

Design And Implementation of an Online Medicine Shopping Web Application

by

Eva Akter

ID: CSE1803015030

Raisha Akter

ID: CSE1803015031

Monika Kalam

ID: CSE1803015032

Tangina Jahan Tonne

ID: CSE1803015051

Supervised by

Salma Tabashum

Submitted in partial fulfillment of the requirements for the degree of Bachelor of Science
in Computer Science and Engineering



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SONARGAON UNIVERSITY (SU)**

September 2022

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APPROVAL

The project titled “ **Design And Implementation of an Online Medicine Shopping Web Application**” submitted by Eva Akter (CSE1803015030), Raisha Akter (CSE1803015031), Monika Kalam (CSE1803015032) and Tangina Jahan Tonne (CSE1803015051) to the Department of Computer Science and Engineering, Sonargaon University (SU), has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents.

Board of Examiners

----- Salma Tabashum Lecturer, Department of Computer Science and Engineering Sonargaon University (SU)	Supervisor
----- (Examiner Name & Signature) Department of Computer Science and Engineering Sonargaon University (SU)	Examiner 1
----- (Examiner Name & Signature) Department of Computer Science and Engineering Sonargaon University (SU)	Examiner 2
----- (Examiner Name & Signature) Department of Computer Science and Engineering Sonargaon University (SU)	Examiner 3

DECLARATION

We, hereby, declare that the work presented in this report is the outcome of the investigation performed by us under the supervision of **Salma Tabashum**, Lecturer, Department of Computer Science and Engineering, Sonargaon University, Dhaka, Bangladesh. We reaffirm that no part of this project has been or is being submitted elsewhere for the award of any degree or diploma.

Countersigned

Signature

(Salma Tabashum)
Supervisor

Eva Akter
ID: CSE1803015030

Raisha Akter
ID: CSE1803015031

Monika Kalam
ID: CSE1803015032

Tangina Jahan Tonne
ID: CSE1803015051

ABSTRACT

Online pharmacy is one of the technological advancements in creating a huge demand in the upcoming days. Nowadays, much more online medicine shopping web applications are present in the market. But, because of these websites, consumers will order medicines whose sale is non mandatory without prescriptions. In some cases, non mandatory drugs like narcotics, schedule X, and Y drugs are ordered online due to this shopping application. We have tried to overcome this problem by adding some authenticated online sales of medicines. To avoid the risk and to enhance the benefits, we have adopted the 3-level approach for online shopping for medicines. First of all, the consumer will upload the prescription of the required medicines, in the second stage that prescription will be analyzed by the registered doctor on the site, and in the end, only approved prescriptions will be able to proceed forward to place the order. This will reduce the risk of illegal sales and also protect consumers from side effects due to self-medication. On this website, consumers will get Live Health consultations by Professional Doctors through Live Chat to fix their suitable schedule. In order to develop this website, a number of Technologies must be studied and understood. These include multi-tiered architecture, server, and client-side scripting techniques, and implementation technologies such as PHP, HTML, CSS, Java-Script, and Databases.

ACKNOWLEDGMENT

At the very beginning, we would like to express my deepest gratitude to the Almighty Allah for giving us the ability and the strength to finish the task successfully within the scheduled time.

We are auspicious that we had the kind association as well as supervision of **Salma Tabashum**, Lecturer, Department of Computer Science and Engineering, Sonargaon University whose hearted and valuable support with best concern and direction acted as necessary recourse to carry out our project.

We would like to convey our special gratitude to **Bulbul Ahamed**, Associate Professor & Head, Department of CSE, and **Prof. Dr Md Alamgir Hossain**, Dean, Faculty of Science and Engineering for his kind concern and precious suggestions.

We are also thankful to all our teachers during our whole education, for exposing us to the beauty of learning.

LIST OF ABBREVIATIONS

CSS	Cascading Style Sheets
DBMS	Database Management System
DOM	Document Object Model
FTP	File Transfer Protocol
HTML	Hypertext Mark-up Language
PC	Personal Computer
RTP	Real-time Transport Protocol
SDLC	The Systems Development Life Cycle
UI	User Interface
UX	User Experience
VI	Visual Instrument
XAMPP	Cross-Platform (X) Apache (A) MySQL (M) PHP (P)

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CHAPTER 1

INTRODUCTION TO MEDIPHARMA

1.1 Introduction

Information Communication and technology are playing important roles in the development of the country. Technology systems are developing day by day. People are becoming more realistic about online based shopping on websites. A website is a collection of web pages and related content that is identified by a common domain name and published on at least one web server. Examples of notable websites are Google, Facebook, Amazon, and so on. Online Medicine shopping web application is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing websites providing functionality for performing online medicine shopping over the web. It is reasonable to say that the process of shopping on the web is becoming commonplace. Our web application is to reduce hardships faced by this existing system, and also offers low-cost ownership. Moreover, this system is designed by the particular need of all users to carry out operations in a smooth and effective manner. The prescription will be analyzed by the doctor then only the consumer will be able to place an order, also all the medicines must be verified and certified by the registered pharmacist before delivery, and also can get consultations through Live Chat. It will save time and money for a person.

1.2 Project Overview

MediPharma is an Online Medicine shopping web application for a medical pharmacy. MediPharma brings to you a digital platform for all your healthcare needs from genuine Medicines, Vitamins, COVID Essentials, Women Care, Mom & Baby Care, and Other products, and also get doctor consultations. Consumers can order medicines and healthcare products online and get them delivered to their door and also on-demand doctor appointments and video solution capabilities. At first, consumers have to register on our website. Here users can search for products too. The consumer has to upload the prescription for the required medicines. Without a prescription, the consumer can't buy medicines that required a prescription.

1.3 Project Objectives

Project objectives are what we plan to achieve by the end of our project. A project objective describes the desired results of a project, which often includes a tangible item. An objective is specific and measurable and must meet time, budget, and quality constraints. A project may have one objective, many parallel objectives, or several objectives that must be achieved sequentially. Our Online Medicine shopping system's objective is to provide those objectives to ensure the people will get Various Healthcare Products like - Vitamins, COVID Essentials, Women Care, Mom & Baby Care, Nutrition Blood Glucometer, Blood Lancet Needles for Diabetes, Hot Water Bag with cover etc, and Other products, and also get Doctor Consultations. Our Project objectives:

- Time reducing
- Less cost
- Handling is easy
- Reduce paper Work
- Legal complications and License formalities should be easy
- Verification of prescription is available

CHAPTER 2

SYSTEM REQUIREMENT

2.1 System Requirement

- PHP
- HTML
- CSS
- JavaScript
- Bootstrap
- SQL
- XAMPP
- Visual Studio Code

PHP

Hypertext Preprocessor (or simply PHP) is a server-side scripting language designed for Web development, but also used as a general-purpose programming language. PHP is very important for the working on the web development domain. This language is mainly used to manage dynamic content, database, session tracking, and even built entire sites. It includes a number of popular databases such as MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server. It supports a large number of major protocols including POP3, IMAP, and LDAP. PHP4 added support for Java and distributed object architectures, making entire development a possibility for the first time.

HTML

HTML originally stands for "Hypertext Markup Language." HTML is the language used to create web pages. "Hypertext" refers to the hyperlinks that an HTML page may contain. "Markup language" refers to the way tags are used to define the page layout and elements within the page [1]. HTML is mainly used to design webpages using a markup language. This language performs in the browser to manipulate text, images, and other content in order to display it in the required format.

CSS

Cascading Style Sheets fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable. CSS handles the look and feel part of a web page. CSS has been designed to separate the presentation and content including layout, colors, and fonts. This separation gives more flexibility and control in certain presentation characteristics improves content accessibility and also improves page load speed between the pages that share files and its formatting. It can enable multiple web pages for sharing and formatting the relevant CSS in a separate css file that lower complexity [1].

JavaScript

JavaScript (.js) is a lightweight object-oriented programming language that is used by several websites for scripting webpages. It is an inter-preted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document. It's does not require any expensive development tools. It can be compiled in simple text editors like Notepad, Notepad++, and so on. It doesn't require buying any compiler. It is an interpreted language inside the context of a web browser

Bootstrap

Bootstrap is a powerful toolkit - a collection of HTML, CSS, and JavaScript tools for creating and building web pages and web applications. It is a free and open-source project, hosted on GitHub, and originally created by (and for) Twitter. Bootstrap has its own code to resize images automatically according to the screen size. For this operation, it needs to add .img-responsive class to the images. The predefined CSS takes care of the rest. On their website, each part of the code is described and explained in explicit detail. Bootstrap comes with a whole barrelful of components that can be easily tacked onto the web page such as Navigation bars, Dropdowns, Progress bars, and Thumbnails [2].

jQuery

jQuery is a JavaScript library designed to simplify HTML DOM tree traversal and manipulation, as well as event handling, CSS animation, and Ajax. It is free, open-source software using the permissive MIT License. As of Aug 2022, jQuery is used by 77% of the 10 million most popular websites.

SQL

SQL stands for Structured Query Language which is basically a language used by databases. This language allows to handle the information using tables and shows a language to query these tables and other objects related (views, functions, procedures, etc.

XAMPP

XAMPP is an abbreviation where X stands for Cross-Platform, A stands for Apache, M stands for MYSQL, and Ps stand for PHP and Perl, respectively. It is an open-source package of web solutions that includes Apache distribution for many servers and command-line executables along with modules such as Apache server, MariaDB, PHP, and Perl. XAMPP helps a local host or server to test its website and clients via computers and laptops before releasing it to the main server. It is a platform that furnishes a suitable environment to test and verify the working of projects based on Apache, Perl, MySQL database, and PHP through the system of the host itself. Among these technologies, Perl is a programming language used for web development, PHP is a backend scripting language, and MariaDB is the most vividly used database developed by MySQL.

Visual Studio Code

Visual Studio Code is a source-code editor made by Microsoft for Windows, Linux, and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, and preferences, and install extensions that add additional functionality. Visual Studio Code manages the following platform features and components:

- User settings
- Windows (placement, appearance, etc.)
- Storage
- Integrated development tools
- Framework wizard

CHAPTER 3

SYSTEM DESIGN

3.1 System Design Description

The System Design Document describes the system requirements, operating environment, system and subsystem architecture, files and database design, input formats, output layouts, human-machine interfaces, detailed design, processing logic, and external interfaces.

3.2 Use Case Diagram

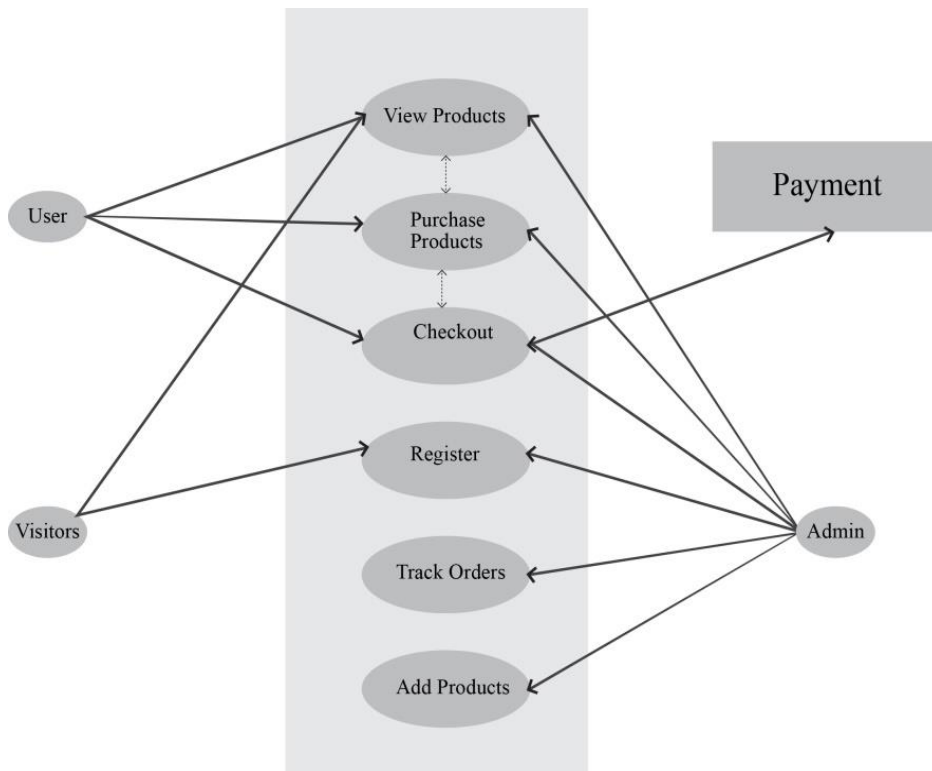


Figure 3.2: Use Case Diagram

3.3 External Interfaces

3.3.1 Admin interface:

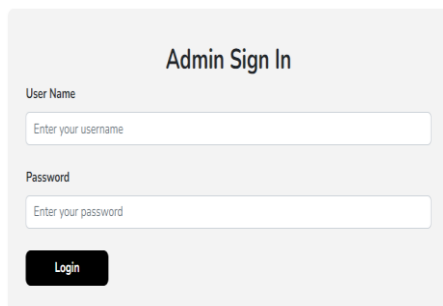
- Admin Login

Role: Admin login to the system.

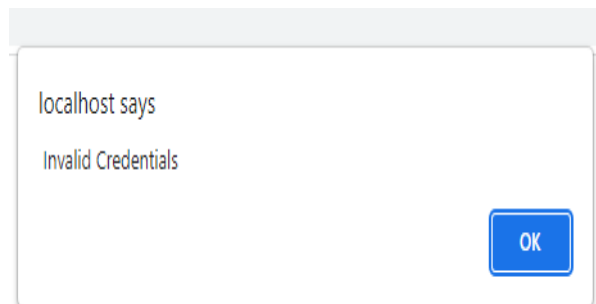
Precondition: Username and Password.

Success and Condition: login successfully and redirect to admin Dashboard.

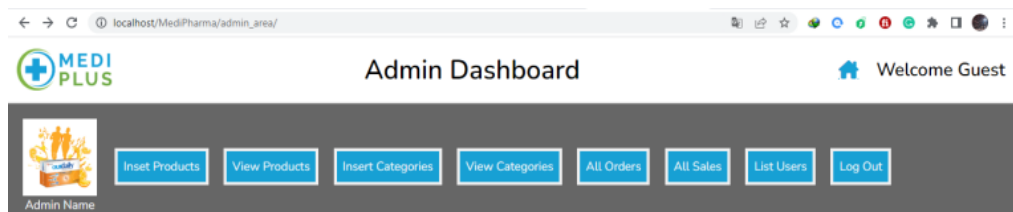
Failed and Condition: Invalid credentials.



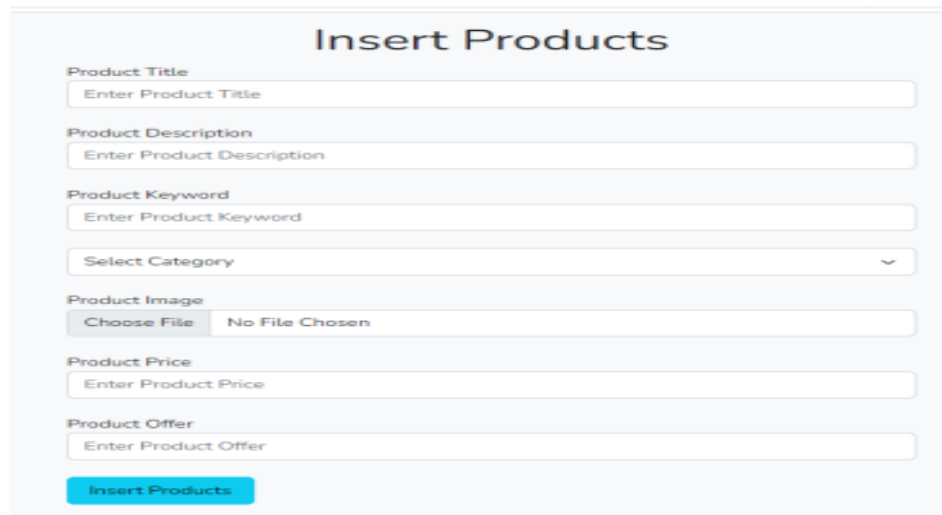
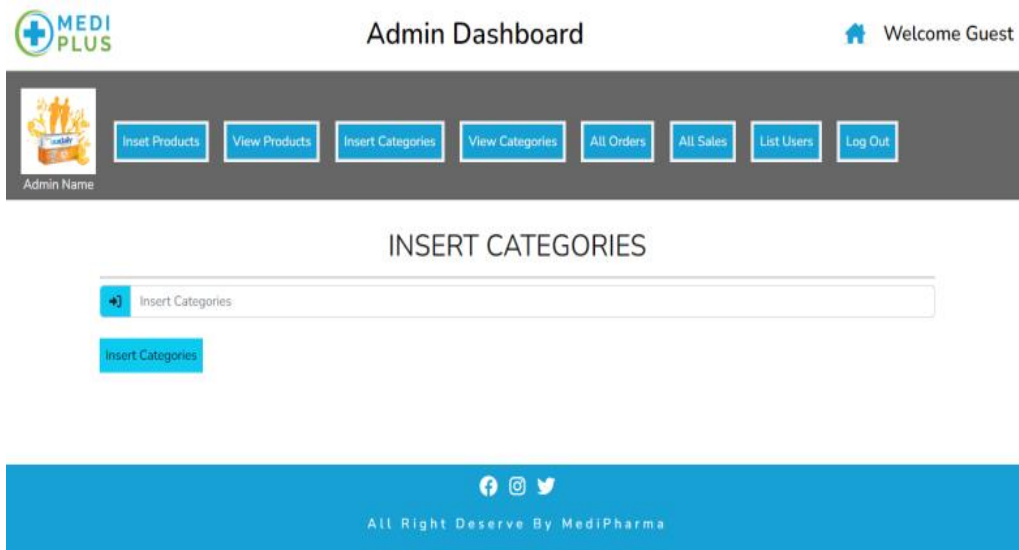
The image shows a web form titled "Admin Sign In". It has two input fields: "User Name" with the placeholder text "Enter your username" and "Password" with the placeholder text "Enter your password". Below the password field is a black "Login" button.



- Admin Dashboard



- Admin Activities



- **Admin Activity Diagram**

After Administrator Login admin redirect to the admin dashboard. Then he can managedetails, view user list/all order list, monitor sales. He can insert categories/product for increasing sales and profit ability of business.Below diagram shows how admin manage the website:

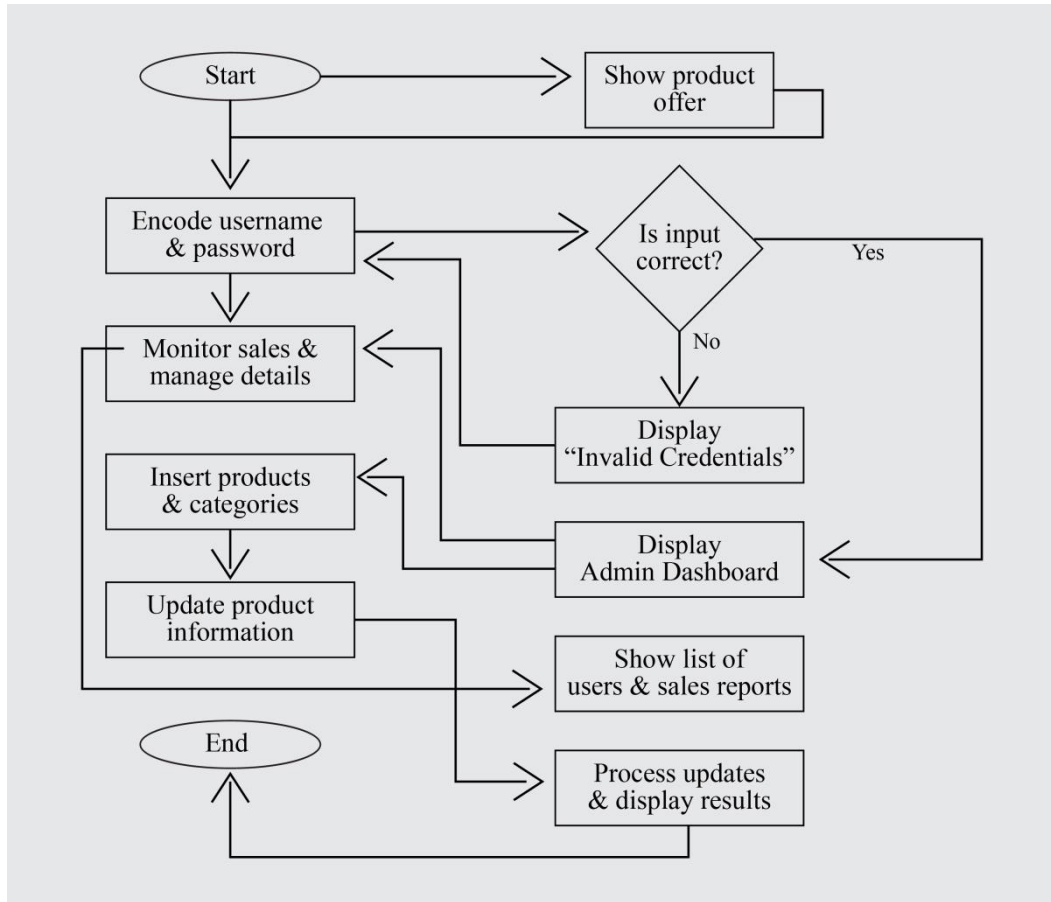


Figure 3.3.1: Admin Activity Diagram

3.3.2 User interface:

User will communication with the application and perform the desired tasks.

- **User Activity Diagram**

After register/login in website userscan purchase products,remove or add products in cart. If user not login , user will redirected to login page.After login they can complete the order process.

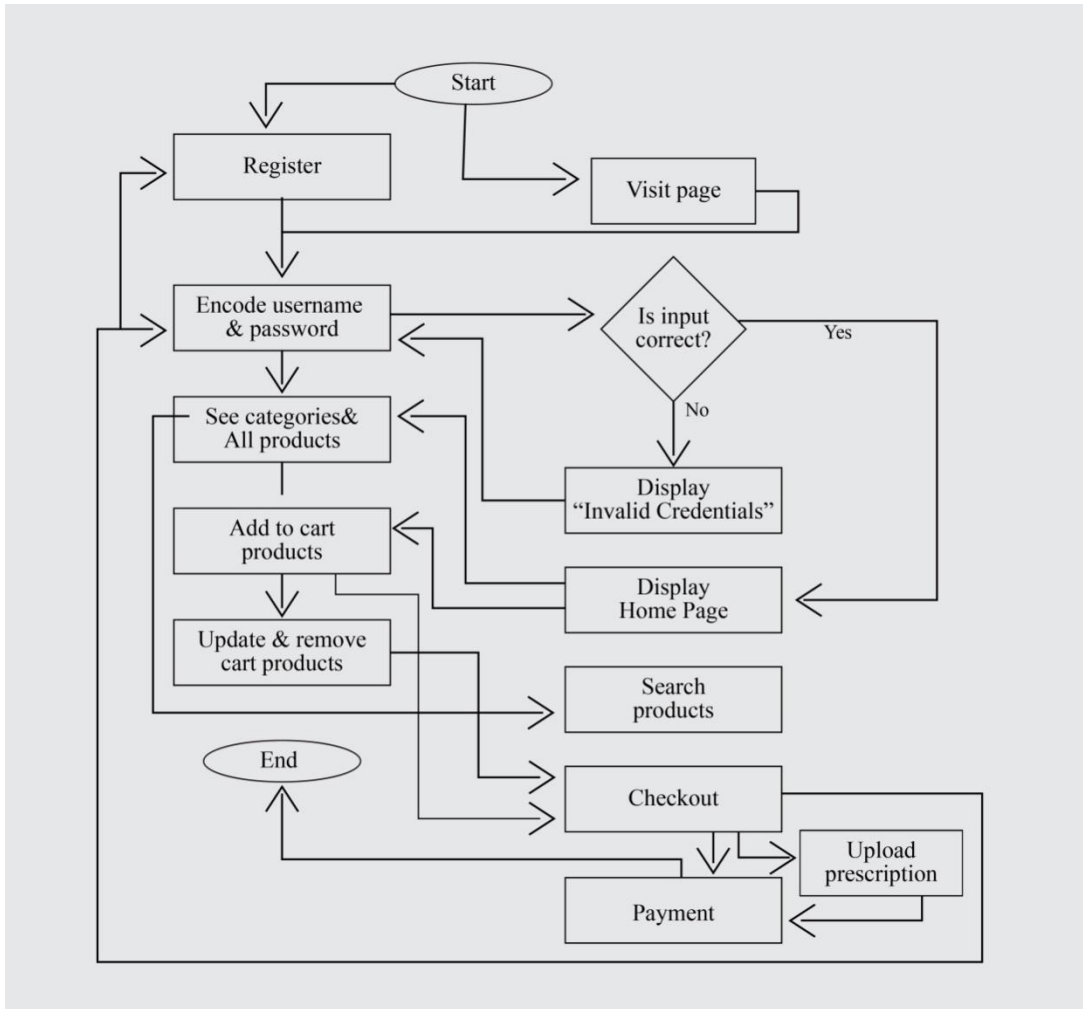
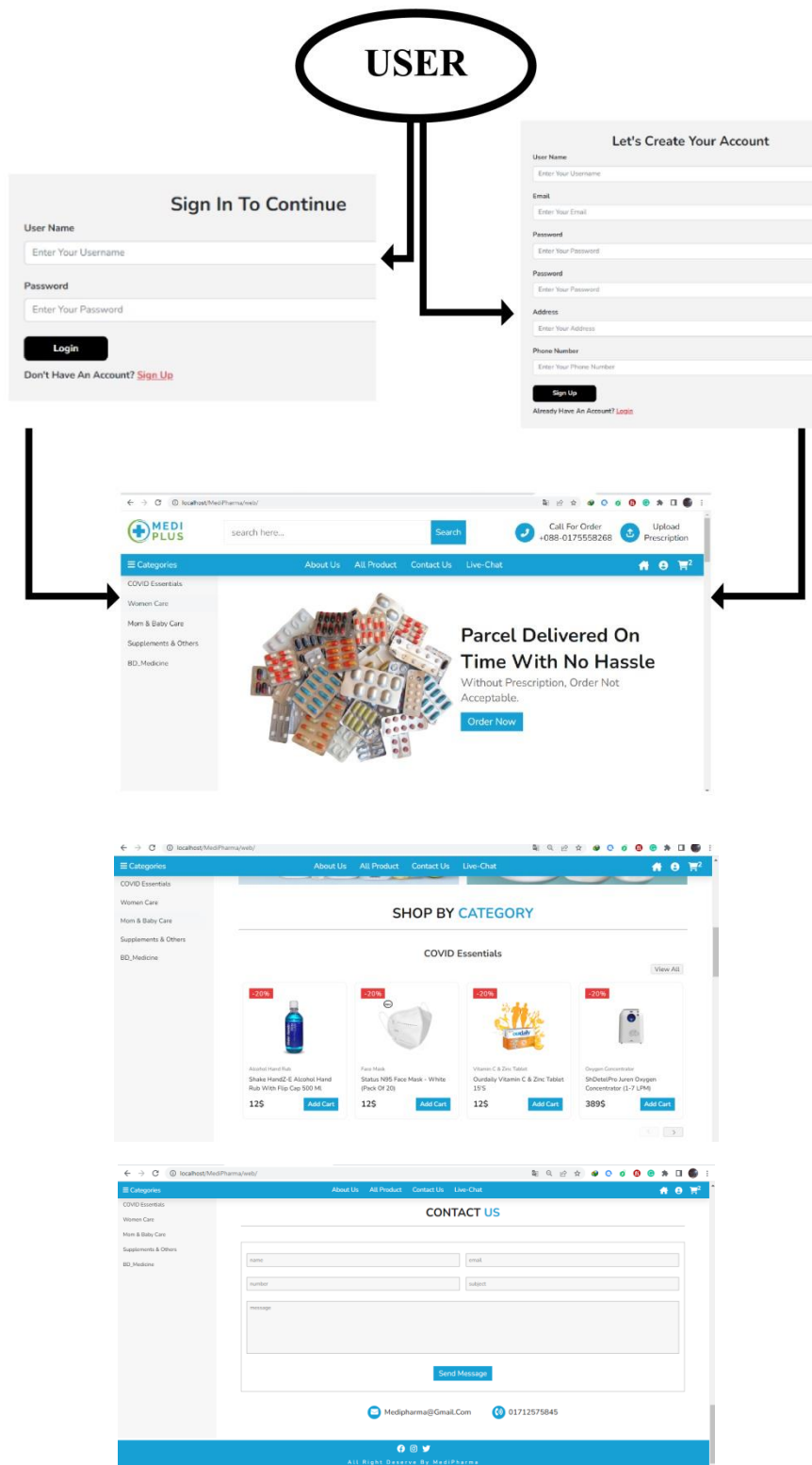


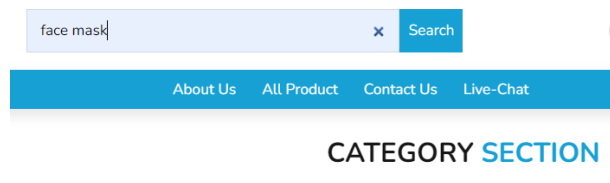
Figure 3.3.2: User Activity Diagram

- User Activity

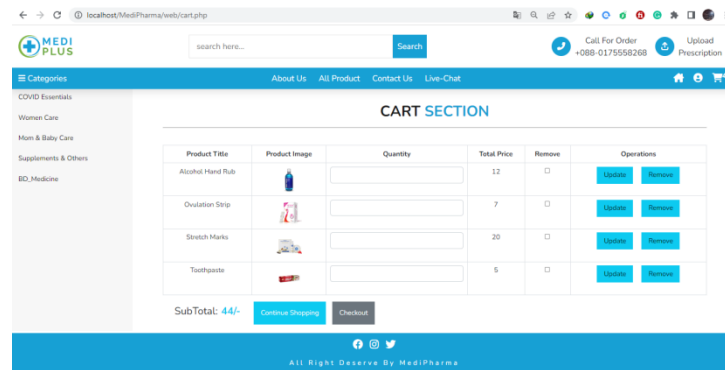


Homepage

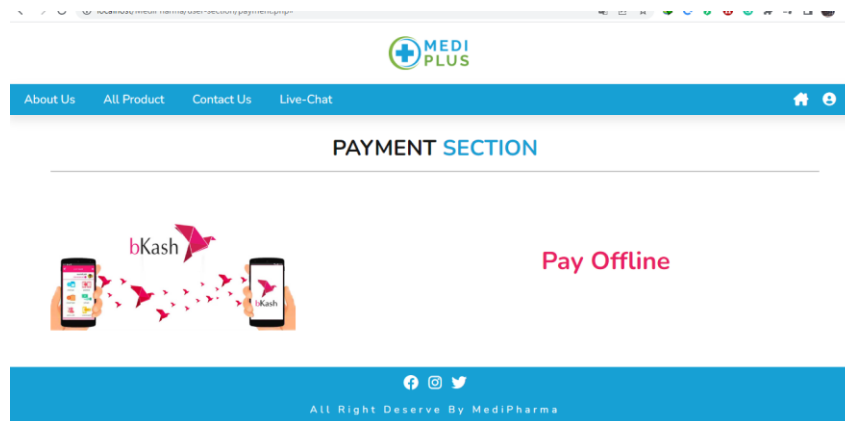
- User can search product from search box



- User can add to cart products and checkout activities



- Payment



CHAPTER 4

DATA MANAGEMENT

4.1 Data description

A database is a collection of related data.1 By data, we mean known facts that can be recorded and that have implicit meaning [3]. The database management system (DBMS) is the software that interacts with end-users, applications, and the database itself to capture and analyze the data. The DBMS software additionally encompasses the core facilities provided to administer the database. The total of the database, the DBMS, and the associated applications can be referred to as a "database system". Often the term "database" is also used to loosely refer to any of the DBMS, the database system, or an application associated with the database.

Computer scientists may classify database-management systems according to the database models that they support. Relational databases became dominant in the 1980s. These model data as rows and columns in a series of tables and the vast majority use SQL for writing and querying data. In the 2000s, non-relational databases became popular, referred to as NoSQL because they use different query languages.

For this project, we will use database management systems (MySQL). And for query our database we will use Structured query language (SQL)

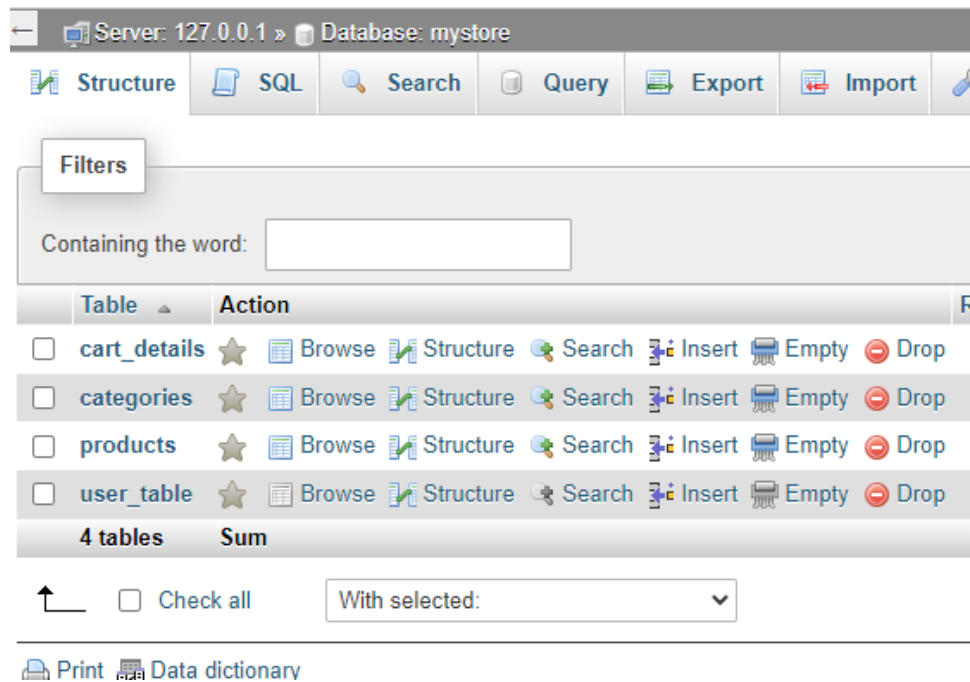
4.2 Data Objective

The objective of a database management system is to facilitate the creation of data structures and relieve the programmer of the problems of setting up complicated files. Data base management systems have developed from a concept of the data base as something distinct from the programs accessing it.

All tables in database:

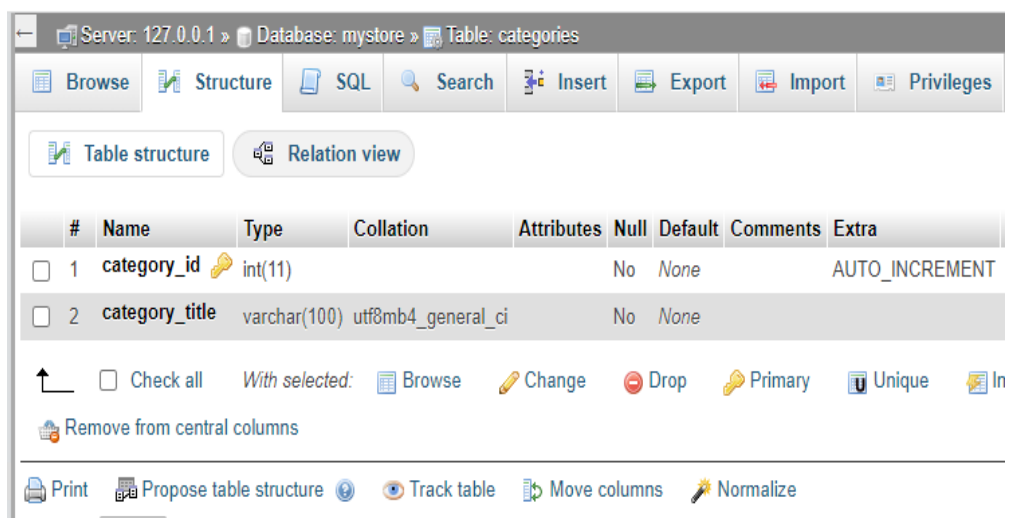
Here is all table of my database.

- Cart_details
- Categories
- Products
- user_table



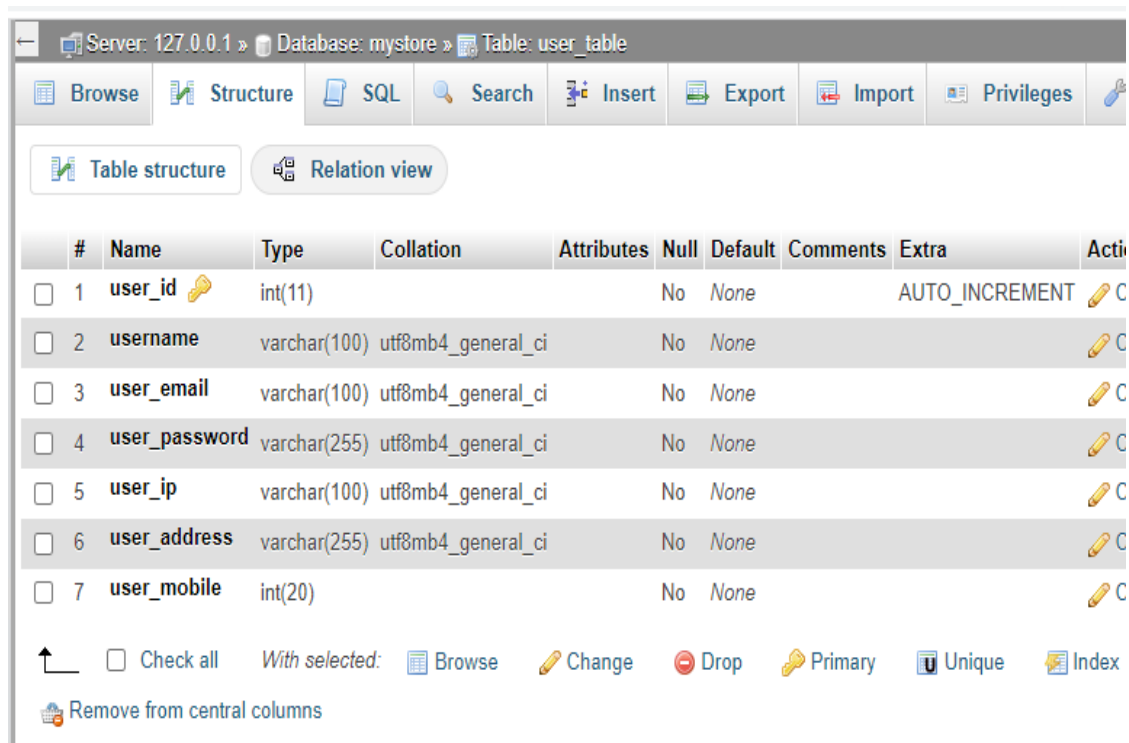
Here is categories table:

Only admin can insert categories and products. Information will store in this table.



Here is user table:

User register information will store in this table. User can login later with this information anytime.



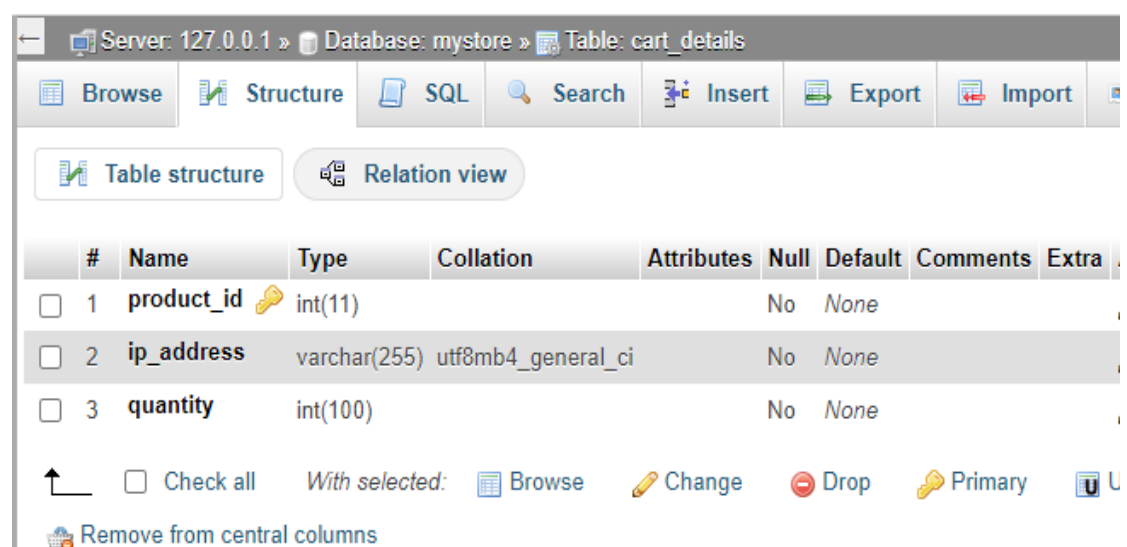
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Acti
<input type="checkbox"/>	1	user_id			No	None		AUTO_INCREMENT	
<input type="checkbox"/>	2	username	utf8mb4_general_ci		No	None			
<input type="checkbox"/>	3	user_email	utf8mb4_general_ci		No	None			
<input type="checkbox"/>	4	user_password	utf8mb4_general_ci		No	None			
<input type="checkbox"/>	5	user_ip	utf8mb4_general_ci		No	None			
<input type="checkbox"/>	6	user_address	utf8mb4_general_ci		No	None			
<input type="checkbox"/>	7	user_mobile			No	None			

↑ Check all With selected: Browse Change Drop Primary Unique Index

Remove from central columns

Here is cart details table

When user add product to cart. All information will store in cart details table.



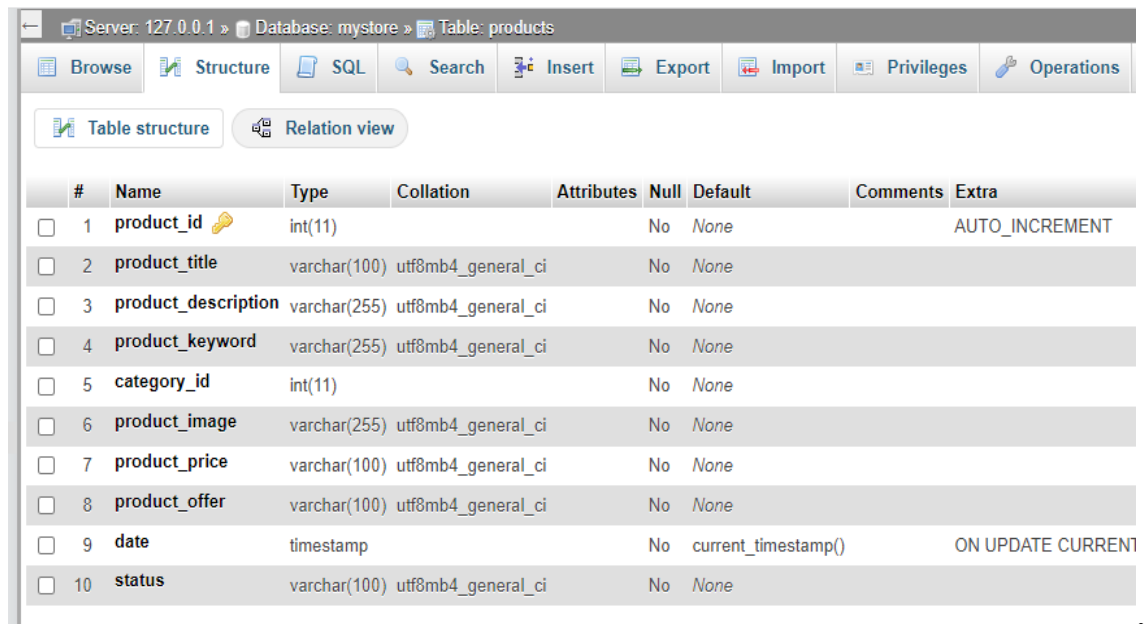
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	product_id			No	None		
<input type="checkbox"/>	2	ip_address	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	3	quantity			No	None		

↑ Check all With selected: Browse Change Drop Primary U

Remove from central columns

Here Product table

When user insert product to cart, inserted product information will stored in product table.



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1 product_id	int(11)			No	None		AUTO_INCREMENT
<input type="checkbox"/>	2 product_title	varchar(100)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	3 product_description	varchar(255)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	4 product_keyword	varchar(255)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	5 category_id	int(11)			No	None		
<input type="checkbox"/>	6 product_image	varchar(255)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	7 product_price	varchar(100)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	8 product_offer	varchar(100)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	9 date	timestamp			No	current_timestamp()		ON UPDATE CURRENT
<input type="checkbox"/>	10 status	varchar(100)	utf8mb4_general_ci		No	None		

4.3 Relationship

Database relationships are associations between tables that are created using join statements to retrieve data.

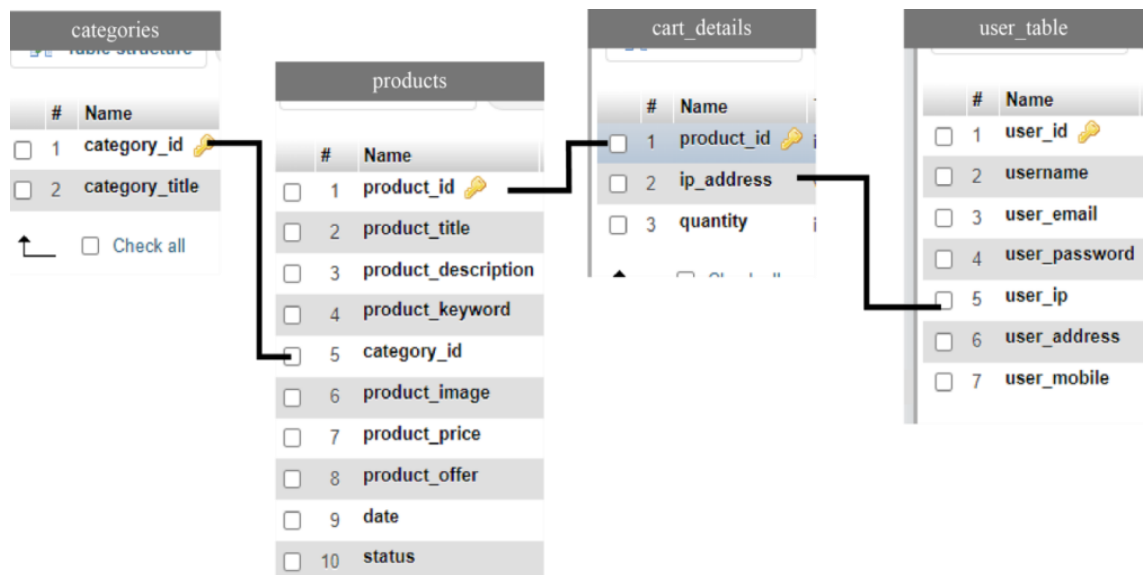


Figure 4.3 Relationship

CHAPTER 5

FEASIBILITY AND CONCLUSION

5.1 Security

Understanding safety goals and planning tests to take into account the security requirement of every learner. We identify our application on security requirements.

- Administrator can only perform administrative task on pages.
- Customer will not be allowed to access the administrator pages.
- Password information will store in database by hash password.

5.2 Efficiency and Maintainability

- Administrator will have the ability to edit aspects of the order forms, product description, prices etc. in website directly.
- Page load should be return and formatted depending on the request being made.

5.4 Aim and Scope of the Project

Many works and efforts already have been done in the field. Many products from different sectors will be added soon. Many other services like

- Homecare nurses providing at home
- Fixing appointments in hospitals from home
- Healthcare information
- Finding details of the best hospital
- User can signup/login with their social media account
- Better process for Live Chat
- Better process for verifying prescriptions will be added in the future.
- Complete rating process too.

5.3 Conclusion

Technology has made significant progress over the years to provide consumers a better online shopping experience and will continue to do so for years to come. With the rapid growth of products and brands, people have speculated that online shopping will overtake in-store shopping. However, the availability of online shopping has produced a more educated consumer that can shop around with relative ease without having to spend a large amount of time. In exchange, online shopping has opened up doors to many small retailers that would never be in business if they had to incur the high cost of owning a brick and mortar store.

At the end, it has been a win-win situation for both consumer and sellers. A lot of reasons present for customers today prefer shopping online include convenience, price comparisons, no crowds at stores, no need for physical travel, and gifts to our loved ones more easily. MediPharma website will give people this opportunity. Various healthcare products, medical products like vitamin tablet, nutrition drinks, supplements, good quality devices like stethoscope, weight machine, women product, children product, medicine etc people can find here in this website. User will get best product here. User satisfaction is our first priority.

REFERENCES

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- [2] Mr. Daniel Foreman, Mr. Daniel Charles Foreman “Bootstrap 5 Foundations: The Random Knowledge Enthusiast” (1st edition), May 6, 2021
- [3] Ramez Elmasri, Shamkant B. Navathe, “Fundamentals of Database Systems” (6th Edition), April 9, 2010