



## Emergency Call Dispatcher

- A C++ Project Simulating Backend Emergency Response
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- Lovely professional university

# Problem Statement & Objective

## Problem Statement:

In real-world emergency situations, delays or miscommunication during dispatch can cost lives.

Traditional systems often face issues like:

- Manual handling of critical information
- No centralized log of emergency calls
- Slow or incorrect routing to the right team

## Project Objective:

To create a **C++ simulation of a backend emergency call dispatcher** that:

- Accepts caller details (name, location, emergency type)
- Validates and categorizes the emergency (Police, Fire, Medical)
- Dispatches the appropriate team
- Logs each valid call with a timestamp
- Provides an interface to view all past emergency logs

# Key Features

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## Smart Dispatcher Simulation (Using C++)

- Accepts emergency calls from users via a menu-driven CLI
- Inputs: Caller name, location, and emergency type
- Validates emergency type: Only "Police", "Fire", or "Medical" allowed

## Intelligent Dispatch Logic

- Based on the type, the appropriate team is dispatched:
  - *Police*
  - *Fire Department*
  - *Medical Services*
- Invalid entries are rejected with an error message



## Log Viewer Option

- View all previously handled emergency calls through the menu
- Helps in review and tracking of all emergency events



# Technology Used & Code Flow

## Technology Stack

- **Language:** C++
- **IDE:** Visual Studio Code
- **Compiler:** MinGW (g++)
- **Core Concepts Used:**
  - File handling
  - Conditional logic
  - Loops and menus
  - Time and date functions
  - String manipulation

## Code Flow Overview

1. Start Program

2. Display Menu:

[1] Take Emergency Call

[2] View Call Log

[3] Exit

3. If [1] → Input name, location, type

↳ If valid type → Dispatch + Log

↳ If invalid → Show error

4. If [2] → Display log file contents

5. Repeat until [3] (Exit)

# Sample Output & Log File

## Sample Terminal Interaction

===== Emergency Call Dispatcher =====

1. Take Emergency Call
2. View Call Log
3. Exit

Enter your choice: 1

Taking new emergency call...

Enter caller's name: Aisha

Enter location: Mumbai

Enter emergency type (Police/Fire/Medical): Fire

Fire department dispatched.

Emergency recorded and team dispatched.



## Sample Log File Entry (emergency\_log.txt)

[2025-07-13 18:43:07] Name: Aisha, Location: Mumbai, Type: Fire

# Conclusion & Future Scope

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## Conclusion

Our **Emergency Call Dispatcher** successfully simulates the backend logic of an emergency response system using C++. It:

- Accepts and validates emergency calls
- Dispatches appropriate services based on type
- Logs all valid emergencies with timestamps
- Allows reviewing the full emergency call history
- This project strengthened our understanding of:
- Practical C++ programming
- Real-world logic simulation
- Team collaboration and problem-solving

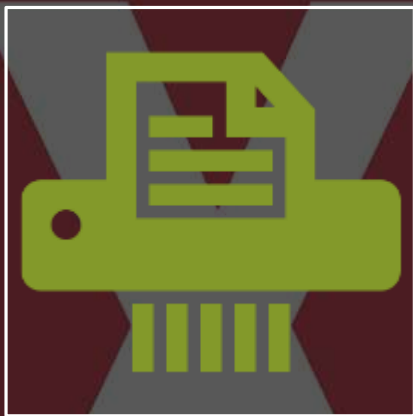
## Future Scope

- **Real Call Integration** using APIs like Twilio to place actual emergency test calls
- **Graphical User Interface (GUI)** to make it more user-friendly
- **Database Support** (e.g., SQLite) to replace text-based logs for scalability
- **Statistics Module** to show number of calls per service, time patterns, etc.
- **Web or Mobile App** version to expand accessibility



# Thank You

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GitHub link:



[https://github.com/abrarmusharaf/Emergency-  
Call-Dispatcher](https://github.com/abrarmusharaf/Emergency-Call-Dispatcher)