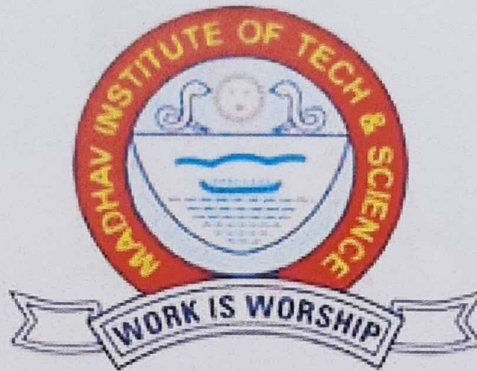


MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)



Project Report

on

DoorstepFurni

Submitted By:

Rishabh Saxena

0901CS191096

Faculty Mentor:

Mr. Mir Shahnawaz Ahmad

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

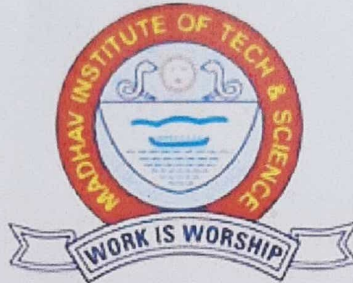
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Project Report

on

DoorstepFurni

A project report submitted in partial fulfilment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by:

Rishabh Saxena

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Faculty Mentor:

Mr. Mir Shahnawaz Ahmad

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Submitted to:

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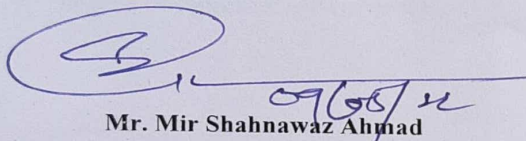
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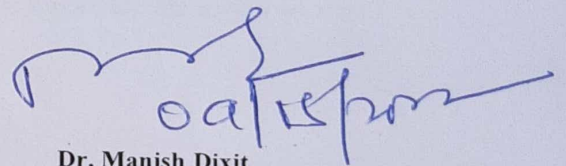
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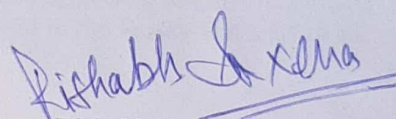
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DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Mir Shahnawaz Ahmad, Assistant Professor**, Department of Computer Science and Engineering.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



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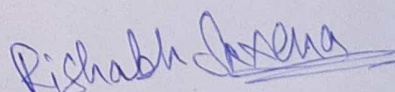
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ABSTRACT

Electronic Commerce is process of doing business through computer networks. A person sitting on his chair in front of a computer can access all the facilities of the Internet to buy or sell the products. Recently the e-commerce platform is playing an important role in some areas; its activities are a subset of e-business activities.

Unlike traditional commerce that is carried out physically with effort of a person to go & get products, ecommerce has made it easier for human to reduce physical work and to save time. The aim of this paper is to build and develop a reliable website based on e-commerce theories. This website will sell home décor items, a total solution for your home decoration. For implementing the selling online website, it needs to use current technologies to achieve this goal. As a first stage, it should set up online ecommerce store with easy-to-use. Then improve the customer experience, and lastly implement the Direct Online Sale between business to consumer by implement electronic payment methods. All these techniques should be based on deliberated plan according to strategy of electronic commerce with implement the current technology to ensure a good revenue to the company.

The main advantage of DoorstepFurni over traditional stores is the user can browse online shops of their nearby sellers, compare prices and order merchandise sitting at home on their PC or mobile. For increasing the use of e-commerce in developing countries the B2B e-commerce is implemented for improving access to global markets for firms in developing countries.

सार:

इलेक्ट्रॉनिक कॉमर्स कंप्यूटर नेटवर्क के माध्यम से व्यवसाय करने की प्रक्रिया है। कंप्यूटर के सामने अपनी कुर्सी पर बैठा व्यक्ति उत्पादों को खरीदने या बेचने के लिए इंटरनेट की सभी सुविधाओं का उपयोग कर सकता है। हाल ही में ई-कॉमर्स प्लेटफॉर्म कुछ क्षेत्रों में महत्वपूर्ण भूमिका निभा रहा है; इसकी गतिविधियाँ ई-व्यावसायिक गतिविधियों का एक सबसेट हैं।

पारंपरिक वाणिज्य के विपरीत, जो किसी व्यक्ति के उत्पादों को प्राप्त करने और प्राप्त करने के प्रयास से शारीरिक रूप से किया जाता है, ई-कॉमर्स ने मानव के लिए शारीरिक कार्य को कम करना और समय बचाना आसान बना दिया है। इस पेपर का उद्देश्य ई-कॉमर्स सिद्धांतों के आधार पर एक विश्वसनीय वेबसाइट बनाना और विकसित करना है। यह वेबसाइट होम डेकोर आइटम बेचेगी, जो आपके घर की सजावट के लिए एक संपूर्ण समाधान है। बिक्री ऑनलाइन वेबसाइट को लागू करने के लिए, इस लक्ष्य को प्राप्त करने के लिए वर्तमान तकनीकों का उपयोग करने की आवश्यकता है। पहले चरण के रूप में, इसे उपयोग में आसान के साथ ऑनलाइन ई-कॉमर्स स्टोर स्थापित करना चाहिए। फिर ग्राहक अनुभव में सुधार करें, और अंत में इलेक्ट्रॉनिक भुगतान विधियों को लागू करके व्यवसाय से उपभोक्ता के बीच प्रत्यक्ष ऑनलाइन बिक्री को लागू करें। ये सभी तकनीक कंपनी को अच्छा राजस्व सुनिश्चित करने के लिए वर्तमान तकनीक को लागू करने के साथ इलेक्ट्रॉनिक कॉमर्स की रणनीति के अनुसार सोची-समझी योजना पर आधारित होनी चाहिए।

पारंपरिक स्टोर पर डोरस्टेपफर्नी का मुख्य लाभ यह है कि उपयोगकर्ता अपने आस-पास के विक्रेताओं की ऑनलाइन दुकानों को ब्राउज़ कर सकता है, कीमतों की तुलना कर सकता है और अपने पीसी या मोबाइल पर घर बैठे मर्चेडाइज ऑर्डर कर सकता है। विकासशील देशों में ई-कॉमर्स के उपयोग को बढ़ाने के लिए विकासशील देशों में फर्मों के लिए वैश्विक बाजारों तक पहुंच में सुधार के लिए बी 2 बी ई-कॉमर्स लागू किया गया है।

TABLE OF CONTENTS

TITLE	PAGE NO.
Abstract	iv
संक्षेप	v
List of figures	viii
List of abbreviations	ix
Chapter 1: Introduction	01-04
1.1 Overview	1
1.2 Objective and Methodology	1
1.2.1 Objective	1
1.2.2 Methodology	1
1.3 Project Features	1
1.4 Required Tool	2
1.5 Required Languages	2
1.5.1 HTML	2
1.5.2 CSS	2
1.5.3 JavaScript	2
1.5.4 Django	3
1.5.5 SQL	3
1.6 Services	3
1.7 Layout	3
1.8 Creating Web Application	3
Chapter 2: Requirement Analysis	05-06
2.1 System Requirements	5
2.2 Functional Requirements	5
2.3 Non-Functional Requirements	6
2.4 Other Requirements	6
Chapter 3: Literature Review	07
3.1 Quantitative Analysis	7
3.2 Competitor Analysis	7

Chapter 4: Modules	08-09
4.1 Organizing and structuring of items	
4.2 Login and registration form of the website	8
4.3 Front – end development of the website using HTML, CSS and JS	8
4.4 Creating Database	8
4.5 Added home, manage admin, manage category, manage furniture, manage order and contact page in the backend and linked it with database.	9
4.6 Subscription to Notifications option.	9
4.7 Successful placement of Order	9
Chapter 5: Preliminary Design	10-17
5.1 Software Development Life Cycle Model	10
5.1.1 Rapid Application Development	10
5.2 Frontend Development	10
5.2.1 Description	10
5.3 Backend Development	16
5.3.1 Description	16
Chapter 6: Modelling Diagrams	18-21
6.1 Activity Diagram	18
6.2 Use-Case Diagram	19
6.3 Sequence Diagram	20
6.4 E-R Diagram	21
Chapter 7: Final Design and Analysis	22
7.1 Application	22
7.2 Problems Faced	22
Chapter 8: Conclusion	23
References	24

LIST OF FIGURES

Figure Number	Figure caption	Page No.
1.	Homepage	11
2.	Login Form	12
3.	SignUp Page	12
4.	Shopping Page	13
5.	About page	14
6.	Contact Page	15
7.	Admin panel	16
8.	Homepage for Admin panel	17
9.	Manage admin page	17
10.	Activity Diagram	18
11.	Use-case Diagram	19
12.	Sequence Diagram	20
13.	ER Diagram	21

LIST OF ABBREVIATIONS

Abbreviation	Description
IDE	Integrated Development Environment
API	Application Programming Interface
GUI	Graphical User Interface
HTML	HyperText Markup Language
CSS	Cascading Style Sheets
SQL	Structured Query Language
OS	Operating System
UI	User Interface
RAD	Rapid Application Development
ER	Entity-Relationship

CHAPTER 1: INTRODUCTION

1.1 Overview

This report discusses the result of the work done in development of "DoorstepFurni" website on platform. It is a kind of an Online Furniture Ordering Service project going in Computer Science Department, Madhav Institute of Technology at the development of a web application for providing a platform for facilitating the use of online Ecommerce services developed by me and integration of various tools developed during the execution of the project.

1.2 Objective and Methodology

1.2.1 Objective

1. An Integrated application on web was required for interaction of user/customer with the various functionalities (like Login or SignUp, searching items, ordering items, etc.) with the platform specification being done in the application itself.
2. Based on the final platform configuration and bindings, the final product comes in the form of e-commerce application that has a good graphical user interface and user friendly.

1.2.2 Methodology

To implement the above goals, the following methodology needs to be followed:

1. Specifying the Application and various components of it.
2. Specifying the bindings between the tasks and the resources.
3. Tools.
4. Analysis: Extracting the data required for application.

1.3 Project Features

In particular, the concluded analysis will target sellers who want to sell out their store items through DoorstepFurni. We will use key fundamentals of web development tools, primarily CSS to make it interactive and responsive at all screen sizes to reach our goal of user-compatibility. The advantages of buying through DoorstepFurni will then be clearly expressed so that the best possible furniture can be chosen by customers.

1.4 Required Tool

Web applications can be developed across multiple IDE's and there are several plugins available for making the current IDE capable to write the codes for website. Out of several IDE's, I have used the popular editor Visual Studio.

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that expand the functionality at almost every level - including adding support for source control systems (like Subversion and Git) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Azure DevOps client: Team Explorer).

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists.

1.5 Required Languages

1.5.1 HTML - The Hypertext Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser.

1.5.2 CSS - Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

1.5.3 JavaScript - JavaScript often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time

compiled and multi-paradigm. It has dynamic typing, prototype-based object-orientation, and first-class functions.

1.5.4 Django - Django is a Python-based free and open-source web framework that follows the model–template–views architectural pattern.

1.5.5 SQL - SQL (Structured Query Language) is a standardized programming language that's used to manage relational databases and perform various operations on the data in them.

1.6 Services

Services are the component in the system which runs in background. Hence all the background task are done using the services component. This component is useful especially when a task is to be performed without impacting the user of its operation. This component does not provide any User Interface. For example downloading the file from internet or loading image. All the Services that are created in the application have to inherit the services class provided I Android Operating System.

1.7 Layouts

A layout defines the visual structure for an user interface, such as the UI for any activity. These files are responsible for defining the user Input. The user has the luxury of seeing how the designed layout will look like in the Graphical mode and they have the option of selecting the items that they desire to view layout.

1.8 Creating Web Application

This section will help one understand how we can build the sample Web Application, how the code looks and the uses of the directory structure like Layout, Source etc. when new application is created. For creating the application, do the following on VS Code: File -> New -> project.

Web development usually refers to the main non-design aspects of building Web sites: writing markup and coding. Web development may use content management systems to make content changes easier and available with basic technical skills. The Web Development is a

collaboration of two designated departments i.e., Front-End development and Back-End development. The Front-end development is responsible for behaviour and visuals that run in the user browser, while Back-end development deals with the servers.

The basic structure or the contents of the website are rendered to the user using HTML. To style this HTML document, we use a language called CSS. CSS describes how HTML elements should be displayed. Then comes the scripting part of the static pages of our website which is attained by using JavaScript. It is the programming language of the web, which mainly plays important role in changing HTML content when some action performed. The development stage till here comes under the Front-end development. Accessibility, Performance and Speedy development – These are the few points that a developer needs to keep in mind while creating the Front-end part of a website. To make the website dynamic and data driven, we have to add various functionalities by proceeding towards Back-end development. **Backend Development** is also known as **server-side development**. It is everything that the users don't see and contains behind-the-scenes activities that occur when performing any action on a website. It focuses primarily on databases, backend logic, APIs, and Servers. Code written by backend developers helps browsers in communicating with the databases and store data into the database, read data from the database, update the data and delete the data or information from the database.

Chapter 2: REQUIREMENT ANALYSIS

Every new product or service is created in response to a business need. However, despite spending tremendous time and resources on development, there can be a mismatch between the required product and the final product. Hence, there is a need for a focused and detailed requirements analysis in the early stages of any project to avoid major problems in the future.

Requirements analysis or requirements engineering is a process used to determine the needs and expectations of a new product. a business requirements analysis involves a team effort of all the key stakeholders, software developers, end-users, and customer managers to achieve a shared understanding of what the product should do. This is always done in the early phase of any project to ensure that the final product conforms to all the requirements.

2.1 System Requirements

1. Computers running Microsoft Windows must meet the following minimum Hardware and Software requirements.
2. **Software Requirements** – An OS, Text Editor, GUI for backend
3. **Hardware Requirements** – Laptop/Computer, Mobile device or Tablet
4. Microsoft Windows 7/8/10 (32- or 64- bit)
5. 3 GB RAM minimum, 8 GB RAM recommended

2.2 Functional Requirements

1. **Registration:** If the user wants to purchase something from DoorstepFurni, then the user needs to register themselves. Unregistered users cannot login to the website.
2. **Login:** The customer can login to the website by entering valid username and password associated with it.
3. **Display the Home page:** The customer or user can get various sections like shop, contact and login option once entering into the homepage.
4. **Display the Category:** The customer can go to the shop page where the category will be displayed.
5. **Display the Product:** It will display the items along with their title, price and description of them.

6. **Order Furniture**: The user can select the furniture of their choice and order it by filling the details required.
7. **Confirm Order**: Once the order is placed by clicking on confirm order, the details will be sent and payment is done.
8. **Logout**: Once the customer has confirmed the order, he can logout of the website.

2.3 Non-Functional Requirements

1. **Portability**: System running on one platform can easily be converted to run on another platform.
2. **Reliability**: The ability of the system to behave consistently in a user-acceptable manner within the environment for which the system was intended.
3. **Availability**: The system should be available at all times, meaning the user can access it any time using a web browser, only restricted by the downtime of the server on which the website runs.
4. **Maintainability**: A commercial database is used for maintaining the database and the application server takes care of the site.
5. **Security**: Secure access of confidential data (customer details).
6. **User-friendly**: System should be easily used by the customer.
7. **Performance**: Performance should be fast.
8. **Safety**: Data in the database system should not be damaged.
9. **Privacy**: Personal information of the system should be taken care off.

2.4 Other Requirements

1. The intended user should have the ability to get familiar with the application's interface.
2. Real-World furniture sellers, which are interested in selling their products through this platform.
3. A healthy customer-seller relationship need to be maintained.

Chapter 3: LITERATURE REVIEW

A Systematic Literature Review, also referred as systematic review, is considered one of the key research methodologies of Evidence-Based Software Engineering (EBSE). In the recent years, many improvements have been accomplished in the areas like web development, and it anticipated the interest in e-commerce field. E-commerce was introduced as a result of advancement in technology and human need to save time and energy by reducing the need to visit the market/store. An e-commerce is examined for identifying the customer needs, these needs can vary between individuals. E-commerce system consists of major steps: User authentication, Availability of goods, Checkout through cart, and a Track of order placed.

3.1 Quantitative Analysis

The Web architecture has evolved into an effective infrastructure for a wide class of complex, interactive services. Quantitative research can be defined as any research that uses of numbers as the basis for generating inferences about the phenomenon under study. The statistical approaches to sampling, measurement, and data analysis, are a hallmark of quantitative research; statistics are genuinely relevant to quantitative approaches because it involves statistical modelling of the interrelationships between variables.

3.2 Competitor Analysis

Competitor platforms can help in better understanding the customer satisfaction demographics. However, competitor websites can pose threat to the DoorstepFurni based on similar concept. Complimentary e-commerce sites are sites which have different e-commerce concepts but similar price points. These complimentary sites/businesses can help in creating a market for the proposed website.

Chapter 4: MODULES

4.1 Organizing and structuring of items

The first step of making a project is to figure out what would be the requirements and how they should be structured in order to look exact the same or almost same way as you have planned. This phase includes collecting or gathering all the resources and information in the form of text, image, video, or any related item that primarily enhances the UI of the application.

4.2 Login and registration form of the website

While using a website, specially an e-commerce one, it asks the user to create an account on that application so that the user can keep track of the items or products it may want or interested later. The existing users can directly login to their account with the help of their credentials (i.e., email or phone no. and password), whereas the new users need to create an account.

4.3 Front – end development of the website using HTML, CSS and JS

The frontend development lays the foundation of building a web based application or a website. Here, we define the static content of the webpages using HTML and it is then styled by using CSS in order to make it look beautiful and interactive to the user. Javascript powers the site's general interactivity. JavaScript makes it possible to build rich UI components such as image sliders, pop-ups, site navigation mega menus, form validations, tabs, accordions, and much more.

4.4 Creating Database

A database is the most important thing in any project. Database is an organized collection of data stored and can be accessed electronically. The database not only holds the content of the website, but also the data given by the user when asked at various places like user credentials, address and contact info, etc.. The MySQL server has been used here to serve the purpose. It lies under the backend part of the website development and the changes reflected in data items in frontend are consequence of a database linked to it with the help of API's.

4.5 Added home, manage admin, manage category, manage furniture, manage order and contact page in the backend and linked it with database.

In this module we have configured our database over a localhost server. It will be keeping track of user and their accounts, adding or removing a product, etc.

4.6 Subscription to Notifications option.

It's not possible for the user to check on that application all the time so that he can't miss any update, as well as important alerts, messages or offers in the website. For this purpose a feature has been added up to the top right corner, which informs you about the all kind of latest notifications.

4.7 Successful placement of Order

Once the user's order has been successfully placed and it is being shown up in the database server. This marks that the end action has completed successfully, and the product is ready to use.

Chapter 5: PRELIMINARY DESIGN

5.1 Software Development Life Cycle Model

5.1.1 Rapid Application Development

Rapid application development, also called rapid application building, is both a general term for adaptive software development approaches. Rapid Application Development (RAD) is a development model that prioritizes rapid prototyping and quick feedback over long drawn out development and testing cycles. With rapid application development, developers can make multiple iterations and updates to a software quickly without starting from scratch each time.

Since the software size was not much large and there was a time-bound and the project was made in modules therefore in this project, I used Rapid Application Development. A software project can be implemented using this model if the project can be broken down into small modules wherein each module can be assigned independently to separate teams. These modules can finally be combined to form the final product.

5.2 Frontend Development

5.2.1 Description

In front-end development part I have designed the different static HTML webpages, styled them using Cascading Style Sheet (CSS) and provide some scripting to those pages using JavaScript. This development part covered the layouting and organising of items that I want to display in my DoorstepFurni website. There are basically four webpages that this website consists of which are elaborated below:

1. **Home Page:** This is the main page or the interface that appears to the user when they go to DoorstepFurni website. Any customer is like to see some most appeared or most trending furniture item there. Also there's a Login panel in the navigation menu on the top right corner of the homepage for the user to sign up(for existing user) or create account(for new user).

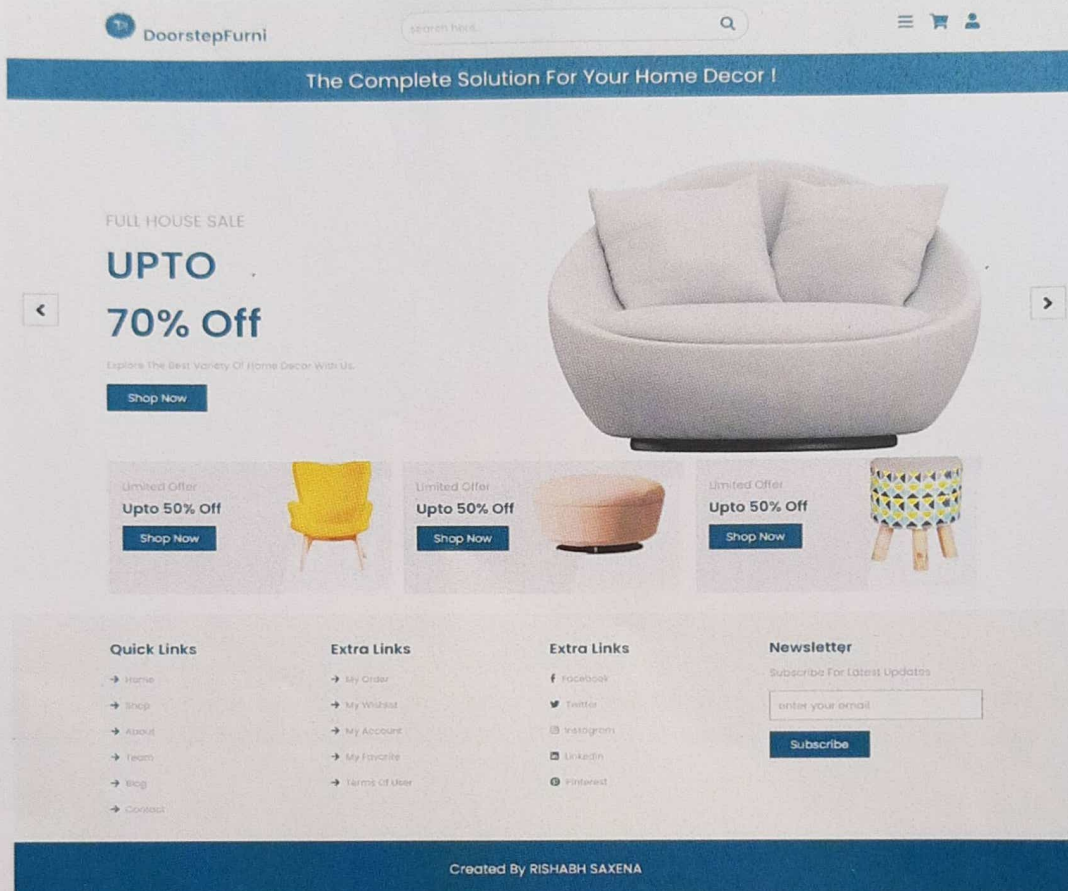


Fig. 1 - Homepage

2. **Login/Signup Form** : The “DoorstepFurni” provides a login and registration(signup) page for the customers. Any new customer needs to register themselves through filling the credentials of registration page and then they can login with their username and password through login page. No customer can login in themselves without registering themselves.

DoorstepFurni

search here...

The Complete Solution For Your Home Decor !

FULL HOUSE SALE
UPTO 70% Off

Explore The Best Variety Of Home Decor With Us.

Shop Now

Login Form

enter your email

enter your password

☐ Remember Me

Login Now

Forgot Password? Click Here

Don't Have An Account? Create Now

Fig. 2 – Login Form

If you want to register, then click on 'Create Now' and fill your credentials to Signup to this website. It would appear as given below;

DoorstepFurni

search here...

Sign Up

First Name Enter First Name

Last Name Enter Last Name

Email Address Enter Email Address

Phone Number Enter Phone Number

Create Password Enter Password

Repeat Password Confirm Password

Register

Have An Account? Log In

Enter the details asked here to get your registered account.

Quick Links

- Home
- Shop
- About
- Contact

Extra Links

- My Order
- My Account
- My Favorite
- Terms Of User

Extra Links

- f Facebook
- Twitter
- @ Instagram
- LinkedIn

Newsletter

Subscribe For Latest Updates

enter your email

Subscribe

Fig. 3 – SignUp Page

3. **Shopping Page** : You can look for the required furniture of your use like sofa, chairs, almira/wardrobes, tables, etc. category wise. Here you can check them category wise

in 'Our Categories' section by clicking onto your furniture of interest. The 'Our Products' section shows the list of commonly bought or are being bought by most of the people, with their ratings and price as well.

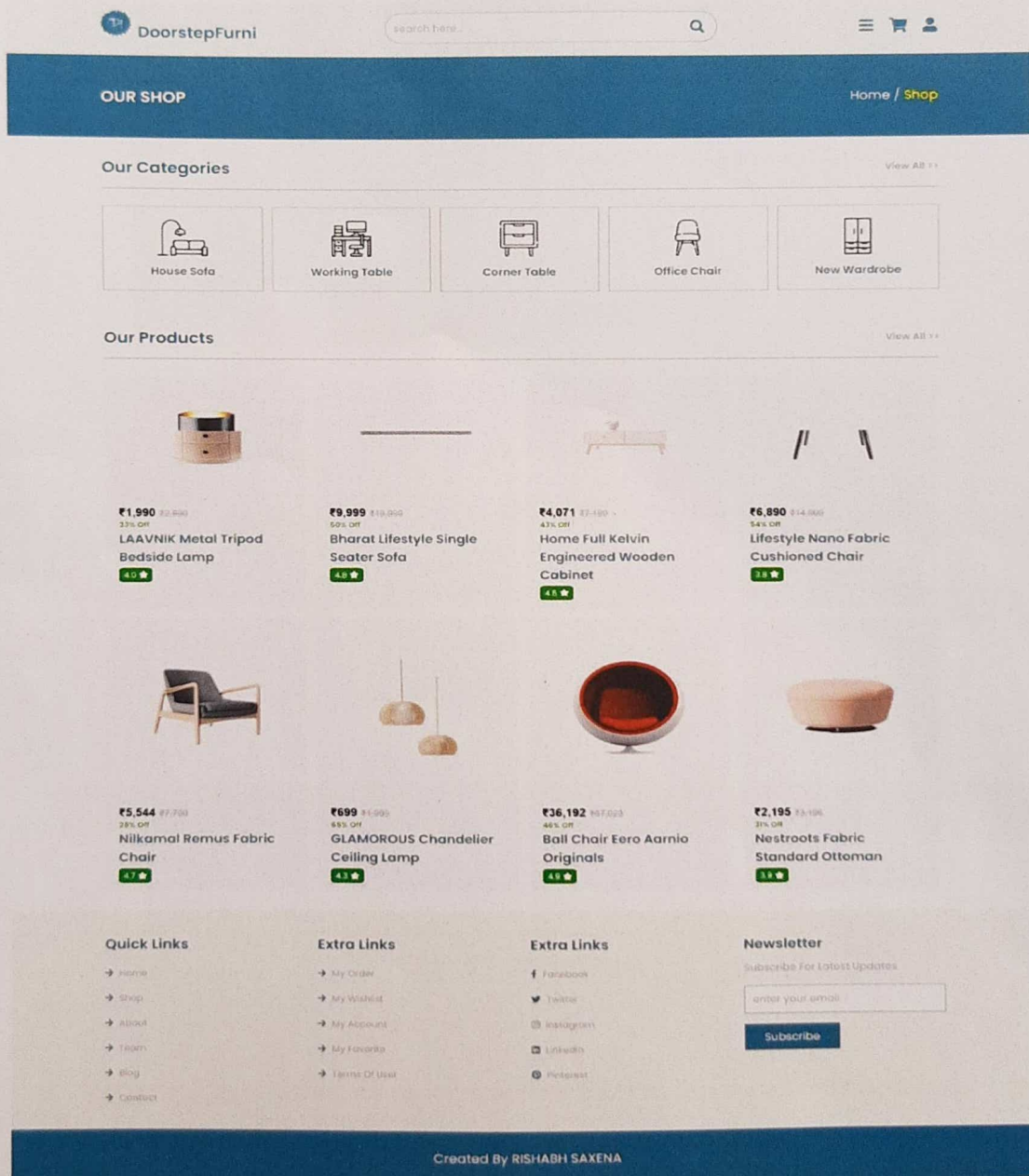


Fig. 4 – Shopping Page

4. **About Page** : The 'About' page of the website tells the users about the website what actually it is and what services we provide to the customers.

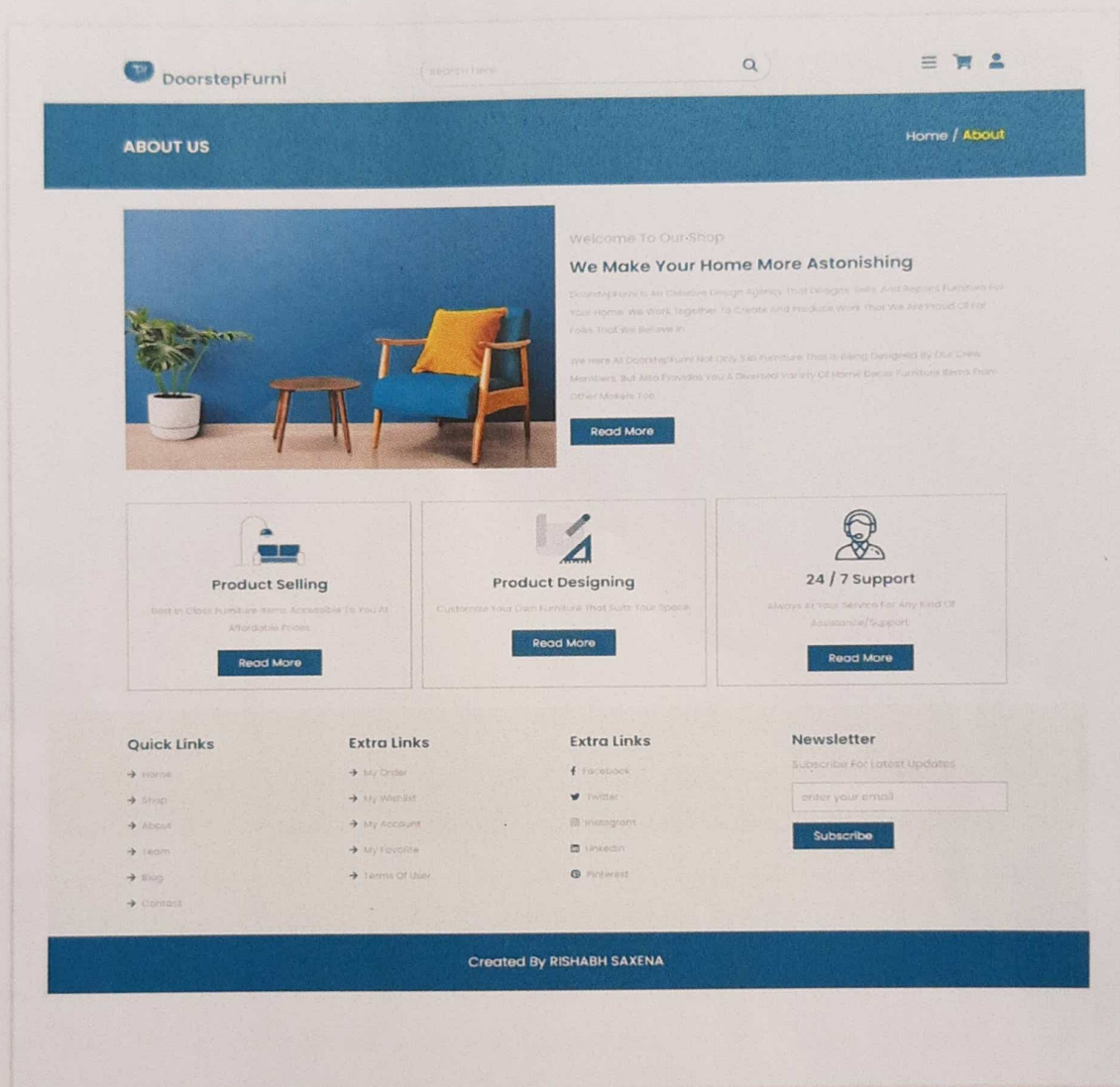


Fig. 5 – About Page

5. **Contact Page** : There is a contact page available so that the user can easily get all the information and can clear their query without any inconvenience.

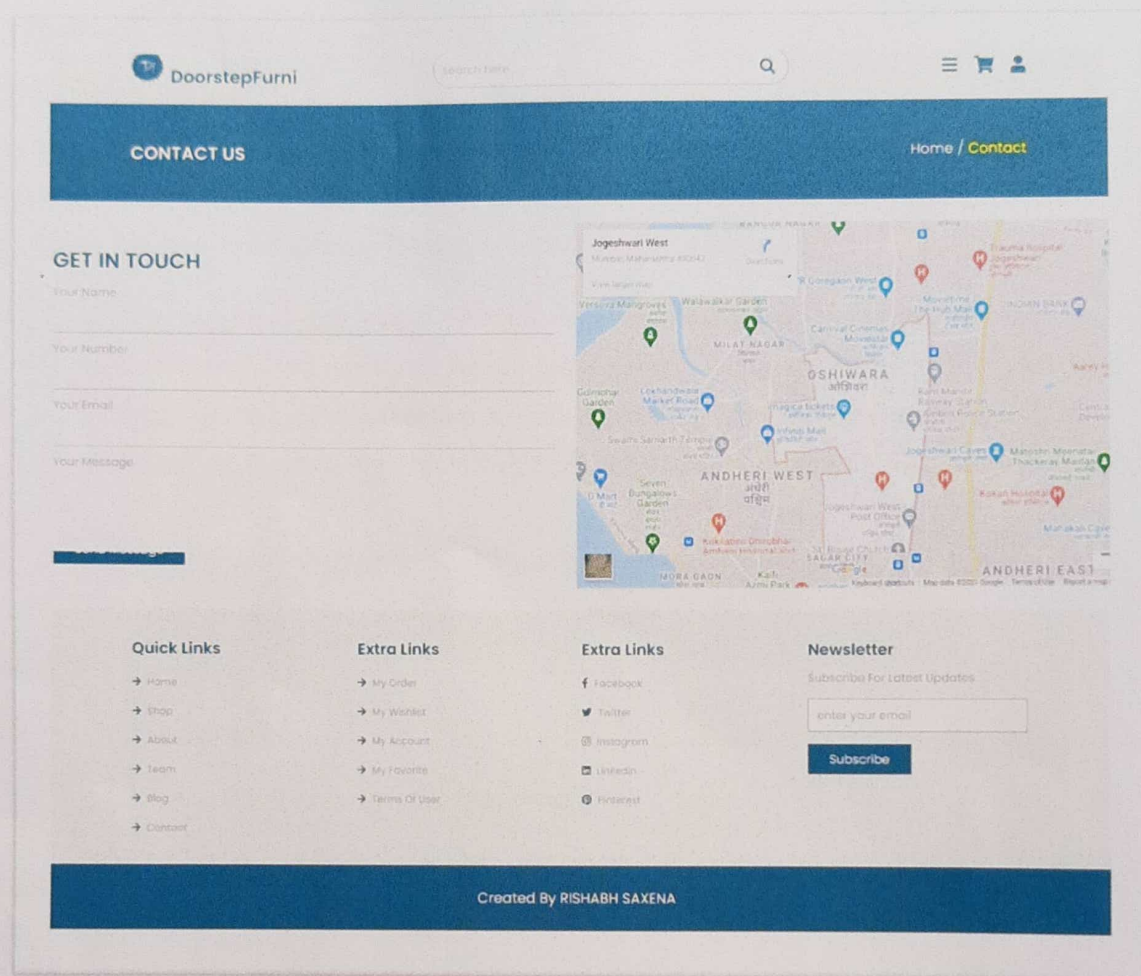


Fig. 6 – Contact Page

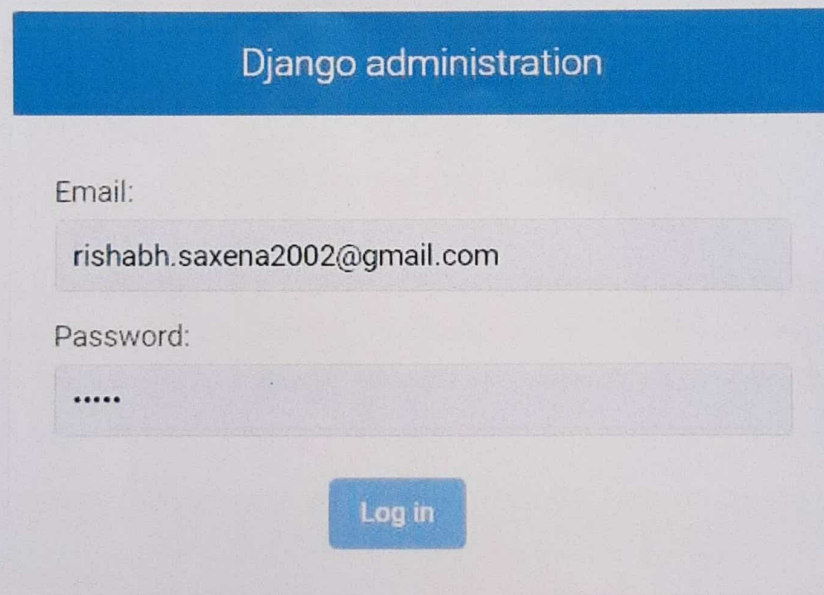
So far we have covered what actually our website – “DoorstepFurni” is and how it actually looks like. Though these are just static web pages that needs to be made dynamic i.e., our website should be changing its content whenever user inputs or update any data, and those needed to be provided with some database so that user’s entered data, number of products, availability of items, and much more could be stored in it. All this is achieved in the client side development or say Back-end development life cycle. Our next module covers how we will be giving backend to our website and adding a database to it too.

5.3 Backend Development

5.3.1 Description

In back-end development part we have designed the different templates or files, each made specifically for their respective purposes, using the Python web framework – Django. For the database, I have connected the mySQL server database from Django app.

1. **Login page for Admin Panel** : Admin can login into the backend of the website with help of login id and password. Admin has the access to various functionalities such as adding, updating, deleting various module. Once the customer has successfully logged-in for the admin panel, the admin will be directed to home page of the backend.



Django administration

Email:

rishabh.saxena2002@gmail.com

Password:

.....

Log in

Fig. 7 – Admin Panel

2. **Home page for Admin Panel** : The home page of the admin panel consists various section like manage admin, manage category, manage furniture products, manage order and contact. There is a dashboard provided in the home page which consists of number of categories, number of furniture items, number of orders and revenue generated through all the orders.

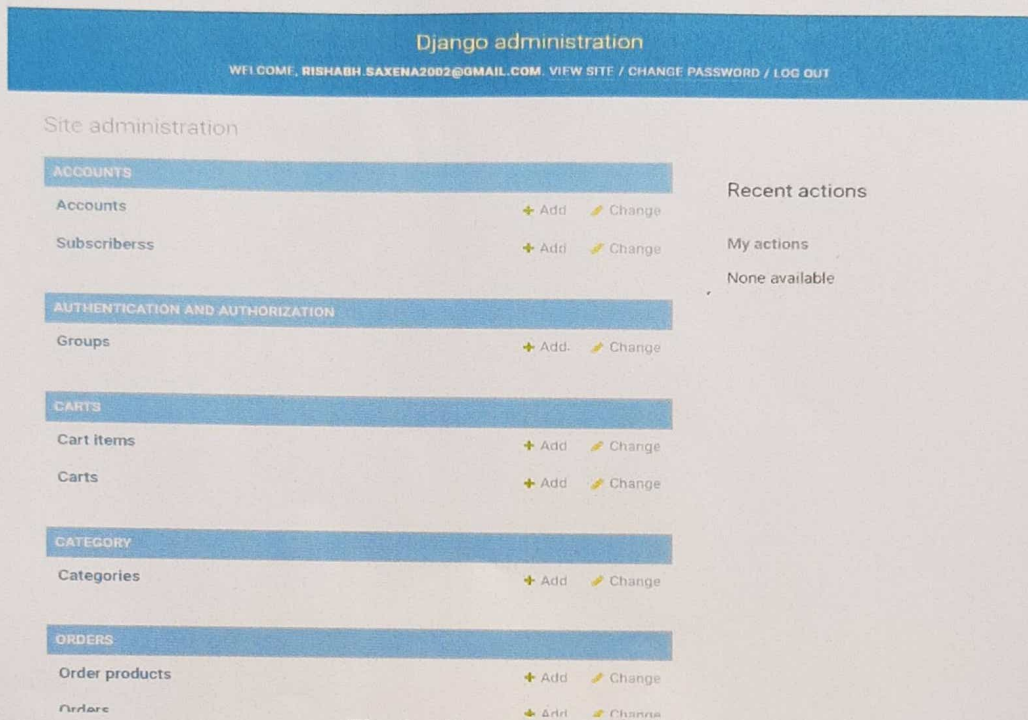


Fig. 8 – Home page for Admin Panel

3. **Manage Admin page** : The manage admin page consists of the admin full-name and username along with functionalities like change password, update password and delete admin. There is also a functionality of add admin through which other admins can be added.

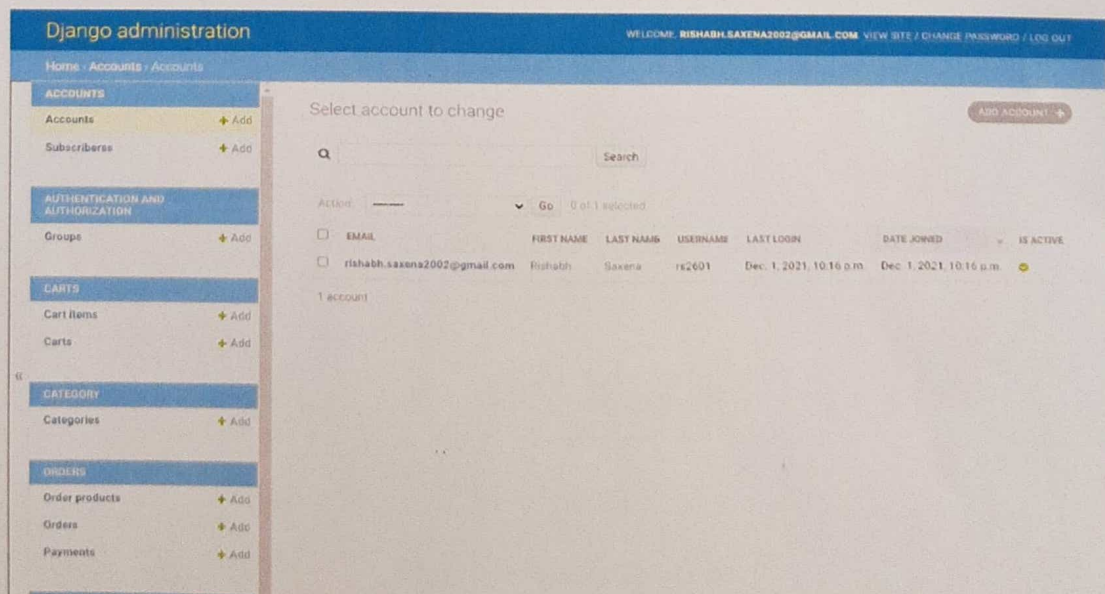


Fig. 9 – Manage Admin page

Chapter 6: MODELLING DIAGRAMS

6.1 Activity Diagram

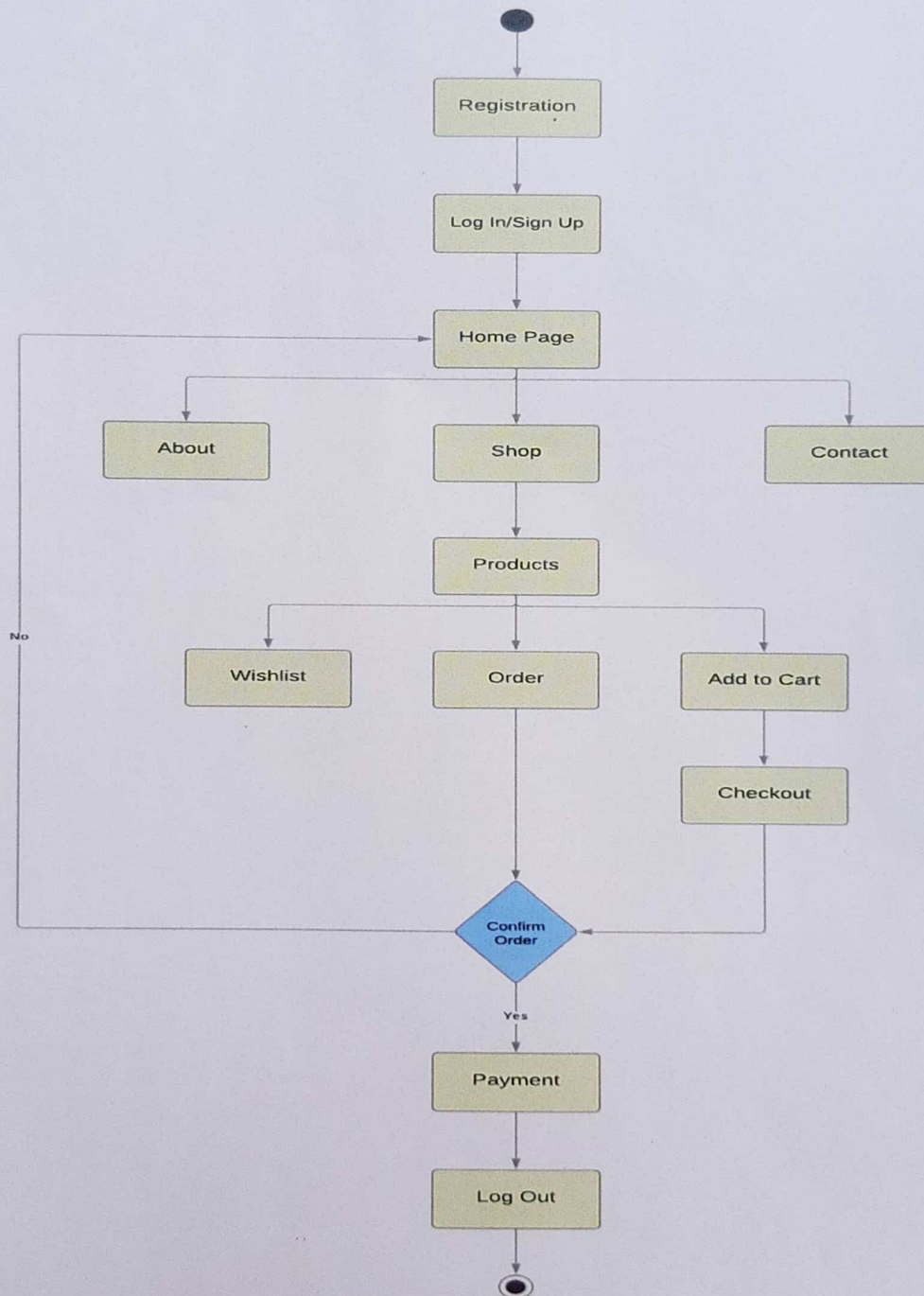


Fig. 10 – Activity Diagram

6.2 Use-Case Diagram

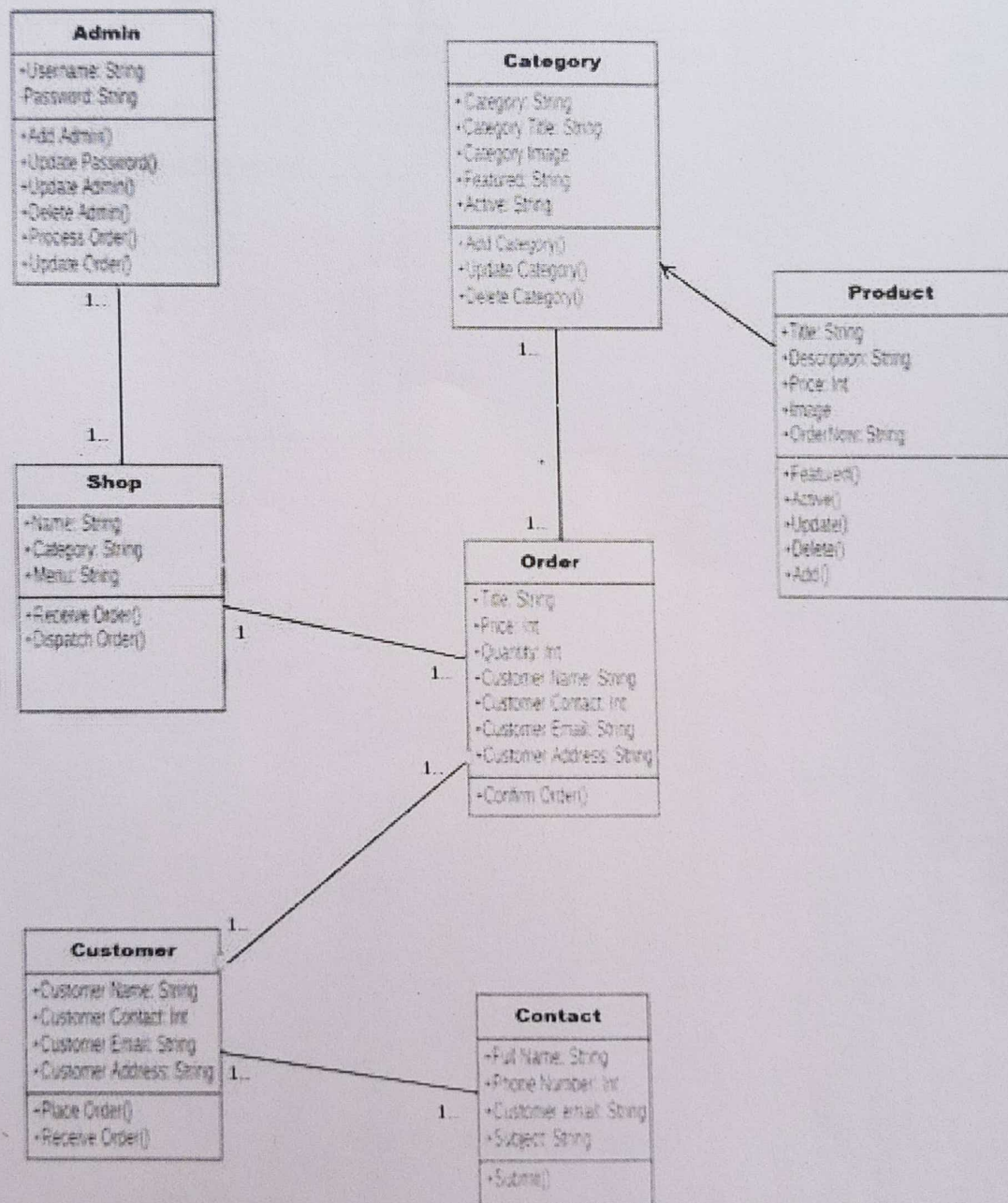


Fig. 11 – Use-Case Diagram

6.3 Sequence Diagram

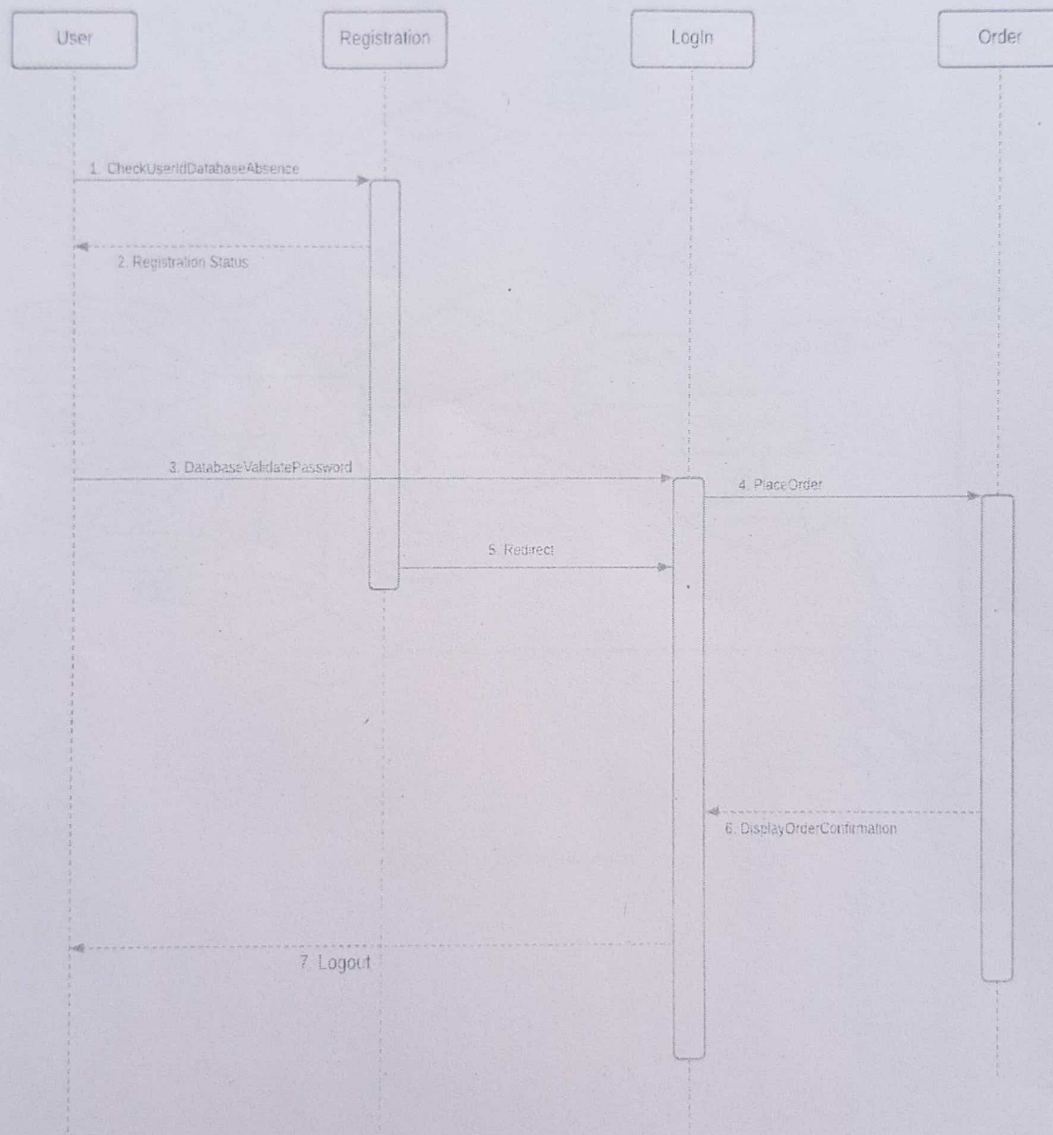


Fig. 12 – Sequence Diagram

6.4 E-R Diagram

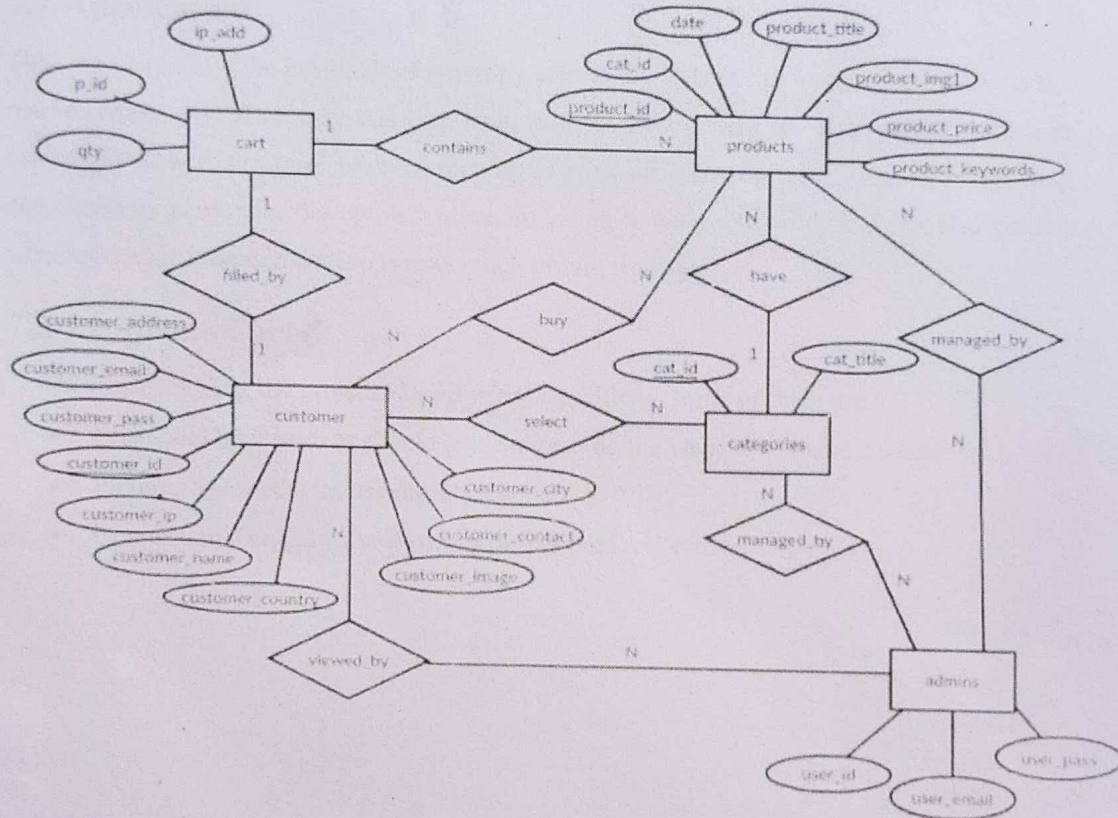


Fig. 13 – ER Diagram

Chapter 7: FINAL DESIGN AND ANALYSIS

7.1 Application

This can be used by the customers for getting information about the furniture available in the market place as well as they can buy from wherever they wish to. This will help then in selecting the best furniture after comparing it with different options. This will also help customers by predicting the optimal place for going to the right store, and can also predict whether the location of the store is how much distant to theirs.

7.2 Problems Faced

While developing the project I faced various problems some of them are:

- What, and how content should be displayed on the website to make it intuitive.
- Pictures and media items weren't loading.
- Connection Time out while connecting to the local server.

Chapter 8: CONCLUSION

This website helps the customer to find the best furniture or any home décor item in the town by just by sitting at home. The customers won't face difficulties of visiting to certain stores anymore. On their handy devices or PC's, they can order the best in quality furniture from the trusted sellers. By just a click, they can order their favourite one and enjoy its delivery at their home. As of now the order placing functionality is not available, which would be available by next time in collaboration with real world sellers. There will be Cash on Delivery as well as many other modes of payment available for the customers.

Cart system will also be added in future, through which customer will be able to order many other varieties at a single time. There will be more items and categories available to the customer.

I would also like to add the functionality to track the order and get order updates through email or messages.

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