Brief Description

The Disaster Relief Supply Chain and Inventory Management System is a Python-based application with a Tkinter GUI and MySQL database for real-time inventory management and aid request processing. It enables administrators to update stock, view requests, and optimize distribution, while users can submit aid requests specifying their needs. The system ensures efficient resource allocation using FIFO, priority-based, and location-based strategies and visualizes distribution performance through matplotlib.

Methodology

1. Database Management (MySQL)

Tables: admin, main\_inventory, request

CRUD operations: Add, update, and fetch inventory & request data

Secure authentication for admin access

1. GUI Implementation (Tkinter)

Forms for user request submission and admin inventory management

Message boxes for feedback and error handling

1. Request Processing Strategies

FIFO (First-In, First-Out): Processes aid requests in order of submission

Priority-Based: Prioritizes urgent cases

Location-Based: Prefers requests from high-risk areas

1. Data Visualization (Matplotlib)

Compares processing strategies based on response times

1. Error Handling & Optimization

Fixed SQL parameter mismatches and unread results

Used separate database cursors for different queries

This approach ensures efficient, real-time disaster relief management, optimizing inventory usage and aid distribution.

Note:

For storing the inventory we use SQL database

So we need to create tqble inventory main and request

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