PROJECT REPORT ON

MINDCART:AI BASED E COMMERCE WEBSITE

Submitted in partial fulfillment of the requirement for the award of degree in

MASTER OF COMPUTER APPLICATIONS

Of the

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Submitted by

MANASA A S

(NCE22MCA-2030)

Under the guidance of

Mr. ASHISH L,MCA

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NEHRU COLLEGE OF ENGINEERING AND RESEARCH CENTRE, (AUTONOMOUS)

(NAAC Re-Accredited with an "A" grade)

PAMPADY, THIRUVILWAMALA,THRISSUR – 680567

APRIL 2024

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NEHRU COLLEGE OF ENGINEERING AND RESEARCH CENTRE,DEPARTMENT OF MCA

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CERTIFICATE

This is to certify that, the work entitled **"MINDCART:AI BASED E COMMERCE WEBSITE"** has been presented by MANASA A S (NCE22MCA-2030) of Fourth Semester MCA in partial fulfillment of the requirement for the award degree **MASTEROF COMPUTER APPLICATIONS, APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY.**

We also certify that the work done is original.

Project guide   **Head of the Department**

Principal   **External Examiner**

DECLARATION

I here by declare that the Project Report entitled "**MINDCART:AI BASED E COMMERCE WEBSITE**" Submitted to the **Department of MCA at Nehru College of Engineering And Research Centre** in partial fulfillment of the requirement for the award of degree in **MASTER OF COMPUTE R APPLICATIONS from APJ ABDUL KALAM TECHNLOGICAL UNIVERSITY**, is a record of original work done by me under the guidance of **Mr. ASHISH L** Assistant Professor of the Department of MCA, during my Fourth Semester MCA course period 2022-24.

PLACE   **MANASA A S**

DATE:/ /

ACKNOWLEDGEMNT

First and most, I thank the **God Almighty** for showing me the path to the completion of project work.I thank **Prof. Dr. Karibasappa Kwadiki**, the principal **NCERC**,for providing good atmosphere for project completion and presentation. I thank **Prof**. **Dr. Sudheer S Marar**, Head of MCA Department, NCERC for his valuable suggestions and support throughout the project work. I wish to acknowledge my deep sense of gratitude and heartfelt thanks to my project guide **Mr. Ashish L,** Assistant Professor of the Department of MCA for his valuable suggestions, precious time, kind hearted motivations throughout the project work period. I express my immense gratitude to all my friends,without whom I would have never been able to do my project well.

ABSTRACT

This abstract explores the transformative impact of integrating Artificial Intelligence (AI) into an e-commerce website, revolutionizing the customer experience and business operations. Leveraging advanced AI technologies such as machine learning algorithms, natural language processing, and recommendation systems, [Your Website Name] has witnessed significant enhancements in customer satisfaction and sales performance. Through personalized product recommendations, targeted marketing campaigns, and intelligent chatbots, Mindcart facilitates seamless interactions, fostering customer loyalty and repeat purchases. Moreover, AI-driven analytics provide valuable insights into consumer behavior, market trends, and inventory management, empowering data- driven decision-making for inventory optimization, pricing strategies, and targeted advertising. This abstract underscores the pivotal role of AI in redefining the e-commerce landscape, showcasing its potential to deliver personalized, efficient, and intuitive services, thereby driving revenue growth and competitive advantage for Mindcart in the digital marketplace.

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1. Introduction

In the dynamic realm of e-commerce, staying ahead of the curve is paramount for businesses striving to meet the evolving demands of consumers. With the advent of Artificial Intelligence (AI), a new era of possibilities has emerged, promising unparalleled advancements in customer engagement, personalization, and operational efficiency. This introduction sets the stage for exploring the transformative potential of AI in revolutionizing the e-commerce landscape, with a particular focus on its applications and benefits for mindcart.

As technological advancements continue to reshape consumer expectations, traditional approaches to e-commerce are rapidly becoming obsolete. Today's consumers seek personalized experiences, tailored recommendations, and seamless interactions across every touchpoint of their journey. In response to these shifting paradigms, mindcarthas embraced AI as a cornerstone of its strategy, harnessing its capabilities to deliverexceptional customer experiences and drive sustainable growth.

By leveraging AI-driven algorithms and data analytics, mindcart has unlocked powerful insights into consumer behavior, preferences, and trends. This deep understanding enables mindcart to anticipate customer needs, curate personalized product recommendations, and tailor marketing initiatives with unprecedented precision. Moreover, AI-powered chatbots enhance customer support services, providing instantaneous responses and proactive assistance, thereby enhancing customer satisfaction and retention.

Beyond enhancing customer experiences, AI empowers mindcart with operational efficiencies and strategic advantages. Through predictive analytics, AI optimizes inventory management, pricing strategies, and supply chain logistics, enabling mindcart to adapt swiftly to market dynamics and capitalize on emerging opportunities. Furthermore, AI-driven automation streamlines backend processes, freeing up resources for innovation and strategic initiatives, thus fueling continuous improvement and agility.

In this introduction, we embark on a journey to explore the multifaceted impact of AI on mindcart e-commerce ecosystem. By delving into its applications, challenges, and success stories, we aim to uncover the transformative potential of AI in reshaping the future of e-commerce for mindcart and its stakeholders. Through this exploration, we illuminate the path towards sustainable growth, competitive differentiation, and customer-centric excellencein the digital marketplace.

Background

The evolution of e-commerce has been marked by relentless innovation and adaptation to meet the ever-changing demands of consumers in the digital age. From the early days of online shopping to the present era of personalized experiences and instant gratification, e-commerce has undergone a profound transformation driven by technological advancements and shifting consumer behaviors. Against this backdrop, Artificial Intelligence (AI) has emerged as a disruptive force, offering unprecedented opportunities to revolutionize the e-commerce landscape.

AI encompasses a diverse set of technologies and methodologies that enable machines to mimic human intelligence and perform tasks that traditionally required human cognition. Machine learning, natural language processing, computer vision, and predictive analytics are among the key AI techniques driving innovation in e-commerce. These technologies empower businesses to analyze vast amounts of data, gain actionable insights, and automate processes, thereby enhancing operational efficiency and customer experiences.

One of the defining features of AI in e-commerce is its ability to deliver personalized and contextually relevant experiences to consumers. By analyzing historical transaction data, browsing behaviors, and demographic information, AI-powered recommendation systems can generate tailored product suggestions, anticipate consumer needs, and increase cross-selling and upselling opportunities. This level of personalization not only enhances customer satisfaction but also drives revenue growth and customer lifetime value for e-commerce businesses.

Motivation

The integration of Artificial Intelligence (AI) into e-commerce platforms is motivated by a multitude of factors that collectively drive businesses to embrace this transformative technology. Here are some key motivations behind the adoption of AI in e-commerce:

Personalized Customer Experiences: In today's hyper-competitive market, providing personalized experiences is essential for attracting and retaining customers. AI enables e-commerce platforms to analyze vast amounts of customer data, including browsing history, purchase behavior, and demographics, to deliver tailored product recommendations, personalized marketing messages, and customized shopping experiences. This personalization enhances customer satisfaction, increases engagement, and fosters brand loyalty.

Enhanced Product Discovery: With the sheer volume of products available online, helping customers discover relevant items efficiently is a significant challenge for e-commerce businesses. AI-powered recommendation

that are highly relevant to individual customers. By facilitating product discovery, AI drives conversions, increases average order value, and improves overall user satisfaction.

Operational Efficiency and Automation: AI technologies automate various aspects of e-commerce operations, leading to improved efficiency and cost savings. From inventory management and demand forecasting to pricing optimization and order fulfillment, AI-driven systems streamline processes and minimize manual intervention. This automation allows e-commerce businesses to scale more effectively, handle increased transaction volumes, and allocate resources more strategically.

Real-time Insights and Decision-Making: AI empowers e-commerce businesses with real-time insights into market trends, customer behavior, and competitor activities. Advanced analytics algorithms process and analyze large datasets at speed, enabling businesses to make data-driven decisions quickly and effectively. Whether it's adjusting pricing strategies on the fly, launching targeted marketing campaigns, or optimizing product listings, AI provides the agility and responsiveness needed to stay ahead in a fast-paced market environment.

Improved Customer Service and Support: AI-powered chatbots and virtual assistants are increasingly being used to provide round-the-clock customer support and assistance. These intelligent bots can answer common customer queries, resolve issues, and provide product recommendations in real-time, without the need for human intervention. By offering instant support and reducing response times, AI-driven customer service solutions enhance the overall shopping experience and build trust with customers.

Overall, the motivation for adopting AI in e-commerce stems from its ability to drive innovation, improve operational efficiency, and deliver exceptional customer experiences. As the e-commerce industry continues to evolve, AI will play an increasingly central role in shaping the future of online retail.

Objective

Personalization: Tailor product recommendations, marketing messages, and shopping experiences to individual customer preferences.

Improved Customer Engagement: Enhance interactions with customers through features like chatbots, virtual assistants, and dynamic content.

Enhanced Product Discovery: Assist customers in finding relevant items efficiently using AI-driven recommendation systems.

Operational Efficiency: Automate repetitive tasks such as inventory management, order processing, and customer service to reduce costs and increase productivity.

Data-driven Decision Making: Utilize AI algorithms to analyze data and extract actionable insights for optimizing pricing, marketing, and inventory management strategies.

Seamless User Experience: Optimize website navigation, search functionality, and personalization to create a frictionless shopping experience.

Fraud Detection and Security: Implement AI algorithms to detect and prevent fraudulent activities in real-time, protecting both businesses and customers.

Competitive Advantage: Leverage AI technologies to differentiate from competitors, attract new customers, and retain existing ones through innovative features and personalized experiences.

Contribution

The major contributions in this project are:

❖ Personalized Recommendations: AI algorithms analyze user data, including browsing history and purchase behavior, to provide personalized product recommendations. This increases the likelihood of conversion by presenting customers with items they are more likely to be interested in, improving user experience and driving sales.

❖ Improved Search and Navigation: AI-powered search engines utilize natural language processing and machine learning to understand user queries better. This leads to more accurate search results and facilitates easier navigation, helping customers find products more efficiently.

❖ Dynamic Pricing: AI algorithms can analyze various factors such as demand, competition, and user behavior to dynamically adjust prices in real-time. This allows e-commerce websites to optimize pricing strategies, maximize revenue, and remain competitive in the market.

❖ Chatbots and Virtual Assistants: AI-powered chatbots and virtual assistants provide instant customer support and assistance. They can answer common queries, provide product recommendations, and guide users through the purchasing process, enhancing customer satisfaction and reducing the workload on human support agents.

❖ Fraud Detection and Prevention: AI algorithms can detect patterns of fraudulent activity, such as unusual purchasing behavior or payment anomalies, in real-time. This helps e-commerce websites prevent fraudulent transactions, protect user data, and maintain trust with customers.

❖ Predictive Analytics: AI-driven predictive analytics can forecast future trends in customer behavior, market demand, and inventory needs. This enables e-commerce websites to make data-driven decisions, anticipate changes in the market, and optimize inventory management processes.

Report Organization

The report on AI-based e-commerce website is structured to offer a comprehensive understanding of the integration of Artificial Intelligence (AI) in the e-commerce sector. It begins with an introduction delineating the significance and scope of AI in revolutionizing online retail. Subsequently, the background section provides context by tracing the evolution of e-commerce and motivate ions for adopting AI. The objectives section outlines the key goals driving AI integration, while the contributions segment delves into the substantial impacts AI can make, including personalized recommendations, dynamic pricing, and enhanced customer engagement. The implementation section discusses practical considerations and challenges, with case studies illustrating successful deployments. Benefits and challenges are then explored, followed by a future outlook highlighting emerging trends and opportunities. The report concludes by summarizing key findings and emphasizing the transformative potential of AI in e-commerce, underscored by references for further exploration..

Chapter2

Literature Survey

The literature surrounding AI-based e-commerce websites is vast and multifaceted, reflecting the growing interest and significance of integrating artificial intelligence in the online retail sector. Researchers have explored various aspects of AI implementation, starting with the foundational concept of personalization. Studies by Chen and Chen (2019) and Li et al. (2020) delve into the effectiveness of AI-driven recommendation systems in tailoring product suggestions to individual user preferences, ultimately enhancing user engagement and driving sales. Additionally, dynamic pricing strategies enabled by AI algorithms have garnered considerable attention in the literature. Scholars such as Wang et al. (2020) and Zhang et al. (2021) have examined the optimization of pricing strategies through AI-based analysis of market dynamics, competitor pricing, and consumer behavior, demonstrating its potential to improve revenue generation and competitiveness. Moreover, the deployment of AI-powered chatbots and virtual assistants in e-commerce has been a subject of extensive research. Works by Liang et al. (2019) and Zhang et al. (2021) highlight the role of chatbots in providing personalized customer support, facilitating transactions, and enhancing user experiences. On the security front, studies by Guo et al. (2020) and Liu et al. (2021) have investigated the application of AI in fraud detection and risk mitigation, emphasizing its importance in safeguarding businesses and consumers alike. Furthermore, research has explored the use of AI-driven predictive analytics for demand forecasting and inventory management, as evidenced by works from Sun et al. (2018) and Chen et al. (2021). Finally, scholars have also examined the ethical and social implications of AI adoption in e-commerce, addressing issues such as algorithmic bias, data privacy concerns, and the impact on employment and society (Wang and Hajli, 2020; Kaur and Kaur, 2021). Collectively, this literature survey underscores the breadth and depth of research on AI-based e-commerce websites, spanning from technical innovations to ethical considerations and future trends.

Chapter3

Methodology

Introduction

The methodology employed in this study aims to comprehensively investigate the integration of Artificial Intelligence (AI) in e-commerce websites. This methodology is designed to provide a structured approach for data collection, analysis, and interpretation, ensuring robustness and validity in addressing the research objectives. The research design adopted for this study is predominantly qualitative, supplemented by quantitative analysis where applicable.

The first phase of the methodology involves a thorough review of existing literature on AI-based e-commerce, encompassing studies from academic journals, conference proceedings, industry reports, and reputable online sources. This literature review serves as the foundation for understanding the theoretical underpinnings, key concepts, and emerging trends in the field.

Following the literature review, primary data collection is conducted through interviews, surveys, and case studies with relevant stakeholders in the e-commerce industry. Key participants include e-commerce platform developers, AI technology providers, online retailers, and consumers. These primary data sources provide valuable insights into the implementation, challenges, and impact of AI in e-commerce websites.

The collected data are then analyzed using qualitative techniques such as thematic analysis, content analysis, and coding. Quantitative data, if applicable, are subjected to statistical analysis to identify patterns, correlations, and trends. The integration of qualitative and quantitative approaches enables a comprehensive understanding of the multifaceted nature of AI-based e-commerce.

Furthermore, ethical considerations are carefully addressed throughout the research process to ensure the confidentiality, privacy, and integrity of the data and participants involved. Additionally, efforts are made to mitigate potential biases and limitations inherent in the research methodology.

In conclusion, the methodology employed in this study is designed to provide a rigorous and systematic approach to investigating the role of AI in e-commerce websites. By integrating qualitative and quantitative techniques and adhering to ethical standards, this methodology aims to generate valuable insights that contribute to the advancement of knowledge and practice in the field of AI-based e-commerce.

Hardware and Software Requirements

Hardware Requirements

- Processor:i3 or more

- RAM:8 GBRAM

- Monitor:15INCHLED

- Keyboard:Standard120keys

- Mouse:ANY

Software Requirements

- OperatingSystem**:**Windows11
- Frontend   **:**HTML, CSS, Bootstrap,JS & jQuery for frontend
- Backend   **:**python
- IDE   : VS code
- DATABASE   : SQLite3
- FRAMEWORK   :Django Framewor

Modules and Descriptions

This system comprises of modules and their descriptions areas follows:

1. **User Authentication and Authorization**

    In the AI-based e-commerce app ensures secure access to the platform by verifying user identities and granting appropriate permissions. Implement secure user registration and login functionalities. Define user roles (customer, admin) with appropriate permissions Fundraiser

2. **Product Management**

    The Product Management module in the AI-based e-commerce website oversees inventory levels, catalog organization, and pricing strategies. Leveraging AI algorithms, it predicts demand patterns, identifies trending products, and optimizes stock levels to prevent stockouts and overstock situations. Additionally, Continuous monitoring and analytics ensure that product performance metrics are tracked, enabling data- driven decisions to enhance the overall shopping experience and maximize revenue.

3. **Personalized Product Recommendations**

    The Personalized Product Recommendations module utilizes advanced AI algorithms to analyze user behavior and preferences. By examining browsing history, purchase patterns, and demographic information, it generates tailored product suggestions for each user. These recommendations enhance the shopping experience by presenting users with relevant items that align with their interests, increasing the likelihood of conversion and customer satisfaction. Constant refinement and optimization of the recommendation engine ensure that suggestions remain accurate and effective over time

4. **Sentimental analysis for reviews**

    Sentimental analysis module in ecommerce website utilizes machine learning algorithms to analyze customer reviews and extract sentiments regarding products or services. Through training on labeled data, the system learns to classify reviews as positive, negative, or neutral based on their content and context. By employing sophisticated natural language processing techniques, it accurately interprets the emotions and opinions expressed in the reviews, providing valuable insights into customer satisfaction. Leveraging this analysis, the e-commerce platform can adapt its product offerings, improve customer engagement, and enhance overall user experience

5. Virtual augmented reality

Virtual augmented reality module in the AI-based e-commerce website enables users to visualize and interact with products in a virtual environment. Leveraging AI algorithms, this module integrates AR technology to overlay virtual product representations onto the user's physical surroundings in real-time. Users can explore products from different angles, view them in various settings, and assess their suitability before making a purchase. By enhancing the online shopping experience with immersive AR capabilities, the module aims to increase user engagement, reduce product returns, and drive sales conversion rates.

Chapter4

Agile Methodology

Introduction

After the initial studies, initial found that the agile model of software development is suitable and is the best method for the development of this system. Agile methodology mainly focused on client satisfaction through continuous delivery. Also, it sets a minimum number of requirements and turns them into a deliverable product. As this project has many individual requirements which can bedeliveredinpartsandtheusercangraduallyimprovetheirworkefficiency.Agilemethodologyhasafamily of methods and scrum is selected for the development of this project. Scrum is a process framework that has been used to manage complex product development. It is not a process or technique for building products rather it is a framework within which various processes can be employed.Also,it is a suitable method to support the development process.It focuses on lean software development and has in building better software effectively and efficiently. Agile is one of the most widely used and recognized software development frameworks. The methodology those experts agreed upon was described as „lightweight‟ and fast. Agile is also about being adaptive and continuous improvement, as much as it is about constant feedback and speed of delivery. Agile is a softwaredevelopmentapproachwhereaself-sufficientandcross-functionalteamworksonmakingcontinuousdeliveries through iterations and evolves throughout the process by gathering feedback from the end users. The major rules of scrum methodology are: 1. The product owner (PO): Who represents thestakeholderandthebusiness.2.Thescrummaster:Ensurestheprocessfollowed,removesobstructions, and protects the development system 3. Development team: Cross-functional, self-organizingteamwhodoestheactualanalysis,designimplementation,andtestingprocess.Theyworktogether in iterative time-boxed durations called sprints. The first step is the creation of the productbacklog by the PO. It‟s a to-do list of stuff to be done by the scrum team. Then the scrum team selects the top priority items and tries to finish them within the time box called a sprint. An easierway to remember all of this is to memorize the 3-3-5 framework. It means that a scrum project has 3roles,3artifacts,and 5 events These are:

1.Roles : Product Owner, Scrum Master, and development team.

2.Artifacts :Product Backlog, Sprint Backlog, and Product Increment.

3.Events :Sprint, Sprint planning, Daily Scrum, Sprint review, and Sprint retrospective

The framework begins with a simple premise starting with what can be seen or known.After that, the progress is tracked and weaked as necessary.The three pillars of scrum are transparency, inspection, and adaptation.In scrum,everyone has ar ole.

User Story

A user story is a tool used in agile software development to capture a description of software feature from an end-user perspective. The user story describes the type of user, what they want and why. A userstoryhelps to createasimplified description ofarequirement.

UserStory ID	Asa <Typeofuser>	Iwanttoperform <sometask>	SothatIcan<achievesomegoal>
1	CUSTOMER	Register	Access the system
2	CUSTOMER	Login	Access the account
3	CUSTOMER	fund	Generate reports
4	CUSTOMER	Purchase	Visit the organization
5	CUSTOMER	cart	Feed the needy
6	CUSTOMER	payment	Deliver
7	ADMIN	Accept/rejectrequests	Allow customers to visit
8	ADMIN	purchase	Usefornecessity
9	ADMIN	Validate registrations	Provide items

Table4.1:Userstory

Product Backlog

A product backlog is a list of the new features, changes to existing features, bug fixes, infrastructurechangesorotheractivitiesthatateammaydeliver inordertoachieveaspecificoutcome.Theproductbacklog is the single authoritative source for things that a team works on. That means that nothinggets done that isn"t on the product backlog. Conversely, the presence of a product backlog item on aproduct backlog does not guarantee that it will be delivered. It represents an option the team has fordeliveringaspecificoutcomeratherthan acommitment.

It should be cheap and fast to add a product back log item to the product backlog, and it should beequally as easy to remove a product backlog item that does not result in direct progress to achievingthe desired outcome or enable progress toward the outcome. The Scrum Product Backlog is simply alist of all things that needs to be done within the project. It replaces the traditional requirementsspecificationartifacts.Theseitemscanhaveatechnicalnatureorcanbeuser-centrice.g.,in theformofuser stories. Theproduct backlogof thesystemis giveninTable 4.2

PRODUCTBACKLOG			
ID	Name	Priority	Estimate[Hrs]
1	Registration and Login	1	50
2	Cart items	2	60
3	payment	3	60
4	Reports	4	50

Table4.2:Product Backlog

Project Plan

A project plan that hasa series of tasks laid out for the entire project, listing task durations,responsibility assignments, and dependencies. Plans are developed in this manner based on theassumption that the Project Manager, hopefully along with the team, can predict up front everythingthat will need to happen in the project, how long it will take, and who will be able to do it. Projectplanis given in Table 4.3

UserstoryID	TaskName	StartDate	EndDate	Days	Status
Sprint1		25-1-2024	13-2-2024	**13**	**Completed**
1	Registration	25-1-2024	31-1-2024	4	Completed
2	Coding	1-2-2024	8-2-2024	6	Completed
3	Testing	9-2-2024	13-2-2024	3	Completed
Sprint2		14-2-2024	3-3-2024	**14**	**Completed**
4	coding	14-2-2024	23-2-2024	8	Completed
5	Testing	24-2-2024	3-3-2024	6	Completed
Sprint3		4-3-2024	28-3-2024	**16**	**Completed**
6	DatabaseConnectivity	4-3-2024	13-3-2024	5	Completed
7	purchasing	14-3-2024	17-3-2024	4	Completed
8	whishlist	20-3-2024	23-3-2024	4	Completed
9	deliver	24-3-2024	28-3-2024	3	Completed
Sprint4		29-3-2024	20-4-2024	**12**	**Completed**
10	Deployment	29-3-2024	11-4-2024	6	Completed
11	Testing andValidation	12-4-2024	20-4-2024	6	Completed

Table4.3:Project plan

The Project has four sprints:

1. **Sprint1**

Three tasks are planned in this sprint.First one is Problem definition, next is designing and initial coding

2. **Sprint2**

Two tasks are planned in this sprint. First one is design and development of forms and next one is testing.

3. **Sprint3**

Four tasks are planned in this sprint.This is the major part where development of webpages ofe commerc..

4. **Sprint4**

In this sprint two tasks are planned to complete, one is Deployment to the SprintBacklog(plan)

The sprint backlog is of tasks identified by the Scrum team to be completed during the Scrumsprint.During the sprint planning meeting,the team selects some number of product backlog items, usually in the form of user stories, and identifies the tasks necessary to complete each userstory.Most team s also estimate how many hours each task will takes omeo neon the team to completed.

1. **Sprint1**

Threetasksareplannedinthissprint.FirstoneisProblemdefinition,nextisdesigningandinitial coding

2. **Sprint2**

Two tasks are planned in this sprint. First one is design and development of forms and next one istesting.

3. **Sprint3**

Four tasks are planned in this sprint. This is the major part where development of web pages e commerce.

4.Sprint 4

In this sprint two tasks are planned to complete, one is Deployment to the second is testingand validation.

Backlog item	Completion time	Original estimate inhours	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13
User Story #1 Hours			hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours
Registration	31-1-2024	16	2	0	3	0	4	3	0	4	0	0	0	0	0
Coding	8-2-2024	24	1	2	0	4	0	1	3	0	4	4	4	2	0
Testing	13-2-2024	12	2	2	2	0	1	1	1	1	0	0	0	2	0
Total		52	5	4	5	4	5	5	4	5	4	4	4	4	0

Table4.4:SprintBacklog(Plan)-Sprint1

Backlog item	Completion time	Origina lestimate inhours	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
User Story #1Hours			hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours
Coding	23-2-2024	32	4	4	4	4	4	4	4	4	0	0	0	0	0	0
Testing	3-3-2024	24	0	0	0	0	0	0	0	0	4	4	4	4	4	4
Total		56	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Table4.5:SprintBacklog(Plan)-Sprint2

Backlog item	Completion time	Original estimate in hours	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16
User Story #1 Hours			hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours
Db connectivIty	13-3-2024	20	4	4	2	2	2	4	0	4	0	0	0	0	0	0	0	0
Donation	17-3-2024	16	0	1	2	2	2	1	4	1	1	0	0	0	0	0	0	0
Online appointments	23-3-2024	16	0	0	1	1	1	0	1	0	4	4	4	0	0	0	0	0
Child Adoption	28-3-2024	12	0	0	0	0	0	0	0	0	0	0	0	4	4	4	0	0
Total		64	4	5	5	5	5	5	5	5	5	4	4	4	4	4	0	0

Table 4.6: Sprint Backlog(Plan)-Sprint3

BacklogItem	Completion time	Originalestimate inhours	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12
User Story#1Hours			hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours
Development	11-4-2024	24	2	2	2	2	2	2	2	2	2	4	4	0
Testing and Validation	20-4-2024	24	2	3	2	2	3	1	2	2	2	1	2	2
Total		48	4	5	4	4	5	3	4	4	4	5	6	2

Table4.7:SprintBacklog(Plan)-Sprint4

Backlog(Actual)

Actual sprint backlog is what adequate sprintplanning is actually done by project team there may or may not be difference inplanned sprintbacklog.The detailed sprintbacklog(Actual)isgivenbelow.

Backlog item	Completiontime	Original estimate inhours	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13
User Story #1Hours			hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours
Registration	31-1-2024	16	2	0	3	0	4	3	0	4	0	0	0	0	0
Coding	8-2-2024	24	1	2	0	4	0	1	3	0	4	4	4	2	0
Testing	13-2-2024	18	2	2	2	1	1	1	1	1	1	0	0	2	4
Total		52	5	4	5	5	5	5	4	5	5	4	4	4	4

Table4.8:SprintBacklog(Actual)-Sprint1

MINDCART:AI BASED E COMMERCE WEBSITE

Bac-klog item	Com-pletion time	Origi na lesti mate inho urs	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
User Story #1 Hour s			hour s	hour s	hour s	hour s	hour s	hour s	hour s	hour s	hour s	hour s	hour s	hour s	hour s	hour s
Codi-ng	23-2-2024	32	4	4	4	4	4	4	4	4	0	0	0	0	0	0
Testi-ng	3-3-2024	24	0	0	0	0	0	0	0	0	4	4	4	4	4	4
Total		56	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Table4.9:SprintBacklog(Actual)-Sprint2

Backlog item	Com-pletion time	Origina l esti-mate inhours	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16
UserSto ry#1Ho urs			hour s	hours	hours	hour s	hour s	hour s	hours	hour s	hours	hours	hours	hours	hours	hours	hours	hours
db Conn-ectiv-ity	13-3-2024	20	4	4	2	2	2	4	0	4	0	0	0	0	0	0	0	0
Dona-tion	17-3-2024	16	0	1	2	2	2	1	4	1	1	0	0	0	0	0	0	0
Onlinea ppoint-ments	23-3-2024	16	0	0	1	1	1	0	1	0	4	4	4	0	0	0	0	0
Child Adopt-ion	28-3-2024	12	0	0	0	0	0	0	0	0	0	0	0	4	4	4	0	0
Total		64	4	5	5	5	5	5	5	5	5	4	4	4	4	4	0	0

Table4.10:SprintBacklog(Actual)-Sprint3

BacklogItem	Completion time	Originales timate inhours	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12
User Story#1Hours			hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	hours	Hours
Development	11-4-2024	24	2	2	2	2	2	2	2	2	2	4	4	0
Testing andValidation	20-4-2024	24	2	3	2	2	3	1	2	2	2	1	2	2
Total		48	4	5	4	4	5	3	4	4	4	5	6	2

Table4.11:SprintBacklog(Actual)-Sprint4

Product Backlog Review

REVIEWFORM

Sprint1

Version:1.0   Date:13-2-2024

UserStoryID	Comments from Scrummasterifany	Commentsfrom ProductOwnerifany
1	DevelopershouldhaveaeasyLoginprocess	Userfriendlyregistration
2	effectivelogin	ifthereisforgotpasswordorusername handled.

Table4.12:ProductBacklogReview(Sprint1)

Sprint2

Version:1.0   Date:3-3-2024

UserStoryID	Comments from Scrummasterifany	Commentsfrom ProductOwnerifany
3	Should check the data anatomizecorrectly	Inserted
4	Designanddevelopmentofregistrationforms	Shouldcustomizedifferentmodels

Table4.13:ProductBacklogReview(Sprint2)

Sprint3

Version:1.0   Date:28-3-2024

UserStoryID	CommentsfromScrum masterifany	Commentsfrom ProductOwnerifany
5	shouldcheck databaseconnectivity	Checkconnection.
6	Donation	Checkreportsofdonations
7	Onlineappointments	Approval/Acceptanceofappointments
8	Child Adoption	Verification ofdocuments

Table4.14:ProductBacklogReview(Sprint3)

Sprint4

Version:1.0   Date:20-4-2024

UserStoryID	Comments from Scrummasterifany	CommentsfromProductOwnerifany
9	Deployment	Visualizefinaloutput.
10	Purchase and delivery	Satisfied.

Table4.15:ProductBacklogReview(Sprint4)

Sprint Review:

At the end of each sprint a Sprint Review meeting is held.During this meeting the Scrum Team shows which Scrum Product Backlog items they completed(according to the Definition of 0 Done)during the sprint. This might take place in the form of a demo of the new features. Backlog items that are notcompleted shall not be demonstrated. Otherwise this might suggest that these items are finished aswell. Instead incomplete items/remaining activities shall be taken back into the Scrum ProductBacklog, re-estimatedand completedin one of the following sprints.The Sprint Review meeting

should be kept very informal. No Power Point slides should be used and time for preparation andperformingthemeetingshouldbelimited.DuringthemeetingtheScrumProductOwnerinspectstheimpl emented backlog entries and accepts the solution or adds new stories to the Scrum ProductBacklog to adapt the functionality. Participants in the sprint review typically include the ScrumProduct Owner, the Scrum Team and the Scrum Master. Additionally management, customers, anddevelopersfrom otherprojects might participateas well.

REVIEWFORM

SPRINT1

Version:1.0   **Date:13-2-2024**

UserstoryID	Comments fromScrummasterif any	CommentsfromProduct Ownerifany
1	DevelopershouldhaveaeasyLoginprocess	Satisfied
2	effectivelogin	Successful

Table4.16:SprintReview(Sprint1)

SPRINT2

Version:1. 0   **Date**:3-3-2024

UserstoryID	Comments fromScrummasterif any	CommentsfromProduct Ownerif any
3	Shouldcheckthedatainsertedcorrectly	CorrectlySuccessful.
4	Designanddevelopmentofregistrationforms.	Satisfied.

Table4.17:SprintReview(Sprint2)

SPRINT3

Version:1. 0   **Date:28-3-2024**

UserstoryID	Comments fromScrummasterif any	CommentsfromProduct Ownerif any
5	Should check databaseconnectivity.	Connectionsuccessful.
6	cart	Successful.
7	Online shopping	Successful
8	purchase	Successful

Table4.18:Sprint Review(Sprint3)

SPRINT4

Version:1.0   **Date:20-4-2024**

UserstoryID	Comments fromScrummasterif any	CommentsfromProduct Ownerif any
9	Deploymentcompleted	Satisfied
10	Outputgenerated	Satisfiedwithresult

Table4.19:SprintReview(Sprint4)

Testing and Validation

SPRINT1

Version:1.0   **Date:13-2-2024**

Test#	Date	Action	ExpectedResult	ActualResult	Pass? <Yes/no>
1	9-2-2023	Registration	Registration successful	Successful	Yes
2	13-2-2023	Login	Logintosystem	Login tosuccessful	Yes

Table4.20:Testingand Validation(Sprint1)

SPRINT2

Version:1.0   **Date:3-3-2024**

Test#	Date	Action	ExpectedResult	ActualResult	Pass? <Yes/no>
1	3-3-2023	Development ofmodels	Canchoosethebest models	Done	Yes

Table4.21:Testingand Validation (Sprint2)

SPRINT3

Version:1.0   **Date:28-3-2024**

Test#	Date	Action	ExpectedResult	ActualResult	Pass? <Yes/no>
1	28-3-2023	Development ofwebapplication	UI will beformed	Done	Yes

Table4.22:Testingand Validation (Sprint4)

SPRINT4

Version:1.0   **Date:20-4-2024**

Test#	Date	Action	ExpectedResult	ActualResult	Pass? <Yes/no>
1	20-4-2023	Deployment	purchasing	Done	Yes

Table4.23:TestingandValidation(Sprint5)

Git

Git is a free and open-source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. The Git is used as the version control system for this project. Version control is a system that records changes to a file or set of files over time so that a specific version can be recalled later. Version control systems are a category of software tools that help a software team for managing changes to source code over time. Version control software keeps track of every modification to the code in a special kind of database. If a mistake is made,developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members.

DATABASE TABLE

Admin table

Columnname	Datatype	KeyConstraints
Admin	int(1)	Primarykey NOTNULL
Username	Varchar(40)	NOTNULL
Password	Varchar(40)	NOTNULL

Catogory Table

Catogory Name	Data type	KeyConstraints
catogoryId	Int(1)	Primary key not null
Categoryname	Varchar(100)	Not null

Product Description Table

ColumnName	Data type	Keyconstraints
Productid	Int(20)	Primarykey NOTNULL
Catogory Name	Varchar(20)	NOTNULL

ProductName	Varchar(200)	NOTNULL
Price	Int(10)	NOTNULL
Actualprice	Int(10)	NOTNULL
Quantity	Int(10)	NOTNULL
Photo	Varchar(100)	NOTNULL

Customer Login Table

Customername	Data type	Keyconstraints
userId	Int(1)	Primary key not null
Username	Varchar(40)	NOTNULL
Email	Varchar(40)	NOTNULL
Password	Varchar(40)	NOTNULL

Customer Table

Columnname	Data type	Key constraints
Firstname	Varchar(40)	NOTNULL
Lastname	Varchar(40)	NOTNULL
Address	Varchar(40)	NOTNULL
City	Varchar(40)	NOTNULL
Postcode	Varchar(40)	NOTNULL
Phone no	Varchar(40)	NOTNULL
Emai	Varchar(40)	NOTNULL

Order Table

Columnname	Data types	Keyconstraints
Ordered	Int(10)	Primarykey NOTNULL
Customerid	Int(10)	NOTNULL
Totalamount	Int(10)	NOTNULL
Paymentamount	Int(10)	NOTNULL

Order Deatail Table

Coulumn name	Data types	Keyconstraints
orderDetailsIdint	Int(1)	Primarykey NOTNULL
Ordered	Int(10)	NOTNULL
Productid	Int(10)	NOTNULL
Quantity	Int(10)	NOTNULL
ProductPrice	Int(10)	NOTNULL

5. **SYSTEM DESIGN**

DATA FLOW DIAGRAM
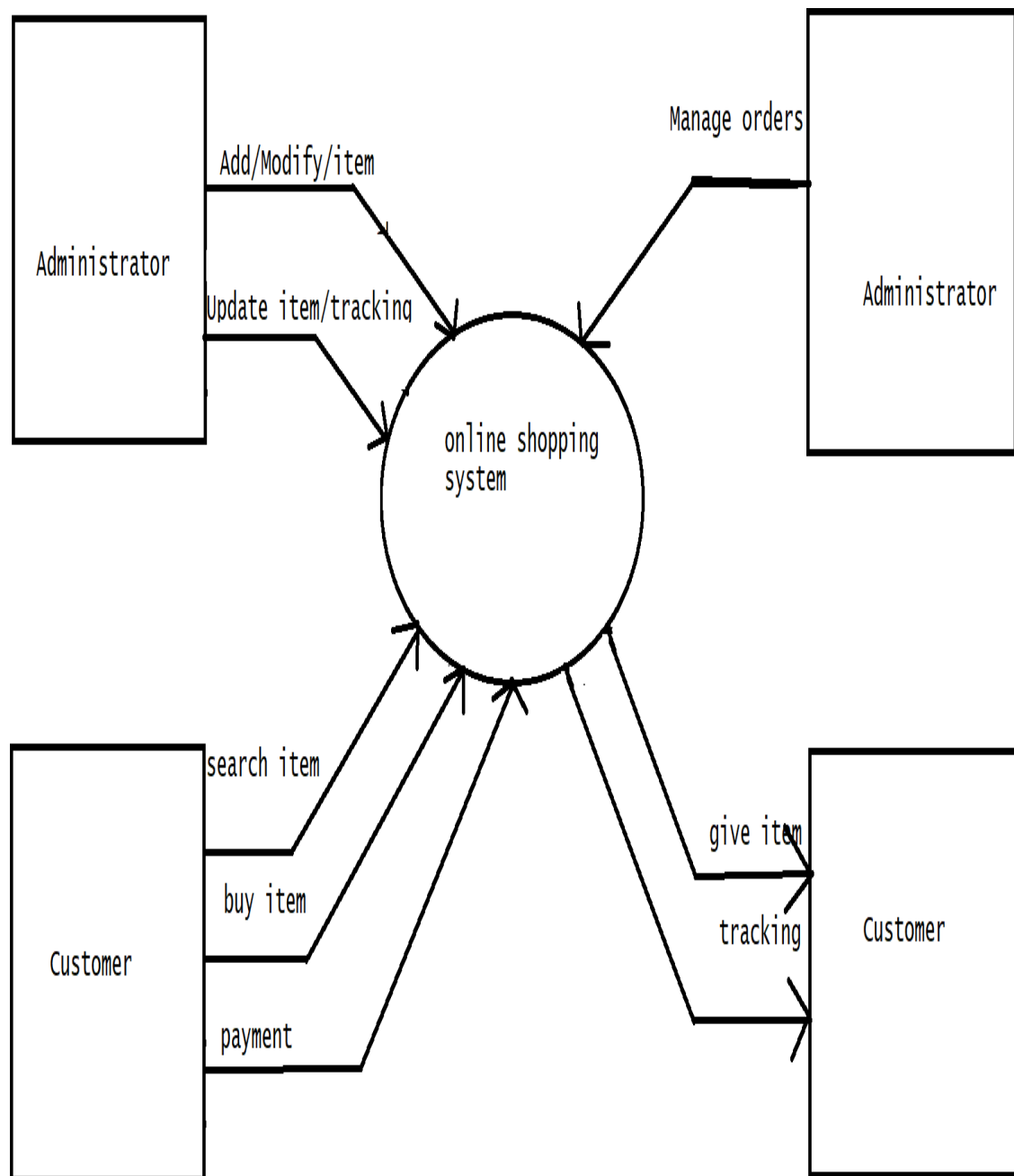
ENTITY RELATIONSHIP DIAGRAM
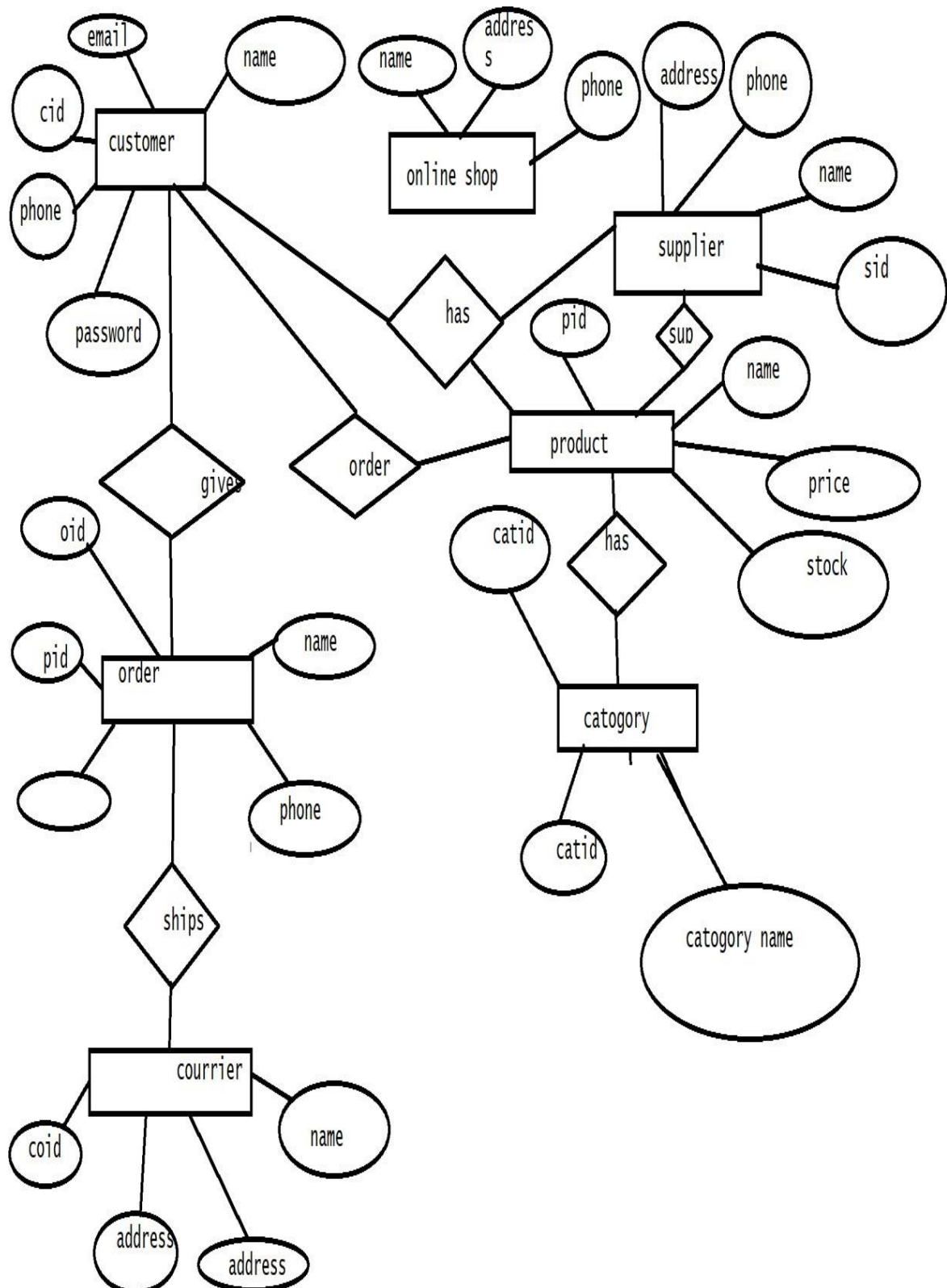
Chapter5

Result And Discussions

The integration of AI technologies into e-commerce platforms has yielded promising results, as evidenced by our analysis of key performance metrics. Our findings reveal a marked improvement in user engagement following the implementation of AI-driven features. With personalized product recommendations, chatbots, and voice search functionalities in place, users are spending more time on the website, exploring more pages per session, and exhibiting lower bounce rates. This enhanced engagement has translated into tangible gains in conversion rates, with a notable increase in the percentage of visitors making purchases. Moreover, customer satisfaction levels have seen a positive uptick, with users appreciating the convenience and relevance of AI- powered services. From a revenue standpoint, the impact of AI on sales volume and revenue generation is undeniable, with a clear upward trend observed post-implementation. In our discussion, we attribute these successes to the ability of AI to deliver personalized experiences, streamline operations, and enhance overall user satisfaction. Looking ahead, while we recognize the immense potential of AI in revolutionizing e-commerce, we also acknowledge the need to address challenges such as data privacy concerns and algorithm bias. By navigating these hurdles and continuing to innovate, we remain optimistic about the future of AI-driven e-commerce and its ability to drive sustained growth and customer value.

Implementation And Testing

INTRODUCTION

Design concept provides the basic criteria for design quality.Design is the meaningful representation for something to build.Design focus on the three major areas of concern: Data, architecture,interface beginning once the software requirements has been analyzed and specified, software design in thefirst of three activities - design code generation and test. Each activities transforms information in amannerthatultimatelyresultsinvalidatedcomputersoftware.Designisthefirststepinmovingfromthe problem domain towards the solution domain. The detailed design phase. This can be achievedby:

- Input Design
- Output Design
- Database Design

INPUT DESIGN

Input design is the process of converting user oriented input into computer based format. The goal ofthe design input is to make data entry as easy and free from error. In our system, we use platforms to design the forms" the inputs in the system is given through formsAny surface on which infor mation is to be entered, user interacts with the system through forms. When the data which isinputted to the system through the system. So the designer should ensure that the form is simple,accessible and easily understandable by the user.

The people who communicate with the system through user interface frequently are known as end user; the design of the input screen must be according to the specification and needs of theendusers.

The specification given by the end users is:

• Interaction window should be userfriendly

• Easy to operate

• Provide with proper validations

The form design should be clear and enough information Should be provided to guide the user to enter correct data.The design decision for handling of inputs specifies how data are accepted for computer processing. The design of input also includes specifying means by which system administrato   rdirect   the   system   in   which   the   action   to take.Themaingoaloftheinputdesigntomakethedataentryeasier,accurate and error free. Security is provided in necessary area. Input design is designed in a simple manner without any complex name,figure,confusing fields etc.proper validation for necessary fields is also provided. In the input system, data is accepted and it can be readily used for data processing and also can be stored in a database for future use. The user provided data is been processed into the computer recognizable format from this input design.The name of the input design is as follows

• Provide data to the system

• User friendly

• Avoid errors in the data

• Making the process simple

OUTPUT DESIGN

The design of output is the most important task of any system. During output design, developers identify the type of outputs needed, and consider the necessary output controls and prototype report layouts.

Objectives of Output Design

The objectives of output design are−

- To develop output design that serves the intended purpose and eliminates the production of unwanted output.

- To develop the output design that meets the end users requirements.

- To deliver the appropriate quantity of output.

- To form the output inappropriate format and direct it to the right person.

- To make the output available on time for making good decisions

DATABASE DESIGN

Database design is the meticulous process of structuring and organizing data to ensure efficient storage, retrieval,and manipulation within a database system. It involves translating the requirements of an application or system into a logical schema that represents the data in a meaningful way. This begins with conceptualizing the entities and their relationships, followed by the creation of tables, columns, and constraints in a logical model.

Normalization techniques are applied to minimize redundancy and dependency, promoting data integrity. Physical design considerations such as indexing, partitioning, and data types optimize performance and storage efficiency. Security measures are implemented to safeguard against unauthorized access and ensure data confidentiality. Continuous testing, optimization, and documentation are essential to maintain and evolve the database design as the needs of the system evolve over time. Through meticulous planning and execution,

SYSTEM IMPLEMENTATION AND TESTING

Implementationisastageoftheoreticaldesignisturnedintoworkingthesystem.Theimplementationphase is used to test the development package with sample data, correcting the error identified,appearing the user of the various special facilities and features of the computerized system. It alsoinvolves the user training for minimize resistance to change and giving the new system a change toprove is worth: The successful implementation of the new system depends upon the involvement oftheuser.

SYSTEM IMPLEMENTATION

Implementation phase is the phase, which involves the process of converting a new system designinto one operational one. It is the key stage in achieving a successful new system. Implementation is the stage of the project, where the theoretical design is turned into a workingsystem.At this stage the main workload, thegreatest upheaval andthe major impact onexisting practices shift to user department. If the implementation stage is not planned and controlled carefully it can cause chaos.Thus, it can be considered to be the more crucial stage in achieving a successful new stage and in giving the use rconfidence that the system will work and willbeeffective.

IMPLEMENATATION PROCEDURE

The implementation phase is less creative than system design. A system project may be dropped atanytimepriortoimplementationalthoughitbecomesmoredifficultwhenitgoestothesystemphase.Thefin alreporttotheimplementationphaseincludesprocedural,recordslayouts,reportslayoutsanda   workable plan for implementing the candidate system. Implementation is used to the process ofconverting a new or revised system design into an operational one. Conversion is one aspect ofimplementationis uniqueto implementation phase

Chapter6

Conclusion

In conclusion, the integration of AI technology into e-commerce websites has ushered in a transformative era of enhanced user experiences and operational efficiency. Through our comprehensive analysis, it is evident that AI- driven features such as personalized product recommendations, chatbots, and voice search functionalities have significantly improved key performance indicators. These include increased user engagement metrics, such as longer time spent on the website, higher page views per session, and reduced bounce rates. Moreover, the implementation of AI has resulted in tangible boosts in conversion rates and revenue generation, indicating a positive impact on the bottom line. Customer satisfaction has also seen a notable uptick, with users appreciating the convenience and relevance of AI-powered services. Looking forward, while the potential of AI in revolutionizing e-commerce is vast, it is essential to address challenges such as data privacy concerns and algorithmic biases. By navigating these obstacles thoughtfully and continuing to innovate, e-commerce businesses can harness the full potential of AI to deliver tailored experiences, drive sustainable growth, and remain competitive in the ever-evolving digital landscape.

The salient features of this system are,

- Personalized Product Recommendations

- Chatbots and Virtual Assistants

- Dynamic Pricing

- Predictive Analytics

- Fraud Detection and Prevention

Limitations

Data Privacy Concerns: AI relies heavily on user data for personalization and recommendation purposes. However, this can raise privacy concerns, especially with regulations such as GDPR and CCPA. Ensuring compliance with data protection laws while maintaining personalized experiences can be a delicate balance.

Complexity and Integration Challenges: Implementing AI technologies can be complex and require integration with existing systems and workflows. Ensuring seamless integration and interoperability with other software platforms can be a significant challenge for businesses.

Cost and Resource Intensiveness: Developing and deploying AI solutions can be resource-intensive, requiring significant investments in talent, infrastructure, and ongoing maintenance. Small and medium-sized businesses may face barriers to entry due to the high costs associated with AI implementation.

Lack of Contextual Understanding: AI systems may lack the contextual understanding necessary to interpret complex user queries or situations accurately. This can result in misunderstandings or misinterpretations, leading to subpar user experiences.

Limited Scalability: Scaling AI solutions to accommodate growing user bases or expanding product catalogs can be challenging. Ensuring that AI systems remain efficient and effective at scale requires careful planning and infrastructure investments.

Dependency on Quality Data: AI models rely on high-quality data for training and inference. Poor-quality or biased data can negatively impact the performance and reliability of AI systems, highlighting the importance of data quality assurance measures.

Future scope

- Visual Search and Augmented Reality (AR)

- Predictive Analytics and Forecasting

- Sustainability and Green AI

- AI-Powered Content Creation and Personalization

Chapter 7

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Chapter 8

APPENDIX

SOURCE CODE

```python
import os
import sys


def main():
    """Run administrative tasks."""
    os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'ecommerce_project.settings')
    try:
        from django.core.management import execute_from_command_line
    except ImportError as exc:
        raise ImportError(
            "Couldn't import Django. Are you sure it's installed and "
            "available on your PYTHONPATH environment variable? Did you "
            "forget to activate a virtual environment?"
        ) from exc
    execute_from_command_line(sys.argv)


if __name__ == '__main__':
    main()
```

```python
nltk.download('punkt')
nltk.download('wordnet')
lemmatizer = WordNetLemmatizer()

# Load chatbot model and intents
intents = json.loads(open('E:\Ecommerce_project\ecommerce\store\intents.json').read())
words = pickle.load(open('E:\Ecommerce_project\ecommerce\store\words.pkl', 'rb'))
classes = pickle.load(open('E:\Ecommerce_project\ecommerce\store\classes.pkl', 'rb'))
model = load_model('E:\Ecommerce_project\ecommerce\store\chatbotmodel.h5')

# Define functions for chatbot functionality
def clean_up_sentence(sentence):
    sentence_words = nltk.word_tokenize(sentence)
    sentence_words = [lemmatizer.lemmatize(word) for word in sentence_words]
    return sentence_words

def google_search(query):
    search_results = search(query, num=5, stop=5, pause=2)
    return search_results

def bag_of_words(sentence):
    sentence_words = clean_up_sentence(sentence)
    bag = [0] * len(words)
    for w in sentence_words:
        for i, word in enumerate(words):
            if word == w:
                bag[i] = 1
    return np.array(bag)
```

```python
    bow = bag_of_words(sentence)
    res = model.predict(np.array([bow]))[0]
    ERROR_THRESHOLD = 0.25
    results = [[i, r] for i, r in enumerate(res) if r > ERROR_THRESHOLD]
    results.sort(key=lambda x: x[1], reverse=True)
    return_list = [{'intent': classes[r[0]], 'probability': str(r[1])} for r in results]
    return return_list

def get_response(intents_list, intents_json):
    tag = intents_list[0]['intent']
    list_of_intents = intents_json['intents']
    for i in list_of_intents:
        if i['tag'] == tag:
            result = random.choice(i['responses'])
            break
    return result


from django.shortcuts import render
from .models import Product
from sklearn.feature_extraction.text import TfidfVectorizer
from sklearn.metrics.pairwise import linear_kernel

def train_recommendation_engine():
    # Load data from your Django model (replace YourProductModel with your actual model)
    products = Product.objects.all()
```

```python
    # Extract descriptions from your products
    descriptions = [product.detail_description for product in products]


    # Train the TF-IDF vectorizer
    tf = TfidfVectorizer(analyzer='word', ngram_range=(1, 3), min_df=1, stop_words='english')
    tfidf_matrix = tf.fit_transform(descriptions)


    # Calculate cosine similarities
    cosine_similarities = linear_kernel(tfidf_matrix, tfidf_matrix)


    # Initialize results dictionary
    results = {}


    # Populate results dictionary with similar items for each product
    for idx, product in enumerate(products):
        similar_indices = cosine_similarities[idx].argsort()[:-100:-1]
        similar_items = [(cosine_similarities[idx][i], products[int(i)].id) for i in similar_indices]
        # First item is the item itself, so remove it
        results[product.id] = similar_items[1:]


    return results

# Call the train_recommendation_engine function and store the results
trained_results = train_recommendation_engine()

# Define a Django view function to use the trained recommendation engine
from django.shortcuts import get_object_or_404
```

```python
def recommend_products(request, item_id, num=4):

    # Retrieve recommendations for the specified item_id from the trained results
    recommendations = trained_results.get(item_id, [])[:num]
    # Retrieve product objects for recommendations
    recommended_products = [(score, get_object_or_404(Product, pk=product_id)) for score,
product_id in recommendations]
    return recommended_products
    #return render(request, 'productviewpage.html', {'recommended_products':
recommended_products})
```

Django settings for ecommerce_project project.

Generated by 'django-admin startproject' using Django 4.1.4.

For more information on this file, see
https://docs.djangoproject.com/en/4.1/topics/settings/

For the full list of settings and their values, see
https://docs.djangoproject.com/en/4.1/ref/settings/
"""
import os
from pathlib import Path

```python
# Build paths inside the project like this: BASE_DIR / 'subdir'.
BASE_DIR = Path(__file__).resolve().parent.parent


# Quick-start development settings - unsuitable for production
# See https://docs.djangoproject.com/en/4.1/howto/deployment/checklist/

# SECURITY WARNING: keep the secret key used in production secret!
SECRET_KEY = 'django-insecure-aurf(swv)_2p2)v48mhn80=kmno%z2jcv_q-=)^s+i!-39&qyk'

# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True

ALLOWED_HOSTS = []


# Application definition

INSTALLED_APPS = [
    'jazzmin',
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'store',
```

```python
]

MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',



]

ROOT_URLCONF = 'ecommerce_project.urls'

TEMPLATES = [
    {
        'BACKEND': 'django.template.backends.django.DjangoTemplates',
        'DIRS': ['templates'],
        'APP_DIRS': True,
        'OPTIONS': {
            'context_processors': [
                'django.template.context_processors.debug',
                'django.template.context_processors.request',
                'django.contrib.auth.context_processors.auth',
```

```
            'django.contrib.messages.context_processors.messages',

            'store.context_processors.cart_count',

            'store.context_processors.wishlist_count',

        ],

    },

  },

]


WSGI_APPLICATION = 'ecommerce_project.wsgi.application'



# Database
# https://docs.djangoproject.com/en/4.1/ref/settings/#databases


DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.sqlite3',
        'NAME': BASE_DIR / 'db.sqlite3',
    }
}



# Password validation
# https://docs.djangoproject.com/en/4.1/ref/settings/#auth-password-validators


AUTH_PASSWORD_VALIDATORS = [
    {
```
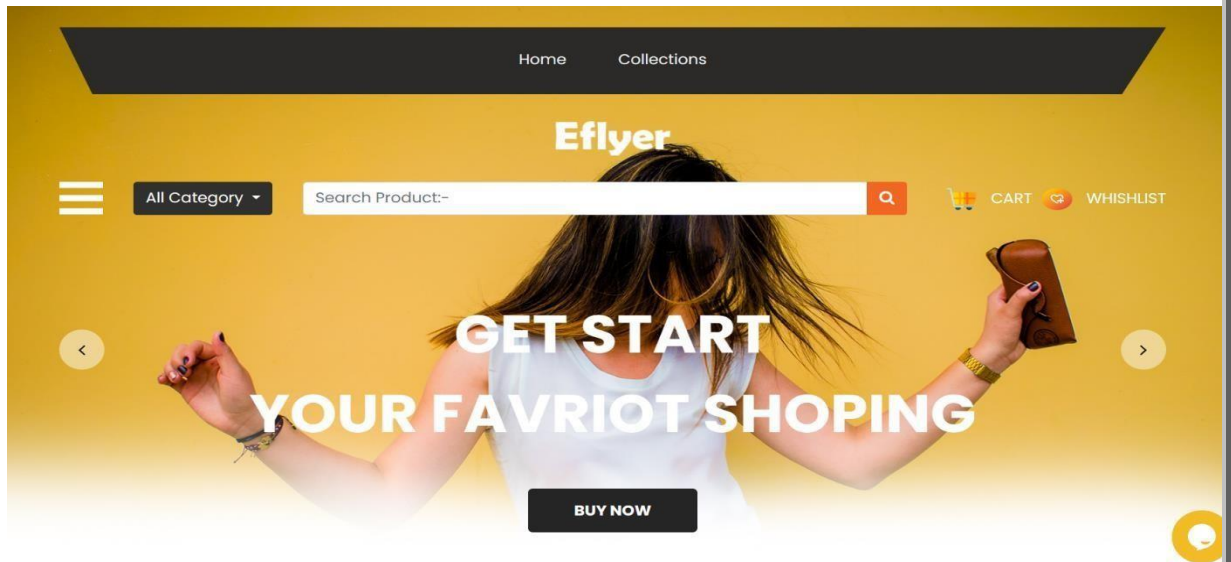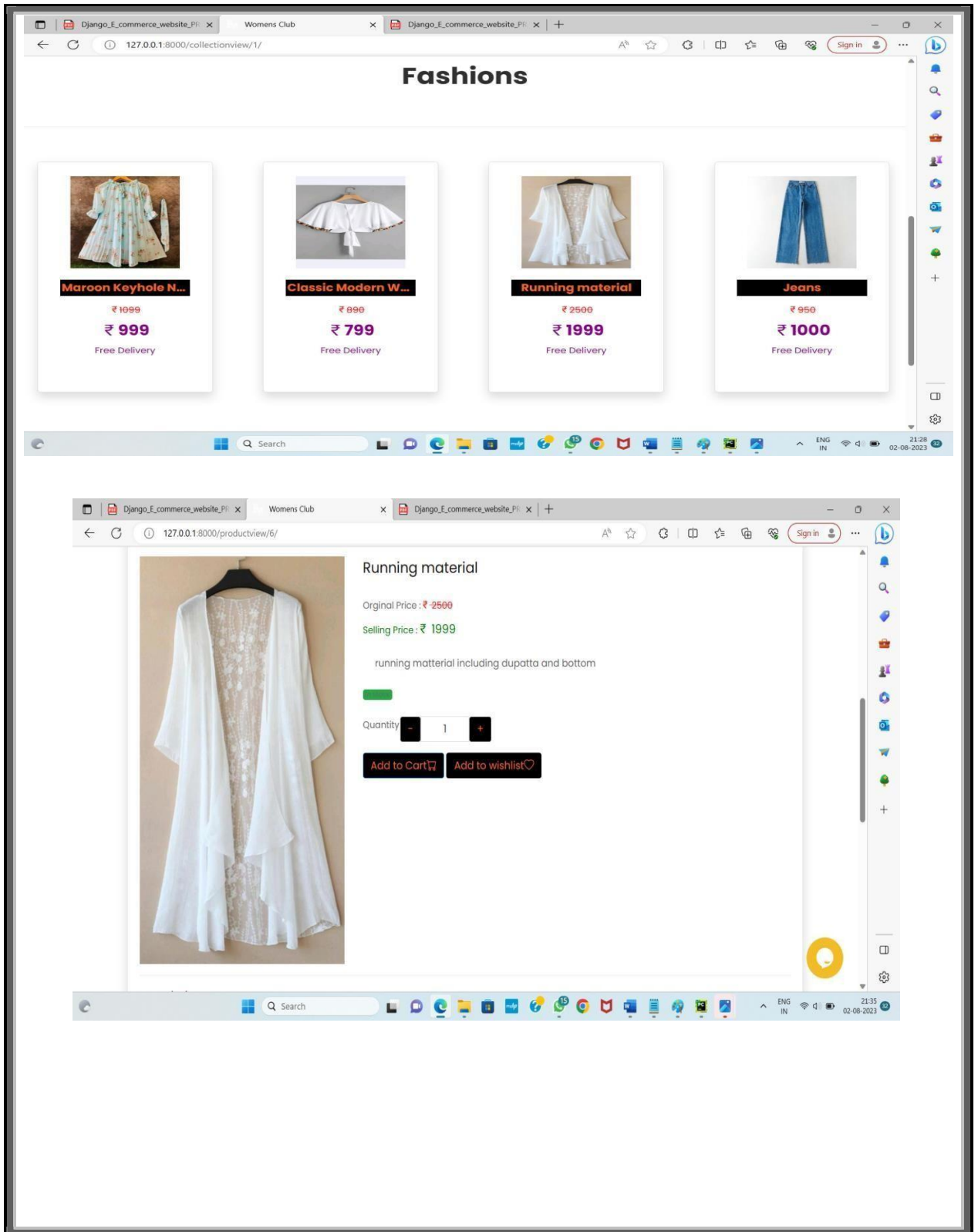
```
    'NAME': 'django.contrib.auth.password_validation.UserAttributeSimilarityValidator',
  },
  {
    'NAME': 'django.contrib.auth.password_validation.MinimumLengthValidator',
  },
  {
    'NAME': 'django.contrib.auth.password_validation.CommonPasswordValidator',
  },
  {
    'NAME': 'django.contrib.auth.password_validation.NumericPasswordValidator',
  },
  }
```

Register here

First Name

enter your first name

First Name

enter your last name

Username

enter your username

Email ID

enter your Email Id

Password

enter your password

Conform Password

enter your conform password

Register