errors
   5. Maintenance of the software
   6. Stop

Flowchart

```
                    ┌─────────────┐
                    │    start    │
                    └──────┬──────┘
                           │
                           ▼
                    ┌─────────────┐
                    │   design    │
                    └──────┬──────┘
                           │
                           ▼
                    ┌─────────────┐
                    │   coding    │
                    └──────┬──────┘
                           │
                           ▼
                    ┌─────────────┐
                    │   testing   │
                    └──────┬──────┘
                           │
                           ▼
                       ◇ errors ◇
                           │
                           ▼
          ◇ Design      ┌─────────┐
            errors ◇    │  stop   │
                        └─────────┘
```

4. **Implementation**

   The program is written in a high level language including the necessary feautures

5. **Testing and debugging**

   The algorithm put forth has not been tested to run properly neither has there been logical nor semantic error noticed. Thus, it has not undergone testing and debugging.

HARDWARE AND SOFTWARE FEATURES

Hardware: irrigation machine, thermocouple, pynometer, the computers.

Software: soil monitoring software, irrigation control software, user interface software, time synchronization program, password encryption and decryption program.

The system start up requires all units to be powered up after which a password is required by the user.

HARDWARE

SOFTWARE

Irrigation Devices

control computers

soil monitoring equipment

user interface

soil monitoring software

irrigation control program