Pharmacy Management System

18CSC209J - Database Management System and Cloud Integration Services

Mini Project Report

Submitted by

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MAY 2023

BONFIDE

This is to certify that 18CSC209J - Database Management System and Cloud Integration Services mini project report titled "PHARMACY MANAGEMENT SYSTEM" is the bonafide work of PAPAI MONDAL (RA2111028010116), DHRUV DESHMUKH (RA2111028010125) who undertook the task of completing the project within the allotted time.

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ABSTRACT

The **Pharmacy Management System project abstract** must answer or address the needs of every issue that happens in the pharmacy. The issues could include the poor security of their record, manual handling of drug information, and others.

Pharmacists can use the Pharmacy Management System program to help them methodically manage their pharmacies. When a medicine's name is input, the Pharmacy Management System can help by providing details about the medicine. A computer displays information about the medicine, such as its dosage and expiration date. In large medical stores, manually handling the specifics of all the drugs becomes very tough.

We can keep track of all the medicines by using this pharmacy management system. It is updated with new information as new medicines are introduced, and it includes an expiration date as well as a search option. When we complete the name of a medicine, it displays the medicine's details.

To make this system, Visual Studio with PHP and ASP.NET was used. The SQL database was created with MySQL.

INTRODUCTION

The main goal of Pharmacy management system is to manage all records and transaction within the inventory and managing of sales. Pharmacy management System is a very effective tool for an organization to be efficient in business management. The traditional way of managing sales and inventory is performed by using a pen and a paper to write down the type and quantity of the stock. But errors in inventory records still exist even when the management uses IT systems and product data capturing technologies to improve the inventory systems. Inventory managers have to face inaccuracy of inventory records either at the store or at the warehouse level. In order to improve accuracy of inventory checking, people started using Auto ID technologies.

In EPC global Report, Auto ID technologies are defined as the host of technologies that are used to help machines to identify objects. It is about identifying items, capturing all information about the items, sending and storing those data into a computer with minimal human intervention.

Theoretical review.

Pharmacy Management system is a web base system that works as a website to manage and functioning all pharmacy activities through a web server (Apache). A web page is what you see on the screen when you type in a web address, click on a link, or put a query in a search engine. A web page can contain any type of information, and can include text, colour, graphics, animation and sound.

PROBLEM STATEMENT

Most pharmacies faced problems such as insufficient service promotions, lack of coherence of pharmacy services in hospitals, poor drug information systems, and the inconsistency of the pharmacy information management due to its manual processes. Now, these are the problems that must be solved with this Pharmacy Management System Project Proposal.

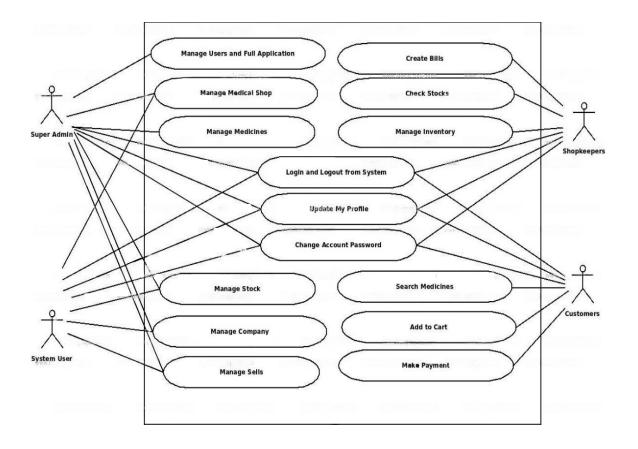
Solution: Pharmacy Management System Project is a great system for storing data, maintaining, and organizing the use and process of medications in the pharmacy. This computer software is programmed to perform the various tasks required in the operation of a pharmacy. The system will improve the efficiency of the pharmacy and enable the storing of digital records. Managing a system for pharmacy is the process of creating and implementing evidence-based pharmaceutical usage strategies to improve member and population health while maximizing healthcare resources.

Scope: One of the most important responsibilities of pharmacy management is to supervise and manage the pharmacy employees to ensure healthy working relationships and outcomes. Each of these functions is critical to the pharmacy's operation and should be improved.

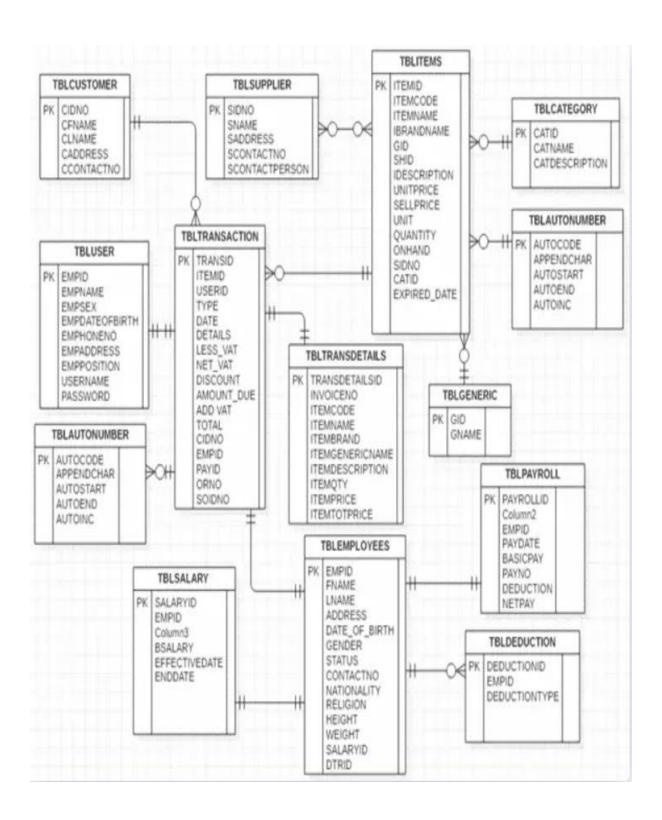
MODULE DESCRIPTION

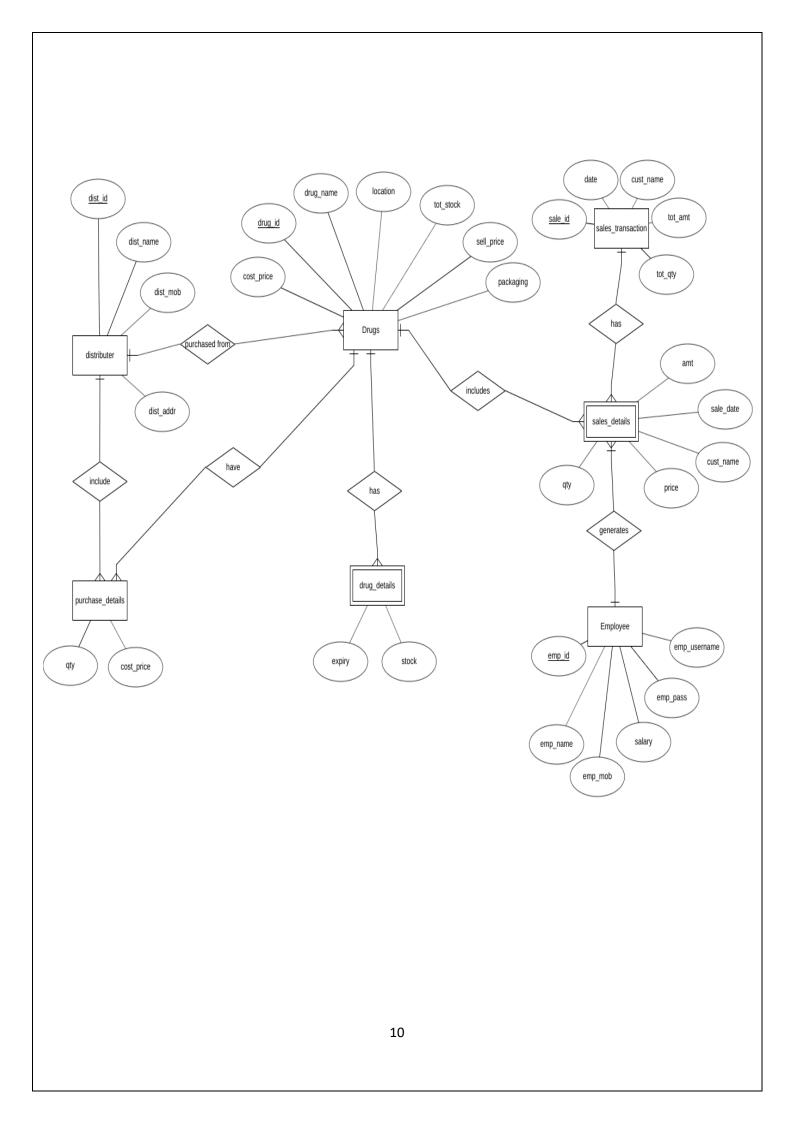
- Pharmacy Information Management: is a multi-functional system that helps pharmacists to keep track of medicine supplies and organize them. The modules aids in the reduction of medication errors, the improvement of patient safety, the reporting of drug usage, and the tracking of expenses.
- Medicine Management: To manage medicines modules will assess the need for and use of medication, the patient's response to medication, and the patient's level of understanding of the drug and how to take it with the patient.
- Categorize Medicine Information: Categorizing the drugs available in the pharmacy will be much easier for the admin through the help of this module. This will do the monitoring and checking of the medicine information to identify its category.
- Monitor Medicine Orders: is used to keep track of dates and events throughout the process chain, from placing an order with an external vendor to presenting goods in a store or receiving goods in a distribution center.
- Manage Sales and Stocks: This module will help the Pharmacist with the sales and stocks management that includes ordering, storing, tracking, and monitoring stock levels as well as monitoring their revenue.
- **Drug Inventory Management:** The drug inventory management module strives to reduce procurement and carrying expenses while maintaining a sufficient stock of products to meet the needs of customers and prescribers. This will also monitor the performance of the pharmacy and to know which are the most needed medicines.
- Generate Processes Reports: In all organization or business, reports are very essential. To help the admin in these matters, this module generates the transaction reports to keep track of the pharmacy activities.

USE CASE DIAGRAM



ER DIAGRAM





DATABASE CREATION

Below are the DDL and DML commands used for create the Database tables.

```
SET SQL MODE = "NO AUTO VALUE ON ZERO";
START TRANSACTION;
SET time_zone = "+00:00";
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD COLLATION CONNECTION=@@COLLATION CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;
-- Database: `nowdemy_pharmacy`
-- Table structure for table `brands`
CREATE TABLE `brands` (
  `brand_id` int(11) NOT NULL,
  `brand_name` varchar(255) NOT NULL,
  `brand_active` int(11) NOT NULL DEFAULT 0,
 `brand status` int(11) NOT NULL DEFAULT 0
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Dumping data for table `brands`
INSERT INTO `brands` (`brand_id`, `brand_name`, `brand_active`,
`brand_status`) VALUES
(1, 'Cipla', 1, 1),
(2, 'Mankind', 1, 1),
(3, 'Sunpharma', 1, \overline{1}),
(4, 'MicroLabs', 1, 1);
 - Table structure for table `categories`
```

```
CREATE TABLE `categories` (
  `categories_id` int(11) NOT NULL,
 `categories_name` varchar(255) NOT NULL,
  `categories_active` int(11) NOT NULL DEFAULT 0,
 `categories_status` int(11) NOT NULL DEFAULT 0
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Dumping data for table `categories`
INSERT INTO `categories` (`categories_id`, `categories_name`,
`categories_active`, `categories_status`) VALUES
(1, 'Tablets', 1, 1),
(2, 'Syrup', 1, 1),
(3, 'SkinLiquid', 1, 1),
(4, 'PainKiller', 1, 1);
-- Table structure for table `orders`
CREATE TABLE `orders` (
  `id` int(15) NOT NULL,
  `uno` varchar(50) NOT NULL,
  `orderDate` date NOT NULL,
  `clientName` text NOT NULL,
  `projectName` varchar(30) NOT NULL,
  `clientContact` int(15) NOT NULL,
  `address` varchar(30) NOT NULL,
  `subTotal` int(100) NOT NULL,
  `totalAmount` int(100) NOT NULL,
  `discount` int(100) NOT NULL,
  `grandTotalValue` int(100) NOT NULL,
  `gstn` int(100) NOT NULL,
  `paid` int(100) NOT NULL,
  `dueValue` int(100) NOT NULL,
  `paymentType` int(15) NOT NULL,
  `paymentStatus` int(15) NOT NULL,
  `paymentPlace` int(5) NOT NULL,
  `delete_status` tinyint(5) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
  Dumping data for table `orders`
```

```
INSERT INTO `orders` (`id`, `uno`, `orderDate`, `clientName`, `projectName`,
                                                  `totalAmount`, `discount`,
 clientContact`, `address`, `subTotal`,
<code>ˈgrandTotalValue</code>`, <code>`gstn</code>`, <code>`paid</code>`, <code>`dueValue</code>`, <code>`paymentType</code>`, <code>`paymentStatus</code>`,
 paymentPlace`, `delete_status`) VALUES
(1, 'INV-0001', '2022-02-28', 'Santosh Kadam', '', 2147483647, '', 100, 10,
108, 49, 0, 49, 49, 2, 1, 0, 0),
(2, 'INV-0002', '2022-03-24', 'Aishwarya Joshi', '', 2147483647, '', 300, 0,
354, 0, 0, 354, 354, 3, 3, 1, 0),
(3, 'INV-0003', '2022-04-15', 'Saurabh Katkar', '', 2147483647, '', 860, 1015,
10, 1005, 155, 500, 505, 2, 2, 1, 0),
(4, 'INV-0004', '2022-04-15', 'Mayuri K', '', 2147483647, '', 60, 71, 0, 71,
11, 50, 21, 5, 2, 1, 0);
-- Table structure for table `order_item`
CREATE TABLE `order_item` (
  `id` int(15) NOT NULL,
  `productName` int(100) NOT NULL,
  `quantity` varchar(255) NOT NULL,
  `rate` varchar(255) NOT NULL,
 `total` varchar(255) NOT NULL,
  `lastid` int(50) NOT NULL,
  `added_date` date NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Dumping data for table `order_item`
INSERT INTO `order_item` (`id`, `productName`, `quantity`, `rate`, `total`,
`lastid`, `added_date`) VALUES
(5, 2, '1', '100', '100.00', 1, '0000-00-00'),
(6, 2, '2', '150', '300.00', 2, '0000-00-00'),
(7, 1, '2', '30', '60.00', 3, '2022-04-15'),
(8, 2, '4', '150', '600.00', 3, '2022-04-15'),
(9, 3, '1', '200', '200.00', 3, '2022-04-15'),
(10, 1, '2', '30', '60.00', 4, '2022-04-15');
-- Table structure for table `product`
```

```
CREATE TABLE `product` (
  `product_id` int(11) NOT NULL,
  `product_name` varchar(255) NOT NULL,
  `product_image` text NOT NULL,
  `brand_id` int(11) NOT NULL,
  `categories_id` int(11) NOT NULL,
  `quantity` varchar(255) NOT NULL,
  `rate` varchar(255) NOT NULL,
  `mrp` int(100) NOT NULL,
  `bno` varchar(50) NOT NULL,
  `expdate` date NOT NULL,
  `added_date` date NOT NULL,
  `active` int(11) NOT NULL DEFAULT 0,
 `status` int(11) NOT NULL DEFAULT 0
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Dumping data for table `product`
INSERT INTO `product` (`product_id`, `product_name`, `product_image`,
brand_id`, `categories_id`, `quantity`, `rate`, `mrp`, `bno`, `expdate`,
 added_date`, `active`, `status`) VALUES
(1, 'Cipla Inhaler', 'tab.jpg', 1, 1, '50', '30', 40, '307002', '2022-02-28',
'2022-02-28', 1, 1),
(2, 'Abevia 200 SR Tablet', 'tab1.jpg', 2, 1, '30', '150', 200, '307003',
'2022-02-16', '2022-02-28', 1, 1),
(3, 'Arpizol 20 Tablet', 'tab3.jpg', 3, 3, '70', '200', 300, '307004', '2022-
03-13', '2022-02-28', 1, 1),
(4, 'DOLO 650mg', 'tab4.jpg', 4, 1, '500', '25', 30, '307005', '2022-05-31',
'2022-04-15', 1, 1);
-- Table structure for table `users`
CREATE TABLE `users` (
  `user_id` int(11) NOT NULL,
 `username` varchar(255) NOT NULL,
 `password` varchar(255) NOT NULL,
 `email` varchar(255) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Dumping data for table `users`
```

```
INSERT INTO `users` (`user_id`, `username`, `password`, `email`) VALUES
(1, 'admin', '7dd2259de9fef85fa6a0a04423a0dbc6', 'nowdemy@sample.com');
-- Indexes for dumped tables
-- Indexes for table `brands`
ALTER TABLE `brands`
 ADD PRIMARY KEY (`brand_id`);
-- Indexes for table `categories`
ALTER TABLE `categories`
 ADD PRIMARY KEY (`categories_id`);
-- Indexes for table `orders`
ALTER TABLE `orders`
 ADD PRIMARY KEY (`id`);
ALTER TABLE `order_item`
 ADD PRIMARY KEY (`id`);
ALTER TABLE `product`
 ADD PRIMARY KEY (`product_id`);
-- Indexes for table `users`
ALTER TABLE `users`
 ADD PRIMARY KEY (`user_id`);
-- AUTO_INCREMENT for dumped tables
```

```
-- AUTO_INCREMENT for table `brands`
ALTER TABLE `brands`
 MODIFY `brand_id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=5;
-- AUTO_INCREMENT for table `categories`
ALTER TABLE `categories`
 MODIFY `categories_id` int(11) NOT NULL AUTO_INCREMENT, AUTO INCREMENT=5;
-- AUTO_INCREMENT for table `orders`
ALTER TABLE `orders`
 MODIFY `id` int(15) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=5;
-- AUTO_INCREMENT for table `order_item`
ALTER TABLE `order item`
 MODIFY `id` int(15) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=11;
-- AUTO_INCREMENT for table `product`
ALTER TABLE `product`
 MODIFY `product_id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=5;
-- AUTO_INCREMENT for table `users`
ALTER TABLE `users`
 MODIFY `user_id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;
COMMIT;
```

NORMALISATION OF DATABASE

Normalization technique is used to break the large tables into smaller tables so that redundant data can be avoided. Normalization avoids different types of insertion, updation and deletion anomalies. Anomalies can create errors while interacting with databases.

Order_i8998+9d	User_id	User_name	Password	Email

Eliminate repeating groups and separate each order_id.

1st normal form

A table in the First Normal Form must meet the following requirements:

- Set atomic characteristics and columns.
- The data in the fields should all be from the similar data type.
- Each column in a table should have its own name.
- It also makes no difference in which order the data is stored.

Id Product_name Quatity Rate Total Lastid

2nd normal form

A table in the Second Normal Form must meet the following requirements:

- It must be written in the first normal form; and
- It must be free of any partial dependency.

product_id	product_name	product_image	brand_id	categories_id	quantity	rate	mrp

The Product table fields are totally dependent on the primary keys, and we can establish more relationships from the Order item table.

3rd normal form

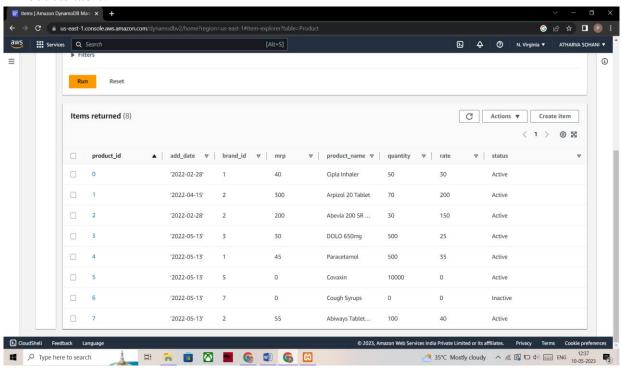
The properties of a table in a Third Normal Form are as follows:

- The table must meet the rules of second normal form; and
- There should be no transitive dependencies.

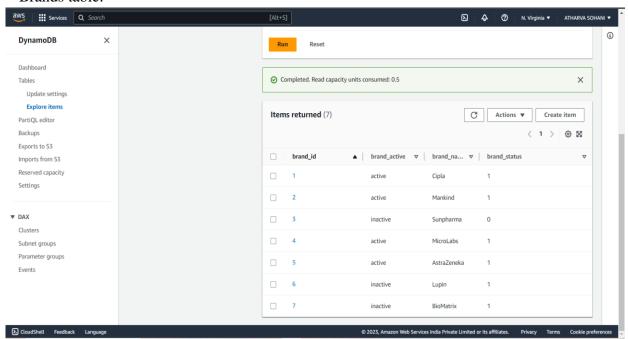
Order_id	Order_date	ClientName	Address	Totalamt	gstn	paymentStatus

IMPLEMENTATION OF DYNAMODB

Products table:



Brands table:



DynamoDB:

Creating DynamoDb table using AWS CLI:

- 1. Open AWS CloudShell and select the region where you want to create the table. You can choose the region from the dropdown menu in the top-right corner of the CloudShell window.
- 2. Launch the AWS CLI terminal in CloudShell by clicking on the "Open Terminal" button in the top-right corner of the CloudShell window.
- 3. Create a JSON file with the table schema. For example, create a file named table_schema.json with the following contents:

JSON - Using a JSON document database, you can store each user's profile efficiently by storing only the attributes that are specific to each user.

```
EX: echo '{
"TableName": "my_table",
"KeySchema": [
"AttributeName": "my_partition_key",
"KeyType": "HASH"
},
"AttributeName": "my_sort_key",
"KeyType": "RANGE"
],
"AttributeDefinitions": [
"AttributeName": "my_partition_key",
"AttributeType": "S"
},
"AttributeName": "my_sort_key",
"AttributeType": "N"
}
"BillingMode": "PAY_PER_REQUEST"
}' > table_schema.json
```

Create the table by running the following AWS CLI command:

aws dynamodb create-table --cli-input-json file://table_schema.json
To check the status of the table by running the following AWS CLI command:
aws dynamodb describe-table --table-name my_table

```
To add data:
```

```
{
"my_partition_key": {"S": "my_partition_key_value"},
"my_sort_key": {"N": "1"},
```

```
"attribute1": {"S": "value1"},
"attribute2": {"N": "2"}
}
```

Use the 'aws dynamodb put-item' command to add the item to the table. Run the following command:

aws dynamodb put-item --table-name my_table --item file://item.json

Verify that the item has been added by using the aws dynamodb get-item command. Run the following command:

```
aws dynamodb get-item --table-name my_table --key '{ "my_partition_key": { "S": "my_partition_key_value"}, "my_sort_key": { "N": "1"}}'
```

You can add more items by repeating the steps above with different data in the 'item.json' file.

Scan Operations:

Scanning a table for all items:

This command scans the my_table table and returns all items in the table aws dynamodb scan --table-name my_table

If the table has many items, you may need to paginate the results to retrieve all items. To do this, add the --page-size parameter to the aws dynamodb scan command and specify the maximum number of items to retrieve per page. For example, to retrieve 100 items per page, run the following command:

aws dynamodb scan --table-name my_table --page-size 100

Scanning a table with filter expression:

First run this command to scan with a filter expression.

```
aws dynamodb scan --table-name my_table --filter-expression "attribute1 = :value" --expression-attribute-values '{":value":{"S":"value1"}}'
```

Next verify the results by this command

```
aws dynamodb scan --table-name my_table --filter-expression "attribute1 = :value" -- expression-attribute-values '{":value":{"S":"value1"}}' | jq '.Items[].{attribute1:.attribute1.S, attribute2:.attribute2.N}'
```

Scanning a table with a projection expression:

Run the aws dynamodb scan command with the --table-name parameter to specify the name of the table you want to scan, and the --projection-expression parameter to specify the attributes you want to include in the scan. For example, to scan a table named my_table and include only the attribute1 and attribute2 attributes in the results, run the following command:

aws dynamodb scan -- table-name my_table -- projection-expression "attribute1, attribute2" -- max-items 100

Scanning a table with a limit:

```
aws dynamodb scan --table-name my_table --limit 10
Scanning table with a parallel scan:
aws dynamodb scan --table-name my_table --total-segments 10
and use this for scanning the first segment:
aws dynamodb scan --table-name my_table --total-segments 10 --segment 0.
```

CONCLUSION

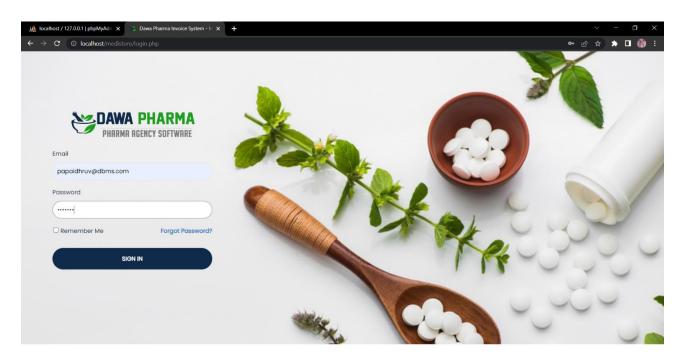
Pharmacy management system is actually a software which handle the essential data and save the data and actually about the database of a pharmacy and its management. This software helps in effectively management of the pharmaceutical store or shop. It provides the statistics about medicine or drugs which are in stocks which data can also be updated and edited. It works as per the requirement of the user and have options accordingly. It allow user to enter manufacturing as well as the expiry date of medicine placing in stock and for sales transaction. This software also has ability to print reports and receipts etc. There is other function available too. The main purpose is effectively and easily handling of pharmacy data and its management

The role of pharmacy management is to supervise and manage the pharmacy employees to preserve excellent working relationships and outcomes. To improve the services offered in every Pharmacy, the formulated proposal, abstract and modules of Pharmacy Management System Project management should be present in the PDF document.

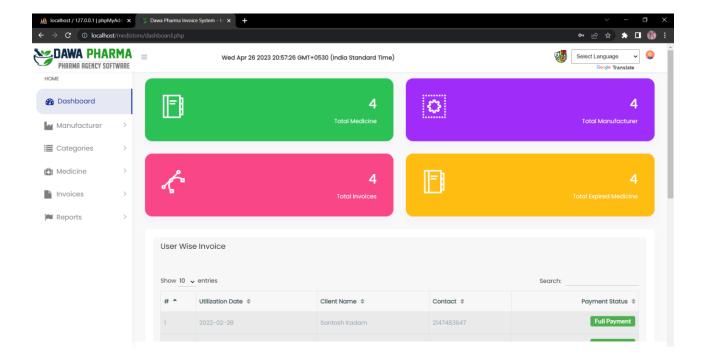
And that ends our discussion about Pharmacy Management System Project Proposal.

APPENDIX 1

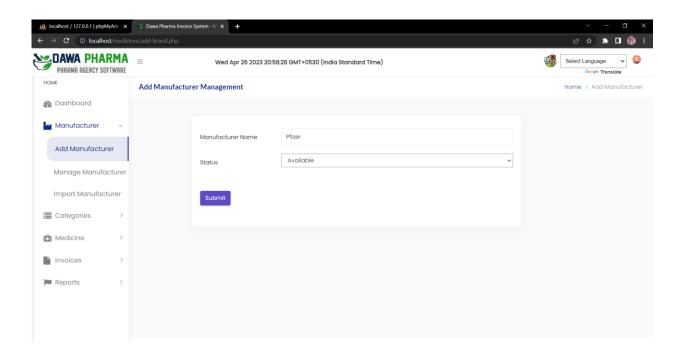
1. Login page interface



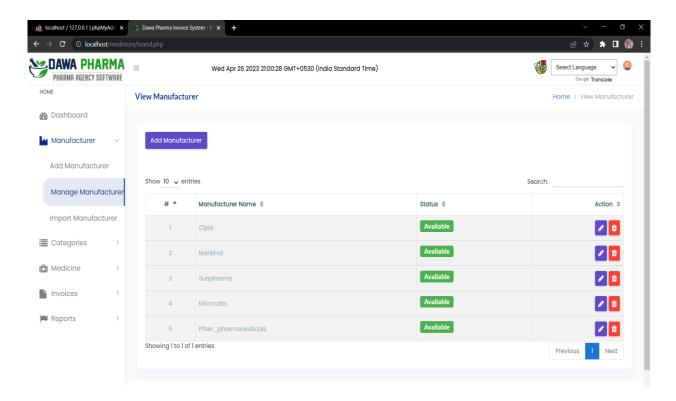
2. Dashboard/Home page interface



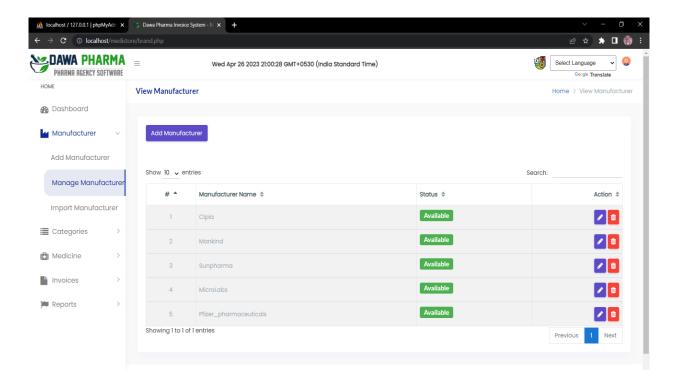
2. Add Manufactures function



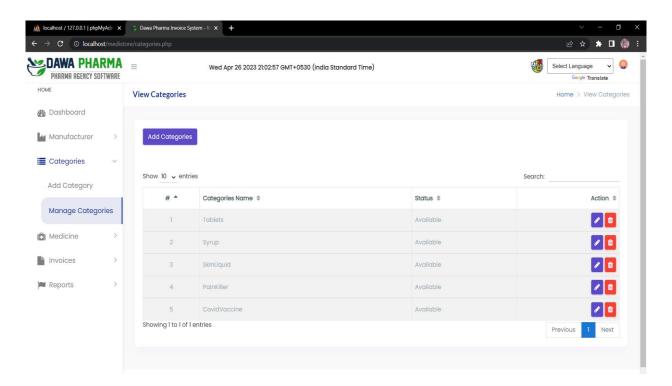
3. Manage Manufacturers function



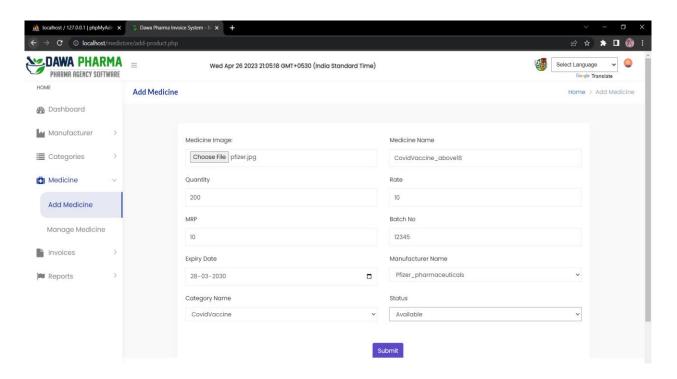
4. Add medicine category



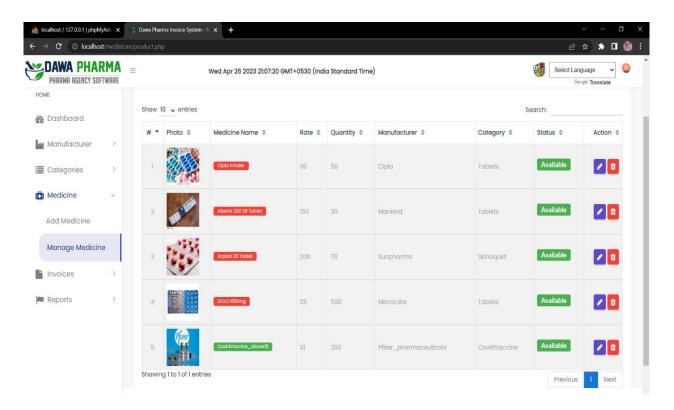
5. Manage Medicine Category



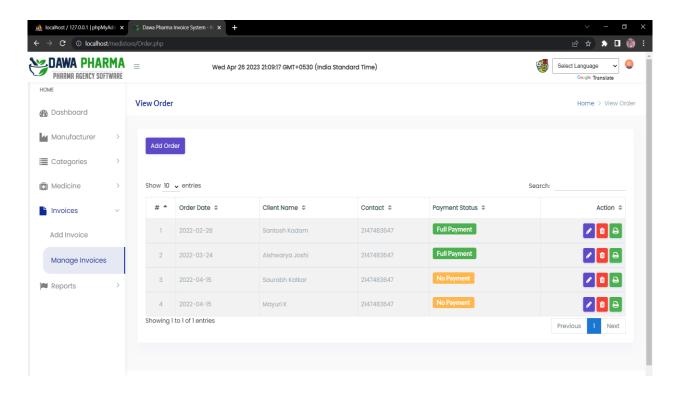
6. Add new Medicine page



7. Manage Medicines page



8. Manage orders

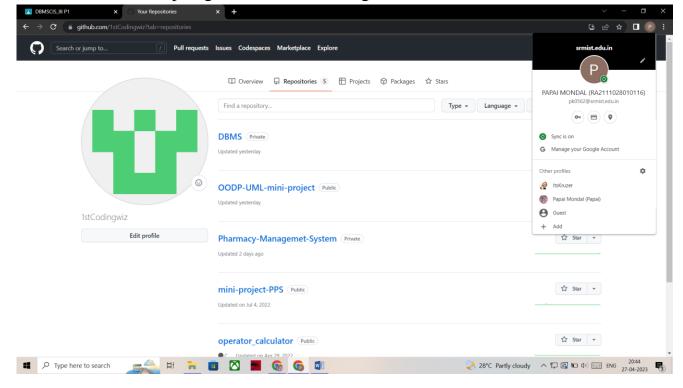


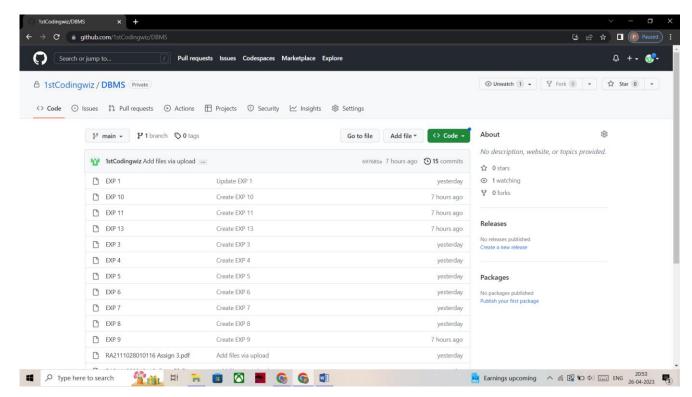
APPENDIX 2

Papai Mondal (RA2111028010116)

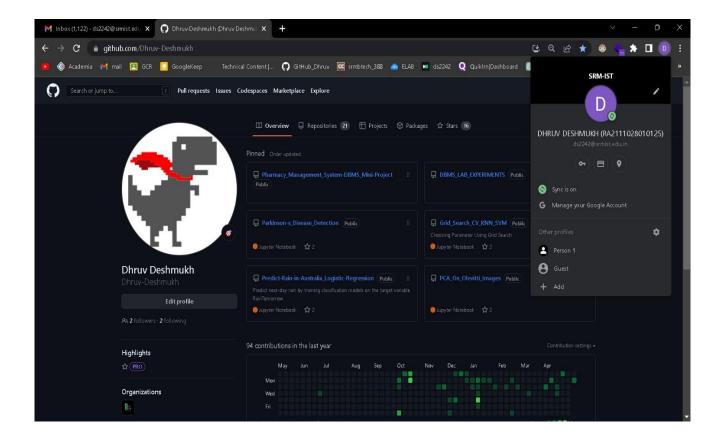
Github Profile name-1stCodingwiz

Github Link - https://github.com/1stCodingwiz

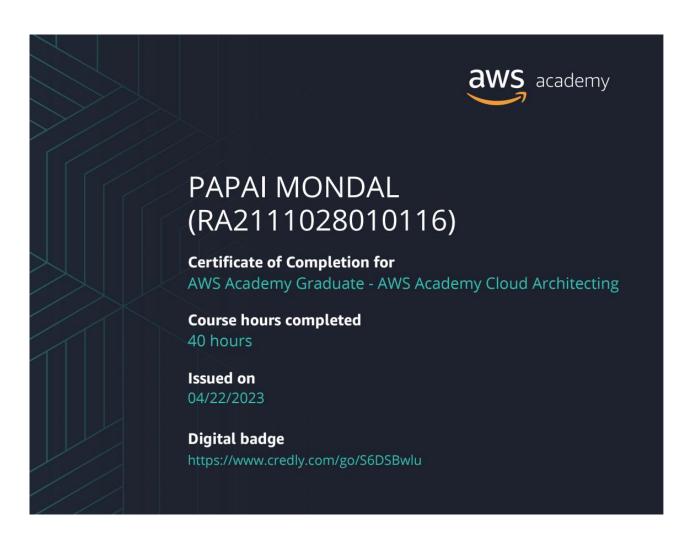




Dhruv Deshmukh (RA2111028010125) Github Profile name – Dhruv-Deshmukh Github link - https://github.com/Dhruv-Deshmukh



APPENDIX 3







Dhruv Deshmukh

Certificate of Completion for

AWS Academy Graduate - AWS Academy Cloud Architecting

Course hours completed

40 hours

Issued on

04/26/2023

Digital badge

https://www.credly.com/go/CWzqNNSa



ACADEMY

Cloud Architecting