
SafeTogether



INFO 5100 Application Engineering and Development

Final Project

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Problem Statement:

The Covid-19 global pandemic presented the need for a technological solution that allows medical stakeholders and emergency personnel while protect the health and safety of employees involved. Safe Together allows users to holistically manage their response to the pandemic and mitigate associated risks based on social distancing measures.

We saw the need for a complete system that enables quick and convenient ways to safely and securely manage the logistics involved in managing a pandemic. Our system enables the user to be “pandemic proof” for all global endemics of the future.

Proposed Solution:

The purpose of the Safe Together pandemic management system is to manage both the epidemic situation as well as any emergency situations that will eventually arise during the different waves of a pandemic. Furthermore, this application helps us to keep track of the number of infections and the vaccination status after the rollouts of the vaccination, it also enables users to navigate to the services that they need and allows them to broadcast their location to any emergency services that they may need.

Key Functionalities:

1. One-stop solution for user’s medical and emergency services required during the pandemic
2. Users can book doctor appointments, get notified via email and text message
3. Users can book test appointments, vaccination status, medicine order history, and status
4. Users can also report three kinds of emergencies i.e., fire, crime, and ambulance services by providing the exact location of the emergency
5. Users also have an option to donate blood during the pandemic and view their blood vitals
6. Government can view and manage vaccination requests raised by users effectively
7. Blood banks can effectively manage and maintain available blood units and blood donation requests
8. Easy patient consultation and appointment maintenance for the registered doctors.
9. Emergency location broadcasting for first responders
10. CDC officers can easily view the pandemic trends and effectively contain the disease at an early stage
11. Managing stock of the medicines/drugs in the pharmacy.

Ecosystem Model:

The Safe Together Model is based on five enterprises: Hospital Enterprise, Pharmaceutical Enterprise, Government Enterprise, Emergency Enterprise, and nonprofit enterprise.

Each enterprise has different organizations.

1. Hospital Enterprise has four organizations –
 - Doctor Association
 - Pandemic test centers
2. Pharmaceutical Enterprise has one organization –
 - Pharmacy
3. Government Enterprise has two organizations –
 - CDC department
 - Vaccination Department
4. Non-profit Organization has one organization –
 - Blood Banks
5. Emergency Services has three organizations –
 - Fire Department
 - Police Department
 - Ambulance Services

Advanced features used in the project:

- Email notification
- Phone notification
- Graphs – Pie charts and bar graphs
- Google maps for location.
- Calendar date choosing.

Roles and Responsibilities:

1. **System Admin**
 - Create Doctor Login
 - Create pharmacy admin Login
 - Create pandemic test center admin Login
 - Create CDC officer login
 - Create Fire Admin login
 - Create police dept admin login
 - Create Ambulance admin login
 - Create blood bank admin login
2. **Doctor Login**

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- Request blood units
 - Manage Appointments
 - Consultation
 - Prescribe medicine
- 3. Pharmacy Admin:**
- Manage medicine stock and price
 - Manage medicine order requests
 - Vaccinate patients
- 4. Pandemic Test center Admin:**
- Update pandemic test results for the patient
- 5. DCD Admin:**
- Manage patient's vaccination requests
 - View analysis of the number of active cases
 - Overall vaccination status of the community
 - View the patient enrollment details
- 6. Fire Department Admin:**
- Can view the exact location of the emergency request raised by the user
 - Manage emergency requests raised by the user
- 7. Police Department Admin:**
- Can view the exact location of the emergency request raised by the user
 - Manage emergency requests raised by the user
- 8. Ambulance services Admin:**
- Can view the exact location of the emergency request raised by the user
 - Manage emergency requests raised by the user
- 9. Blood bank Admin**
- Manage blood unit requests raised by doctor
 - Manage blood units and types of inventories
 - Manage blood donation requests raised by users
- 10. Patient Login**
- Book doctor appointments
 - View test centers and book pandemic test appointment
 - View and collect pharmacy orders
 - Register for vaccination and view vaccination status
 - Raise request for blood donation
 - Raise an emergency service request by providing exact location

Eco-System architecture diagram:

