PHARMAFLOW

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01

Introduction

Introduction to PharmaFlow

Healthcare Challenge

- Managing pharmacy inventory is complex and prone to inefficiencies.
- Issues like stock imbalances, expired products, and poor communication disrupt the supply chain.

Impact of Inefficiencies

- Operational delays and wastage.
- Shortages in critical medications.
- Negative effects on patient care and outcomes.

Introducing PharmaFlow

- A Pharmacy Supply Management System designed to address these challenges.
- Integrates real-time inventory tracking, seamless communication, and advanced analytics.

Key Benefits

- Streamlined workflows and enhanced coordination among stakeholders.
- Improved operational efficiency and reduced wastage.
- Secure, scalable platform compliant with healthcare regulations.

Objective

- Ensure timely access to medications while optimizing supply chain performance.

02

Problem Statement

Problem Statement

Inventory Management Challenges

- Tracking stock levels accurately.
- Managing product expiration dates to prevent wastage.
- Avoiding shortages of essential medications.

Supply Chain Issues

- Lack of effective communication among pharmacies, manufacturers, and distributors.
- Delays in restocking medications.
- Inefficient procurement processes.

Need for a Healthcare Inventory Management System

- Real-time monitoring of stock levels, expiry dates, and pricing.
- Seamless communication between all supply chain stakeholders.
- Streamlined processes for tracking, managing, and ordering medications.

03

Solution

Solution

1. Streamlined Workflows

The system simplifies processes with functionalities designed for efficiency. Pharmacy managers can initiate order approval requests for low-stock or out-of-stock items, which are approved by relevant distributors or manufacturers. Orders are then assigned to distributors, either automatically or manually, based on availability and location. Distributors can also request items from manufacturers and allocate them to pharmacies as required. Additionally, transportation requests and tracking ensure that shipments are assigned to transportation services and monitored for timely deliveries.

2. Real-Time Inventory Management

Pharmacies and distributors benefit from real-time tracking of stock levels, helping prevent stockouts and overstocking. The system generates automatic alerts for expiring products, reducing wastage. Detailed records of batch numbers, expiry dates, and pricing ensure transparency and accountability.

3. Seamless Communication

Integrated messaging features enable smooth communication between pharmacies, distributors, manufacturers, and transport teams. Timely notifications and alerts for approvals, dispatches, and deliveries help minimize delays and improve coordination.

Solution

4. Data Analytics and Reporting

The system provides detailed reports on stock usage, wastage, and order history, enabling organizations to make informed decisions. These insights optimize procurement and storage processes, helping businesses reduce costs and improve efficiency

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5. Scalability and Security

The platform is designed to support businesses of all sizes with its scalable architecture. It ensures data security through role-based access and complies with healthcare regulations like HIPAA and GDPR, making it a reliable solution for the healthcare industry.

04

Ecosystem Hierarchy

Ecosystem Hierarchy

1. **NETWORK**:

PharmaFlow:

- A centralized Pharmacy Supply Management System designed to connect all stakeholders in the healthcare supply chain.
- Acts as the backbone for inventory management, communication, and real-time tracking across the system.

Ecosystem Hierarchy

2. **ENTERPRISE**:

Distributor Enterprise:

- Responsible for managing sales and services.
- Oversees inventory control to prevent stockouts and overstocking.
- Ensures timely delivery of supplies to pharmacies.

Manufacturer Enterprise:

- Handles financial operations through accounting systems.
- Manages storage of raw materials and finished goods in warehouses.

Pharmacy Enterprise:

- Directly manages the inventory of medicines and healthcare products available to customers.
- Keeps track of low stock and expiration alerts to maintain smooth operations.

Transportation Enterprise:

- Coordinates shipment logistics for timely delivery.
- Ensures safe and efficient transportation of goods between manufacturers, distributors, and pharmacies.

Ecosystem Hierarchy

3. **ORGANIZATION**:

Transport Department:

- Manages routing, scheduling, and tracking of deliveries.

Inventory Management:

- Tracks stock levels, product expiry, and replenishment schedules.
- Ensures transparency and accuracy in inventory handling.

Production Department:

- Focuses on manufacturing processes and production planning.

Sales and Service:

- Manages customer interactions, sales orders, and after-sales services.

Accounting:

- Handles financial transactions, billing, and compliance.

Store Management:

- Maintains storage facilities, batch numbers, and shelf life of products.

Ecosystem Hierarchy

4. **ROLES**:

Manufacturer Admin:

- Supervises manufacturing processes, accounting, and inventory within the manufacturer's scope.

Distributor Admin:

- Manages distributor operations and ensures inventory availability for pharmacies.

Distributor Manager:

- Ensures smooth sales operations and stock availability at the distributor level.

Pharmacy Admin:

- Monitors pharmacy-level operations and acts as the communication link with distributors.

Pharmacy Store Manager:

- Oversees the pharmacy's inventory and daily operations.
- Approves purchase orders for low-stock items.

Transport Admin:

- Allocates shipments to transport teams and tracks deliveries.

Accounting Manager:

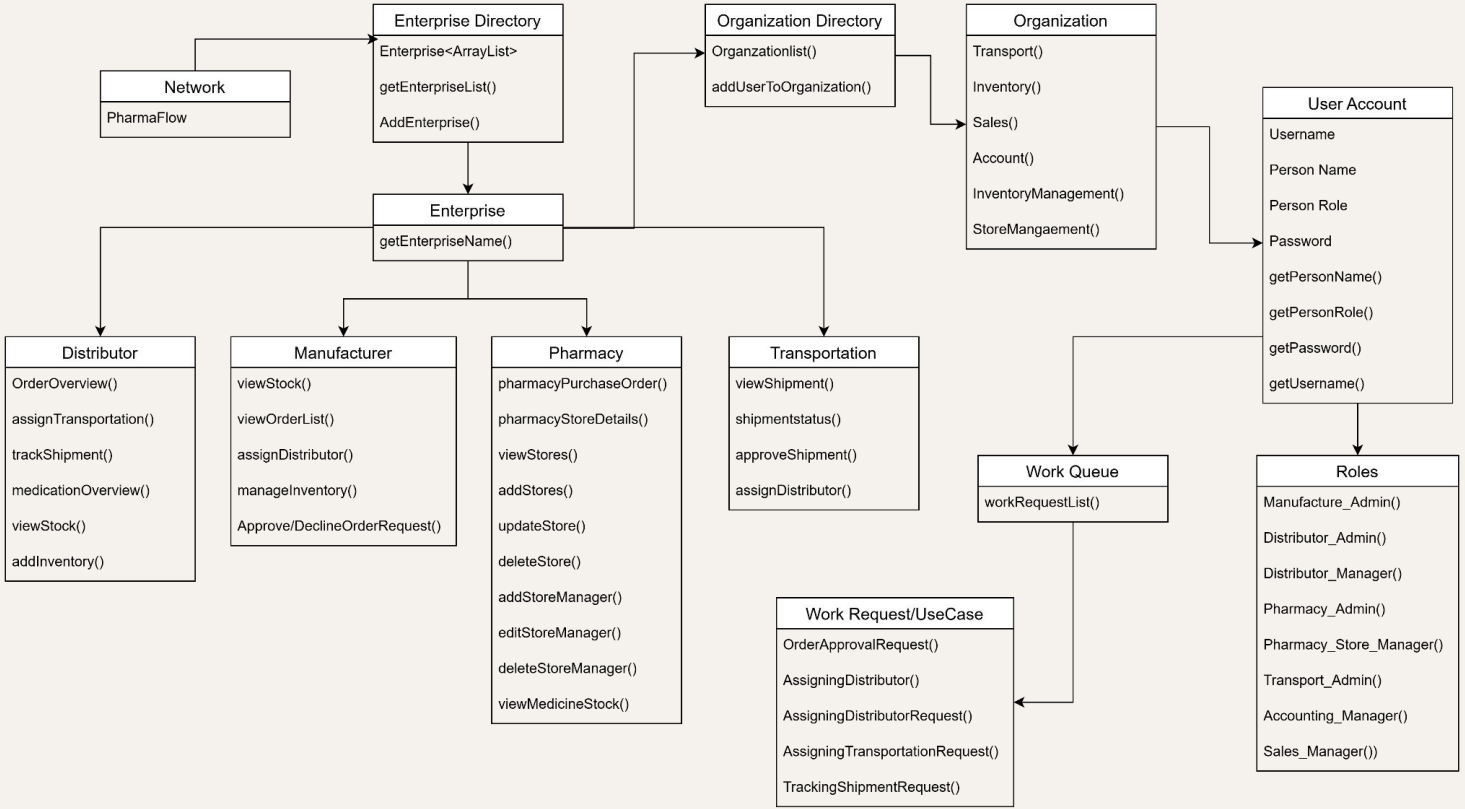
- Oversees billing, invoicing, and payment processing between stakeholders, including pharmacies, distributors, and manufacturers.

Sales Manager:

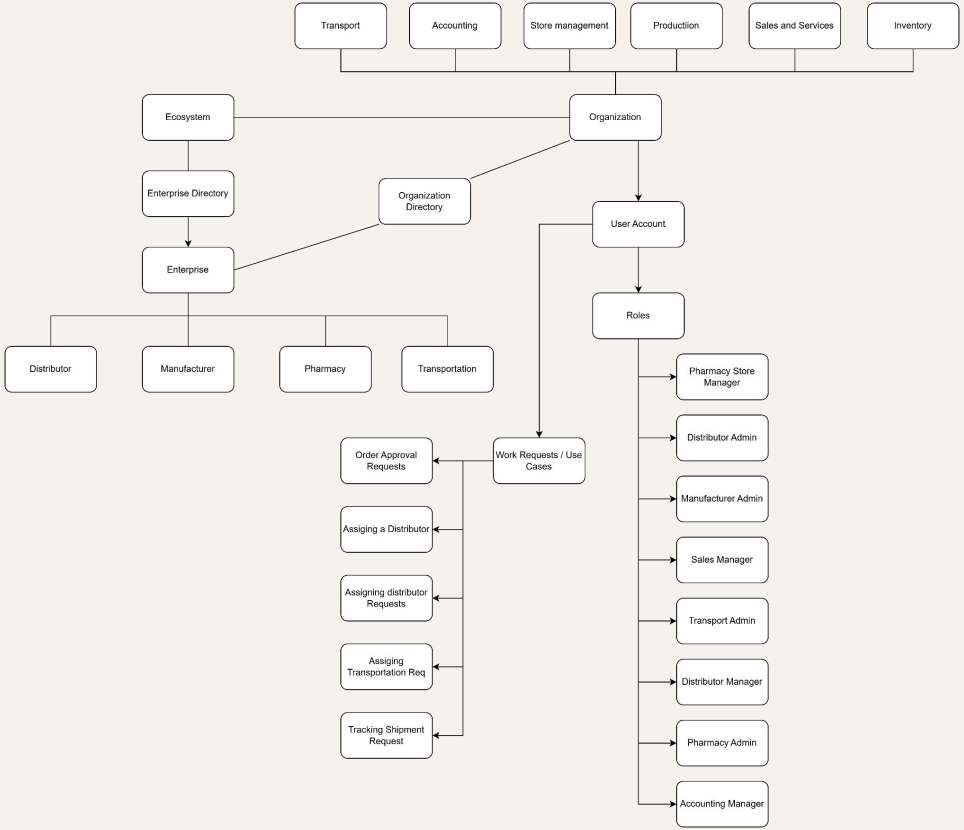
- Oversees the organization and maintenance of storage areas and generates a report for the same.
- Ensures proper handling and monitoring of stock.

05
Diagrams

UML DIAGRAM


Network
PharmaFlow
Enterprise Directory
Enterprise<ArrayList>
getEnterpriseList()
AddEnterprise()
Organization Directory
Organzationlist()
addUserToOrganization()
Organization
Transport()
Inventory()
Sales()
Account()
InventoryManagement()
StoreMangaement()
User Account
Username
Person Name
Person Role
Password
getPersonName()
getPersonRole()
getPassword()
getUsername()
Enterprise
getEnterpriseName()
Distributor
OrderOverview()
assignTransportation()
trackShipment()
medicationOverview()
viewStock()
addInventory()
Manufacturer
viewStock()
viewOrderList()
assignDistributor()
manageInventory()
Approve/DeclineOrderRequest()
Pharmacy
pharmacyPurchaseOrder()
pharmacyStoreDetails()
viewStores()
addStores()
updateStore()
deleteStore()
addStoreManager()
editStoreManager()
deleteStoreManager()
viewMedicineStock()
Transportation
viewShipment()
shipmentstatus()
approveShipment()
assignDistributor()
Work Queue
workRequestList()
Roles
Manufacture_Admin()
Distributor_Admin()
Distributor_Manager()
Pharmacy_Admin()
Pharmacy_Store_Manager()
Transport_Admin()
Accounting_Manager()
Sales_Manager())
Work Request/UseCase
OrderApprovalRequest()
AssigningDistributor()
AssigningDistributorRequest()
AssigningTransportationRequest()
TrackingShipmentRequest()

HIGH LEVEL COMPONENT DIAGRAM



06

Conclusion

Conclusion

Transforming Pharmacy Operations

- PharmaFlow tackles the complex challenges of inventory management with innovative solutions.
- Bridges gaps in the supply chain through real-time monitoring, efficient workflows, and seamless communication.
- PharmaFlow isn’t just a system—it’s a step toward revolutionizing how pharmacies, distributors, manufacturers, and transporters work together, ensuring a healthier and more efficient future for everyone.

Thank You!