

Final Project – INFO 5100

Medical Test at Home – GET CHECKED

Team members:

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Problem Statement and Project Overview:

- It is important to get tested whenever we have a symptom. Most of us are busy with work and we do not have the time to go to a hospital and wait in the boring halls for hours just for a mild symptom. But we should get tested on the off chance that a mild symptom hides a bigger health issue
- Fear of catching the recent covid-19 pandemic stops many people from going out to get tested for non-covid tests as the chances of getting infected increases
- We felt that there is a firm need to solve this problem using a digital solution so that we don't waste much of our time making the hospital visits and also stay home safely during the pandemic
- Our purpose is to make people to be aware of the importance of testing and make sure everyone stays healthy and also save their time
- The application is a single place where one can order any kind of test kit either from online or go look for it in a retail store, and then send it for testing. If a customer does not know which test to take, you can have a quick talk with our doctors and they will guide the customer on which kind of test they should take, or should they get tested at all.
- This improves people's lives its cheaper than a hospital visit and also generates income to the hospital as more people get tested every day.

Proposed Solution

- Rather than going to a hospital for a simple blood test or a covid-19 test, the application allows a customer to purchase the test kit
- Once you order the test kit, it will be delivered to you quickly by our home delivery service from the distribution unit
- Processing orders might take time if the product is unavailable as the distribution needs to order this from the manufacturer
- Customer can go to a retail store next to the house and buy the test kit themselves. They can finish the test and get the sample ready at home
- Once this is done, all a customer needs to do is to mail this and our administrators at the hospital will take care of the test

- Results will be shown on the application with the doctor's comments

Application Key Functionalities

1. System Administrator

- Creates/modifies/deletes Networks
- Creates/modifies/deletes Enterprises
- Creates/modifies/deletes Warehouse Enterprise Administrator
- Creates/modifies/deletes Distribution Enterprise Administrator
- Creates/modifies/deletes Hospital Enterprise Administrator
- Creates/modifies/deletes Retail Enterprise Administrator
- Creates/modifies/deletes FDA Enterprise Administrator

2. Warehouse Enterprise Administrator

- Creates/modifies/deletes Warehouses
- Creates/modifies/deletes Manufacturing Warehouse Administrator
- Creates/modifies/deletes Shipping Delivery Man

3. Distribution Enterprise Administrator

- Creates/modifies/deletes Distribution Units
- Creates/modifies/deletes Managers
- Creates/modifies/deletes Home Delivery Man
- Creates/modifies/deletes Retail Delivery Man

4. Hospital Enterprise Administrator

- Creates/modifies/deletes Hospitals
- Creates/modifies/deletes Laboratory Admins
- Creates/modifies/deletes Laboratory Technicians
- Creates/modifies/deletes Consulting Doctors
- Creates/modifies/deletes Approving Doctor

5. Retail Enterprise Administrator

- Creates/modifies/deletes retail stores
- Creates/modifies/deletes Store Admins

6. FDA Enterprise Administrator

- Creates/modifies/deletes FDA divisions
- Creates/modifies/deletes FDA administrators

7. Manufacturing Warehouse Administrator

- Creates Test kits
- Gets products Approved from the FDA
- Approves/denies Shipping orders from Distributors
- Assigns Shipping orders to shipping men

8. Warehouse Shipping man

- Takes orders from the Manufacturer
- Ships these orders to the respective Distribution units

9. Distribution Unit Manager

- Place shipping orders for the test kits
- Approves/Denies orders from customers
- Approves/Denies orders from Retail Store Administrators
- Assigns customer orders to Home delivery men
- Assigns retail orders to Retail Delivery men

10. Home Delivery Man

- Takes orders from the Distribution unit Manager
- Delivers test kits to the respective customer

11. Retail Delivery Admin

- Takes orders from the Distribution unit Manager
- Delivers test kits to the respective Retail Store

12. Laboratory Administrator

- Takes samples from the customer
- Examines them and approves/ denies testing based on the samples
- Assigns an appropriate technician to process/test the sample

13. Laboratory Technician

- Takes samples approved by the laboratory admin
- Processes/tests the samples and writes remarks on it
- Sends it to a doctor for approval

14. Approving Doctor

- Examines the sample results given by the laboratory technician
- Writes remarks and sends the results back

15. Store Administrator

- Place retail orders from distribution

16. Consulting Doctor

- Examines customers symptoms
- Suggests appropriate tests

17. FDA Administrator

- Examines test kits and their type
- Approves/denies the product

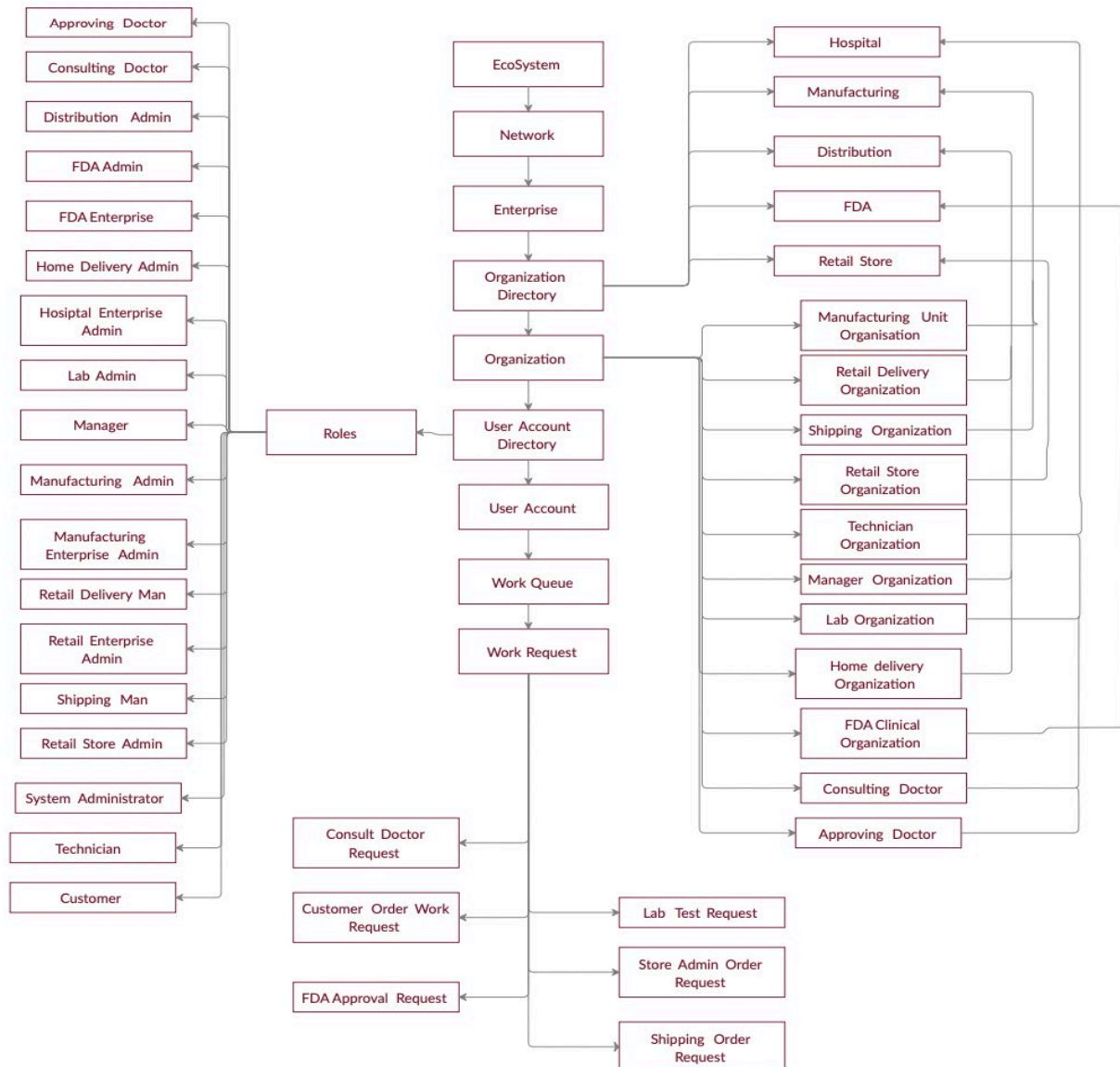
18. Customer

- Signs up for himself

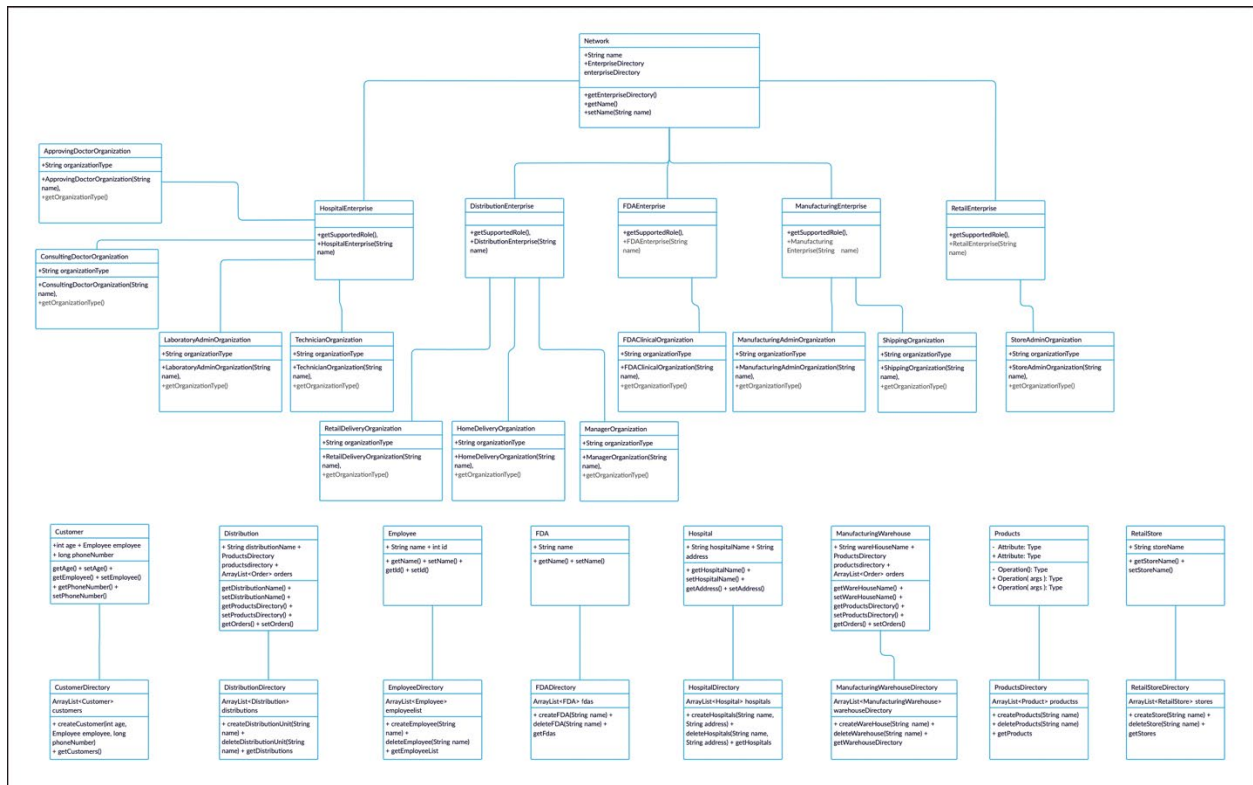
- Can buy a test kit online from our distribution unit
- Can find a retail outlet and go there to buy the test kit
- Can view his/her orders in their portal
- Can send his/her samples to a hospital
- Can consult a doctor, ask him for a test suggestion if he/she does not know which test to take for their symptoms
- Can view their results in the portal

Ecosystem Architecture:

Object Model Diagram:



Class Diagram



Sequence Diagram

