GOVT COLLEGE OF ENGINEERING KANNUR

MINI PROJECT

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IOT BASED ENERGY MANAGEMENT SYSTEM

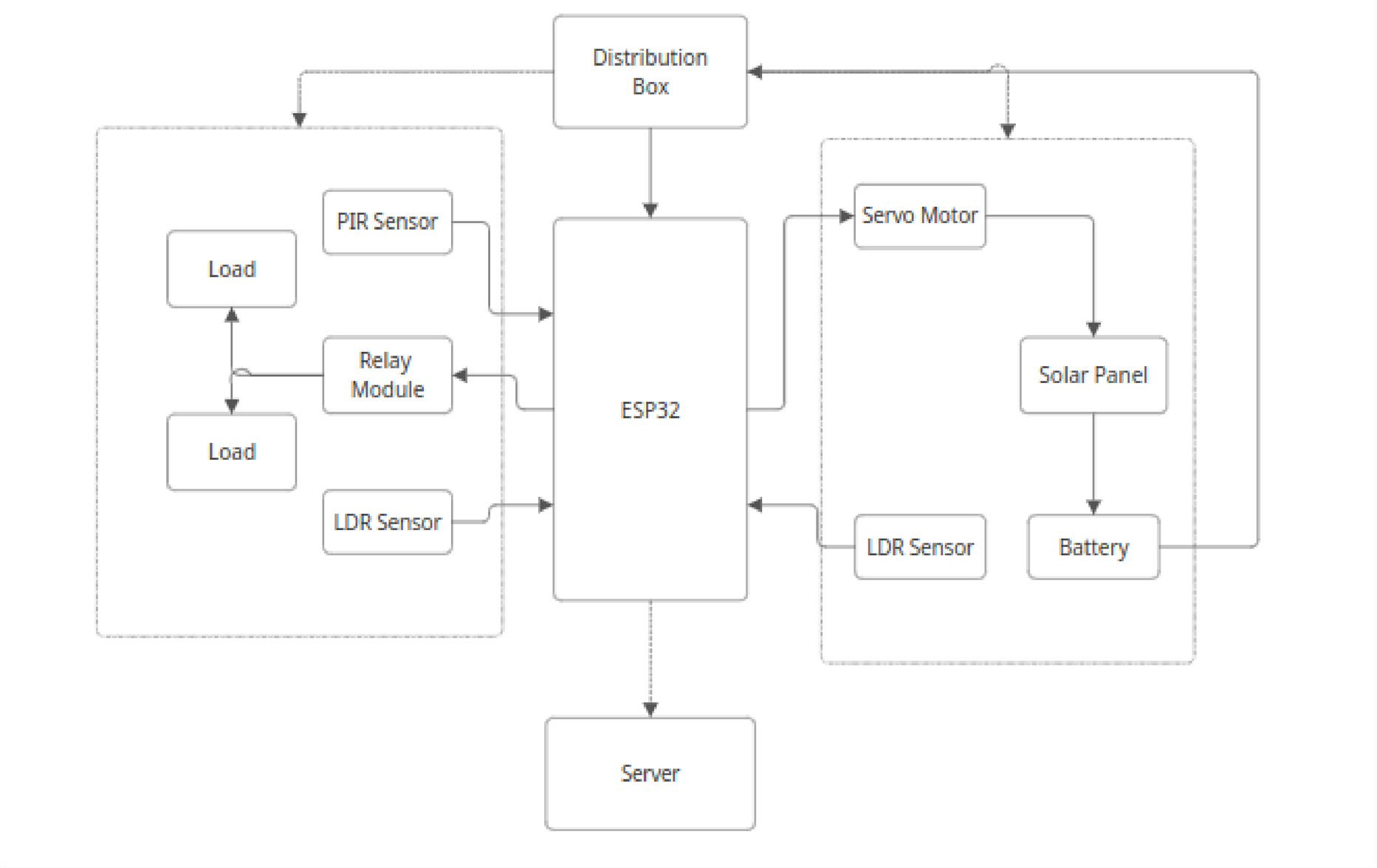
Content

INTRODUCTION

- With the increasing concern over energy conservation and sustainability, there is a growing interest in implementing smart technologies to optimize energy usage in households. Traditional energy management systems often lack the flexibility and intelligence required to adapt to dynamic energy demands.

- The primary objective of this project is to develop and implement an IoT-based energy management system for households. This system aims to monitor, analyze, and control energy consumption and encourage the use of renewable solar energy effectively with the incorporation of Internet of things.

BLOCK DIAGRAM



HARDWARE

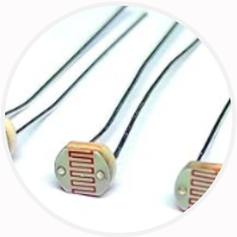
- ESP32
- Relay Module
- PIR Sensor
- Servo Motors
- LDR Sensors
- 12V 0.5A Solar Panel
- Battery

SOFTWARE

- **Arduino IDE**
- **Blynk**

Cost Estimation

ESP32



LDR SENSOR

PIR SENSOR

SERVO MOTOR

RELAY MODULE

SOLAR PANEL

Componet	Rate	Quantity
ESP32	579 Rs	1
PIR Sensor	149 Rs	1
LDR Sensor	50 Rs	2
Servo Motor	125 Rs	2
Solar Panel	250 Rs	1

TOTAL ESTIMATED COST - 2400 Rs

Timeline

APRIL
- Prototype testing
- reviewing and improvision
- Final presentation

MARCH
- Designing and simulation
- Purchasing components
- Design, implementation

FEBRUARY
- Project Planning
- Abstract submission
- Zeroth presentation

References

[1] S.Ilaveni ,C.Immaculate Shirly ,J.Jeyamani , R.Karthika “Energy Management System using IOT”International Journal of Engineering Research & Technology (IJERTISSN: 2278-0181 Published by, www.ijert.org ICONNECT - 2017 Conference Proceedings

[2] Sandipan Paul,Debasis Kumar Das , Sourav Basak “DUAL AXIS SOLAR TRACKER” A Project report submitted in partial fulfilment of the requirements for the degree of B. Tech in Electrical Engineering

THANK YOU