

Design (HLD-StrD) Template)

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Pharmacy Management System

Version 1.3.1

Reviewed by:

Approved by:

Revision / Document History

Ver	Date	Changed By	Modifications
1.0	25/07/23	Kousil Lakkapragada	



List of Abbreviations

DFD	Data Flow Diagram
ER	Entity Relationship
FHD	Function Hierarchy Diagram
HLD	High Level Design
LLD	Low Level Design
GUI	Graphical User Interface
IEEE	Institute of Electrical and Electronic Engineers
S/W	Software
SDL	Specification Description Language
StrD	Structured

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1. Introduction

This Project Aims at developing a Pharmacy Management System, which needs to manage transactions based on the requirements, which includes managing the inventory in the warehouse and keeping a check on the medicines sold and medicines in the stock. This Project also includes raising Invoices to the Retailers and billing to the patients who purchase the Medicines.

This automated system should support them in properly delivering the medicines on time for the patients without making them to wait for longer period

2. Design Scope

Object Oriented Analysis and Design (OOAD) methodology has been used for breaking down the specification into functionally independent units.

3. Design Methodology

The naming conventions followed conform to Unified Modelling Language (UML) as Object Oriented Analysis and Design (OOAD) is followed.

4. Design Notations

5. Design Considerations

6. Design Overview

Authentication Service Design

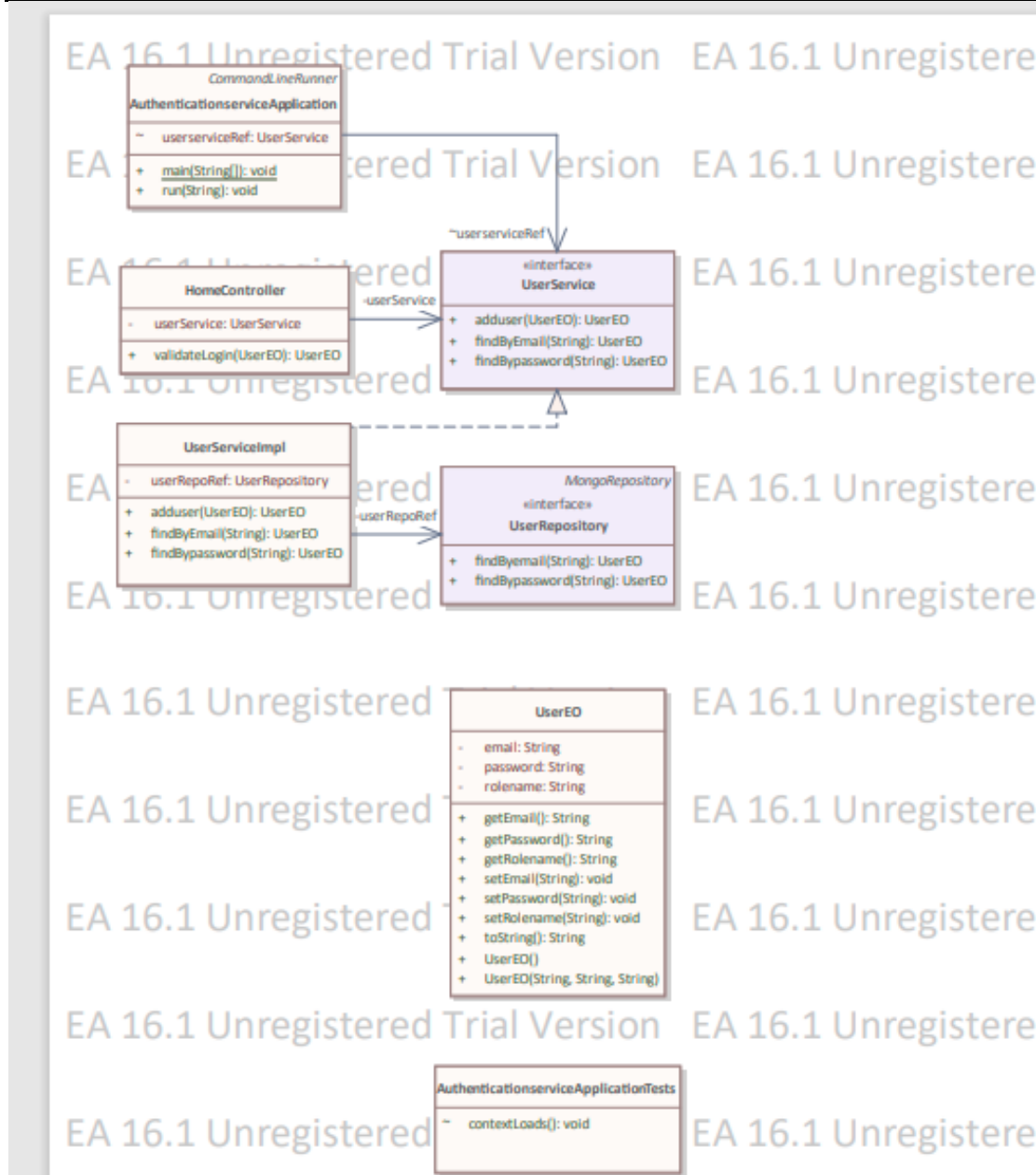
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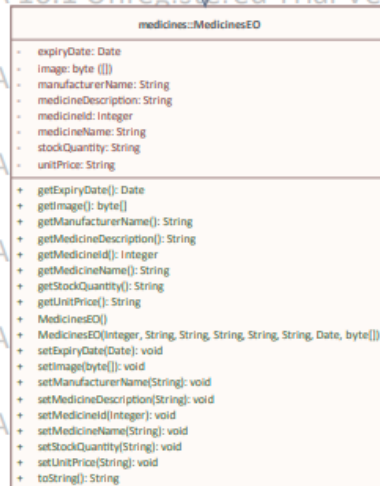
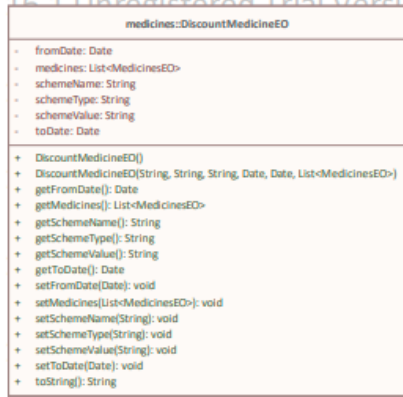


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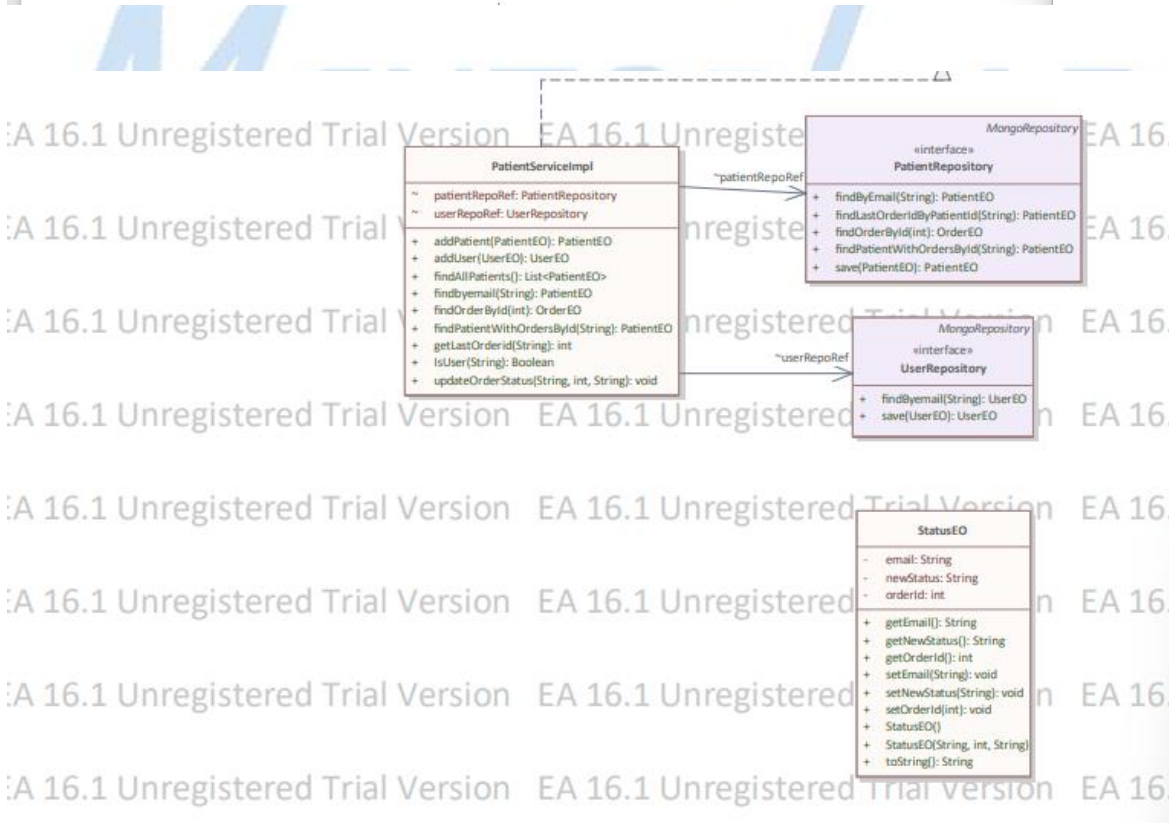
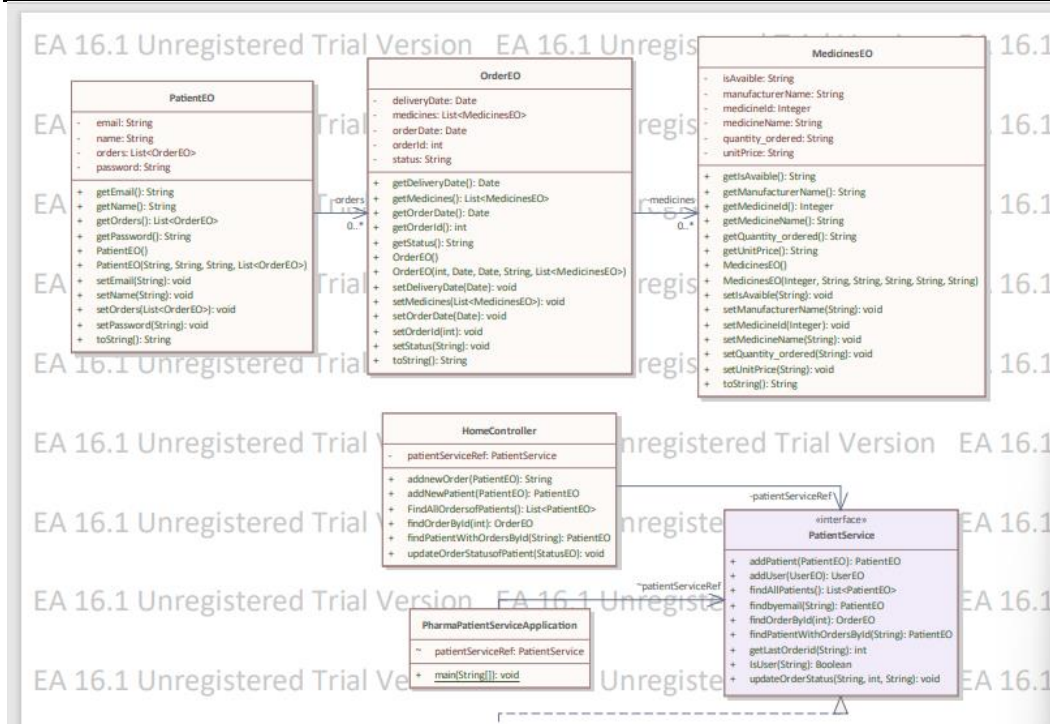


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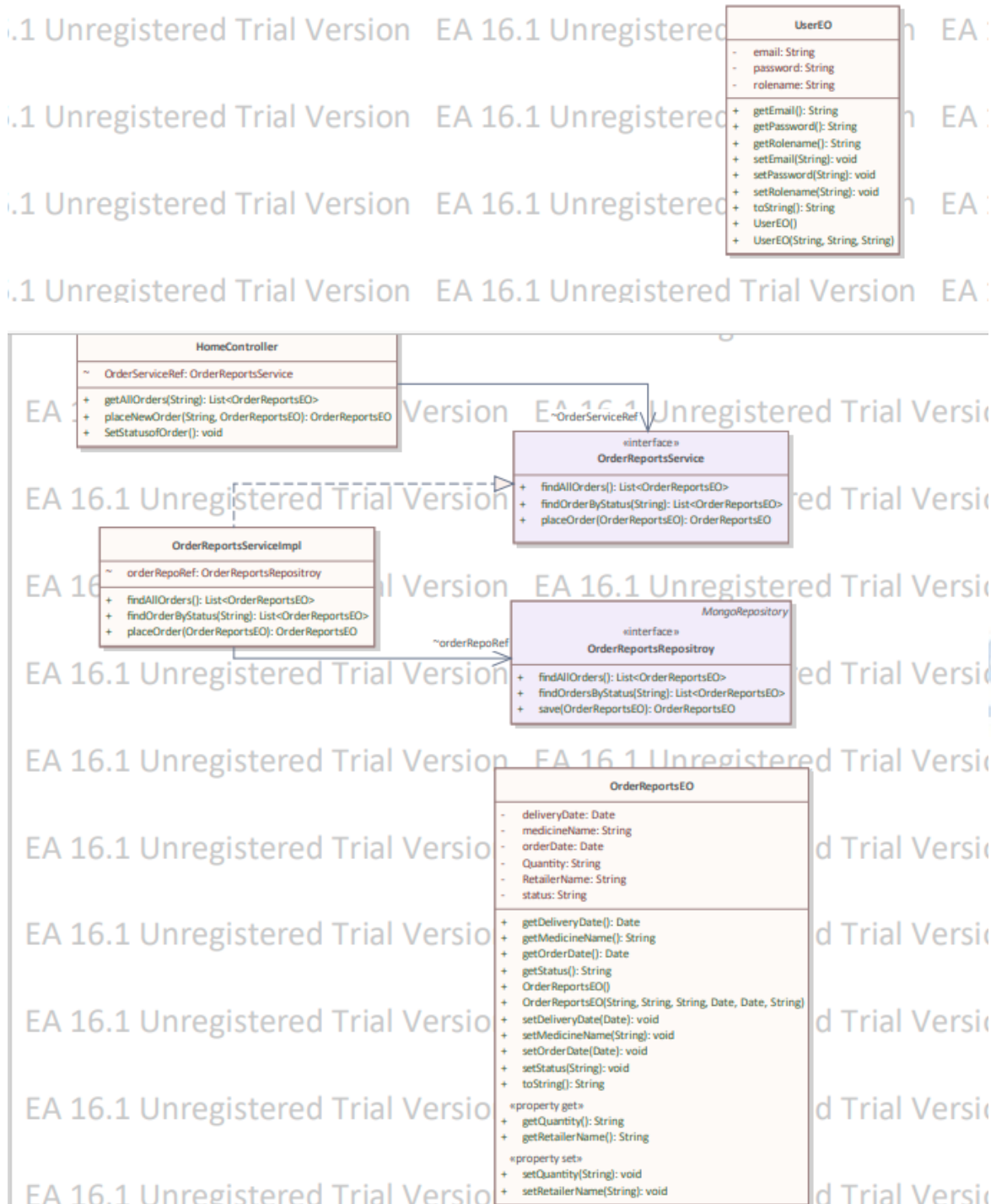


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7. Decomposition

DH-1-1 User EO

Inputs: Sets the user details like Username, Password in details.
Outputs: Gets the user details like Username, Role Name in details.
Scope: Throughout the Pharmacy Management application

This class is a model class for the database Collection Users.

DH-1-2 User Repository

Inputs: Giving the inputs as of name, password, user EO Object
Outputs: Get the details of Users from USERS Collection and all roles from Users collection

Scope: Throughout the Pharmacy Management application

This interface extends the Mongo Repository< User EO, String > class.

This class is a model class for the database table USERS.

DH-1-3 User Service Impl

Inputs: The details in the USERS be created, deleted & updated.
Outputs: Gets all users details like Username, Password & Role Name and get all role names also perform validations
Scope: Throughout the Pharmacy Management application

This class is a model class for the database collection USERS.

DH-1-4 Home Controller

Inputs: Giving the data User EO Object
Output: Get the details of username, password, role name.
Scope: This class is used for mapping the URL with respect to admin operations.

DH-1-5 Medicine EO

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Inputs: Giving the inputs as of medicine Id, Medicine Name, Medicine Description, medicine, Manufacturer Name, Stock Quantity, Unit Price, Expiry Date.

Outputs: Get the details of medicines from Medicines collection.

Scope: Throughout the Pharmacy Management application

DH-1-6 Medicine Repository

Inputs: Giving the medicine Id, Medicine Name, Medicine Description, medicine, Manufacturer Name, Stock Quantity, Unit Price, Expiry Date.

Outputs: Get the details of medicines from Medicines collection

Scope: Throughout the Pharmacy Management application

This interface extends the Mongo Repository< Medicine EO, Integer> class.

DH-1-7 Medicine Service

Inputs: provide username, Medicine Details.

Output: Get Medicine object all medicine related Data

Scope: Generic

DH-1-8 Medicine Service Impl

Inputs: The details in the medicines be created, deleted & updated.

Outputs: Gets all medicine details like medicine Id, Medicine Name, Medicine Description, medicine, Manufacturer Name, Stock Quantity, Unit Price, Expiry Date.

Scope: Throughout the Pharmacy Management application

This class is a model class for the database collection medicines.

DH-1-9 Home Controller

Inputs: Giving the data medicine EO Object

Output: Get the details of List of medicines

Scope: This class is used for mapping the URL with respect to medicine CRUD operations.

DH-1-10 Discounted Medicine EO

Inputs: Giving the inputs as of medicine Id, Medicine Name, Medicine Description, medicine, Manufacturer Name, Stock Quantity, Unit Price, Discounted Price Expiry Date.

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Outputs: Get the details of medicines from Medicines collection.

Scope: Throughout the Pharmacy Management application

DH-1-11 Discounted Medicine Repository

Inputs: Giving the medicine Id, Medicine Name, Medicine Description, medicine, Manufacturer Name, Stock Quantity, Unit Price, Discounted Price Expiry Date.

Outputs: Get the details of medicines from Medicines collection

Scope: Throughout the Pharmacy Management application

This interface extends the Mongo Repository< Discounted Medicine EO, Integer> class.

DH-1-12 Discounted Medicine Service

Inputs: provide username, medicine Details.

Output: Get Medicine object all medicine related Data

Scope: Generic

DH-1-13 Discounted Medicine Service Impl

Inputs: The details in the medicines be created, deleted & updated.

Outputs: Gets all medicine details like medicine Id, Medicine Name, Medicine Description, medicine, Manufacturer Name, Stock Quantity, Unit Price, Discounted price Expiry Date.

Scope: Throughout the Pharmacy Management application

This class is a model class for the database collection Discounted medicines.

DH-1-14 Home Controller

Inputs: Giving the data Discounted medicines EO Object

Output: Get the details of List of medicines

Scope: This class is used for mapping the URL with respect to medicine CRUD operations.

DH-1-15 Report Generation EO

inputs: Set the details of Order Details like order Id, Medicine Name, Quantity, Date of Delivery.

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Output: Get the details of order like owner order Id, Medicine Name, Quantity, Date of Delivery.

Scope: This class is used throughout the Admin Module

DH-1-16 Report Generation Service

Inputs: provide all information about Order Details.

Output: Get List of Order Objects and List of related Data.

Scope: Throughout the Admin Module

DH-1-17 Report Generation Impl

Inputs: The details in the orders be created

Outputs: Gets all Order Details like order Id, Medicine Name, Quantity, Date of Delivery.

Scope: Throughout the Admin Module

This class is a model class for the database collection Report Generation collection

DH-1-18 Home Controller

Inputs: Giving the data Status of the Order Details.

Output: Get the details of List of orders according to the status.

Scope: This class is used for mapping the URL with respect to Report Generation operations.

DH-1-14 Patient EO

Inputs: Give the input of username and password.

Outputs: Gets all medicine Details from discounted Medicines and medicines collections.

Scope: Throughout the Patient/user module in Pharmacy management application

This class is a model class for the database table Patients Collections.

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DH-1-15 Patient Service

Inputs: Provide username, and Role Name.
Output: Get Discounted Medicines object all medicine related Data
Scope: Throughout the Patient/user module in Pharmacy management application

DH-1-16 Patient Service Impl

Inputs: provides all medicine details that are added to checked out.
Output: Stores the data in the Orders array in patients Eo and returns success message.
Scope: Throughout the User module in Pharmacy management application

This class is a model class for the database collection Patients.

DH-1-17 Home Controller

Inputs: Giving the data like, Medicines and Status of the Order Details.
Output: Get the details of List of medicines and orders according to the status.
Scope: This class is used for mapping the URL with respect to patient operations.

DH-1-18 Orders EO

inputs: Set the details of Order Details like order Id, Medicine Name, Quantity, Date of Delivery.
Output: Get the details of order like user order Id, Medicine Name, Quantity, Date of Delivery.
Scope: This class is used throughout the user Module in pharmacy management System

8. Interface Design

8.1 User Interface

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Login UI :



Pharma Health

Login Here to Continue

Email

Password

LOGIN

Don't have an account? [Register here](#)

Registration UI:



Welcome To Pharma Health

Register Here to Continue

Name

Email

Password

Confirm Password

REGISTER

Admin Home UI:

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Health Sure Pharmacy

LOGOUT

Home

Add New Scheme

Generate Reports

Add New Medicine

Order New Medicines

Welcome to Admin home page

Sold Out
Quantity: 0

Yet to Sold Out
Quantity: 0

Fully Available
Quantity: 2

Search by Medicine Id or Medicine Name

Sort By

Filter By

CLEAR

Medicine ID
1

Medicine Name
Paracetamol

Description
For headache

Manufacturer

Medicine ID
3

Medicine Name
Dolo

Description
Relief

Manufacturer

Admin Add New Scheme UI:

Health Sure Pharmacy

LOGOUT

Home

Add New Scheme

Generate Reports

Add New Medicine

Order New Medicines

Scheme Name

SchemeType
Choose Option

Start Date
mm/dd/yyyy

End Date
mm/dd/yyyy

RESET

SUBMIT

Admin Generate Reports UI:

QST-SQA-22; Ver 1.0

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18/08/2023

Internal HLD

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Health Sure Pharamcy

LOGOUT

Home

Add New Scheme

Generate Reports

Add New Medicine

Order New Medicines

☐

Medicine Name

:

☐

Retailer Name

:

☐

Date of Order

:

☐

Delivery Address

:

☐

Quantity

:

Paracetamol

KL Pharma

2023-08-22T09:18:53.140+00:00

Indira Nagar, Bengaluru

50000

Dolo

Arif Bhai

2023-08-22T09:29:52.217+00:00

Indira nagar

60000

IbuProfin

KL Pharma

2023-08-22T09:39:58.497+00:00

Hyderabad

7000

Rows per page

10

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<

>

DOWNLOAD RECEIPT

localhost:3000/generatereport

Admin Add New Medicine UI

Health Sure Pharamcy

LOGOUT

Home

Add New Scheme

Generate Reports

Add New Medicine

Order New Medicines

Medicine ID

SEARCH

Medicine Name

Medicine Description

Manufacturer Name

Stock Quantity

Unit Price

Expiry Date

mm/dd/yyyy

Upload File

No file chosen

RESET

SUBMIT

localhost:3000/AddMedicine

Admin Order New Medicines UI

Health Sure Pharmacy

LOGOUT

Home

Add New Scheme

Generate Reports

Add New Medicine

Order New Medicines

Order Medicine

Medicine Name

Strength or Dosage (Optional)

Quantity

Retailer Name

Delivery Address

Instructions (Optional)

RESET

SUBMIT

InCharge Home Page UI

Health Sure

LOGOUT

Home

Order Details

Generate Bills

Welcome to Incharge home page

Search by Medicine Name or Manufacturer

CLEAR

Paracetamol

Manufacturer: JKL Pharma

Cost: 2

Available: 7050

Sold: UPDATE

Dolo

Manufacturer: JKL Pharma

Cost: 5

Available: 40000

Sold: UPDATE

InCharge Order Details Page UI

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Health Sure
LOGOUT

Home
Order Details
Generate Bills

Patient Name	Order Id ↑	Delivery Date	Total Amount	Status	Set Status
kousil	1	August 24, 23	5	Shipped	<input type="text"/>
Medicines					
Medicine Name	Quantity	Unit Price	Manufacturer Name		
Paracetamol	1	5	JKL Pharma		
kousil	2	August 23, 23	500	Processing	<input type="text"/>
kousil	3	August 23, 23	35000	Confirmed	<input type="text"/>
kousil	4	August 24, 23	2	Confirmed	<input type="text"/>

InCharge Generate Bills Page UI:

Health Sure
LOGOUT

Home
Order Details
Generate Bills

Patient Name	Order Id	Date of Order ↑	Total Amount	Actions
kousil	1	August 24, 23	5	^
Order ID: 1 Delivery Date: August 24, 23 Status: Shipped Medicines: <ul style="list-style-type: none"> Name: Paracetamol Manufacturer: JKL Pharma Quantity Ordered: 1 Unit Price: 5 <div>GENERATE INVOICE</div>				
kousil	2	August 23, 23	500	▼
kousil	3	August 23, 23	35000	▼
kousil	4	August 24, 23	2	▼

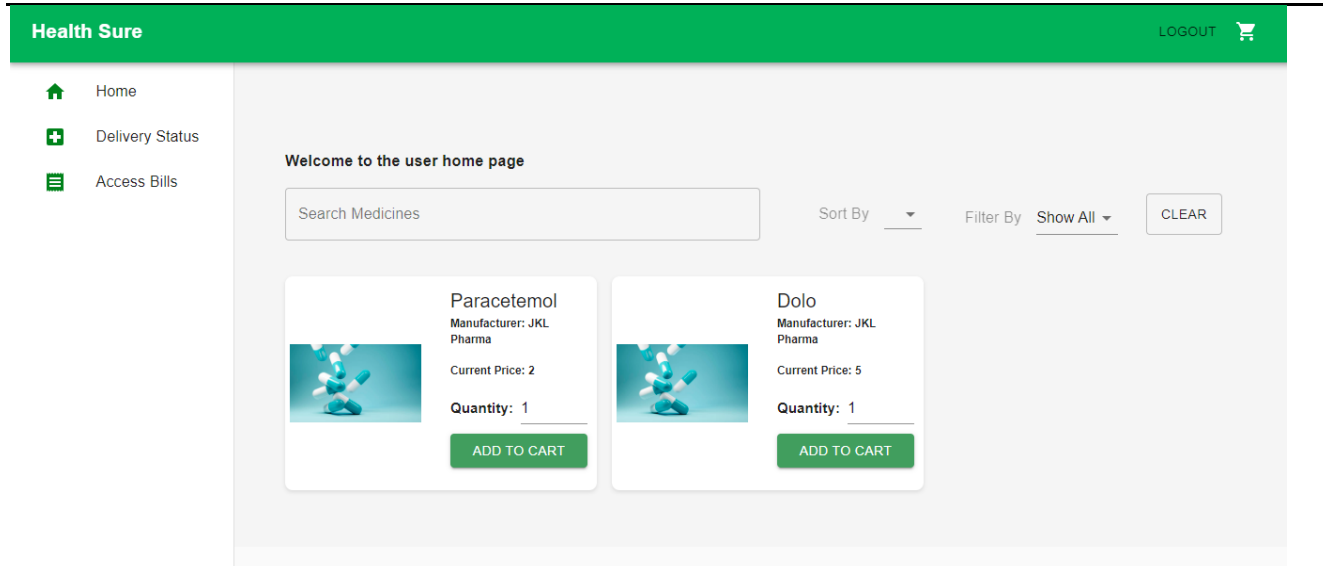
Patient Home Page UI:

Design (HLD-StrD) Template)

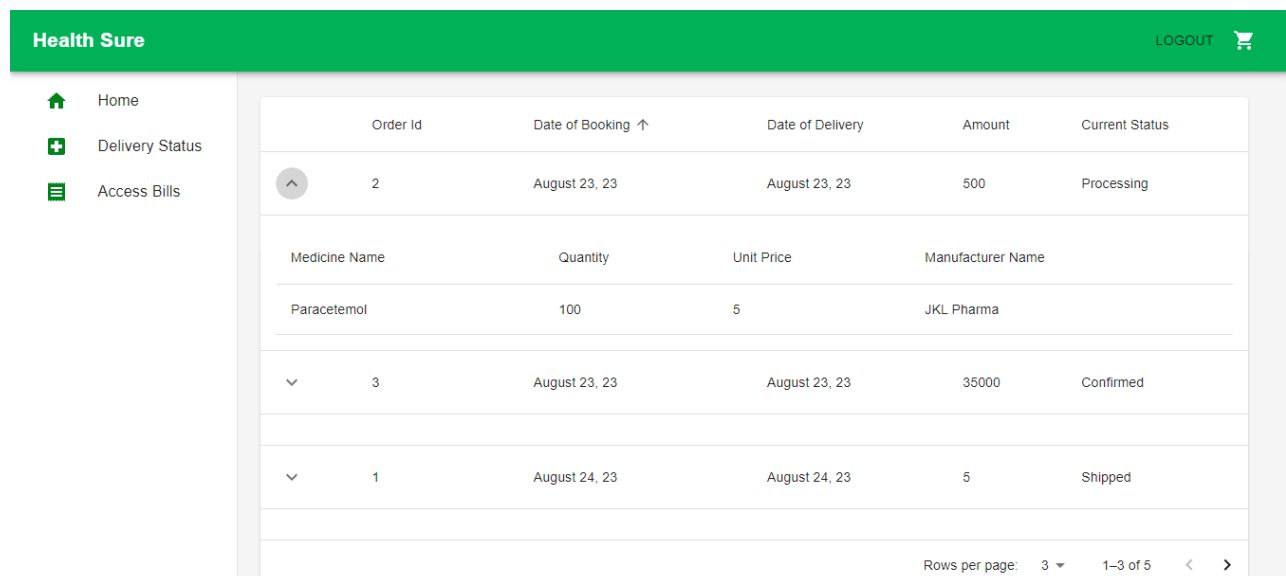
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Patient Delivery Status Page UI:



Patient Access Bills Page UI:

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The screenshot shows the 'Health Sure' application interface. On the left is a sidebar with navigation links: Home, Delivery Status, and Access Bills. The main content area displays a table of orders with columns: Order Id, Date of Booking, Date of Delivery, Amount, and Status. Order 1 is highlighted, showing details: Order ID: 1, Delivery Date: August 24, 23, Status: Shipped. Below the details, a 'Medicines' section lists Paracetamol with manufacturer JKL Pharma, quantity 5, and unit price 5. A 'DOWNLOAD INVOICE' button is present. The table continues with Order 2 (Processing) and Order 3 (Confirmed).

Order Id	Date of Booking	Date of Delivery	Amount	Status
1	August 24, 23	August 24, 23	5	Shipped
2	August 23, 23	August 23, 23	500	Processing
3	August 23, 23	August 23, 23	35000	Confirmed

Patient Cart Page UI

The screenshot shows the 'Patient Cart Page UI' in the 'Health Sure' application. The sidebar is the same as the previous screenshot. The main content area has a header 'We Deliver On Time'. Below it, two medicine items are listed in the cart: Paracetamol (Cost: 2.5, Quantity: 100) and Dolo (Cost: 1.0, Quantity: 100). Each item has a trash icon. To the right, the 'Total amount: 350.00' is displayed, and a 'CHECKOUT' button is visible. A browser address bar at the bottom left shows 'localhost:3000/home'.

9. Data design

<The entity relationship diagram prepared for the database has to be defined here.>

9.2 Data structure (data types, arrays, and structures)

Not applicable.

10. Reusability

11. Design Alternatives

12. Design Feasibility

We have used the OOAD approach in this project. This methodology has been chosen based on our analogy of the user requirements, feasibility study and based on the experience of the co-ordinators. It has been seen that several other project groups developing similar projects have chosen the same methodology.

The OOAD assures properties such as reusability, modularity, efficiency.

13. Additional Hardware and Software required

This requirement is based on the future stages of development. Therefore as of now this is not applicable

14. Testing Strategy

The various stages of testing to be followed for our application includes white unit and integration testing.

We will carry out all such testing in a simulated environment only.

15. Traceability Matrix

As per the requirements-HLD tagging shown in the document “Requirement_Traceability.xls” each of the requirements has been mapped to the appropriate classes. Both the requirements and classes have been tagged according to the tag standards

16. References

List of all external sources of information referenced in this document.

Sl. No.	Description	Date	Vers.	Location
1.	Software Requirements Specification Document	29/07/2023	1.0	SRS.doc
2.				
3.				

Description, date, and version shall uniquely identify the information source, and the location shall specify where it is to be found.

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