



Social Transformation Through Dynamic Education

FINAL YEAR ENGINEERING
Semester –VII
Mega Project





**Bharati Vidyapeeth's
College Of Engineering Kolhapur.**

Department of Electronics and Telecommunication

Engineering

Project Presentation

ON

**DEVELOPMENT AND COMMERCIALIZATION OF IOT
BASED VERTICAL FARMING**

SUBMITTED BY

Ms. Rajashree Vasant Dhalgade

Ms. Chetana Mohan Malwadkar

Ms. Aaditi Amar Gonugade



Contents:

Introduction

01

Literature Review

02

Block Diagram

03

App Development

04

Methodology

05

Conclusion

06



Introduction:

- Introduction to Vertical Farming
- Difference Between Vertical Farming and Traditional Farming
- Why Vertical Farming?
- Different Techniques of Vertical Farming
- Technique that we will use in Vertical Farming
- Growing crops in Vertical Farming
- Advantages of Growing Hubs in Vertical Farming
- How Food in Vertical Farming is Better/Healthier than Traditional Farming?



Literature Review:

- "IoT Based Smart Farming Application" (P.M. Dinesh et al., 2023)
- "IoT Based Mobile Application for Monitoring of Hydroponic Vertical Farming" (Gaganjot et al., 2022)
- "Vertical Farming Using Internet of Things" (Karishma Moharatha et al., 2022)
- "Vertical Farming To Sustain the Agriculture for Future Food Production and Supply" (T Naga et al., 2020)
- "An Innovative Approach to Produce Forage Crops: Barley Fodder in Vertical Farming" (Volkan et al., 2020)



About Block Diagram:

- ESP32 WIFI MODEL
- WATER LEVEL SENSOR(Ultrasonic Sensor)
- SOIL MOISTURE
- HUMIDITY AND TEMPERATURE(DHT11)
- LCD DISPLAY
- MOTOR(L293D)
- MOBILE APP

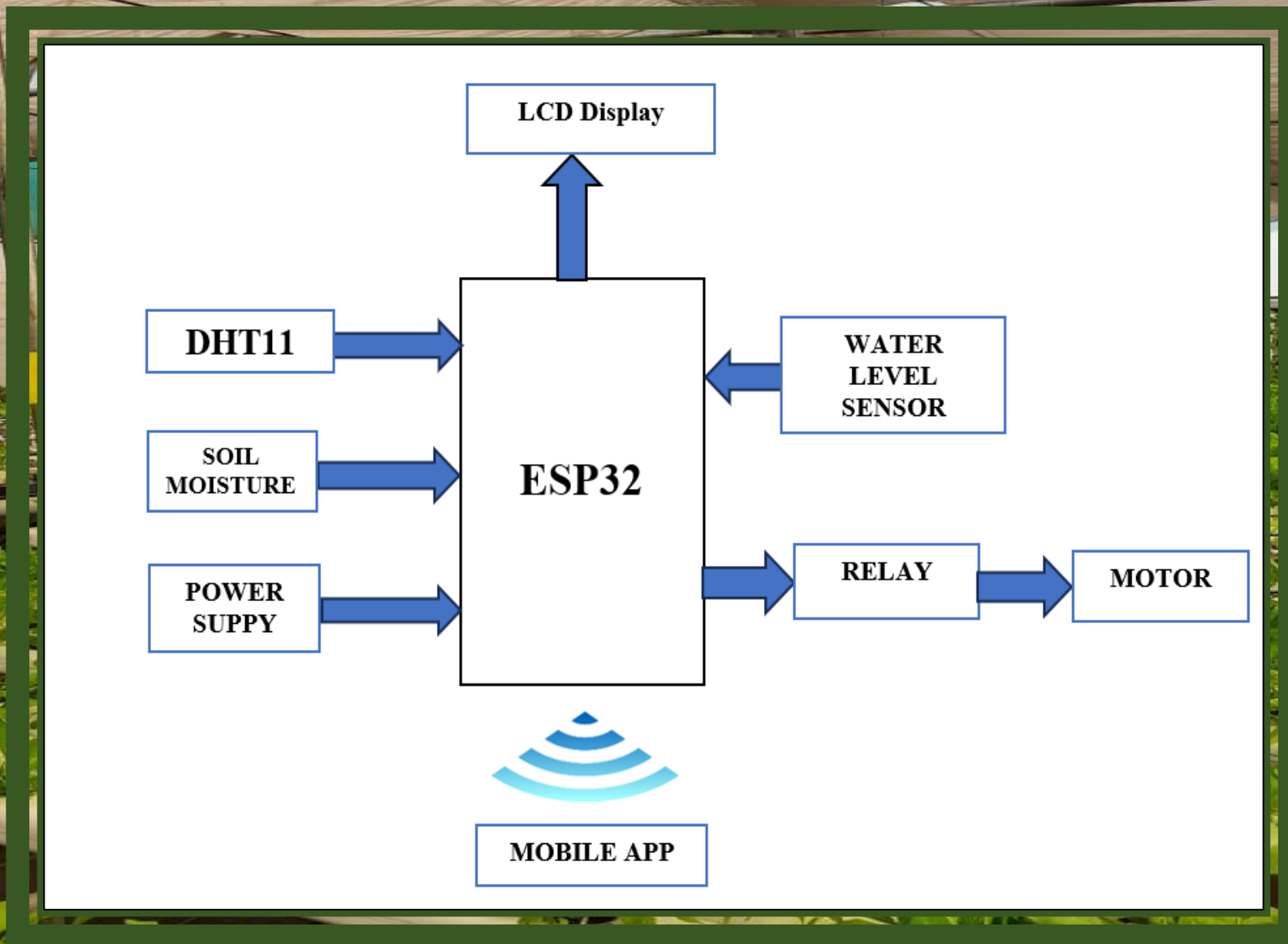


Fig.1 BLOCK DIAGRAM



Fig.2 ESP32



Fig.3 DHT11

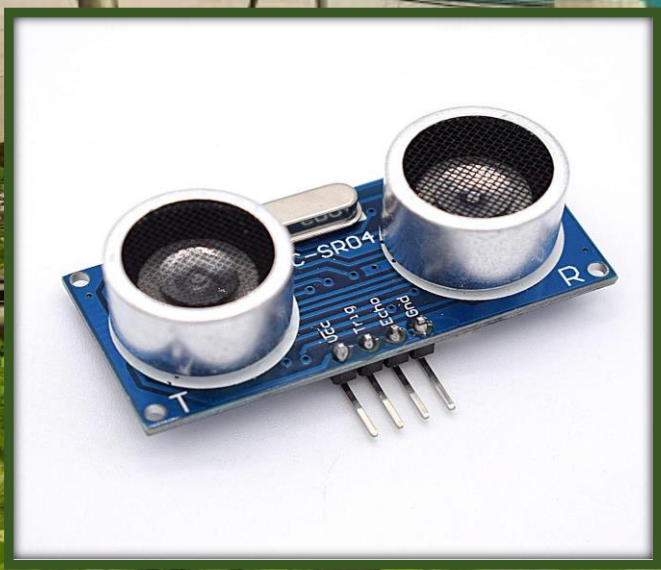


Fig.4 Water level sensor

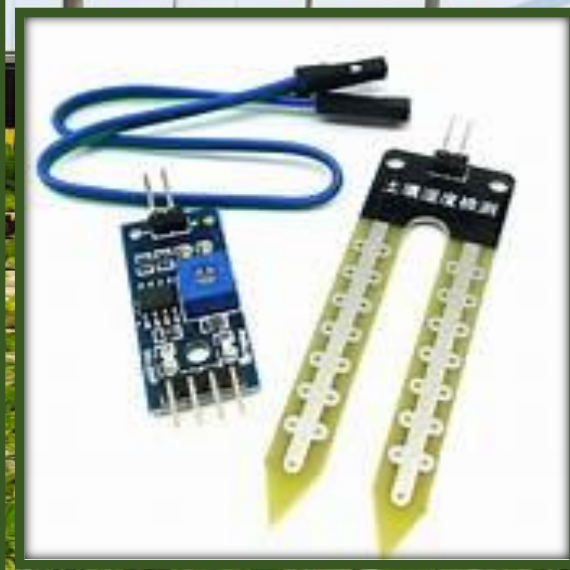


Fig.5 Soil Moisture

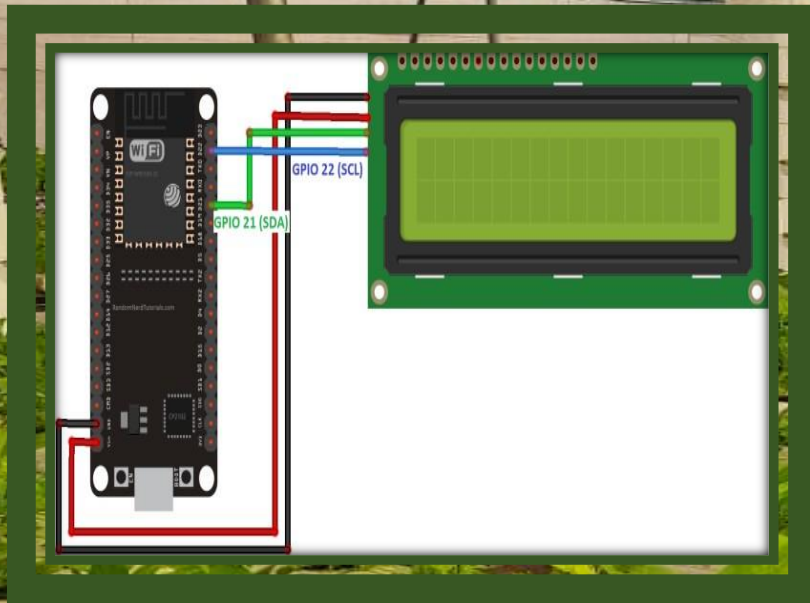


Fig.7 LCD DISPLAY



Fig.8 IoT

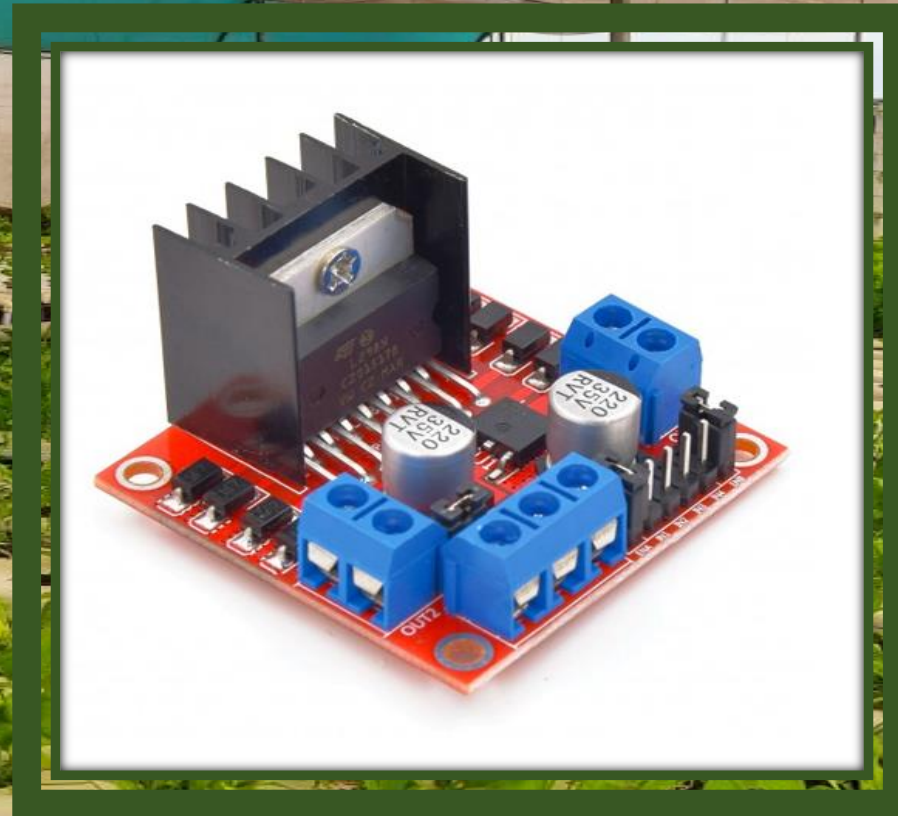


Fig.9 MOTOR (L293D)

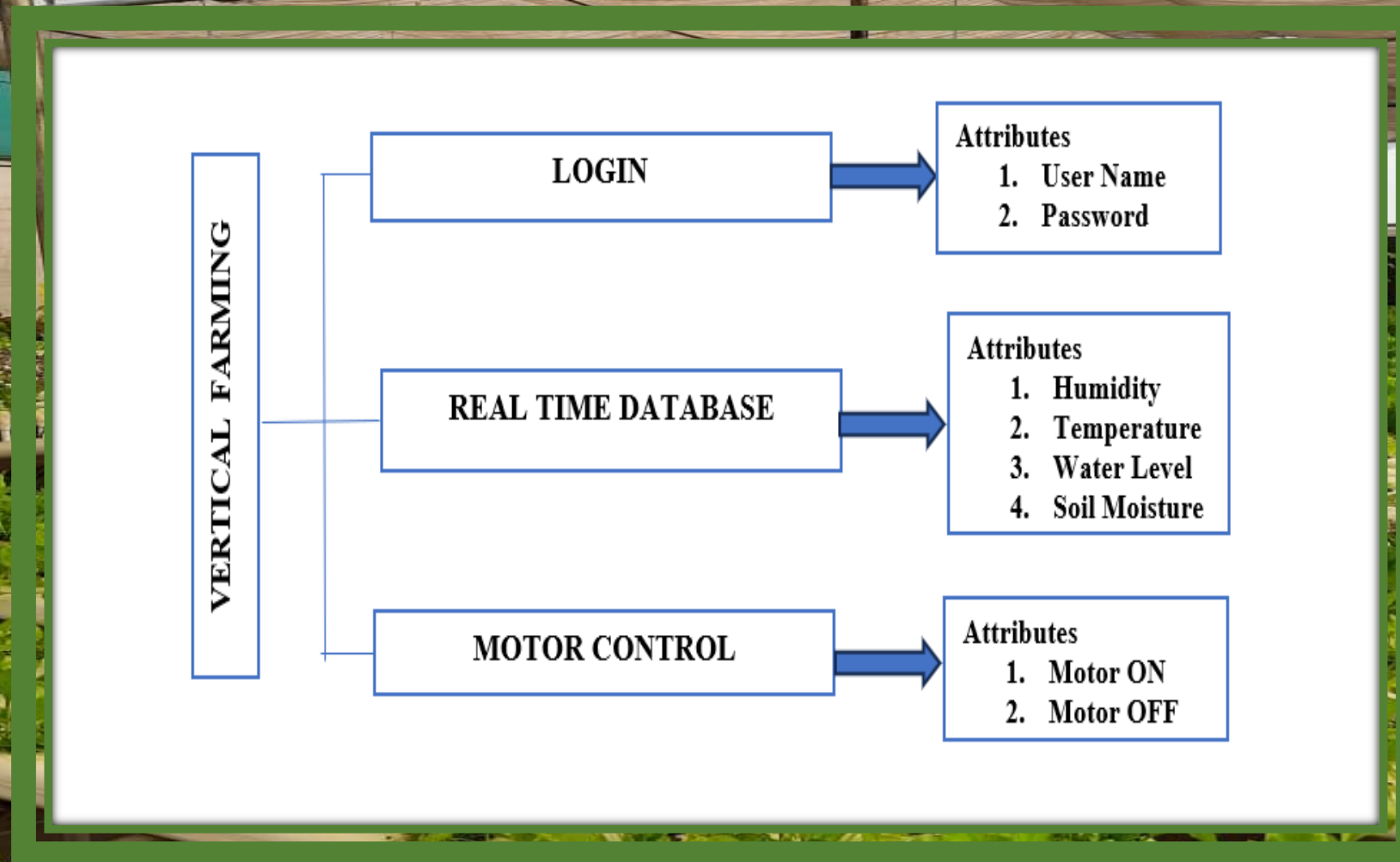


Fig.9 BLOCK DIAGRAM OF ANDROID APPLICATION



Methodology:

- Project Initiation (Crop selection):
- Requirement Analysis (Livestock production):
- Technology Selection (HVAC System):
- System Design (Real-time Integration):
- Prototype Development (Functionality Validation):
- Sensor Calibration and Testing (Accuracy Assurance):
- Cloud Server Integration (Data Management):
- Full-scale Integration (Real-world Application):
- Data Analysis and Optimization (Continuous Improvement):
- Reporting and Documentation (Knowledge Sharing):



Conclusion:

- Using low-cost technology and locally grown grains, hydroponic technology can be used to grow nutritious, palatable and digestible feed.
- Impending climate change and less land availability .
- An alternative production technology is hydroponic feed technology.
- Improve the quality of livestock feed.
- Useful cattle feeding technique in drafty areas.
- The production standard of food will increase.



THANK YOU