



Daffodil
International
University

Title of the Project

Creative Crafting Web System

Course: Project – Spring'2024

Course Code: CIS499

Submitted By

Kashpia Hasan Orpa

ID:193-16-467

Department of Computing & Information System

Daffodil International University

Supervised By

Mr. Israfil

Lecturer

Department of Computing & Information System

Daffodil International University

Submission Date: 23 September, 2024

APPROVAL

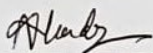
This Project titled “Creative Crafting Web System”, Submitted by **Kashpia Hasan Orpa**, ID No: **193-16-467** to the Department of Computing & Information System, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computing & Information System and approved as to its style and contents. The presentation has been held on 23-09-2024.

BOARD OF EXAMINERS



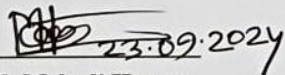
Md Sarwar Hossain Mollah
Associate Professor and Head
Department of Computing & Information System
Faculty of Science & Information Technology
Daffodil International University

Chairman



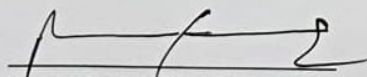
Md. Nasimul Kader
Assistant Professor
Department of Computing & Information System
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



Md. Mehedi Hassan
Lecturer
Department of Computing & Information System
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



Dr. Saifuddin Md. Tareeq
Professor
Department of Computer Science and Engineering
University of Dhaka, Dhaka

External Examiner

Declaration

I hereby declare that; this project has been done by me under supervision of **Mr. Israfil, Lecturer**, department of Computing and Information System (CIS) of Daffodil International University. I am also declaring that this project or any part of there has never been submitted anywhere else for the award of any educational degree like, B.Sc., M.Sc., Diploma or other qualifications.

Supervised By



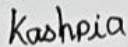
Mr. Israfil

Lecturer

Department of CIS

Daffodil International University

Submitted By



Name: Kashpia Hasan Orpa

ID: 193-16-467

Department of CIS

Daffodil International University

Acknowledgement

Conducting research and successfully completing the "Creative Crafting" project is a rewarding experience. I am deeply grateful for Allah's grace throughout my educational journey.

I express my sincere gratitude to my supervisor, Mr. Israfil, Associate Professor, Department of CIS, Daffodil International University, for devoting his valuable time, providing guidance and motivating me to complete this project, contributing significantly to my overall education. I thank him for his support, sound judgment, positive outlook and understanding of various factors that played a vital role in the execution of my project. His efforts have been instrumental in ensuring that I have the necessary knowledge to complete this undertaking.

Executive Summary

The Creative Crafting System is to revolutionize the crafting community by providing a comprehensive digital platform for creative enthusiasts. This system facilitates the creation, sharing, and monetization of handmade crafts, bridging the gap between amateur crafters and potential buyers. The platform offers a user-friendly interface where users can upload images and descriptions of their crafts, access tutorials, participate in virtual workshops, and engage with a vibrant community of fellow crafters. Advanced features include a personalized dashboard for tracking project progress, integrated social media sharing options, and a secure payment gateway to facilitate transactions. The project leverages modern web technologies to ensure a seamless user experience and incorporates robust security measures to protect user data. By addressing the challenges faced by crafters in showcasing their work and reaching a broader audience, the Online Creative Crafting System aims to foster creativity, collaboration, and entrepreneurship within the crafting community. This project not only demonstrates technical proficiency in web development but also underscores the potential of digital platforms to transform traditional hobbies into viable business opportunities.

Table of Contents

Acknowledgement	iii
Executive Summary	iv
List of Figures	viii
List of Tables	ix
Chapter 1 - Introduction.....	1
Chapter 2 - Initial Study.....	2
2.1 Project proposal:	2
2.2 Background of the Project:	10
2.3 Problem areas:.....	11
2.4 Possible solution:	11
Chapter 3 – Literature Review	12
3.1 Discussion about problem and solution domain-based on published article:	12
3.2 Recommended approach:.....	13
3.2 Why to Use:	17
3.4 Implementation Plan:	17
Chapter 4 – Planning.....	18
4.1 Project Plan:	18
4.1.1 Work Breakdown Structure (WBS):.....	18
4.1.2 Time Boxing:	20
4.1.3 Gantt Chart:.....	21
4.2 Test plan:.....	21
4.2.2 Required Test:.....	21
Chapter-5 Feasibility.....	23
5.1 All Possible types of Feasibility:	23
5.1.1 Economic Viability:	23
5.1.2 Technological Feasibility:.....	25

5.1.3 Operational Feasibility:.....	25
5.2 Cost Benefit Analysis:	26
Chapter 6 – Foundation.....	27
6.1 Over All Requirement List:	27
6.1.1 List of functional requirements:.....	27
6.1.2 List of Not Functional Requirement:	27
6.2 What Technology Implemented:.....	28
6.3 Recommendations and Justifications:.....	30
Chapter 7-Explorations	31
7.1 Old-system use cases:	31
7.2 Old system full activity-diagram:	32
7.3 Prioritization Requirement List (PRL):	33
7.4 Prototype of the System:	34
Chapter 8 - Engineering	36
8.1 New System Modules:	36
8.2 New System Use Case diagram	36
8.3 New system ERD Diagram:.....	37
8.4 System Interface Design/Prototype:	38
Chapter 9 - Development	40
9.1 Core Modules Coding Simples:	40
9.2 Possible problem breakdown:	43
Chapter 10 - Testing.....	44
10.1 Unit Testing:	44
10.2 Module testing:	44
10.3 Integration Testing	45
Chapter 11-Implementation	47
11.1 Training:.....	47

11.2 Big bang:	47
11.3 Recommended implementation process:	47
Chapter 12 - Critical Appraise and Evaluation	48
12.1 Objective Cloud be Met:	48
12.1.2 How much better could have been done:	49
12.1.3 How better could be the features of the solution?.....	49
12.1.4 Which Features Could Not be Touch.....	49
Chapter 13- Conclusion	50
13.1 Project Summery.....	50
13.2 Project Goals	50
13.3 My experience.....	51
References.....	52
Plagiarism Report.....	53

List of Figures

Figure 2.1. Creative crafting System concept.....	2
Figure 3.1. Waterfall business model	13
Figure 3.2. Agile Methodology.....	15
Figure 3.3. DSDM Process Methodology.....	16
Figure 4.1. Gantt-Chart.....	21
Figure 7.1. Use Case-Diagram of creative crafting	31
Figure 7.2. Admin Activity-Diagram of creative crafting	32
Figure 7.3. Employer Activity-Diagram of creative crafting	32
Figure 7.4. Prototype-home page.....	34
Figure 7.5. Prototype-product card	35
Figure 7.6. Prototype-side navigation.....	35
Figure 7.7. Prototype-monitoring panel.....	35
Figure 8.1. New System-Use Case diagram	36
Figure 8.2. ERD-Diagram.....	37
Figure 8.3. System Interface-Dashboard	38
Figure 8.4. System Interface-Categories details	38
Figure 8.5. System Interface-System chart.....	38
Figure 8.6. System Interface-Add to cart.....	39
Figure 8.7. System Interface-Product management.....	39
Figure 9.1. Code-Admin Dashboard.....	40
Figure 9.2. Code-AI section.....	41
Figure 9.3. Code-Add to cart system	41
Figure 9.4. Code-Product update	42
Figure 9.5. Code-Payment summary and online recite.....	42
Figure 9.6. Code-Product category	43
Figure 10.1. Testing adds to product	44
Figure 10.2. Testing-Registration testing.....	45
Figure 10.3. Testing-From fill up system	46
Figure 10.4. Testing - automated testing	46

List of Tables

Table 2.1. Creative Crafting System Equipment	4
Table 2.2. Economic feasibility of creative crafting.....	5
Table 2.3. Time-Boxing table	9
Table 4.1. Chart table of Creative Crafting System.....	19
Table 4.2. Time boxing of Creative crafting System Execution.....	20
Table 5.1. Economic Feasibility	23
Table 5.2. Software-Application Cost	24
Table 5.3. Project-Hardware Costing.....	24
Table 5.4. Web-Hosting Cost.....	24
Table 5.5. Cost-Benefit Analysis	26
Table 5.6. Total-Revenue Analysis.....	26
Table 7.1. Prioritized-Requirement List of creative crafting.....	33
Table 10.1. Unit -Testing	44
Table 10.2. Testing-Registration testing.....	45
Table 11.1. Training table of creative crafting	47

Chapter 1 - Introduction

Project Description:

Creative Crafting web-system is a web application project designed to revolutionize the way individuals engage in crafting activities. This system provides a comprehensive digital platform where users can access a wide range of crafting tutorials, purchase crafting supplies, and share their creations with a global community. By integrating various aspects of the crafting process, the system aims to foster creativity, facilitate learning, and build a supportive online crafting community. The project leverages modern web technologies to create an intuitive, user-friendly interface that caters to both beginners and experienced crafters. It includes features such as step-by-step instructional videos, a marketplace for materials and tools, and social networking capabilities that allow users to connect, collaborate, and showcase their work. The development of the Online Creative Crafting System addresses the growing demand for accessible, high-quality crafting resources in the digital age. It seeks to provide a seamless, engaging, and educational crafting experience. Through this project, we aim to enhance the traditional crafting experience by harnessing the power of technology, thereby creating new opportunities for learning and creativity in the crafting community.

Chapter 2 - Initial Study

2.1 Project proposal:

1. Initial Concept

A. Brief description of the project:

Creative Crafting System is an innovative project aiming to simplify the crafting process. This user-friendly platform caters to both organizational and non-organizational entities, integrating content-based crafting for a seamless experience. Key features include diverse crafting opportunities, a well-designed interface, advanced idea generation algorithms, an application tracking system, and robust security measures. Aligned with industry trends, the project utilizes MERN technology, AI, APIs for enhanced functionality. Feasibility analyses confirm its viability, with potential revenue from advertisements and service selling. Deployment involves HTML, CSS, Tailwind, React.js, Node.js, Express.js, MongoDB, and Firebase, following an iterative development approach. Creative crafting System signifies a significant advancement in crafting ideas, offering an efficient solution for both seller and buyers.

B. Proof of concept:

i. Prototype:

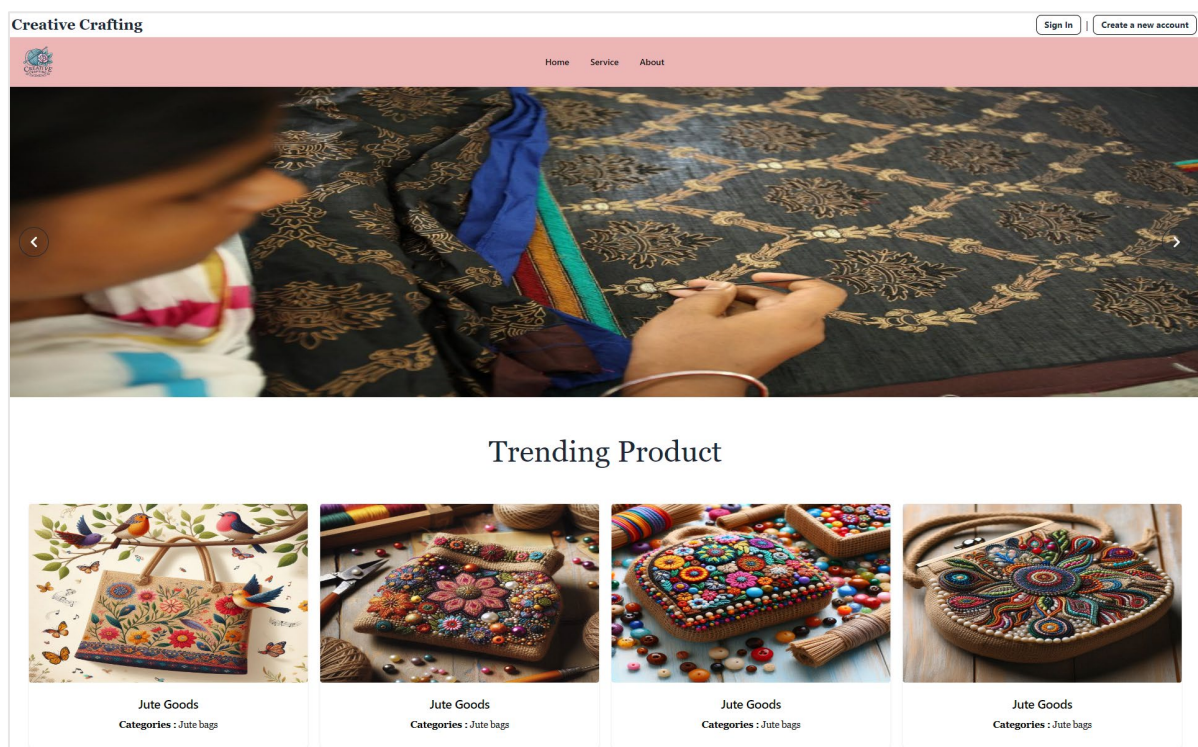


Figure 2.1. Creative crafting System concept

ii. Initial research:

Market Viability:

The market viability of an online "creative crafting system" as an undergraduate student project is promising, given the rising trend in digital marketplaces and the growing interest in handmade and personalized goods. The system can leverage e-commerce platforms and social media channels to reach a wide audience, capitalizing on the increasing consumer preference for unique, artisanal products. By integrating features such as virtual workshops, tutorials, and community forums, the platform can enhance user engagement and foster a sense of community among crafters. Additionally, incorporating a marketplace for selling crafted items can provide students with practical business experience and generate revenue. The low overhead costs associated with online platforms and the potential for scalability further enhance the project's feasibility. As the DIY and crafting sectors continue to expand, an online creative crafting system can meet the demand for accessible, creative outlets and provide a valuable educational and entrepreneurial experience for undergraduate students [1].

Feasibility Study

A. Operational Feasibility:

The operational feasibility of the Creative Crafting System is evident in its ability to effectively address the complexities of the crafting process and meet the requirements of various stakeholders. The system's user-friendly interface ensures ease of navigation for both creators and users, contributing to overall operational efficiency. The incorporation of advanced technologies, such as:

- Artificial Intelligence based tools,
- SSL Commerce,
- Online recite,

enhances the system's usability, providing a seamless and interactive experience.

The project's integration of AI in the crafting section, offering crafting tips and predicting popular crafting trends, contributes significantly to operational feasibility. The inclusion of an administrative control panel empowers the system to efficiently manage and track crafting projects, ensuring smooth operations. The system supports various types of crafting activities, catering to a diverse range of users. Additionally, the project's use of JWT for secure client

server communication and data encryption ensures the confidentiality and integrity of sensitive information, enhancing the operational robustness of the system.

B. Technical Feasibility:

Looking through the lens of the Creative Crafting System, our online platform harmoniously integrates with a singular computer and server setup. Users interact with the system through a client-side PC, which functions as the primary interface, while the server operates as the core repository for data storage. Each bit of data generated within the system finds its secure abode on the server, fostering a unified and systematic data reservoir. Communication adheres to a methodical pattern, ensuring the seamless transmission of information from the server to the client, thereby nurturing a fluid and prompt user interaction.

Hardware	Computer/Laptop Maximum 4 GB RAM 256 SDD WIFI Connection Needed
Software	VS Code
	Firebase Console
	Mongo DB
	Chrome Browser
	Mongoose Compass
	Postman API Testing
	Node JS
	Vercel Backend Code Hosting
	SQL Booster in Mongoose

Table 2.1. Creative Crafting System Equipment

C. Economic feasibility:

The system aims to operate within a cost-effective framework, utilizing online platforms for design and development, thereby reducing expenses associated with traditional crafting methods. The feasibility analysis involves evaluating budgets, equipment costs, server and maintenance expenses, ensuring that the project is financially sound and justifiable. Here is the price report [2].

Costs:

- Software cost
- Hosting cost
- Storage cost

Count	Using Element	Amount
1	Software	15000/=
2	Hardware	35000/=
3	Web Hosting	6000/=
	Total Cost	56,000/=

Table 2.2. Economic feasibility of creative crafting

D. Comparative analysis:

In Bangladesh's creative crafting landscape, a notable void persists due to the prevalent dependence on manual procedures for internal record-keeping. However, the Creative Crafting System distinguishes itself by obviating the necessity for manual interventions. It presents a holistic remedy, empowering users to oversee data packages, products, designer schedules, and report management seamlessly via an intuitive interface. Operations are streamlined with unparalleled efficiency, all achievable with a single click, revolutionizing the conventional workflow.

3. Foundation

A. Define Goal and Object of the Project:

Goal: At the core of the Creative Crafting System lies the objective of crafting a seamless and intuitive platform tailored for creative crafting enthusiasts. This robust system is meticulously engineered to streamline and elevate the entire crafting experience, catering to the needs of both individual crafters and crafting communities alike.

Objectives:

- **Simplify Crafting Processes:** Streamline and simplify the overall crafting process for both beginners and experienced crafters.
- **Comprehensive Craft Matching:** Incorporate content-based algorithms to ensure precise and personalized crafting project suggestions based on individual skills and preferences.
- **Time and Cost Efficiency:** Significantly reduce the time and cost associated with crafting by providing resources and tutorials in a centralized platform.
- **Increased Craft Visibility:** Enhance visibility for crafting projects by enabling crafters to showcase their work to a larger community, while users gain access to a wide range of creative ideas and materials.
- **Improved Project Matching:** Utilize content-based matching to improve the accuracy of suggesting crafting projects tailored to specific interests and skill levels, leading to enhanced satisfaction and engagement.
- **Efficient Organization and Management:** Provide tools for crafters to efficiently manage their projects, materials, and timelines, ensuring a seamless and organized crafting experience.

- Incorporate AI-Based Features: Integrate artificial intelligence features such as a Crafting Bot, Project Recommendation Engine, and AI-based Tutorial Assistant to enhance user interaction and experience.
- Continuous Improvement: Embrace an iterative and evolutionary development approach to continuously improve the system based on user feedback and emerging trends in the crafting world.
- Generate Revenue: Explore revenue streams through advertisements, premium features, and craft supply partnerships within the application, ensuring economic feasibility and sustainability.

Hight level features/requirement to achieve goals/objectives:

- AI Based Image generation.
- Authentication system.
- Admin panel.
- Buyer type Seller type account.
- Transaction system.
- Payment system.
- Profile update.
- Online recite or payment summery.
- Add to cart and Wishlist system.

Nonfunctional requirements:

- System Availability.
- Response Time.
- Scalability.
- Security.
- Compatibility.
- Reliability.
- Performance.
- Compliance.
- Usability.
- Accessibility.
- Backup and Recovery.

4. Exploring and Engineering

A. Iterative development:

Time Box: Time boxing for Creative Crafting Web System

Timebox is a tool for estimating time, The priority list be prioritized us Moscow method

Task Name	Duration	End-Time
1. Initial Study	14 days	19 February 2024
1.1 Identify the Project All requirement	3 days	22 February 2024
1.2 Justify the Project	4 days	26 February 2024
1.3 Find out the solution	6 days	3 March 2024
1.4 The Aims and Objectives	2 days	5 March 2024
2. Requirement Gathering and Analysis	10 days	15 March 2024
2.1 Feasibility Study	2 days	17 March 2024
2.2 Use Cases	2 days	19 March 2024
2.3 Functional Requirement	1 day	20 March 2024
2.4 Non-Functional Requirement	1 day	21 March 2024
2.5 System Architecture	1 day	22 March 2024
2.6 ERD For (Database Management)	1 day	23 March 2024

2.7 Initial Class Diagram	2 days	25 March 2024
3. Design	15 days	9 April 2024
3.1 UI Design	5 days	14 April 2024
3.2 Database Design	2 days	16 April 2024
3.3 Class Diagram	2 days	18 April 2024
3.4 Behavioral Model	2 days	20 April 2024
3.5 Collaboration Diagram	4 days	24 April 2024
4. Implementation	20 days	14 May 2024
4.1 Programming Language (MERN)	2 days	16 May 2024
4.2 Project Implementation	18 days	3 June 2024
5. Testing	6 days	9 June 2024

Table 2.3. Time-Boxing table

Features wise development:

Prioritize the project's features first. It is important to establish the product, orders, blog, designer schedule, internship, report, packaging, and so on.

Deployment:

The deployment of the Creative Crafting Web Application System incorporates various advanced technologies to deliver a seamless and efficient user experience. The frontend structure and design utilize HTML, CSS, and Tailwind, with React.js employed for creating reusable components and managing application state. On the backend, Node.js and Express.js, to ensure smooth server-side operations. The MongoDB database provides flexibility and scalability in storing and managing data. JavaScript is crucial for implementing validation logic and maintaining data integrity, while the integration of Ajax enables seamless and responsive user interactions without page reloads.

The system features AI-based image generation, an authentication system, an admin panel, and differentiated accounts for buyers and sellers. It also includes a transaction system, payment system, profile update capabilities, online receipts or payment summaries, and add-to-cart and Wishlist functionalities. For hosting, Firebase is used for the web application, with Vercel providing routing API and hosting for the backend. Webpack and Babel optimize the code, ensuring cross-browser compatibility and enhancing overall performance. This deployment strategy aims to deliver a user-friendly and efficient creative crafting platform.

2.2 Background of the Project:

Creative Crafting web-based system-utilize HTML, CSS, and Tailwind for the frontend structure and design. React.js will be employed for frontend development to create reusable components and manage application state. On the backend, Node.js and Express.js will handle requests and ensure smooth server-side operations. The MongoDB database will store and manage data, providing flexibility and scalability.

JavaScript will play a vital role in implementing validation logic and maintaining data integrity. Integration of Ajax will enable seamless and responsive user interactions without page reloads. Following the Dynamic Systems Development Method (DSDM) approach, the development process will be iterative and incremental, aligning closely with user requirements.

For hosting, Firebase will be used for the Creative Crafting System, with Vercel providing routing API and hosting for the backend. Webpack and Babel will optimize the code, ensuring cross-browser compatibility and enhancing overall performance. This deployment strategy aims to deliver a user-friendly and efficient platform for creative crafting enthusiasts.

2.3 Problem areas:

Limited Accessibility: Restricting access to the Creative Crafting System solely may limit its impact in Bangladesh. Broader accessibility should be considered to benefit a larger audience, including individuals from various educational institutions and backgrounds.

Language and Cultural Adaptation: The system should address language diversity and cultural nuances in Bangladesh to ensure inclusivity. Tailoring the platform to accommodate multiple languages and cultural preferences will enhance user engagement and acceptance.

Advertisement Revenue Dependency: Relying solely on advertisement revenue may pose challenges, considering the economic dynamics of Bangladesh. Exploring diverse revenue streams, such as partnerships or premium services, could provide a more sustainable financial model.

Internet Connectivity Issues: Bangladesh faces occasional challenges with internet connectivity, particularly in rural areas. The system should be optimized for varying internet speeds and offer offline functionalities to accommodate users in regions with limited connectivity.

2.4 Possible solution:

To enhance the reach of our creative crafting system, we propose several strategies. Firstly, expanding access beyond initial users by collaborating with diverse educational institutions and organizations will broaden our user base. Introducing multilingual support and culturally sensitive features will ensure inclusivity and appeal across different demographics. Diversifying revenue streams, such as offering premium services or establishing strategic partnerships, will decrease dependence on advertising revenue. Moreover, optimizing the platform for varying internet speeds and incorporating offline capabilities will enhance usability in regions with unreliable connectivity.

Lastly, investing in digital literacy initiatives and providing user-friendly guides will empower users to navigate our Creative Crafting System effectively, fostering engagement and satisfaction. These initiatives aim to make creative crafting accessible and enjoyable for a wide audience while promoting sustainability and community engagement within the crafting community.

Chapter 3 – Literature Review

A literature review examines published information within a specific academic field, often focusing on a defined time frame. While it can serve as a concise synopsis of sources, a literature review typically adopts an organizational structure that integrates both summarization and synthesis [3].

3.1 Discussion about problem and solution domain-based on published article:

Cost Management: Managing costs is a critical challenge for operators in the creative crafting sector, encompassing project expenses, material costs, and ongoing operational expenditures. Prudent financial management is essential to prevent budget overruns, especially when projects evolve or require adjustments mid-course.

Transparency Issues: Transparency poses a significant hurdle in the creative crafting industry, characterized by its diverse and expanding landscape. Varied pricing structures for materials and services make negotiations complex, placing pressure on participants to navigate fluctuating costs while maintaining customer trust amid constant comparisons.

Client Expectations and Revisions: Clients in creative crafting often pursue projects with high personal investment, seeking perfection and occasionally requesting modifications to original plans. Balancing client expectations, communicating changes effectively, and managing their impact on project timelines demand a nuanced approach from practitioners.

Time Management: Efficient time management is crucial in creative crafting, given the project-intensive nature of the field. Ensuring optimal utilization of time by crafting teams is essential for achieving successful outcomes. Developing effective plans and strategies within realistic timeframes remains an ongoing challenge.

Access to Talent: Unlike job seekers who navigate recruitment processes sporadically, creative crafters must continually source diverse and skilled talent. Geographical limitations and the need for specific skill sets add complexity to identifying suitable collaborators and contributors for projects.

Logistical Complexity: Logistics present significant challenges in the creative crafting sector, impacting access to quality materials, coordination of project workflows, and engagement across various platforms. The absence of centralized online marketplaces and reliance on physical visits further complicates logistical operations within the industry.

3.2 Recommended approach:

In the realm of creative crafting systems, various approaches are employed globally. The key lies in identifying the most suitable method for a specific project. This discussion will explore three methodologies, outlining their advantages and limitations, to facilitate well-informed decisions for your endeavor.

Waterfall Model:

An essential component of conventional software development processes is the waterfall paradigm, characterized by a linear progression through predefined phases. Renowned for its simplicity, it is often dubbed the "sequential" or "direct" life cycle model. In the waterfall model, each phase must be finalized before transitioning to the subsequent one, with no provisions for revisiting completed stages. Its structured nature offers a lucid depiction of the software development journey, rendering it accessible and comprehensible. Despite its inherent inflexibility, the waterfall model retains its status as one of the foremost Software Development Life Cycle (SDLC) models [4].

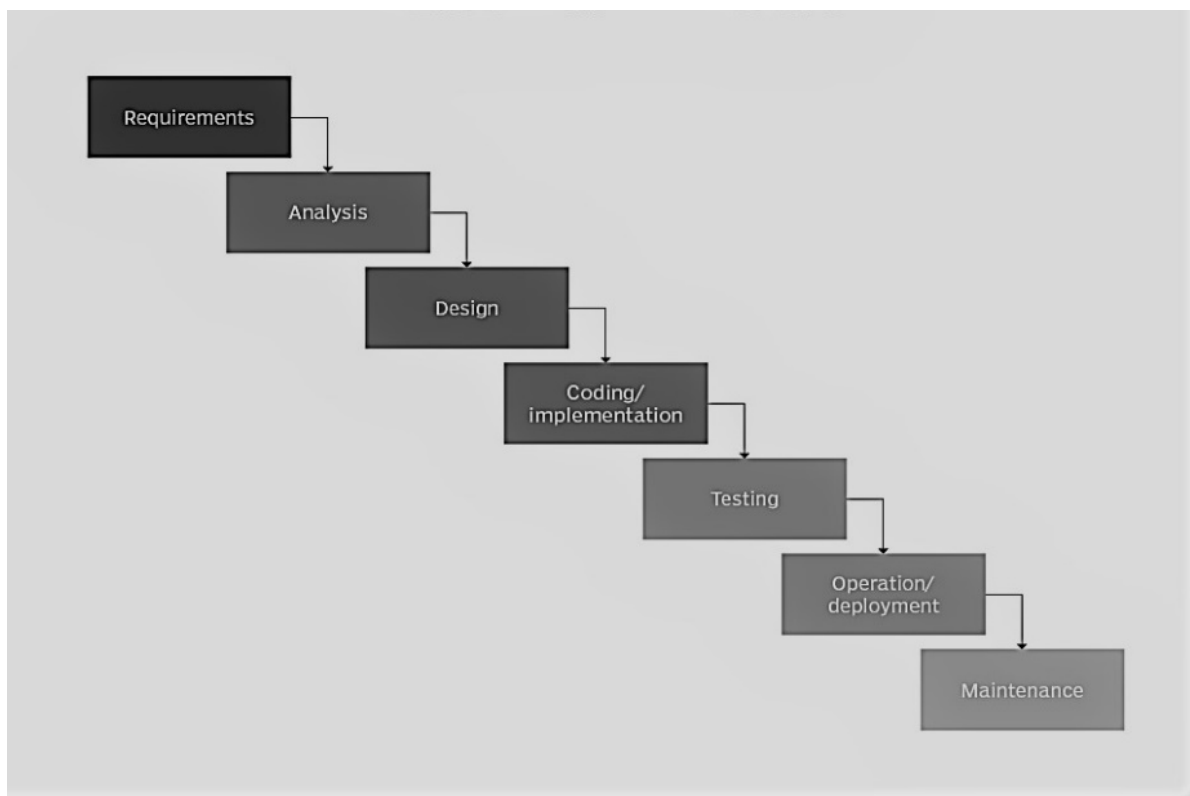


Figure 3.1. Waterfall business model

Advantages:

- The waterfall model features a simple and clear conceptual framework.
- Progression occurs in a linear, step-by-step sequence.
- Development time is often more efficient than with other methodologies.
- Testing and inspection processes are straightforward and easy to implement.
- Management of the waterfall model is relatively effortless.

Disadvantages:

- Lacks backward compatibility once a phase is completed.
- After finalizing a stage, addressing issues from previous stages becomes unfeasible.
- There is no flexibility to revert to earlier phases after their completion.
- It is not ideal for project launches.
- The magnitude of differences can vary significantly in certain scenarios.
- Modifying or adding requirements during the project is not feasible.

Agile Methodology:

The agile methodology embodies a dynamic and proactive approach, particularly beneficial in software development. It emphasizes iterative delivery and fosters collaborative engagement among cross-functional teams and stakeholders. Developed as a counterpoint to traditional methodologies like the Waterfall model, agile aligns with the principles of the Agile Manifesto. In the fast-paced world of software development, continuous updates and enhancements are essential. Engineers must perpetually refine components to stay competitive, making the rigid structure of the waterfall model inadequate for the demands of this constantly evolving industry. Agile's flexibility and adaptability provide a more effective framework to meet these ongoing challenges [5].

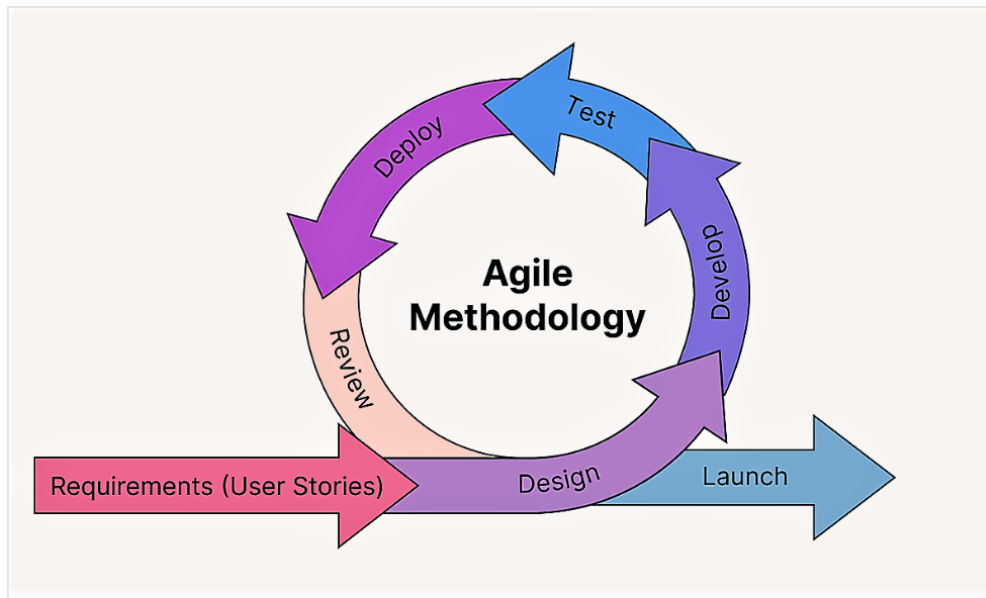


Figure 3.2. Agile Methodology

Advantages:

- Swift and thorough distribution of educational resources is attainable through the agile methodology.
- Prioritizing individuals and their interactions over processes and tools is crucial, fostering effective collaboration among customers, developers, and testers.
- Regular engagement between customers, developers, and testers is ensured.
- Business software can be consistently delivered on a regular basis.
- Direct, face-to-face communication is encouraged to enhance interaction.
- Daily collaboration between entrepreneurs and developers is supported.
- The methodology advocates for sound design practices.

Disadvantages:

- Establishing the scope of work can present challenges, especially for large-scale software projects.
- There is a risk of project requirements and documentation being incomplete.
- Project progress might be impeded if user representatives struggle to clearly express desired outcomes.
- Innovation might be hampered unless key decisions incorporate input from younger developers.

DSDM-Methodology:

This model draws inspiration from the Pareto Principle, where project advancement occurs in 20% increments until achieving total completion. This iterative development approach follows 80% of fundamental principles during each cycle to promote collaborative progress. After each cycle, a comprehensive review of multiple transactions is conducted to pinpoint and implement necessary adjustments, ensuring continuous improvement and alignment with project goals [6].

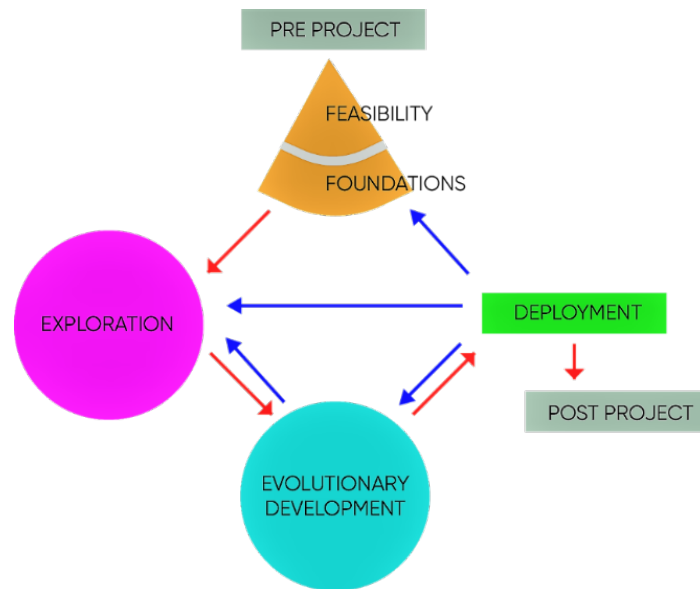


Figure 3.3. DSDM Process Methodology

Advantages:

- Emphasize timelines.
- The DSDM methodology is economically efficient.
- It offers flexibility.
- Users can actively engage throughout the development process.
- The methodology can lead to significant time savings.

Disadvantage:

- The methodology incurs significant implementation costs.
- Small organizations may struggle to adopt this methodology.
- DSDM methodology has not yet achieved broad acceptance.
- It can sometimes be challenging to understand.

The creation of the Creative Crafting System is an internal project within the context of my research efforts, presenting challenges in adopting a unified approach. With aspects of the study not fully defined or consolidated from the outset, my primary focus initially centers on gathering data, conducting analysis, and prioritizing tasks for system development. Acting as the sole developer without a team or dedicated unit, a customized methodology that integrates elements from both the waterfall and DSDM models proves beneficial. The waterfall approach supports thorough requirement gathering, while the DSDM model enhances the efficiency of ongoing development processes. This dual-method approach ensures flexibility and responsiveness throughout the project lifecycle, accommodating iterative improvements and adjustments as needed.

3.2 Why to Use:

The creative crafting system aimed to tackle challenges inherent activity. Supporting the expansion and success of the endeavor. From the range of promotional strategies, I focused for this approach due to its alignment with system requirements. The specific approach for implementation remains undisclosed at this time. Several factors contribute to this decision [7].

The system enables seamless user's interaction.

It incorporates attractive features.

Implementation of anticipated functionalities.

It ensures timely support whenever required.

The project can be completed within the stipulated timeframe.

3.4 Implementation Plan:

The creative crafting system becomes accessible to users as the project nears completion. This phase marks the transition to operational readiness. Should any challenges arise, the project may return to the development phase. Once all issues are resolved, the system's configuration is finalized to ensure seamless operation, preparing for its eventual deployment in the post-project phase.

Chapter 4 – Planning

4.1 Project Plan:

Creative crafting systems are foundational to any project, involving the understanding of project needs, creation of plans, assessment of potential challenges, time management, budget allocation, and structuring of workflows. This comprehensive approach enables developers to clearly define their goals and efficiently implement them. This platform acts as the central hub and driving force behind all decision-making processes within this field [8].

4.1.1 Work Breakdown Structure (WBS):

Remains committed to meeting deadlines for every project they undertake. The work breakdown structure acts as a guiding roadmap for deconstructing crafted the layout of multi-tiered emergency area as part of their development efforts. Facilitates the identification of potential improvements and delineates steps for refining team operations. Each work level undergoes a meticulous breakdown, progressing from primary to subsequent stages. Utilizing the work breakdown structure block guarantees optimal results. The framework of this structure seamlessly harmonizes with the meticulously planned breakdown structures.

Task Name	Duration	End-Time
1. Initial Study	14 days	19 February 2024
1.1 Identify the Project All requirements	3 days	22 February 2024
1.2 Justify the Project	4 days	26 February 2024
1.3 Find out the solution	6 days	3 March 2024
1.4 The Aims and Objectives	2 days	5 March 2024
2. Requirement Gathering and Analysis	10 days	15 March 2024
2.1 Feasibility Study	2 days	17 March 2024
2.2 Use Cases	2 days	19 March 2024
2.3 Functional Requirement	1 day	20 March 2024

2.4 Non-Functional Requirement	1 day	21 March 2024
2.5 System Architecture	1 day	22 March 2024
2.6 ERD For (Database Management)	1 day	23 March 2024
2.7 Initial Class Diagram	2 days	25 March 2024
3. Design	15 days	9 April 2024
3.1 UI Design	5 days	14 April 2024
3.2 Database Design	2 days	16 April 2024
3.3 Class Diagram	2 days	18 April 2024
3.4 Behavioral Model	2 days	20 April 2024
3.5 Collaboration Diagram	4 days	24 April 2024
4. Implementation	20 days	14 May 2024
4.1 Programming Language (MERN)	2 days	16 May 2024
4.2 Project Implementation	18 days	3 June 2024
5. Testing	6 days	9 June 2024
6. Documentation	30 days	9 July 2024

Table 4.1. Chart table of Creative Crafting System

4.1.2 Time Boxing:

The duration system facilitates timely delivery of orders within specified time frames, ensuring that projects stay on schedule. It is important to select an appropriate time frame for project completion [9].

Task Name	Acting Role	Duration (Days)
Initial Study	Analyst	15
Feasibility Study	Analyst	5
Foundation	Developer	5
Literature Review	Analyst	10
Methodology	Developer	25
Planning	Analysis And Developer	25
Exploration	Analyst and Developer	18
Engineering	Developer	50
Testing	Tester	7
Development Phases	Developer	20
Implementation Phase	Developer	30
Lesson Learned	Developer	20
Critical Appraisal	Analyst	5
Conclusion	Developer	2

Table 4.2. Time boxing of Creative crafting System Execution

4.1.3 Gantt Chart:

The Creative Crafting System serves as a visual representation, providing a comprehensive overview of all activities, their initiation and completion dates, and their respective durations. This visual tool is essential for keeping stakeholders updated on the timing and sequence of project components, allowing them to understand when specific tasks are scheduled. Through its organized and clear format, the Gantt chart supports effective management of project schedules, assisting in the attainment of project goals within set timeframes [10].

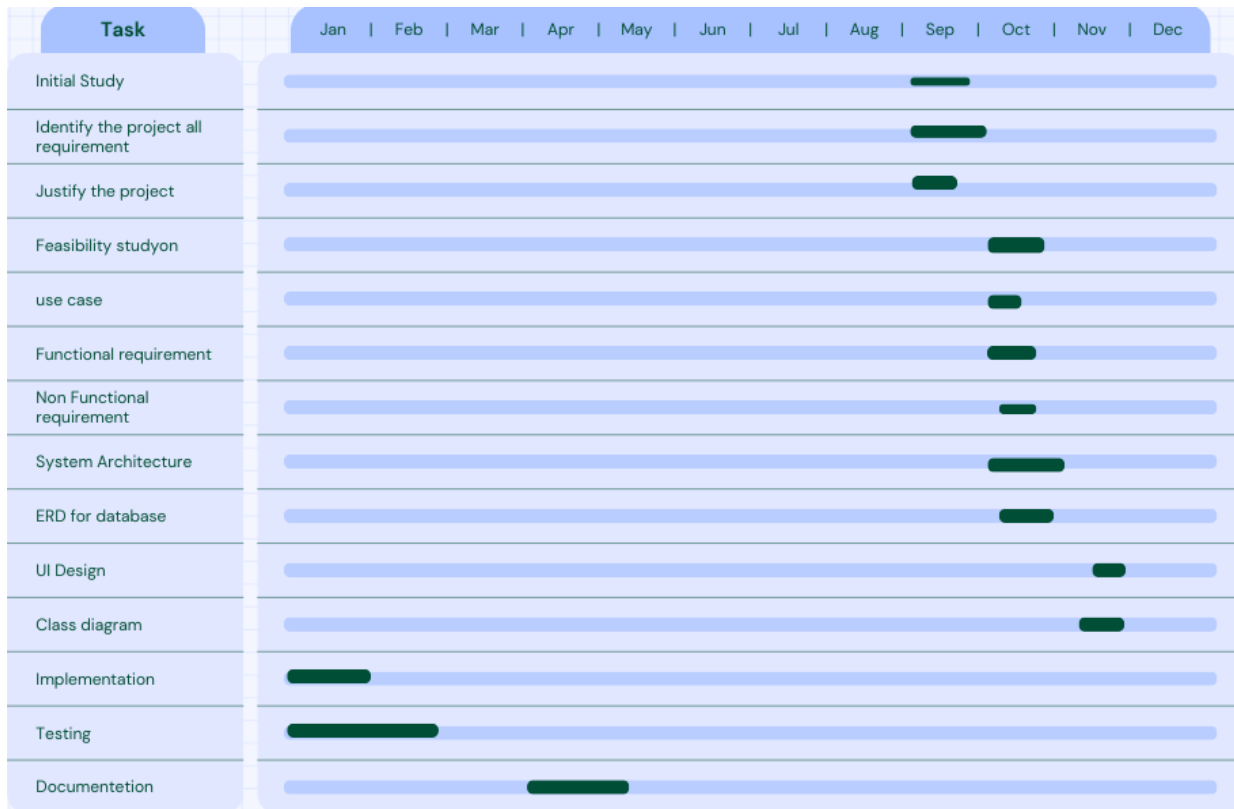


Figure 4.1. Gantt-Chart

4.2 Test plan:

Testing plays a crucial role in the development of a creative crafting system, serving as a fundamental process to detect flaws and inconsistencies. By conducting tests, we systematically evaluate and compare real-time outcomes with anticipated results, ensuring that the system adheres to established standards and implementation criteria [11].

4.2.2 Required Test:

Ensuring the functionality of the creative crafting system and identifying areas for improvement are crucial steps in addressing challenges and understanding strengths and weaknesses. Below are essential tests necessary to ensure the system's robustness:

Functional Testing:

- **Integration Testing:** This process is primarily applied within the context of software systems. The organization holds official certification as a software entity. Integration testing involves concurrent testing of multiple units, with the incorporation of inspirational features or groups as deemed necessary. Verification processes are put in place to ensure the seamless operation of all software modules before successful test calls are initiated.
- **Unit Testing:** This phase involves the comprehensive testing of various segments and elements of the project to guarantee their functionality and precision. Additionally, these tests play a pivotal role in ensuring regulatory compliance and supporting coding activities.
- **System Testing:** Typically following integration testing, this phase focuses on the thorough assessment of capabilities, features, and system requirements. It emphasizes the importance of adopting the correct approach to workload management.
- **Acceptance Testing:** Serving as the final phase of systematic testing, acceptance testing involves active user participation. Its primary objective is to assess customer satisfaction and ensure alignment with essential business prerequisites.

Nonfunctional:

- **Security Testing:** This section concentrates on ensuring the robustness of web applications and software, both internally and externally. It involves conducting assessments to identify vulnerabilities such as SQL injection to strengthen the system against potential security breaches. Comprehensive evaluations of external and internal security measures are conducted to mitigate risks and protect sensitive information.
- **Usability Testing:** This segment oversees usability assessments, ensuring the software's user-friendliness and intuitive navigation. Emphasizing user convenience and effectiveness, it aims to enhance the overall user experience within the software ecosystem.
- **Reliability Testing:** Users engage in testing activities focused on evaluating the software's durability, resilience to failure, and overall reliability in this section.

Chapter-5 Feasibility

If the viability of self-protection is confirmed as achievable, readily available, and in accordance with legal standards, it becomes a pivotal element of the feasibility evaluation. This aids in assessing the project's sustainability. This segment explores diverse approaches to conducting feasibility assessments, including specialized training programs, hands-on assessments, and comprehensive feasibility analyses.

5.1 All Possible types of Feasibility:

- Hardware Expenditure.
- Hosting Expenses.
- Technical Viability.
- Operational Viability.

5.1.1 Economic Viability:

The Creative Crafting web application system incorporates AI-based image generation, an authentication system, admin panel, buyer and seller account types, transaction management, payment processing, profile management, online receipt and payment summaries, and features like cart management and Wishlist's. The system's deployment is straightforward, with additional costs like installation dependent on specific needs. Furthermore, I provide free system maintenance for six months post-implementation, subject to any changes or new requirements that may affect service continuity. To use the service, acquiring a server and domain name is essential. Below is a feasibility assessment table:

No.	Sect.	Costing
01	Software cost	55,762/=
02	Hardware cost	30,570/=
03	Hosting cost	10,923/=

Table 5.1. Economic Feasibility

Software-cost:

No.	Software-name	Cost (per-year)	Total
01	M S World	30,555/=	30,555/=
02	OS Mongoose	-	-
03	React (VS Code)	10,000/=	10,000/=
04	Hosting	30,000/=	30,000/=
05	Figma	10,000/=	10,000/=
		Total	80,555/=

Table 5.2. Software-Application Cost

Hardware cost:

No.	Hardware-Name	Quantity	Cost (per-year)	Total
01	Laptop-DCL	01	80,000/	80,000/=
02	Modem/Router	01	1,500/	1,500/=
			Total	81,500/=

Table 5.3. Project-Hardware Costing

Hosting cost:

Serial No	Host-name	Cost (per-year)	Total
01	Domain	3,525/=	3,525/=
02	Business	30,000/=	30,000/=
		Total	33,525/=

Table 5.4. Web-Hosting Cost

5.1.2 Technological Feasibility:

Creative crafting web application system integrates AI-based image generation, robust authentication, an intuitive admin panel, and dual account types for buyers and sellers. The system includes a seamless transaction and payment system, ensuring secure financial transactions. Users can update their profiles, access online receipts, and payment summaries conveniently. Features like an integrated cart and wishlist enhance user experience by facilitating item selection and future purchases. Built on PHP and JavaScript, this web application ensures operational efficiency and minimizes data loss risks. Its browser-based interface offers accessibility and ease of use, crucial for the system's effectiveness in catering to the diverse needs of crafters and consumers alike.

Software:

- Google Workspace.
- Cloud-based Operating System.
- Firebase.
- MongoDB with Mongoose.

Hardware:

- Laptop (any brand).
- Router (any brand).

5.1.3 Operational Feasibility:

The Creative Crafting web application system integrates AI-based image generation, authentication, an admin panel, and buyer-seller account types with transaction and payment systems. It features profile management, online receipts/payment summaries, and includes add-to-cart and Wishlist functionalities. This system enhances user experience by providing seamless accessibility and a simplified interface for better usability. It enables effortless addition of products, ensures user-friendly navigation, and promotes ease of understanding for all users. The AI-based image generation capabilities empower users to create and customize craft designs with precision, while robust authentication and transaction systems secure interactions between buyers and sellers. Admin capabilities encompass product management, user oversight, content moderation, and operational decisions, ensuring efficient system management and optimal functionality.

5.2 Cost Benefit Analysis:

This data underscores the inherent volatility in the current industrial environment. Currently, each online task requires a full day to complete. Adopting this system is set to provide significant benefits to the user.

No.	Sector Expenditure	Year 1	Year 2	Year 3	Year 4	Total
1	Software Cost	5,000/=				
2	Hardware Cost	9,000/=			55,000/=	
3	Hosting					
4	Office cost	5,000/=			80,000/=	
5	Staff cost	2,000/=	1,600/=	1,600/=		
6	Development Cost	3,000/=	4,000/=	22,000/=		
7	Others cost	5,000/=		33,000/=	6,000/=	
8	Total				141,000/=	

Table 5.5. Cost-Benefit Analysis

Total revenue:

SL No	Sector Expenditure	Year 1	Year 2	Year 3	Year 4	Total
1	Total Earning	145,000/=	175,000/=	255,000/=	38,000/=	892,000/=
2	Total expenditure	203,500/=	75,500/=	75,500/=	75,500/=	446,000/=

Table 5.6. Total-Revenue Analysis

After conducting a thorough cost analysis, it became clear that a combined effort could generate significant annual revenue, with projections indicating an upward trajectory each year. After careful examination of the projects, it shows that in four years revenue is going to be 1,34,868/=. As a result, I am convinced that this program demonstrates strong profitability.

Chapter 6 – Foundation

6.1 Over All Requirement List:

Software engineering encompasses two main categories of requirements: functional requirements and non-functional requirements. Below are examples of these requirements:

6.1.1 List of functional requirements:

- **AI-Based Image Generation:** Incorporates AI technology to generate and customize images for crafted items.
- **Authentication System:** Ensures secure access with user authentication and authorization processes.
- **Admin Panel:** Provides administrators with control over system management, user activities, and content moderation.
- **Buyer and Seller Accounts:** Enables users to operate as buyers or sellers, managing their transactions and listings.
- **Transaction System:** Facilitates smooth transactions between buyers and sellers within the platform.
- **Payment System:** Integrates secure payment gateways for seamless financial transactions.
- **Profile Update:** Allows users to update their profiles with personal and business information.
- **Online Receipt and Payment Summary:** Provides users with digital receipts and transaction summaries for transparency.
- **Add to Cart and Wishlist System:** Enables users to save items for future purchase and track their preferences.

6.1.2 List of Not Functional Requirement:

- **Verification:** Customers are prompted to input their information, which undergoes validation procedures to verify its accuracy and authenticity.
- **Security:** The website operates with a focus on security, providing customers with a trustworthy online environment. Security is of paramount importance for any website, ensuring a safe and secure experience for users.
- **Responsiveness:** Website responsiveness is of utmost importance. Without it, users may encounter various issues. A responsive website can be accessed seamlessly across multiple devices, including mobile phones, laptops, and other devices.

- **Reliability:** The inadvertent pressing of keys may lead to unforeseen outcomes within the system. Conversely, reliability is defined by the system's capacity to provide uninterrupted services round the clock, seven days a week. Consequently, the evaluation of our system places a primary focus on ensuring optimal reliability.
- **Flexibility:** The system is required to exhibit flexibility, enabling users to interact with it seamlessly. Furthermore, all information within the system must be presented in a comprehensive and detailed manner.
- **Testability:** The proposed system must be designed to be testable, allowing for easy verification of all its features. This ensures that administrators, designers, and customers can seamlessly interact with the system.

6.2 What Technology Implemented:

The market viability of an online "Creative Crafting" web application system, enhanced with AI-based image generation, authentication system, admin panel, buyer and seller account types, transaction and payment systems, profile updates, online receipt or payment summary, and add-to-cart and Wishlist functionalities, is highly promising. The system can leverage e-commerce platforms and social media channels to reach a wide audience, capitalizing on the increasing consumer preference for unique, artisanal products.

Client/Server Applications:

A noteworthy innovation in software applications involves the creation of a creative crafting web application system featuring AI-based image generation. This application is designed to organize records systematically and facilitate standard exchanges within crafting communities. The integration of authentication systems ensures secure access for users, with distinct account types for buyers and sellers. An admin panel offers comprehensive management capabilities, overseeing user activities and transactions and the system has a robust transaction and payment system, providing users with online receipts or payment summaries. Profile update features allow users to manage their information effectively. The add-to-cart and Wishlist functionalities enhance the user experience, making it easier to track and purchase desired items. The features and functionalities are listed below:

- Initially installed on the user's computer.
- At this stage, it cannot accommodate a large number of users.
- Capable of handling multiple types of users simultaneously.
- Resilient.

Web application:

- The Creative Crafting Web Application System is designed to revolutionize the crafting community by incorporating advanced features such as AI-based image generation, a robust authentication system, and an intuitive admin panel. This platform supports both buyer and seller accounts, offering a seamless transaction and payment system.
- Key Features:
- AI-Based Image Generation: Enhance creativity with AI-driven tools that generate craft ideas and designs.
- Authentication System: Secure login and registration processes to protect user data and maintain privacy.
- Admin Panel: Comprehensive control for administrators to manage users, content, and platform settings effectively.
- Buyer and Seller Accounts: Dedicated account types to cater to the specific needs of buyers and sellers.
- Transaction System: Efficient handling of transactions between buyers and sellers.
- Payment System: Secure and reliable payment options to facilitate smooth financial transactions.
- Profile Update: Users can easily update their profiles with new information and preferences.
- Online Receipt and Payment Summary: Digital receipts and payment summaries for transparency and record-keeping.
- Add to Cart and Wishlist: Convenient features for users to save and manage their desired items before purchase.

6.3 Recommendations and Justifications:

In the Creative Crafting Web Application System, we have thoroughly examined different applications and their corresponding functionalities to identify the most suitable solution for the proposed system. By opting for a web server, we ensure compatibility of the web application with our system. This enables accessibility from any location with an internet connection, offers cost-effectiveness, eliminates the requirement for installation on specific devices, facilitates rapid and seamless updates, among other advantages. Therefore, it's evident that a web server application is the optimal choice to align with our recommended system.

The system includes AI-based image generation, an authentication system, an admin panel, buyer and seller account types, a transaction system, a payment system, profile updates, online receipts or payment summaries, and add-to-cart and Wishlist features.

Chapter 7-Explorations

Creative Crafting involves making handmade items using diverse materials and techniques. This practice nurtures creativity, relaxation, and personal expression. It encompasses activities like knitting, sewing, painting, and more, offering a fulfilling way to produce unique, personalized items, often pursued as a hobby or a small business venture.

7.1 Old-system use cases:

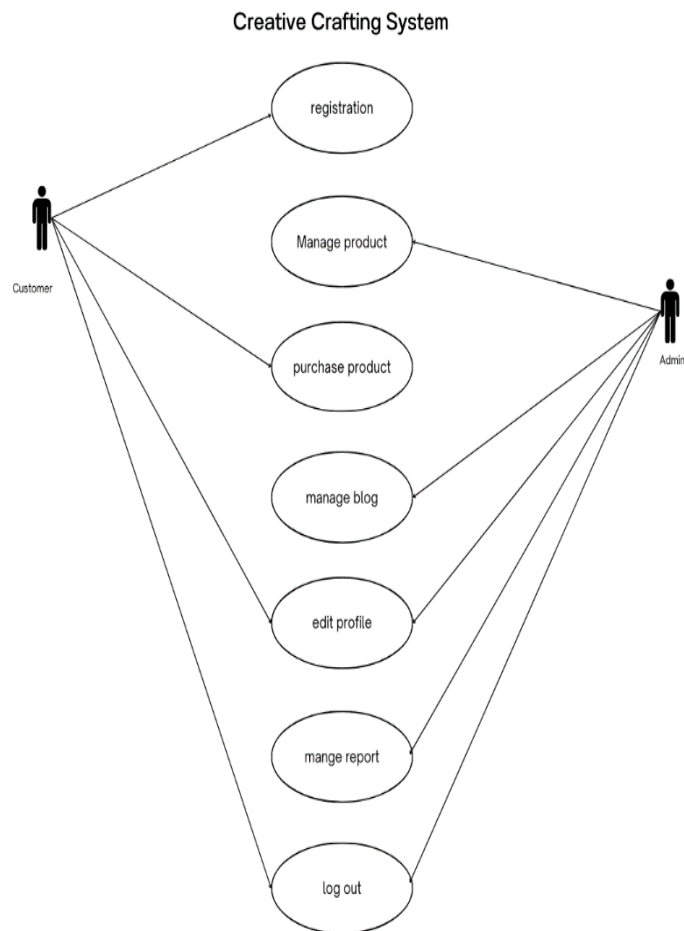


Figure 7.1. Creative crafting use case

7.2 Old system full activity-diagram:

Admin-activity diagram:

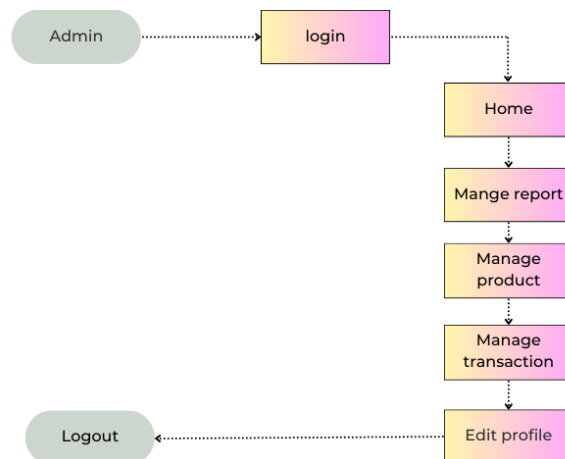


Figure 7.2. Admin Activity-Diagram of creative crafting

Employer activity diagram:

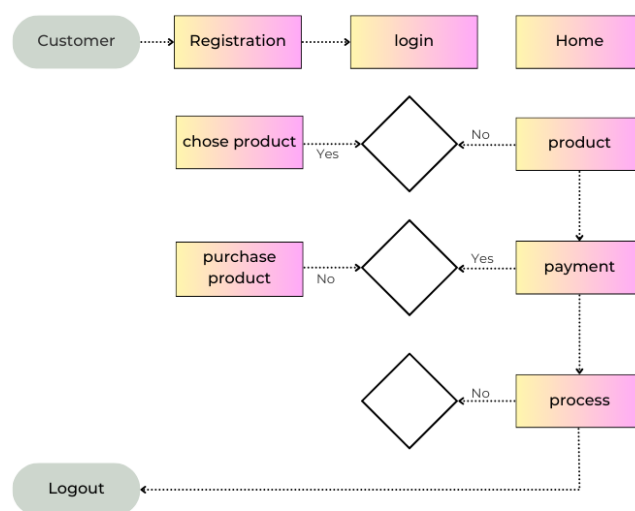


Figure 7.3. Employer Activity-Diagram of creative crafting

7.3 Prioritization Requirement List (PRL):

Applying Moscow: The Moscow rule is fundamental to the requirements list, and. This approach helps in prioritizing functionality and efficiently understanding requirements. Application Process Moscow stands for Mandatory, Recommended, Optional and Optional features. Below are the characteristics of Moscow [12].

R No	Requirement Name	Priority
R-01	The System will be able to manage user accounts, data storage, and security effectively	Must Have
R-02	The System will be able to facilitate user registration for the creative crafting platform.	Must Have
R-03	The System will be able to support user login and social media login options for accessing the platform.	Must Have
R-04	The System will be able to create two types of accounts: Buyer type and Seller type.	Must Have
R-05	The System will be able to provide comprehensive help, contact support, and system documentation.	Must Have
R-06	The System will be able to offer a transaction system for managing sales and purchases.	Should Have
R-07	The System will be able to provide an admin panel for overall system management and oversight.	Must Have
R-08	The System will be able to include an AI-based image generation feature to assist users in crafting.	Must Have
R-09	The System will be able to provide a secure authentication system using JWT (JSON Web Token).	Must Have
R-10	The System will be able to use Firebase Authentication System for enhanced security, utilizing Google's authentication service.	Must Have
R-11	The System will be able to handle profile updates for both buyers and sellers.	Must Have
R-12	The System will be able to include an AI-based image generation feature to assist users in crafting.	Could Have
R-13	The System will be able to incorporate an 'add to cart' and 'Wishlist' feature for buyers.	Must Have
R-14	The System will be able to process payments securely and efficiently.	Must Have

Table 7.1. Prioritized-Requirement List of creative crafting

7.4 Prototype of the System:

Prototyping is a strategic approach designed to optimize website development by focusing on essential marketing elements. Below, you will find the prototype for the new system:

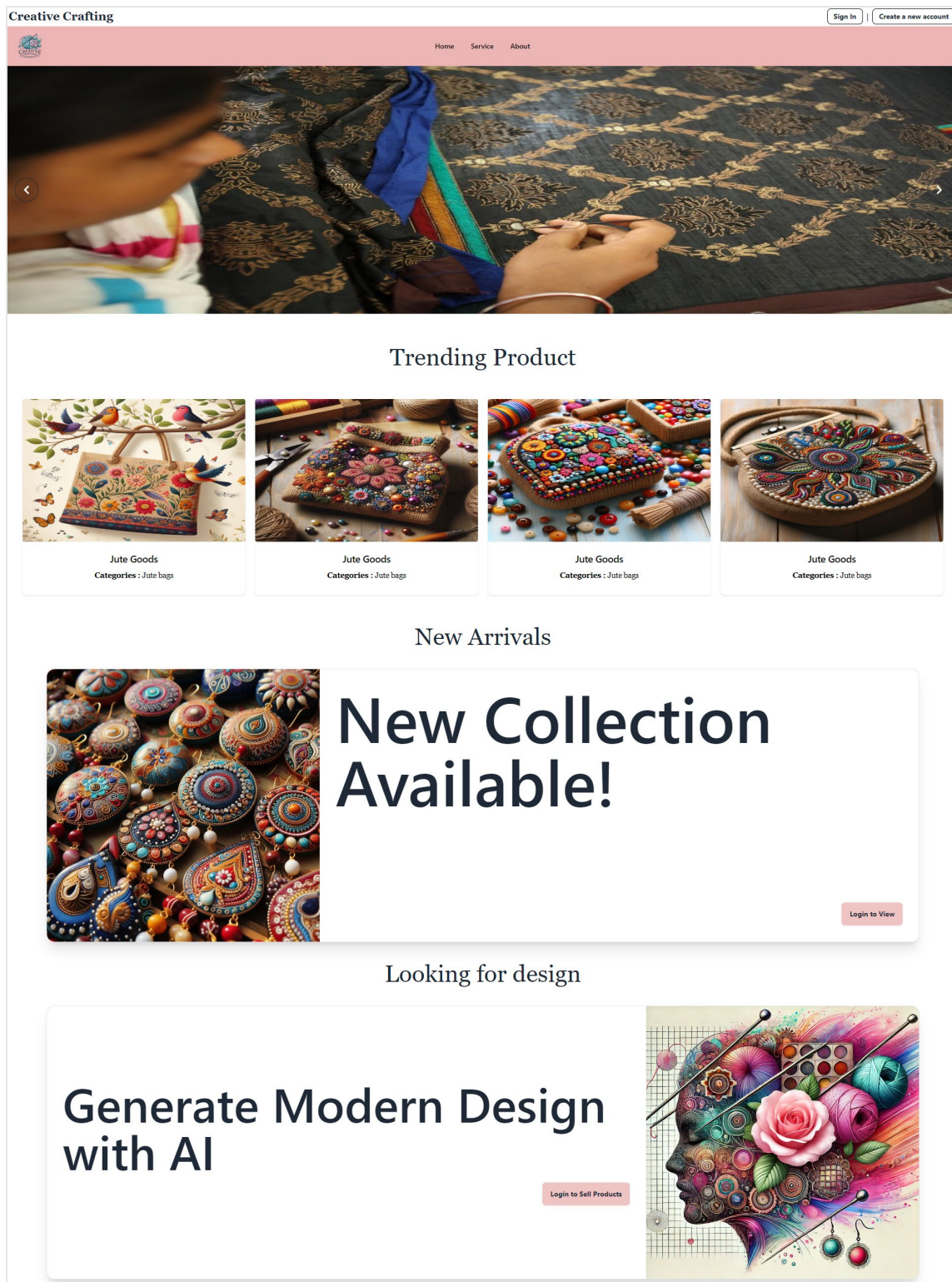


Figure 7.4. Prototype-home page

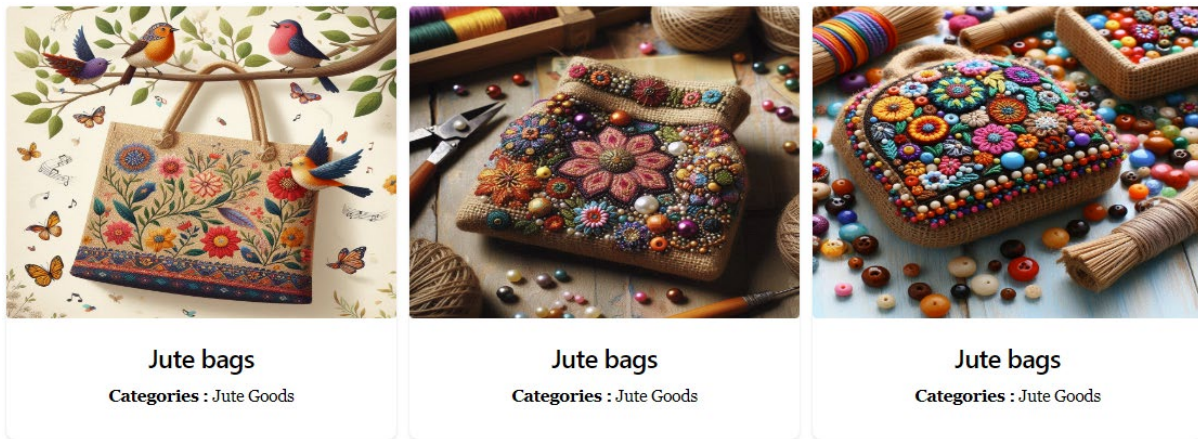


Figure 7.5. Prototype-product card

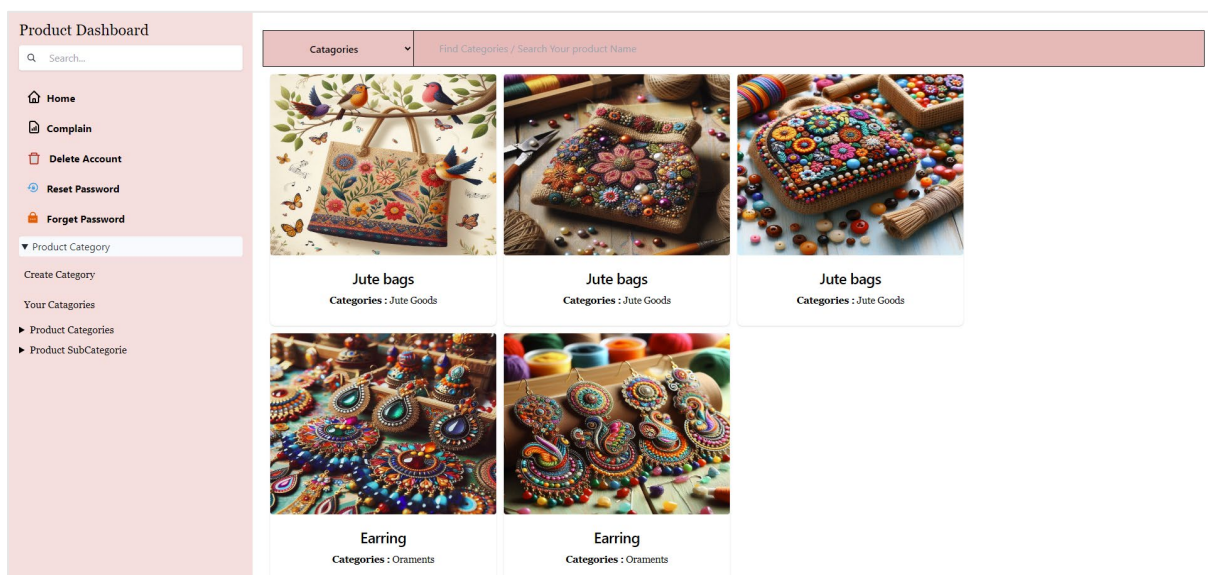


Figure 7.6. Prototype-side navigation

Categories Name	Create Date	Email	Status	Action	Action	Sub Categories						
Jute Goods	Wed Aug 21 2024 18:20:06 GMT+0600 (Bangladesh Standard Time)	kashpiahasanorpacis@gmail.com	Active	Add To Product	Delete	Update	Title	Image	Add To Categories	Sub_Categorie	Delete	Update Image
							Jute bags		Sub Categories	Sub Category	Delete	Update Product
							Jute bags		Sub Categories	Sub Category	Delete	Update Product
							Jute bags		Sub Categories	Sub Category	Delete	Update Product
Ornaments	Wed Aug 21 2024 18:20:12 GMT+0600 (Bangladesh Standard Time)	kashpiahasanorpacis@gmail.com	Active	Add To Product	Delete	Update	Title	Image	Add To Categories	Sub_Categorie	Delete	Update Image
							Earring		Sub Categories	Sub Category	Delete	Update Product
							Earring		Sub Categories	Sub Category	Delete	Update Product
Pottery	Wed Aug 21 2024 22:03:22 GMT+0600 (Bangladesh Standard Time)	kashpiahasanorpacis@gmail.com	Active	Add To Product	Delete	Update	Title	Image	Add To Categories	Sub_Categorie	Delete	Update Image
							Ceramic		Sub Categories	Sub Category	Delete	Update Product

Figure 7.7. Prototype-monitoring panel

Chapter 8 - Engineering

8.1 New System Modules:

The proposed creative crafting web application system offers a comprehensive suite meticulously crafted to address user needs effectively. These modules are designed to cater to a wide range of requirements, ensuring versatility and flexibility in usage. Below, I outline the primary trends and models of the proposed system, showcasing its standout features and unique capabilities.

8.2 New System Use Case diagram

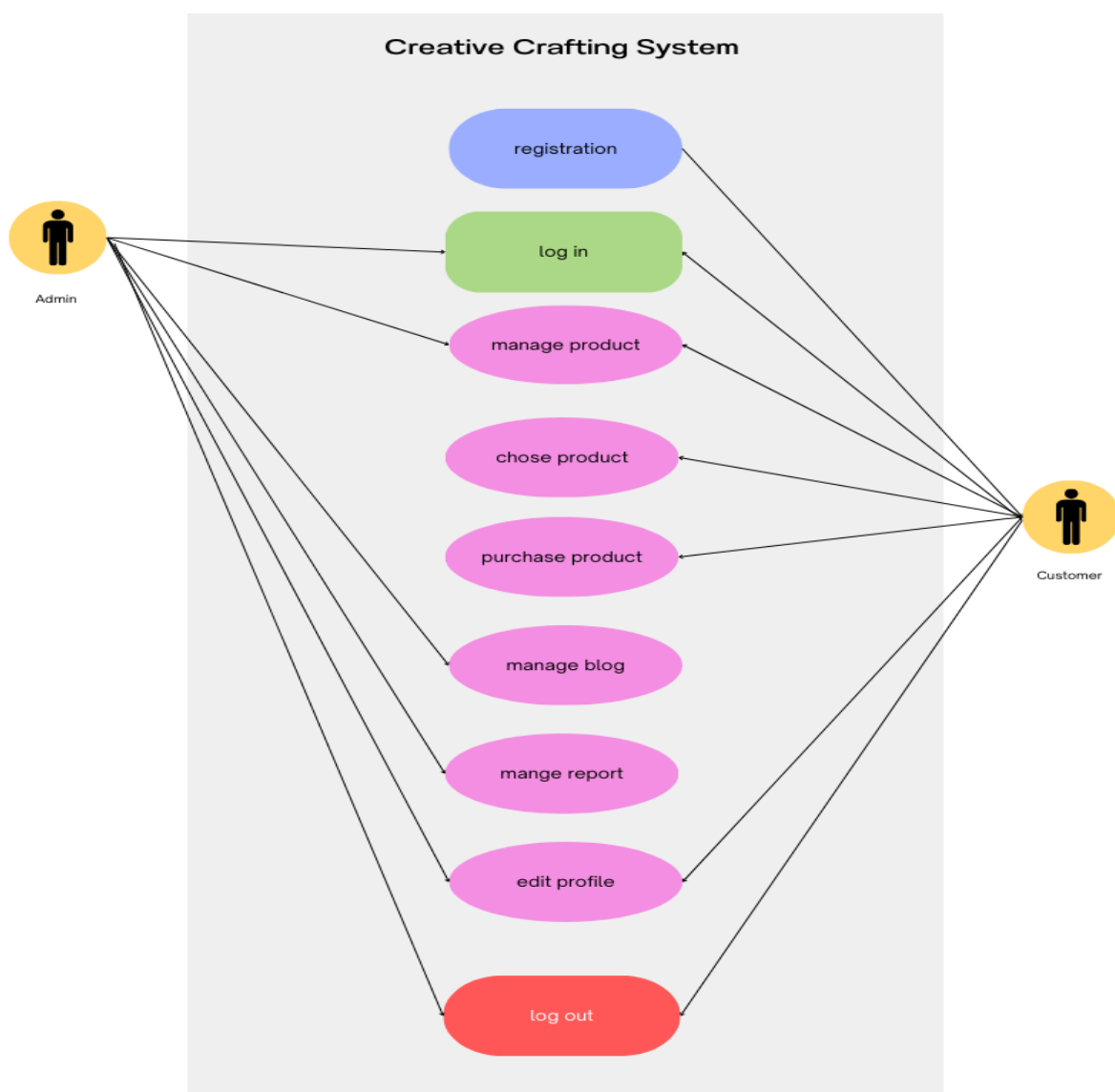


Figure 8.1. New System-Use Case diagram

8.3 New system ERD Diagram:

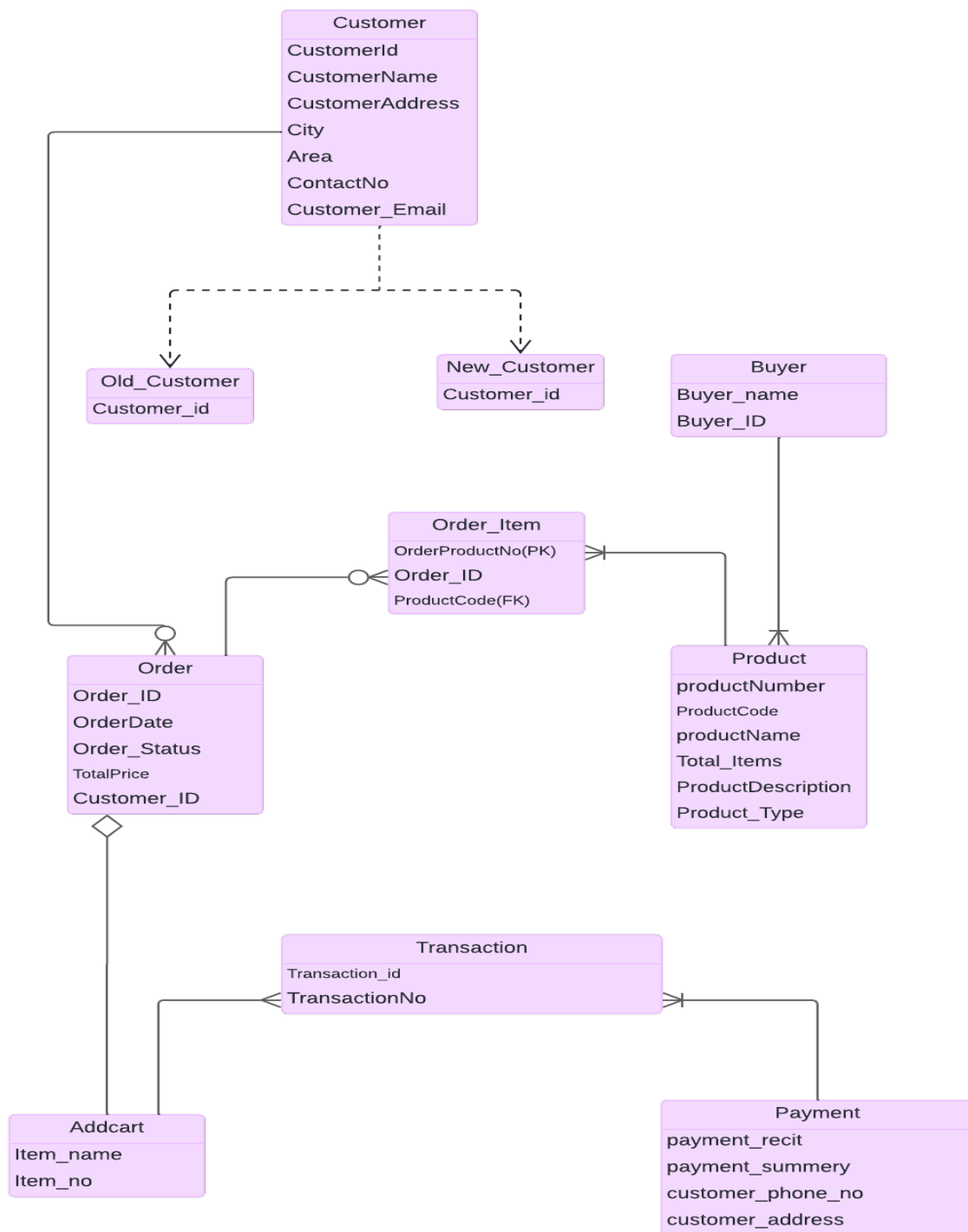


Figure 8.2. ERD-Diagram

8.4 System Interface Design/Prototype:

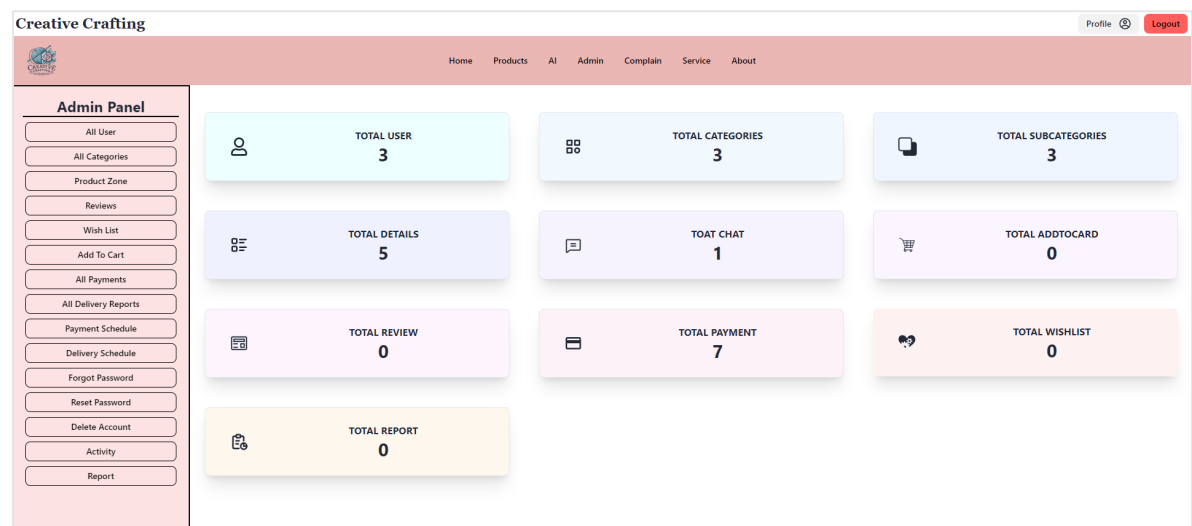


Figure 8.3. System Interface-Dashboard

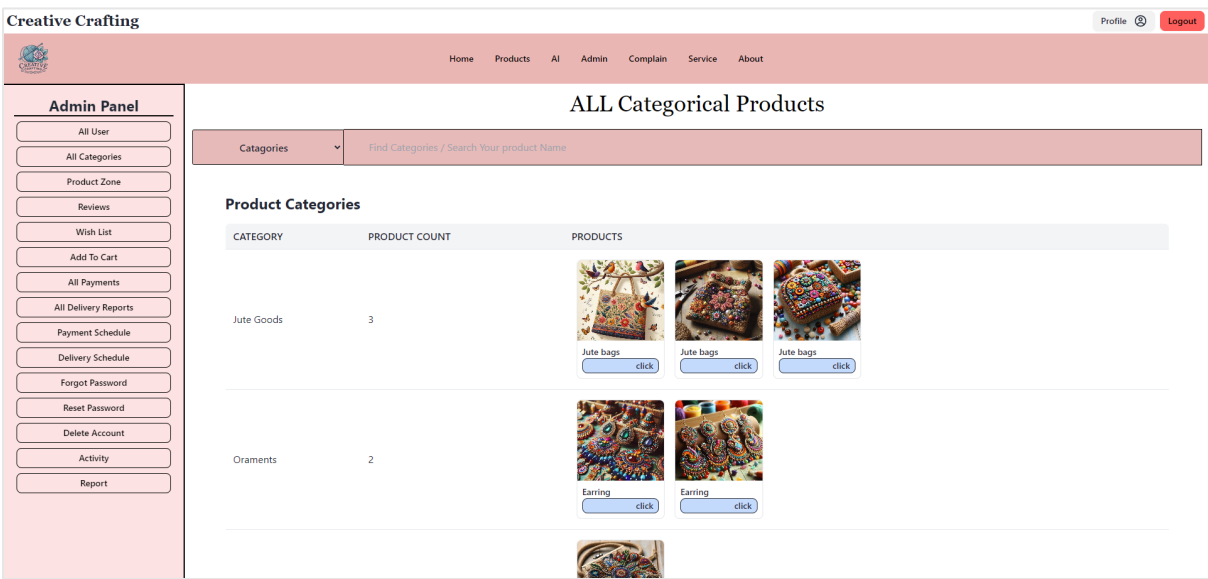


Figure 8.4. System Interface-Categories details

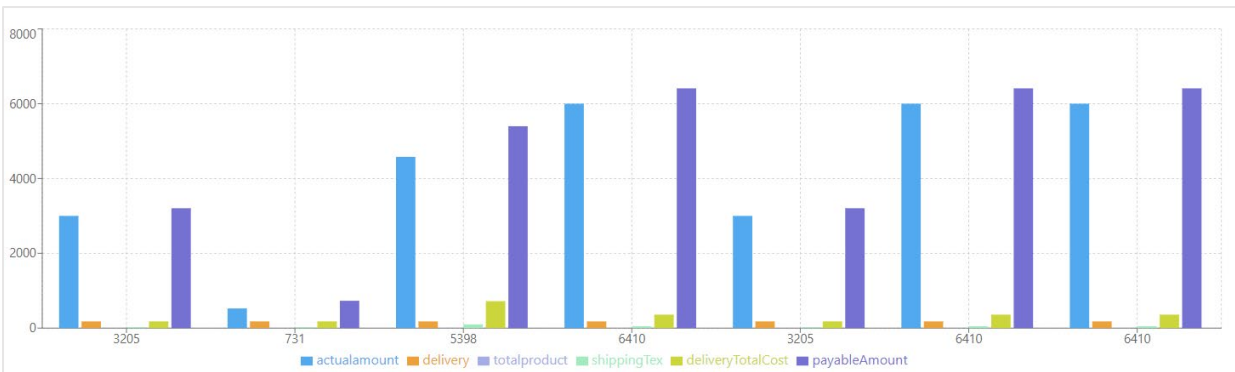


Figure 8.5. System Interface-System chart

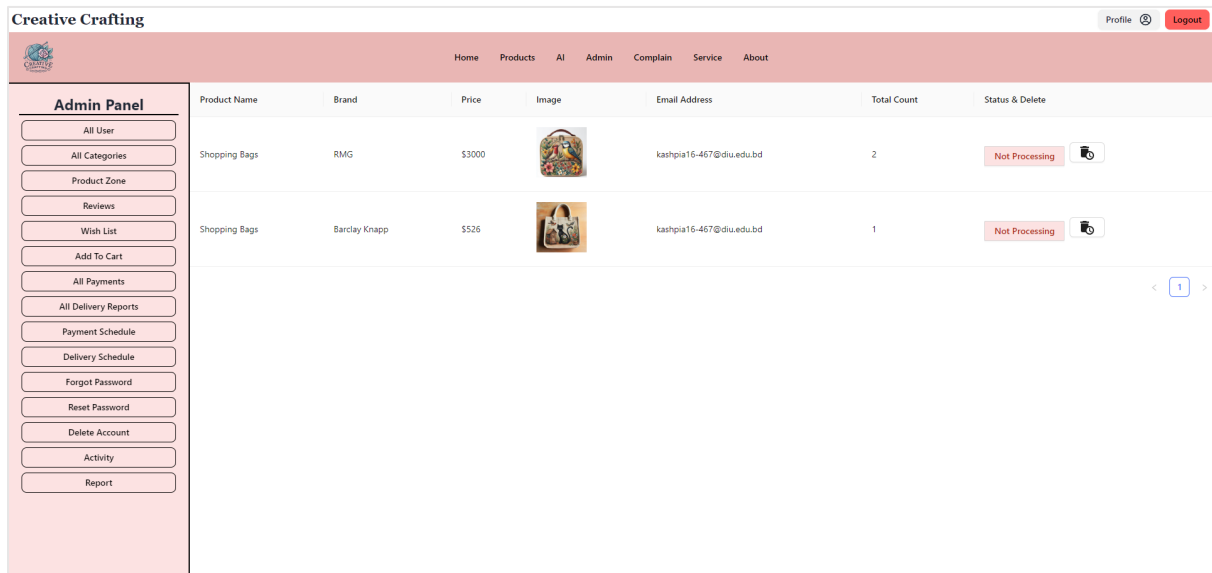


Figure 8.6. System Interface-Add to cart

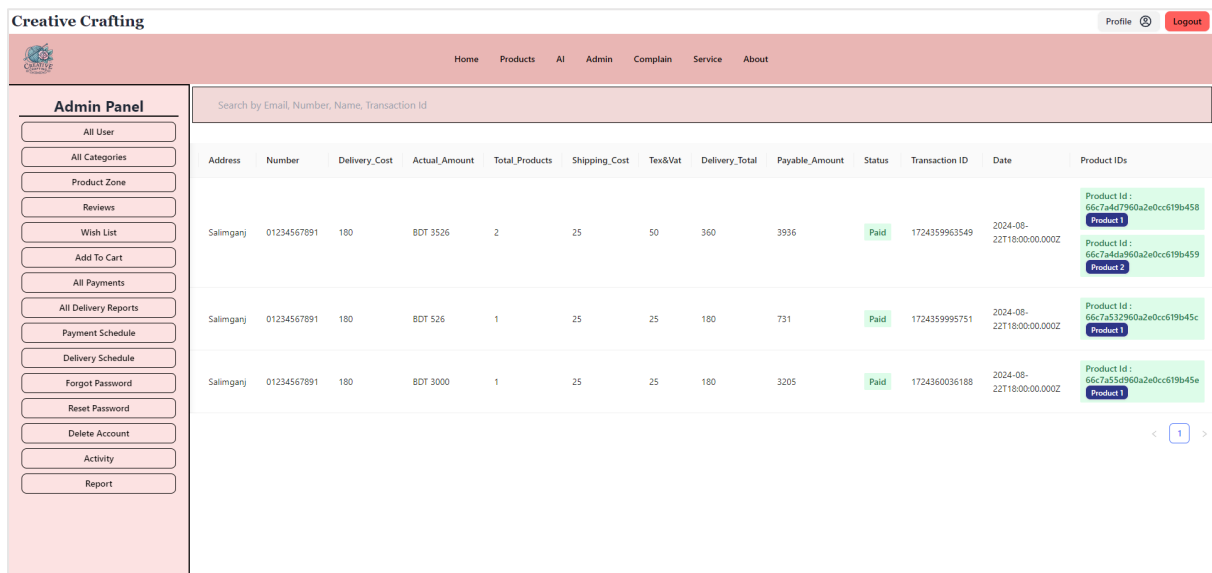


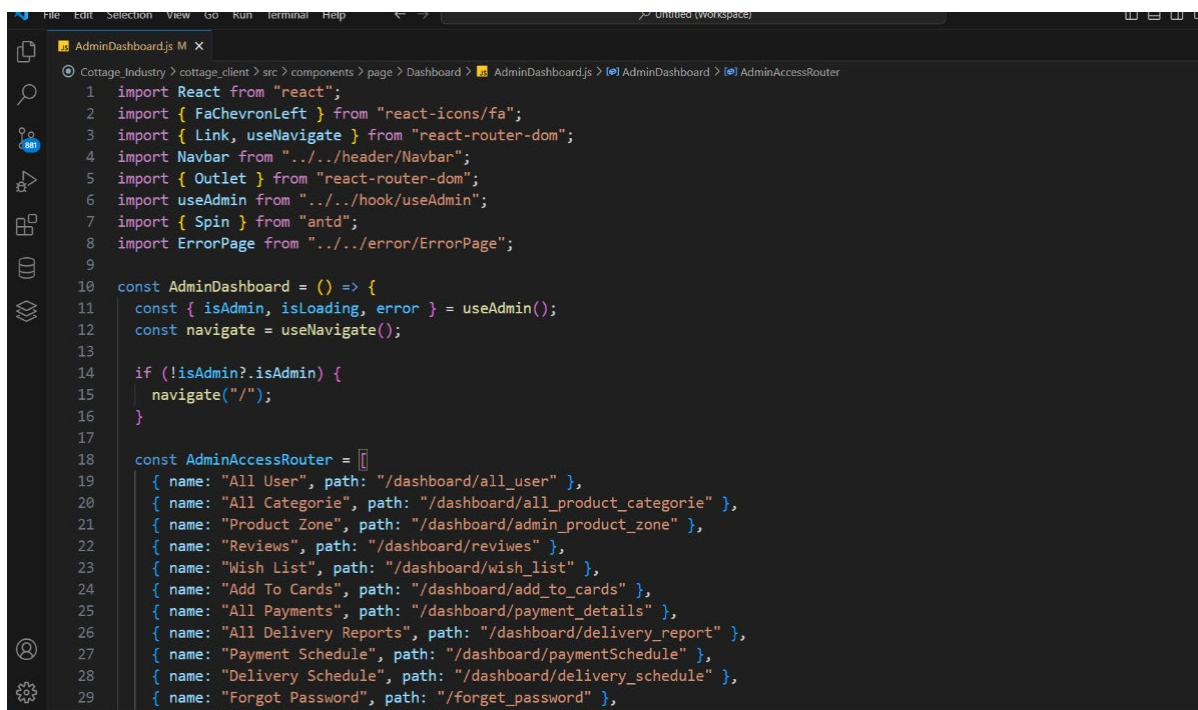
Figure 8.7. System Interface-Product management

Chapter 9 - Development

9.1 Core Modules Coding Simples:

Implementation and construction commence at this stage, following the completion of all analyses. Breaking down tasks into small, distinct segments significantly streamlined the development process. To develop the recommended framework, I employed various programming languages and tools, including Node.js, Express.js, React.js, Tailwind CSS, Daisy UI, MongoDB, and JavaScript. Below are examples of some of the code snippets:

Creative crafting System Some Code:



```
1 import React from "react";
2 import { FaChevronLeft } from "react-icons/fa";
3 import { Link, useNavigate } from "react-router-dom";
4 import Navbar from "../../header/Navbar";
5 import { Outlet } from "react-router-dom";
6 import useAdmin from "../../hook/useAdmin";
7 import { Spin } from "antd";
8 import ErrorPage from "../../error/ErrorPage";
9
10 const AdminDashboard = () => {
11   const { isAdmin, isLoading, error } = useAdmin();
12   const navigate = useNavigate();
13
14   if (!isAdmin?.isAdmin) {
15     navigate("/");
16   }
17
18   const AdminAccessRouter = [
19     { name: "All User", path: "/dashboard/all_user" },
20     { name: "All Categories", path: "/dashboard/all_product_category" },
21     { name: "Product Zone", path: "/dashboard/admin_product_zone" },
22     { name: "Reviews", path: "/dashboard/reviews" },
23     { name: "Wish List", path: "/dashboard/wish_list" },
24     { name: "Add To Cards", path: "/dashboard/add_to_cards" },
25     { name: "All Payments", path: "/dashboard/payment_details" },
26     { name: "All Delivery Reports", path: "/dashboard/delivery_report" },
27     { name: "Payment Schedule", path: "/dashboard/paymentSchedule" },
28     { name: "Delivery Schedule", path: "/dashboard/delivery_schedule" },
29     { name: "Forgot Password", path: "/forget_password" },
```

Figure 9.1. Code-Admin Dashboard

```

1 import React, { useContext, useState } from "react";
2 import MenuDashbord from "../BuyerDashboard/MenuDashbord";
3 import { RiAiGenerate } from "react-icons/ri";
4 import { IoDownloadOutline } from "react-icons/io5";
5 import { useForm } from "react-hook-form";
6 import toast from "react-hot-toast";
7 import { AuthContext } from "../../AuthProvider/AuthProvider";
8
9 const AllImageGenerator = () => {
10   const { user } = useContext(AuthContext);
11
12   const { handleSubmit, register, reset } = useForm();
13   const [generatedImage, setGeneratedImage] = useState(
14     "https://www.elegantthemes.com/blog/wp-content/uploads/2023/08/what-can-ai-do-ft-img-3-min"
15   );
16   const downloadImage = async (imageSrc) => {
17     const image = await fetch(imageSrc);
18     const imageBlob = await image.blob();
19     const imageURL = URL.createObjectURL(imageBlob);
20
21     const link = document.createElement("a");
22     link.href = imageURL;
23     link.download = "image file name here";
24     document.body.appendChild(link);
25     link.click();
26     document.body.removeChild(link);
27   };
28
29   const onSubmit = (data) => {

```

Figure 9.2. Code-AI section

```

21 const AddToCard = () => {
60
61   const AddToCount = (id, count, condition) => {
62     fetch(`http://localhost:3013/api/v1/add_to_product_count/${id}`, {
63       method: "PATCH",
64       headers: {
65         "Content-Type": "application/json",
66         authorization: localStorage.getItem("token"),
67       },
68       body: JSON.stringify({ condition, count }),
69     })
70     .then((res) => {
71       if (!res.ok) {
72         throw new Error("API ERROR");
73       }
74       return res.json();
75     })
76     .then((data) => {
77       toast.success(data?.message);
78     })
79     .catch((error) => {
80       toast.error(error?.message);
81     });
82   };
83
84   const handelDailvary = (event) => {
85     event.preventDefault();
86     const element = event.target;
87     const name = element.name.value;

```

Figure 9.3. Code-Add to cart system

```

6  const UpdateProductDetailsModal = ({ productDetails }) => {
72
73   <dialog id="product_details" className="modal">
74     <div className="modal-box">
75       <form method="dialog">
76         /* if there is a button in form, it will close the modal */
77         <button className="btn btn-sm bg-green-500 btn-circle absolute right-2 top-2">
78           X
79         </button>
80         <h3 className="font-bold text-2xl font-serif">
81           Update Categories Details
82         </h3>
83       </form>
84       <form onSubmit={onSubmit} className="grid grid-cols-1 gap-3 mt-10">
85         <input
86           name="email"
87           defaultValue={user?.email}
88           readOnly
89           type="email"
90           placeholder="Email Address"
91           className="input input-bordered w-full "
92         />
93
94         <input
95           type="text"
96           name="release_date"
97           defaultValue={new Date().toString()}
98           readOnly
99           className="input input-bordered w-full "
100        />

```

Figure 9.4. Code-Product update

```

4  import { Spin } from "antd";
5  import ErrorPage from "../../error/ErrorPage";
6  import { TblListDetails } from "react-icons/tb";
7  import { GrTransaction } from "react-icons/gr";
8  import { AiFillPrinter } from "react-icons/ai";
9  import { ReactToPrint } from "react-to-print";
10 const PaymentSummary = () => {
11   const componentRef = useRef();
12   const {
13     data: paymentSummary = [],
14     error,
15     isLoading,
16   } = useQuery({
17     queryKey: ["categoricalProduct"],
18     queryFn: async () => {
19       const res = await fetch(
20         "http://localhost:3013/api/v1/my_all_order_summary",
21       );
22       const data = await res.json();
23       return data;
24     },
25   });
26   return data;
27 });

```

Figure 9.5. Code-Payment summary and online recite

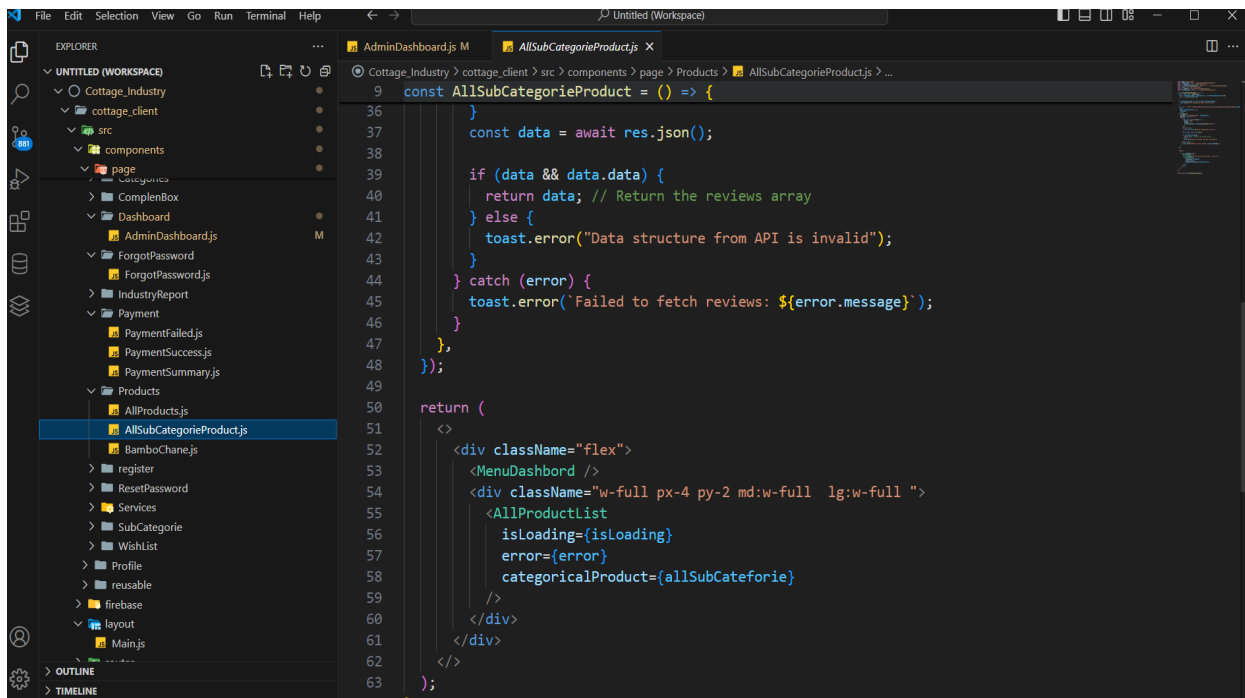


Figure 9.6. Code-Product category

9.2 Possible problem breakdown:

The system I propose boasts a number of notable features. Decomposing the system is essential for smooth development. Failure to do so will significantly hamper the progress of the entire system.

The Creative Crafting web application system integrates AI-based image generation, enhancing user creativity by providing unique and personalized design suggestions. The system has a robust authentication system, ensuring secure access for all users. An intuitive admin panel is provided to efficiently manage content, users, and transactions. The platform supports both buyer and seller account types, facilitating a seamless marketplace experience. The transaction system is designed for safe and efficient payments, supported by a comprehensive payment system that accommodates various methods. Users can update their profiles, view online receipts or payment summaries, and manage their activities easily. Additionally, the system features 'Add to Cart' and 'Wish List' functionalities to enhance the shopping experience, allowing users to save items for future purchases and conveniently track their desired products.

Chapter 10 - Testing

10.1 Unit Testing:

The unit testing process of a project is essential. Individual assessments ensure that the project code functions correctly in this context.

Integration testing	Test Class		Designed by Kashpia Hasan Orpa	
Data source:	Object Test Functionality		Tested By Kashpia Hasan Orpa	
Test-case:	Test-name	Task-name	Output result	Final result
01	Product Testing	Expect Data: From filling	Successfully adds product	Successfully adds product

Table 10.1. Unit -Testing

The screenshot displays the 'Creative Crafting' website interface. On the left is a sidebar with a 'Product Dashboard' section containing a search bar and navigation links: Home, Blogs, Reports, Inbox, Chat Bot, Delete Account, Reset Password, and Forget Password. Below these are sections for 'Product Category' (Create Category, Your Categories) and 'Product Categories' (Cottage & Categorie, Bamboo and cane Industries). The main content area shows a modal titled 'Add To Product (Jute_Goods)'. This modal includes a text input field with the email 'kashpiahasanorpacs@gmail.com', a timestamp 'Wed Aug 21 2024 18:28:24 GMT+0600 (Bangladesh Standard Time)', a dropdown menu currently showing 'Jute apparel', a large dashed box for image upload with the text 'Upload a Photo or drag and drop' and 'PNG, JPG, GIF up to 800kb', and an 'Add Product' button at the bottom right.

Figure 10.1. Testing adds to product

10.2 Module testing:

Module testing involves protocols, standards, classes, or software types designed to rigorously evaluate systems and programs. It is recommended to concentrate on testing the internal components of the system at a smaller scale, rather than attempting to test all applications simultaneously.

Integration testing	Test Class		Designed by Kashpia Hasan Orpa	
Data source:	Object Test Functionality		Tested By Kashpia Hasan Orpa	
Test case:	Test Description	Tasks	Expected Output	Actual Out Put
1.1	Registration testing	Expect Data: From filling	Successfully creates Account	Successfully creates Account

Table 10.2. Testing-Registration testing



Create an Account

Sign up with your email address or social media account.

Kashpia Hasan Orpa

kashpiahasanorpacis@gmail.com

Seller Account

.....

.....

☒ Click Checkbox to Confirm.

Submit

Figure 10.2. Testing-Registration testing

10.3 Integration Testing

Integrated testing verifies the functionality of individual program units within a system. Its goal of uncovering design-related issues underscores the importance of the archive integration test.

Company Name

Company Location

Company Registration Number

Company Email Address

Only Google Drive URL Accepted

▶ SUBMIT AUTHORITY INFORMATION

Figure 10.3. Testing-From fill up system

```

ShoppingCart
  addItem
    ✓ should increase item count by 1

ShoppingCart
  getCalculateTotal
    ✓ Actual And Expected Output Calculation

ShoppingCart
  removeItem
    ✓ should decrease item count by 1

ShoppingCart
  afterRemoveItemCalculation
    ✓ Actual And Expected Output After Remove product addToCard Calculation

ShoppingCart
  disCountCalculation
    ✓ Discount Calculation without Remove Items

ShoppingCart
  afterDiscount_TotalAmount
    ✓ After discount the Total Amount is

ShoppingCart

```

Figure 10.4. Testing - automated testing

Chapter 11-Implementation

11.1 Training:

A crucial component development is training. To stay current with the user and system instruction. System users must be trained in order for it to be implemented. After training, customers will have no trouble navigating and understanding the system. Here are a few training options listed below:

SL NO	User	Training Sect.	Time Duration	Note
1	Admin	Create Update Delete	2.3 hours	Application User
2		Check User Activity	20 min	User Activity
3		Access user Dashboard	20 min	Dashboard Information
4		Tracking User Device Activity	20 min	User Activity
1	Customer User	Create crafting with AI	1.3 hours	Ai Craft design generation
2		Product purchasing	40 min	Purchase System
3		Product update and upload for selling and buying	1.3 hours	For Seller and Buyer

Table 11.1. Training table of creative crafting

11.2 Big bang:

Its core function involves the deployment of a new system while retiring an existing one. The main course of action involves finalizing testing and proceeding with the installation of the new system. However, transitioning data from the old system to the new platform may face delays and inherent risks such as potential data loss or corruption, especially concerning page management.

11.3 Recommended implementation process:

The deployment of the system across multiple organizational departments is currently underway as part of a pilot project initiative. I believe it is feasible to establish a successful pilot phase in this context. Ultimately, the system will be fully operational once all functions are functioning as intended.

Chapter 12 - Critical Appraise and Evaluation

This article discusses failed ventures. Has must be fulfilled. This section's criteria aren't met, and it's discussed here. Additional project development and possible guidance are necessary to satisfy the criteria.

12.1 Objective Cloud be Met:

Beyond the existing features like AI-based image generation, authentication, admin panel, buyer/seller accounts, transaction and payment systems, profile management, online receipts/payment summaries, and cart or Wishlist functionality, additional objectives for a creative crafting web application system could include:

- **Customization Tools:** Integrate tools that allow users to customize their crafted items, such as personalized designs, color schemes, and sizes, enhancing the uniqueness of each product.
- **Community and Collaboration Features:** Implement features like collaborative projects, forums, and social sharing options to foster a community of crafters sharing ideas, tips, and completed projects.
- **Integration with social media:** Enable seamless sharing of crafted items on popular social media platforms to increase visibility and attract potential buyers.
- **Advanced Analytics:** Provide detailed analytics and reporting tools for sellers to track sales trends, customer preferences, and inventory management, aiding in strategic decision-making.
- **Subscription Services:** Offer subscription models for premium content, exclusive tutorials, or monthly craft kits, providing recurring revenue and enhancing user engagement.
- **Mobile App Compatibility:** Develop a mobile application to complement the web platform, offering on-the-go access to crafting tools, orders, and community interactions.
- **Environmental Sustainability Initiatives:** Promote eco-friendly crafting practices and materials, supporting sellers who emphasize sustainability in their products.
- **Customer Support and Feedback System:** Implement robust customer support features and a feedback system to promptly address issues and gather insights for continuous improvement.
- **Internationalization and Localization:** Support multiple languages, currencies, and shipping options to cater to a global audience and facilitate international transactions.

- Partnerships and Promotions: Forge partnerships with craft supply vendors, influencers, and artisans to offer exclusive deals, promotions, and curated collections, enhancing product variety and market appeal.

12.1.2 How much better could have been done:

- Chat Bot options for contract negotiation.
- User Information Update.
- Overall Rating system for employer users.
- Employer user must be use email which is the provide atomically interview call automatic interview scheduling.

12.1.3 How better could be the features of the solution?

Yes, it must implemented in its entirety. The creative crafting web application system should be seamless and efficient, incorporating performance parameters to ensure optimal functionality. The system includes AI-based image generation, an authentication system, an admin panel, buyer and seller account types, a transaction system, a payment system, profile update capabilities, online receipts or payment summaries, an add-to-cart feature, and a wishlist system. Additionally, the web application is responsive for any type of device, ensuring accessibility and usability across platforms. The entire system is secured using JWT tokens, which provide hashing algorithms and data encryption for enhanced security.

12.1.4 Which Features Could Not be Touch

- AI-based image generation.
- Authentication system.
- Admin panel.
- Buyer and seller type accounts.
- Transaction system.
- Payment system.
- Profile update.
- Online receipt or payment summary.
- Add to cart and Wishlist system.

Chapter 13- Conclusion

13.1 Project Summery

The Creative Crafting Web Application System is a comprehensive platform designed to cater to both crafters and consumers with a rich set of features. The application includes AI-based image generation to assist users in creating and visualizing craft designs. It incorporates a robust authentication system and an admin panel for seamless management. Users can sign up as either buyers or sellers, with each account type offering tailored functionalities. The platform supports secure transactions and multiple payment systems, ensuring smooth financial operations. Users can easily update their profiles, manage their purchases through an online receipt or payment summary, and enjoy convenient shopping experiences with add-to-cart and Wishlist systems. This system is designed to foster a dynamic and interactive crafting community, providing a valuable resource for craft enthusiasts and entrepreneurs alike.

13.2 Project Goals

Primary objectives:

- **AI based crafting Image generation:** Utilize artificial intelligence to generate images, aiding users in visualizing and designing their craft projects.
- **Authentication system:** Implement a robust authentication mechanism to ensure secure user access and protect personal information.
- **Admin panel:** Develop a comprehensive admin panel for managing user accounts, content, transactions, and overall system operations efficiently.
- **Buyer and seller accounts:** Facilitate distinct account types for buyers and sellers, enabling streamlined interactions and transactions within the platform.
- **Transaction system:** Incorporate a secure transaction system to manage purchases, sales, and exchanges seamlessly.
- **Payment system:** Integrate multiple payment options to provide flexibility and convenience for users during transactions.
- **Profile update:** Allow users to update their profiles, ensuring their information remains current and accurate.
- **Online receipt and payment summary:** Generate and provide detailed online receipts and payment summaries for user transactions.
- **Add to Cart and Wishlist system:** Implement functionalities for adding items to a cart and creating Wishlist's, enhancing user experience and engagement.

13.3 My experience

The completion of the Creative Crafting web application system project has provided me with invaluable experience in gathering information, addressing problems, and overcoming obstacles. Although the initial technical challenges were demanding, they offered an excellent opportunity to refine my skills. The project features advanced functionalities, including AI-based image generation, an authentication system, an admin panel, differentiated buyer and seller accounts, a transaction system, a payment system, profile updates, online receipts or payment summaries, and an add-to-cart and Wishlist system. Effective time and cost management were crucial to the project's success. I am confident that the knowledge and experience gained from this endeavor will significantly benefit my future projects. Providing strength and wisdom and to the supportive individuals who were instrumental in the project's completion, I express my gratitude and thanks all of them.

References

- [1] Shahiryar, M. (2017). MARKET FEASIBILITY REPORT FOR VOCATIONAL SKILLS. Qurtuba.
https://www.academia.edu/44504809/MARKET_FEASIBILITY_REPORT_FOR_VOCATIONAL_SKILLS
- [2] Jailani, N. (2023). 43 CREATIVE ECONOMIC DEVELOPMENT STRATEGY FOR THE CRAFT SUB-SECTOR. ResearchGate. <https://doi.org/10.30598/manisvol6issue2page42-53>
- [3] Literature Reviews – The Writing Center • University of North Carolina at Chapel Hill. (2024b, May 14). The Writing Center • University of North Carolina at Chapel Hill.
<https://writingcenter.unc.edu/tips-and-tools/literature-reviews/#:~:text=A%20literature%20review%20discusses%20published,combines%20both%20summary%20and%20synthesis..>
- [4] Brush, K., & Silverthorne, V. (2022, November 15). Agile software development. Software Quality. <https://www.techtarget.com/searchsoftwarequality/definition/agile-software-development>
- [5] What Is Software Testing? | IBM. (n.d.). <https://www.ibm.com/topics/software-testing#:~:text=IBM-,What%20is%20software%20testing%3F,ensure%20it%20meets%20user%20requirements>
- [6] Petit, C. (2024, April 19). What is DSDM? Learn the 8 Principles of This Agile Framework. appvizer.com. <https://www.appvizer.com/magazine/operations/project-management/dsdm>
- [7] Petit, C. (2024, April 19). What is DSDM? Learn the 8 Principles of This Agile Framework. appvizer.com. <https://www.appvizer.com/magazine/operations/project-management/dsdm>
- [8] Alam, M. (2024, April 8). What is Project Planning? Definition and Examples. IdeaScale. <https://ideascale.com/blog/what-is-project-planning/>
- [9] A Guide to Timeboxing. (2020, September 16). Lucidchart.
<https://www.lucidchart.com/blog/what-is-timeboxing>
- [10] What are Gantt charts? (n.d.). <https://www.atlassian.com/agile/project-management/gantt-chart>
- [11] Son, H. (2024, July 22). Test Planning: A Step-by-Step Guide for Software Testing Success - TestRail. TestRail | the Quality OS for QA Teams.
<https://www.testrail.com/blog/test-planning-guide/>
- [12] Chapter 10: MoSCoW Prioritisation. (n.d.). <https://www.agilebusiness.org/dsdm-project-framework/moscow-prioritisation.html>

Plagiarism Report

Handicraft

ORIGINALITY REPORT

11%

SIMILARITY INDEX

7%

INTERNET SOURCES

2%

PUBLICATIONS

8%

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to Daffodil International University

Student Paper

3%

2

Submitted to Swinburne University of Technology

Student Paper

1%

3

www.coursehero.com

Internet Source

<1%

4

Submitted to Adtalem Global Education

Student Paper

<1%

5

academic.oup.com

Internet Source

<1%

6

123dok.com

Internet Source

<1%

7

Submitted to University College London

Student Paper

<1%

8

Submitted to Purdue University

Student Paper

<1%

9

www.brandcredential.com

Internet Source

<1%