



Northeastern University

INFO5100 – APPLICATION ENGINEERING AND DEVELOPMENT

DISASTER MANAGEMENT SYSTEM

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“In the face of disaster, we must remain resilient and come together as a community to help those in need.”

- Barack Obama

Disasters are a frequent occurrence in today's world, and their impact can be devastating. Timely and efficient disaster management is critical to minimize loss of life and property, and aid in the recovery of affected communities. The disaster management system application presented in this report is a unified platform designed to connect all stakeholders involved in disaster response efforts. It includes features like help seeker, disaster assistance portal, help providers in form of volunteers and doctors, donors, and suppliers of goods, aimed at simplifying disaster management processes. The system also includes a supply chain management feature, ensuring the timely delivery of essential resources to affected areas, minimizing wastage, and preventing bottlenecks.

Overall, the disaster management system application is a valuable tool that can significantly enhance disaster response efforts. It provides a centralized platform for coordination and communication, which can improve disaster management efficiency, ultimately saving lives and reducing the impact of disasters.

KEY FUNCTIONALITIES

1. EMERGENCY ASSISTANCE ENTERPRISE:

- Provides assistance to customers through the Emergency Assistance Organization upon receiving requests from help providers.
- Organizes events to raise awareness about disasters and other relevant issues in society.
- Raises requests for volunteer participation in events.

2. DISASTER MANAGEMENT ENTERPRISE

- Receives customer requests and aims to fulfill the; if unable, escalates the request to the Emergency Assistance Provider Organization or Doctor Organization in critical situations.
- Responds to fund-raising requests from emergency assistance providers.
- Volunteer organization provides volunteers to join the events created by Emergency assistance.

3. SUPPLY CHAIN MANAGEMENT ENTERPRISE

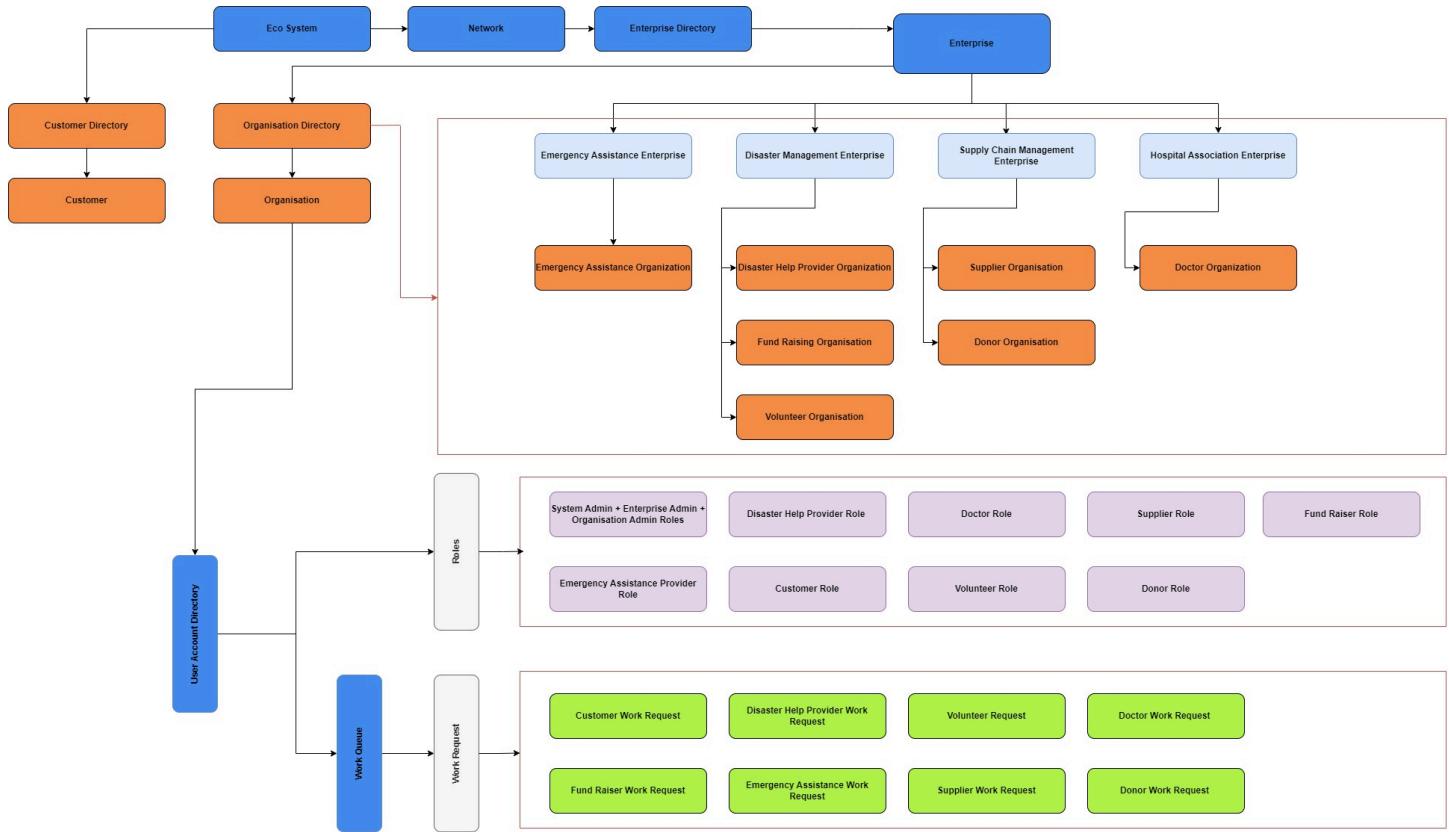
- Provides supplies in response to on-demand requests raised by emergency assistance providers to aid customers.
- Donates necessities such as food, clothing, medicine, education, and furniture for the well-being of customers.

4. HOSPITAL ASSOCIATION ENTERPRISE

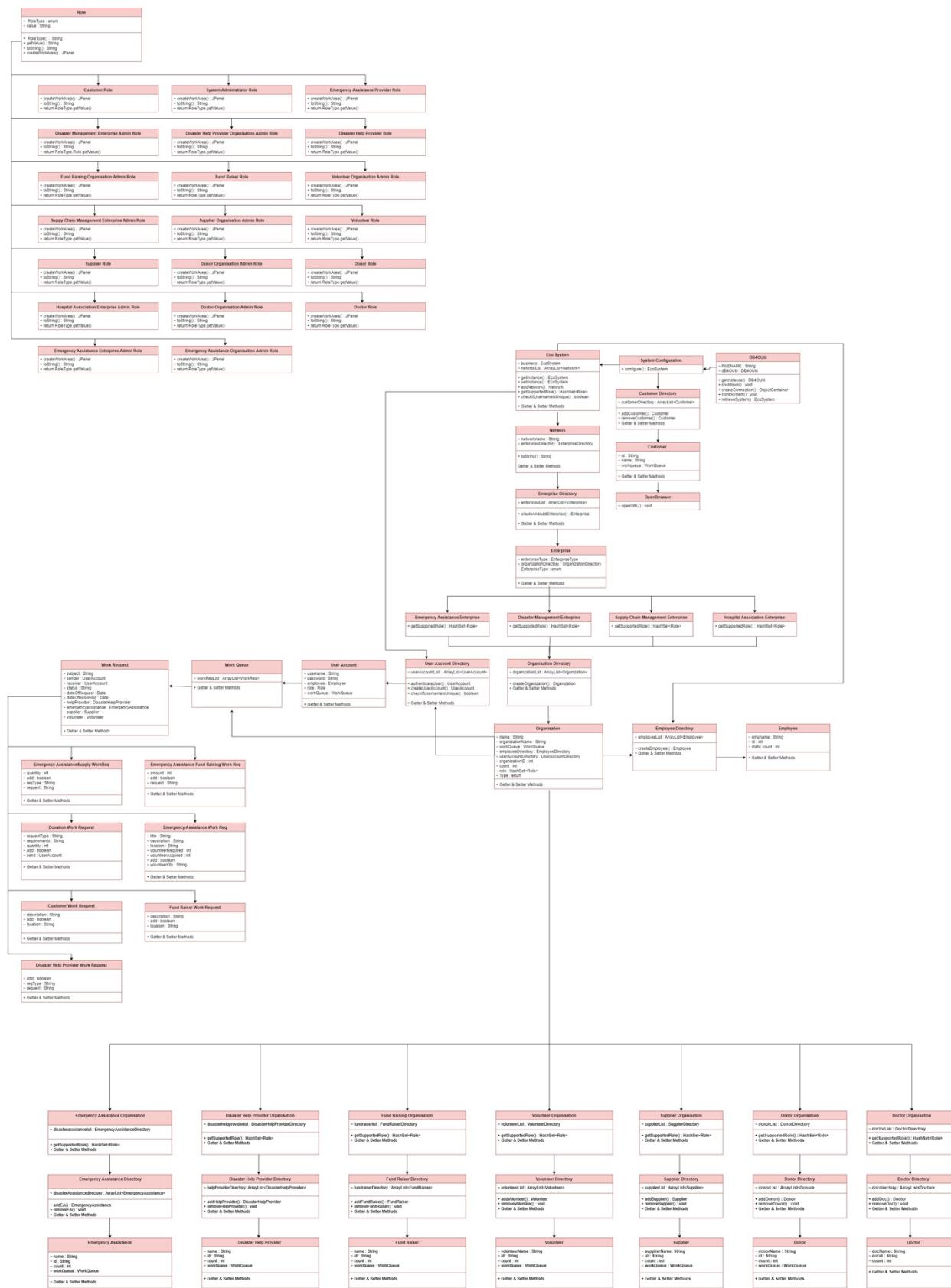
- Receives requests from help providers and provides health and medicinal-related assistance to the customers.

APPROACH

ARCHITECTURAL DIAGRAM (HIGH LEVEL COMPONENT DIAGRAM)



UML CLASS DIAGRAM



OBJECTIVES

1. To provide a unified platform for all stakeholders involved in disaster response efforts, including help seekers, help providers, donors, and suppliers of goods.
2. To simplify disaster management processes by enabling efficient coordination and communication between stakeholders.
3. To ensure the timely delivery of essential resources to affected areas by implementing a supply chain management feature.
4. To minimize wastage and prevent bottlenecks in the distribution of resources.
5. To aid in the recovery of affected communities by providing assistance and support to those in need.
6. To enhance disaster management efficiency, ultimately saving lives and reducing the impact of disasters.

USE CASES

1. **Customer:** A person who needs assistance during a disaster can use the application to request help. This may include requesting medical assistance, rescue services, or essential supplies like food and water.
2. **Disaster Assistance Portal:** The application can serve as a portal for disaster assistance, providing information about available resources and services in affected areas.
3. **Help Providers:** The application can connect volunteers and medical professionals with those in need of assistance. Help providers can register on the platform and offer their services during a disaster.
4. **Donors:** The application can also serve as a platform for donors to contribute funds, supplies, and other resources to support disaster relief efforts.
5. **Suppliers of Goods:** The application can help suppliers of essential goods like food, water, and medical supplies to coordinate their efforts and ensure timely delivery to affected areas.
6. **Supply Chain Management:** The application can be used to manage the supply chain of essential resources during a disaster. This can include tracking the delivery of goods, managing inventory, and identifying bottlenecks in the distribution process.

WELCOME PAGE LOGIN

SYSTEM ADMINISTRATOR LOGIN

The screenshot shows the 'System Administrator Work Area' interface. At the top, there is a dark header bar with the word 'LOGIN' and a clock icon. To the right of the header are fields for 'Username' (sysadmin) and 'Password' (*****), and buttons for 'Login' and 'Logout'. Below the header is a cyan-colored title bar with the text 'System Administrator Work Area'. The main content area contains four cards, each with an icon and a label: 'Manage Network' (a person using a magnifying glass on a network diagram), 'Manage Enterprise' (a person in a suit with a checklist), 'Manage Enterprise Administrator' (a person using a magnifying glass on a document), and 'Manage Customer' (a person using a smartphone with a user profile). The background of the main content area is white.

CUSTOMER LOGIN WORK AREA

LOGIN

08:30:39
04/23/2023

Username: Password:

Customer Work Area

REQUEST HISTORY

Name	Subject	Description	Location	Date	Status	Help Provider
cust1	Health issue	Kidney donation	Boston	Sat Apr 22 21:18:3...	Assigned To Emerg...	
cust1	Medicine supplies	specialized prescrip...	Boston	Sat Apr 22 21:20:4...	Assigned To Emerg...	
cust1	Medicine supply	specialized medicine	Texas	Sat Apr 22 21:35:4...	Requested	

Subject :

Description :

Location :

Helpful Links!

[Hospitals Near By](#) 

Post Request



EMERGENCY ASSISTANCE PROVIDER WORK AREA

LOGIN

08:25:13
04/23/2023

Username: Password:

Emergency Assistance Provider Work Area

Event Title **Description** **Date** **Location** **Volunteers Required** **Volunteers acquired**

Donate Kidney	donation	Tue Apr 04 00:07:14 ED...	Boston	1	2
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CREATE EVENT:

Event Title: Date: 

Description: Volunteers Required: Location:

PENDING REQUESTS:

Name	Subject	Description	Location	Date	Status	Help Provider
cust1	Health issue	Kidney donation	Boston	Sat Apr 22 21:18:31...	Assigned To Emerg...	
cust1	Medicine supplies	specialized prescrip...	Boston	Sat Apr 22 21:20:44...	Assigned To Emerg...	



SUPPLIER WORK AREA

LOGIN

08:26:19
04/23/2023

Username: supoe
Password: ****

Login Logout

Supplier Work Area



Request Type	Requirements	Quantity	Status	Source

Complete Assign

AVAILABLE STOCK AND STATUS:

Request Type:

Requirement:

Quantity :

Request ...	Requirement	Quantity	Status	Donor

DONOR WORK AREA

LOGIN

08:26:40
04/23/2023

Username: donee
Password: ****

Login Logout

Donor User Work Area



Request Type	Requirement	Quantity	Status	Donor

DOCTOR WORK AREA

LOGIN

08:27:09
04/23/2023

Username: Password:

Login Logout

Doctor User Work Area

Name	Subject	Description	Location	Date	Status	Help Provi...



COMPLETE

DISASTER HELP PROVIDER WORK AREA

LOGIN

08:27:27
04/23/2023

Username: Password:

Login Logout

Disaster Help Provider User Work Area

Name	Subject	Description	Location	Date	Status	Help Provider
cust1	Health issue	Kidney donation	Boston	Sat Apr 22 21:18:3...	Assigned To Emerg...	
cust1	Medicine supplies	specialized prescri...	Boston	Sat Apr 22 21:20:4...	Assigned To Emerg...	
cust1	Medicine supply	specialized medicine	Texas	Sat Apr 22 21:35:4...	Requested	

ASSIGN TO ME **COMPLETE** **FORWARD REQUEST TO EMERGENCY ASSISTANCE PROVIDER**

REQUEST ANALYSIS **VIEW** **FORWARD REQUEST TO DOCTOR**

Subject:

Description:

Location:



FUND RAISER WORK AREA

LOGIN

08:27:40
04/23/2023

Username: froe
Password: ****

Login Logout

Fund Raiser Work Area

REQUEST HISTORY

Amount	Status	Source	Description

Complete Request



VOLUNTEER WORK AREA

LOGIN

08:27:56
04/23/2023

Username: voe
Password: ****

Login Logout

Volunteer Dashboard

Event Title	Description	Date	Location	Volunteers Required	Volunteers acquired

Event Title :
Description :
Location :
Date :
Volunteers Required:

View Join this event



CONTRIBUTIONS

PULKIT PRAKASH: UI.Customer, UI.DisasterManagementEnterprise (admins), CRUD DisasterHelpProvider, CRUD Fund Raiser, CRUD Volunteer

AKSHIT SAXENA: UI.SupplyChainManagementEnterprise (admins), CRUD Supplier, CRUD Donor, UI.HospitalAssociationEnterprise, CRUD Doctor

HIMANSHU MAL: UI.EmergencyAssistanceEnterprise (admins), CRUD EmergencyAssistanceProvider, OpenWeb, UI.SystemAdmin