



Software Project Management

# SRS Write Up

Project

**Due  
Date:**

**Dec 15, 2023**

**By:**

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**Course Instructor:** Mam Uzma Mahar

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## **Introduction:**

In the ever-evolving digital age, establishing a robust online presence is not just a choice; it's a necessity. Whether you're an aspiring entrepreneur or a small business looking to thrive in the vast online marketplace, the challenges of e-commerce web development can often feel like an insurmountable hurdle. This is where our project steps in as a catalyst for change and a gateway to online success.

At its core, our project aims to democratize the world of e-commerce by providing an innovative and user-friendly platform. With our cutting-edge web engine, even those without extensive technical knowledge can effortlessly create responsive e-commerce web applications. Our visual drag-and-drop UI builder empowers users to design web pages with unprecedented ease and flexibility, allowing them to craft a unique online identity.

But that's just the beginning. Our project also equips users with a powerful dashboard to efficiently manage web-related data, enabling streamlined operations and data-driven decisions. Additionally, we understand that e-commerce success relies on seamless workflows and secure payment processing. Thus, we offer the capability to create customized workflows with ease and support the integration of various payment gateways. Moreover, our project doesn't just stop at development; it provides the means to generate web applications that can be deployed independently, ensuring complete control and autonomy in the digital realm. In essence, our project is not just a tool; it's a game-changer, empowering businesses of all sizes to thrive in the dynamic world of e-commerce.

## **Objectives:**

Our project is committed to developing a user-friendly, no-code web platform for e-commerce that aims to empower e-commerce. Our main goal is to enable everyone, even those without coding experience, to easily set up their online stores using an easy-to-use drag-and-drop interface. Our goal is to offer deployable, accessible e-commerce solutions that will make it simple for average consumers to start their own online business. Our goal is to facilitate growth and prosperity for prospective online business owners by making the process of starting and succeeding in e-commerce as simple as possible. We want to build, test, and publish this platform within the next 8 months, giving thousands of people the tools, they need to start their own internet businesses.

### Problem Statement:

In a world where digital commerce is the heartbeat of business growth, countless entrepreneurs find themselves tangled in the web of complexity, struggling to craft responsive e-commerce solutions. The absence of accessible tools for website creation, design, data management, workflow creation, payment integration, and independent deployment has cast a shadow on their dreams of online market success.

<b>The Problem of</b>	struggling to craft responsive e-commerce solutions
<b>affect</b>	absence of accessible tools for website creation, design, data management, workflow creation, payment integration, and independent deployment
<b>the impact of which</b>	results digital commerce, business growth and countless entrepreneurs see a shadow on their dreams of online market success.

Table 1: Problem Statement

### Problem Solution:

We are providing a No-Code Ecommerce web-based solution where users use the Drag & Drop UI builder for extensive customization to build websites as a streamline solution of their needs.

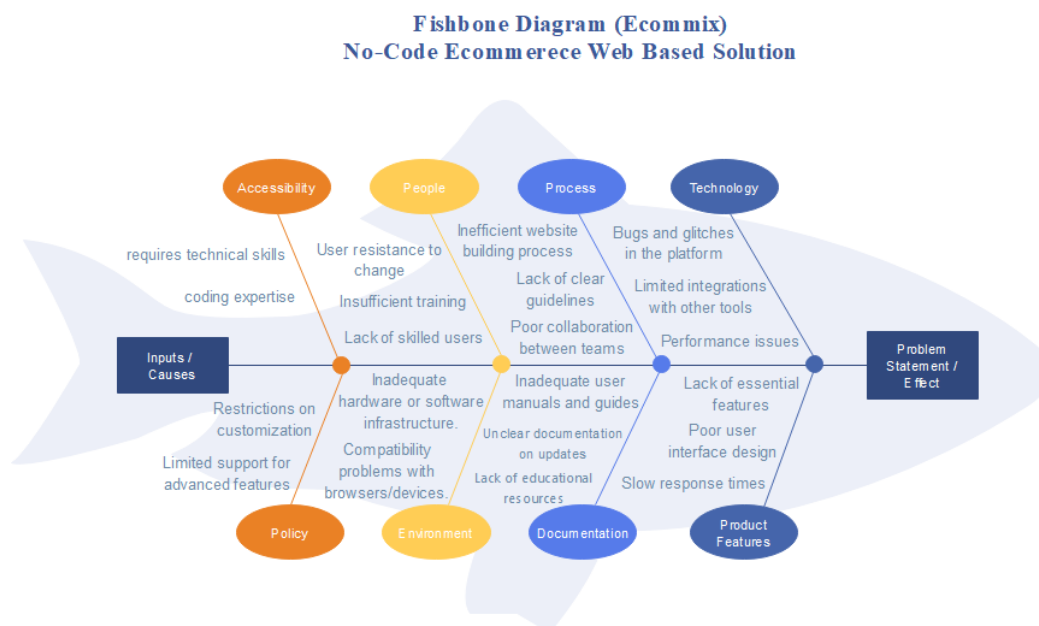


Figure 1: Fishbone-Diagram

## **Scope:**

Project Scope Statement: No-Code E-commerce Web-Based Engine

## **Project Description:**

The project aims to develop a no-code e-commerce web engine, allowing users to create responsive e-commerce web applications without the need for extensive coding knowledge. The system will provide a visual drag-and-drop UI builder, along with various modules and features for website setup, content management, workflow automation, customer interaction, analytics, and more. The goal is to offer a streamlined solution for aspiring entrepreneurs and small businesses to establish a strong online presence and manage their e-commerce operations efficiently.

## **In Scope:**

1. **Visual Drag-and-Drop UI Builder:** Implement an intuitive visual UI builder to design web pages, including customizable layouts, fonts, colors, and styles.
2. **Content Management Module:** Enable users to add, edit, and organize product listings, along with a media library for images and multimedia content.
3. **Workflow Automation:** Allow users to create custom workflows for automating e-commerce processes such as order processing, inventory management, and customer communication.
4. **Payment Gateway Integration:** Integrate with various payment gateways to support secure online transactions, including credit cards, digital wallets, and alternative payment methods.
5. **User and Admin Dashboards:** Provide user and admin dashboards for monitoring site performance, tracking orders, managing content and comprehensive data analytics.
6. **Analytics and Reporting:** Offer detailed analytics and reporting capabilities for tracking website traffic, user behavior, sales performance, and inventory levels.
7. **Shipping and Inventory Management:** Integrate with shipping carriers for real-time shipping cost calculation, order tracking, inventory alerts, and reorder triggers.

## **Out of Scope:**

1. **Upgrades to Other Systems:** Upgrades required other systems to enable compatibility with the new e-commerce websites are not within the scope of this project.

2. **Social Media Elements:** Features such as user-generated content, communities, or moderated forums on e-commerce websites are considered out of scope.

3. **Payment Mechanisms for Video Viewing:** Any payment mechanisms related to users paying to watch videos are not part of this project's scope.

## **Business Case:**

**Business Case:** No-Code E-commerce Web-Based Engine

**Executive Summary:** This business case presents the rationale and advantages of creating a No-Code E-commerce Web-Based Engine. The proposed system aims to empower aspiring entrepreneurs and small businesses by offering an intuitive platform to build responsive e-commerce websites without requiring extensive coding knowledge. This project aligns with our commitment to innovation, accessibility, and supporting businesses in establishing a strong online presence.

**Business Problem:** Many entrepreneurs and small businesses face significant barriers when attempting to establish an online presence and manage e-commerce operations. The need for coding expertise often presents a considerable challenge. Simplifying the web development process is critical to addressing this issue.

**Proposed Solution:** The project focuses on developing a robust No-Code E-commerce Web-Based Engine. This engine will provide users with a visual drag-and-drop UI builder, content management capabilities, workflow automation, payment gateway integration, user and admin dashboards, analytics, and inventory management. It promises to revolutionize e-commerce website creation, enabling users to set up online stores quickly and easily.

## **Benefits:**

1. **Accessibility:** The system will democratize web development, making it accessible to individuals and businesses without coding expertise.
2. **Efficiency:** Users can create e-commerce websites rapidly, reducing the time and effort required for online business setup.
3. **Affordability:** Eliminating the need for extensive coding resources lowers development costs for users.

4. **Competitiveness:** Offering a user-friendly, feature-rich platform can attract more customers and enhance our market position.
5. **Revenue Growth:** As more users adopt the platform, revenue from subscriptions and add-on services is expected to increase.

**Costs:** Costs will encompass development, quality assurance, infrastructure, ongoing maintenance, and customer support. It's essential to allocate resources to ensure the platform's stability and reliability.

**ROI:** The Return on Investment (ROI) is projected to be favorable. Revenue generated from user subscriptions and additional services, coupled with reduced development overhead, will lead to long-term profitability.

**Conclusion:** The development of a No-Code E-commerce Web-Based Engine represents a strategic move towards supporting our target audience—entrepreneurs and small businesses. By simplifying the web development process and offering a cost-effective solution, we position ourselves as industry leaders in promoting accessible e-commerce solutions. This project aligns with our values of innovation, customer empowerment, and sustainable growth, making it a promising venture for our organization.

#### **Requirement Elicitation:**

The initial requirements are met by our stakeholders.

- ❖ The Users must be able to register and authenticate securely to access and manage their e-commerce websites.
- ❖ The system will provide a user-friendly visual drag-and-drop UI builder that allows users to design web pages by adding and arranging elements and support customization.
- ❖ The system will enable users to add, edit, and organize product listings with details such as images, descriptions, prices, and inventory levels.
- ❖ The system will allow users to create custom workflows for automating e-commerce processes, including order processing, inventory management, and email notifications.



- ❖ The system should integrate with multiple payment gateways to enable secure and seamless online transactions.
- ❖ The system will provide user dashboards for website owners to monitor site performance, track orders, and manage content.
- ❖ The system must offer detailed analytics and reporting capabilities to track website traffic, user behavior, sales performance, and inventory levels.
- ❖ The system should integrate with shipping carriers to calculate real-time shipping costs and provide order tracking for customers.

### **Project Goals:**

Our project is committed to developing a user-friendly, no-code web platform for e-commerce that aims to empower e-commerce. Our main goal is to enable everyone, even those without coding experience, to easily set up their online stores using an easy-to-use drag-and-drop interface. Our goal is to offer deployable, accessible e-commerce solutions that will make it simple for average consumers to start their own online business. Our goal is to facilitate growth and prosperity for prospective online business owners by making the process of starting and succeeding in e-commerce as simple as possible. We want to build, test, and publish this platform within the next 8 months, giving thousands of people the tools, they need to start their own internet businesses.

### **Feasibility:**

These are the following Feasibility metrics that we consider while implementing our project.

- ❖ The project should be completed within the 8 months' timeframe.
- ❖ The project budget is limited and must be adhered to.
- ❖ The project must work within the MERN stack.
- ❖ The project scope will lie around No-Code builder and ecommerce store main features.

### Communication Plan:

What	To Whom	When	Who	How	Where	Comment
<b>Project Kick-off Meeting Plan</b>	Project team, Supervisor, Stakeholders	Before Project starts	Project Manager (Zeeshan), Team members	Video conferencing, In-person meeting	Supervisor Office, Video Conferencing Tool	
<b>Progress Updates</b>	Project team, Supervisor, Stakeholders	Weekly, after each milestone	Project Team	Video conferencing, Email, Trello	Gmail, WhatsApp, Meet In-person	
<b>Issues and Risks</b>	Risk management team(us), Supervisor, Stakeholders	As they arise	Project Manager (Zeeshan), Team members	In-person meetings	Supervisor Office, Library rooms	
<b>Change Requests</b>	Stakeholders	As they are requested	Project Manager (Zeeshan), Team members	Change Request Form, Email	Google Forms, Email	
<b>Technical Updates</b>	Technical Stakeholders	By-weekly	Dev Team (us)	Technical Documentation, Video conferencing	Meet In person.	
<b>Customers Feedback</b>	Users, Customers	After customer interactions	Project Manager (Zeeshan), QA Team (us)	Meetings, Email	Scheduled Client Meetings, Gmail	
<b>User Interface Design Review</b>	Supervisor, Project Manager (Zeeshan)	Monthly	UI/UX Designers, Developers	Virtual Meetings	Design Collaboration Tool	

Table 2: Communication Plan

### Level of Authority:

The level of authority of the project manager is high, as he is responsible of planning, execution, coordination, decision-making, resource management, risk management, quality control, project closure and changes of any module.

### Project Authorization:

The scope of our project and milestones are followed by project charter is approved by FYP Panel Members on Sep 13, 2023.

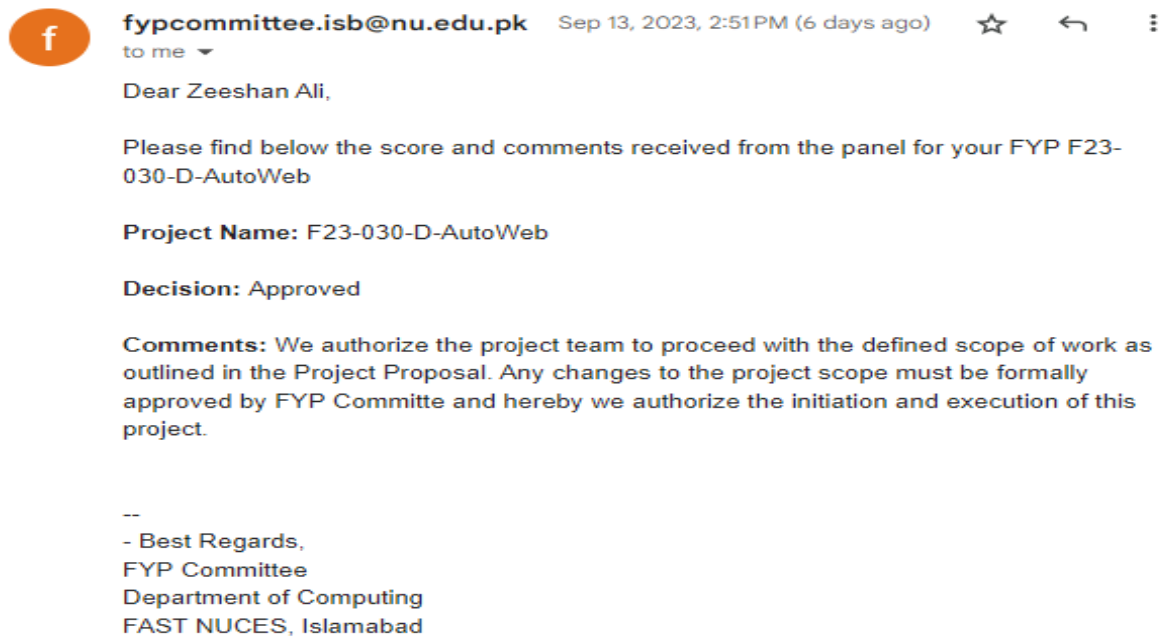


Figure 2: Project Authorization

### Project Deliverable:

#### Deliverable 1

Project Deliverable	Description
<b>Description:</b>	Create the Web Engine, Editor and Admin and User Dashboards
<b>Acceptance Criteria:</b>	UI of web engine with editor
<b>Due Date:</b>	October 2023

Table 3: Deliverable 1

## Deliverable 2

Project Deliverable	Description
<b>Description:</b>	Enable customization, create workflows, content and user accounts management
<b>Acceptance Criteria:</b>	Full working editor and workflows
<b>Due Date:</b>	December 2023

Table 4: Deliverable 2

## Deliverable 3

Project Deliverable	Description
<b>Description:</b>	Store, Product, Customer Profile Management along with Customer Interaction Module like Wish list, etc. and Alerts
<b>Acceptance Criteria:</b>	All management modules completed
<b>Due Date:</b>	February 2024

Table 5: Deliverable 3

## Deliverable 4

Project Deliverable	Description
<b>Description:</b>	Enable Shipping and Tracking, Delivery, then Payment Methods Integration, Analytics and Contact Us
<b>Acceptance Criteria:</b>	Payment and Deliveries completed
<b>Due Date:</b>	April 2024

Table 6: Deliverable 4

## Project Milestone:

Milestone	Responsible	Description	Status	Issues / Comments	Date
<b>Project Proposal</b>	Zeeshan Ali	To Document the Summarize Description of the project idea for the approval from the supervisor.	Completed	Minor Changes	Aug 18, 2023

<b>Project Authorization</b>	FYP Committee	The FYP Panel members decide either project idea and scope are justified or not for the approval.	Completed	Some suggestions	Sep 8, 2023
<b>Project Poster</b>	Ans Zeshan	Make a Poster of the project for the visual representation that demonstrates the working and architecture of the project to display in the Job Fair.	Completed	Color and design specifications	Sep 28, 2023
<b>SRS Document</b>	Zeeshan Ali	In this phase we be making a detailed document that follows the SRS Components that helps in implementation using the strategy as design to code.	Completed Version-1	Throughway design	Sep 30, 2023
<b>Web Engine &amp; Editor</b>	Zeeshan Ali & Tayyab Qaisar	In this phase, we implement the Web engine and the UI Builder for the customers to make their website and customize them	Web Engine Completed Editor in next iteration	Figma design will used from the SRS Doc.	Oct 21, 2023
<b>Admin &amp; User Dashboards</b>	Ans Zeshan	In this phase, we will be creating the user & admin dashboard so that users can see or perform their activities.	Completed	-	Oct 21, 2023
<b>Customization &amp; Creating Workflows</b>	Zeeshan Ali & Ans Zeshan	In this phase, we will be providing the extensive	-	-	Nov 08, 2023

		customization to build the websites and want to create workflows of all the triggering events that user performs.			
<b>E-commerce Store Operations</b>	Ans Zeshan & Tayyab Qaisar	In this phase, we will be providing all the features of the ecommerce website so that the user just integrates these operations into their website.	-	-	Nov 21,2023
<b>Order Delivery &amp; Integration</b>	Zeeshan Ali & Tayyab Qaisar	In this phase, we will be providing features about order delivery & tracking of their order products and at the end we will be integrating all the these into one repo.	-	-	Dec 20, 2023

Table 7: Project Milestone

### Stakeholder Analysis:

#### Identify stakeholders:

Project Sponsor, Project Manager, Development Team, End Users, Customers, Marketing Team, IT Department, External Consultants, QA Team, Business Analysts, Project Management Officer, Competitors, Investors and Shareholders, Suppliers, Government Agencies, Supervisor, Panel Members, Seniors Executives, coworkers, Future Recruits, Public.

#### Prioritize Stakeholders:

##### High Power & Low Interest:

These stakeholders want to meet their needs and want to increase their engagement level according to their interest areas and have the aim to move to the right box.

##### Low Power & Low Interest:

These stakeholders are informed with general requirements through mail, PR and websites and have aim to move to right box.

### **Low Power & High Interest:**

These stakeholders show consideration, and they are involved in interests that have low risks and are potential supporters or goodwill ambassadors.

### **High Power & High Interest:**

They are the key stakeholders that focus on the effort of the group, involved in the decision-making bodies, engage, and consult regularly.

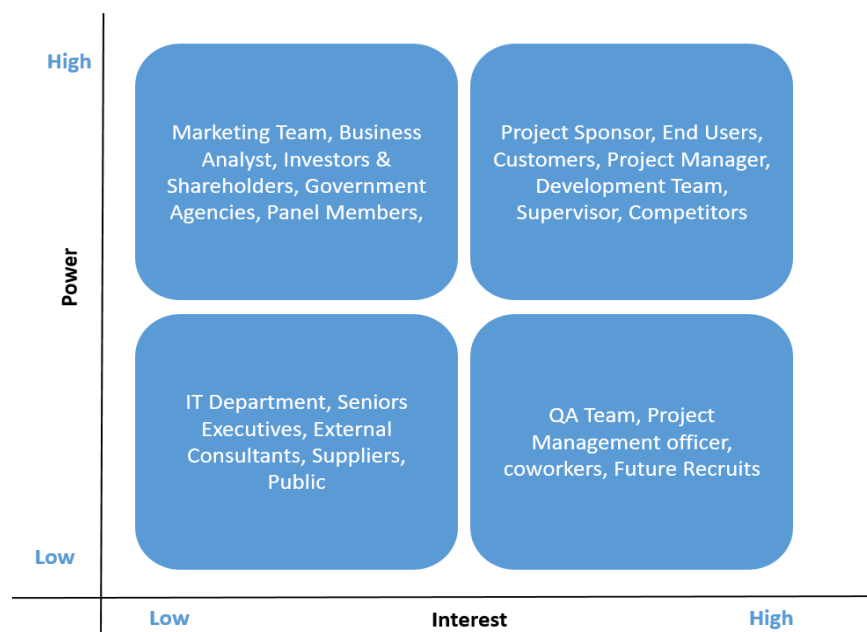


Figure 3: Prioritization

### **Key Stakeholders:**

The key stakeholders of our project are.

**Project Sponsor:** The individual or group provides financial support and overall guidance for the project. They hold ultimate authority and have an interest in the project's success.

**End Users:** The individuals who will directly use the platform to create e-commerce websites. Their satisfaction and adoption of the platform are critical to its success.

**Customers:** Customers of the e-commerce websites created with your platform. Their experience and satisfaction directly affect the success of the websites and, in turn, the platform.

**Project Manager:** Responsible for the day-to-day management of the project, ensuring it stays on track, within budget, and meets objectives. The project manager plays a pivotal role in project execution.

**Development Team:** Developers, designers, and testers are essential for building and maintaining the platform. Their expertise and commitment directly influence project success.

**Supervisor:** The senior executive that provides a path to complete the project, and responsible to monitor and keep track of our progress.

**Competitors:** Monitoring competitors is valuable for strategic planning but may not directly influence project execution.

Team Role	Team Member	Responsibility
<b>Project Manager</b>	Zeeshan Ali	Develop and manage project plan, allocate resources and task to team members, ensure project milestones are met.
<b>Developer</b>	Ans Zeshan	Contribute to system development tasks, collaborate with team members to achieve task, adhere to project timelines and deliverable.
<b>Tester</b>	Tayyab Qaisar	Contribute to system development tasks, collaborate with team members to achieve task, adhere to project timelines and deliverable.
<b>Supervisor</b>	Dr Atif Jilani	Ensure the projects align with academic and development standards, offers expertise and advice in the field of web generation, monitor project progress and provide feedback.

Table 8: Defining Responsibility



Name	Position	Project Role	Internal/External	Contact
<b>Dr. Zohaib</b>	CEO	Project Sponsor	Internal	<a href="mailto:Zohaib.iqbal@nu.edu.pk">Zohaib.iqbal@nu.edu.pk</a>
<b>Dr. Atif Jilani</b>	Senior Consultant	Supervisor	Internal	<a href="mailto:Atif.jilani@nu.edu.pk">Atif.jilani@nu.edu.pk</a>
<b>Ans Zeshan</b>	Developer	Team Member	Internal	<a href="mailto:Ans.zeshan@gmail.com">Ans.zeshan@gmail.com</a>
<b>Zeeshan Ali</b>	Business Analyst	Project Manger	Internal	<a href="mailto:Zeeshan.ali@gmail.com">Zeeshan.ali@gmail.com</a>
<b>Tayyab Qaisar</b>	Senior QA	Tester	Internal	<a href="mailto:Tayyab.qaisar@gamil.com">Tayyab.qaisar@gamil.com</a>
<b>Waqar Ahmed</b>	PR Director	Advisor	External	<a href="mailto:Waqar.ahmad@gmail.com">Waqar.ahmad@gmail.com</a>

Table 9: Defining Project Role

#### Stakeholder Register:

Stakeholder Name	Role	Organization	Interest/Influence	Expectations	Key Requirements	Communication Preferences
Dr. Atif Jilani	Senior Consultant	Supervisor	High	Academic alignment, project success.	Adherence to academic standards, regular project monitoring.	Email, In-person meetings
Ans Zeshan	Developer	Team Member	Medium	Contribution to system development tasks, collaboration.	Clear task allocation, adherence to project timelines.	Trello, Gmail, In-person meetings
Zeeshan Ali	Business Analyst	Project Manager	High	Successful project completion, alignment with business objectives.	Timely project planning, resource allocation, and risk management.	Email, Video conferencing, In-person meetings
Tayyab Qaisar	Senior QA	Tester	Medium	Contribution to quality	Clear testing protocols, adherence to	Gmail, WhatsApp, In-person meetings

				assurance, collaboration.	project timelines.	
Waqar Ahmed	PR Director	Advisor	Medium	Positive project visibility, strategic advice.	Alignment with organizational PR goals, strategic input.	Email, Video conferencing, In-person meetings
Sarah Khan	UX Designer	External Consultant	Medium	High-quality user experience, project success.	Adherence to design principles, timely feedback.	Figma, Email, Video conferencing
Samina Ahmed	Marketing Specialist	Marketing Team	Medium	Positive project visibility, market competitiveness.	Alignment with marketing strategies, regular updates.	Email, social media, Weekly Meetings
John Doe	IT Manager	IT Department	Low	Smooth IT operations, minimal disruptions.	Timely information on IT-related changes, minimal downtime.	Email, IT Tickets, Weekly Updates
Emma Watson	Customer	End User	High	User-friendly platform, effective e-commerce features.	Seamless user experience, quick issue resolution.	Customer Support Portal, Email, App Notifications
Ayesha Malik	Content Creator	Marketing Team	Medium	Engaging content for marketing, project success.	Timely content creation and alignment with marketing goals.	Email, social media, Weekly Meetings
Ali Raza	Frontend Developer	Development Team	Medium	Smooth integration of frontend	Clear frontend development tasks,	Slack, Jira, In-person meetings

				elements, project success.	collaboration with design team.	
Sana Khan	Customer Support	Customer Support Team	High	Effective customer issue resolution, positive customer experience.	Timely response to customer queries, detailed issue tracking.	Helpdesk Software, Email, Weekly Meetings
Fahad Ahmed	Financial Analyst	Finance Department	Low	Adherence to budget, financial stability.	Regular financial reports, adherence to budget allocations.	Email, Financial Reports, Monthly Meetings
Maria Jamal	Legal Advisor	Legal Department	Low	Compliance with legal standards, risk mitigation.	Legal review of project documentation, adherence to legal guidelines.	Email, Legal Documents, Monthly Briefings
Chris Evans	User Experience Tester	QA Team	Medium	High-quality user experience, identification of usability issues.	Comprehensive UX testing protocols, collaboration with design team.	Testing Tools, Email, In-person meetings
Asad Iqbal	Server Administrator	IT Department	High	Smooth server operations, minimal downtime.	Regular server maintenance schedules, swift response to server issues.	Server Monitoring Tools, Email, IT Tickets
Farida Khan	Community Manager	Marketing Team	Medium	Positive community engagement,	Community events planning, regular	Social Media Platforms, Email,

				brand loyalty.	interaction with the community.	Community Forums
Naeem Ahmed	Procurement Manager	Procurement Department	Low	Timely acquisition of necessary resources within budget.	Clear procurement plans, adherence to budget constraints.	Email, Procurement Plans, Monthly Meetings
Zainab Ali	Human Resources Manager	HR Department	Low	Project team satisfaction, adherence to HR policies.	Team satisfaction surveys, adherence to HR guidelines.	Email, HR Surveys, Quarterly Meetings

Table 10: Stakeholder Register

## Work breakdown structure:



Figure 4: Work breakdown structure

## Gantt chart:

### Final Year Project

Dr. Atif Jilani Project lead

Project start: Tue, 8/22/2023

Display week: 1

No-Code E-commerce Web-Based Engine

TASK	ASSIGNED TO	PROGRESS	START	END
<b>Initiation (Defense)</b>				
Project Proposal	Zeeshan Ali	80%	8/22/23	8/25/23
Kick-off Meeting	Whole Team	89%	8/25/23	8/27/23
Re-Establish Idea	Tayyab Qaisar	93%	8/27/23	8/31/23
Mock Defense	Whole Team	92%	8/31/23	9/5/23
Project Authorization	FYP Committee	98%	9/8/23	9/13/23
<b>Planning and design (Mid Evaluation)</b>				
Kick-off Meeting	Whole Team	95%	9/16/23	9/17/23
Development Demo	Ans Zeshan	80%	9/12/23	10/3/23
SRS Document	Zeeshan Ali	93%	9/24/23	10/6/23
Project Poster	Tayyab Qaisar	92%	9/29/23	10/2/23
Mid Evaluation	Whole Team	92%	10/7/23	10/13/23



Figure 5: Time Frame (August - Oct 2023)

### Final Year Project

Dr. Atif Jilani Project lead

Project start: Tue, 8/22/2023

Display week: 9

No-Code E-commerce Web-Based Engine

TASK	ASSIGNED TO	PROGRESS	START	END
<b>Initiation (Defense)</b>				
Project Proposal	Zeeshan Ali	80%	8/22/23	8/25/23
Kick-off Meeting	Whole Team	89%	8/25/23	8/27/23
Re-Establish Idea	Tayyab Qaisar	93%	8/27/23	8/31/23
Mock Defense	Whole Team	92%	8/31/23	9/5/23
Project Authorization	FYP Committee	98%	9/8/23	9/13/23
<b>Planning and design (Mid Evaluation)</b>				
Kick-off Meeting	Whole Team	95%	9/16/23	9/17/23
Development Demo	Ans Zeshan	80%	9/12/23	10/3/23
SRS Document	Zeeshan Ali	93%	9/24/23	10/6/23
Project Poster	Tayyab Qaisar	92%	9/29/23	10/2/23
Mid Evaluation	Whole Team	92%	10/7/23	10/13/23
<b>Execution (Final Evaluation)</b>				
Kick-off Meeting	Zeeshan Ali	80%	10/16/23	10/21/23
SRS Document	Tayyab Qaisar	60%	10/22/23	11/1/23
Kick-off Meeting	Whole Team	50%	10/31/23	11/8/23
Development Demo	Ans Zeshan	85%	10/27/23	11/26/23
Final Evaluation FYP-1	Whole Team	65%	11/28/23	12/13/23

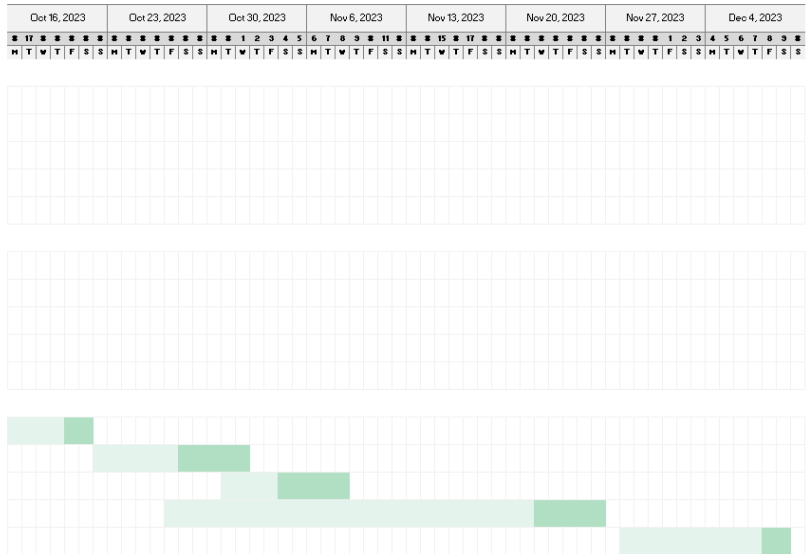


Figure 6: Time Frame (Oct - Dec 2023)

## Project Resources:

### People:

- ❖ Project Manager
- ❖ Developers & Designers
- ❖ External Consultants

### Hardware & Software

- ❖ Servers
- ❖ Software
- ❖ Data Base
- ❖ Domain and Hosting
- ❖ Documentation tools

### Time:

- ❖ The Initial estimation for the project implementation duration is approximately 9 months but now we are focusing on completing the project before the Job-Fair 2024, Softec 2024 & Daira 2024 events.

## Resource Calendar:

### Final Year Project

Project Name: No-Code E-commerce Web-Based Engine

Week of: 12/4/2023

	MON	TUE	WED	THU	FRI
	Dec 04	Dec 05	Dec 06	Dec 07	Dec 08
Zeeshan Ali	Brainstrom Builder Styling Components	Kick-off Meeting	SRS Document (Update Requirements)	UML Design (Class Diagram)	OFF
Ans Zeshan	Brainstrom Builder Block Components	Kick-off Meeting	Off	UML Design (System Sequence Diagram)	Configuring Routes
Tayyab Qasier	Brainstrom Builder Management Components	Off	SRS Document (Update Requirements)	UML Design (Sequence Diagram)	Configuring Ports
Zeeshan Ali	Make Schema of the Styling Components	Ideate about styling components	Kick-off Meeting	Design the Styling Components	OFF
Ans Zeshan	Make Schema of the Block Components	Ideate about Block components	Off	Design the Block Components	identify the routes
Tayyab Qasier	Make Schema of the Management Components	Off	Kick-off Meeting	Design the Management Components	Configure Domain Availability
Zeeshan Ali	Kick-off Meeting	Made Frontend of the Styling Components	Error Handling	CRUD operations of styling components	OFF
Ans Zeshan	Kick-off Meeting	Made Frontend of the Block Components	Off	CRUD operations of Block components	Complete the Frontend of Block Components
Tayyab Qasier	Kick-off Meeting	Off	Made Frontend of the Management Components	CRUD operations of Management components	Complete the Frontend of Management Components
Zeeshan Ali	Design the backend Schema & Routes	Kick-off Meeting	Made Backend of the Styling Components	Test the backend routes	OFF
Ans Zeshan	Design the backend Schema & Routes	Kick-off Meeting	Off	Test the backend routes	Add the Drag & Drop Functionality
Tayyab Qasier	Design the backend Schema & Routes	Off	Made Backend of the Management Components	Test the backend routes	Add the Drag & Drop Functionality

Figure 7: Resource Calendar

## Resource Histogram

Website Creation Maintenance Checksheet						
Name of user:	Hammad Aslam				User Id:	HA-420
Month:	June				No of website:	4
Maintenance Factors	Frequency					
	Website 1	Website 2	Website 3	Website 4	Website 5	Total
Plugin/Extension Updates	3	2	4	5	0	14
Content Updates	8	5	6	9	0	28
Backup Routine	2	3	2	3	0	10
Analytics Review	5	4	5	5	0	19
Payment Gateway Update	6	3	8	6	0	23
Performance Monitoring	9	4	5	3	0	21
Cloud Storage Updates	4	3	4	5	0	16
Total	37	24	34	36	0	131

Figure 8: Checklist for Histogram

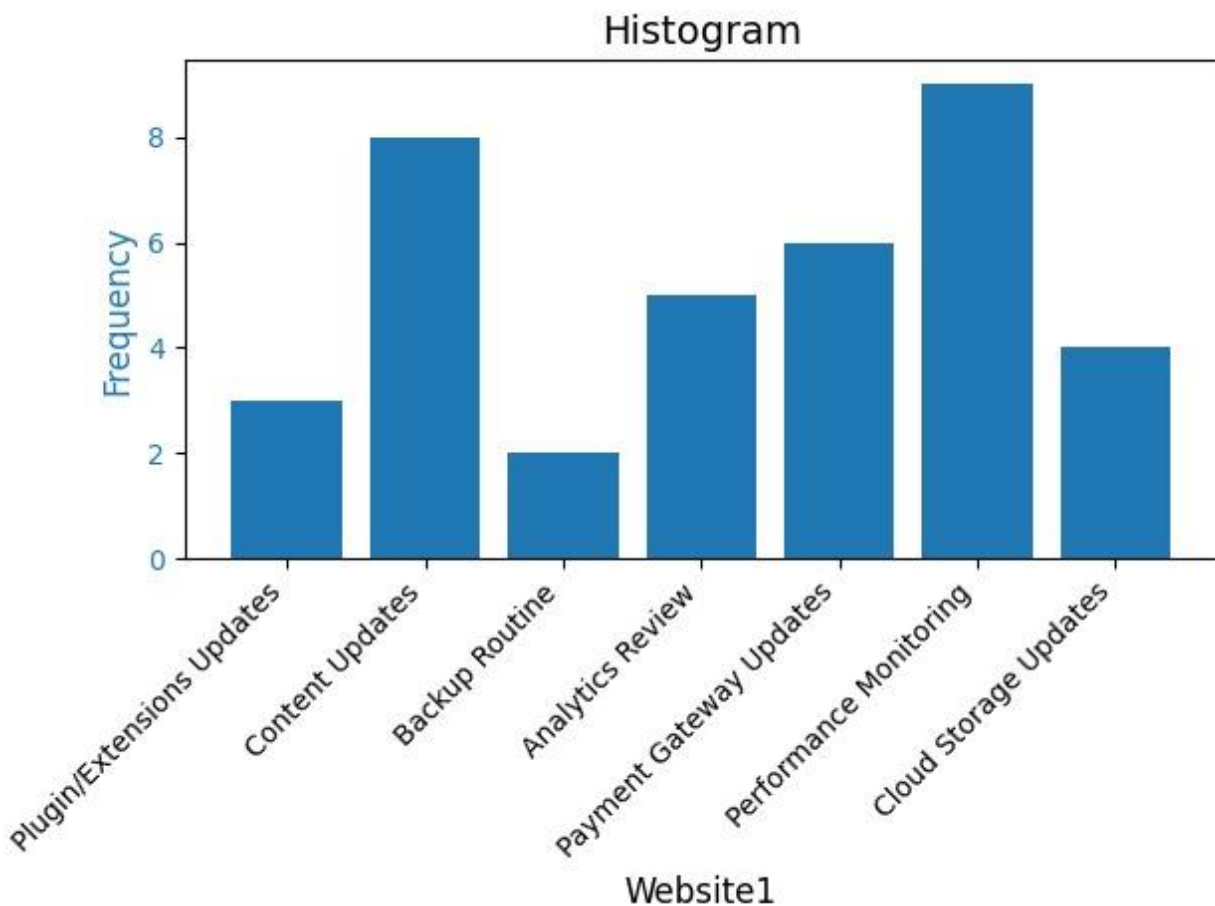


Figure 9: Histogram for Website 1



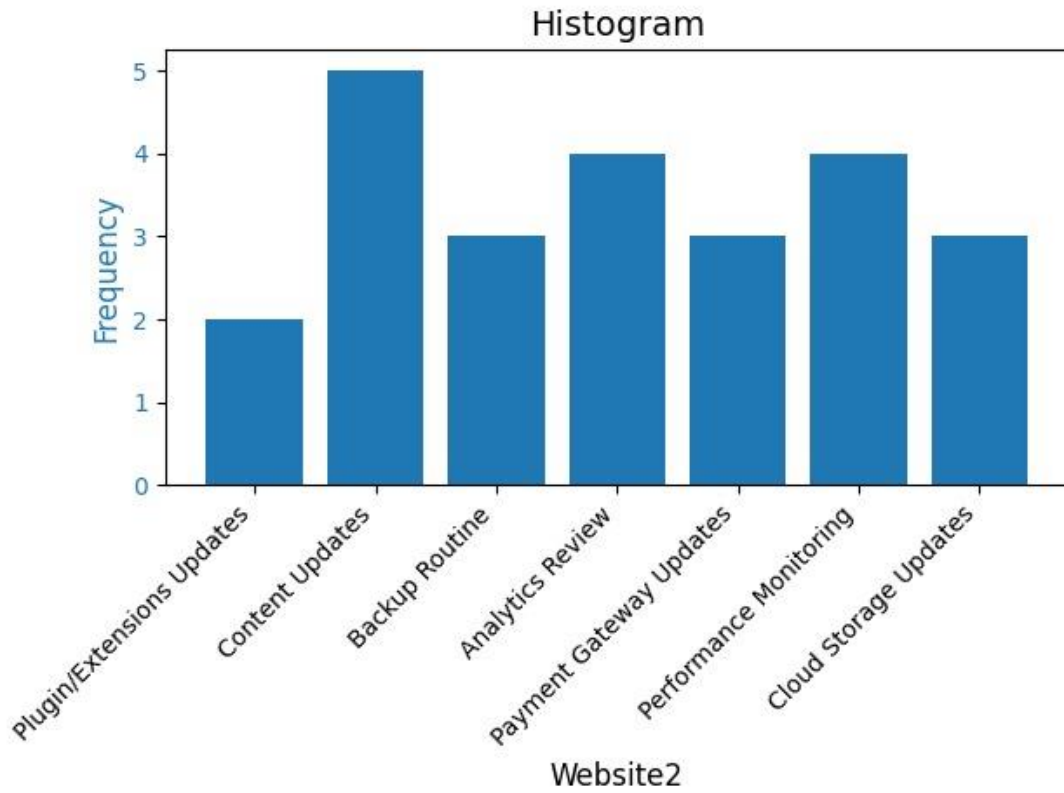


Figure 10: Histogram for Website 2

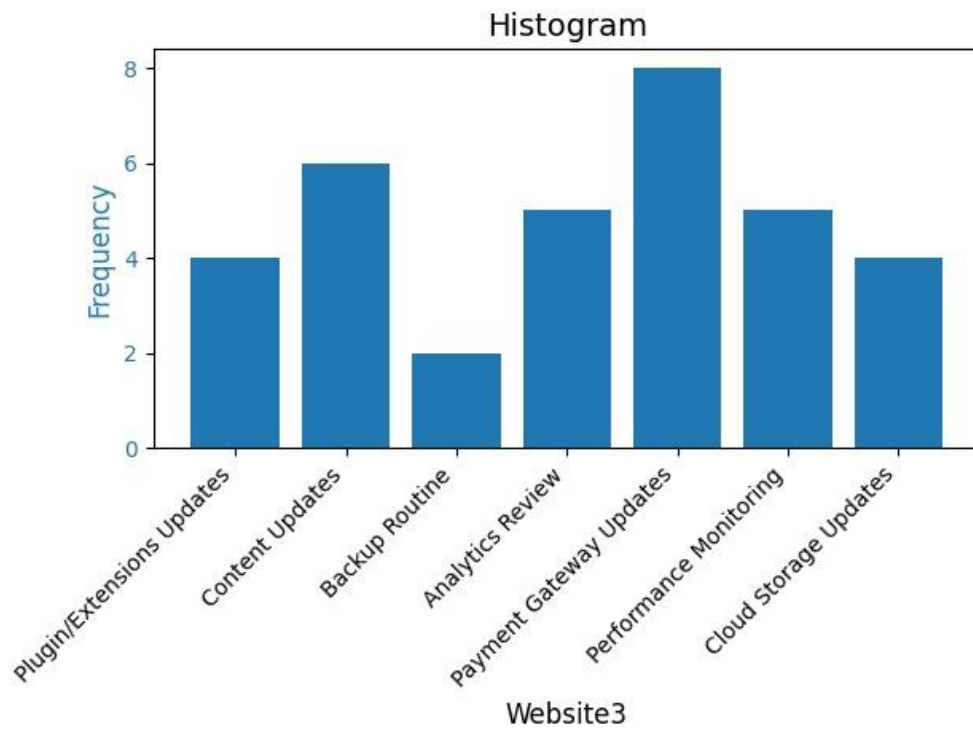


Figure 11: Histogram

ram for Website 3

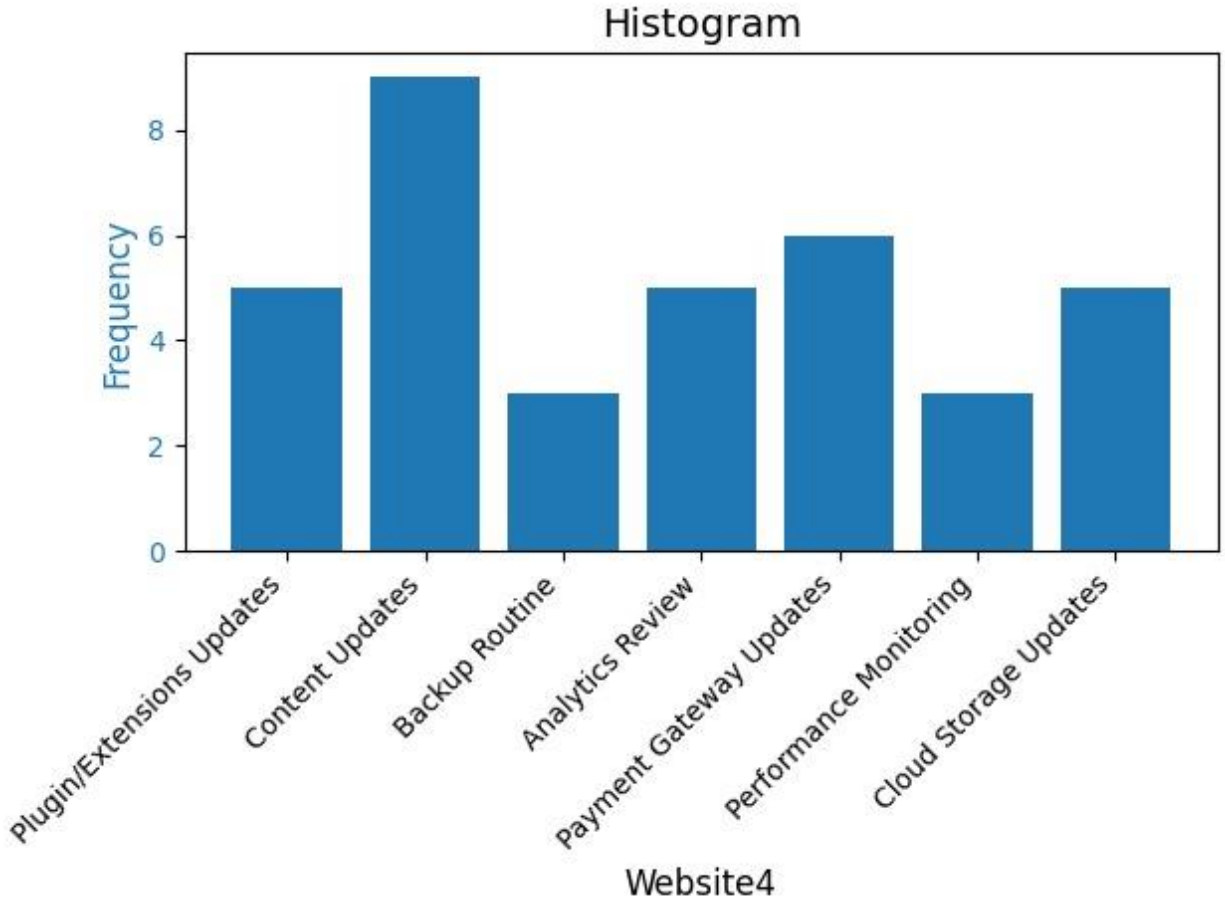


Figure 12: Histogram for Website 4

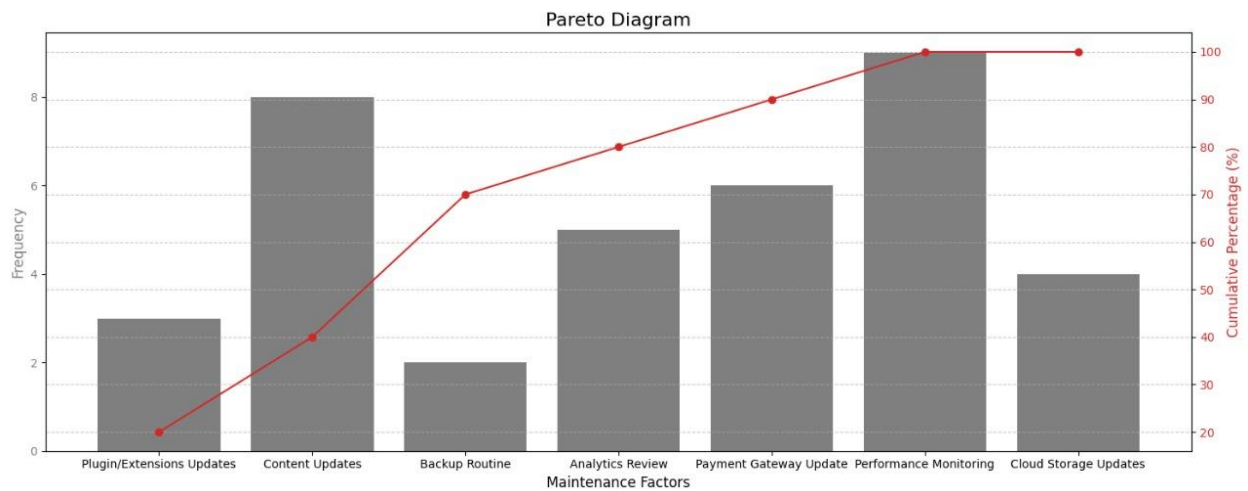


Figure 13: Pareto chart of Histogram

## RACI Chart

# RACI Matrix

## Final Year Project

No-Code E-commerce Web-Based Engine

## Roles and Responsibilities

Responsible, Accountable, Consulted, Informed

	Category	Status	ROLES			
			Project Manager	Technical Lead	Designer	Supervisor
			Zeeshan Ali	Ans Zeshan	Tayyab Qasier	Dr. Atif Jilani
1	Project Management		R	A	C	I
2	Planning		A	R	I	C
3	Research		C	A	R	I
4	Implementation		R	A	C	I
5	Documentation		A	R	I	C
6	Submissions		C	A	R	I
7	Feedback (comments)		A	R	I	C
8	Iteration plan		C	A	R	I
9	Unit Test plan		R	A	C	I
10	Integration		A	R	I	C
11	Stakeholder Engagement		C	A	R	I
12	Data Analysis		A	R	I	C
13	Presentation		C	A	R	I
14	Timeline and Deadlines		R	A	C	I
15	Technology and Tools		A	R	I	C

R	Responsible
A	Accountable
C	Consulted
I	Informed

Assigned to complete the task or deliverable.

Has final decision-making authority and accountability for completion. Only 1 per task.

An adviser, stakeholder, or subject matter expert who is consulted before a decision or action.

Must be informed after a decision or action.

Figure 14: RACI Chart

## Conceptual Diagram

## Flow Diagram

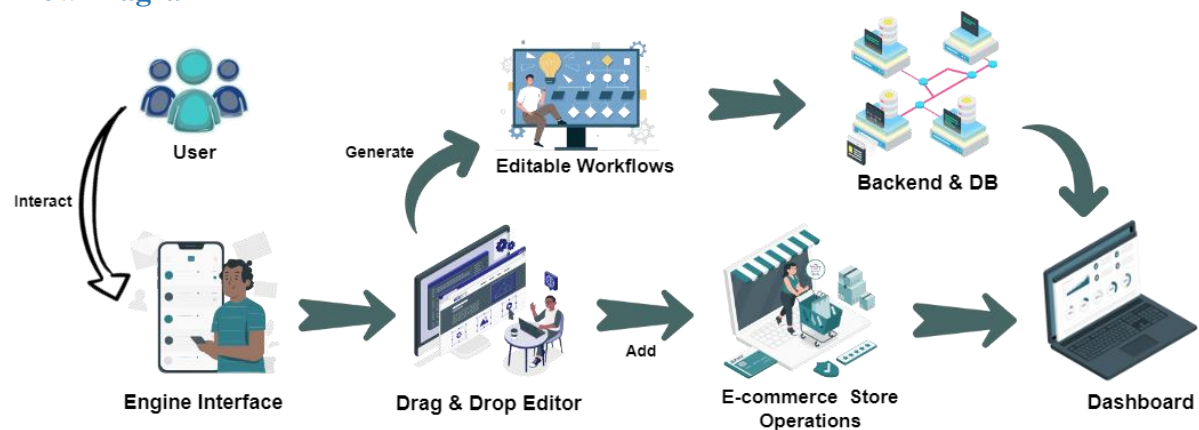


Figure 15: Flow Diagram

## Architecture Diagram

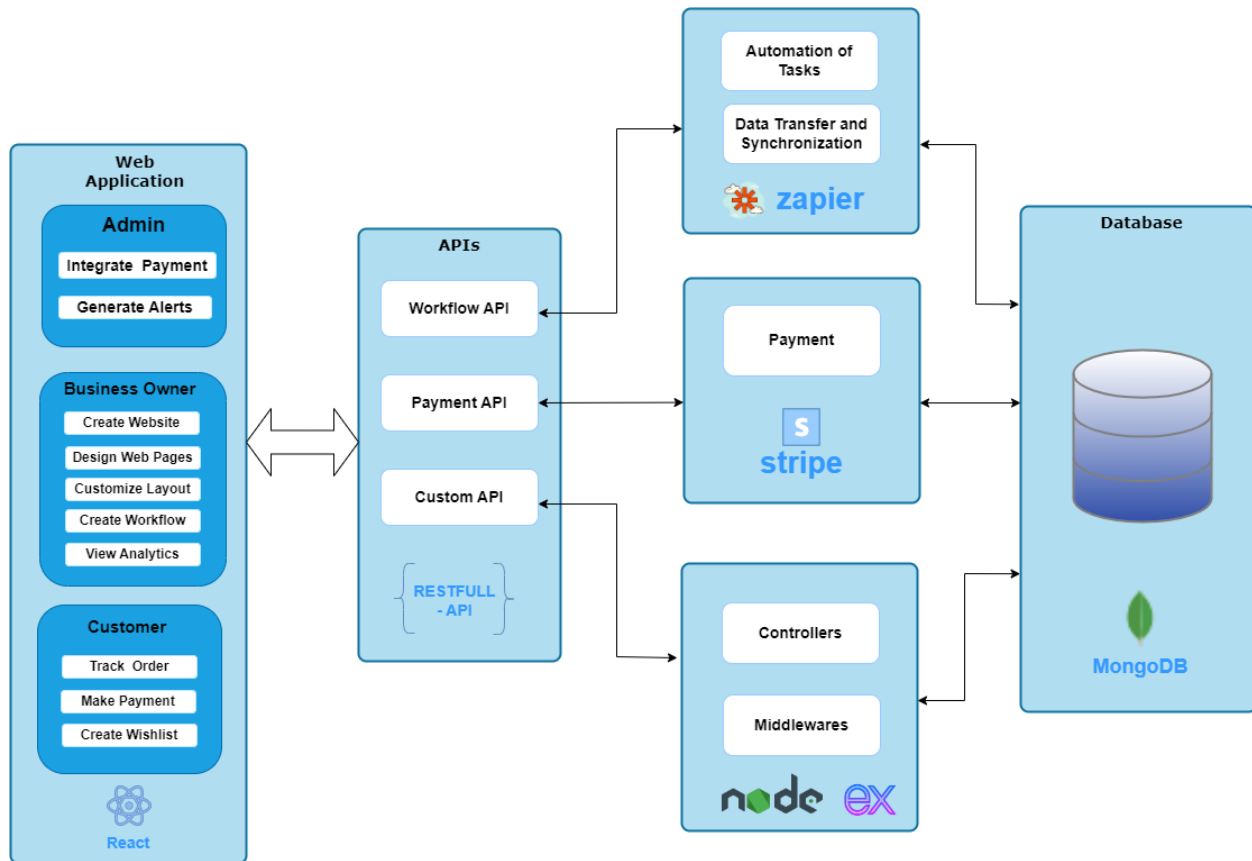


Figure 16: Architecture Diagram

### Constraints & Quality attributes:

#### Constraints:

The following constraints come ahead.

- ❖ The project should be completed within the 8 months' timeframe.
- ❖ The project budget is limited and must be adhered to.
- ❖ The project must work within the MERN stack.
- ❖ The project scope will lie around No-Code builder and ecommerce store main features.

## Quality attributes

The no-code e-commerce web-based engine prioritizes usability, scalability, and security, offering a user-friendly platform for effortless creation of customized online stores with robust performance and adherence to industry standards.

- ❖ **Usability:** The system should provide a user-friendly and intuitive visual drag-and-drop UI builder, allowing users with varying levels of technical expertise to easily create and customize their e-commerce websites.
- ❖ **Flexibility:** The platform should provide flexibility in terms of customization, allowing users to tailor their e-commerce websites to their specific needs. This includes customizable layouts, fonts, colors, and styles.
- ❖ **Compatibility:** The system should be compatible with different devices, browsers, and operating systems, ensuring a consistent and optimal user experience across various platforms.

## Risk Register

Risk ID	Risk Description	Risk Category	Probability	Impact	Mitigation Strategy	Risk score	Action By	Action when
R1	Delays in Project Authorization	Project Management	Medium	High	Regularly follow up with FYP Committee for timely approval and comments.	6	Project Manager	Ongoing
R2	Changes in Stakeholder Requirements	Requirements	High	High	Implement a robust change management process. Clearly communicate the impact of changes.	9	Project Manager	Throughout the project
R3	Technical Challenges in MER	Technical	Medium	High	Conduct thorough technical feasibility studies. Allocate additional resources for technical problem-solving.	6	Development Team	Ongoing

	N Stack							
R4	Insufficient User Adoption	Project Success	Medium	High	Implement an extensive user training and support program. Conduct user feedback sessions.	6	Project Manager, Marketing Team	After system deployment
R5	Budget Overrun	Project Management	Medium	High	Regularly monitor expenses. Prioritize features to align with the budget.	6	Project Manager	Ongoing
R6	Server Downtime	Technical	Low	High	Implement redundancy and backup systems. Regularly test server capabilities.	4	IT Manager	Ongoing
R7	Inadequate Testing	Quality Assurance	Medium	High	Implement rigorous testing protocols. Allocate additional resources for quality assurance.	6	QA Team	Before each project milestone
R8	Misalignment with Academic Standards	Project Success	Low	High	Regularly consult with the supervisor and FYP Committee. Ensure adherence to academic guidelines.	3	Supervisor, Project Manager	Ongoing
R9	Competitor Actions	External	Medium	High	Regularly monitor competitor activities. Stay agile to adapt to market changes.	6	Marketing Team	Ongoing
R10	Data Security Breach	Security	Low	High	Implement robust security measures. Regularly update security protocols.	4	Security Experts	Ongoing

Table 11: Risk Register

## Risk management

### Risk Identification

#### 1- Business Risk:

- ❖ **Scope:** Changes in stakeholder requirements could lead to scope creep, impacting the project's alignment with business objectives.
- ❖ **Time:** Delays in project authorization may affect the overall timeline, impacting the business's strategic goals.
- ❖ **Cost:** Budget overruns could pose a significant business risk, affecting financial stability and project completion.

#### 2- Technical Risk:

- ❖ **Integration:** Technical challenges in integrating various modules may arise, affecting the overall technical feasibility of the project.
- ❖ **Quality:** Inadequate testing protocols may lead to technical issues and compromises in the quality of the final product.

#### 3- Project Risk:

- ❖ **Scope:** Changes in stakeholder requirements may introduce project risks, affecting the overall project success.
- ❖ **Time:** Delays in project authorization and technical challenges may pose risks to meeting project milestones.
- ❖ **Cost:** Budget overruns could jeopardize the overall success of the project.

#### 4- Known Risk:

- ❖ **Integration:** Dependencies on third-party APIs for payment gateways may pose known risks related to API changes or disruptions.
- ❖ **Quality:** Insufficient user adoption, if not addressed, may result in a known risk affecting the success and acceptance of the project.
- ❖ **Communications:** Ineffective communication channels may lead to known risks, such as misalignment with stakeholder expectations and misunderstandings.

### Risk Analysis

These PERT estimates provide a more nuanced understanding of the potential durations associated with each identified risk, helping in better planning and risk mitigation strategies.

## PERT Estimation Techniques

PERT (Program Evaluation and Review Technique) is a three-point estimation technique that involves estimating the optimistic (O), pessimistic (P), and most likely (M) durations for each task.

The formula for PERT is given by:

$$\text{PERT Estimate} = (O + 4M + P) / 6$$

Let's perform PERT analysis on the identified risks:

1. **Scope Creep (Scope):**

- ❖ O = 2 months (Optimistic Estimate)
- ❖ M = 4 months (Most Likely Estimate)
- ❖ P = 6 months (Pessimistic Estimate)
- ❖ PERT Estimate =  $(2 + 4 \times 4 + 6) / 6 = 24 / 6 = 4$  months

2. **Delays in Project Authorization (Time):**

- ❖ O = 1 month
- ❖ M = 2 months
- ❖ P = 3 months
- ❖ PERT Estimate =  $(1 + 4 \times 2 + 3) / 6 = 12 / 6 = 2$  months

3. **Budget Overruns (Cost):**

- ❖ O = \$50,000 (Optimistic Estimate)
- ❖ M = \$75,000 (Most Likely Estimate)
- ❖ P = \$100,000 (Pessimistic Estimate)
- ❖ PERT Estimate =  $(50,000 + 4 \times 75,000 + 100,000) / 6 = 400,000 / 6 = \$66,666.67$

4. **Technical Challenges in Integration (Integration):**

- ❖ O = 1 month
- ❖ M = 3 months
- ❖ P = 5 months
- ❖ PERT Estimate =  $(1 + 4 \times 3 + 5) / 6 = 18 / 6 = 3$  months

5. **Inadequate Testing Protocols (Quality):**

- ❖ O = 2 months



- ❖ M = 4 months
- ❖ P = 6 months
- ❖ PERT Estimate =  $(2+4 \times 4+6) / 6 = 24 / 6 = 4$  months

**6. Changes in Stakeholder Requirements (Project Risk):**

- ❖ O = 1 month
- ❖ M = 3 months
- ❖ P = 5 months
- ❖ PERT Estimate =  $(1+4 \times 3+5) / 6 = 18 / 6 = 3$  months

**7. Dependency on Third-Party APIs (Integration):**

- ❖ O = 1 month
- ❖ M = 2 months
- ❖ P = 3 months
- ❖ PERT Estimate =  $(1+4 \times 2+3) / 6 = 12 / 6 = 2$  months

**8. Insufficient User Adoption (Quality):**

- ❖ O = 2 months
- ❖ M = 4 months
- ❖ P = 6 months
- ❖ PERT Estimate =  $(2+4 \times 4+6) / 6 = 24 / 6 = 4$  months

**9. Ineffective Communication Channels (Communications):**

- ❖ O = 1 month
- ❖ M = 3 months
- ❖ P = 5 months
- ❖ PERT Estimate =  $(1+4 \times 3+5) / 6 = 18 / 6 = 3$  months

## Risk Prioritization

Risk prioritization involves assessing the probability and impact of each risk to determine their overall priority. This prioritization allows the team to allocate resources effectively and address the most critical risks early in the project. Here's a step-by-step process.

Probability Scale:      Low: 1                      Medium: 2                      High: 3

Impact Scale: Low: 1

Medium: 2

High: 3

Risk	Probability	Impact	Total Risk
Scope Creep (Scope)	2	2	4
Delays in Project Authorization (Time)	1	2	2
Budget Overruns (Cost)	2	3	6
Technical Challenges in Integration (Integration)	2	3	6
Inadequate Testing Protocols (Quality)	2	2	4
Changes in Stakeholder Requirements (Project Risk)	2	3	6
Dependency on Third-Party APIs (Integration)	1	2	2
Insufficient User Adoption (Quality)	2	2	4
Ineffective Communication Channels (Communications)	2	3	6

Table 12: Risk Prioritization

Probability / Impact	Very Low	Low	Medium	High	Very High
Very Likely	Medium	High	High	Medium	Low
Likely	Low	Medium	Medium	Low	Very Low
Possible	Very Low	Low	Low	Very Low	Very Low
Unlikely	Very Low	Very Low	Very Low	Very Low	Very Low
Rare	Very Low	Very Low	Very Low	Very Low	Very Low

Table 13: Probability vs. Impact Matrix

This matrix provides a visual representation of the potential impact and likelihood of identified risks, helping the project team prioritize and focus on the most critical ones.

## Risk response development

### Risk Avoidance

From the identified risks, the risk that falls under the "Risk avoidance" category, which involves eliminating a specific threat or risk by eliminating its causes, is:

#### Dependency on Third-Party APIs (Integration)

- ❖ This risk involves relying on third-party APIs for payment gateways, and the potential challenges associated with their performance and reliability.
- ❖ **Avoidance Strategy:** Develop an in-house payment processing system or use alternative, more reliable APIs to eliminate dependency on third-party APIs.

By eliminating the reliance on third-party APIs, the project can avoid potential issues related to external dependencies and ensure better control over the integration process.

## Risk acceptance

From the identified risks, the risk that falls under the "Risk acceptance" category, which involves accepting the consequences should a risk occur,

### Changes in Stakeholder Requirements (Project Risk)

- ❖ This risk pertains to the potential changes in stakeholder requirements, which could impact project scope and objectives.
- ❖ **Acceptance Strategy:** Acknowledge that changes in stakeholder requirements are common in projects and establish a flexible project management approach to accommodate reasonable changes as they arise.

By accepting that stakeholder requirements may evolve throughout the project, the team can mitigate the impact by maintaining open communication channels and having a change management process in place to handle modifications to project requirements.

## Risk Mitigation

These mitigation strategies aim to reduce the impact of the identified risks by either preventing their occurrence or minimizing their consequences. Regular monitoring and adjustments to the mitigation strategies are essential throughout the project lifecycle.

Here are mitigation strategies for each of the identified risks.

### 1. Scope Creep (Scope)

- ❖ **Mitigation Strategy:** Implement a robust change control process. Clearly define project scope and requirements upfront. Regularly communicate with stakeholders about the scope and the impact of changes.

### 2. Delays in Project Authorization (Time)

- ❖ **Mitigation Strategy:** Regularly follow up with the FYP Committee for timely approval and feedback. Clearly communicate the importance of timely authorization for project success.

### 3. Budget Overruns (Cost)

- ❖ **Mitigation Strategy:** Regularly monitor expenses and adhere to budget constraints. Prioritize features and allocate resources efficiently. Have contingency plans for unexpected costs.

#### 4. **Technical Challenges in Integration (Integration)**

- ❖ **Mitigation Strategy:** Conduct thorough technical feasibility studies. Allocate additional resources for technical problem-solving. Test and validate third-party APIs in a controlled environment before full integration.

#### 5. **Inadequate Testing Protocols (Quality)**

- ❖ **Mitigation Strategy:** Implement rigorous testing protocols. Allocate additional resources for quality assurance. Conduct regular testing throughout the development lifecycle.

#### 6. **Changes in Stakeholder Requirements (Project Risk)**

- ❖ **Mitigation Strategy:** Establish a flexible project management approach. Clearly document initial requirements. Implement a change management process for handling modifications to project requirements.

#### 7. **Dependency on Third-Party APIs (Integration)**

- ❖ **Mitigation Strategy:** Explore alternative, more reliable APIs. Develop an in-house payment processing system as a backup. Ensure thorough testing and validation of third-party APIs before full-scale integration.

#### 8. **Insufficient User Adoption (Quality)**

- ❖ **Mitigation Strategy:** Implement an extensive user training and support program. Conduct user feedback sessions during the development process. Focus on creating an intuitive and user-friendly interface.

#### 9. **Ineffective Communication Channels (Communications):**

- ❖ **Mitigation Strategy:** Establish clear communication channels and protocols. Regularly update stakeholders on project progress. Implement collaboration tools and conduct regular team meetings.

## Response to Risk

Risk Item	This Month	Last Month	Number of Months	Risk Resolution Progress
<b>Scope Creep (Scope)</b>	-	1	1	-
<b>Delays in Project Authorization (Time)</b>	1	1	2	Regularly following up with FYP Committee for timely approval and feedback. Clearly communicating the importance of timely authorization.
<b>Budget Overruns (Cost)</b>	1	2	5	Regularly monitoring expenses and adhering to budget constraints. Prioritizing features and allocating resources efficiently. Having contingency plans for unexpected costs.
<b>Technical Challenges in Integration (Integration)</b>	3	5	6	Conducting thorough technical feasibility studies. Allocating additional resources for technical problem-solving. Testing and validating third-party APIs in a controlled environment before full integration.
<b>Changes in Stakeholder Requirements (Project Risk)</b>	-	1	2	Establishing a flexible project management approach. Clearly documenting initial requirements. Implementing a change management process for handling modifications to project requirements.
<b>Dependency on Third-Party APIs (Integration)</b>	5	3	6	Exploring alternative, more reliable APIs. Developing an in-house payment processing system as a backup. Ensuring thorough testing and validation of third-party APIs before full-scale integration.
<b>Ineffective Communication Channels (Communications)</b>	5	4	6	Establishing clear communication channels and protocols. Regularly updating stakeholders on project progress. Implementing collaboration tools and conducting regular team meetings.

Table 14: Response to Risk matrix

## Conclusion

Our project endeavors to address the challenges faced by entrepreneurs and small businesses in establishing a robust online presence and managing e-commerce operations. The no-code e-commerce web-based engine aims to democratize web development, making it accessible to individuals without extensive coding knowledge. The project focuses on providing a user-friendly visual drag-and-drop UI builder, content management capabilities, workflow automation, payment gateway integration, and comprehensive analytics.

With a clear project scope and well-defined objectives, our goal is to deliver a deployable, accessible e-commerce solution within the next eight months. The business case emphasizes the benefits of accessibility, efficiency, affordability, competitiveness, and anticipated revenue growth. The feasibility analysis highlights constraints, assumptions, and the commitment to completing the project within the specified timeframe and budget.

Stakeholder analysis identifies key stakeholders and their priorities, emphasizing the importance of aligning project goals with their expectations. The communication plan outlines various communication channels and schedules to ensure effective collaboration and updates among team members and stakeholders.

The project milestones, deliverables, and resource allocation are detailed in the work breakdown structure, Gantt chart, resource calendar, resource histogram, and RACI chart. The risk register anticipates potential challenges and outlines mitigation strategies to address them.

In summary, our no-code e-commerce web-based engine project aims to revolutionize the world of e-commerce, empowering individuals, and businesses to thrive in the dynamic online marketplace. Through strategic planning, effective communication, and meticulous execution, we aspire to deliver a game-changing solution that simplifies the process of starting and succeeding in e-commerce.

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