

1. Project/problem Overview

Facing coronavirus crisis all over the world, solutions must be implemented effectively and rapidly. We come out an idea, which is to connect CDC, Hospital and Police in nation. There will be mainly two condition when people need to be forced to self-isolation/quarantine at home and not allowed to go out for preventing spreading disease. First, people who traveled back from or now living in major disaster area. Second, people who has symptoms and go for doctor and tested positive. Both condition need to be controlled well to maximize the effect.

Our application aims to make this crisis to be controlled in nation. In this application, people who go to hospital for doctor because of symptoms might be sent to Quarantine Organization, and if tested positive, he/she will be on the self-isolation/quarantine list which will be first sent to CDC and Police Department for follow-up investigation and inspection. The one who doesn't follow the guidelines of self-isolation/quarantine will receive fine. Also, state inspection organization will assist to examine if people are at home randomly to make sure safety in the community and minimize the possibility of spreading virus to others.

2. Application Key Functionalities

a. Police Enterprise

i. Police Organization:

1. police station in each area within a city will receive the self-isolation/quarantine list
2. need to trace the status, there will be an alert sent from Inspection Organization if anyone is detected not being at home

b. CDC Enterprise (center for disease control and prevention)

i. Investigation Organization:

1. get the list of someone who are tested positive for coronavirus
2. investigate the one who have ever contacted with the person on the list and send it to both CDC and Police Enterprise

ii. Reception Organization:

1. get patient's medical record and send them to Investigation Organization for follow-up survey
2. do statistics report

iii. Publish Organization:

1. send the latest update to media

c. State Inspection Enterprise

i. Inspector Organization:

1. get the notification of self-isolation/quarantine list and randomly go check if those people are at home, to make sure spread of the disease will be control
2. if finding self-isolation/quarantine person are not at home, send alert to Police Organization for assistance

d. Hospital Enterprise

i. Doctor Organization:

1. check the patient if he/she need to be tested for coronavirus, if yes, send the demand for inspection to Quarantine Organization
2. send medicine list for the patient to Pharmacy Organization

ii. Document Organization:

1. send patient's medical record to doctor who is on call

2. if patient come for the first time, ask patient to fill the basic medical record form

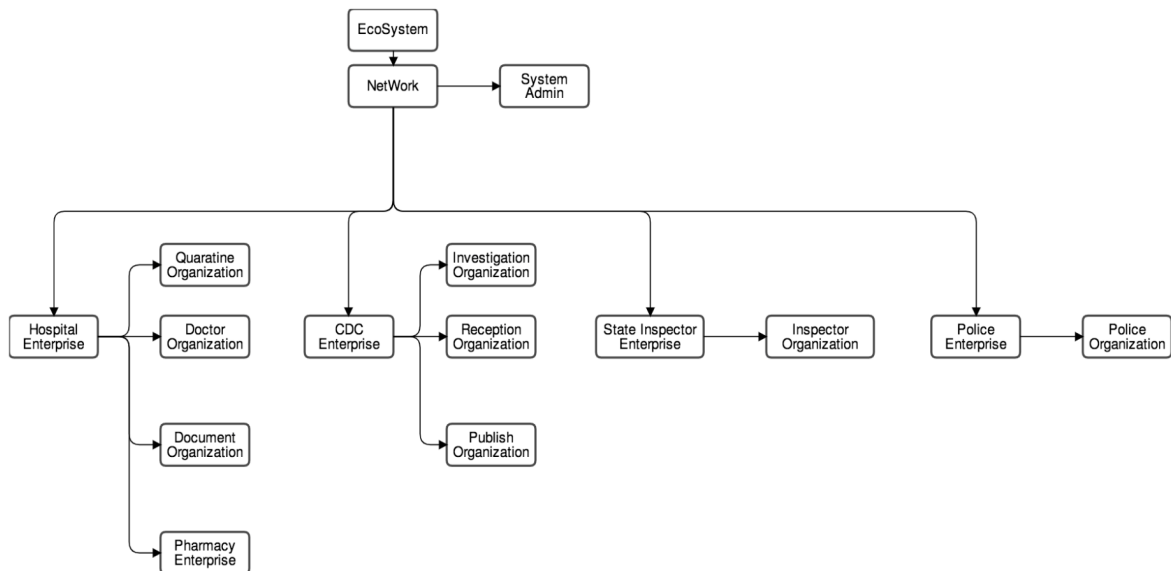
iii. Quarantine Organization

1. receive patient list who are suspected to be infected with coronavirus and needed to be tested
2. after inspection result comes out, update patient's medical record and send it to Contact Organization in CDC

iv. Pharmacy Organization

1. get medicine list for this patient

3. Proposed Entities



4. Eco-system architecture diagram

