



Project Proposal

INFO5100: Final Project Proposal

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1.Problem Statement

Challenges in managing multi-party collaborative healthcare systems:

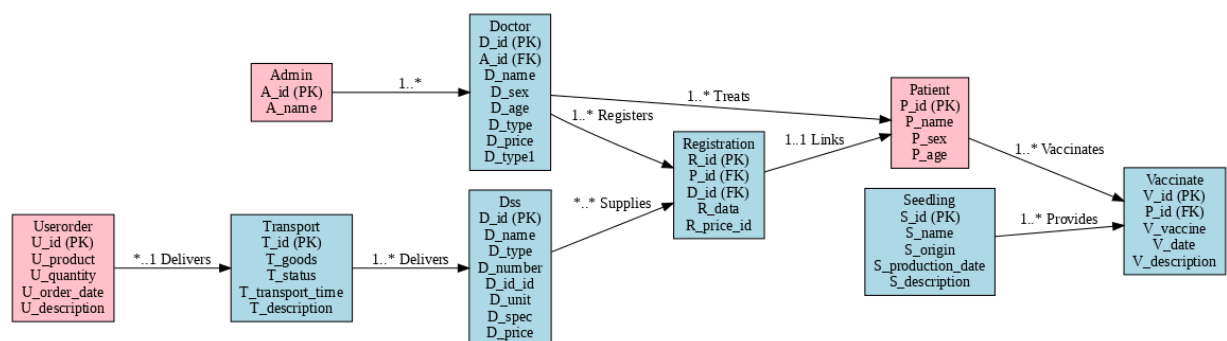
- Fragmentation of medical data across organizations.
- Inefficient collaboration among administrators, and logistics teams.
- Lack of integrated reporting and analytics for decision-making.

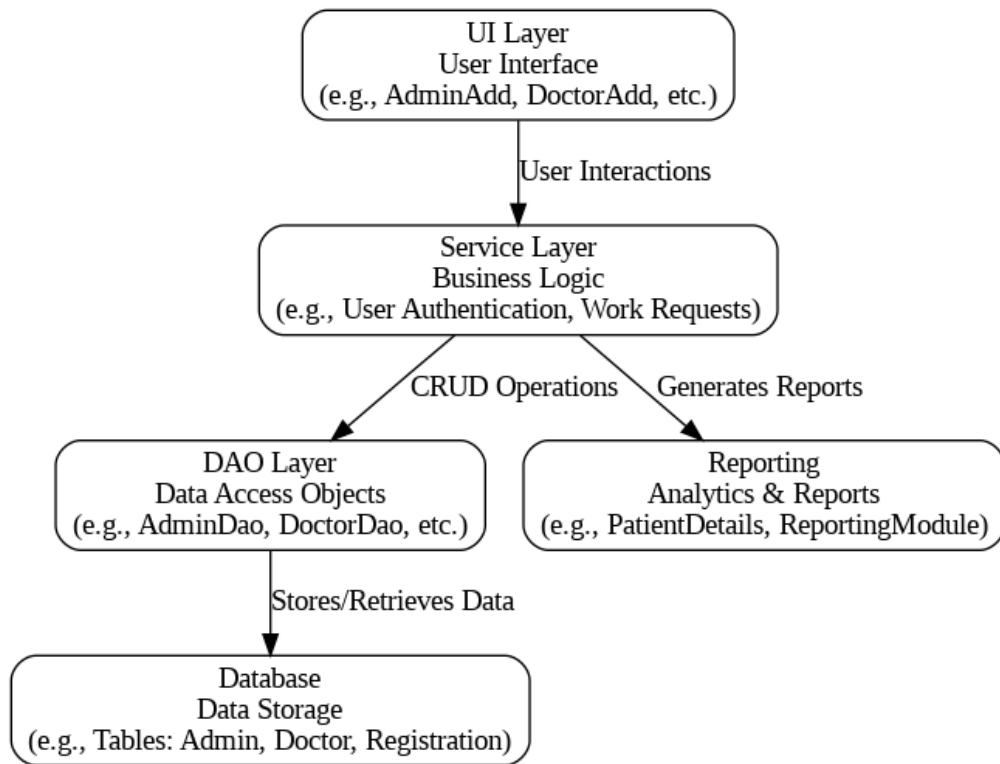
2.Solution

A centralized healthcare management system that:

- Streamlines operations for vaccinations, prescriptions, supplies, and transportation.
- Facilitates secure collaboration with role-based authentication and communication.
- Supports decision-making with tools for tracking work requests, status updates, and analytics.

3.High-Level Component Diagram





4. Outline of the systems hierarchy, identifying relevant networks, organizations, roles and use case

Outline of the PREMS System Hierarchy

1. Network

- Definition: The overarching network connecting various organizations, enterprises, and roles within the system.
- Example: GlobalHealthNet is the primary network for collaboration and communication among stakeholders.

Network Information	
NetworkID	NetworkName
1	GlobalHealthNet

- Functionality: Facilitates centralized data sharing and interconnectivity among distributed entities.

2. Organizations and Enterprises

Organization/Enterprise Information	
Organization Name	Enterprise Name
Headquarters	FDA
IT Department	WHO
Regulatory Affairs	FDA
Healthcare Operations	WHO
Pharmacy	Merck
Compliance	Pfizer
Logistics	Fedex
Research & Development	Merck
Transportation	Fedex
Public Relations	Pfizer

- Definition: The operational units or entities within the network responsible for specific domains of work.
- Examples:
 - Organizations: IT Department, Logistics, Research & Development, etc.
 - Enterprises: FDA, WHO, Merck, FedEx, Pfizer, etc.
- Functionality:
 - Organizations handle specific tasks like logistics, healthcare operations, or research.
 - Enterprises represent larger entities overseeing multiple organizations within their domain.

3. Roles

UserID	Username	RoleName	OrganizationName	EnterpriseName	Accessible Features (Menus)
1	Alice	Admin	Headquarters	FDA	Full Access: All menus including Patient Management, Doctor Management, Medicine Management, etc.
2	Bob	Network Admin	IT Department	WHO	- Pandemic Management (Add Pandemic, Manage Pandemics, Pandemic Report).
3	Charlie	Enterprise Admin	Regulatory Affairs	FDA	- Vaccine Management (Add Vaccine, Manage Vaccines).
4	David	Organization Admin	Logistics	Fedex	- Medicine Management (Add Medicine, Manage Medicines).
5	Eve	Manager	Healthcare Operations	WHO	- Pandemic Management (Add Pandemic, Manage Pandemics, Pandemic Report).
6	Frank	Employee	Pharmacy	Merck	- Hospital Management (Add Hospital, Manage Hospitals).
7	Grace	Auditor	Compliance	Pfizer	- Transport Management (Add Transport, Manage Transports).
8	Hank	Organization Admin	Research & Development	Merck	- Hospital Management (Add Hospital, Manage Hospitals).
9	Ivy	Employee	Transportation	Fedex	- Medicine Management (Add Medicine, Manage Medicines).
10	Jack	Guest	Public Relations	Pfizer	- Work Requests (Add Work Request, Manage Work Requests).
					- Medicine Management (Add Medicine, Manage Medicines).
					- Work Requests (Add Work Request, Manage Work Requests).
					- Transport Management (Add Transport, Manage Transports).
					- Work Requests (Add Work Request, Manage Work Requests).
					No Access: Displays "No Access" and "Contact Admin".

- Definition: Role-based responsibilities and permissions for users interacting with the system.
- Examples:
 - Administrative Roles: Admin, Enterprise Admin, Organization Admin.
 - Operational Roles: Manager, Employee, Auditor, Guest.
- Functionality:
 - Access Control: Roles determine the accessible features (menus) within the system.
 - Examples:
 - Admin: Full access to all features.
 - Employee (Pharmacy): Limited to Medicine Management and Work Requests.
 - Guest: No system access, except a notification to "Contact Admin."

4. Use Cases

1. Supporting R&D for Vaccine Development

- Actors:
 - Username: Hank
 - Role Name: Organization Admin
 - Organization Name: Research & Development
 - Enterprise Name: Merck
- Description: Collaborate on research and monitor work requests for vaccine development.
- Objective: Support innovation in vaccine production through efficient resource allocation.
- Features Accessed: Medicine Management, Work Requests.

2. Tracking Pandemic Data and Vaccine Distribution

- Actors:
 - Username: Bob
 - Role Name: Network Admin
 - Organization Name: IT Department
 - Enterprise Name: WHO
- Description: Monitor and update pandemic-related data and vaccine availability for public awareness.
- Objective: Ensure accurate and real-time pandemic updates across regions.
- Features Accessed: Pandemic Management, Vaccine Management.