Project Design Phase-I

Solution Architecture

Date	25 September 2022
Team ID	PTN2022TMID50102
Project Name	SmartFarmer – IOT Enabled Smart Farming Application

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

□Find the best tech solution to solve existing business problems.

□ Describe the software's structure, characteristics, behavior, and other aspects to project stakeholders.

□Define features, development phases, and solution requirements.

□ Provide specifications accord for the solution's definition, management, and delivery **- Solution Architecture Diagram:**

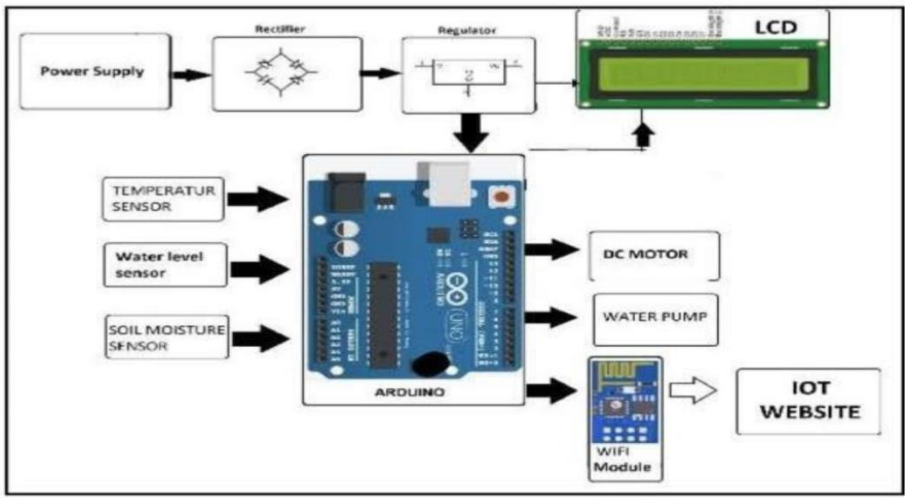

Figure 1: IOT

ENABLED SMART FARMING APPLICATION

- The different soil parameters temperature, soil moistures and then humidity are sensed using different sensors and obtained value is stored in the ibm cloud.
- Aurdino UNO is used as a processing unit that processes the data obtained from the sensors and whether data from the weather API.
- NODE-RED is used as a programming tool to write the hardware, software and APIs. The MQTT protocol is followed for the communication.
- All the collected data are provided to the user through a mobile application that was developed using the MIT app inventor. The user could decide through an app, weather to water the crop or not depending on the sensor values. By using the app they can remotely operate to the motor switch.

Reference: https://aws.amazon.com/blogs/industries/voice-applications-in-clinical-researchpowered-by-ai-on-aws-part-1-architecture-and-design-considerations/