IIIT Hyderabad

COMPUTER SCIENCE AND ENGINEERING

Software Engineering

Design and implementation of a web app aiding in the distribution of basic amenities in the current COVID-19 pandemic

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1 ABSTRACT

In view of the current COVID-19 pandemic situation, many people are quarantined at their homes, especially the old people and people in hotspot areas, who have limited means to get even the basic needs. In this project, we come up with a solution by designing a web app, which acts as an interface between users and service providers of emergency services like ambulance, water, medical supplies, grocery supplies etc. This can be used by the Government or NGOs in order to locate these areas and provide them the required services.

Our model can also be used to predict potential emergencies in case the situation goes out of hand; and where and in what proportion should the medical kits and other supplies be provided in case of such situations.

2 DESIGN DOCUMENTATION

The 4 kinds of users using the application are:

- Normal user in need of basic amenities
- Service providers
- Delivery persons (Volunteers)
- Data Collector (Government representatives)

Functionalities :

- Registration : This involves registering of users and verification of service providers.
    1. User registration : The users in need of the services needs to register in the portal by providing their details.
    2. Verification of service provider :
        (a) Automatically:
        If sufficient information such as GST, phone numbers, establishment code or shop certificate is added, the service provider is automatically verified.
        (b) Virtual verification:
        A govt representative or back end will manually review information. If required the service provider will be called.
- Login The user needs to login and enter the basic services he requires. A unique ID will be generated against every user, which can be used to track the status of their required service.
  Service providers have a different dashboard than users after logging in, in which they can view the existing user demands and accordingly act on it.
- Services
    1. Ambulance services
    2. Medical services
    3. Grocery services
    4. Drinking Water Supply
- ML Prediction Our model can be used to predict potential emergencies in case of adverse situations. In such scenarios, it can be used to decide which areas should be prioritized for the delivery of medical kits and other necessities.

3 Screen Design

3.1 User Registration Screen

- User Registration
- User Confirmation
- System Confirmation

3.2 Service Providers Registration

- Service Registration
- Confirmation
- System Confirmation

3.3 Delivery Partner Registration

- User Registration
- User Confirmation
- System Confirmation

3.4 User Login

- Service Selection:
  1. Groceries
  2. Ambulance
  3. Medical Supply
  4. Water Supply
- Delivery Address
- Payment Gateway
- System/Payment Confirmation

3.5 Service Providers Login

- Service Requests Screen
- Select and Provide Services based on Service Types
    1. Groceries
    2. Ambulance
    3. Medical Supply
    4. Water Supply
- Dispatch Screen

3.6 Data Collector Screen

- Reports based on Predictive Model
- Inform Service Providers based on report