A Mini Project Report on

Furniture Recommendation Website

T.E. - I.T Engineering

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CERTIFICATE

This to certify that the Mini Project report on **Furniture Recommendation Website** has been submitted by Tanishq Sahane(20104072), Sakshi Thorbole(21204003) and Tejas Patil(20104123) who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a   partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2022-2023** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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ABSTRACT

Furniture recommendation systems have gained significant attention in recent years as they enable users to make informed decisions when selecting furniture for their homes. These systems utilize various techniques, such as machine learning algorithms, data mining, and user preferences, to provide personalized furniture recommendations to users. In this abstract, we present a brief overview of a furniture recommendation system that employs a combination of collaborative filtering and content-based filtering techniques to offer personalized furniture recommendations. The system collects data on user preferences, furniture attributes, and contextual information to generate recommendations that align with users' style preferences, budget constraints, and spatial constraints. The collaborative filtering component leverages user interactions and item-item similarity to recommend furniture items that are popular among similar users. The content-based filtering component considers furniture attributes, such as material, style, color, and size, to provide recommendations based on the similarity between items. The system also incorporates contextual information, such as room size, budget, and existing furniture, to further enhance the relevance of recommendations. The performance of the system is evaluated using various metrics, including accuracy, precision, recall, and F1 score, to measure the effectiveness of the recommendations. The results indicate that the furniture recommendation system provides accurate and relevant recommendations, helping users in their furniture selection process and enhancing their overall shopping experience. Future research could focus on incorporating additional data sources, such as social media and user-generated content, and exploring new techniques, such as deep learning and natural language processing, to further improve the accuracy and personalization of furniture recommendations.

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Chapter 1

Introduction

We understand that finding the perfect furniture for your home or office can be a daunting task, which is why we are here to help. Our website is designed to provide you with personalized furniture recommendations based on your unique preferences and needs. We use state-of-the-art algorithms and data analysis techniques to suggest the best furniture options for your specific requirements. Whether you are looking for a cozy sofa, a stylish dining table, or a functional desk, we've got you covered. Our website offers a wide variety of furniture styles, ranging from modern and contemporary to classic and traditional. We partner with top furniture brands and retailers to ensure that you have access to the best quality products at competitive prices. With our easy-to-use interface and user-friendly navigation, you will be able to quickly find the perfect furniture pieces to suit your style, budget, and space. Our goal is to help you create a comfortable and inviting living or work environment that reflects your unique personality and tastes.

1.1 Purpose:

The purpose of a furniture recommendation website is to help people find the right furniture that meets their needs and preferences. A furniture recommendation website can simplify the buying process by providing personalized recommendations based on the user's specific requirements, such as style, size, color, and budget. By utilizing advanced algorithms and data analysis, the website can suggest furniture options that are most likely to meet the user's needs and preferences. In addition to providing personalized recommendations, a furniture recommendation website can also offer other useful features such as user reviews, product comparisons. These features can help users make informed decisions and get the best value for their money.

1.2 Problem Statement:

The furniture market is vast and diverse, with an overwhelming number of options available in terms of style, size, color, and budget. This can make it challenging for consumers to find the right furniture that meets their needs and preferences. This is where a furniture recommendation website can help. By utilizing advanced algorithms and data analysis, such a website can provide personalized recommendations to users based on their specific requirements, making the furniture buying process more efficient and enjoyable.

1.3 Objectives:

The main objective of "Furniture Recommendation Website" are:

- To provide personalized furniture recommendations to customers based on their individual preferences and requirements.

- To efficiently manage and organize a large amount of product data, ensuring that it is accurate and up-to-date.

- To differentiate itself from competitors by offering unique products or exceptional customer service.

- To improve the relevance of search results and make it easier for customers to find the furniture they want.

- To ensure that customers can always purchase the products they want by implementing effective inventory management systems.

1.4 Scope:

The Scope of this project is very broad in terms of gaining knowledge and sharing knowledge among world. Few points are: -

- Product catalog can be a comprehensive catalog of furniture products, including different styles, designs, materials, and sizes.

- Furniture matching a tool that helps users find furniture products that match their existing decor and style.

- Product comparison can be feature that allows users to compare different furniture products side-by-side, including price, features, and customer reviews.

- Order tracking can be a feature that allows users to track the status of their orders and receive updates on delivery times and shipping information.

Chapter 2

Literature Review

1.Furniture online consumer experience by Bio Resource (2022):

In recent years, people's acceptance of online shopping has increased markedly with the gradual maturing of e-commerce. The furniture industry in China, along with many other countries, is paying increased attention to the online retail business. The furniture online consumption experience has attracted attention both in academic and industrial fields, The paper offers three important contributions for both academics and practitioners. First, it analyzes the main influencing factors of the consumer experience concerning wood furniture online consumption. Finally, from a managerial perspective, the authors put forward constructive strategies in terms of furniture online sales.

2.Furniture shop management system (mar-2020):

In today's competitive furniture supplies market, it is vital for retailers to have a website where products can be sold online. For this project an e-commerce website has been created called Liyawel.com. The main requirement of this project is to create the website in the least expensive yet in a professional way thus, an open-source solution known as OS Commerce is utilized to develop the e-commerce system. The final version of the website has front-end site for public viewers and a back-end site for the store owners so the owner could maintain the website.

Chapter 3

Proposed System

3.1 Features and Functionality

Feature 1: Search option is available to look for any specific furniture.

Feature 2: Website is customer friendly and easy to use.

Feature 3: Based on previous history, user will be recommended.

Feature 4: User can give feedback.

Chapter 4

Requirements Analysis

- **Performance Requirements**

The load time for the user interface screen should take no longer than 5 seconds.

Workout videos for reference should be there.

Track of daily progress made by user should be seen through graph or daily tracking

information.

- **Design Constraints**

The application should be able to run on any Pc or Laptop.

- **Availability**

The application should be available at all times whenever user wants to use.

Hardware requirements

- **RAM**

The application requires a device with a minimum of 512MB RAM while running.

- **Processor speed**

The application requires a device with a minimum processor speed of 1GHz while

running.

- **Operating system**

The application must run on any Operation System.

Chapter 5

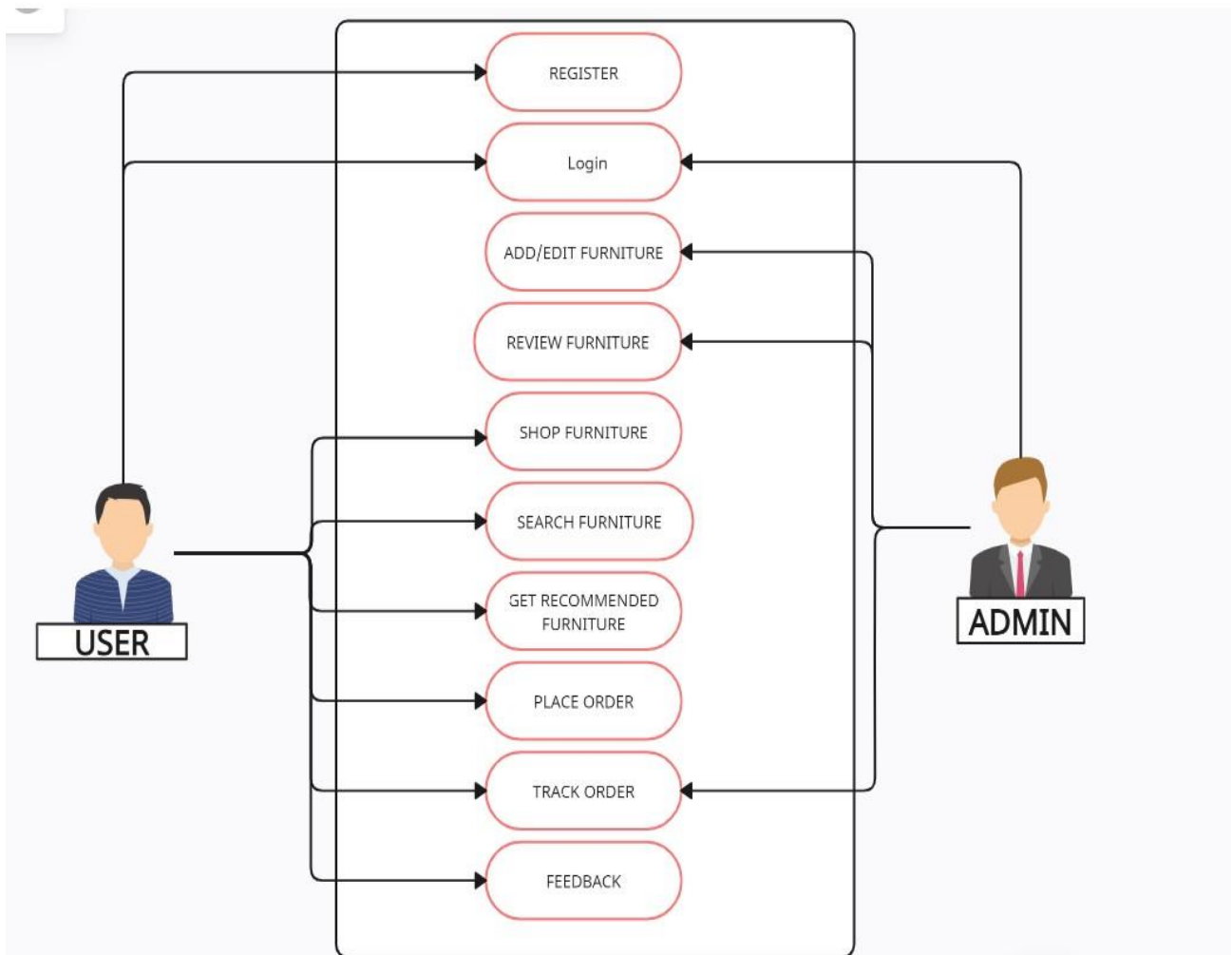## Project Design

5.1 Use Case Diagram:

Fig 1: Use case diagram on furniture recommendation website.

5.2 DFD (Data Flow Diagram):

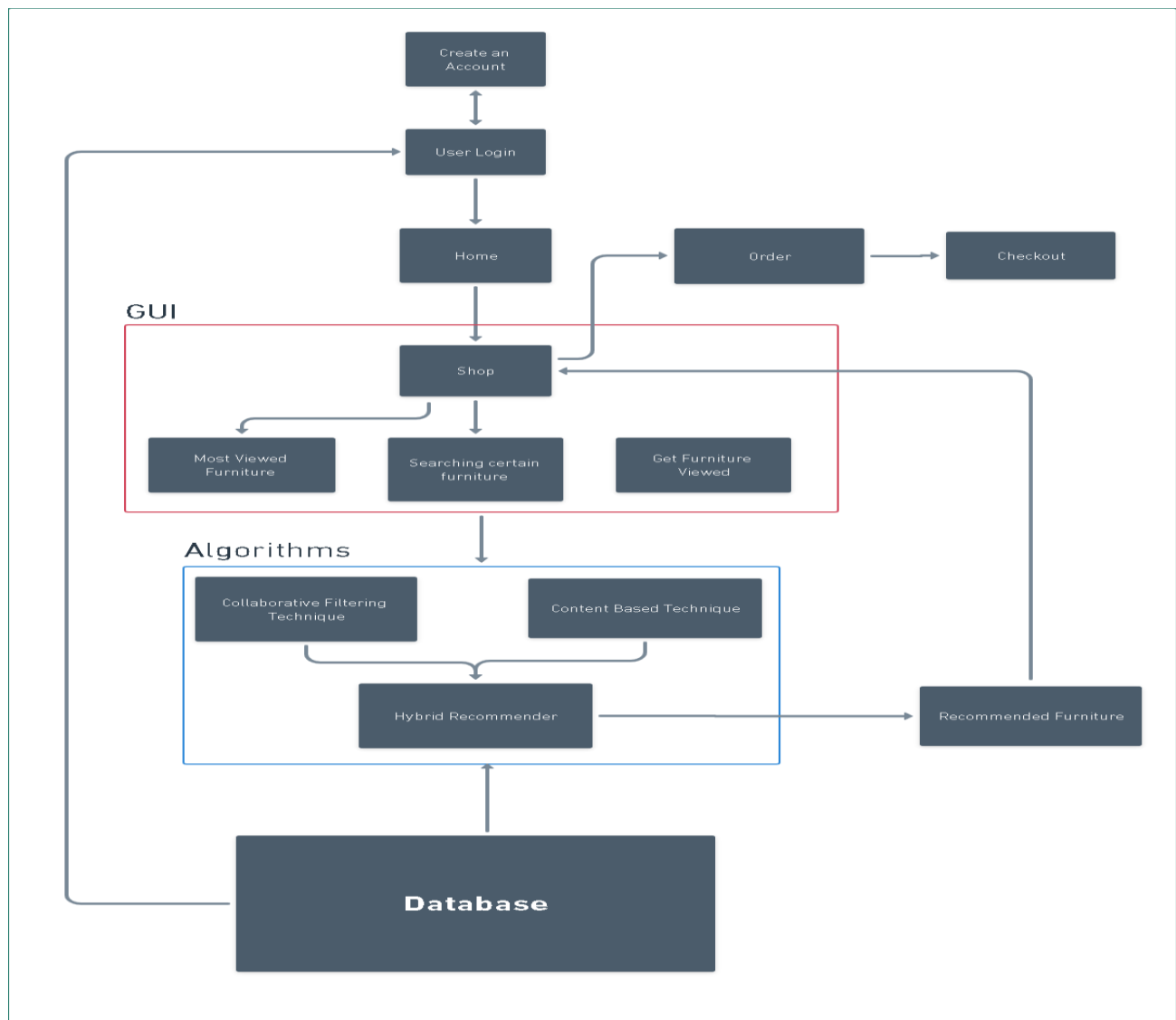**Fig 2: DFD on furniture recommendation website.**
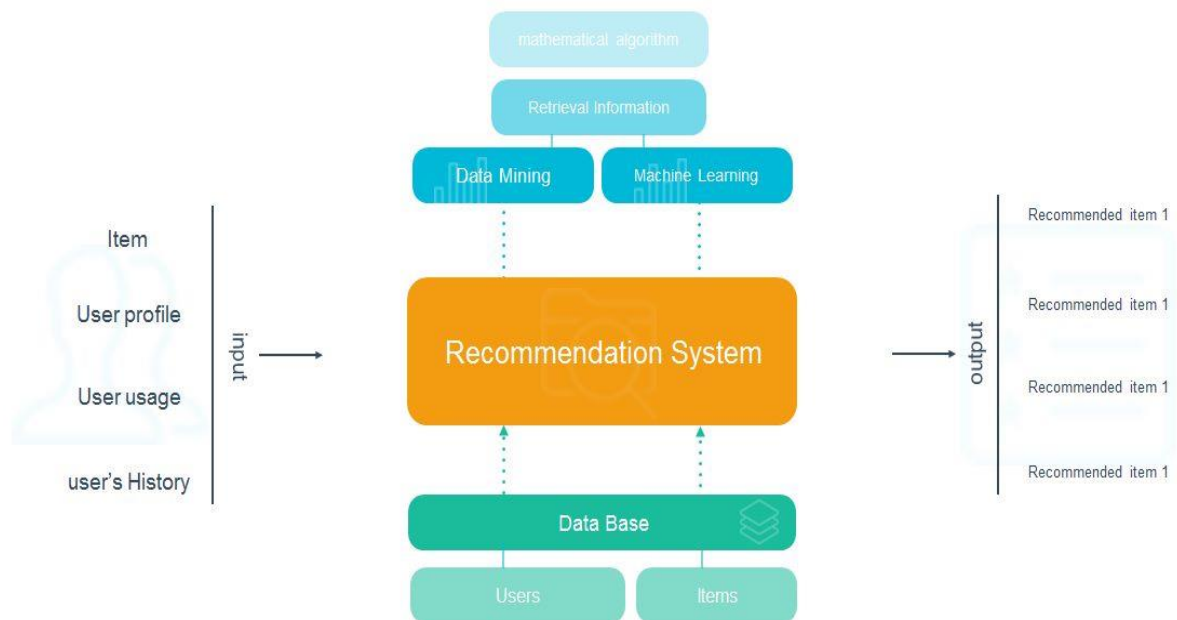
5.3 System Architecture:

Fig (a): System Architecture

Chapter 6

Technical specification

Development: VS Code

VS Code also known as Visual Studio Code is a source code editor made by Microsoft for Windows, Linux, MacOS. It has various features such as Debugging, Syntax highlighting, extension, intelligent code completion.

Frontend: Html, CSS, JavaScript

As a web developer, the three main languages we use to build websites are HTML, CSS, and JavaScript. JavaScript is the programming language, we use HTML to structure the site, and we use CSS to design and layout the web page. These days, CSS has become more than just a design language, though. You can implement animations and smooth transitions with just CSS.

OS: Windows

Windows is a graphical operating system developed by Microsoft. It allows users to view and store files, run the software, play games, watch videos, and provides a way to connect to the internet. It was released for both home computing and professional works.

Backend: MySQL

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

Chapter 7

Project Scheduling

Date	Weeks	Contents
13/01/2023 TO 18/01/2023	1	Group formation and Topic finalization. Identifying the scope and objectives of the Mini Project
20/01/2023 TO 26/01/2023	2	Identifying the functionalities of the Mini Project
29/01/2023 TO 3/01/2023	3	Discussing the ML Algorithm.
4/02/2023 TO 10/02/2023	4	Designing the Graphical User Interface (GUI)
17/02/2023 TO 17/2/2023	5	Review 1 Presentations
20/02/2023 TO 28/02/2022	6	Detail ML Algorithm implementation
03/03/2023 TO 10/03/2023	7	Integration of GUI with ML Algorithm code
14/03/2023 To 21/03/2023	8	Report Writing
20/04/2023 TO 20/04/2023	9	Review 2 Presentations

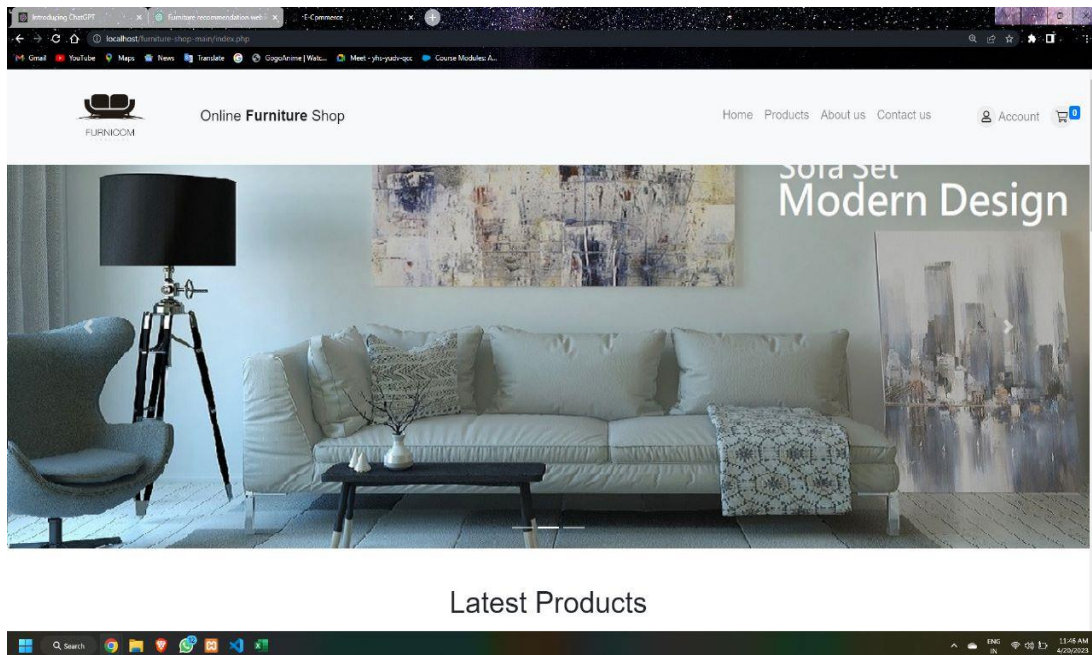# Chapter 8

Implementation

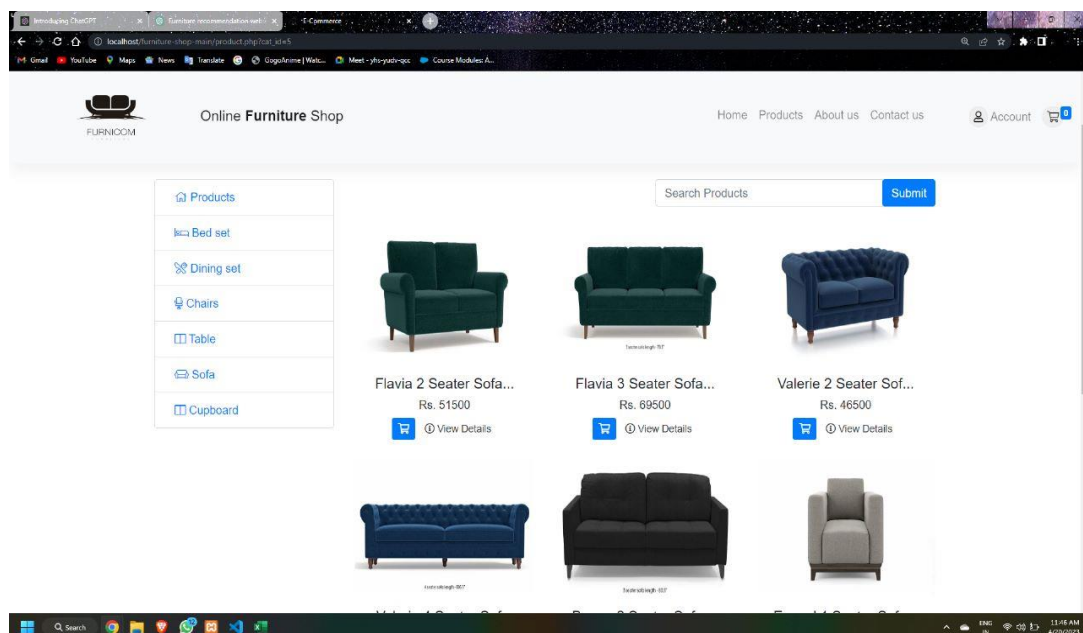**Figure 8.1: Home Page**
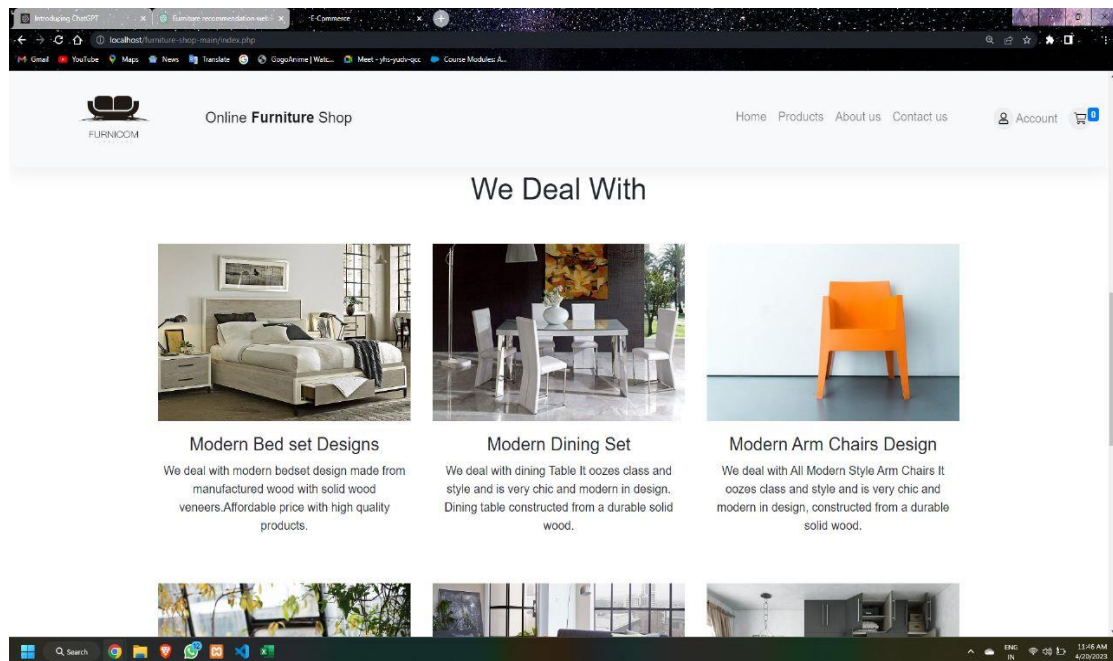

Figure 8.2: Product Page
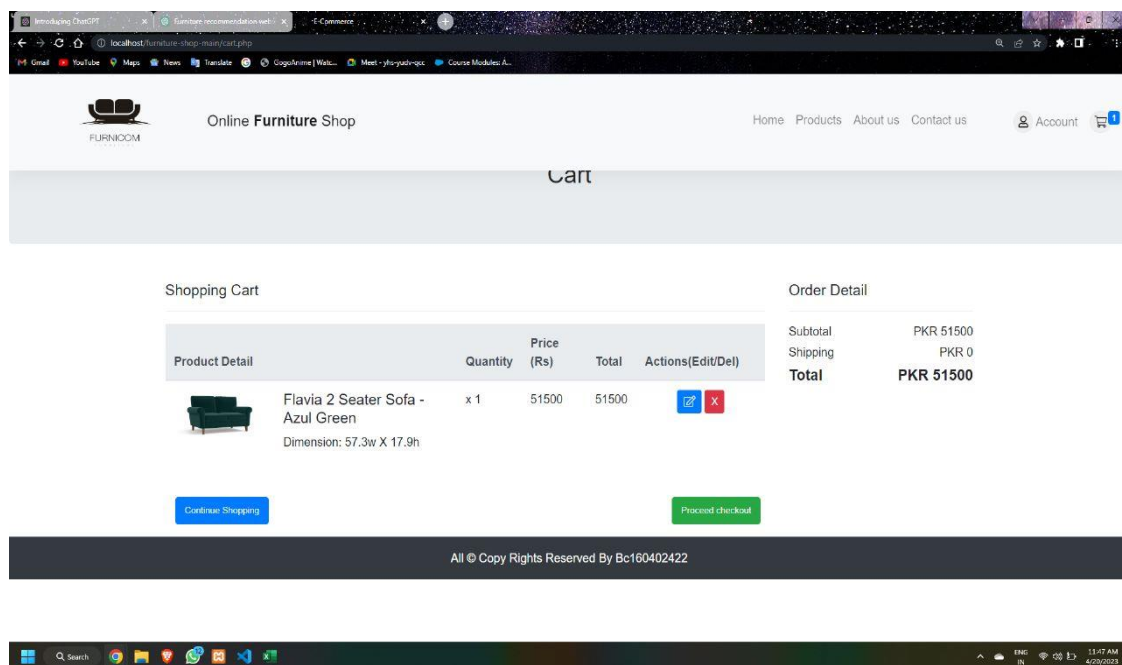
Figure 8.3: Services Page

Figure 8.4: Cart Page

Chapter 9

Result and Discussion

However, in general, a furniture recommendation website can provide a range of benefits to users, such as:

Personalized recommendations: By analyzing user preferences and past purchases, the website can offer personalized recommendations for furniture items that are likely to match the user's style and needs.

Convenience: Users can browse and purchase furniture items from the comfort of their own homes, without having to physically visit multiple stores or showrooms.

Variety: A furniture recommendation website can offer a wide range of products from different brands and designers, providing users with more options to choose from.

Reviews and ratings: Users can read reviews and ratings from other customers to help them make informed purchasing decisions.

Cost-effective: Online furniture retailers often offer lower prices compared to traditional brick-and-mortar stores, as they have lower overhead costs.

Chapter 10

Conclusion

Based on my understanding of the topic, a furniture recommendation website can be a valuable tool for individuals who are looking to purchase furniture but are unsure of what to buy. By providing personalized recommendations based on factors such as budget, style preferences, and room dimensions, these websites can help users make informed decisions and find furniture that meets their specific needs.

However, the success of a furniture recommendation website depends on various factors such as the accuracy of its recommendations, the user interface, the quality of the products offered, and the level of customer service. It is also important for these websites to have a large database of products to choose from, as well as the ability to continuously update their recommendations based on user feedback.

Overall, a well-designed furniture recommendation website can be a valuable resource for individuals looking to purchase furniture, but it is important to carefully consider the website's features and capabilities before planning to use it.

Future Scope

The future scope of furniture recommendation websites looks promising as technology continues to advance and more data becomes available. Here are some potential areas of development and expansion:

Integration with augmented reality: One of the challenges of buying furniture online is not being able to physically see or try out the product. However, with the integration of augmented reality technology, users can virtually place furniture in their home and see how it would look before making a purchase.

Personalization using artificial intelligence: As artificial intelligence technology continues to develop; furniture recommendation websites can become even more personalized by using algorithms that learn from users' browsing history and behavior to provide more accurate recommendations.

References

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