

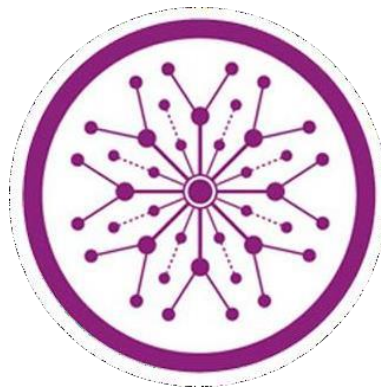
“EzDeals” An AI Based E-Commerce Web Store

Final Year Project

Session 2019-2023

A project submitted in partial fulfillment of the degree of

BS in Computer Science



Department of Computer Science

Faculty of Computer Science & Information Technology

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Plagiarism Free Certificate

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EzDeals

Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature
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APPROVAL

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PROJECT MANAGER

Comments: _____

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HEAD OF THE DEPARTMENT

Comments: _____

Date: _____

Signature: _____

Dedication

“We dedicated our work to the most respectful personality of the world and beloved PROPHET (PBUH) of Allah then to our parents, teachers, friends, and all those persons who prayed and helped us in our project.”

Acknowledgements

We are very thankful to ALLAH ALMIGHTY, Who is merciful and beneficent. He blessed us with perception and wisdom to understand. And we are really thankful to our supervisor and the team of Expert Solutions, who helped us at each step, to complete this project. And We take this opportunity to express our gratitude to all those people who have been directly and indirectly with us during the process of completing this Project.

Executive Summary

EzDeals.com, is a startup ecommerce store that sells Home & Décor, Health & Beauty, Clothing and other accessories for the young, trendy, and stylish customers and consumers who wants to do shopping online in order to save their time and energy. The products are supposed to be unique and designed to fit the latest trends of the most popular online YouTube or TikTok celebrities, yet functional and comfortable. All products are made in Pakistan, and made with the highest quality material and process, and comes with a money-back customer guarantee if the product doesn't satisfy the customer. Strict quality assurance work guidelines will be followed because, before initiating the ezDeals project, we were also a consumer like others who were disappointed, with the type of online products we all were getting. This is also the founding principle and motive of ezDeals. After the quality assurance protocols, we follow, the next thing which makes us unique and authentic among the mass population is our delivery service. We will be utilizing a drop shipping company in order to receive all orders which are placed on ezDeals.com, fulfill the order, and ship directly to the consumers.

"ezDeals.com" will target enthusiasts and trendsetters in Pakistan and internationally. The target market will be social media savvy and spend a large portion of their day browsing through their social media sites in one word we can say the "Generation Z". The ideal customer will be young, either in high school or college, a working professional, or any household.

Table of Contents

Dedication	5
Acknowledgements	6
Executive Summary	7
of Contents Table	8
Chapter 1	
Introduction	11
1.1. Background	11
1.2. Motivations and Challenges	11
1.3. Goals and Objectives	12
1.4. Literature Review/Existing Solutions	12
1.5. Gap Analysis	12
1.6. Proposed Solution	13
1.7. Project Plan	13
1.7.1. Work Breakdown Structure	13
1.7.2. Roles & Responsibility Matrix	14
1.7.3. Gantt Chart	15
1.8. Emphy Map Outline	15
Chapter 2	
Software Requirement Specifications	
2.1. Introduction	17
2.1.1. Purpose	17
2.1.2. Document Conventions	17
2.1.3. Intended Audience and Reading Suggestions	18
2.1.4. Product Scope	18
2.1.5. References	18
2.2. Overall Description	18
2.2.1. Product Perspective	18
2.2.2. User Classes and Characteristics	18
2.2.3. Operating Environment	19
2.2.4. Design and Implementation Constraints	20
2.2.5. Assumptions and Dependencies	20
2.3. External Interface Requirements	21
2.3.1. User Interfaces	21
2.3.2. Hardware Interfaces	28
2.3.3. Software Interfaces	28
2.3.4. Communications Interfaces	29
2.4. System Features	29
2.4.1. User Register	30
2.4.1.1. Description and Priority	30

2.4.1.2.	Stimulus/Response Sequences	30
2.4.1.3.	Functional Requirements	30
2.5.	Nonfunctional Requirements	31
2.5.1.	Performance Requirements	31
2.5.2.	Safety Requirements	31
2.5.3.	Security Requirements	32
2.5.4.	Usability Requirements	32
2.5.5.	Reliability Requirements	32
2.5.6.	Maintainability/Supportability Requirements	33
2.5.7.	Portability Requirements	33
2.5.8.	Efficiency Requirements	33
2.5.9.	Domain Requirements	33
Chapter 3		
Use Case Analysis		35
3.1.	Use Case Model	35
3.2.	Use Cases Description	36
Chapter 4		
System Design		41
4.1.	Architecture Diagram	42
4.2.	Domain Model	43
4.3.	Entity Relationship Diagram with data dictionary	44
4.4.	Class Diagram	45
4.5.	Sequence / Collaboration Diagram	46
4.6.	Operation contracts	47
4.7.	State Transition Diagram	47
4.8.	Activity Diagram	48
4.9.	Component Diagram	49
4.10.	Deployment Diagram	50
Chapter 5		
Implementation		52
5.1.	Important Flow Control/Pseudo codes	52
5.2.	Components, Libraries, Web Services and stubs	52
5.3.	Deployment Environment	52
5.4.	Tools and Techniques	53
5.5.	Best Practices / Coding Standards	54
5.6.	Version Control	54
Chapter 6		
Testing and Evaluation		
6.1.	Use Case Testing	598
6.2.	Equivalence partitioning	598
6.3.	Boundary value analysis	598
6.4.	Data flow testing	599
6.5.	Unit testing	49

6.6. Integration testing	49
6.7. Performance testing	49
6.8. Stress Testing	640
Chapter 7	51
Summary, Conclusion and Future Enhancements	565
7.1. Project Summary	52
7.2. Achievements and Improvements	53
7.3. Critical Review	54
7.4. Lessons Learnt	55
7.5. Future Enhancements/Recommendations	56

Chapter 1

Introduction

Chapter 1: Introduction

This chapter comprises the fundamental details of the project that we will be developing. Including the entire information of project feasibility statement, background, project plan, existing solutions work breakdown structure and various analysis like, Gantt chart analysis. It also includes comparison of this web store with market and new features to be included. This chapter precisely describes that what are we going to provide, after the completion of this project and our motivations behind it. Welcome to our revolutionary e-commerce website, where convenience and boundless opportunities intertwine to bring you a truly exceptional shopping experience. We are thrilled to have you join our digital marketplace, where you can explore a vast array of products, discover new trends, and find incredible deals, all from the comfort of your own home. Our platform is meticulously designed to ensure seamless navigation and effortless browsing. With a curated selection of products from renowned brands, independent sellers, and emerging designers, you'll find everything you need and more. From fashion-forward clothing and accessories to state-of-the-art electronics, from stylish home decor to innovative gadgets, our diverse range of offerings caters to every taste and preference. Gone are the days of aimless searching and overwhelming product catalogs. Our intuitive search functionality empowers you to quickly locate specific items, making it easier than ever to find that perfect dress, the latest gadget, or the ideal piece of furniture to complete your home. And for those seeking inspiration or looking to discover new products, our thoughtfully curated categories provide a delightful journey of exploration, ensuring that you stumble upon exciting items that you never knew you needed. We understand that your time is valuable, which is why we have implemented advanced filtering and sorting options. Whether you're looking for a specific color, size, price range, or brand, our powerful search tools enable you to narrow down your choices, so you can find exactly what you're looking for in a matter of seconds. With a user-friendly interface and intuitive design, our website ensures a hassle-free shopping experience from start to finish. At our e-commerce website, we believe in personalized service. We want to make your shopping experience as unique as you are. Our algorithms analyze your preferences, purchase history, and browsing behavior to present you with tailored recommendations that match your individual style and interests. Say goodbye to generic product suggestions and

experience that feels like it was crafted just for you. With every visit, you'll discover new items that resonate with your tastes, allowing you to stay ahead of the trends and make informed purchase decisions. But our commitment to you doesn't end with an exceptional user experience. We understand that trust is paramount in the digital realm, which is why we have implemented robust security measures to safeguard your sensitive information. Our website employs state-of-the-art encryption technology, ensuring that every transaction you make is protected and secure. We also work with trusted payment partners, allowing you to choose from a variety of payment methods, including credit cards, digital wallets, and cash on delivery. Your peace of mind is our top priority. In addition to security, we prioritize seamless and flexible payment options. We understand that everyone has different preferences when it comes to payment methods, and we strive to accommodate your needs. Whether you prefer the convenience of online payments or the flexibility of paying upon delivery, we have you covered. Our goal is to make the purchasing process as smooth as possible, so you can focus on enjoying your shopping experience. We pride ourselves on providing exceptional customer service. Our dedicated support team is available around the clock to address any queries or concerns you may have. Whether you need assistance with product information, sizing, shipping, or returns, we're here to ensure that your experience with us is nothing short of outstanding. We value your feedback and are constantly striving to improve our services, so please don't hesitate to reach out to us at any time. Your satisfaction is our highest priority, and we are committed to going above and beyond to meet your needs. Join our thriving community of satisfied customers who have embraced the convenience and limitless possibilities of online shopping.

1.1. Background

Pakistan, being a developing country, where IT exports are playing an essential and constantly growing role in development of its economy. We felt a lot of vacuum and distrust, in the field of online shopping, among the customers in Pakistan. Pursuing this project means to make people familiar with online shopping and to introduce our platform as a trust worthy site to shop from. The ecommerce market offers immense potential for businesses to tap into a growing customer base. According to industry reports, global ecommerce sales are projected to reach trillions of dollars in the coming years, making it a highly lucrative sector to explore. E-commerce allows us

to target a greater number of customers, than a physical shop. In Pakistan we have only few platforms to shop online, which means we have a lot of vacuums to fill, and we can certainly do that by using advanced marketing techniques including the digital marketing. Surveys, interviews, and focus groups were conducted to gain insights into the preferences, expectations, and pain points of our target audience. This information served as a foundation for designing a user-centric ecommerce web store. Rapid advancements in technology, such as secure payment gateways, user-friendly content management systems, and mobile-responsive design, have made it feasible and cost-effective to develop and maintain an ecommerce web store. The scalability of the ecommerce store was a crucial consideration in the project. The chosen platform and architecture allow for easy expansion, integration with new technologies, and the addition of new product categories as the business grows and evolves. Seamless integration of the ecommerce web store with our existing inventory management, order processing, and customer relationship management systems was identified as a critical factor in ensuring efficient operations and delivering exceptional customer service and assisting clients.

1.2. Motivations and Challenges

As, the people here in our country, have faced a lot of bad experiences while trying out something new such as online shopping. So, we are one of those people as well. By having some considerably substandard experiences, we took this issue as a challenge, and decided to make the finest platform for the people to shop online. A platform which they can trust and rely on. Primary motivation for pursuing this project is that, in whole world ecommerce is welcomed as a popular business model now. Considerably large number of businesses are shifting themselves towards their web sites, in order to make their digital presence. Another, in fact the biggest motivation for us is indeed our degree. Being student of commuter science, we felt this project to be more relevant to us, as by doing this project we can utilize our degree and skills to solve an enormously important problem of modern days. Building an ecommerce web store provides the opportunity to reach customers worldwide, breaking geographical barriers and expanding your potential customer base significantly. An ecommerce web store allows for 24/7 sales, providing the potential for continuous revenue generation. By reaching a wider

audience and eliminating the limitations of physical stores, you can increase your sales and overall revenue. An ecommerce web store allows for 24/7 sales, providing the potential for continuous revenue generation. By reaching a wider audience and eliminating the limitations of physical stores, you can increase your sales and overall revenue. Building an ecommerce web store provides valuable data and insights about customer behavior, preferences, and purchasing patterns. By analyzing this data, you can make informed decisions regarding product offerings, marketing strategies, and customer engagement, thereby optimizing your business for growth. In today's digital age, having an ecommerce web store is essential to stay competitive. By building your own web store, you can differentiate your business from competitors, offer unique customer experiences, and establish a strong online presence, thereby gaining a competitive edge in the market.

1.3. Goals and Objectives

The objective of this project is to make a reliable e-commerce web store, through which, customers can fulfill their shopping needs while sitting at home comfortably. We want to make this platform reliable, trust worthy and user friendly. Main goal, which we think is paramount important to achieve is that, to be a leading online shopping platform, specifically in Pakistan, we must reach the right sort of audience at the right time so that we could make this platform profitable in reasonable period of time. So, we will be using advance AI features to modernize our service in order to achieve our goals.

1.4. Literature Review/Existing Solutions

Right now, in e-shopping, the major issue faced by the service providers is, lack of trust form the public. Majority of the online shopping platforms in Pakistan, have been failed to gain the trust of customers, that is why people do not consider those online shopping platforms reliable. Another major issue in e-commerce business is the pricing, the customer deserves, some benefit as they are relying on the platform by sitting at home. Currently, in Pakistan, most of the e-commerce stores are only accessible to the limited audience or they only operate in Pakistan, we will be filling out this gap by making sure that out e-store is available to everybody who is

connected to the internet anywhere in the world. So, these traditional gaps do exist, in the business of e-commerce, And the platform which will not only address these issues but also solves them, will be a successful company. E-commerce has become a major force in the global economy, accounting for over 10% of all retail sales in 2022. This growth has been driven by a number of factors, including the increasing availability of broadband internet, the rise of mobile devices, and the convenience of shopping online.

As e-commerce continues to grow, businesses are increasingly turning to e-commerce websites to sell their products and services. However, creating a successful e-commerce website is not easy. There are a number of factors that businesses need to consider, including reliability etc.

A number of studies have been conducted on the factors that contribute to the success of e-commerce websites. Some of the key findings from these studies include:

- Website design is important for attracting and retaining customers. A well-designed website should be visually appealing, easy to navigate, and consistent with the brand of the company that owns the website.
- Ease of use is essential for a successful e-commerce website. Customers should be able to find the products and services that they are looking for quickly and easily. The checkout process should also be easy to use.
- Security is a major concern for online shoppers. Businesses need to take steps to protect customer data, such as using secure payment methods and having a privacy policy in place.
- Product selection is important for attracting customers and increasing sales. Businesses should offer a wide variety of products and services to appeal to a broad range of customers.

Conclusion

The success of an e-commerce website depends on a number of factors. By considering the factors that have been identified in the literature, businesses can create e-commerce websites that are more likely to be successful.

Additional Information

In addition to the factors that have been mentioned above, there are a number of other factors that can contribute to the success of an e-commerce website. These include:

- Customer reviews: Customer reviews can help to build trust and credibility with potential customers.
- Social media marketing: Social media marketing can be used to reach a wider audience and to promote products and services.
- Email marketing: Email marketing can be used to stay in touch with customers.

Case Study: Amazon

Amazon is one of the most successful e-commerce websites in the world. The company has been able to achieve success by focusing on a number of key factors, including:

- Website design: Amazon's website is easy to use and visually appealing. The website is also consistent with Amazon's brand, which is known for being reliable and trustworthy.
- Ease of use: Amazon's website is easy to use. Customers can find the products and services that they are looking for quickly and easily. The checkout process is also easy to use.
- Security: Amazon takes security seriously. The company uses secure payment methods and has a privacy policy in place.
- Product selection: Amazon offers a wide variety of products and services. This allows the company to appeal to a broad range of customers.

In addition to these factors, Amazon has also been successful by investing in customer service, marketing, and logistics. By focusing on all of these areas, Amazon has been able to create a successful e-commerce website that has attracted millions of customers around the world.

The success of an e-commerce website depends on a number of factors. By considering the factors that have been identified in the literature and the case study of Amazon, businesses can create e-commerce websites that are more likely to be successful.

1.5. Gap Analysis

Right now, in e-shopping, the major issue faced by the service providers is, lack of trust from the public. Majority of the online shopping platforms in Pakistan, have been failed to gain the trust of customers, that is why people do not consider those online shopping platforms reliable. Another major issue in e-commerce business is the pricing, the customer deserves, some benefit as they are relying on the platform by sitting at home. Currently, in Pakistan, most of the e-commerce stores are only accessible to the limited audience or they only operate in Pakistan, we will be filling out this gap by making sure that our e-store is available to everybody who is connected to the internet anywhere in the world. So, these traditional gaps do exist, in the business of e-commerce, And the platform which will not only address these issues but also solves them, will be a successful company.

1.6. Proposed Solution

Solution which we are offering is an e-commerce website platform, which will be designed by keeping in view the needs of customer. It's supposed to be a platform which will entertain user's needs by personalized and targeted attention. We are introducing, advance features of Artificial intelligence like "Chatbot", This feature will be used to collect the data about our visitors and customers and then that collected information will be used to improve the system and make better product suggestions and recommendations to customers. It would be a system which will understand customer inquiries and their needs. We will gain the loyalty of customers by providing personalized product pages. As the visual content conveys more information that's why we need a good reason for our customers to look at our website, so, Visual Search functionality will provide the feature to make search about and with images. Customer would take picture of any product through their phone camera, then that product will be scanned to see if the inventory has items similar in photos.

1.7. Project Plan

It is permanently important to have a plan which is to be followed. We have utilized MS Excel software to design a follow able plan of our project. By using these modern ways, we have designed a Work Breakdown Structure, along with the roles and responsibilities of every team member, And we will be making sure to meet the deadlines which we have decided.

1.7.1. Work Breakdown Structure

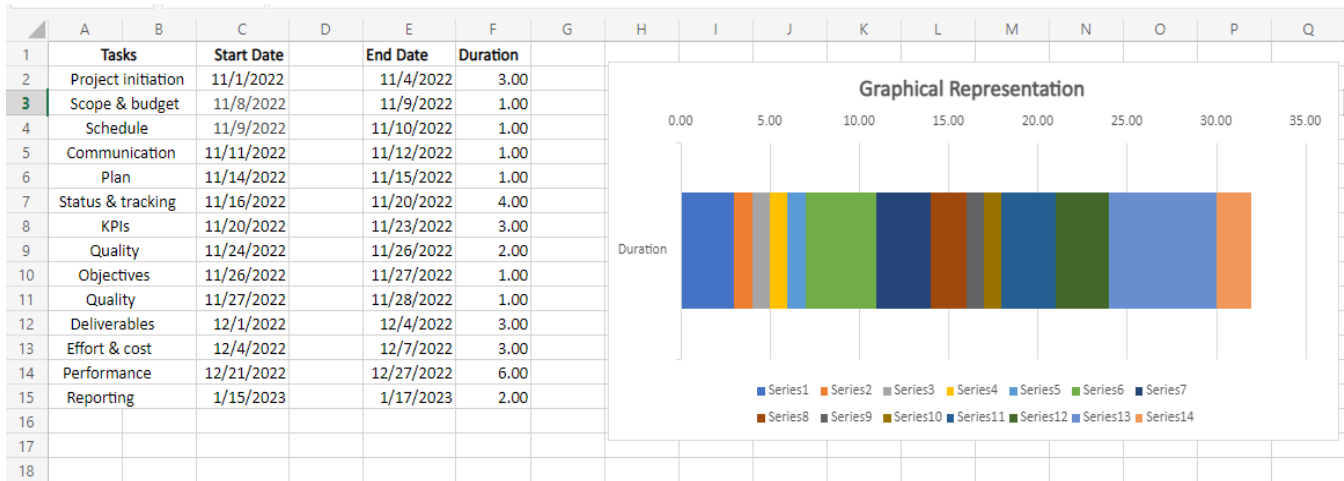
We have a team of different individuals who are professionals in their field. Our project contains too many modules, so we divided it into several parts and assigned these tasks equally to everyone. It gives us the facility to reach our goals in less time. Primarily the Work Breakdown Structure (WBS) is a hierarchical decomposition of the project's deliverables, tasks, and subtasks. It provides a visual representation of the project's scope, allowing for better planning, organization, and management of the project's work

1.7.2. Roles & Responsibility Matrix

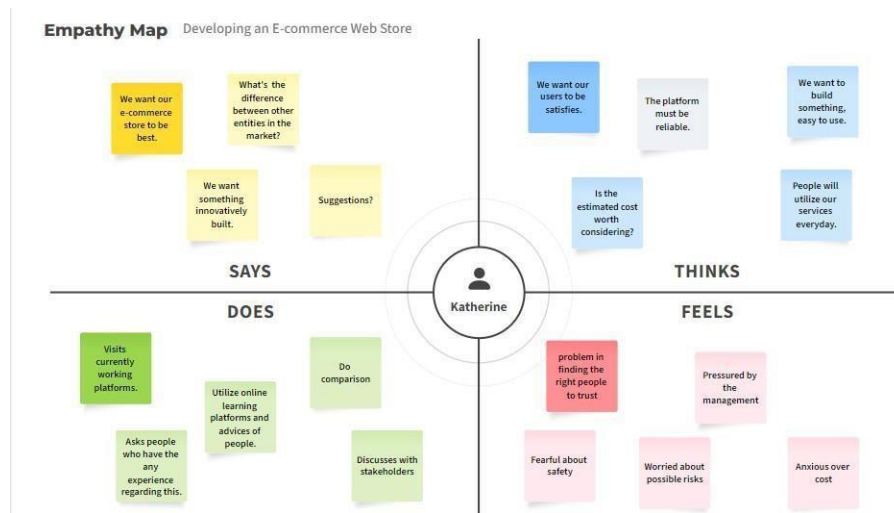
The roles & responsibility matrix aims to identify who will do what.

WBS #	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
1	Documentation	1	FYP Registration	2	Naveed Ahmad & Project Idea
1	Documentation	2	FYP Approval	2	M Zaryab & FYP Registration Documentation
1	Documentation	3	Introduction Documentation	3	All Team & Documentation
1	Documentation	4	Literature Survey	4	All Team & Research Work
1	Documentation	5	Requirement Analysis	2	Zaryab & Shaheer Requirement Analysis
2	UI Design	6	System Design	7	Naveed & UI/UX Design
2	UI Design	7	System Design	7	All Team & Frond End Design
3	AI Integration	8	Implementation	7	Naveed & Shaer Complete Backend
4	Final Reports	10	Conclusion and Outlook	4	All Team & Work On Testing and outlook of App in market
4	Final Reports	11	End-User Documentation	2	All Team & Check Reviews of End User
4	Final Reports	12	Application Administration Documentation	3	Naveed Shaheer Finalize Document

1.7.3. Gantt Chart



1.8. Empathy Map



Chapter 2

Software Requirement Specifications

2.1 Introduction

2.1.1 Purpose

The Ecommerce Store (ezDeals) web application is intended to provide complete solutions for vendors as well as customers through a single gateway using the internet as the sole medium. It will enable vendors to set up online shops (accessories, etc.), customers to browse through the shop and purchase them online without having to visit the shop physically. The administration module will enable a system administrator to approve and reject requests for new shops and maintain various lists of shop categories. The main purpose of this project is to reduce the manual work

2.1.2. Document Conventions

This document explains every feature in details of the product. Each and everything properly explain in this document. Headings and description have proper different which is easy to understand to reader. This documentation writes in easy and simple sentences which can be understand a normal person that know about English. Every requirement statement explains in proper way.

2.1.3. Intended Audience and Reading Suggestions

There should be different types of reader that read the document for understand and get the information about project. The reader may be such as developers, project managers, marketing staff, users, testers, and documentation writers that read the document. The reader can get the brief information about the product by reading the introduction and get overall description about the product that is briefly describe in overall description portion. Readers who want to explore the features of system in more detail should read system features portion of the documents which fully explain all features of the products. The reader can be read user interface and hardware and software platforms on which the application can be run. The reader can be read the non-technical behaviors of the system by the document such as performance, safety, security, and various other attributes that will be important to users. If the reader not found desired information than can be read other requirements.

2.1.4. Product Scope

- Secure registration and profile management facilities for Customers
- Adequate searching mechanisms for easy and quick access to particular products and services.
- Creating a Shopping cart so that customers can shop 'n' no. of items and checkout finally with the entire shopping carts. Customers can add or delete items in the cart.
- Regular updates to registered customers of the OFS about new arrivals.
- Uploading 'Most Purchased' Items in each category of products in the Shop.
- Strategic data and graphs for Administrators and Shop owners about the items that are popular in each category and age group.
- Maintaining database of regular customers of different needs.
- Shop employees are responsible for internal affairs like processing orders, assure home delivery, getting customer's delivery-time feedback, updating order's status and answering client's queries online.
- Feedback mechanism, so that customers can give feedback for the product or service which they have purchased. Also facility rating of individual products by relevant customers.
- Adequate payment mechanism and gateway for all popular credit cards, cheques and other relevant payment options, as available from time to time.

2.2 Overall Description

2.2.1 Product Perspective

ezDeals is aimed towards the vendors who want to reach out to the maximum cross-section of customer and common people who can be potential customer. This project envisages bridging the gap between the seller, the retailer and the customer. OFS should be user-friendly, 'quick to learn' and reliable software for the above purpose. OFS is intended to be a stand-alone product and should not depend on the availability of other software. It should run on both UNIX and Windows based platform.

2.2.2 User Classes and Characteristics

- The user should be familiar with the Shopping Mall related terminology like Shopping cart/Checking out/Transaction etc.
- The user should be familiar with the Internet.

2.2.3 Operating Environment

Software Environment

The product will be operating in windows environment. ezDeals ecommerce system is a website and shall operate in all famous browsers, for a model we are talking Microsoft Internet Explorer, Google Chrome and Mozilla Firefox. Also it will be compatible with the IE 6.0. Most of the features will be compatible with the Mozilla Firefox and Opera

7.0 or higher version. The only requirement to use this online product would be the internet connection. The hardware configuration include Hard Disk: 40GB, Monitor: 15 inch Color monitor, Keyboard: 122 keys. The basic input devices required are keyboard, mouse and output devices are monitor etc.

2.2.4 Design and Implementation Constraints

An online store is a virtual store on the Internet where customers can browse the catalog and select products of interest. The selected items may be collected in a shopping cart. At checkout time, the items in the shopping cart will be presented as an order. At that time, more information will be needed to complete the transaction. Usually, the customer will be asked to fill or select a billing address, a shipping address, a shipping option, and payment information such as credit card number. An e-mail notification is sent to the customer as soon as the order is placed.

2.2.5 Assumptions and Dependencies

The assumptions are:-

- The coding should be error free.
- The system should be user friendly so that it is easy to use for the users.
- The system should have more capacity and provide fast access to the database.
- The system should provide search facility and support quick transactions.
- The ezDeals ecommerce system is running twenty four hours a day.
- Users may access from any computer that has internet browsing capabilities and an internet connection.

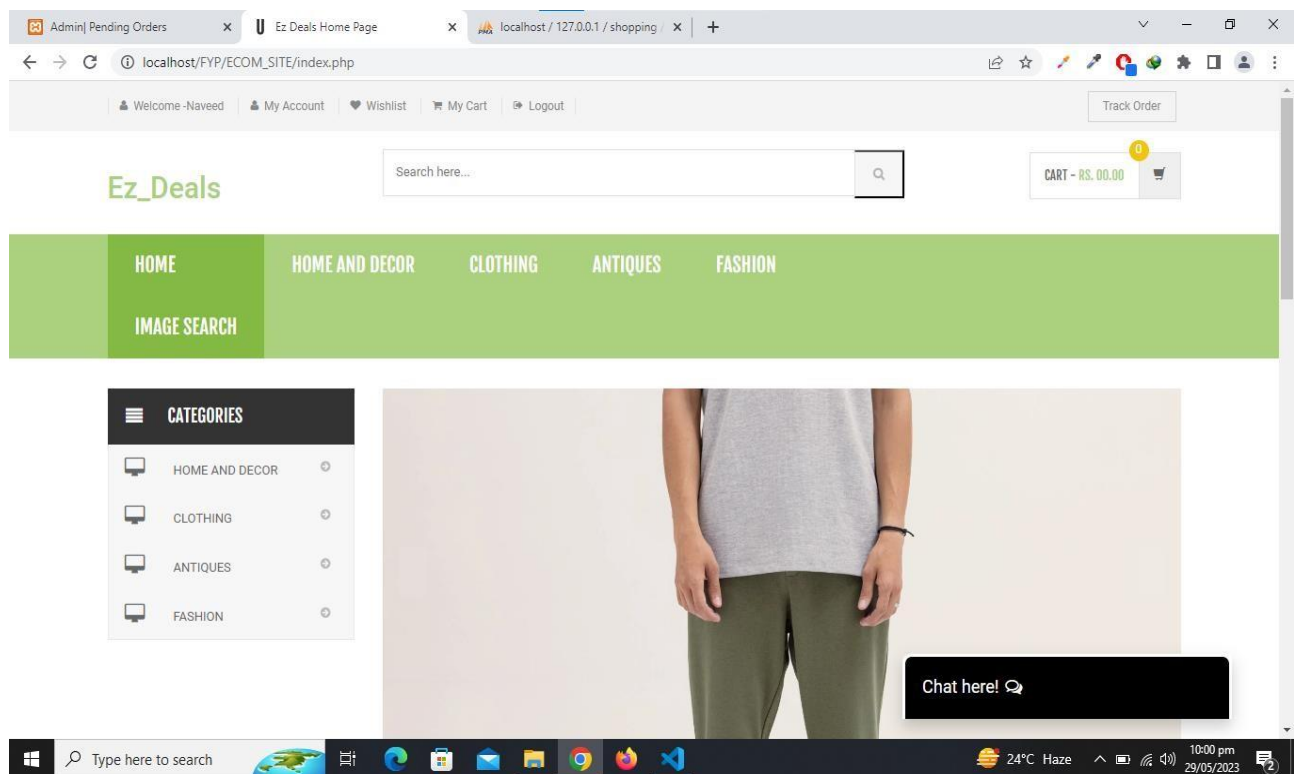
The dependencies are: -

- The specific hardware and software due to which the product will be run.
- On the basis of listing requirements and specification the project will be develop and run.
- The end users (admin) should have proper understanding to the product.
- The system should have the general report store.
- The information of all users must be stored in a database that is accessible by the ez-deals ecommerce system.
- Web Development Resources.
- Product Catalog and Inventory Management.
- Secure Payment Gateways.
- Logistics and Shipping Partners.
- Customer Support and Service.
- Database Management system.
- IT Infrastructure.
- Customer Support System.

2.3 External Interface Requirements

2.3.1 User Interface

Take a glimpse of our ecommerce website's captivating visuals.



Admin| Pending Orders | Ez Deals Home Page | localhost / 127.0.0.1 / shopping | +

localhost/FYP/ECOM_SITE/index.php

Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand

Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand

Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand

Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand

Rs.2300 Rs.2500

Rs.1900 Rs.2000

Rs.1900 Rs.2500

Rs.2300 Rs.2500

ADD TO CART

ADD TO CART

ADD TO CART

ADD TO CART

Chat here!

HOME AND DECOR

ANTIQUES

Type here to search

24°C Haze

10:00 pm 29/05/2023

Admin| Pending Orders | Product Category | localhost / 127.0.0.1 / shopping | +

localhost/FYP/ECOM_SITE/category.php?cid=4

Home and Decor

Clothing

Antiques

Fashion

Shirts

Shirts

Shirts

Rs. 2300 Rs. 2500

Rs. 1900 Rs. 2000

Rs. 1900 Rs. 2500

Add to cart

Add to cart

Add to cart

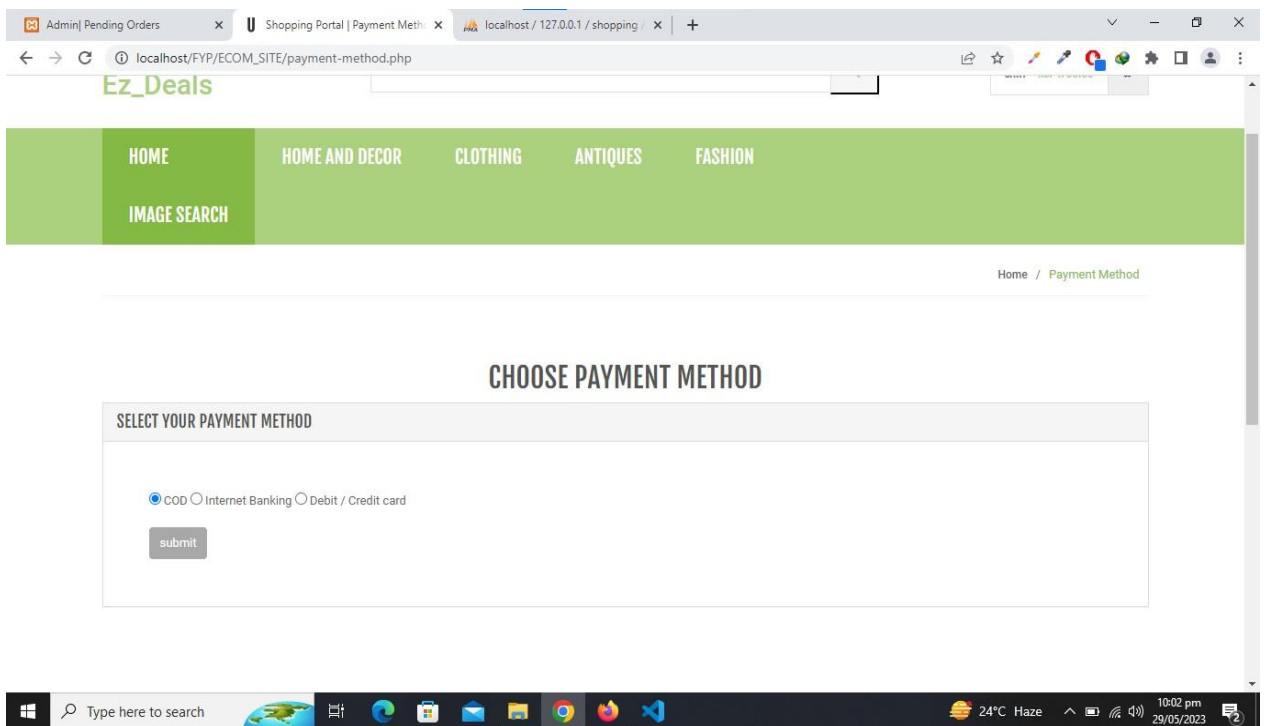
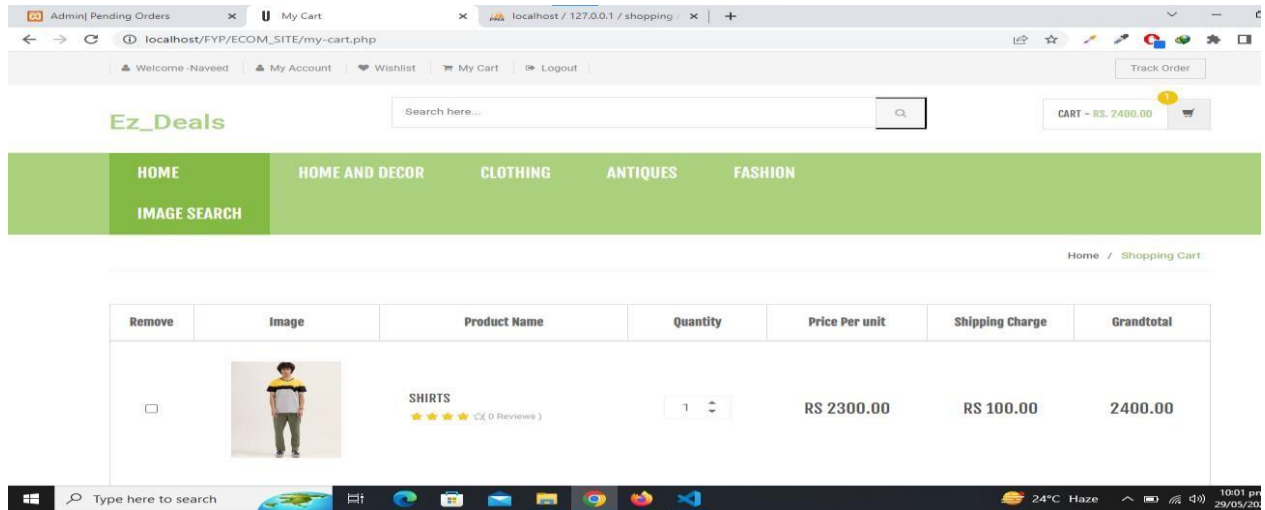
OUR BRANDS

localhost/FYP/ECOM_SITE/product-details.php?pid=26

Type here to search

24°C Haze

10:01 pm 29/05/2023



Admin| Category

Ez Deals Home Page

localhost / 127.0.0.1 / shopping

localhost/FYP/ECOM_SITE/admin/category.php

Category

Category Name

Description

Create

Manage Categories

Show 10 entries Search:

#	Category	Description	Creation date	Last Updated	Action
1	Home and Decor	Home and Decor	2017-01-25 00:17:37	29-05-2023 08:59:01 PM	✎ ⊕
2	Clothing	Clothing	2017-01-25 00:19:32	29-05-2023 08:59:22 PM	✎ ⊕
3	Antiques	Antiques	2017-01-25 00:19:54	29-05-2023 08:59:43 PM	✎ ⊕
4	Fashion	Fashion	2017-02-21 00:18:52		✎ ⊕

Windows taskbar: Type here to search, 24°C Haze, 10:03 pm 29/05/2023

Admin| Insert Product

Ez Deals Home Page

localhost / 127.0.0.1 / shopping

localhost/FYP/ECOM_SITE/admin/insert-product.php

Insert Product

Category

Sub Category

Product Name

Product Company

Product Price Before Discount

Product Price After Discount(Selling Price)

Product Description

Windows taskbar: Type here to search, 24°C Haze, 10:03 pm 29/05/2023

Admin| Manage Products | Ez Deals Home Page | localhost / 127.0.0.1 / shopping | +

localhost/FYP/ECOM_SITE/admin/manage-products.php

Manage Products

Show 10 entries Search:

#	Product Name	Category	Subcategory	Company Name	Product Creation Date	Action
1	Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand	Antiques	pots	Ez Deals	2023-05-29 21:27:18	✎ 🔗
2	Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand	Antiques	pots	Ez Deals	2023-05-29 21:29:32	✎ 🔗
3	Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand	Antiques	pots	Ez Deals	2023-05-29 21:30:19	✎ 🔗
4	Casual Home 16 in. H Antique Mahogany Mid-Century Modern Wood Plant Display Stand	Antiques	pots	Ez Deals	2023-05-29 21:31:12	✎ 🔗
5	Shirts	Clothing	T-Shirts	Ez Deals	2023-05-29 21:34:02	✎ 🔗
6	Shirts	Clothing	T-Shirts	Ez Deals	2023-05-29 21:35:14	✎ 🔗
7	Shirts	Clothing	T-Shirts	Ez Deals	2023-05-29 21:36:02	✎ 🔗

Showing 1 to 7 of 7 entries [<](#) [>](#)

localhost/FYP/ECOM_SITE/admin/manage-products.php#togglePages

Type here to search | 24°C Haze | 10:04 pm 29/05/2023

2.3.2 Hardware Interfaces

Hardware requirements for insurance on internet will be same for both parties which are as follows:

- Processor : Dual Core
- RAM:2 GB
- Hard Disk:320 GB
- NIC: For each party

2.3.3 Software Interfaces

This product is developed for web-based application. The tools and technique which is use for these developments are

- XAMPP
- Notepad ++
- Visul studio Code
- MySQL server

2.3.4 Communications Interfaces

The Customer must connect to the Internet to access the Website:

- Dialup Modem of 52 kbps
- Broadband Internet
- Dialup or Broadband Connection with a Internet Provider.

2.4 System Features

The system will consist of multiple modules, each separately developed with its features the functionalities provided by the system are

- User can register with email authentication and store their credential in a database.
- User can log in.
- Customer support is available from the authority
- Customer information security confirm.
- Manage customer information.
- To increase efficiency of managing the authority work.

2.4.1 Functional Requirements

- REQ-SF1-1: Sign up/Registration.
- REQ-SF1-2: Login/Sign in.
- REQ-SF1-3: View Categories.
- REQ-SF1-4: View Items.
- REQ-SF1-5: Search Items.
- REQ-SF1-6: Chat online
- REQ-SF1-7: Place Order.
- REQ-SF1-8: Cancel Order (Condition Applied).
- REQ-SF1-9: Select Quantity.
- REQ-SF1-10: Confirm Order.
- REQ-SF1-11: Check Stock Availability.

Admin:

- REQ-SF1-1: Login/Sign In
- REQ-SF1-2: Add Categories.
- REQ-SF1-3: View Categories.
- REQ-SF1-4: Delete Categories.
- REQ-SF1-5: Add Items.
- REQ-SF1-6: View Items.
- REQ-SF1-7: Delete Items.
- REQ-SF1-8: Search Items.
- REQ-SF1-9: Check Stock Availability.
- REQ-SF1-10: Cancel Order.

2.5 Nonfunctional Requirements

2.5.1 Performance Requirements

- Stable Internet connection is required for using a mobile application or website.
- After a successful connection with the internet, Data should be displayed within 5 seconds, giving the user flexibility.
- Application should respond and validate output within 10 seconds when the user interacts with it

2.5.2 Safety Requirements

The database may get crushed at any certain time due to virus or operating system failure. There for it is required to take the database backup so that the database is not lost. Proper UPS/ Inverter facility should be there in case of power supply failure. Following are the preventions that should be taken:

2.5.3 Security Requirements

Security comes with utmost importance that's why our site ezDEALS is dealing with monetary transactions, users' financial and sensitive data. Using an SSL certificate and data privacy policy will create trust among the users for your website and convert the customers into brand advocates. It is also considered for the different admin roles by which you can control who can create, see, copy, change or delete information. Depending upon the location of your business, security also refers to compliance with customer data protection rules.

2.5.4 Usability Requirements

Regardless of the size of business, the ecommerce website of our business is easy to use for even a non- technical user. The general user takes just 0.05 seconds to figure out whether the website is worth its time or not. Thus we give special attention to the design of your homepage, CTAs, and easy checkout to get past those milliseconds of doom. The usability of our website is also defined by:

- a user can achieve their target in a single page visit
- quickly they can perform tasks in the store
- The memorable & intuitiveness of the design
- Number and types of errors users make

2.5.5 Reliability Requirements

The quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database.

The user be able to easily download and install the system

2.5.6 Maintainability/Supportability Requirements

We implanted the operational costs for maintenance that are tricky part of planning a business budget. We thrived the website maintenance from the initial development means cutting the time & cost to determine and resolve the faults of the system in the future.

2.5.7 Portability Requirements

Our application is portable as it is designed for multiple interfaces. Some of the main ones are

- Admin is allowed to handle the main features through the mobile application.
- Users can also access the website to view and manage their attendance.
- Applications can be accessed anytime from anywhere at the user's ease.

2.5.8 Efficiency Requirements

We have to look for a future-proof solution considering the efficiency . Our website can grow and increase its features and functionality without impacting the performance of a website. We are be able to add more memory, servers, or disc space for making more transactions on our website. On the server side, while entering new markets we add localization features. Overall, this NFR accounts for painless business expansion and has both hardware and software implications.

2.5.9 Domain Requirements

Following are the Domain requirements for our application:

Web Application Frontend

- React JS
- Tailwind CSS

Database for Mobile and Web Application

- MySQL

Server for Web Application

- Xampp

Chapter 3

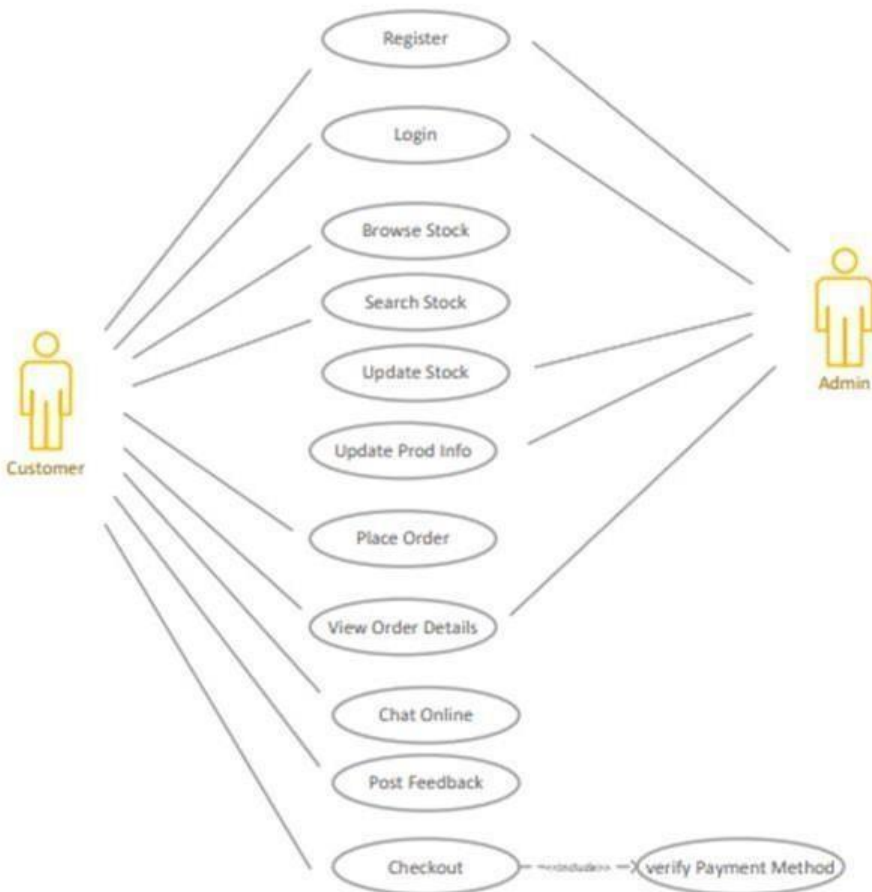
Use Case Analysis

Chapter 3: Use Case Analysis

The purpose of this chapter is to provide a comprehensive overview of the work of the project. It aims to clearly describe how all the features of the system will be implemented and how they will operate in practice.

To achieve this goal, the chapter employs a use case model to illustrate the interaction between the various components of the system and the user. This model allows us to visualize the steps and processes that will be followed to achieve the desired outcome for the project.

3.1. Use Case Model



The main purpose of a use case model is to define the various use cases (individual actions or interactions) that a system should support to fulfill the needs of its users. It helps identify the functionalities and features required by different actors and their specific roles within the system.

A use case model typically consists of the following elements:

Actors: Actors are the users or external entities that interact with the system. They can be individuals, other systems, or even physical devices. Actors are represented as stick figures in the use case diagram.

Use Cases: Use cases represent specific actions or interactions between actors and the system to accomplish a goal. Each use case describes a discrete piece of functionality that the system provides. Use cases are represented as ellipses in the use case diagram.

Relationships: Relationships define the associations and dependencies between actors and use cases. The most common relationship in a use case model is an association, which shows that an actor is associated with one or more use cases. Other relationships include generalization (inheritance) and include/extend relationships between use cases.

System Boundary: The system boundary represents the scope of the system under consideration. It encloses all the use cases and actors within the boundary to indicate which components are part of the system.

3.2. Use Cases Description

Login

Primary actor:

- User
- Admin

Brief description:

User login to the system to get access of the main page or home screen

Pre-conditions

User/Admin must be registered

The system is connected to the internet.

Post conditions:

After successfully login to the system user can access to the system Basic flow:

1. Enter Username
2. Enter Password
3. Press submit button
4. Validate user name and password
5. System will give access to the system

Alternate flow:

If User may enter invalid user name and password

User can access it through Google account, Facebook etc

Browse Stock

Primary Actor

Application user

Brief Description

View the list of all the category of the products available on site

Pre-conditions:

Application has launched successfully. The system is connected to the internet

Post conditions:

- After successfully launch the system user will see the desired information of item list.
- User launch the application
- User will see the products of different categories

Alternate flow:

- At any time system is not connected to wifi.
- If WIFI is not available then system checks for cellular GPS internet
- System displays error message if connections are not available

Search Items

Primary actor:

Application user

Brief description:

View the list of all the items available in the system

Pre-conditions:

- Application has launched successfully
- System is connected to internet

Post conditions:

System will display all the items Basic flow:

- User launches the application.
- System displays a graphical user interface.
- User select option to view items
- System display list of the items

Alternate flow:

- At any time system is not connected to wifi.
- If WIFI is not available then system checks for cellular GPS internet.
- System displays error message if connections are not available.

If your desired item is not available system will show sorry message

Order

Primary Actor

User

Brief Description

User can order anything available in system

Pre-Conditions

User must be registered to the system

Post Conditions

User will see a confirmation message that you order has been done Basic flow:

1. User login to the system
2. User add items to cart
3. User add/remove items to cart

4. User confirm his/her order
5. User will see confirmation message

Alternative Flow

1. User may not be registered to the system
2. System will show message please login to the system
3. Selected item may be out of stock

Sorry message will be displayed

Order Details

Primary Actor

user

Brief Description

User can update order details like cancel a order

Pre-Conditions

User must place an order

Post Conditions

Your order has been cancelled will be displayed on the screen Basic flow:

1. User select order details.
2. System will displays order details
3. User select option to cancel order
4. System will display confirmation message

Alternative Flow

- user may select wrong option

Manage-Stock

Primary Actor

Admin

Brief Description

This use case deals with the system time manage stock of the website. Admin can add or remove anything from the system.

Pre-Conditions

Admin must be login to the system

Post Conditions

System will display the updated version of the stock Basic flow:

1. Admin select option manage stock
2. Admin add a category/items to the system.
3. Admin delete a category/items from the system.

Alternative Flow

Admin may update a item to wrong category

Payment

Primary Actor

Application User

Brief Description

User will pay dues of the product on delivery or credit card

Pre-Conditions

User must have a confirmed order

Post Conditions

- User will get his desired product Basic flow:
- User got his product
- User will pay his dues to delivery boy

Alternative Flow

There is no alternative flow

Review

Primary Actor

Application User

Brief Description

This use case describes how a customer can give feedback of the product

Pre-Condition

User must have a confirmed order

Post Conditions

User will get confirmation message Basic flow

- User launches the application
- System displays review option
- User select option to give feedback about product
- System will send confirmation message to the user

Alternative Flow

There is no alternative flow

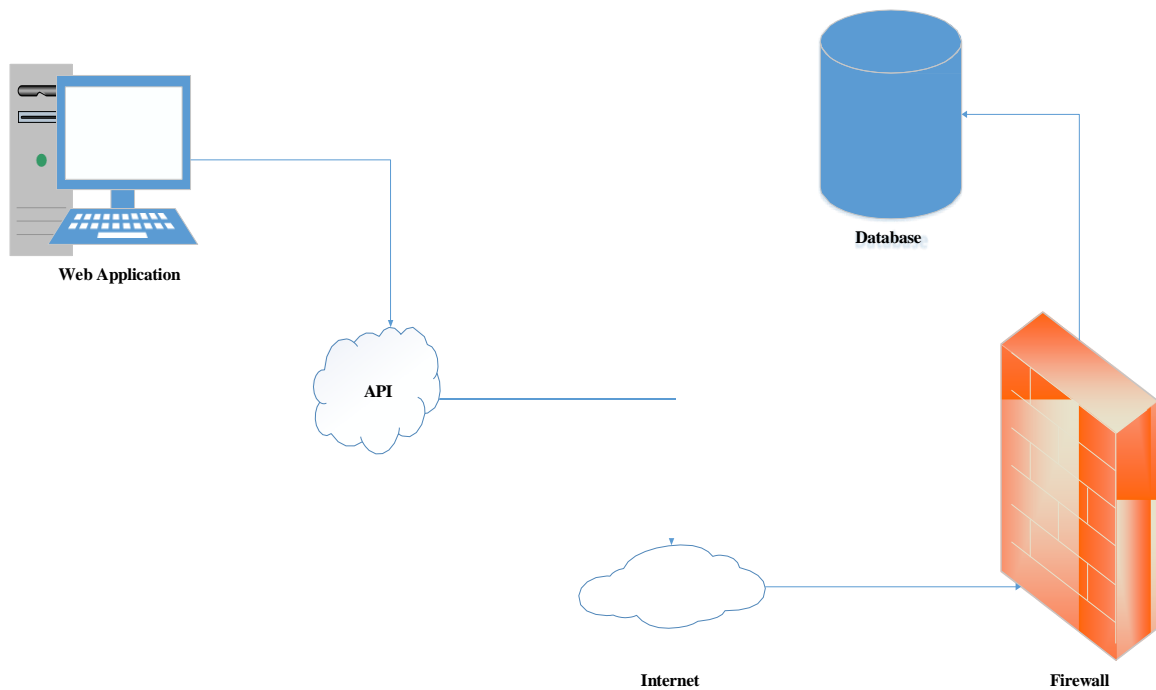
Chapter 4

System Design

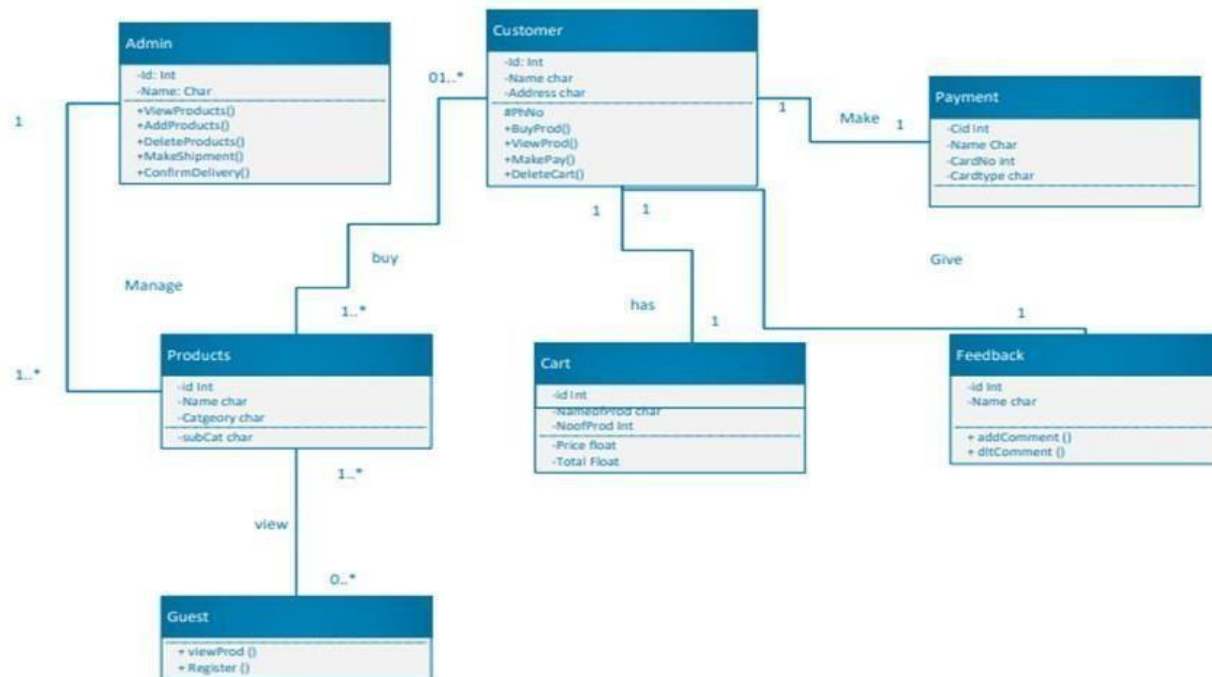
Chapter 4: System Design

A system diagram is a visual model of a system that shows its components and their interactions. Below is the System Design of how the system will work and interact with each other. The Interface of the Application (Web and Mobile) will be connected to a custom Domain, and the application users will access the application through the domain by linking to it.

4.1 Architecture Diagram

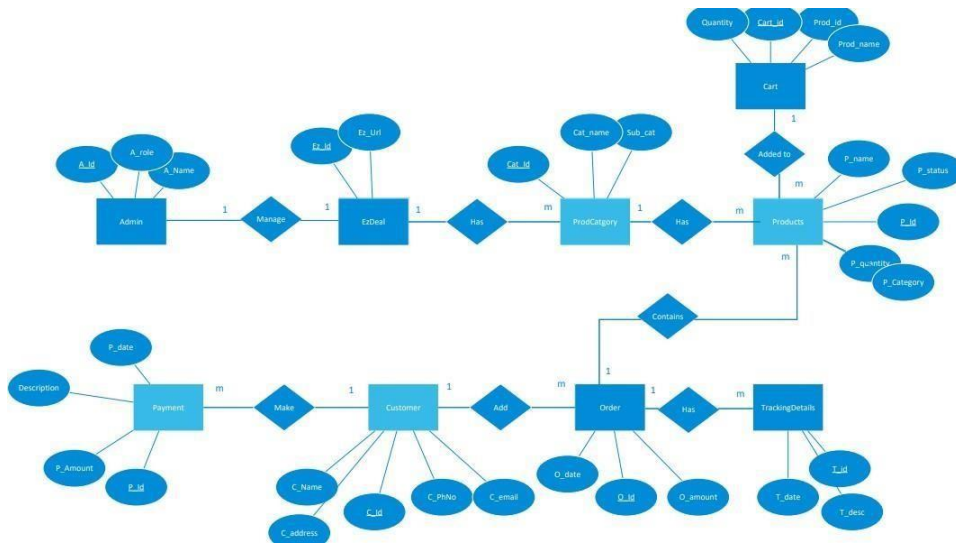


4.1. Domain Model



A domain model is developed during object-oriented analysis to break down the complex concepts or objects in a particular domain into more straightforward, manageable pieces. The model identifies the conceptual classes that make up the domain and is iteratively refined as the analysis progresses. It serves as the foundation for the design of the software, helping to ensure that the design accurately reflects the real-world objects and relationships being model.

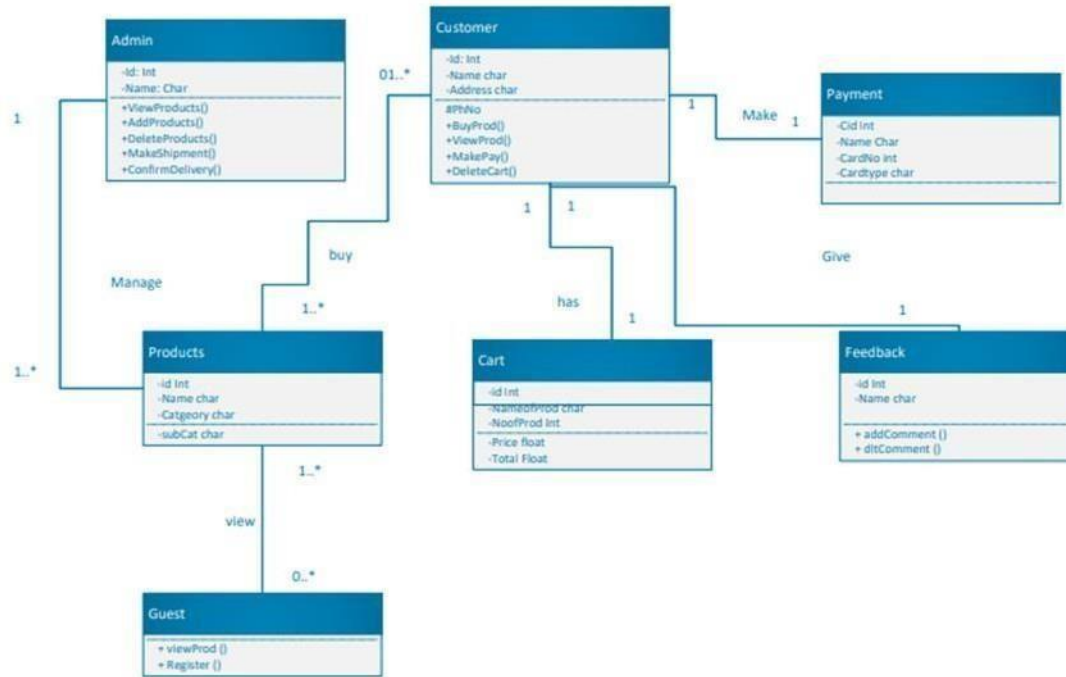
4.2. Entity Relationship Diagram with data dictionary



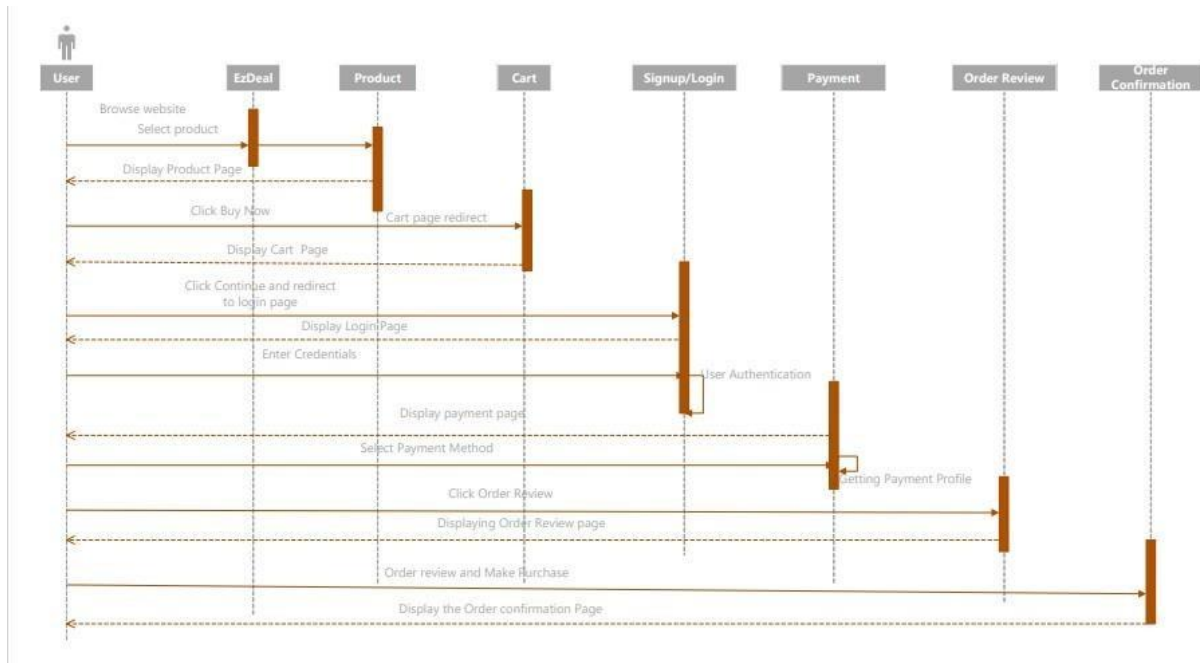
An Entity Relationship Diagram (ERD) is a graphical representation of the entities, or data, stored in a database and the relationships between those entities. It is used to show the logical structure of a database and is useful for designing and understanding the relationships between different entities within a system. In our system, an ERD can be used to define the attributes of the system and show the relationships between those attributes. This can help us to better understand the structure and organization of the data within the system.

4.3. Class Diagram

Class Diagram is used for general modeling of the complete structure of the application. For the detailed modeling of the system, translating the models into programming code is used. Class diagrams can also be used for data modeling.



4.4. Sequence / Collaboration Diagram



4.5. Operation contracts

Operation:

The system should be secure, available for the customer and easy enough for the user.

Cross Reference:

Use Case: Provide services for daily attendance.

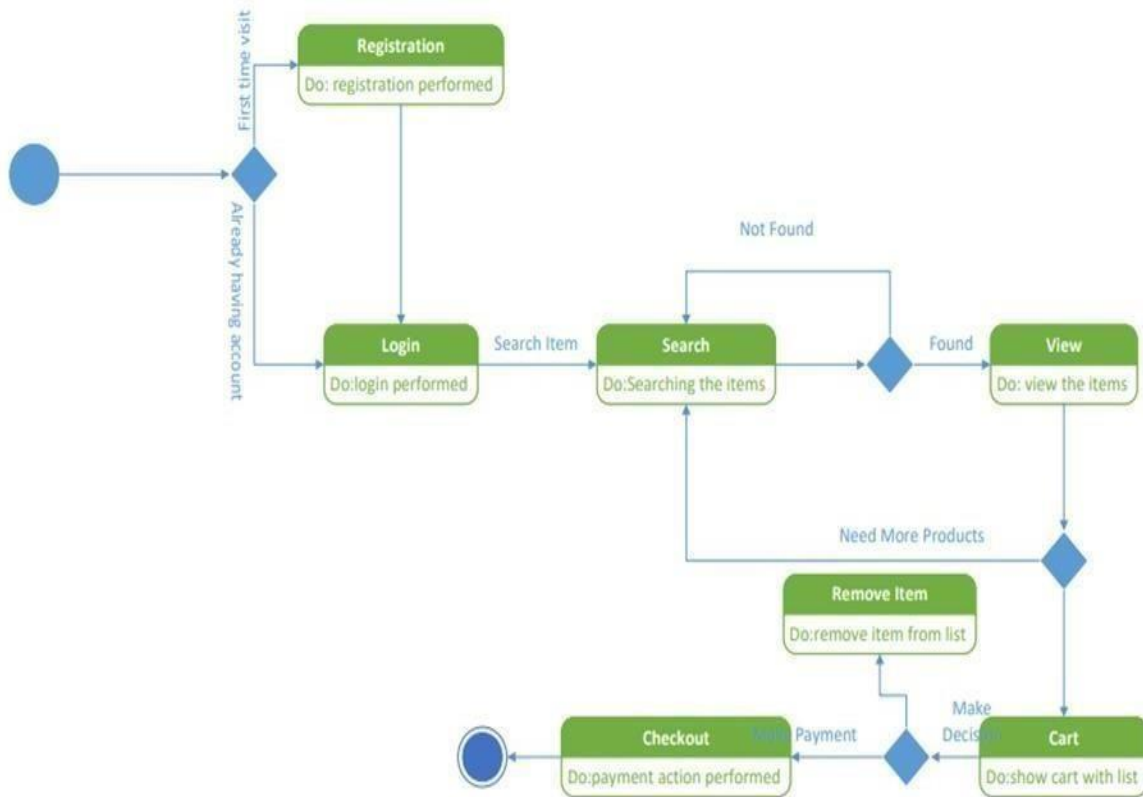
Precondition:

Data on Users should be available in the database

Post-condition:

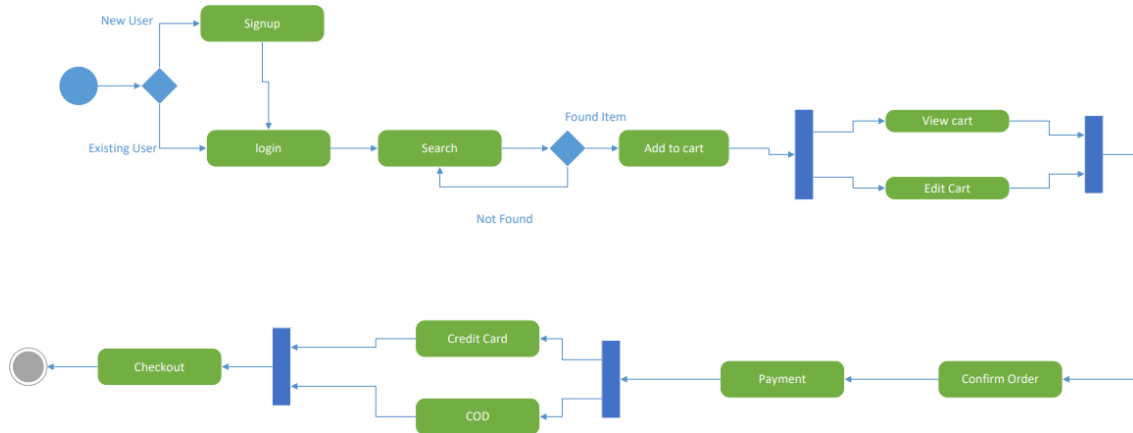
The user should be able to mark attendance, request leave and use virtual cards.

4.6. State Transition Diagram



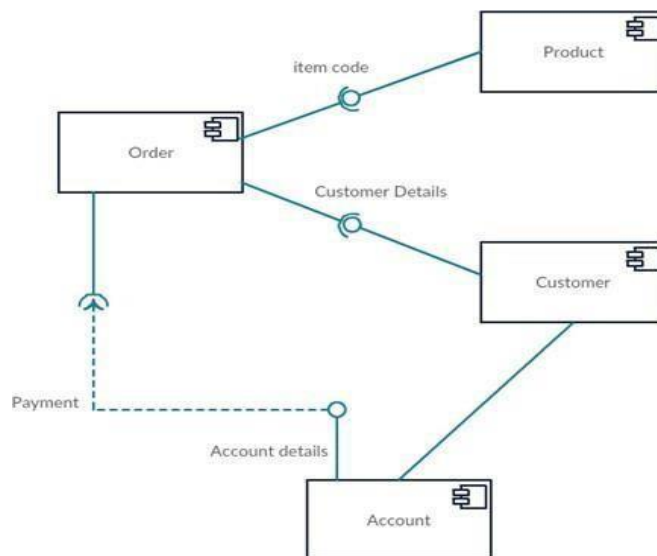
4.7. Activity Diagram

An activity diagram is a graphical representation of a series of actions or the flow of control in a system. It is similar to a flowchart or a data flow diagram and is often used in business process modeling. Activity diagrams are used to visualize the different steps in a process and the decisions that must be made along the way.



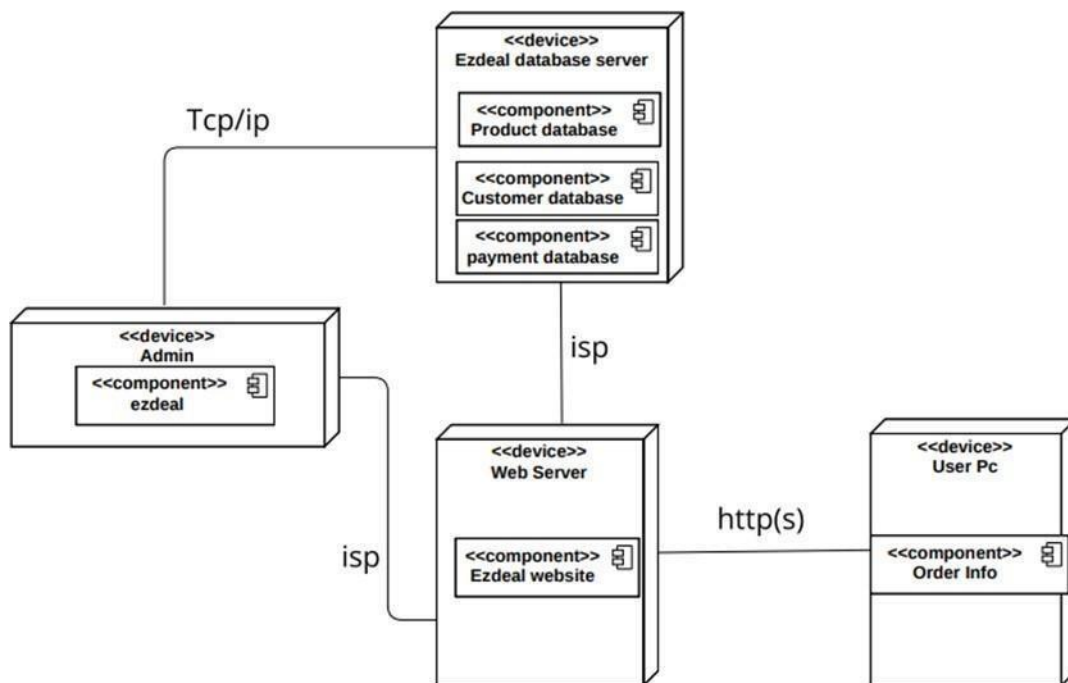
4.8. Component Diagram

Component diagrams are a type of class diagram that focus on the components of a system and how they are related to each other. They are often used to depict the static implementation of a system and provide a high-level overview of the relationships between different components.



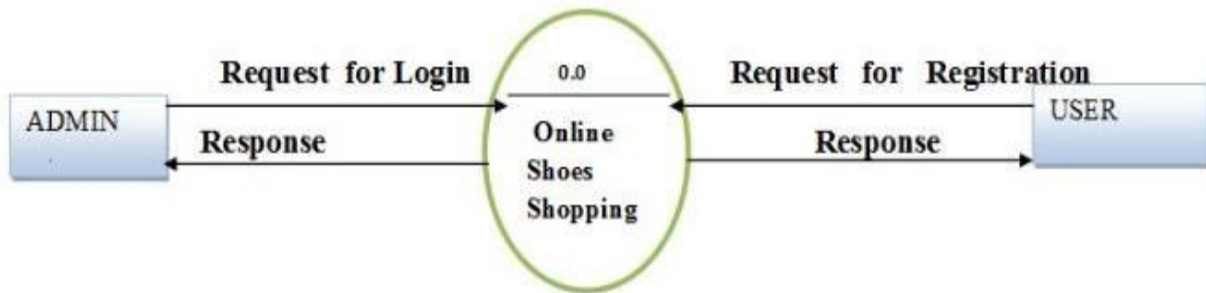
4.9. Deployment Diagram

A deployment diagram is a graphical representation of the configuration of components on run-time processing nodes. It is often used to show the static deployment of a system and can be helpful in understanding how different components are deployed and how they interact with each other.

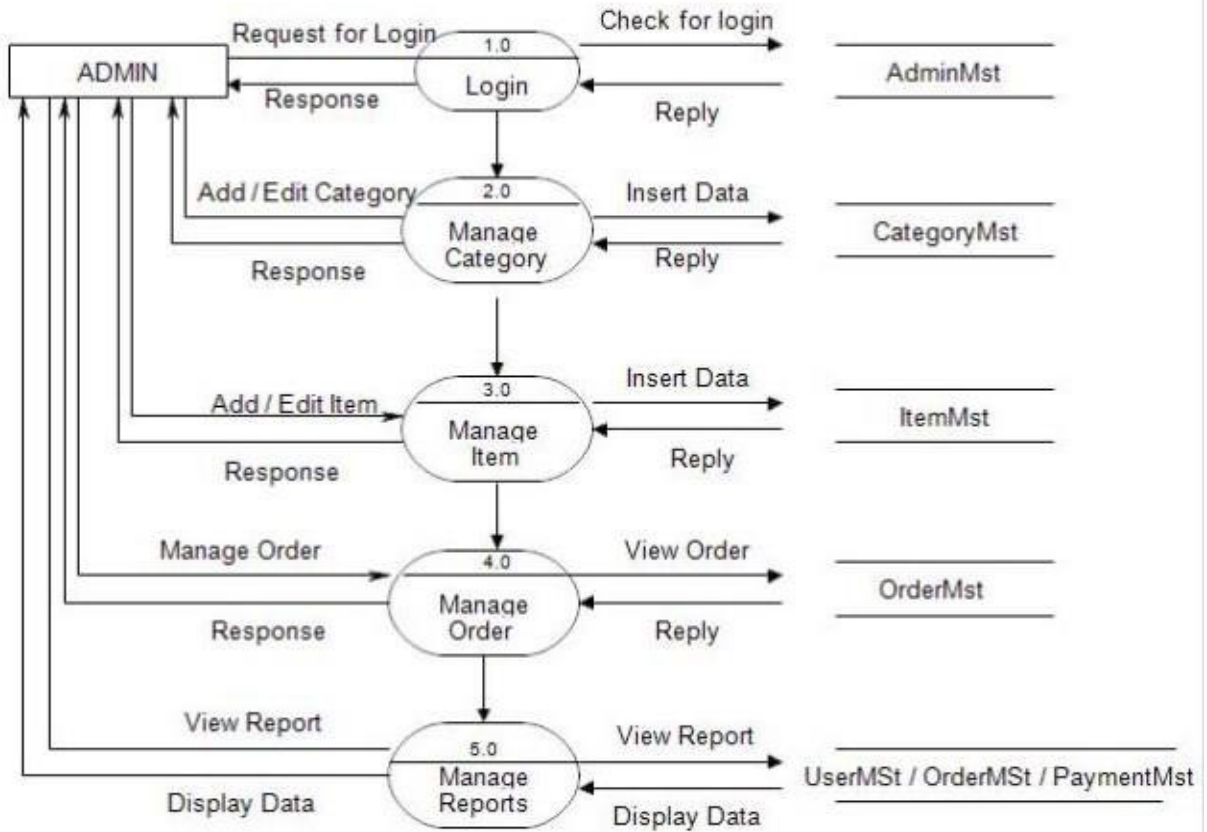


4.10. Data Flow Diagram

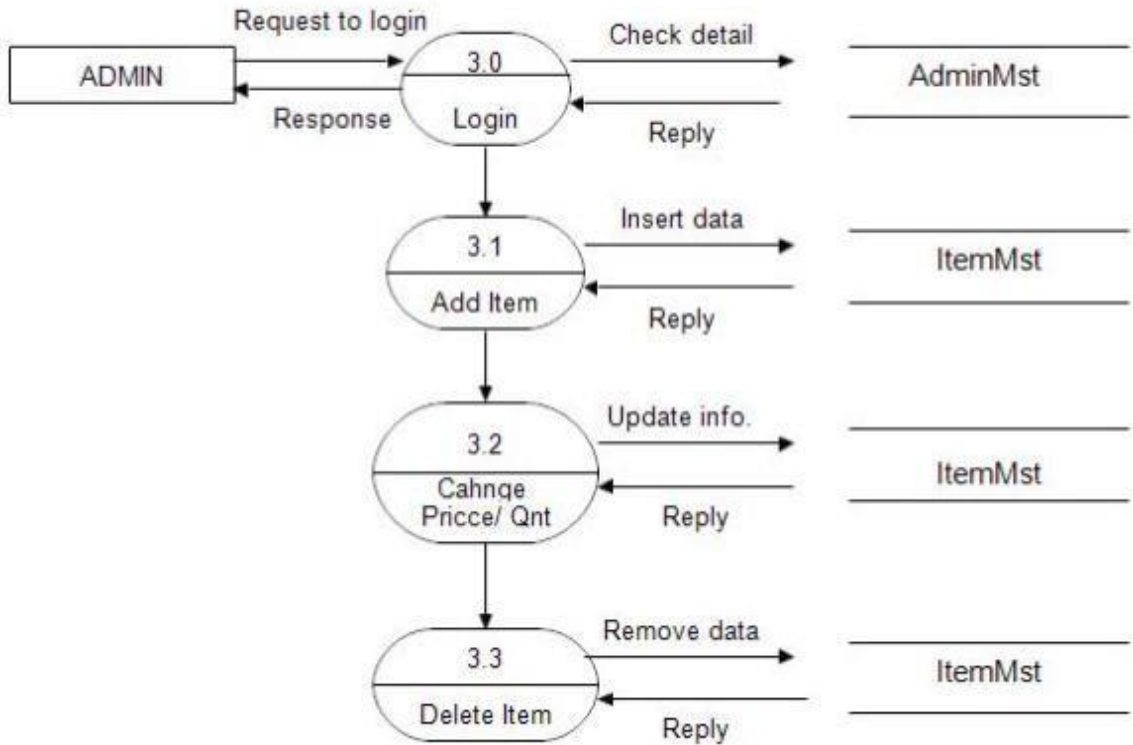
Level 0



Level 1



Level 2



Chapter 5

Implementation

Chapter 5: Implementation

This is a chapter is defining a website where a user is given a platform where customers can utilize the services of online shopping. This report will talk about every of the fundamental advances to make and represent an admin Control Panel, Web tools and techniques.

5.1. Important Flow Control/Pseudo codes

Services that are supposed to be provided by this Web Store are the following: There are two types of Actors(users)

- Admin, responsible for managing the Website.
- End User, can visit, scroll, add items to cart, buy any available product..

5.2. Components, Libraries, Web Services, and stubs

Web Based
PHP
HTML
Tailwind CSS
Post CSS
Font Awesome
My Sql

5.3. Deployment Environment

Deployment environment involves working on latest software, including Visual Studio Code specifically for designing our front-end. To host our website, we are planning to utilize “GoDaddy” to fulfil our hosting needs, as it comes with a lot other benefits as well such as free domain with annual plan.

5.4. Tools and Techniques

Tools	Microsoft Edge / Chrome
	Visual Studio Code

	Jupiter Notebook
Technologies	HTML
	CSS
	Bootstrap
	JavaScript
	Mysql
Techniques	AI

5.5. Best Practices / Coding Standards

- Tried our best to avoid replication of code.
- Comments must be used to identify the definition and working of different functions and classes, to avoid any irregularity.

5.6. Version Control

As Git takes good care of the branch workflow, so we prefer using Git as it is widely used as a distributed version control system. Another reason of choosing it is because, it keeps track of every modification in the code. Git is also helpful in making aware with the latest changes.

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

Testing and Evaluation is the way a product, system or capability under the development is evaluated for correctness and proved to meet the stated requirement. Testing is done at each stage of software development lifecycle and has characteristic unique to the level of test being performed. Testing is done to ensure dependability, error rate, efficiency etc. for a project and then the project is evaluated on the basis of testing.

6. 1. Use Case Testing

In this segment programming bunch analyze about the testing of the endeavor. In which programming bunch make use cases for testing and pass this endeavor with different times of testing. Consequently, selenium modified testing cost used. In which we take a gander at that our tests result is as demonstrated by prerequisites.

6.2. Equivalence partitioning

Proportionality allocating confine the commitment of an item into fragments of tantamount data from which tests are drive.

6.3. Boundary value analysis

Boundary value testing is the path toward testing between unprecedented completes or cutoff points between bundles of the information regard in AR Heritage App, we are dealing with some Tourist Data, Sites Data, Users Name, Email and Password.

6.4. Unit testing

4. Test Case 1 (Order)

Test Case	W-001
Actor	New User
Summery	To verify that order Button saves new user
Related Requirement	New user should be able to order
Prerequisites	None
Test Procedure	Press button Fil form username, password, Contact. Click Button
Test Data	For Username bsem-f19-026@superior.edu.pk
Expected Result	If valid username and password is entered new dashboard open It will be fetching data from the database across related user
Actual Result	Test Successful
Status	Pass
Executed by	Naveed
Date of Execution	27/11/2021

5.

6. Test Case 2 (Login)

Test Case	W-002
Actor	USER
Summery	To verify the Submit Button fetch user data from the database.
Related Requirement	New user should be able to Sign up
Prerequisites	None
Test Procedure	Press Signup button Fil form username, password, Contact. Click Signup Button

Test Data	For Username bsem-f19-026@superior.edu.pk
Expected Result	If valid username and password is entered new dashboard open It will be fetching data from the database across related user
Actual Result	Test Successful
Status	Pass
Executed by	Naveed
Date of Execution	27/11/2021

7.

8. Test Case 3 (Logout)

Test Case	W-003
Actor	Registered User
Summery	To verify that logout new user
Related Requirement	New user should be able to Sign up
Prerequisites	None
Test Procedure	Press Signup button Fil form username, password, Contact. Click Signup Button
Test Data	For Username bsem-f19-026@superior.edu.pk
Expected Result	If valid username and password is entered new dashboard open It will be fetching data from the database across related user
Actual Result	Test Successful
Status	Pass
Executed by	Naveed
Date of Execution	27/11/2021

Test Case 5 (Chat)

Test Case	W-005
Actor	Register User
Summery	To verify that Chat with help Center
Related Requirement	New user should be able to login
Prerequisites	None

Test Procedure	Press Login button Fill form username, password, Contact. Click login Button
Test Data	For Username bsem-f19-026@superior.edu.pk
Expected Result	If valid username and password is entered new dashboard open It will be fetching data from the database across related user
Actual Result	Test Successful
Status	Pass
Executed by	Naveed
Date of Execution	27/11/2021

Test Case 6 (Search)

Test Case	W-006
Actor	Register User
Summery	To verify that Search Bar work fetch data from data base
Related Requirement	New user should be able to login
Prerequisites	None
Test Procedure	Press Login button Fill form username, password, Contact. Click Login Button
Test Data	For Username bsem-f18-226@superior.edu.pk
Expected Result	If valid username and password is entered new dashboard open It will be fetching data from the database across related user
Actual Result	Test Successful
Status	Pass
Executed by	Naveed
Date of Execution	27/11/2021

Test Case 7 (Review)

Test Case	W-007
Actor	Registered User

Summery	To verify that Review save in data base
Related Requirement	New user should be able to Login
Prerequisites	None
Test Procedure	Press Login button Fil form username, password, Contact, Interstet Click Login Button
Test Data	For Username bsem-f19-026@superior.edu.pk
Expected Result	If valid username and password is entered new dashboard open It will be fetching data from the database across related user
Actual Result	Test Successful
Status	Pass
Executed by	Naveed
Date of Execution	27/11/2021

9.

Test Case 8 (Change Password)

Test Case	W-008
Actor	Registered User
Summery	To verify that Signup User able to change password
Related Requirement	New user should be able to Login
Prerequisites	None
Test Procedure	Press Login button Fil form username, password, Contact, Interstet Click Login Button
Test Data	For Username bsem-f19-026@superior.edu.pk
Expected Result	If valid username and password is entered new dashboard open It will be fetching data from the database across related user
Actual Result	Test Successful
Status	Pass
Executed by	Naveed
Date of Execution	27/11/2021

6.1. Integration testing

Integration testing is done to test the functionality and interfacing between the module of a project. The system is made up of various module which works together to automate the activities of the application system. Integration testing will test for this property of the module. These modules display a cause and effect relationships, if data in one module changed then it affects the data to change in some other module also. All the components are integrated to perform together. The tests are conducted to ensure that the components are working properly after interfacing.

6.2. Performance testing

Performance testing is performed to evaluate the performance of a component of the system under a particular workload. During this testing system components are monitored to verify the stability of the system under the test. It strives to build performance standards into implementation and design. The standards include speed, stability, reliability, and scalability of the system.

6.3. Stress Testing

Stress Testing is a sort of programming testing that confirms soundness and dependability of programming application. The objective of Stress testing is estimating programming on its vigor and mistake dealing with capacities under very substantial burden conditions and guaranteeing that product doesn't crash under crunch circumstances. AR Heritage App can bear multiple of system attached at one time. We will use a server that controls all the data regarding to customers data and all admin staff data.

Chapter 7

Summary, Conclusion and Future Enhancements

7.1. Project Summary

The objective of this project is to develop an e-commerce website that allows users to browse and purchase a variety of products, including antiques, decors, and clothing. The website will be built using HTML, CSS for the front-end design, and PHP for the back-end functionality.

Key Features:

- **User Registration and Authentication:** Users will be able to create accounts, log in, and manage their profiles. This will enable personalized experiences, order tracking, and easy checkout.
- **Product Catalog:** The website will feature a comprehensive catalog displaying a wide range of antiques, decors, and clothing items. Each product listing will include relevant information, such as images, descriptions, prices, and availability.
- **Search and Filtering:** Users will have the ability to search for specific products using keywords and apply filters based on categories, price range, or other relevant attributes. This will help them find desired items quickly and efficiently.
- **Shopping Cart and Checkout:** Users will be able to add products to their shopping carts, review the items, modify quantities, and proceed to the checkout process. Secure payment options will be implemented to facilitate smooth transactions.
- **Order Management:** The website will provide an order management system for both users and administrators. Users will be able to view their order history, track shipments, and request returns or exchanges. Administrators will have access to order details and will be able to manage inventory and shipping.
- **User Reviews and Ratings:** Customers will have the option to leave reviews and ratings for the products they have purchased, helping other users make informed decisions.
- **Responsive Design:** The website will be designed to be responsive, ensuring that it works well across different devices and screen sizes, including desktops, tablets, and mobile phones.
- **Admin Panel:** An admin panel will be developed to manage the website's content, product listings, user accounts, and order management. This panel will provide administrators with the necessary tools to efficiently handle the back-end operations of the e-commerce website.

By combining an appealing and intuitive front-end design with robust back-end functionality, this e-commerce website aims to provide a seamless and enjoyable shopping experience for users interested in purchasing antiques, decors, and clothing items.

7.2. Achievements and Improvements

Achievements and Improvements are:

- **Increased Sales and Revenue:** The e-commerce website allows for a wider reach and accessibility, enabling customers from various locations to browse and purchase products. This can lead to increased sales and revenue for the business.
- **Enhanced User Experience:** The user-friendly interface, intuitive navigation, and efficient search and filtering options contribute to an improved user experience. Customers can easily find the products they are looking for, leading to higher customer satisfaction and increased likelihood of repeat purchases.
- **Expanded Product Range:** The inclusion of antiques, decors, and clothing broadens the product range, catering to a diverse customer base. This expansion increases the chances of attracting a larger audience and accommodating various preferences and interests.
- **Personalization and User Accounts:** The implementation of user registration and account management enables personalized experiences. Customers can save their preferences, track orders, and receive personalized recommendations, fostering a sense of engagement and loyalty.
- **Reliable and Secure Payment Processing:** Implementing secure payment options enhances customer trust and confidence in the website. Utilizing encryption and robust security measures protects sensitive customer information, reducing the risk of fraudulent activities.
- **Customer Reviews and Ratings:** The ability for customers to leave reviews and ratings for purchased products allows for social proof and influences the purchasing decisions of potential customers. Positive reviews can build trust and credibility for the website, attracting more customers.
- **Streamlined Order Management:** The order management system facilitates efficient processing, tracking, and management of orders. This ensures timely fulfillment and delivery, reducing delays and improving customer satisfaction.

- **Responsive Design:** The website's responsive design ensures a seamless experience across different devices, improving accessibility and usability for customers. This responsiveness contributes to a positive user experience and encourages customer engagement and conversions.
- **Improved Admin Control and Efficiency:** The development of an admin panel enhances the efficiency of managing the website's content, products, orders, and customer accounts. Admins have the necessary tools and functionality to streamline operations and handle day-to-day tasks effectively.
- **Continuous Improvement and Updates:** Regular updates and improvements to the website, including bug fixes, feature enhancements, and performance optimizations, contribute to its long-term success. Keeping up with industry trends and incorporating user feedback ensures the website remains competitive and relevant in the ever-evolving e-commerce landscape.

Overall, the achievements and improvements of this e-commerce website contribute to increased sales, enhanced user experience, improved customer satisfaction, and efficient management, resulting in the growth and success of the business.

7.3. Critical Review

Here is a critical review highlighting some potential shortcomings:

- **Design and User Interface:** The review of the website's design and user interface reveals that it lacks a visually appealing and modern aesthetic. The layout may appear outdated or cluttered, which can negatively impact the user experience. Enhancements to the design, including a more contemporary and intuitive interface, would greatly improve the website's overall appeal.
- **Limited Product Information:** The product listings on the website may lack comprehensive and detailed information about the antiques, decors, and clothing items. Providing more in-depth descriptions, sizing charts (for clothing items), and high-quality images can significantly improve the customer's understanding and decision-making process.
- **Lack of Personalization:** While user registration and account management are mentioned,

it's important to evaluate if the website truly offers a personalized experience. Tailored product recommendations based on browsing history, past purchases, and user preferences can enhance customer engagement and encourage repeat visits.

- **Optimization for Mobile Devices:** The review indicates a potential need for optimizing the website's responsiveness and user experience on mobile devices. Ensuring that the website is fully optimized for mobile screens and touch interactions is essential, as an increasing number of users browse and shop using their smartphones or tablets.
- **Lack of Social Integration:** The critical review observes that the website may lack integration with social media platforms. Incorporating social sharing buttons, customer reviews, and testimonials can enhance the website's credibility, reach, and engagement by allowing users to share their experiences and products with their social networks.
- **Limited Customer Support:** The review highlights the potential need for improved customer support options. Offering live chat support, a comprehensive FAQ section, or a dedicated customer support email/phone number can help address customer queries and concerns promptly, improving overall customer satisfaction.
- **Marketing and Promotion:** The critical review emphasizes the importance of marketing and promotional strategies. The website should consider implementing targeted advertising campaigns, search engine optimization (SEO) techniques, and social media marketing to increase visibility, attract new customers, and drive traffic to the website.
- **Lack of Multi-language Support:** If the target audience includes customers from diverse linguistic backgrounds, the absence of multi-language support could hinder the website's reach and potential sales. Implementing language options or translation features can expand the customer base and cater to a wider audience.

In conclusion, this critical review identifies several areas that could be improved to enhance the overall functionality, user experience, and success of the e-commerce website. Addressing these areas can lead to increased customer satisfaction, higher conversion rates, and improved competitiveness in the market.

7.4. Lessons Learnt

Lessons Learned Technically from this :

- **Importance of Responsive Design:** The website's responsive design is crucial to ensure a seamless user experience across different devices and screen sizes. It emphasizes the need to prioritize mobile optimization, considering the increasing number of users accessing websites from smartphones and tablets.
- **Comprehensive Product Information:** Providing detailed and comprehensive product information is essential to help customers make informed purchasing decisions. This includes clear descriptions, high-quality images, sizing charts (for clothing items), and any other relevant details that can enhance the customer's understanding of the products.
- **Payment Options and Security:** Offering a variety of secure and widely accepted payment methods builds trust and convenience for customers. Implementing robust security measures, such as encryption and secure payment gateways, ensures the protection of sensitive customer information during the checkout process.
- **User Personalization:** Implementing personalization features, such as tailored product recommendations and personalized user experiences, can enhance customer engagement and encourage repeat visits. Gathering and utilizing user data effectively to provide personalized content and recommendations is crucial.
- **Optimization for Performance:** The website's performance, including loading speed and overall responsiveness, greatly impacts user satisfaction. Optimizing code, compressing images, and utilizing caching techniques can significantly improve website performance and ensure a smooth browsing experience.
- **Integration with Social Media:** Integrating social media features and leveraging user-generated content, such as customer reviews and testimonials, can boost credibility, reach, and engagement. It is important to incorporate social sharing buttons and allow users to easily share products and experiences on various social media platforms.
- **Customer Support and Communication:** Providing multiple channels for customer support, such as live chat, dedicated email, or phone support, is essential for addressing customer queries and concerns promptly. A comprehensive FAQ section can also help alleviate

common issues and improve customer satisfaction.

7.5. Future Enhancements/Recommendations

Future Enhancements/Recommendations are:

- **Enhanced User Experience:** Continuously strive to improve the website's user interface, navigation, and overall design to create a visually appealing and intuitive experience. Conduct user testing and gather feedback to identify pain points and areas for improvement.
- **Advanced Search and Filtering:** Implement advanced search and filtering options, such as sorting by price, size, color, or style, to help users refine their product searches more precisely. This can improve the browsing experience and facilitate quicker product discovery.
- **Product Recommendations:** Utilize machine learning algorithms and data analysis techniques to provide personalized product recommendations based on user behavior, preferences, and purchase history. This can help increase cross-selling and upselling opportunities.
- **Social Media Integration:** Expand social media integration by allowing users to log in or sign up using their social media accounts. Additionally, integrate social media sharing features to enable users to share their favorite products or purchases on their social media profiles.
- **Customer Loyalty Program:** Implement a customer loyalty program that rewards frequent shoppers with exclusive discounts, early access to sales, or special promotions. This can encourage repeat purchases and foster customer loyalty.
- **Wish-list and Saved Items:** Add a wish-list feature that allows users to save their favorite products for future reference. This can help users easily access and purchase desired items later, increasing conversion rates.
- **Order Tracking and Notifications:** Enhance the order tracking system by providing real-time updates and notifications to customers regarding the status of their orders, including shipping updates and delivery estimates. This helps improve transparency and customer satisfaction.

- **Multi-language and Multi-currency Support:** Consider adding multi-language support to cater to a global customer base. Additionally, enable multi-currency support to allow customers to view and purchase products in their preferred currency, expanding the website's reach and potential sales.
- **Analytics and Reporting:** Implement robust analytics and reporting tools to gather insights into user behavior, sales trends, and website performance. This data can help make data-driven decisions, optimize marketing strategies, and identify areas for further improvement.

By implementing these future enhancements and recommendations, the e-commerce website can further improve user experience, increase customer satisfaction, drive sales, and maintain a competitive edge in the market. It is important to regularly evaluate customer feedback, monitor industry trends, and adapt to evolving customer needs to ensure the website remains relevant and successful.

Regenerate response

Reference and Bibliography

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