

GOVT COLLEGE OF ENGINEERING KANNUR

MINI PROJECT

Guided by Dr. Sajesh Kumar U

Presented by

Akash M -	05
Arjun K -	09
Arun CS -	10
Aswanth Mahesh -	12

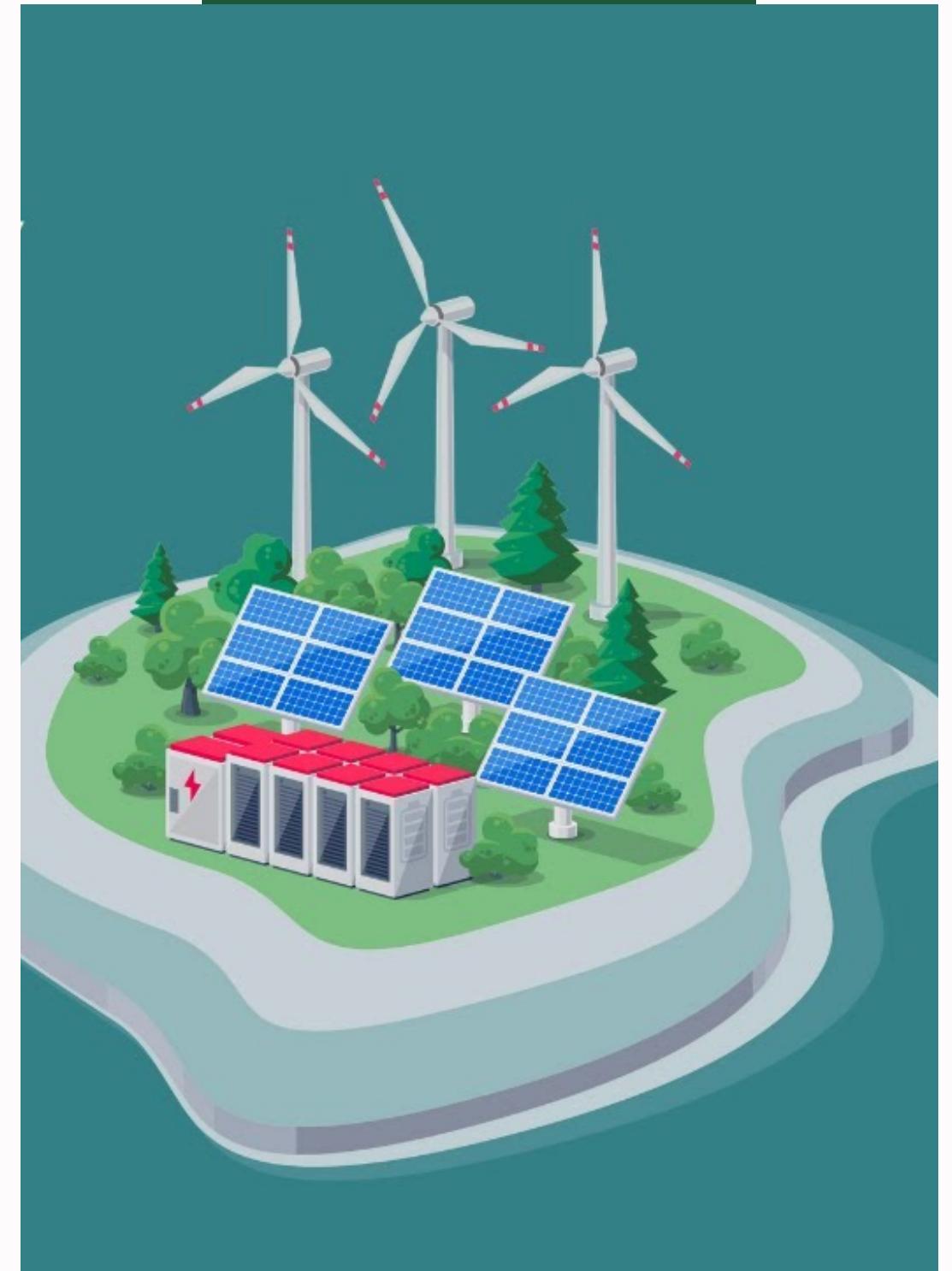
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IOT BASED ENERGY MANAGEMENT SYSTEM



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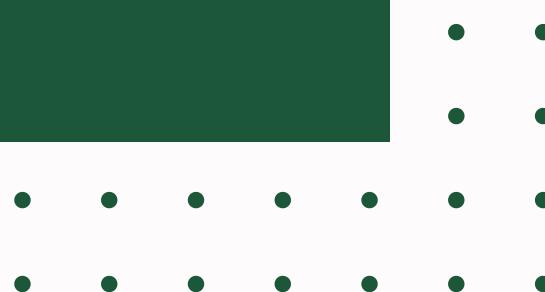
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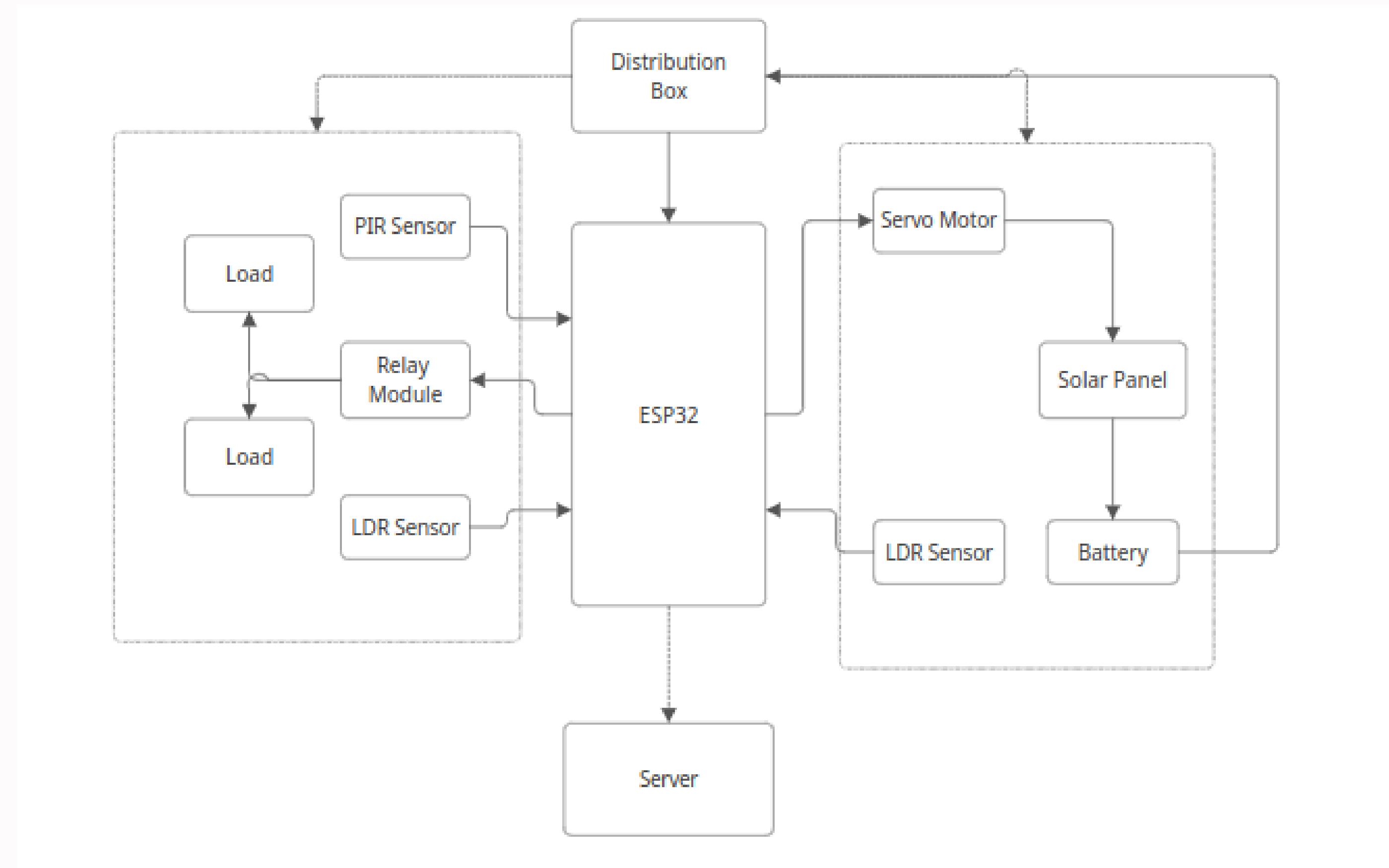
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INTRODUCTION

- 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

Cost Estimation



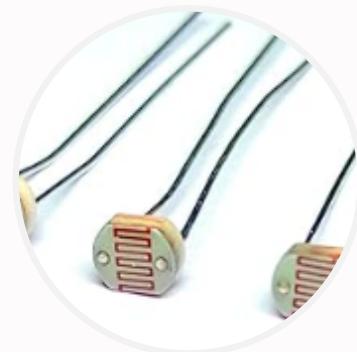
ESP32



PIR SENSOR



RELAY MODULE



LDR SENSOR



SERVO MOTOR



SOLAR PANEL

Component	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



FEBRUARY

- Project Planning
- Abstract submission
- Zeroth presentation



MARCH

- Designing and simulation
- Purchasing components
- Design, implementation



APRIL

- Prototype testing
- reviewing and improvisation
- Final presentation



**THANK
YOU**