INFO 5100- Application Engineering & Development- Final Project

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One of the primary dangers of cancer in the world is its potential to overwhelm the healthcare system. Hospital beds, nurses, PPE, ventilators, and other resources are required to take care of people diagnosed with cancer who require hospitalization, yet these are limited resources and many hospitals are short on some or all of them. While hospitals are able to innovate some additional equipment by inventing new technologies and equipment, these methods are often insufficient or unsustainable.

However, different areas are impacted with different severity, and experience their incidence of cancer cases at different times. Therefore, while some hospitals are nearing capacity or running out of resources, other hospitals and healthcare providers may have excess capacity or resources that they could share.

We are proposing a system to take advantage of any excess resources or capacity by optimally re-distributing resources and patients.

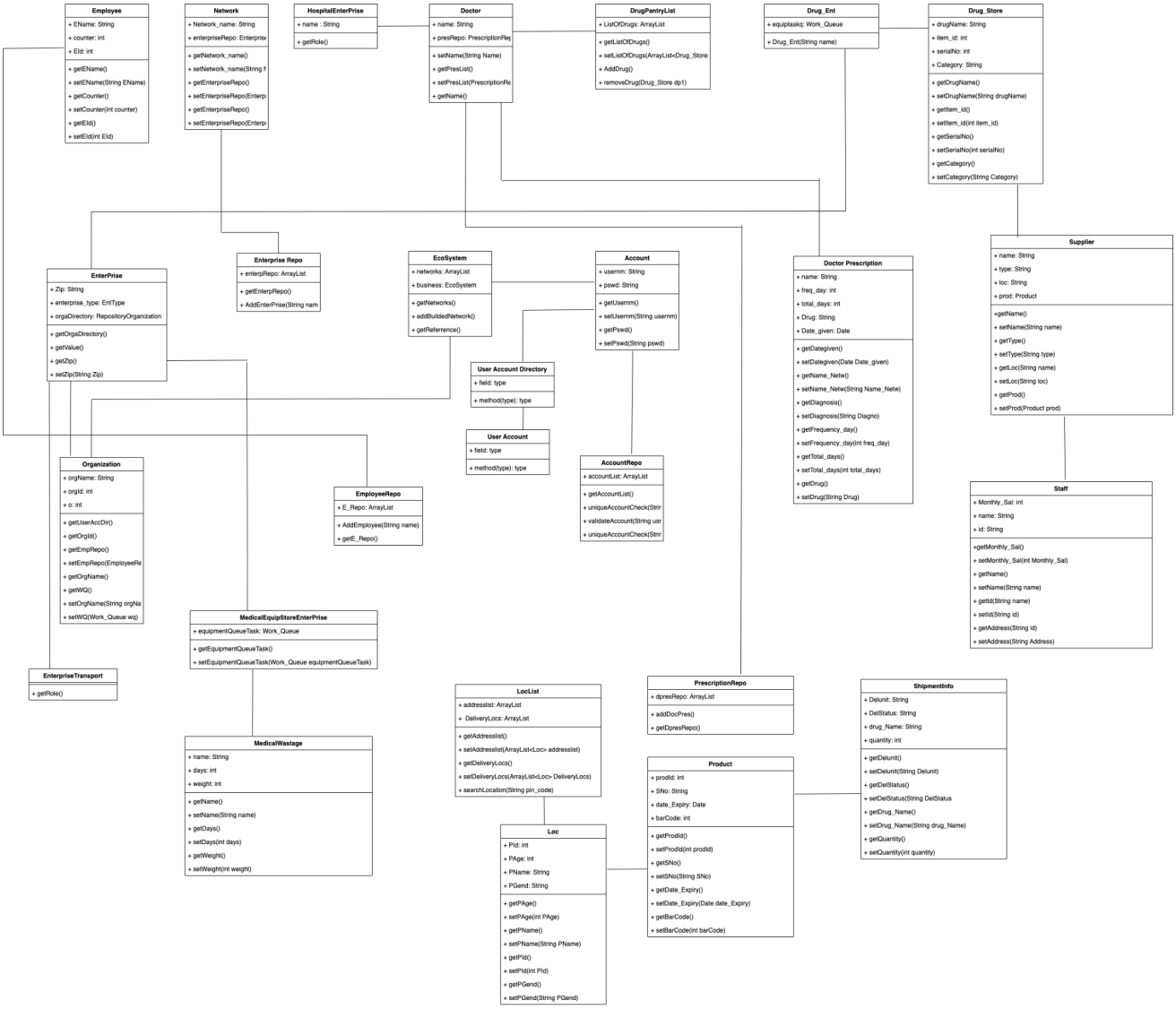
Our Approach is to:

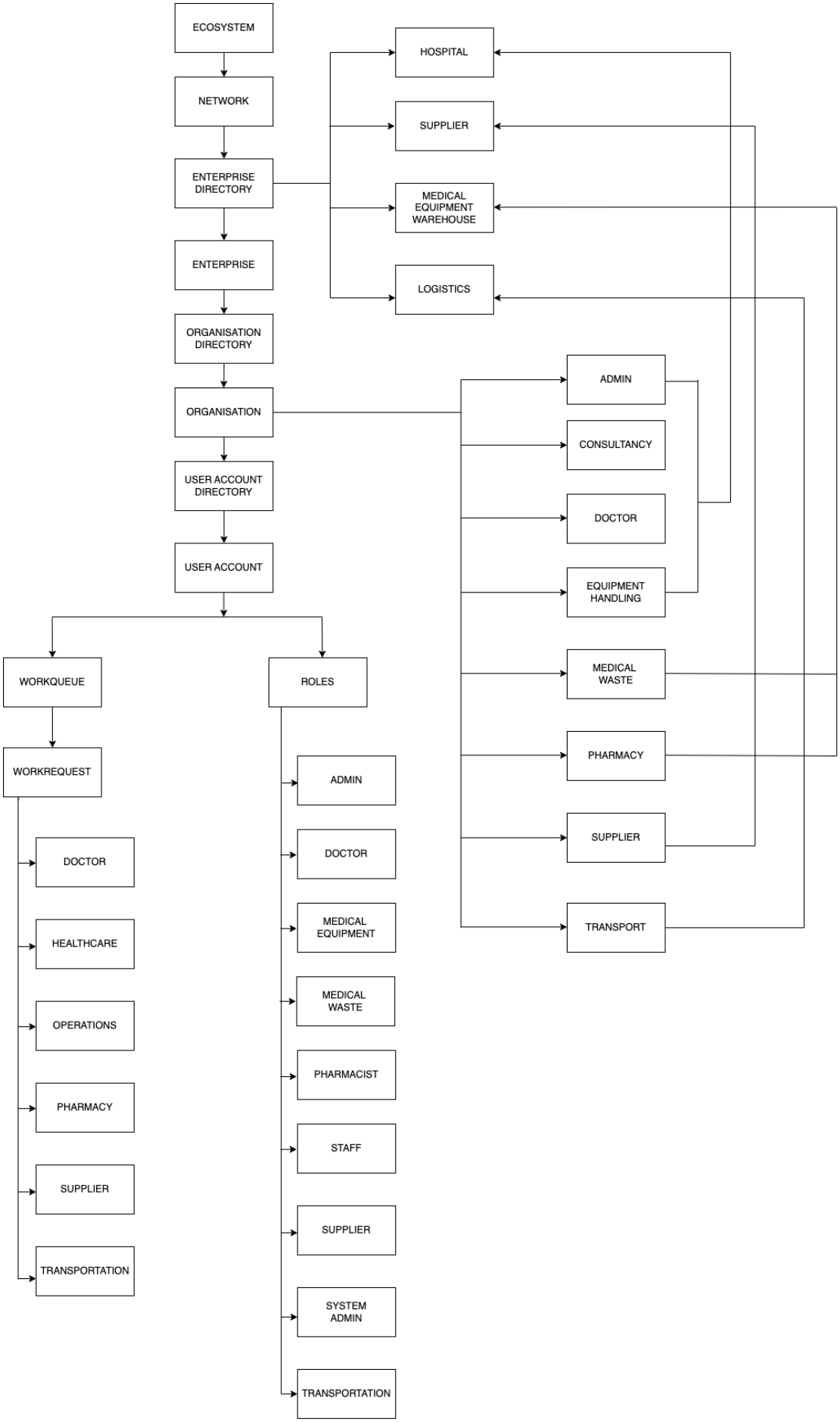
- To create a unified platform that enables direct communication between producers and distributors of oncology drugs and healthcare professionals.

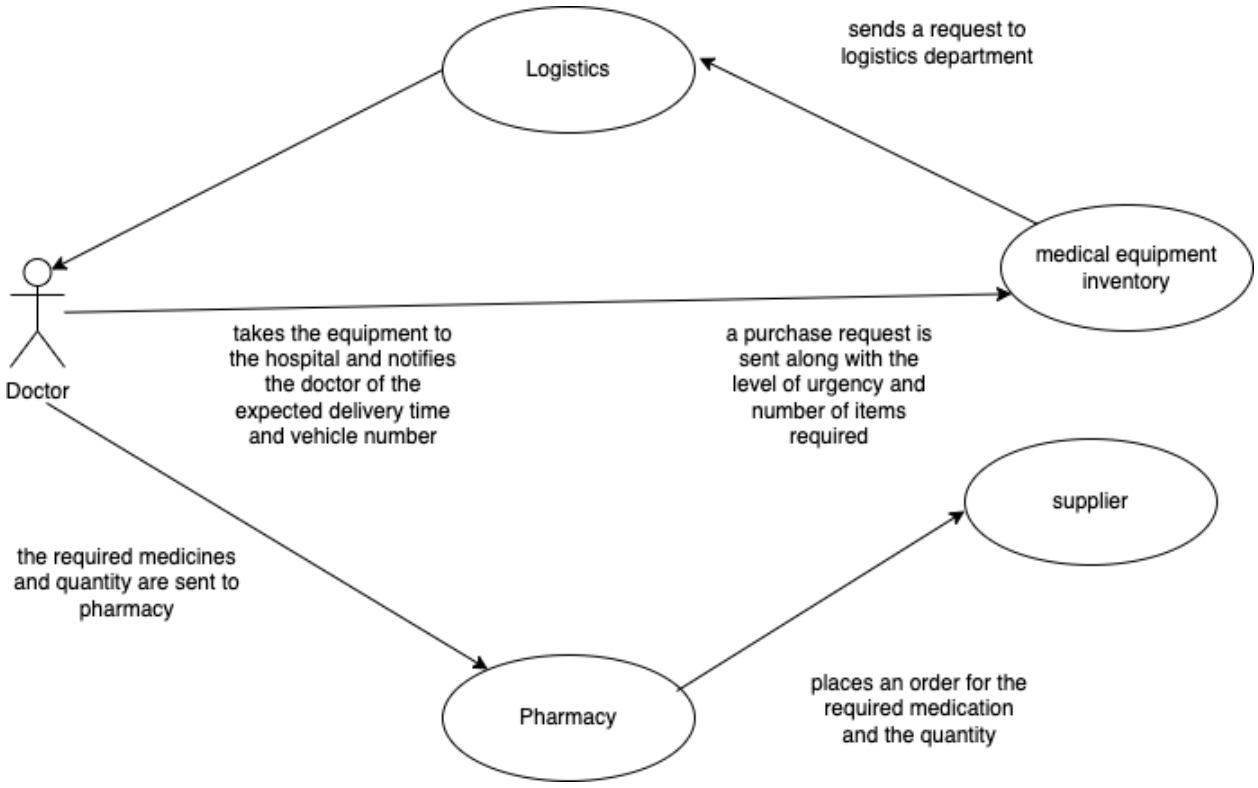
- To provide a central platform that enables medical facilities to order any device they might need from other facilities that have it in store and can send it quickly and accurately.

- Hospitals keep track of their oncology inventory in order to anticipate future demands, acquire products from suppliers, and try to replace critical pieces of oncology equipment.

Diagrams:


Employee
+ EName: String
+ counter: int
+ Eld: int
+ getEName()
+ setEName(String EName)
+ getCounter()
+ setCounter(int counter)
+ getEld()
+ setEld(int Eld)
Network
+ Network_name: String
+ enterpriseRepo: Enterprise
+ getNetwork_name()
+ setNetwork_name(String
+ getEnterpriseRepo()
+ setEnterpriseRepo(Enterp
+ getEnterpriseRepo()
+ setEnterpriseRepo(Enterp
HospitalEnterPrise
+ name : String
+ getRole()
Doctor
+ name: String
+ presRepo: PrescriptionRe
+ setName(String Name)
+ getPresList()
+ setPresList(PrescriptionRe
+ getName()
DrugPantryList
+ ListOfDrugs: ArrayList
+ getLisOfDrugs()
+ setLisOfDrugs(ArrayList<Drug_Store
+ AddDrug()
+ removeDrug(Drug_Store dp1)
Drug_Ent
+ equiptaskq: Work_Queue
+ Drug_Ent(String name)
Drug_Store
+ drugName: String
+ item_id: int
+ serialNo: int
+ Category: String
+ getDrugName()
+ setDrugName(String drugName)
+ getItem_id()
+ setItem_id(int item_id)
+ getSerialNo()
+ setSerialNo(int serialNo)
+ getCategory()
+ setCategory(String Category)
EnterPrise
+ Zip: String
+ enterprise_type: EntType
+ orgaDirectory: RepositoryOrganization
+ getOrgaDirectory()
+ getValue()
+ getZip()
+ setZip(String Zip)
Enterprise Repo
+ enterpRepo: ArrayList
+ getEnterpRepo()
+ AddEnterPrise(String nam
EcoSystem
+ networks: ArrayList
+ business: EcoSystem
+ getNetworks()
+ addBuildedNetwork()
+ getReference()
Account
+ usernm: String
+ pswd: String
+ getUsernm()
+ setUsernm(String usernm)
+ getPswd()
+ setPswd(String pswd)
Doctor Prescription
+ name: String
+ freq_day: int
+ total_days: int
+ Drug: String
+ Date_given: Date
+ getDategiven()
+ setDategiven(Date Date_given)
+ getName_Netw()
+ setName_Netw(String Name_Netw)
+ getDiagnosis()
+ setDiagnosis(String Diagno)
+ getFrequency_day()
+ setFrequency_day(int freq_day)
+ getTotal_days()
+ setTotal_days(int total_days)
+ getDrug()
+ setDrug(String Drug)
Supplier
+ name: String
+ type: String
+ loc: String
+ prod: Product
+getName()
+ setName(String name)
+ getType()
+ setType(String type)
+ getLoc(String name)
+ setLoc(String loc)
+ getProd()
+ setProd(Product prod)
User Account Directory
+ field: type
+ method(type): type
User Account
+ field: type
+ method(type): type
Organization
+ orgName: String
+ orgId: int
+ o: int
+ getUserAccDir()
+ getOrgId()
+ getEmpRepo()
+ setEmpRepo(EmployeeRe
+ getOrgName()
+ getWQ()
+ setOrgName(String orgNa
+ setWQ(Work_Queue wq)
EmployeeRepo
+ E_Repo: ArrayList
+ AddEmployee(String name)
+ getE_Repo()
AccountRepo
+ accountList: ArrayList
+ getAccountList()
+ uniqueAccountCheck(Strir
+ validateAccount(String usr
+ uniqueAccountCheck(Strir
Staff
+ Monthly_Sal: int
+ name: String
+ id: String
+getMonthly_Sal()
+ setMonthly_Sal(int Monthly_Sal)
+ getName()
+ setName(String name)
+ getId(String name)
+ setId(String id)
+ getAddress(String id)
+ setAddress(String Address)
MedicalEquipStoreEnterPrise
+ equipmentQueueTask: Work_Queue
+ getEquipmentQueueTask()
+ setEquipmentQueueTask(Work_Queue equipmentQueueTask)
EnterpriseTransport
+ getRole()
LocList
+ addresslist: ArrayList
+ DeliveryLocs: ArrayList
+ getAddresslist()
+ setAddresslist(ArrayList<Loc> addresslist)
+ getDeliveryLocs()
+ setDeliveryLocs(ArrayList<Loc> DeliveryLocs)
+ searchLocation(String pin_code)
PrescriptionRepo
+ dpresRepo: ArrayList
+ addDocPres()
+ getDpresRepo()
ShipmentInfo
+ Delunit: String
+ DelStatus: String
+ drug_Name: String
+ quantity: int
+ getDelunit()
+ setDelunit(String DelUnit)
+ getDelStatus()
+ setDelStatus(String DelStatus
+ getDrug_Name()
+ setDrug_Name(String drug_Name)
+ getQuantity()
+ setQuantity(int quantity)
MedicalWastage
+ name: String
+ days: int
+ weight: int
+ getName()
+ setName(String name)
+ getDays()
+ setDays(int days)
+ getWeight()
+ setWeight(int weight)
Loc
+ PId: int
+ PAge: int
+ PName: String
+ PGend: String
+ getPAge()
+ setPAge(int PAge)
+ getPName()
+ setPName(String PName)
+ getPId()
+ setPId(int PId)
+ getPGend()
+ setPGend(String PGend)
Product
+ prodId: int
+ SNo: String
+ date_Expiry: Date
+ barCode: int
+ getProdId()
+ setProdId(int prodId)
+ getSNo()
+ setSNo(String SNo)
+ getDate_Expiry()
+ setDate_Expiry(Date date_Expiry)
+ getBarCode()
+ setBarCode(int barCode)


ECOSYSTEM
NETWORK
ENTERPRISE DIRECTORY
ENTERPRISE
ORGANISATION DIRECTORY
ORGANISATION
USER ACCOUNT DIRECTORY
USER ACCOUNT
HOSPITAL
SUPPLIER
MEDICAL EQUIPMENT WAREHOUSE
LOGISTICS
ADMIN
CONSULTANCY
DOCTOR
EQUIPMENT HANDLING
MEDICAL WASTE
PHARMACY
SUPPLIER
TRANSPORT
WORKQUEUE
WORKREQUEST
DOCTOR
HEALTHCARE
OPERATIONS
PHARMACY
SUPPLIER
TRANSPORTATION
ROLES
ADMIN
DOCTOR
MEDICAL EQUIPMENT
MEDICAL WASTE
PHARMACIST
STAFF
SUPPLIER
SYSTEM ADMIN
TRANSPORTATION


Logistics
sends a request to logistics department
medical equipment inventory
Doctor
takes the equipment to the hospital and notifies the doctor of the expected delivery time and vehicle number
a purchase request is sent along with the level of urgency and number of items required
supplier
the required medicines and quantity are sent to pharmacy
Pharmacy
places an order for the required medication and the quantity

Enterprise Admin Sequence Diagram