Electronics Lab Project

Smart Farming

Submitted to

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Submitted by

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Project Objective

Our initiative focuses on advancing agriculture through intelligent technology, utilizing Arduino for a comprehensive system. This includes smart greenhouse management for optimal plant growth, pond sensors ensuring water quality for aquatic life, and an advanced egg incubator for successful hatching.

Key Features

Greenhouse Optimization: Smart sensors control temperature and light for enhanced plant cultivation.

Pond Health Monitoring: Sensors maintain optimal water conditions for aquatic life.

Efficient Egg Incubation: The system creates precise conditions for successful hatching.

Data-Driven Decision Support: Integration of sensor data empowers farmers to make informed choices remotely, promoting efficiency.

Sustainability Emphasis: Our project simplifies farming and encourages sustainable practices through technology, making farming smarter and more accessible, even from a distance.

Necessary Components

- **Green House**
  - ➔ Temperature and Humidity Sensor
  - ➔ Spray Module
  - ➔ Light
  - ➔ Fan
  - ➔ Servo Motor
  - ➔ DC Motor
  - ➔ Water Pump Motor
  - ➔ Soil Moisture Sensor
  - ➔ Light intensity sensor

- **Incubator**
  - ➔ Temperature and Humidity Sensor
  - ➔ Humidifier
  - ➔ Light
  - ➔ Fan
  - ➔ Servo Motor
  - ➔ DC Motor

- **Pond**
  - ➔ Temperature Sensor
  - ➔ PH Sensor
  - ➔ Servo Motor
  - ➔ DC Motor

Diagram