

Final Project Proposal

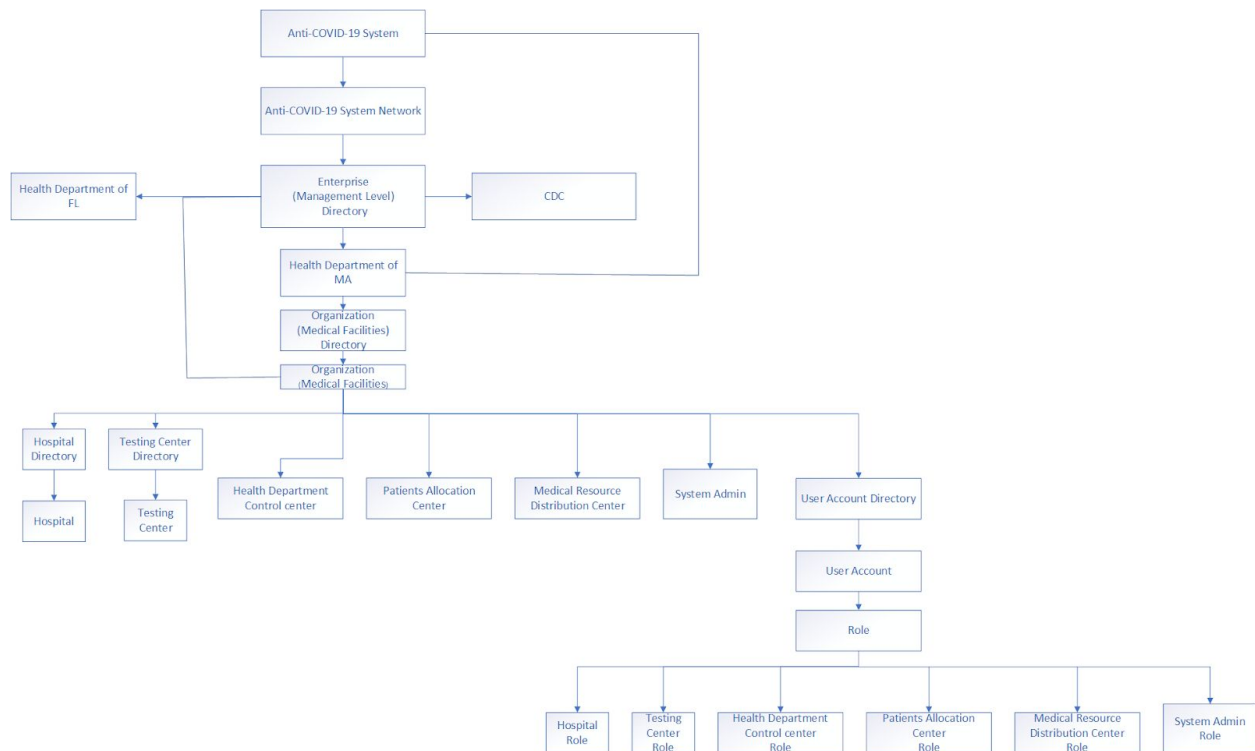
Coronavirus Disease (COVID-19) Cases Updating and Medical Resources Allocation System

The problems:

As we all know the outbreak of the Coronavirus or COVID-19 is the critical crisis we all humans need to face. One of the most critical steps for us to stop the outbreak is to understand the current situation which means we need to test as many as possible people to know who is healthy and who has been infected. Also, with the development of the COVID-19 outbreak, the shortage of medical resources is also a critical nightmare we need to deal with.

Objectives of the project

The goal of our project is to create a demo application which can help the Centers for Disease Control and Prevention(CDC) to connect with all the medical department form all the states in America in order to monitor the current outbreak situation and allocate the medical resources. Also, the capacity of a hospital is limited, The CDC will have the ability to arrange the patients between different state.



Organizations and functions:

1)States:

System admin:

1. Managing all accounts for the State's health organizations (create, delete and update).

Health Department Control center

1. Collecting all the testing resulting from Lab and Hospital.
2. Sending results to CDC

Medical Resource Distribution Center

1. Receiving and responding(give them the item) medical resource requests from all medical facilities in the state.
2. Sending medical resource requests to the CDC if the inventory is low.

Patients Allocation Center

1. Receiving and responding to the patients transfer requests from hospitals and labs within the state.
2. Sending patients transfer requests to the CDC if all the hospitals reach their maximum capacity.
3. Receiving transferred patients from CDC.
4. Allocating transferred patients from CDC to an available hospital in the state.

Testing center:

1. Collecting patients vital signs and COVID-19 testing results.
2. Sending results(including positive and negative) to the Health Department Control center.
3. Sending patients' info who gets positive result to Patients Allocation Center.
4. Sending medical resource request to the Medical Resource Distribution Center if the inventory is low(the COVID-19 testing kits).

Hospital:

1. Collecting patients vital signs and COVID-19 testing results.
2. Sending results(including positive and negative) to the Health Department Control center.
3. Accept patient who has positive COVID-19 testing result and the patients from Patients Allocation Center
4. Sending patients transfer requests to Patients Allocation Center if the hospital's capacity is reached.
5. Sending medical resource request to the Medical Resource Distribution Center if the inventory is low(the COVID-19 testing kits, Mask, CPAP).