Healthcare Internet
Patient-Centered care

Problem Statement

- No single communication system available where hospitals, clinics, doctors, patients, pharmacies and pharmaceutical companies can interact with each other.

- Maintaining and accessing records of patients across the world is not easy to handle.

Solutions to the problem

A project has been proposed to solve the above the problems – Healthcare Internet. This project has been focused in order to support health care of patient. With the help of internet, this system ensures the safety of patients, effectively delivering quality care and efficiency to ensure the healthcare services.

- A communication network has been created through a single system between hospital/clinics, patients, doctors, pharmacies and pharmaceutical companies.

- Saving the records of patient in hospital/clinics will help to retrieve it even in emergency conditions by sending the request to the admin.

Scope of project

- This project is made in order to support health care of patient. It allows to create hospitals, pharmacies and pharmaceutical companies at a global level.

- It ensures the safety of patients by showing medication guidelines from pharmaceutical companies, sending notifications to doctors and patients from pharmaceutical companies, facility to callback drugs from pharmacies and feedback by doctors and patients (REM).

- It allows communication between doctors and patients.

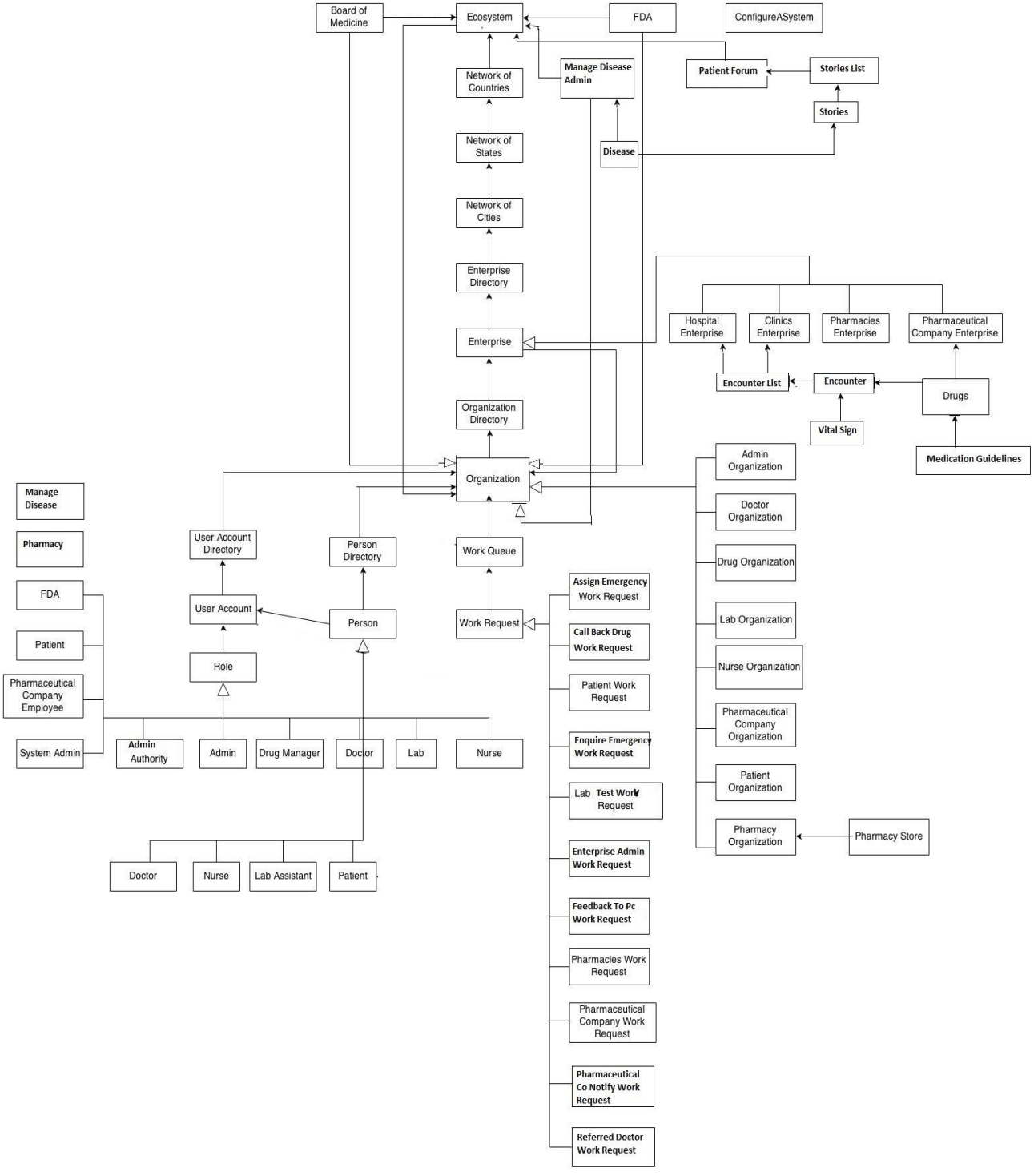
- It allows the facility to retrieve patient records whenever required.

- Each patient can share their story to other patients about the disease that they encountered.

Assumptions

- The system has an admin of board of medicine who will add doctors, world FDA who approves/disapproves the drugs and admin to add diseases.
- Each doctor can work in multiple hospital or clinic.
- Patient can register only once throughout the system.
- During enrollment of patient in hospital/clinic, preferred doctor is asked to him and then admin assigns him the same doctor.
- If required, preferred doctor can refer another doctor to patient.
- Refer doctor cannot refer another doctor to the patient at any time.
- After case close from referred doctor, he cannot add encounter again to the patient.
- Pharmaceutical companies manufacture drugs and send approval to world FDA. Only after approving the request, drugs comes to the market.
- Doctors can prescribe drugs one at a time to patient.
- Add emergency situation is made only in hospital and not in clinic.
- A person will have unique SSN throughout the system.

Object Model



- Ecosystem = It is the top most level of this system. It will contain list of networks, board of medicine, FDA and admin to manage disease. It is extends Organization.
- Board of Medicine = It will add a doctors to the system.
- FDA = it has the responsibility to approve/ disapprove drugs.
- Manage disease admin = It will add the list of diseases with its ICD-9 code.
- Patient forum = It will contain a list of stories of a patient to share it with each other.
- Enterprise Directory = It contains a list of enterprises.
- Enterprise = It is an abstract class and has enums like Hospital, Clinic, Pharmacies and Pharmaceutical company enterprise.
- Hospital & Clinic Enterprise = It contains a list of encounters that patient had with doctors.
- Encounter = it will record vital signs of a patient.
- Pharmaceutical Company Enterprise = it will contain a list of drugs that in further stores the medication guidelines that is a part of REM.
- Organization = It is an abstract class that has enums like Admin, Doctor, Drug, Lab, Nurse, Pharmaceutical Company, Patient and Pharmacy organization. It also contains User account directory, Person directory and Work queue.
- Work Request = It is an abstract class that defines the work request from different entities.
- Work Queue = It is a list of all work request.
- Person = It is a class that has been extended by Doctor, Nurse, Patient and Lab Assistant.
- Role = It is an abstract class and contains many enums that defines different type of role.

Use cases

Following are the roles and their responsibilities in this project:-

- System Administrative Role
    a. Login to SystemAdminWorkArea by providing username and password.
    b. Manage networks of countries, states and cities.
    c. Manage different enterprise.
    d. Manage enterprise admin by creating username and password.
    e. Manage admin of board of medicine by creating username and password.
    f. Manage admin to add disease by creating username and password.

- Admin of Board of Medicine Role
    a. Admin login by providing username and password.
    b. Manage doctors.

- Admin world FDA
    a. Admin login by providing username and password.
    b. Manage Drugs to approve/ disapprove.

- Admin to add Disease Role
    a. Admin login by providing username and password.
    b. Manage diseases.

- Pharmaceutical Company Admin Role
    a. Admin login by providing username and password.
    b. Manage Organization like Drug organization.
    c. Manage Staff.
    d. View its pharmacies.
    e. Send Notification to pharmacies, doctors and patients.
    f. Call back drugs from pharmacies.
    g. View feedback from patients and doctors.

- Pharmaceutical company Employee Role
    a. Employee login by providing username and password.
    b. Manage Drugs.

- Pharmacy Admin Role
    a. Admin login by providing username and password.
    b. Manage organizations like Pharmacy store
    c. Manage Drugs.

d. Manage Pharmacy store
e. Manage Work request
f. View Notification by pharmaceutical company.
g. View call back request by pharmaceutical company.

- Hospital Admin Role
    a. Admin login by providing username and password.
    b. Manage Organization like Doctor, nurse, lab assistant and patient organization.
    c. Manage Patients.
    d. Manage staff.
    e. Add emergency situation.
    f. Manage emergency work request.

- Clinic Admin Role
    a. Admin login by providing username and password.
    b. Manage Organization like Doctor, nurse, lab assistant and patient organization.
    c. Manage Patients.
    d. Manage Staff.
    e. Manage emergency work request.

- Doctor Role
    a. Doctor login by providing username and password.
    b. Manage Work request.
    c. Select hospital/clinic name.
    d. Process the request from patient by giving appointment.
    e. View the request.
    f. Add encounter directly when the work request is from Admin.
    g. Add encounter if the request ifs from patient after giving appointment.
    h. Refer another doctor to the patient.
    i. Manage lab test.
    j. View drug orders to pharmacies.
    k. Share feedback to pharmaceutical company.
    l. View referred doctor requests.
    m. View notification from pharmaceutical company.
    n. Manage emergency patients.

- Lab Assistant Role
    a. Lab assistant login by providing username and password.
    b. Manage work request by doctors.

- Patient Role
    a. Patient login by providing username and password.
    b. Manage work requests.
    c. View lab reports.
    d. View orders of drugs and its guidelines.
    e. Share feedback to pharmaceutical company.
    f. View notification from pharmaceutical company.
    g. Got to patient forum and share own story and view story of other patients regarding their disease.