

# USER PRESENCE – BASED SMART TABLE LAMP

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## PROBLEM STATEMENT

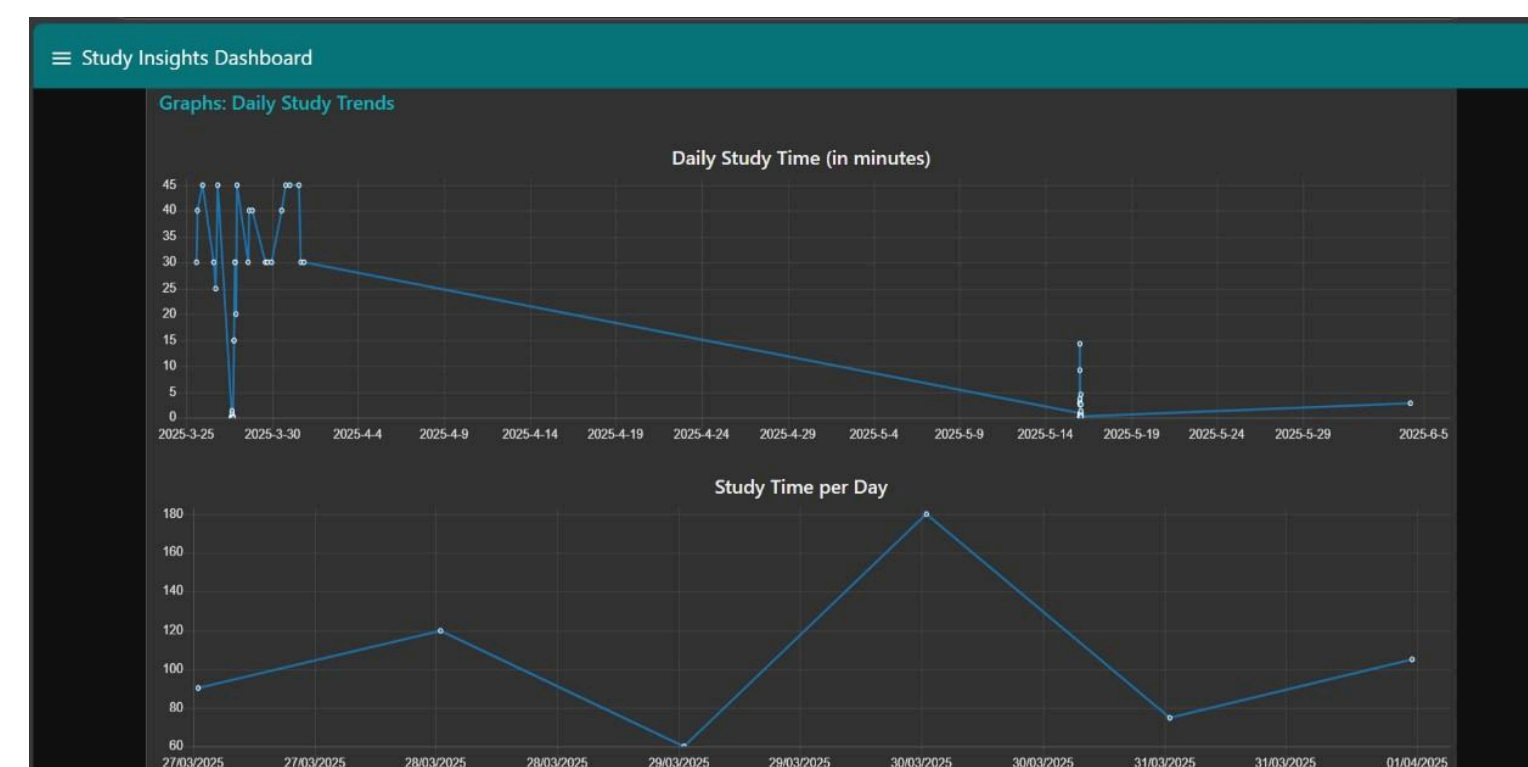
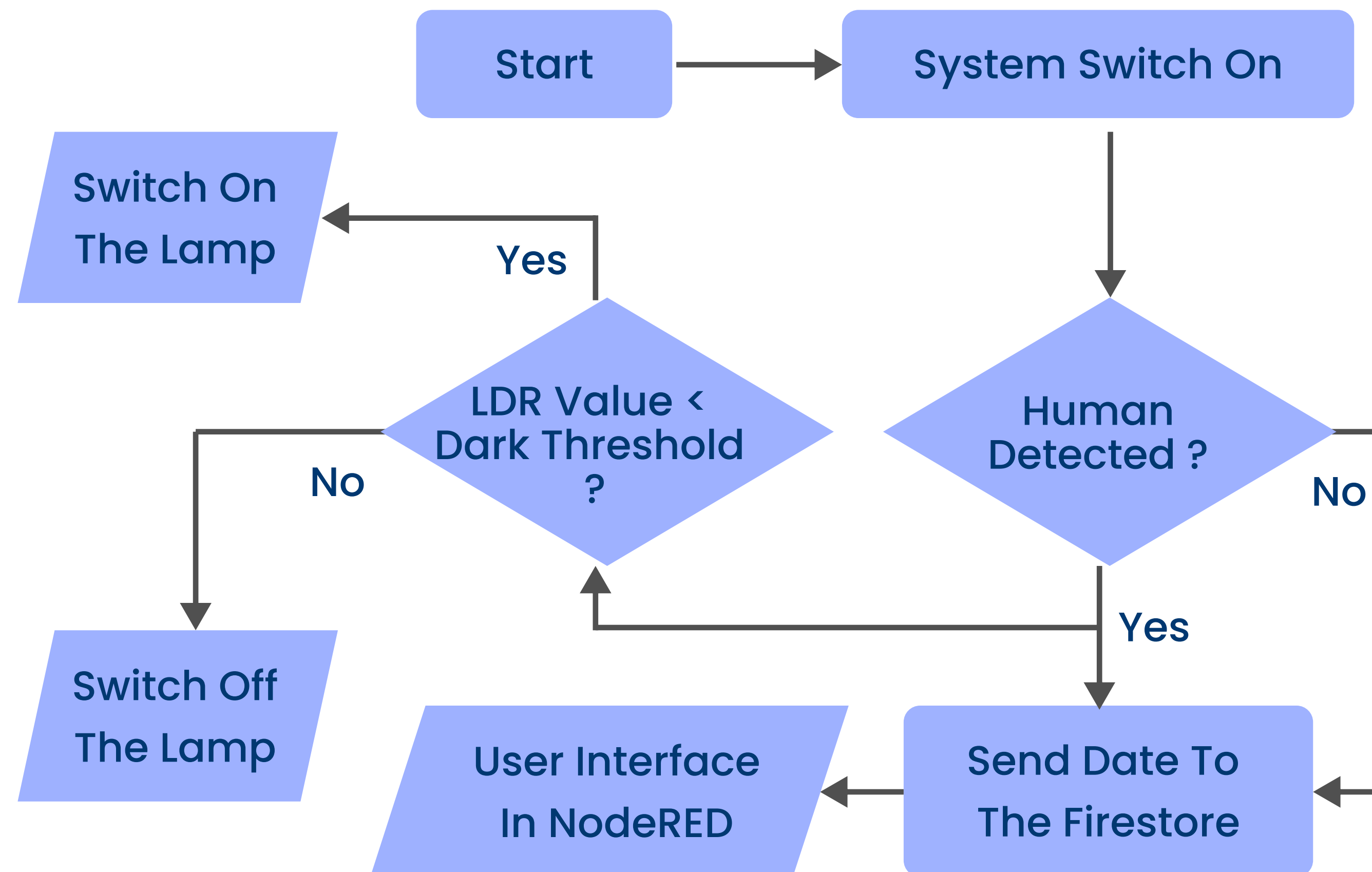
- 👤 Manually Turning The Lamp On And Off Is Inconvenient.
- 🕒 Lack Of Study Time Tracking Applications
- 🔌 Electricity Wastage
  - Lights Left On When Not In Use Causes Significant Electricity Wastage

## OBJECTIVES

- To Design And Implement A Smart Table Lamp With Automatic Control Based On User Preferences.
- To Develop A User-Friendly Web Interface For Monitoring Lamp Usage.
- To Track Study Time And Analyze User Patterns.

## METHODOLOGY

Developed Using ESP32 LDR Sensor For Ambient Light Detection , LD2410B Radar Sensor For Continuous Human Presence Sensing



## OUTCOMES

- Automatically Switch On The Lamp When It S Dark And Human Presence Is Detected.
- Displays Current Time, LDR Value And Human Presence Status On The OLED.
- Stores Real Time Data In The Firestore And Visualizes In Node RED Dashboard



## FEATURES

- Adjustable Brightness
- Adjustable Light Panel
- OLED Display
- Buzzer Alert - Inspired By Pomodoro Technique

## FUTURE DEVELOPMENTS

- Compact Circuit Design- PCB
- Smaller Microcontroller Chip
- Power Options - USB And Battery
- Mobile App Integration