**Pandemic Containment Model**

Team members:

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* **Problem Statement:**

Evidence suggests that the likelihood of pandemics has increased over the past century because of increased global travel and integration, urbanization, changes in land use, and greater exploitation of the natural environment. These trends likely will continue and will intensify. Significant policy attention has focused on the need to identify and limit emerging outbreaks that might lead to pandemics and to expand and sustain investment to build preparedness and health capacity. The rate of increase in the infections clearly shows that there is plenty of room for improvement in the management of local governments in the United States.

* **Solution and Proposal:**

Our application aims to provide a systematic management system to help control the spread of diseases and hence avoiding a pandemic during a lockdown of a city.

This application will help the local government better help and connect to each and every civilian under its jurisdiction.

This application helps every citizen to lead a normal life as much as possible without being exposed to the ongoing spread of diseases by providing them with a platform that allows them to purchase the necessary products to survive also providing them a sense of normalcy during the pandemic.

**Key functionalities:** The user will login to the application and access the following:

* Health care sector: This sector helps users to access all healthcare facilities like consultation, checkups, treatment, tests etc. Health care organizations are separated into Hospitals dedicated to treat patients infected by the pandemic and Hospitals that treat patients for every other emergencies. They also conduct tests to check for infections.
* Public service and security: Users can access information and utilize various facilities provided by the government such as public transportation, police stations, fire departments, post offices, paramedics, city maintenance, waste disposal etc. which essentially helps the citizens maintain their lives in a safe and organised manner.
* Food & supplies: Users can purchase necessary essentials for survival as pandemics cause the amount of consumption of home essentials and medicines to skyrocket. This sector enables a regulated systematic supply of products to make sure everyone is able to buy them.

**User entities:**

* Admin(application creator and owner): Will be able to maintain and track the data regarding civilians and the number of infections.
* Civilians - Using this application, will be able to access health-care, food, medicine,government aid and information regarding the ongoing pandemic.
* Infected (or any one related to the infected) - Patient’s infection is mild, the patient who will be under quarantine will be able to access the necessary health-care and supplies.
* Government/public servant: To update the current status, precautions, facilities and to maintain safety and order in the city under their jurisdiction.
* **Key Entities:**

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| 1. Hospitals | 6. Fire departments |
| 1. Pharmacy | 7. Helpline Workers |
| 1. Grocery Stores | 8. Post Offices |
| 1. Public transportation | 9. City Maintenance |
| 1. Police stations |  |

* Eco-system architecture diagram: