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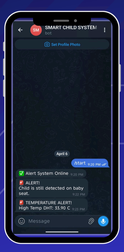
SENTINEL DEV

SMART CHILD DETECTION & HEALTH SAFETY SYSTEM



SUPERVISOR
MOHD REZZA BIN ABDULLAH
DEPARTMENT OF INFORMATION AND COMMUNICATION TECHNOLOGY

ZAIM BIN ZAINUHA
17DIT23F2028

MUHAMAD 'AMIN BIN REDZUAN
17DIT23F2001

MUHAMMAD DANIL BIN ZULKARNAINI
17DIT23F2050

PRODUCT DESCRIPTION

SENTINEL DEV is an IoT-based system designed to improve child safety in vehicles by detecting if a child is left inside. It uses a force sensor, ultrasonic sensor and temperature sensor to monitor the situation. If danger is detected, the system sends a notification to the caregiver and activates a buzzer. The system is built using ESP32, Arduino IDE, MIT App Inventor and Firebase for real-time alerts

MIT APP INVENTOR
ARDUINO
Telegram
Firebase

PROBLEM AND CAUSES

- Ineffective Emergency Alert Mechanism
- Lack of Child Presence Detection System in Vehicles
- Lack of Real-Time Temperature Monitoring for Children

SIGNIFICANTS AND BENEFITS

Improves Child Safety

Ineffective Emergency Alert Mechanism detecting presence and preventing children from being left in vehicles.

Provides Early Warning

Through real-time monitoring of temperature and conditions.

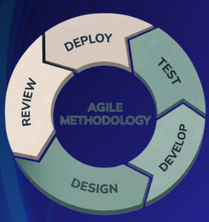
Ensures Reliable Alerts

Using both mobile notifications and a buzzer system.

OBJECTIVES

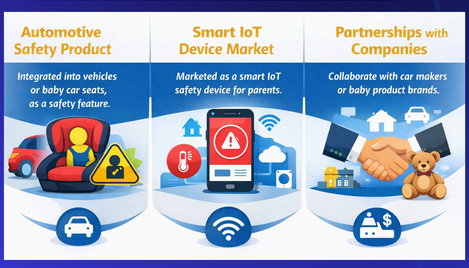
- To develop a system that detects a child's presence using a force sensor and monitors parent movement using an ultrasonic sensor.
- To design an alert system that sends automatic notifications and activates a buzzer as a backup.
- To develop a system that monitors temperature using a DHT sensor and provides early warnings when it exceeds a set threshold.

METHODOLOGY & MATERIAL



Agile methodology is chosen because it allows us to develop and improve the system step by step. It helps us test the sensors and fix problems quickly, making the system more accurate and reliable. It is also flexible, so we can easily adjust features like timing and alerts during development.

COMMERCIALIZATION POTENTIAL



CONCLUSION

This project develops a Smart Child Detection and Health Safety System to improve child safety in vehicles. The system detects child presence, monitors temperature, and provides alerts through notifications and a buzzer. Overall, it offers a reliable and practical solution to prevent children from being left unattended and reduce potential risks.

SURVEY

- **50%** The majority of respondents agree that the system can help prevent children from being left in vehicles.
- **55%** Most respondents strongly agree that SENTINEL DEV is an effective solution, indicating high confidence in its ability to improve child safety.
- **60%** Most respondents strongly agree and would recommend this system, showing high confidence in it.
- **50%** Most people are interested in using personal safety devices.