LIFT SAFETY MONITORING SYSTEM

EE371

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INTRODUCTION

Imagine being stuck in an elevator with no power and no way to call for help. This Lift Safety Monitoring System is built to prevent that fear from becoming reality. By sensing movement or presence inside a stalled lift, it instantly reaches out to those who can help—ensuring no one is left behind in the dark.

OBJECTIVES

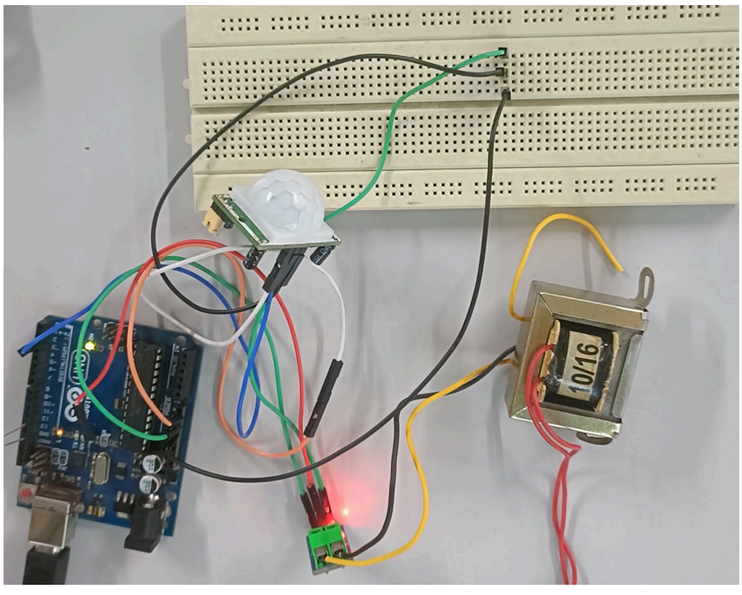
- Detect the presence of a person in the lift during power outages.
- Send an alert message to a designated contact in case of a person being trapped in the lift.
- Ensure a quick and efficient response to lift emergencies.

SYSTEMCOMPONENTS

- PIR Motion Sensor – Detects human presence
- Arduino – Central control unit
- ESP32 Module – Sends alert messages
- Backup Power Supply – During power outages
- ACS 712 Sensor – Detects power flow
- Step Down Transformer – Regulates voltage

SYSTEM OPERATION

When the system detects a power outage, the PIR motion sensors within the lift are activated to determine if a person is present. If an individual is detected, the system triggers the communication module to send an alert message to the designated contact, providing information about the potential emergency.



BENEFITS

✅ Enhanced passenger safety
✅ Faster emergency response
✅ Reduced risks of being trapped

FUTURE ENHANCEMENTS

🔄 Integration with Building Management Systems
📡 Real-time Remote Monitoring capabilities

CONCLUSION

The Lift Safety Monitoring System is a crucial advancement in ensuring the safety of individuals using lifts during power outages. By providing a reliable means of detecting the presence of a person in the lift and alerting designated contacts, the system contributes to a safer and more secure environment in buildings equipped with elevators

REFERENCES

- Arduino Documentation. (n.d.). Arduino Reference Guide. https://www.arduino.cc/referenc
- IEEE Xplore. (n.d.). Smart Elevator Monitoring System for Trapped Passengers Using IoT. https://ieeexplore.ieee.org