

Pharma Inventory and Availability System

AED Final Project Proposal 1

Problem Statement:

The existing system has problems like:

- Degraded quality issues of medicine
- Unauthorized supplies to Chemists
- No backtracking system for the drugs supplied
- No central system to track inventory supplies
- A network space where all the organizations can communicate and work with sync

Project Overview:

The project will focus on the Inventory Management side of the medical supply industry covering the roles of Patients, Suppliers, Manufacturers, and Authorizing Organization.

The project will help in solving the problems that arise during the drug supply and delivery that are:

- Authorized drug suppliers only communicate with the Chemists
- Chemists can get early and fast access to drug supplies.
- Authorized manufacturers can only send requests to the suppliers
- The drug batch supplied can be traced back to the manufacturer
- The project can be expanded for National and International Suppliers based on country policy.
- A central database would be maintained for all the entities and organizations involved.

Key Entities:

1. Patient

Patient is the one who needs a particular medicine whose request goes to the chemist

2. Chemist

Request Received at chemist end is checked for availability

If available, the request is fulfilled at the chemist end or else a request is generated and sent to supplier

3. Supplier

Request received at supplier end is checked for availability

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If available, the request is fulfilled at the supplier end or else a request is generated and sent to Manufacturer

4. **Manufacturer**

National: If the manufacturer is local, a legal system is followed for the medicine to be delivered to the Supplier → Chemist → Patient

International: If the manufacturer is international, an additional legal system check is followed for the medicine to be delivered to the Supplier → Chemist → Patient

5. **Legal System**

Responsible for verification & Authentication of Manufacturers (local and International) for the fulfillment of medicine request by the supplier

Project Workflow:

1. The patient raises the medicine request to the Chemist.
2. Chemist raises the order request to a specific supplier across the networks of the supplier.
3. Legal checks happen within the network directory.
4. Supplier fulfills request if sufficient inventory is present or else a new request is raised to the manufacturer.
5. The supplier also checks the authenticity of the ordered medicines from the drugs.
6. The supplier also tries to check whether the drugs are present with the other suppliers else he will raise a request for it to all manufacturers.
7. Manufacturer then fulfills it to the respective supplier.
8. In the inventory, the status of the order will be maintained from the patient, chemist, supplier, manufacturer and the legal authorities' approval.
9. Once the manufacturer confirms the order is ready the delivery department is notified for the delivery initiation and pickup facility.
10. A request for delivery raised for the delivery department is then managed by the Delivery Manager and assigns it to the respective worker for the delivery.
11. The alerting system can be added to notify each entity about the status of the request accordingly.