



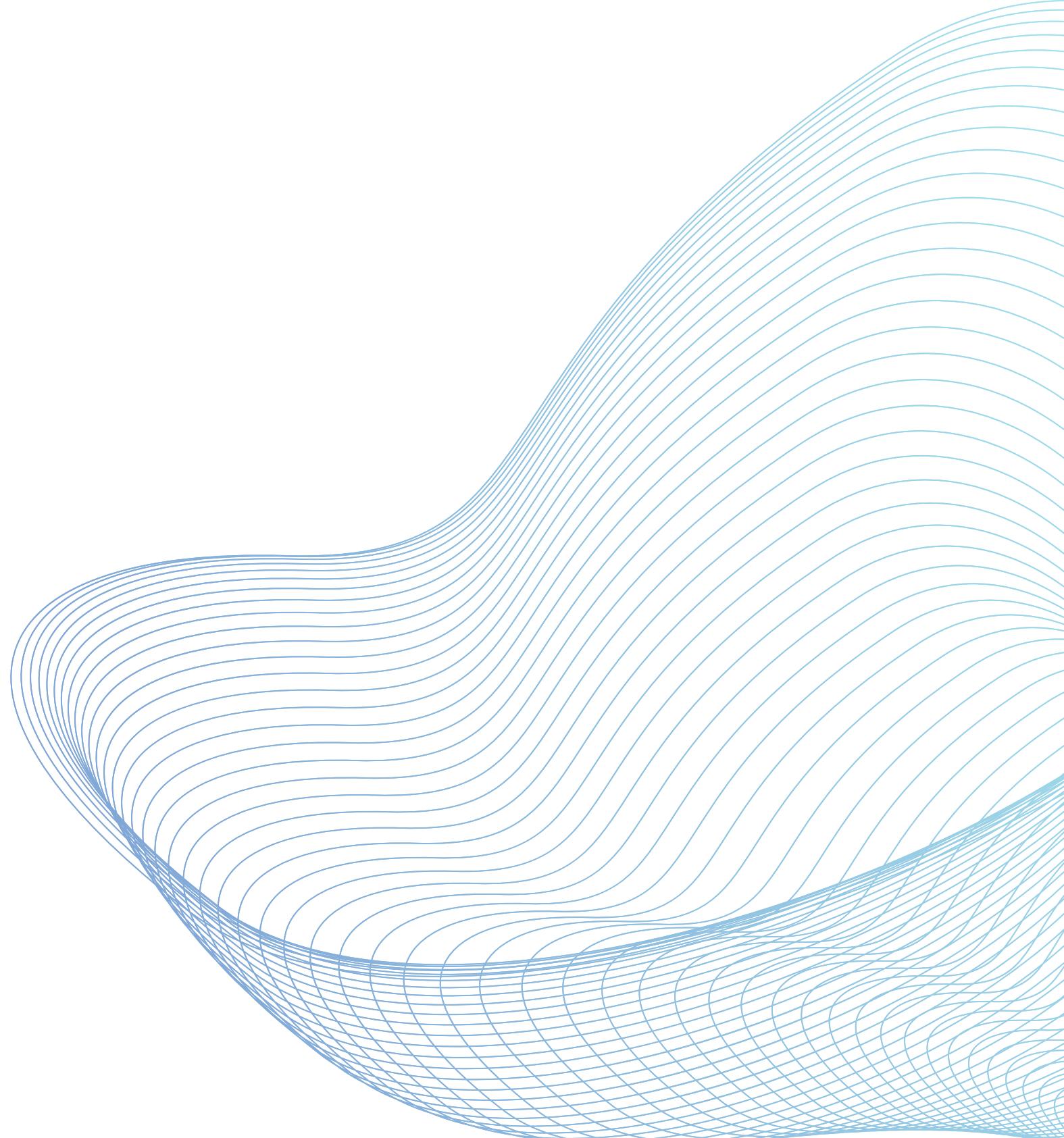
ONLINE HOME SERVICES PLATFORM

Made By -

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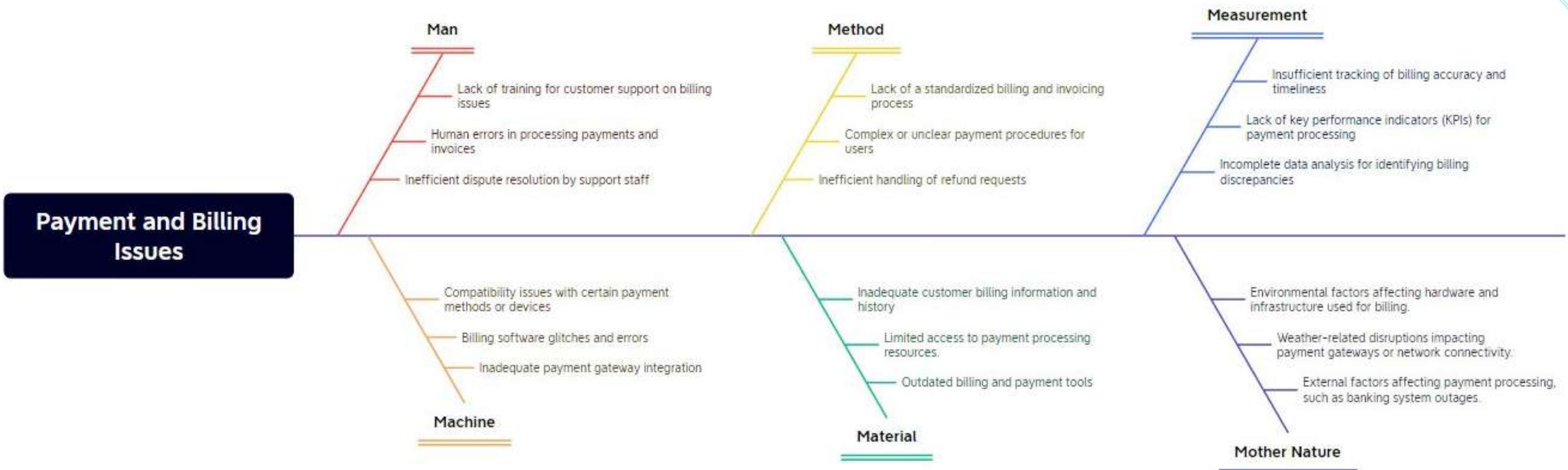
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Payment and billing Issues Fishbone Diagram



Payment and billing Issues:

Man (Human Factor):

- - The absence of proper training may result in customer support staff being ill-equipped to handle billing-related queries or disputes effectively.

Human Errors in Processing Payments and Invoices:

- - Mistakes made by staff during payment processing or invoice generation can lead to inaccuracies and disputes.

Inefficient Dispute Resolution by Support Staff:

- - Customer support staff may lack effective resolution strategies, leading to prolonged disputes and customer dissatisfaction.

Method (Processes and Procedures):

Lack of a Standardized Billing and Invoicing Process:

- - Without standardized processes, inconsistencies in billing and invoicing may arise, causing confusion for both users and support staff.

Complex or Unclear Payment Procedures for Users:

- - Complicated or unclear payment procedures may lead to user errors, delays, and frustration.

Inefficient Handling of Refund Requests:

- - Inefficient processes for handling refund requests may result in delays and dissatisfaction.

1.

Measurement (Metrics and Analysis):

- **Insufficient Tracking of Billing Accuracy and Timeliness:**
 - Inadequate tracking mechanisms may lead to delays in identifying billing inaccuracies or late payments.
- **Lack of Key Performance Indicators (KPIs) for Payment Processing:**
 - Without clear KPIs, it becomes challenging to measure and improve the performance of payment processing.
- **Incomplete Data Analysis for Identifying Billing Discrepancies:**
 - Incomplete data analysis may hinder the identification of patterns or recurring issues in billing discrepancies.

2.

Machine (Technological Infrastructure):

Compatibility Issues with Certain Payment Methods or Devices:

- - Technological issues may arise when the payment system is not compatible with specific payment methods or devices, causing transaction failures.

Billing Software Glitches and Errors:

- - Technical glitches and errors in billing software can lead to inaccuracies in invoices and payment processing.

Inadequate Payment Gateway Integration:

- - Poorly integrated payment gateways may result in disruptions in payment transactions.

1.



Material (Digital and Physical Resources):

Inadequate Customer Billing Information and History:

- Lack of comprehensive customer billing information may lead to difficulties in resolving billing issues.



Limited Access to Payment Processing Resources:

- Limited access to resources required for payment processing may contribute to inefficiencies.



Outdated Billing and Payment Tools:

- Using outdated tools may result in limitations and vulnerabilities in the billing and payment system.

2.

Mother Nature (External Factors):



Environmental Factors Affecting Hardware and Infrastructure Used for Billing:

- Natural disasters or environmental factors may impact the hardware and infrastructure, leading to disruptions in billing processes.



Weather-Related Disruptions Impacting Payment Gateways or Network Connectivity:

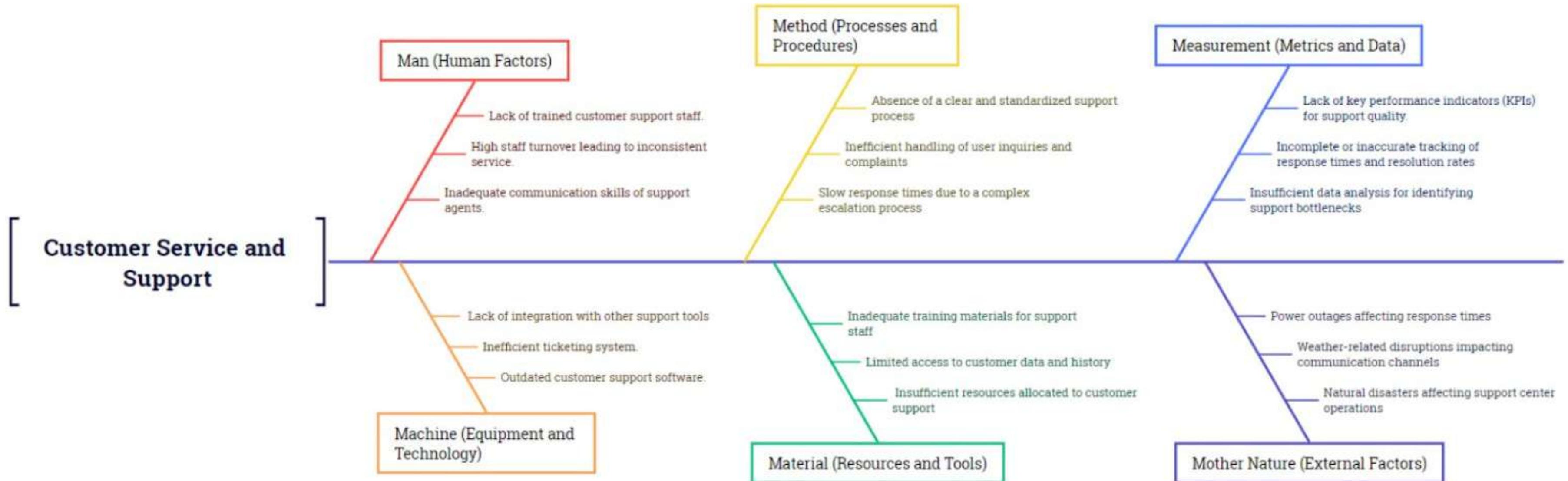
- Adverse weather conditions may affect network connectivity, causing disruptions in payment gateways.



External Factors Affecting Payment Processing, Such as Banking System Outages:

- Unforeseen events like banking system outages can affect the overall payment processing capabilities.

Customer Service and Support Fishbone Diagram



1.

Man (Human Factors):

Lack of Trained Customer Support Staff:

- - Insufficient training may result in support staff lacking the necessary skills and knowledge to address customer inquiries effectively.

High Staff Turnover Leading to Inconsistent Service:

- - High turnover rates can lead to a constant influx of new staff, causing inconsistency in service quality and customer interactions.

Inadequate Communication Skills of Support Agents:

- - Poor communication skills among support agents may result in misunderstandings and dissatisfaction among customers.

Method (Processes and Procedures):

Absence of a Clear and Standardized Support Process:

- - Without a standardized process, there may be inconsistencies in how customer inquiries and issues are handled, leading to confusion.

Inefficient Handling of User Inquiries and Complaints:

- - Inefficient processes for handling inquiries and complaints may result in delays and frustration for users.

Slow Response Times Due to a Complex Escalation Process:

- - Complex escalation processes may contribute to slow response times, impacting overall customer satisfaction.

2.

1.

Measurement (Metrics and Data):

- **Lack of Key Performance Indicators (KPIs) for Support Quality:**
 - Without defined KPIs, it becomes challenging to measure and improve the quality of support provided.
- **Incomplete or Inaccurate Tracking of Response Times and Resolution Rates:**
 - Incomplete or inaccurate tracking of response times and resolution rates may hinder the identification of areas for improvement.
- **Insufficient Data Analysis for Identifying Support Bottlenecks:**
 - Limited data analysis capabilities may result in overlooking bottlenecks or recurring issues in the support processes.

2.

Machine (Equipment and Technology):

- **Lack of Integration with Other Support Tools:**
 - Insufficient integration with other support tools may lead to disjointed workflows and inefficiencies.
- **Inefficient Ticketing System:**
 - An inefficient ticketing system can contribute to delays and challenges in managing customer inquiries.
- **Outdated Customer Support Software:**
 - Using outdated software may limit the capabilities and efficiency of the customer support system.

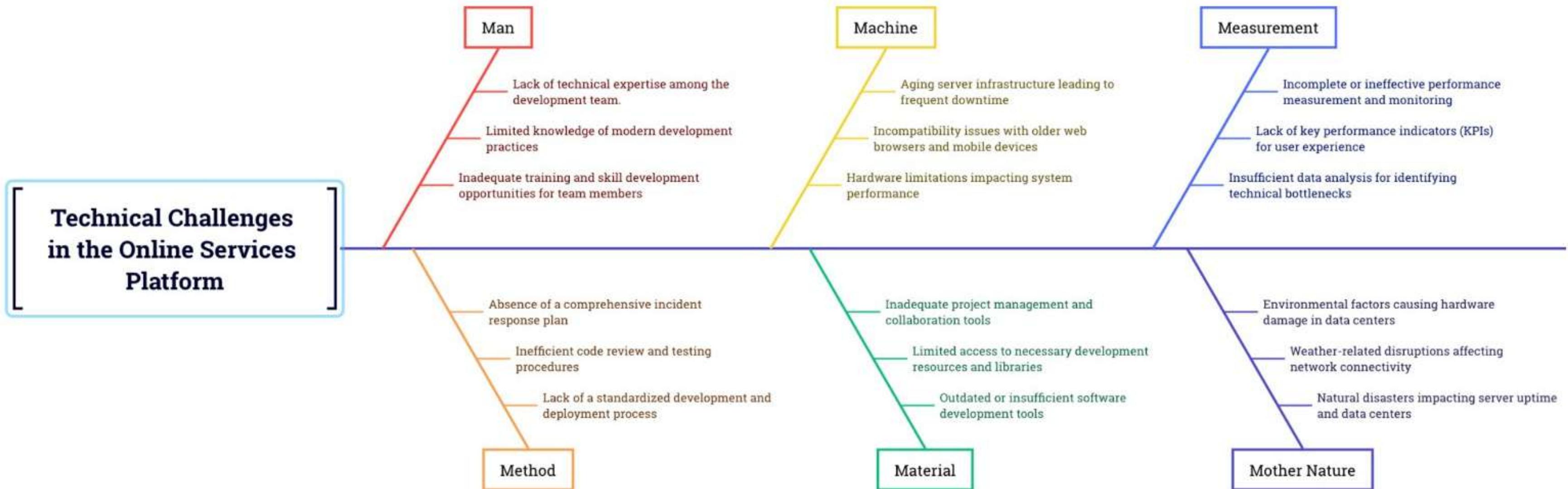
1.

- **Material (Resources and Tools):**
 - **Inadequate Training Materials for Support Staff:**
 - Lack of comprehensive training materials may hinder the development of necessary skills among support staff.
 - **Limited Access to Customer Data and History:**
 - Limited access to customer data may impede the ability to provide personalized and efficient support.
 - **Insufficient Resources Allocated to Customer Support:**
 - Inadequate resources, such as staffing or technology, may result in overwhelmed support teams and suboptimal service.

2.

- **Mother Nature (External Factors):**
 - **Power Outages Affecting Response Times:**
 - Power outages may disrupt communication channels and impact the ability to respond to customer inquiries promptly.
 - **Weather-Related Disruptions Impacting Communication Channels:**
 - Adverse weather conditions may affect communication channels, leading to delays in providing support.
 - **Natural Disasters Affecting Support Center Operations:**
 - Natural disasters may impact the operations of support centers, affecting the ability to provide continuous service.

Technical Challenges in the Online Services Platform



1.

Man (Human Factors):

Lack of Technical Expertise Among the Development Team:

- - Insufficient technical expertise within the development team may lead to suboptimal solutions and challenges in addressing complex technical issues.

Limited Knowledge of Modern Development Practices:

- - A lack of knowledge about modern development practices may hinder the adoption of efficient and up-to-date technologies.

Inadequate Training and Skill Development Opportunities for Team Members:

- - Limited training and skill development opportunities may result in an outdated skill set among team members, impacting the ability to tackle contemporary challenges.

Machine (Equipment and Technology):

Aging Server Infrastructure Leading to Frequent Downtime:

- - Aging server infrastructure may contribute to frequent downtime, affecting the overall reliability of the online services platform.

Incompatibility Issues with Older Web Browsers and Mobile Devices:

- - Compatibility issues with older web browsers and mobile devices may lead to a degraded user experience and limited accessibility.

Hardware Limitations Impacting System Performance:

- - Hardware limitations can negatively impact the overall performance of the online services platform, leading to slower response times and inefficiencies.

1.

Measurement (Metrics and Data):

Incomplete or Ineffective Performance Measurement and Monitoring:

- - Inadequate performance measurement and monitoring tools may result in a lack of real-time insights into the system's health and performance.

Lack of Key Performance Indicators (KPIs) for User Experience:

- - Absence of defined KPIs for user experience may hinder the assessment and improvement of the overall user satisfaction.

Insufficient Data Analysis for Identifying Technical Bottlenecks:

- - Limited data analysis capabilities may impede the identification of technical bottlenecks, affecting system optimization.

Method (Processes and Procedures):

Absence of a Comprehensive Incident Response Plan:

- - The lack of a well-defined incident response plan may result in delays and inefficiencies in addressing technical issues and outages.

Inefficient Code Review and Testing Procedures:

- - Inefficient code review and testing procedures may lead to the introduction of bugs and vulnerabilities in the system.

Lack of a Standardized Development and Deployment Process:

- - The absence of standardized development and deployment processes can lead to inconsistencies and challenges in maintaining a stable platform.

2.

1.

Material (Resources and Tools):

Inadequate Project Management and Collaboration Tools:

- - Inadequate project management and collaboration tools may hinder effective communication and coordination among team members.

Limited Access to Necessary Development Resources and Libraries:

- - Limited access to essential development resources and libraries may impede the adoption of efficient and modern technologies.

Outdated or Insufficient Software Development Tools:

- - Using outdated or insufficient software development tools may limit the efficiency and productivity of the development team.

Mother Nature (External Factors):

Environmental Factors Causing Hardware Damage in Data Centers:

- - Environmental factors such as humidity or temperature fluctuations may lead to hardware damage in data centers, impacting system stability.

Weather-Related Disruptions Affecting Network Connectivity:

- - Adverse weather conditions may disrupt network connectivity, leading to service interruptions.

Natural Disasters Impacting Server Uptime and Data Centers:

- - Natural disasters can have severe consequences on server uptime and data centers, affecting the overall availability of the online services platform.

2.

TASK MANAGEMENT USING PROJECT LIBRE

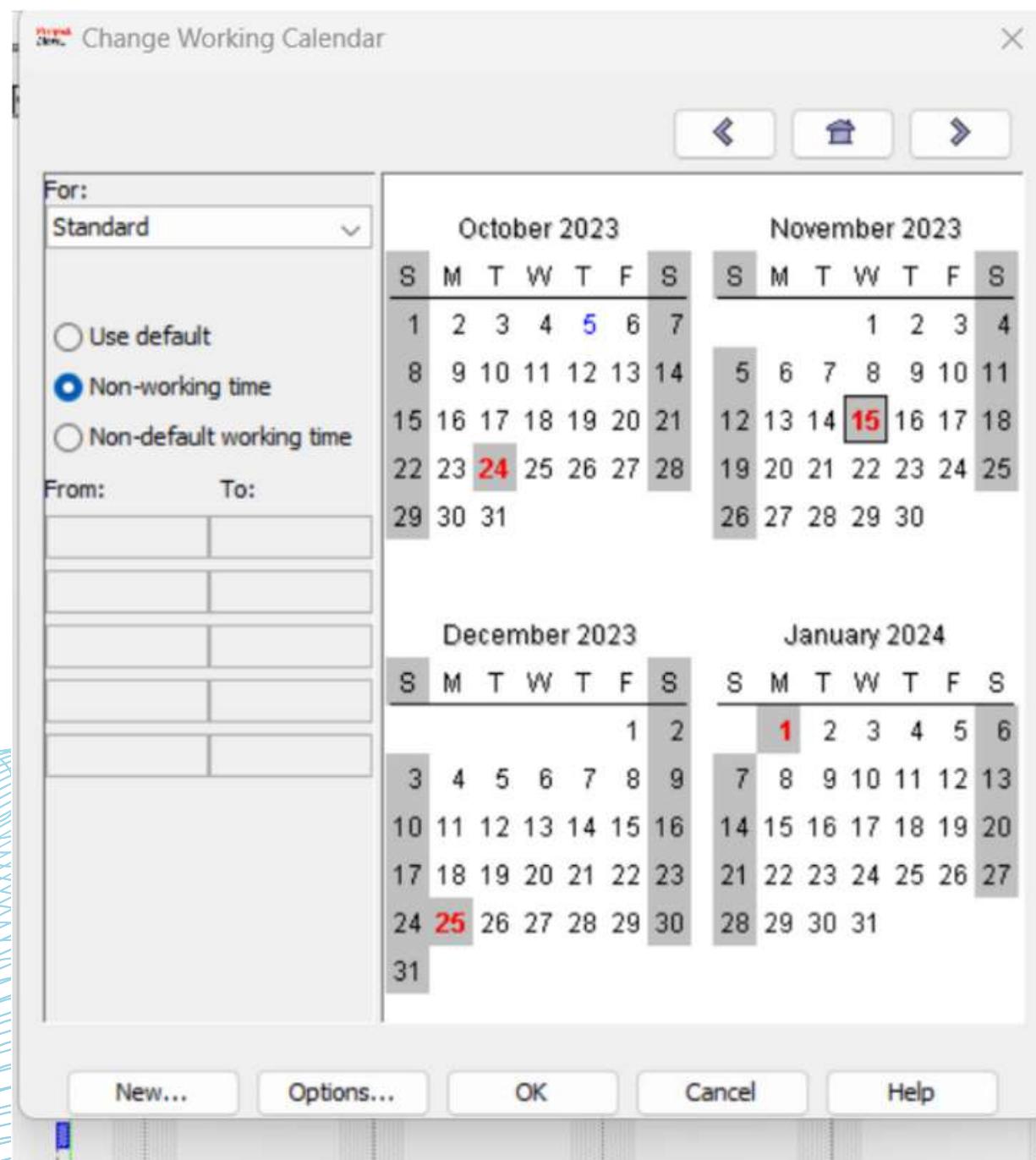
TASKS

1. Create Summary Task
2. Create key tasks
3. Create key tasks dependencies
4. Insert sub-tasks and indent
5. Create sub-tasks dependencies
6. Estimate duration to all the created tasks

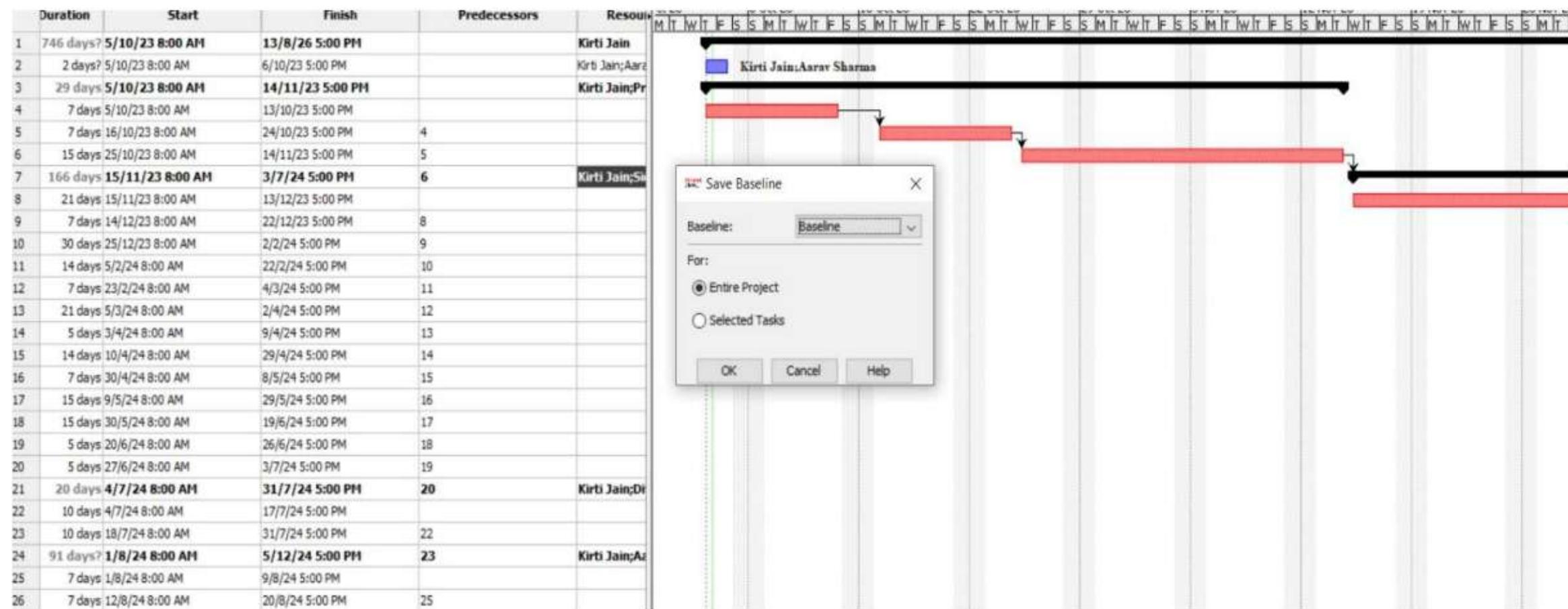
		Name	Duration	Start	Finish	Predecessors
1		Online Home Services	746 days?	5/10/23 8:00 AM	13/8/26 5:00 PM	
2		Project Initiation	2 days?	5/10/23 8:00 AM	6/10/23 5:00 PM	
3		Project Goal Initialisation	29 days	5/10/23 8:00 AM	14/11/23 5:00 PM	
4		Project Scope	7 days	5/10/23 8:00 AM	13/10/23 5:00 PM	
5		Identify Stakeholders	7 days	16/10/23 8:00 AM	24/10/23 5:00 PM	4
6		Project Charter initiation	15 days	25/10/23 8:00 AM	14/11/23 5:00 PM	5
7		Requirement Analysis and spec	166 days	15/11/23 8:00 AM	3/7/24 5:00 PM	6
8		Gather business requirements	21 days	15/11/23 8:00 AM	13/12/23 5:00 PM	
9		Remove requirement inconsistencie	7 days	14/12/23 8:00 AM	22/12/23 5:00 PM	8
10		Market research	30 days	25/12/23 8:00 AM	2/2/24 5:00 PM	9
11		Analyze market trends	14 days	5/2/24 8:00 AM	22/2/24 5:00 PM	10
12		Identify unique selling points	7 days	23/2/24 8:00 AM	4/3/24 5:00 PM	11
13		Gather user requirements	21 days	5/3/24 8:00 AM	2/4/24 5:00 PM	12
14		Define user personas	5 days	3/4/24 8:00 AM	9/4/24 5:00 PM	13
15		Conduct surveys	14 days	10/4/24 8:00 AM	29/4/24 5:00 PM	14
16		Identify challenges	7 days	30/4/24 8:00 AM	8/5/24 5:00 PM	15
17		Define features and functionality	15 days	9/5/24 8:00 AM	29/5/24 5:00 PM	16
18		Data modelling	15 days	30/5/24 8:00 AM	19/6/24 5:00 PM	17
19		Requirements finalizing	5 days	20/6/24 8:00 AM	26/6/24 5:00 PM	18
20		Requirements documentation	5 days	27/6/24 8:00 AM	3/7/24 5:00 PM	19
21		Design and architecture	20 days	4/7/24 8:00 AM	31/7/24 5:00 PM	20
22		Design database schema	10 days	4/7/24 8:00 AM	17/7/24 5:00 PM	
23		Identify technologies stack	10 days	18/7/24 8:00 AM	31/7/24 5:00 PM	22
24		Development	91 days?	1/8/24 8:00 AM	5/12/24 5:00 PM	23
25		User authentication	7 days	1/8/24 8:00 AM	9/8/24 5:00 PM	
26		Service provider (employee) registr	7 days	12/8/24 8:00 AM	20/8/24 5:00 PM	25
27		Customer registration	7 days	21/8/24 8:00 AM	29/8/24 5:00 PM	26
28		Service categories	7 days	30/8/24 8:00 AM	9/9/24 5:00 PM	27
29		Service request management	7 days	10/9/24 8:00 AM	18/9/24 5:00 PM	28
30		Develop frontend infrastructure	7 days	19/9/24 8:00 AM	27/9/24 5:00 PM	29
31		User registration and login	7 days	30/9/24 8:00 AM	8/10/24 5:00 PM	30

33	Booking process	10 days	18/10/24 8:00 AM	31/10/24 5:00 PM	32
34	Payment gateway integration	1 day?	1/11/24 8:00 AM	1/11/24 5:00 PM	33
35	Set up development environment	8 days	4/11/24 8:00 AM	13/11/24 5:00 PM	34
36	Design user interfaces	8 days	14/11/24 8:00 AM	25/11/24 5:00 PM	35
37	Develop backend structure	8 days	26/11/24 8:00 AM	5/12/24 5:00 PM	36
38	Testing	151 days	6/12/24 8:00 AM	4/7/25 5:00 PM	37
39	Unit testing	21 days	6/12/24 8:00 AM	3/1/25 5:00 PM	
40	Integration testing	15 days	6/1/25 8:00 AM	24/1/25 5:00 PM	39
41	System testing	21 days	27/1/25 8:00 AM	24/2/25 5:00 PM	40
42	Bug fixing and iteration	7 days	25/2/25 8:00 AM	5/3/25 5:00 PM	41
43	Security	20 days	6/3/25 8:00 AM	2/4/25 5:00 PM	42
44	Implement data encryption	25 days	3/4/25 8:00 AM	7/5/25 5:00 PM	43
45	Implement security measures	21 days	8/5/25 8:00 AM	5/6/25 5:00 PM	44
46	Conduct security audits	21 days	6/6/25 8:00 AM	4/7/25 5:00 PM	45
47	Quality assurance	96 days	7/7/25 8:00 AM	17/11/25 5:00 PM	46
48	Functional testing	30 days	7/7/25 8:00 AM	15/8/25 5:00 PM	
49	Performance testing	25 days	18/8/25 8:00 AM	19/9/25 5:00 PM	48
50	Usability testing	21 days	22/9/25 8:00 AM	20/10/25 5:00 PM	49
51	Compatibility testing	20 days	21/10/25 8:00 AM	17/11/25 5:00 PM	50
52	Deployment	34 days	18/11/25 8:00 AM	2/1/26 5:00 PM	51
53	Prepare for production deployment	7 days	18/11/25 8:00 AM	26/11/25 5:00 PM	
54	Deploy to production servers	10 days	27/11/25 8:00 AM	10/12/25 5:00 PM	53
55	Monitor system stability	7 days	11/12/25 8:00 AM	19/12/25 5:00 PM	54
56	Ensure scalability	10 days	22/12/25 8:00 AM	2/1/26 5:00 PM	55
57	User training and documentation	28 days	5/1/26 8:00 AM	11/2/26 5:00 PM	56
58	Create user manuals	7 days	5/1/26 8:00 AM	13/1/26 5:00 PM	
59	Conduct training sessions	21 days	14/1/26 8:00 AM	11/2/26 5:00 PM	58
60	Marketing and launch	39 days	12/2/26 8:00 AM	7/4/26 5:00 PM	59
61	Deploy marketing strategy	14 days	12/2/26 8:00 AM	3/3/26 5:00 PM	
62	Launch marketing campaigns	15 days	4/3/26 8:00 AM	24/3/26 5:00 PM	61
63	Monitor user adoption	10 days	25/3/26 8:00 AM	7/4/26 5:00 PM	62
64	Maintenance and support	56 days	8/4/26 8:00 AM	24/6/26 5:00 PM	63
65	Handle customer support	20 days	8/4/26 8:00 AM	5/5/26 5:00 PM	
66	Address bugs and issues	15 days	6/5/26 8:00 AM	26/5/26 5:00 PM	65
67	Implement feature enhancement	14 days	27/5/26 8:00 AM	15/6/26 5:00 PM	66
68	User feedback	7 days	16/6/26 8:00 AM	24/6/26 5:00 PM	67
69	Project closure	36 days	25/6/26 8:00 AM	13/8/26 5:00 PM	68
70	Conduct project review	15 days	25/6/26 8:00 AM	15/7/26 5:00 PM	
71	Documentation	21 days	16/7/26 8:00 AM	13/8/26 5:00 PM	70

7. Change Working Calendar



8. Save baseline

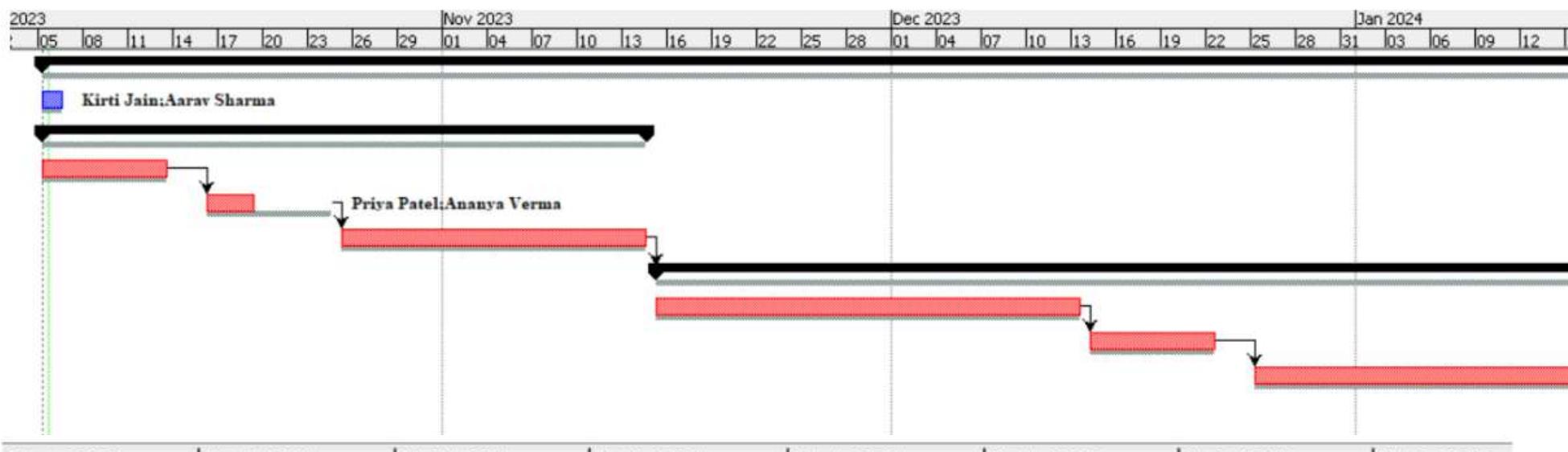


9. Insert new columns (Deadlines, Total Slack, Cost, Work., etc.)

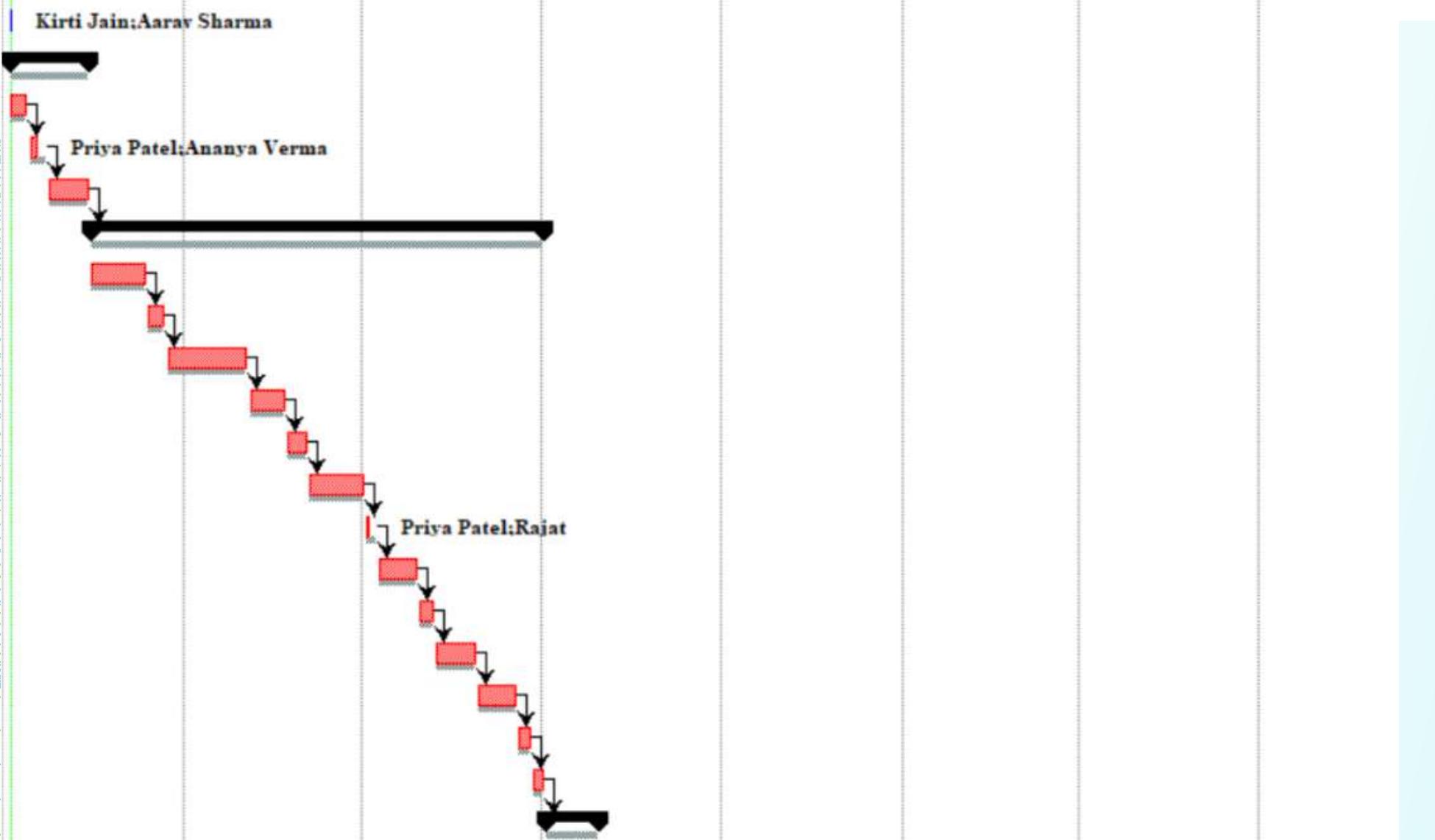
Cost	Total Slack	Work
Rs.491856.78	0 days	12,055.994...
Rs.2240.00	744 days	32 hours
Rs.485.33	0 days	240 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	120 hours
Rs.480.94	0 days	1,336 hours
Rs.0.00	0 days	168 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	240 hours
Rs.0.00	0 days	112 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	168 hours
Rs.0.00	0 days	40 hours
Rs.0.00	0 days	112 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	120 hours
Rs.0.00	0 days	120 hours
Rs.0.00	0 days	40 hours
Rs.0.00	0 days	40 hours
Rs.560.14	0 days	167.999 ho...
Rs.0.00	0 days	80 hours

Cost	Total Slack	Work
Rs.0.00	0 days	40 hours
Rs.0.00	0 days	40 hours
Rs.560.14	0 days	167.999 ho...
Rs.0.00	0 days	80 hours
Rs.0.00	0 days	80 hours
Rs.1109.04	0 days	735.999 ho...
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	56 hours
Rs.0.00	0 days	80 hours
Rs.0.00	0 days	8 hours
Rs.0.00	0 days	64 hours
Rs.0.00	0 days	64 hours
Rs.0.00	0 days	64 hours
Rs.1589.97	0 days	1,215.999 ...
Rs.0.00	0 days	168 hours
Rs.0.00	0 days	120 hours

10. View Total Slack in the Gantt chart



Qtr 4, 2023			Qtr 1, 2024			Qtr 2, 2024			Qtr 3, 2024			Qtr 4, 2024			Qtr 1, 2025			Qtr 2, 2025			Qtr 3, 2025		
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	



11. Update the Constraint Type of some tasks and verify the same on the Gantt chart

Update Tasks

Tasks: 14

Name:	Define user personas		
Percent Complete:	0%	Duration:	2.5 days
Start:	3/4/24 8:00 AM	Finish:	9/4/24 5:00 PM
Actual Duration:	0 days	Remaining Duration:	2.5 days
Actual Start:		Actual Finish:	
Type:	Fixed Duration		

Close **Help**

Update Tasks

Tasks: 14

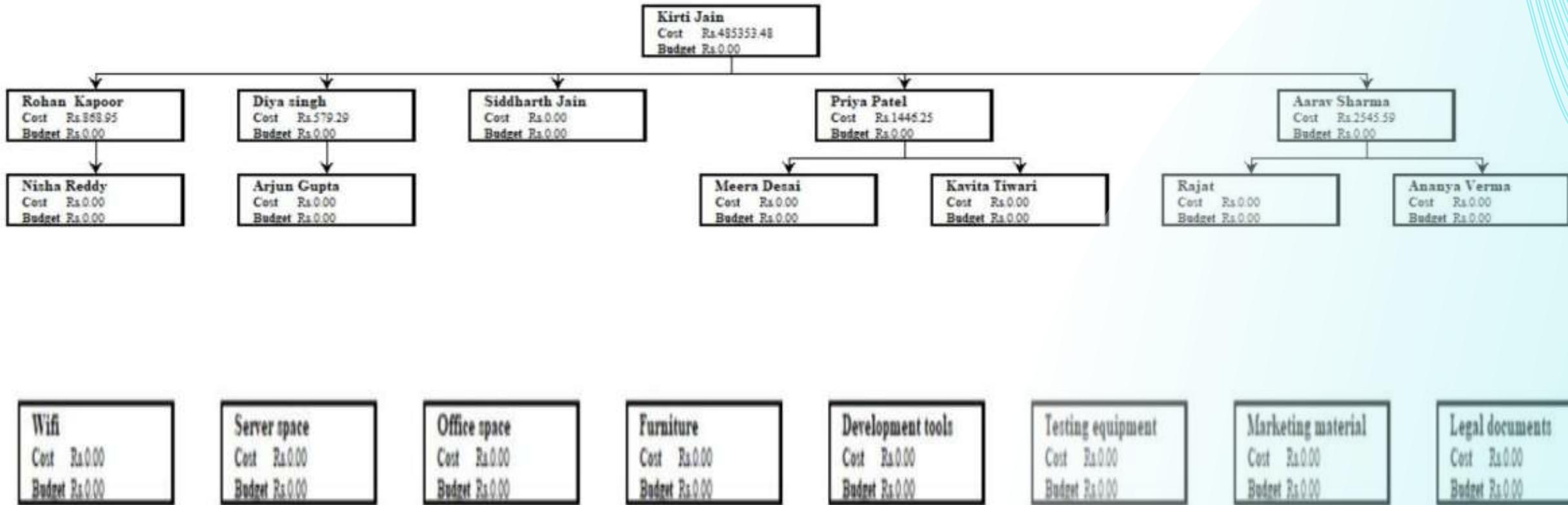
Name:	Define user personas		
Percent Complete:	10%	Duration:	2.5 days
Start:	3/4/24 8:00 AM	Finish:	9/4/24 5:00 PM
Actual Duration:	0 days	Remaining Duration:	2.5 days
Actual Start:		Actual Finish:	
Type:	Fixed Duration		

Close **Help**

13.Create Resources and set the Group and Rate

		Name	RBS	Type	E-mail Address	Material Label	Initials	Group	Max. Units	Standard Rate
1		Kirti Jain	Project manager	Work		P			100%	Rs.80.00/hour
2		Aarav Sharma	Developer	Work		A			100%	Rs.60.00/hour
3		Priya Patel	Developer	Work		P			100%	Rs.60.00/hour
4		Siddharth Jain	Developer	Work		S			100%	Rs.60.00/hour
5		Disha Singh	UI/AUX designer	Work		D			100%	Rs.70.00/hour
6		Aditi Mehta	UI/AUX designer	Work		A			100%	Rs.70.00/hour
7		Rohan Kapoor	Tester	Work		R			100%	Rs.55.00/hour
8		Nisha Reddy	Tester	Work		N			100%	Rs.55.00/hour
9		Arjun Gupta	Database Administrator	Work		A			100%	Rs.75.00/hour
10		Ananya Verma	System Administrator	Work		A			100%	Rs.70.00/hour
11		Kavita Tiwari	Business Analyst	Work		K			100%	Rs.65.00/hour
12		Meera Desai	Customer support	Work		M			100%	Rs.45.00/hour
13		Rajat	Legal consultant	Work		R			100%	Rs.100.00/hour
14		Computer/Laptops	Material			C				Rs.0.00
15		Wifi	Material			W				Rs.0.00
16		Server space	Material			S				Rs.0.00
17		Office space	Material			O				Rs.0.00
18		Furniture	Material			F				Rs.0.00
19		Development tools	Material			D				Rs.0.00
20		Testing equipment	Material			T				Rs.0.00
21		Marketing material	Material			M				Rs.0.00
22		Legal documents	Material			L				Rs.0.00

14.Create a resource hierarchy (like who should report to whom)



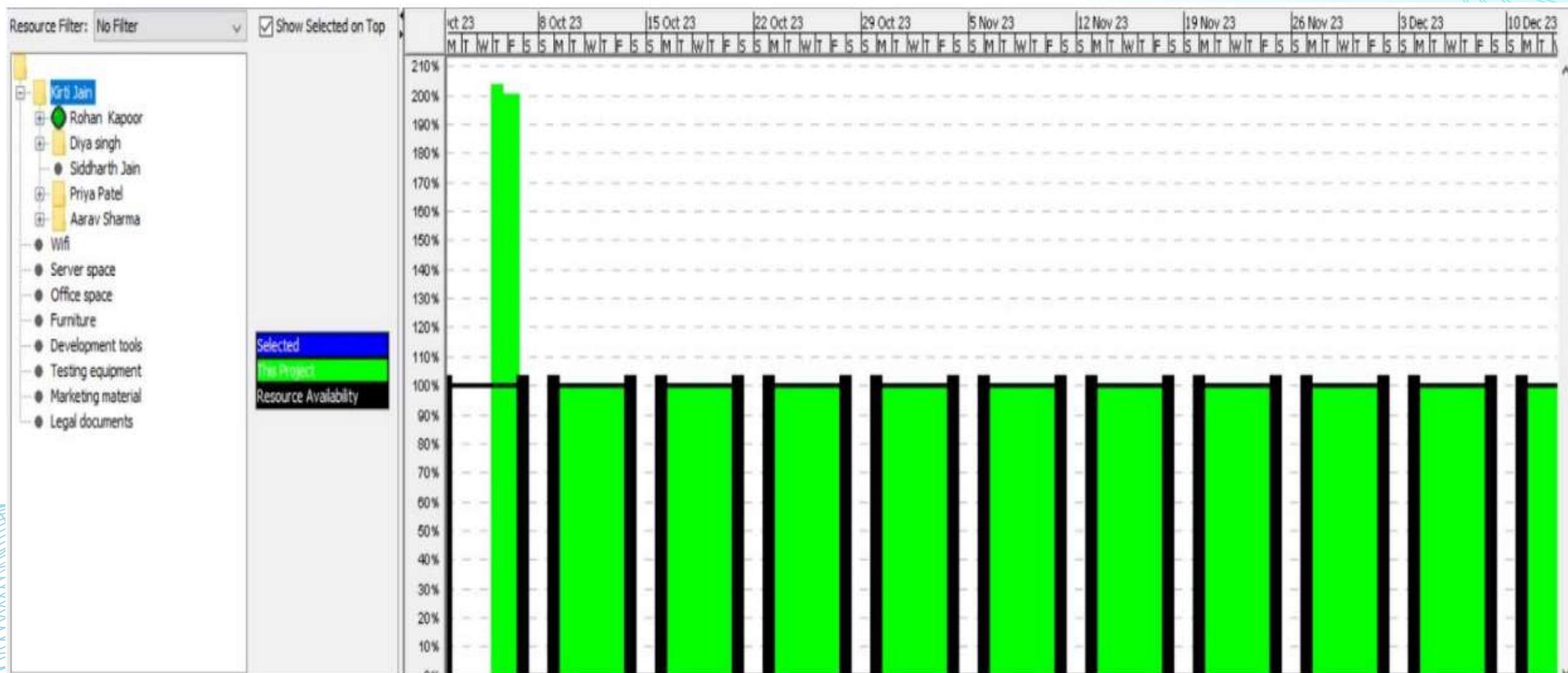
15.Create Materials and set a cost per use

#	Name	RBS	Type	E-mail Address	Material Label	Initials	Group	Max. Units	Standard Rate
1	Kirti Jain	Project manager	Work		P			100%	Rs.80.00/hour
2	Aarav Sharma	Developer	Work		A			100%	Rs.60.00/hour
3	Priya Patel	Developer	Work		P			100%	Rs.60.00/hour
4	Siddharth Jain	Developer	Work		S			100%	Rs.60.00/hour
5	Diya singh	UI/UX designer	Work		D			100%	Rs. 70.00/hour
6	Aditi Mehta	UI/UX designer	Work		A			100%	Rs. 70.00/hour
7	Rohan Kapoor	Tester	Work		R			100%	Rs. 55.00/hour
8	Nisha Reddy	Tester	Work		N			100%	Rs. 55.00/hour
9	Arjun Gupta	Database Administrator	Work		A			100%	Rs. 75.00/hour
10	Ananya Verma	System Administrator	Work		A			100%	Rs. 70.00/hour
11	Kavita Tiwari	Business Analyst	Work		K			100%	Rs. 65.00/hour
12	Meera Desai	Customer support	Work		M			100%	Rs. 45.00/hour
13	Rajat	Legal consultant	Work		R			100%	Rs.100.00/hour
14	Computer/Laptops	Material			C				Rs.0.00
15	Wifi	Material			W				Rs.0.00
16	Server space	Material			S				Rs.0.00
17	Office space	Material			O				Rs.0.00
18	Furniture	Material			F				Rs.0.00
19	Development tools	Material			D				Rs.0.00
20	Testing equipment	Material			T				Rs.0.00
21	Marketing material	Material			M				Rs.0.00
22	Legal documents	Material			L				Rs.0.00

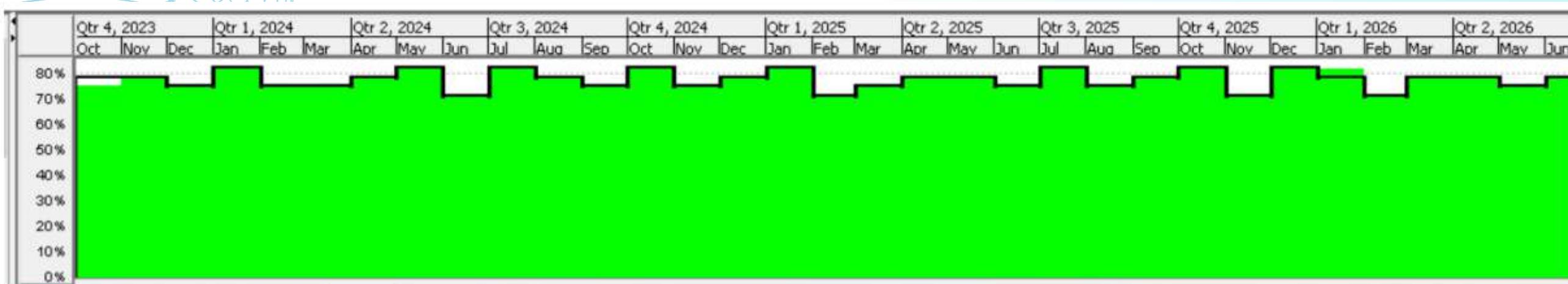
16. Assign Resources to the tasks and verify the same on the Gantt chart

		Name	RBS	Type	E-mail Address	Material Label	Initials	Group	Max. Units	Standard Rate
1		Kirti Jain	Project manager	Work			P		100%	Rs.60.00/hour
2		Aarav Sharma	Developer	Work			A		100%	Rs.60.00/hour
3		Priya Patel	Developer	Work			P		100%	Rs.60.00/hour
4		Siddharth Jain	Developer	Work			S		100%	Rs.60.00/hour
5		Diya singh	UI/UX designer	Work			D		100%	Rs.70.00/hour
6		Aditi Mehta	UI/UX designer	Work			A		100%	Rs.70.00/hour
7		Rohan Kapoor	Tester	Work			R		100%	Rs.55.00/hour
8		Nisha Reddy	Tester	Work			N		100%	Rs.55.00/hour
9		Arjun Gupta	Database Administrator	Work			A		100%	Rs.75.00/hour
10		Ananya Verma	System Administrator	Work			A		100%	Rs.70.00/hour
11		Kavita Tiwari	Business Analyst	Work			K		100%	Rs.65.00/hour
12		Meera Desai	Customer support	Work			M		100%	Rs.45.00/hour
13		Rajat	Legal consultant	Work			R		100%	Rs.100.00/hour
14		Computer/Laptops	Material				C			Rs.0.00
15		Wifi	Material				W			Rs.0.00
16		Server space	Material				S			Rs.0.00
17		Office space	Material				O			Rs.0.00
18		Furniture	Material				F			Rs.0.00
19		Development tools	Material				D			Rs.0.00
20		Testing equipment	Material				T			Rs.0.00
21		Marketing material	Material				M			Rs.0.00
22		Legal documents	Material				L			Rs.0.00

17. View histogram and check if there is any work overhead

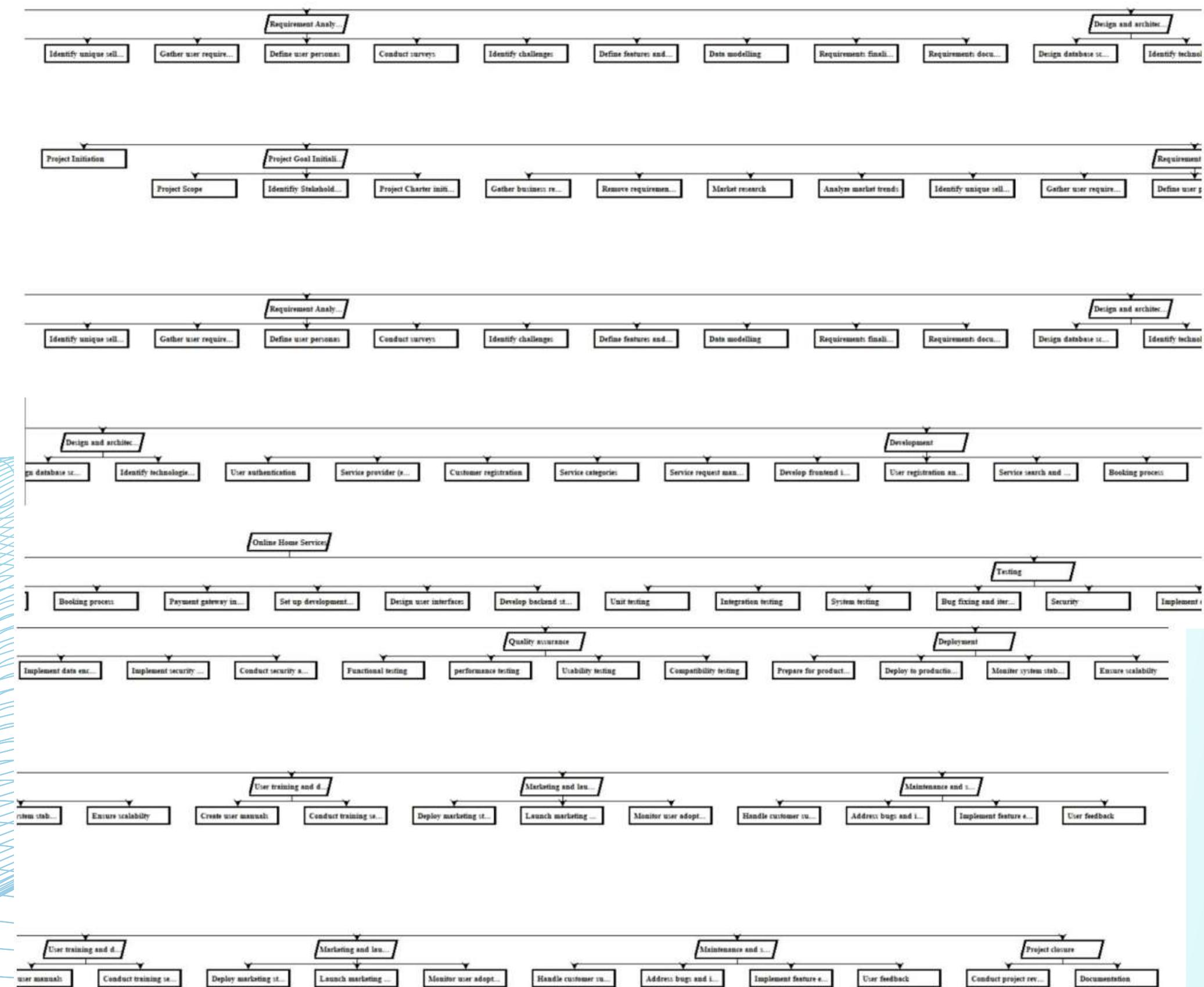


18. If any work overhead then resolve it

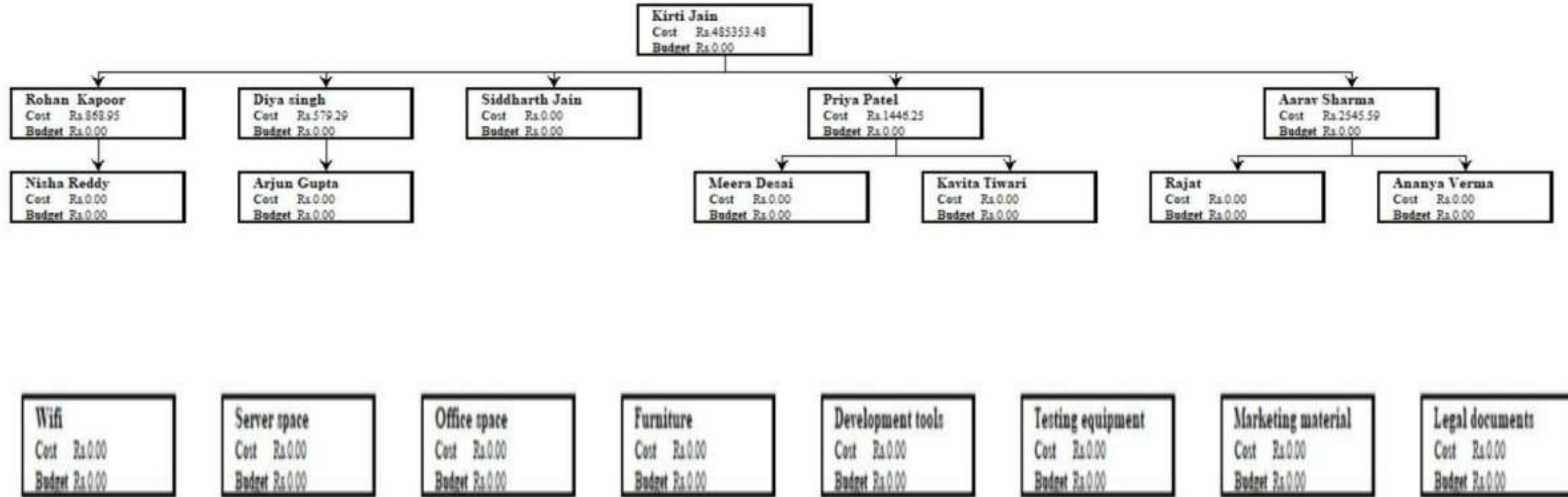


19. Explore other options in the View tab (WBS, RBS, Network Diagram, etc.)

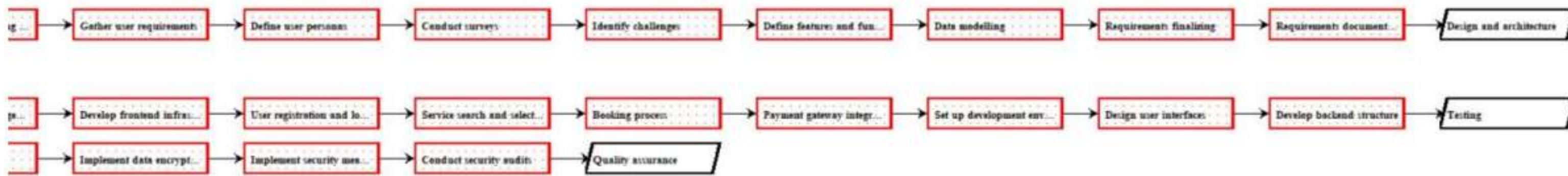
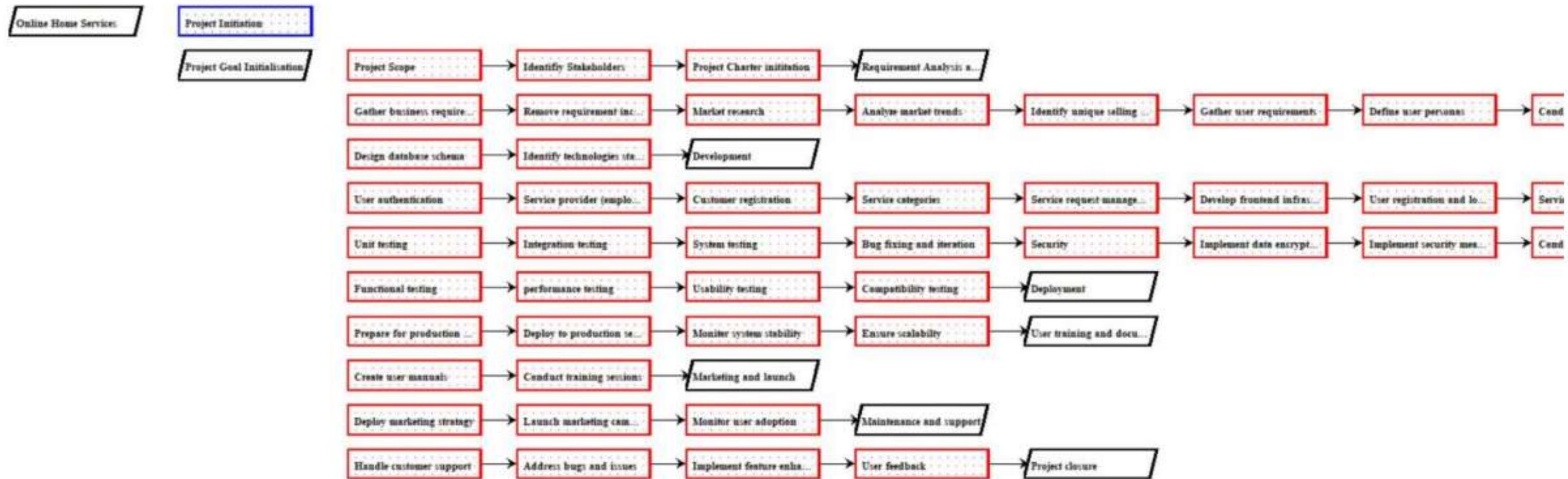
WBS: (spread out)



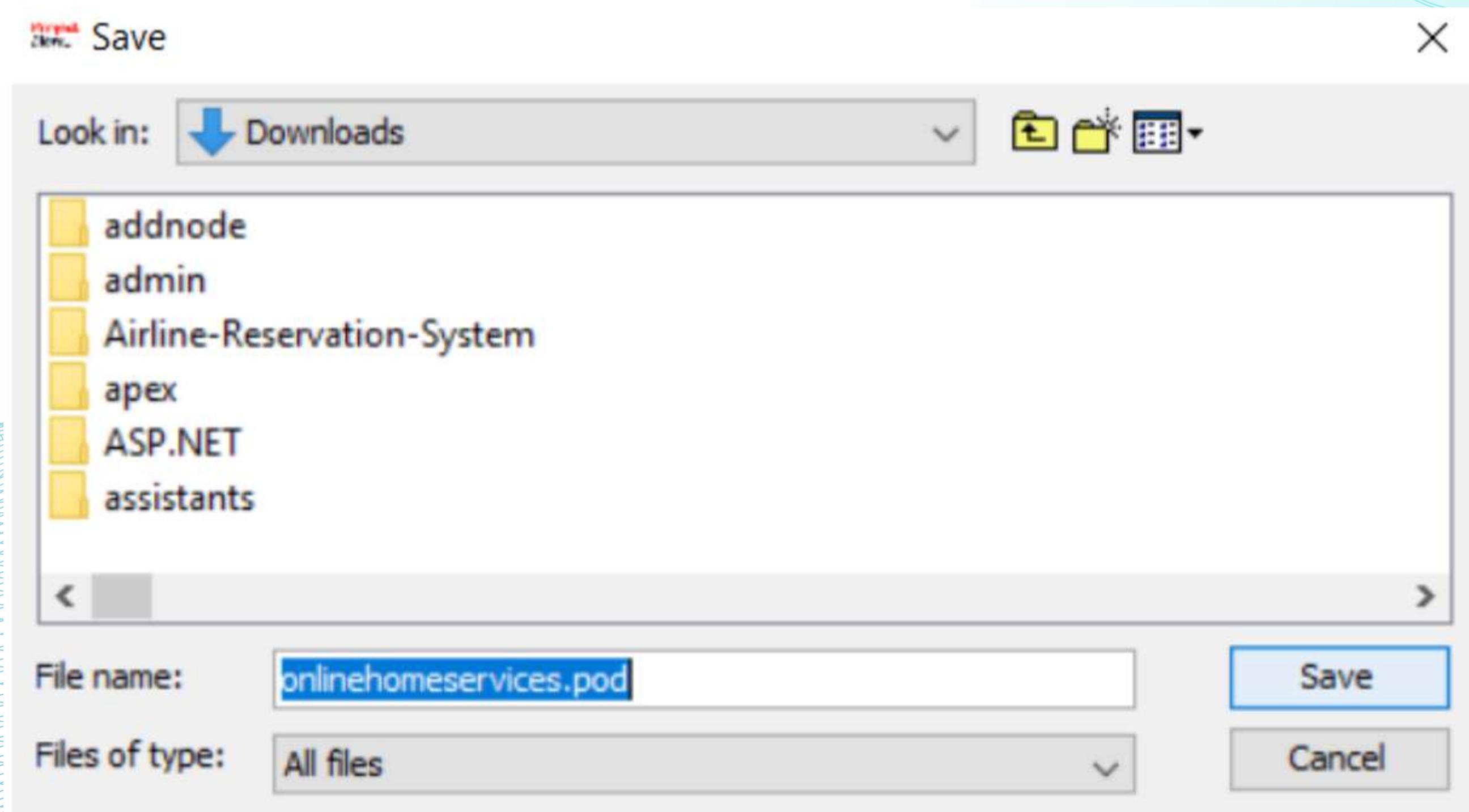
RBS:



NETWORK DIAGRAM:



20. Save the project



SRS DOCUMENT

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APPENDIX GROUP LOG

1. INTRODUCTION

1.1 Document Purpose

The purpose of an SRS (Software Requirements Specification) document for online home services platform, is to provide a comprehensive and detailed description of the software system's requirements. Specifically, it serves for several key purposes : Requirements Communication, Scope Definition, Basis for Development, Testing and Validation, Project Planning, Change Control, Legal and Contractual Agreements, Quality Assurance.

1.2 Product Scope

Online Home Services Platform connects internet users with offline workers. It is basically a search-and-find tool and has a model that lists professionals, trains them if necessary, and then connects them to the users in real-time. On the site, users can effectively book regular services. We just need to check the website, select the services we need, and then schedule service according to their own convenience. Whereas one location it promotes the process of identifying trained local business professionals,it also supports service providers by removing intermediaries and allowing them direct access to consumers..

1.3 Intended Audience and Document Overview

The intended audience for the online home services SRS document includes developers, project managers, marketing staff, users (customers and service professionals), testers, and documentation writers. Developers focus on technical details, while project managers need an overview of scope and constraints. Marketing staff require an understanding of features for effective promotion. Users look for functionality, testers create test cases, and documentation writers prepare user guides. The document is organized with an introduction, system features, external interfaces, non-functional requirements, system constraints, an implementation timeline, and appendices to cater to these diverse readers.

1.4. Document Conventions

This Document was created based on the IEEE template for System Requirement Specification Documents.

1.5 REFERENCES AND ACKNOWLEDGMENTS

2. OVERALL DESCRIPTION

2.1 Product Perspective

Online Home Services is a web service in order to find and hire professionals for their personal activities/needs. This website is a hassle-free experience for getting your work done. The call & message history is also stored in this app's interface.

The Online Home Services Platform is designed to serve as a user-friendly and centralized marketplace that connects individuals seeking various home services with skilled service providers.

The platform is intended to enhance convenience, accessibility, and transparency in the home services industry by offering a wide range of services through a web and mobile application interface. This system aims to streamline service booking, payment processing, and communication, ultimately creating a trusted and reliable ecosystem for both customers and service providers.

2.2 Product Functionality

User Panel

- 1. Registration and Login**
- 2. Advanced Search**
- 3. Order Schedule**
- 4. Tracking of Services**
- 5. Rating and Review**

Admin Panel Features

- 1. Dashboard**
- 2. Service List Creation and Management**
- 3. Verify Service Providers**
- 4. Price Tagging**
- 5. Request Acceptance or Rejection**
- 6. Service Promotions**
- 7. Manage Reviews**
- 8. Track Reports, Insights, and Analytics**
- 9. Service Assistance**

Integrations Features

- 1. Payment Gateways**
- 2. Push Notifications**
- 3. Built-in chat**
- 4. GPS Integration**

2.3 Users and Characteristics

For our Online Home Services Platform, we have identified two primary user levels:

1. Customers:

Characteristics: Customers represent the general users of our platform. They access the front end of the system to browse and book various home services. Their interactions are primarily focused on finding and accessing services, making secure payments, and providing feedback.

2. Service Providers:

Characteristics: Service providers constitute the second user level. They are skilled professionals or businesses offering home services. Service providers have a deeper level of access, allowing them to manage their profiles, set availability, accept or reject service requests, and oversee their schedules and earnings.

2.4 Operating Environment

The Online Home Services Platform is designed to operate in a dynamic and digitally connected environment, encompassing both web and mobile interfaces. The platform will be accessible to users and service providers through web browsers (Google Chrome, Mozilla Firefox, Microsoft Edge, etc.). In addition to typical web and mobile operating environments, the platform's underlying infrastructure and databases like MySQL will be hosted on secure servers(MySQL server or AWS) with appropriate backups and redundancy measures to ensure data integrity and availability.

2.5 Design and Implementation Constraints

Design:

Backend languages:

Node.js(with Express.js), C++ with OpenCV (2.4.8), Python (2.7.5) with Django (1.6.1)

Frontend languages:

React.js,Vue.js, HTML5, CSS3, Javascript

Database:

MySQL, MongoDB,PostGre SQL

Server/infrastructure:

AWS,Google Cloud,Azure

Constraints:

Must run on Google Chrome,User must authenticate him or herself at login

2.6 User Documentation

It is a very easy to use Service Platform.

1.Login or SignUp with your Credentials

2.Choose your Location

3.Book your Required Services

4.Payment

5.Service provider will be connected and details will be shared to you

2.7 Assumptions and Dependencies

Assumptions:

Internet Connectivity: We assume that users and service providers have access to stable internet connectivity to use the platform effectively.

User Device: Users are expected to access the platform via standard web browsers and mobile devices with compatible operating systems.

Data Accuracy: We assume that service providers provide accurate and up-to-date information about their services and availability.

Service Quality: Assumption that service providers maintain service quality and adhere to user expectations.

Dependencies:

Third-Party APIs: The platform relies on third-party payment gateways and mapping services, and their availability and performance may affect the platform's functionality.

Regulatory Compliance: Compliance with local and national regulations, licensing, and permits for specific service categories is essential, and changes in regulations may impact the platform's operations.

Database Management: Dependencies on the performance and reliability of the chosen database management systems, such as MongoDB or PostgreSQL.

Cloud Hosting: The platform depends on cloud hosting services like AWS or Google Cloud, and their uptime and maintenance schedules can affect platform availability.

Security Protocols: External security services and protocols, like SSL certificates and firewall configurations, are essential for ensuring data security and privacy.

Market Trends: The platform's success relies on user adoption, which is influenced by evolving market trends and customer preferences.

3. Specific Requirements

External Interface Requirements

User Interfaces

The software provides a good graphical interface for the user and the administrator so that they can operate on the system, performing the required tasks such as Selecting, updating, paying and viewing the details of the booking details.

1. It allows user to view quick reports like feedback, punctuality in between particular time.
2. It provides verification and search consumer right services.
3. The user interface must be customizable by the administrator.
4. All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined.
5. The design should be simple and all the different interfaces should follow a standard template.
6. The user interface should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module.

Hardware Interfaces

Interface between Remote Users and the Web Server

Remote users, including customers and service providers, connect to our platform web server via the internet. They utilize their local infrastructure, which can include Ethernet, wireless connections (e.g., IEEE 802.11), or direct connections to access the web server. Data transmission occurs over the infrastructure provided by their respective Internet Service Providers (ISPs) and backbone providers.

Software Interfaces

1. User & Web Server Interface

The User & Web Server Interface is responsible for the interaction between our platform web server and the users' web browsers. The web server is designed to interface with specific browsers, including Firefox 26 and Chrome 32, which run on the user's chosen host operating system. The web server itself operates on a Linux server environment and utilizes Python 2.7 and Django as its primary technologies.

2. CV Server Interface

The CV (Computer Vision) Server Interface is responsible for facilitating communication with the OpenCV (Open Source Computer Vision Library) server. The OpenCV server is hosted on a Linux server environment and is powered by OpenCV and Python 2.7.

Communications Interfaces

1. User-to-Platform Communication:

- Web Interface: Customers and service providers access the platform through web browsers, interacting with the platform's user interface to search for services, make bookings, and manage accounts.
- Mobile Applications: Dedicated mobile applications for iOS and Android devices provide users with a native mobile experience, offering features similar to the web interface.

2. Platform-to-Platform Communication:

- Payment Gateway API: The platform communicates with secure payment gateway APIs (e.g., Stripe, PayPal) to process transactions securely.
- Mapping and Location Services: Interfaces with mapping and location services (e.g., Google Maps) are used for location-based service searches and to provide directions.
- SMS and Email Services: Integration with SMS and email services enables notifications, appointment reminders, and communication between users and service providers.

4.SYSTEM FEATURE

4.1 Feature 1 :

User Registration and Authentication

This feature allows users to create accounts, sign in, and manage their profiles securely.

Stimulus/Response Sequences:

- User registers with valid information.
- System validates user data.
- System generates a confirmation email.
- User receives a confirmation email.
- User signs in with valid credentials.
- System verifies user credentials.
- User gains access to the platform.

Functional Requirements:

- The system shall provide a user registration form with fields for name, email, password, and phone number.
- The system shall validate user email addresses to ensure they are unique and in the correct format.
- Users shall receive a verification email upon registration.
- The system shall allow users to reset their passwords if forgotten.
- User passwords shall be securely hashed and stored.
- Users shall be able to update their profile information.
- The system shall enforce session management for user authentication.

4.2 Feature 2 : Service Search and Selection

This feature enables users to search for home services, view service details, and select providers.

Stimulus/Response Sequences:

- User enters a service keyword in the search bar.
- System retrieves relevant service listings.
- User views service options.
- User clicks on a service listing.
- System displays service details, including pricing and provider information

Functional Requirements:

- The platform shall provide a search bar for users to enter service keywords.
- The system shall fetch and display service listings based on search criteria.
- Users shall be able to filter search results by location, ratings, and availability.
- Users shall have the option to view detailed service descriptions, provider profiles, and pricing.
- Users shall be able to select a service and proceed to booking.

OTHER NON FUNCTIONAL REQUIREMENTS

5.1 Performance Requirements

Response Time

The platform should respond to user interactions promptly to ensure a smooth and efficient user experience. The platform should aim to load pages and respond to user requests within 2 seconds or less for 90% of user interactions. Service provider profiles and service listings should load within 1 second.

Scalability

The platform must be able to handle increased user traffic as it grows without a significant decrease in performance. The platform should support a minimum of 10,000 concurrent users without performance degradation.

Availability

The platform must be available for use 24/7, with minimal downtime for maintenance. The platform should aim for 99.9% uptime in a calendar year, allowing for scheduled maintenance periods of no more than 2 hours per month during off-peak hours. Unscheduled downtime should not exceed 15 minutes per occurrence, with immediate notifications to users.

Database Performance

The database should provide fast query responses, ensuring that data retrieval and updates occur efficiently. Database queries for service listings and user profiles should return results under 500 milliseconds. Data backups and maintenance tasks should be scheduled to minimize impact on user interactions.

Payment Processing

Payment processing should be fast and secure to facilitate smooth transactions. Payment processing for standard transactions should complete within 5 seconds. Payment failures or errors should be resolved within 2 hours, with notifications to affected users.

5.2 Safety and Security Requirements

User Data Privacy

The platform must safeguard user data to protect users' personal information and privacy.

Requirements

- User data, including names, addresses, phone numbers, and email addresses, must be encrypted during transmission and storage.
- User passwords must be securely hashed and salted.
- Access to user data must be restricted to authorized personnel only.
- Compliance with applicable data protection and privacy regulations (e.g., GDPR, CCPA) must be maintained.

Authentication and Authorization

The platform should employ robust authentication and authorization mechanisms to prevent unauthorized access.

Requirements:

Requirements:

- Users must authenticate using secure methods, such as email verification or two-factor authentication.
- Users should only have access to features and data for which they are authorized.
- Service providers must undergo identity verification before joining the platform.
- Administrators should have granular control over user roles and permissions.

Payment Security

Payment transactions on the platform must be secure and compliant with industry standards.

Requirements:

- Payment card information must be tokenized and not stored on the platform.
- The platform should adhere to Payment Card Industry Data Security Standard (PCI DSS) requirements for payment processing.
- Regular security assessments and penetration testing should be conducted on payment processing systems.

5.3 Software Quality Attributes

Usability

The platform should be user-friendly and intuitive, with a well-designed user interface.

Requirements:

- The user interface should follow best practices for usability and accessibility.

User feedback should be actively solicited and used to make continuous improvements.

- The servers shall not lose vital customer data or customer history in the event of a harddrive failure. They shall maintain a backup or backups of the images uploaded, as well as of the user database on separate hard drives, optionally on backed up daily or more frequently to remote sites as well.

Availability

The platform must be available for use 24/7, with minimal downtime for maintenance.

Requirements:

- The platform should aim for 99.9% uptime in a calendar year, allowing for scheduled maintenance periods of no more than 2 hours per month during off-peak hours.
- Unscheduled downtime should not exceed 15 minutes per occurrence, with immediate notifications to affected users.

Scalability

The platform must be able to handle increased user traffic as it grows without a significant decrease in performance.

Requirements:

The platform should be designed to scale horizontally to accommodate increased user loads.

Scalability testing should be conducted annually to assess the platform's ability to handle increased loads.

Appendix B - Group Log

Our Project is based on SWOT analysis,a strategic technique that puts the business in perspective using following lenses: Strengths,Weaknesses,Opportunities and Threats.

Use Case Documentation

Revision History

Name	Date	Reason For Changes	Version
Sai Kiran Sajja	12 October 2023	Basic Prototype	Prototype Version - 1.0

The various user classes identified the following use cases and primary actors for the Online Home Services Platform :

Primary Actor	Use Cases
Patron	<ol style="list-style-type: none">1. Browse Services2. Search For Services3. Request Service4. Schedule Service5. Review Service Providers6. Rate Service7. Pay for service8. Track Service9. Cancel Service requests
Service Provider	<ol style="list-style-type: none">10. Register as Service Provider11. Receive Service Requests12. Update Service Availability13. Complete Service14. Receive Payment15. Manage Profile
Administrator	<ol style="list-style-type: none">16. Manage Users17. Monitor Reviews18. Report and Resolve Issues19. Manage Service Categories20. Generate Report

Use Cases

Use Case - 1

User Booking a service

Use Case ID :	1		
Use Case Name :	User Booking a Service		
Created By :	Sai Kiran Sajja	Last Updated By :	Savvy Jain
Date Created :	12 October 2023	Date Last Updated :	12 October 2023
Actors :	Patron		
Description :	The customer searches for a service, schedules a booking, and makes a payment.		
Preconditions :	1. Customer is registered and logged into their Online Home Services Platform account. 2. Services are available in the customer's location.		
Postconditions :	The customer receives a confirmation of the booking, and the payment is processed.		
Normal Flow :	Customer logs in->Customer searches for a specific service->Customer selects a service provider->Customer schedules the service, providing necessary details->Customer reviews the booking and confirms->Customer makes the payment->Customer receives a booking confirmation		
Alternative Flows :	If the selected service provider is unavailable, the customer is prompted to choose an alternative->If payment fails, the customer is prompted to try again or use an alternative payment method		
Exceptions :	1. Customer account is locked 2. Customer enters invalid scheduling details 3. Payment authorization fails 4. Service provider becomes unavailable during the booking process		
Includes :	None		
Priority :	High		
Frequency of Use :	Daily		
Business Rules :	1. Customers can book services available in their location. - Payment must be authorized before confirmation 2. Service providers should be displayed based on location and availability.		
Special Requirements :	Secure payment processing, real-time service provider availability updates.		
Assumptions :	The customer is familiar with the platform and has an active account.		
Notes and Issues :	None at the moment.		

Use Cases

Use Case - 2

Receive and accept services

Use Case ID :	2		
Use Case Name :	Receive and Accept Service Requests		
Created By :	Savvy Jain	Last Updated By :	Yashsvini Katare
Date Created :	12 October 2023	Date Last Updated :	12 October 2023
Actors :	Service Provider		
Description :	The service provider receives and accepts service requests from customers on the Online Home Services platform		
Preconditions :	1. Service provider is registered on Online Home Services Portal 2. Service provider is logged into their account		
Postconditions :	The service provider has accepted a service request and is prepared to deliver the service		
Normal Flow :	Service provider logs in->Service provider views incoming requests->Service provider reviews request details and customer information->Service provider accepts a service request->Service provider confirms scheduling details with the customer		
Alternative Flows :	The service provider declines a service request->The service provider contacts the customer to reschedule due to unforeseen circumstances		
Exceptions :	1. Service provider account is locked 2. Service request details are incomplete or unclear 3. Technical issues prevent the acceptance of requests		
Includes :	None		
Priority :	High		
Frequency of Use :	Frequent (whenever service requests are received)		
Business Rules :	Timely acceptance of requests is essential for customer satisfaction and clear communication with customers is important for service scheduling.		
Special Requirements :	Real-time notification of incoming service requests		
Assumptions :	The service provider is familiar with the platform and has an active account.		
Notes and Issues :	None at the moment.		

Use Cases

Use Case - 3

Emergency System Maintenance

Use Case ID :	3		
Use Case Name :	Emergency System Maintenance		
Created By :	Yashvini Katare	Last Updated By :	Savvy Jain

Date Created :	12 October 2023	Date Last Updated :	12 October 2023
Actors :	System Administrator		
Description :	This use case involves immediate action by the system administrator to address critical system failures, security breaches, or vulnerabilities that threaten the integrity and availability of the Online Home Services platform.		
Preconditions :	1. Identification of a critical system failure, security breach, or vulnerability 2. Availability of backup or recovery plans		
Postconditions :	1. The critical issue is addressed, and the system is restored to a stable and secure state 2. Users are informed about the maintenance and its impact on system availability		
Normal Flow :	Identify the critical issue or vulnerability->Isolate affected components or systems to prevent further damage or data loss->Apply immediate patches, fixes, or solutions to address the issue->Conduct testing to ensure the issue is resolved->Communicate with relevant stakeholders, such as users or management, about the maintenance and expected downtime->Perform system recovery or restoration procedures->Monitor the system for any reoccurrence of issues		
Alternative Flows :	If the issue cannot be resolved quickly, implement temporary measures to minimize system downtime->If user data is compromised, follow data breach response protocols		
Exceptions :	1. Unavailability of backup or recovery options 2. Failure to resolve the critical issue within an acceptable timeframe		
Includes :	None		
Priority :	Very High		
Frequency of Use :	Infrequent but critical in emergency situations		
Business Rules :	1.The emergency maintenance must be performed as quickly as possible to minimize disruption and data loss. 2. Proper documentation and incident reporting are required for compliance and analysis.		
Special Requirements :	1. Access to emergency maintenance tools and resources 2. Communication channels for notifying users about system downtime and emergency maintenance 3. Incident response and data breach protocols		
Assumptions :	The System Administrator is well-trained and experienced in responding to critical system emergencies		
Notes and Issues :	None at the moment		

Use Cases

Use Case - 4 (The UNIQUE Feature of Online Home Services Platform)

Multi-Service Booking

Use Case ID :	4		
Use Case Name :	Multi-Service Booking		
Created By :	Sai Kiran Sajja, Yashvini Katare	Last Updated By :	Savvy Jain
Date Created :	12 October 2023	Date Last Updated :	12 October 2023
Actors :	Customer, Service Provider		
Description :	This use case outlines the process of a customer booking multiple services in a single transaction through the Online Home Services platform		
Preconditions :	1. The customer is logged into their Online Home Services account 2. Services are available and service providers are online		
Postconditions :	The customer receives confirmation of the booked services		
Normal Flow :	The customer logs in to their Online Home Services account->The customer navigates to the "Book Services" section of the app or website->The customer selects the first service they wish to book from the list of available services->The customer selects the first service they wish to book from the list of available services->The customer adds a list of services to their booking->The customer reviews the list of booked services and their associated costs->The customer confirms the booking by selecting a preferred date and time->The platform checks for service provider availability and confirms the booking->The customer receives a booking confirmation, including the details of all booked services and the scheduled date and time->The platform notifies service providers about the new bookings		
Alternative Flows :	If the platform cannot find available service providers for all selected services, the customer is prompted to adjust the booking by selecting a different time or date-> If the customer decides to remove a service from their booking, they can do so at any time during the booking process		
Exceptions :	If there is a technical issue, such as a server error, during the booking process, the customer is prompted to try again or contact customer support		
Includes :	Booking Confirmation (5)		
Priority :	Very High		
Frequency of Use :	Common		
Business Rules :	1. Customers can book multiple services in a single transaction 2. Service providers can accept or decline multi-service bookings based on their availability		
Special Requirements :	1. The system must provide real-time availability information for service providers 2. The system must calculate the total cost of the multi-service booking		
Assumptions :	The customer has a valid Online Home Services account		

Use Cases

Use Case - 5 Booking Confirmation

Use Case ID :	5		
Use Case Name :	Booking Confirmation		
Created By :	Savvy Jain, Yashvini Katare	Last Updated By :	Sai Kiran Sajja
Date Created :	12 October 2023	Date Last Updated :	12 October 2023
Actors :	Customer, Service Provider		
Description :	This use case outlines the process of confirming a booking for one or more services through the Online Home Services platform		
Preconditions :	1. The customer has initiated a booking process and has selected one or more services 2. The platform has successfully determined service provider availability and confirmed the booking		
Postconditions :	1. The customer receives a confirmation of the booked services 2. Service providers receive notification of the booking		
Normal Flow :	Select the desired services and specified their preferences and proceed to confirm the booking->The platform verifies the availability of service providers for the selected services and scheduled date and time->If service providers are available, the platform confirms the booking and calculates the total cost->The customer is presented with a summary of the booked services, the scheduled date and time, and the total cost->The customer confirms the booking by providing a final review of the details and confirming their payment method->The platform processes the payment, and the customer receives a payment confirmation->The platform generates a booking confirmation and sends it to the customer's email and within the app->Simultaneously, service providers receive a notification of the new booking, including all relevant details->The platform updates the customer's booking history with the confirmed booking		
Alternative Flows :	If service providers are not available for the selected services or the chosen date and time, the platform informs the customer and prompts them to adjust their booking		
Exceptions :	If the payment processing encounters an issue, the customer is notified and given an opportunity to reattempt payment		
Includes :	Payment Processing		
Priority :	High		
Frequency of Use :	Common		

Business Rules :	1. Booking confirmation should be issued only if service provider availability is verified and payment is successfully processed 2. Confirmation details should be sent to both the customer and the service providers
Special Requirements :	1. The platform should handle payment securely 2. The booking confirmation should include all relevant details, including service details, scheduled date and time, and payment information
Assumptions :	1. The customer has successfully passed through the booking process and provided all necessary information 2. Service provider availability can be determined in real-time
Notes and Issues :	The booking confirmation is a critical step in the service booking process, ensuring that customers and service providers have the necessary information for the service appointment

Use Cases

Use Case - 6

Address Service Quality Complaints

Use Case ID :	6		
Use Case Name :	Address Service Quality Complaints		
Created By :	Sai Kiran Sajja	Last Updated By :	Savvy Jain
Date Created :	12 October 2023	Date Last Updated :	12 October 2023
Actors :	System Administrator		
Description :	The customer support team handles and resolves service quality complaints submitted by customers		
Preconditions :	1. Complaints are submitted by customers 2. Customer support agents are available		
Postconditions :	The service quality complaint is resolved, and the customer is satisfied		
Normal Flow :	Customer support receives a service quality complaint->The complaint is logged and assigned to a support agent->The support agent investigates the complaint->The support agent communicates with the customer to gather more information->The agent takes appropriate actions to resolve the complaint, such as scheduling a re-service->The customer is updated on the resolution. 7. The complaint is marked as resolved		
Alternative Flows :	1. If the customer's contact information is insufficient, the support agent may need to request additional details 2. If the complaint is complex, it might require involvement from a higher-level support agent		
Exceptions :	Customer support agent is not available, The customer's complaint is unrelated to service quality, The customer is uncooperative, The complaint cannot be resolved within a reasonable timeframe		
Includes :	None		
Priority :	High		
Frequency of Use :	As needed		
Business Rules :	1. All service quality complaints must be addressed within a specified time frame 2. Customer support should maintain a high level of professionalism and empathy		
Special Requirements :	Comprehensive complaint tracking system, communication tools, resolution guidelines		
Assumptions :	Customers provide accurate and relevant information in their complaints		
Notes and Issues :	None at the moment		

Vision and Scope Documentation

Online Home Services Platform	Version 1.0
Vision	Date : 19.10.2023
Doc No. OHS/HCS/001	

REVISION HISTORY

Date	Version	Description	Author
19/10/2023	1.0	Original Version	Savvy Jain

Vision and Scope Documentation

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7.2. System requirements

7.3. Performance requirements

7.4. Environmental requirements

8. Documentation requirements

8.1. User Manual

8.2. Online Help

8.3. Installation Guides, Configuration and readme file

8.4. Labelling and packaging

Vision

1. Introduction

1.1 Purpose

The primary purpose of online home services is to provide customers with a convenient and streamlined way to access a wide range of essential household services. These platforms aim to save users time and effort by offering a one-stop solution for booking and managing services while ensuring quality, reliability, and transparency. Through technology integration and rigorous vetting processes, online home services projects create a safer, more efficient, and accessible ecosystem for both customers and service providers.

1.2 Scope

The scope of online home services is designed to offer a holistic solution for homeowners and residents, connecting them with trusted service providers, streamlining the service booking process, and ensuring a seamless and secure experience in addressing their home-related needs.

1.3. Definitions, acronyms and Abbreviations

OHS - Online Home Services

1.4. References

1.5. Overview

Vision

2. Positioning

2.1. Business opportunity

The business opportunity in online home services is substantial, with growing demand for convenience and reliability. Service providers can leverage these platforms to expand their customer base, increase revenue, and benefit from repeat business. Furthermore, the digital nature of these services offers scalability, making it possible to reach new markets and capitalize on the thriving gig economy.

2.2. Problem statement

Challenges related to service quality consistency and the trustworthiness of service providers and issues of pricing transparency and occasional miscommunications between users and service professionals are common concerns.

2.3. Product position statement

Our online home services platform is thoughtfully crafted for universal accessibility on Android, Windows, iOS, and Mac OS devices, ensuring a seamless experience for all. We offer affordable pricing tailored to the needs of middle-income individuals, making quality services within reach for everyone.

Vision

3. Stake Holder and User Descriptions

3.1. Market demographics

Caters to a broad range of market demographics. Its services are designed to meet the needs of both urban and suburban customers, spanning across age groups and income brackets. Online Home Service Platform's flexible service offerings, including beauty and wellness services, home maintenance, and more, attract a diverse customer base, from busy professionals seeking convenience to homeowners looking for reliable service providers. The platform's versatility allows it to serve the preferences and requirements of a wide spectrum of users in various geographic regions, making it a well-suited solution for the evolving market demographics in urban and semi-urban areas.

Vision

3.2. Stake holder summary

Stake Holder	Responsibility
Users	Users seek and book home services on the platform, with their responsibility being to provide accurate information, use the platform ethically, and pay for services as agreed upon.
Service Professionals	Service providers are responsible for delivering high-quality services to users, maintaining their profiles, accepting or declining service requests, and ensuring a safe and respectful working environment.
Administrators and Management	The leadership and operational teams set the strategic direction of Online Home Services Platform, manage daily operations, and make decisions that drive the platform's growth and development.
Stake Holder	Responsibility
Investors and Shareholders	Investors and shareholders provide financial support and share in the company's financial performance, influencing its overall strategy and financial health.

Vision

3.3. User Summary

User summary-Diverse User Base: Online home services platform caters to a diverse range of users, including busy professionals, homeowners, tenants, and individuals of various demographics seeking convenience and reliability in home services.

User-Centric Approach: The platform's success hinges on its commitment to providing a user-friendly, secure, and personalized experience. Users expect seamless service booking, quality assurance, and the flexibility to meet their individual needs.

Trust and Accountability: Building trust between users and service providers is paramount, with users actively participating in the platform's review and rating system to ensure the accountability and quality of services.

3.4. User Environment

Can be operate popular operating system like windows/Android/Mac OS etc.

3.5. Stake holder profiles

Service Professionals: Skilled service providers who rely on Online Home Services Platform for job opportunities and a steady source of income. They play a crucial role in delivering high-quality services and maintaining customer trust.

Users (Customers): A diverse group of individuals and families seeking convenience and reliability in home services. They rely on Online Home Services Platform to access a broad range of services to meet their home-related needs.

Administrators and Management: The company's leadership and operational teams responsible for strategy, platform management, and business growth, ensuring the platform's continued success and expansion.

Vision

3.6. Key stake holder or user needs

Service Professionals: Skilled individuals who rely on the platform for job opportunities, representing a crucial element of the service ecosystem.

Customers: Diverse users seeking convenience and quality in home services, forming the platform's primary user base.

Management and Investors: Leaders and investors who drive strategic decisions, growth, and financial success, influencing the company's direction and development in the home services industry.

3.7. Alternative and competition

None so far

4. Product overview

4.1. Product perspective

From a product perspective, our online home services system encompasses a comprehensive remote and local interface, integrated with robust security measures to protect user data and privacy. It seamlessly connects with various devices, ensuring a versatile and efficient user experience.

4.2. Summary of capabilities

- 1. User Friendliness
- 2. Real-World Integration
- 3. Robust Server Infrastructure
- 4. Comprehensive Documentation

4.3. Assumptions and dependencies

Assumptions and dependencies for online home services may include assuming that service providers have access to the required equipment and tools for service delivery and that users have a stable internet connection to access the platform. These dependencies rely on the availability and functionality of the underlying technology infrastructure.

Vision

5. Constraints

Capacity constraints, limiting the application's simultaneous usage to two people, are essential for maintaining data security and system performance, but they may affect scalability and accessibility during peak usage times.

6. Precedence and Priority

The application will be first deployed on Android and IOS operating systems. The updates subsequently will also be done for the platforms.

7. Other product requirements

7.1. Applicable standards

Internet connectivity.

7.2. System requirements

Android or IOS operating systems of their phone.

7.3. Performance requirements

None

7.4. Environmental requirements

None

8. Documentation requirements

8.1. User Manual

The user manual, readily available within the application, offers users a comprehensive guide to understand and navigate the app effectively, promoting a user-friendly experience. It serves as a valuable resource for new and existing users to harness the platform's full potential.

Vision

8.2. Online Help

Our online help feature provides users with direct access to assistance by allowing them to email our company for prompt resolution of any application-related issues, ensuring a quick response time of within 24 hours. This support system enhances the user experience and addresses concerns efficiently.

8.3. Installation Guides, Configuration and read me file

The installation guides and configuration process for our online home services application are designed for simplicity. Once installed, the app guides users through a seamless device connection and automatic configuration, minimizing setup complexities.

8.4. Labelling and packaging

Labelling and packaging;-Labeling and packaging for Online Home Services Platform (now Online Home Services Platform) are critical elements in ensuring the platform's credibility and user trust. Clear and standardized packaging materials, along with well-labeled service provider profiles, help users easily identify and trust service professionals while enhancing the overall user experience. This professional presentation of service providers and consistent packaging standards contribute to the platform's reputation for reliability and quality.

UCP Metrics

Unadjusted Use Case Weight (UUCW)

Use Case Classification	Use Cases	Weight Assigned	No of Use Cases
Simple	Booking Confirmation, Service Rating and Feedback	10	2
Average	Address Quality Service Complaints, Receive and Accept Service Requests	20	2
Complex	User Booking a Service, Emergency System Maintenance, Multi-Service Booking	30	3

Formula :

$$\text{UUCW} = (\text{Total No. of Simple Use Cases} \times 10) + (\text{Total No. Average Use Cases} \times 20) + (\text{Total No. Complex Use Cases} \times 30)$$

Calculation :

$$\text{UUCW} = (2 \times 10) + (2 \times 20) + (3 \times 30) = 150$$

UCP Metrics

Unadjusted Actor Weight (UAW)

Actor Classification	Actors	Weight Assigned	No of Actors
Simple	NA	1	0
Average	Service Provider	2	1
Complex	Patron, Administrator	3	2

Formula :

$$\text{UAW} = (\text{Total No. of Simple actors} \times 1) + (\text{Total No. Average actors} \times 2) + (\text{Total No. Complex actors} \times 3)$$

Calculation :

$$\text{UAW} = (0 \times 1) + (2 \times 1) + (3 \times 2) = 0+2+6 = 8$$

UCP Metrics

Technical Complexity Factor(TCF)

Factor	Description	Weight	Assigned Value	Weight x Assigned Value
T1	User Authentication and Authorization	2	4	8
T2	Data Encryption	1	3	3
T3	Scalability	1	5	5
T4	Performance Optimization	1	2	2
T5	Mobile Responsiveness	0.5	1	0.5
T6	Service Integration	2	1	2
T7	Real-time Updates	1	4	4
T8	Database Management	1	2	2
T9	Fault Tolerance	1	2	2
T10	User Interface (UI) and User Experience (UX) Design	1	3	3
T11	System Documentation	1	5	5
T12	Automated Testing	1	1	1
T13	Cross-Browser Compatibility	0.5	1	0.5
T14	Error Handling and Logging	2	2	4
Total (TF)				42

Formula :

$$TCF = 0.6 + (TF/100)$$

Calculation :

$$TF=42$$

$$TCF = 0.6 + (42/100) = 1.02$$

UCP Metrics

Environmental Complexity Factor (ECF)

Factor	Description	Weight	Assigned value	Weight x Assigned value
E1	Development Flexibility	1.0	3	3
E2	Schedule Constraints	1.5	2	3
E3	Budget Constraints	0.5	5	2.5
E4	Market Competition	1.0	1	1
E5	Regulatory Compliance	2.0	1	2
E6	Team Experience and Expertise	-1.0	2	-2
E7	User Involvement	-1.5	3	-4.5
Total(EF)				5

Formula :

$$\text{ECF} = 1.4 + (-0.03 \times \text{EF})$$

Calculation :

$$\text{EF}=5$$

$$\text{ECF} = 1.4 + (-0.03 \times 5) = 1.25$$

Use Case Points (UCP)

Formula :

$$\text{UCP} = (\text{UUCW} + \text{UAW}) \times \text{TCF} \times \text{ECF}$$

Calculation :

$$\text{UUCW} = 150$$

$$\text{UAW} = 8$$

$$\text{TCF} = 1.02$$

$$\text{ECF} = 1.25$$

$$\text{UCP} = (150+8) \times 1.02 \times 1.25 = 201.45$$

UCP Metrics

Conclusion

For the Online Home Services Platform, the total estimated size to develop the software is 201.45 Use Case Points. Now that the size of the project is known, the total effort for the project can be estimated.

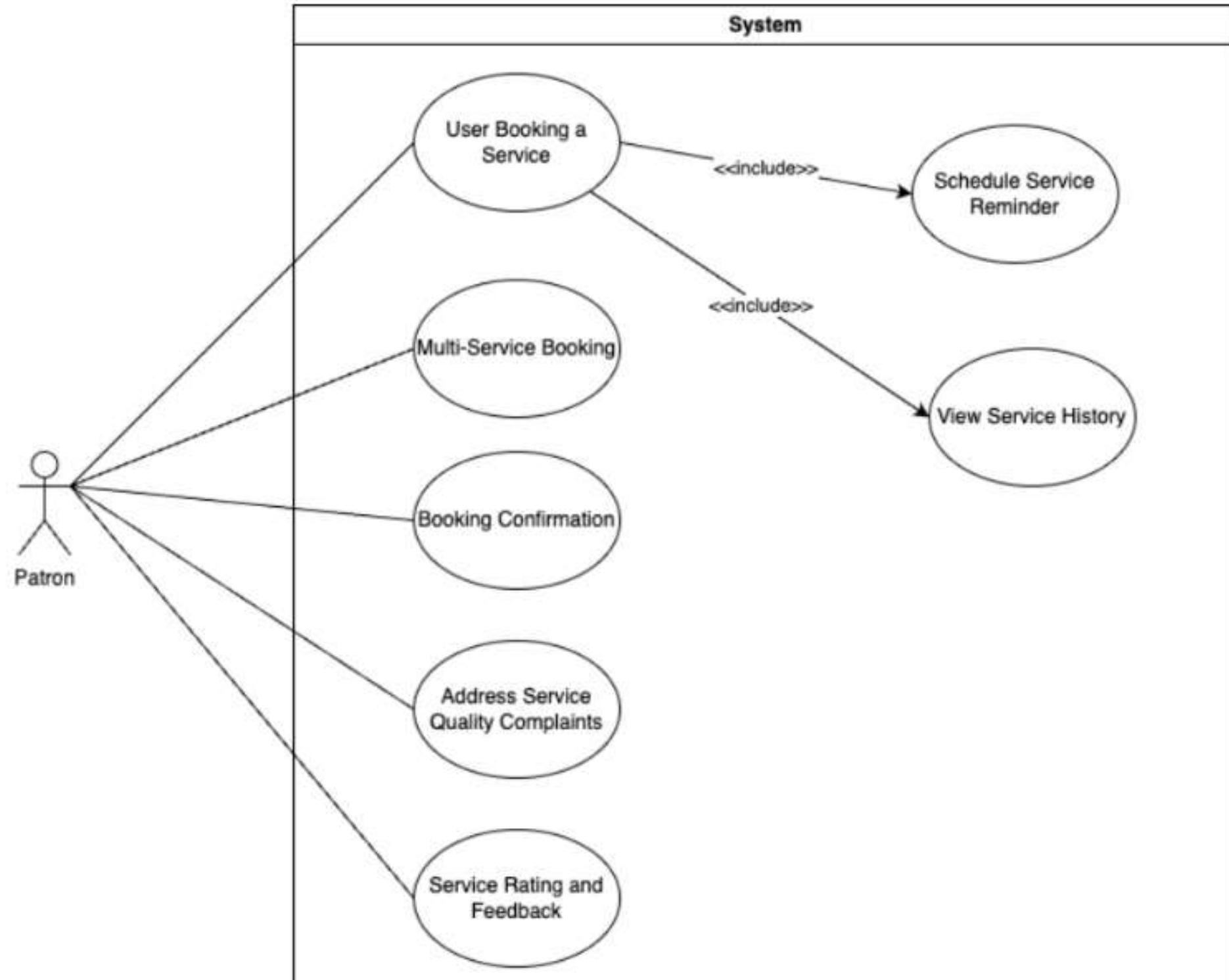
For the Online Home Services Platform, if 28 man hours per use case point will be used

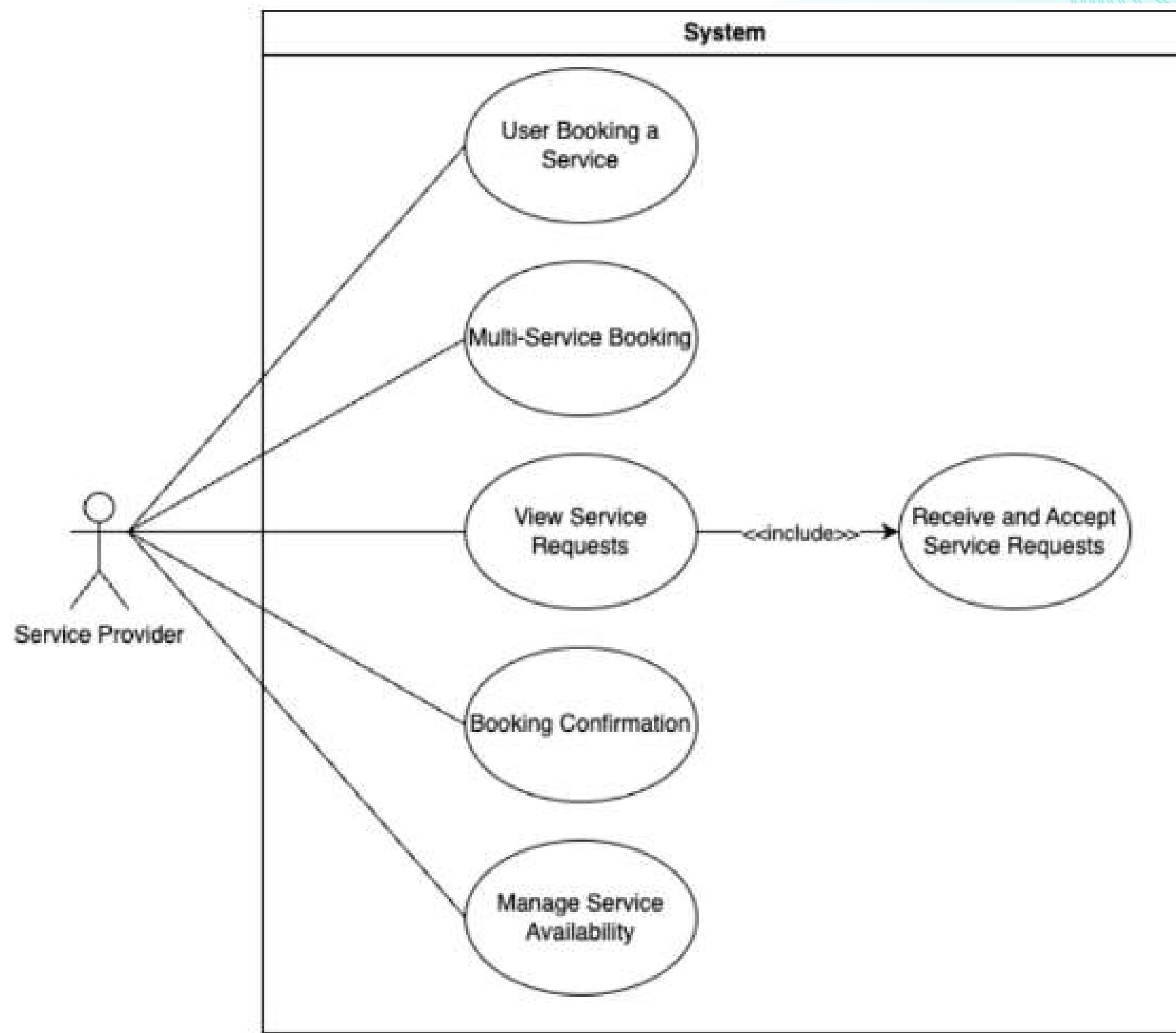
$$\text{Estimated Effort} = \text{UCP} \times \text{Hours/UCP}$$

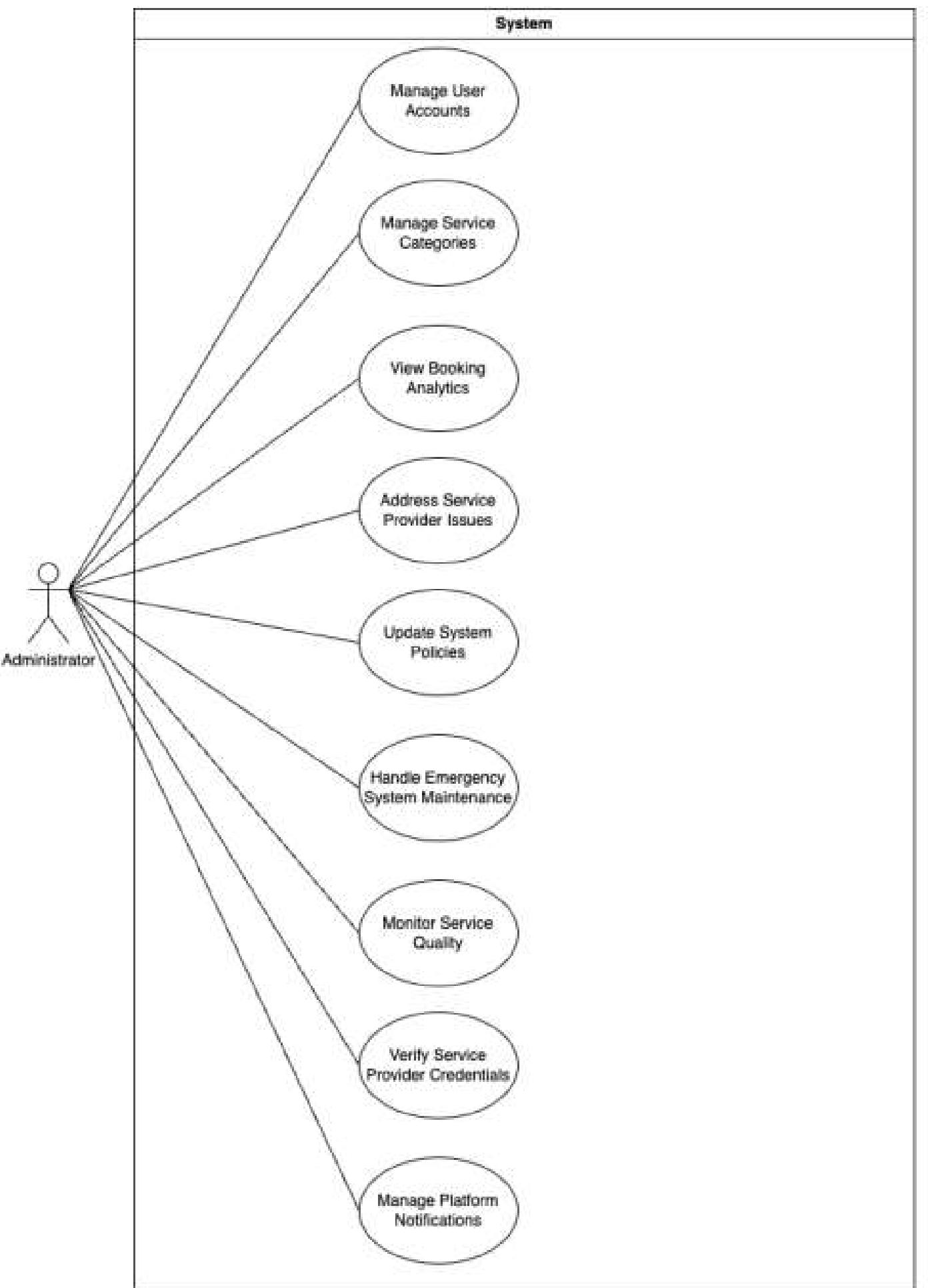
For the Online Shopping System,

$$\text{Estimated Effort} = 201.45 \times 28 = 5640 \text{ Hours}$$

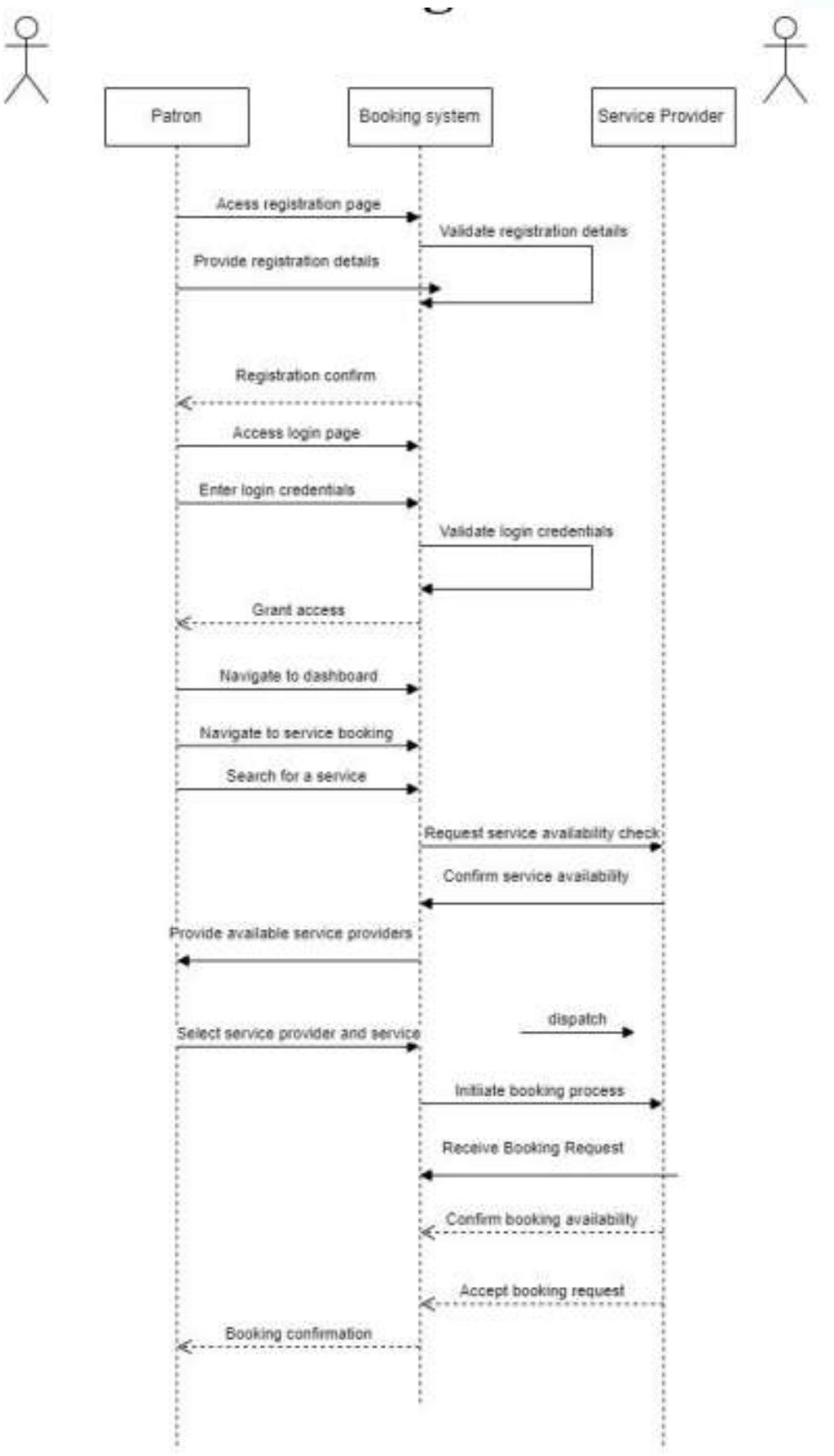
Use Case Diagrams



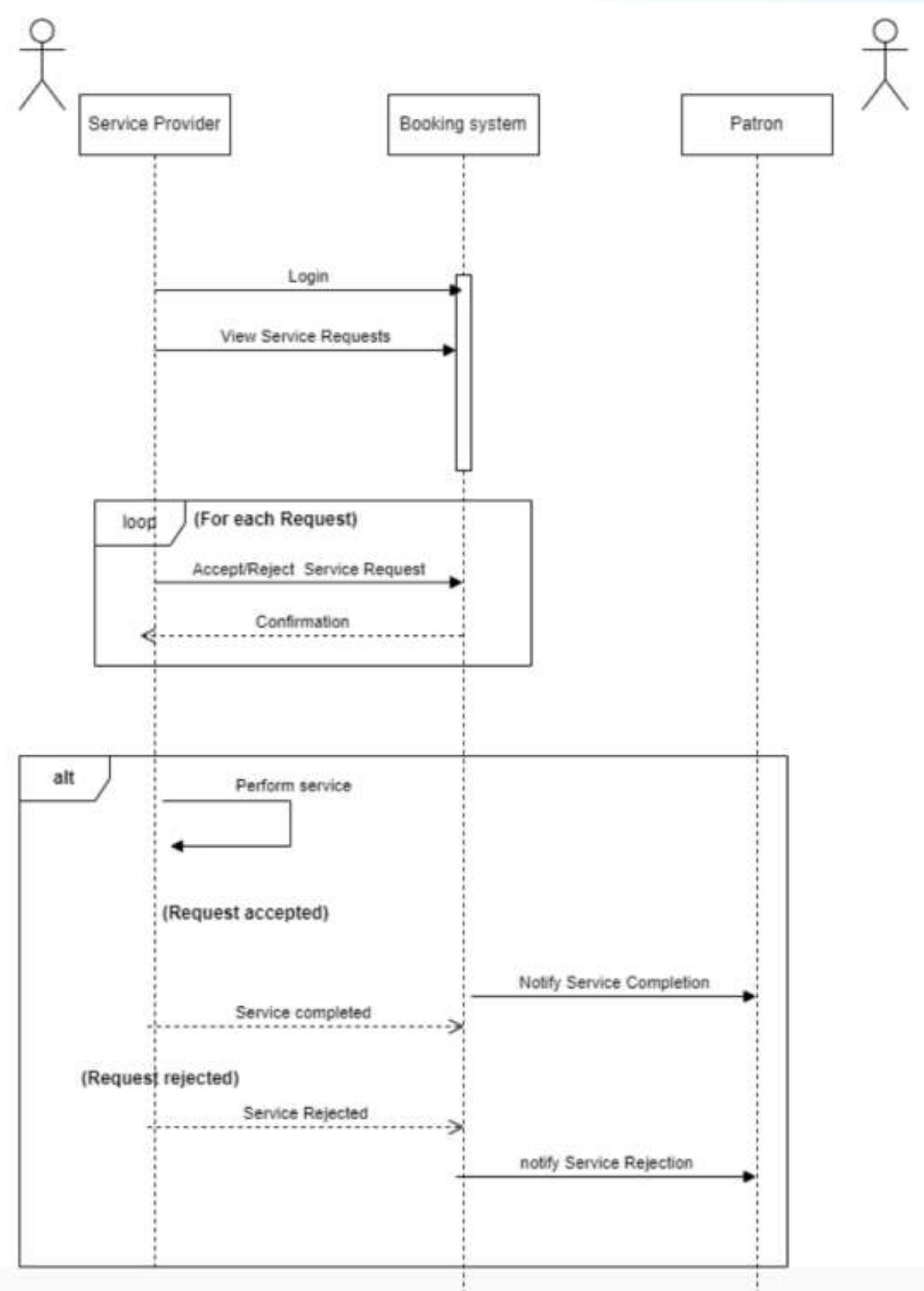




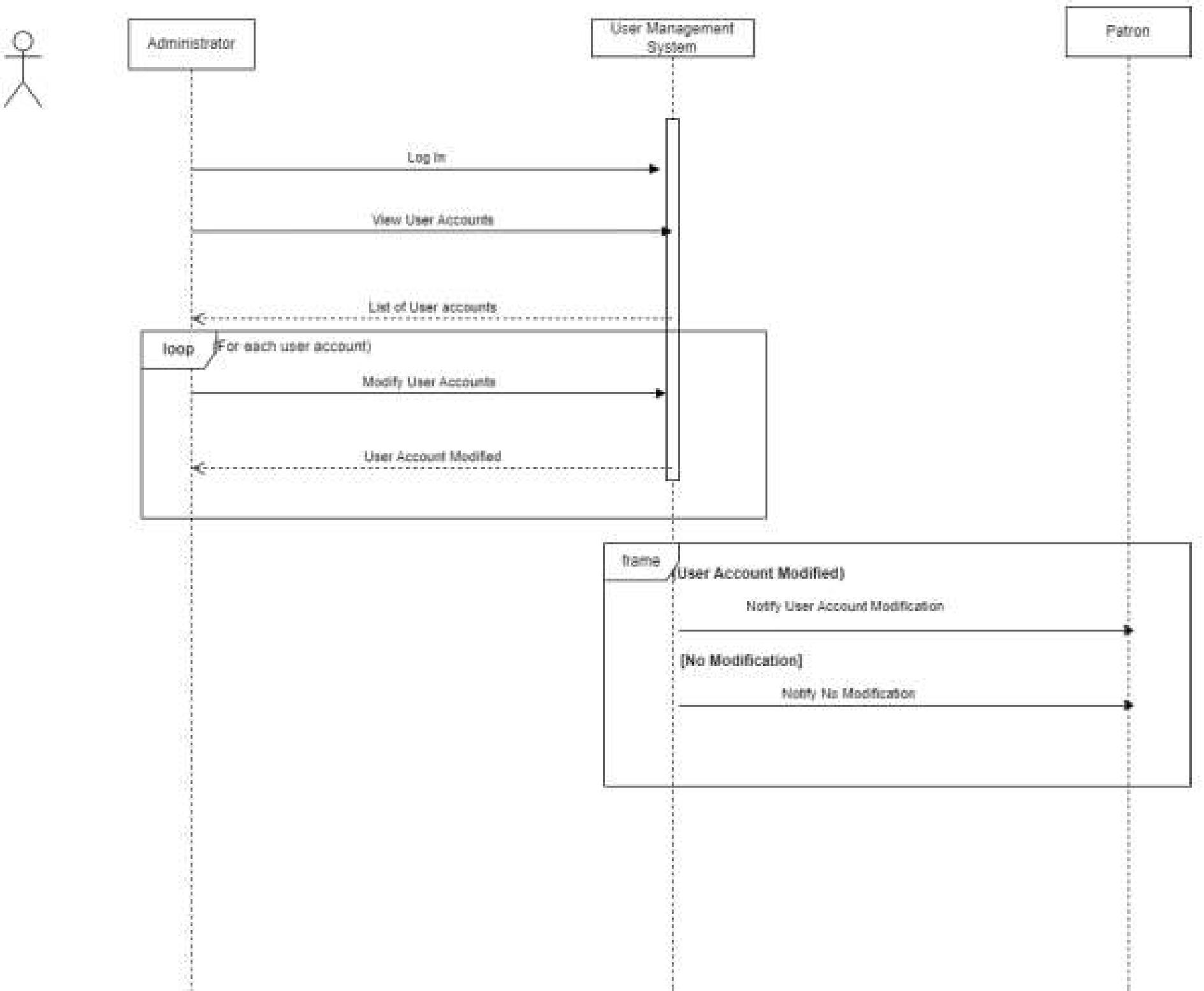
Sequence Diagram Diagrams Service Booking



Service Provider Handling Service Requests

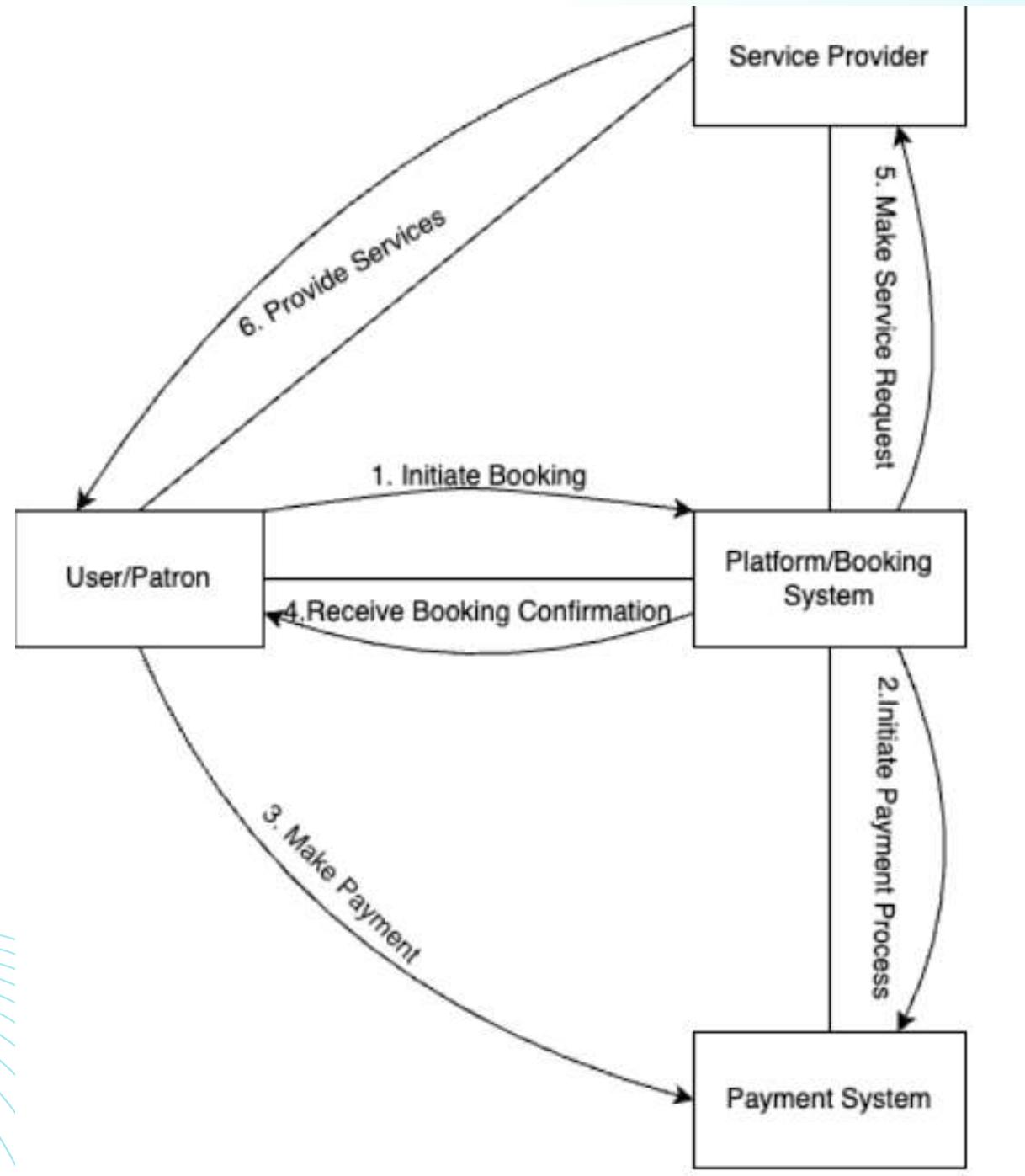


Administrator Managing User Accounts

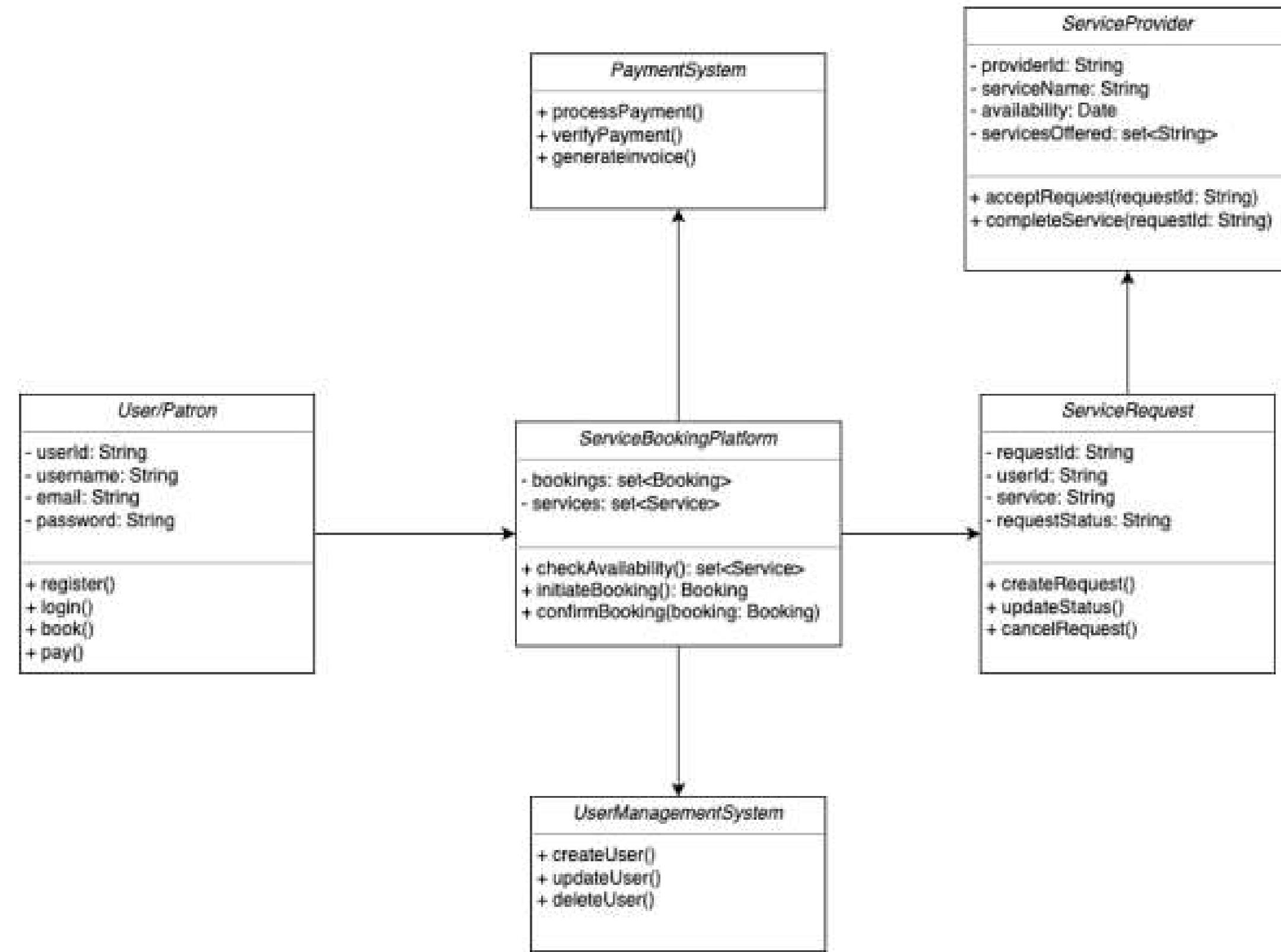


Collaboration Diagrams

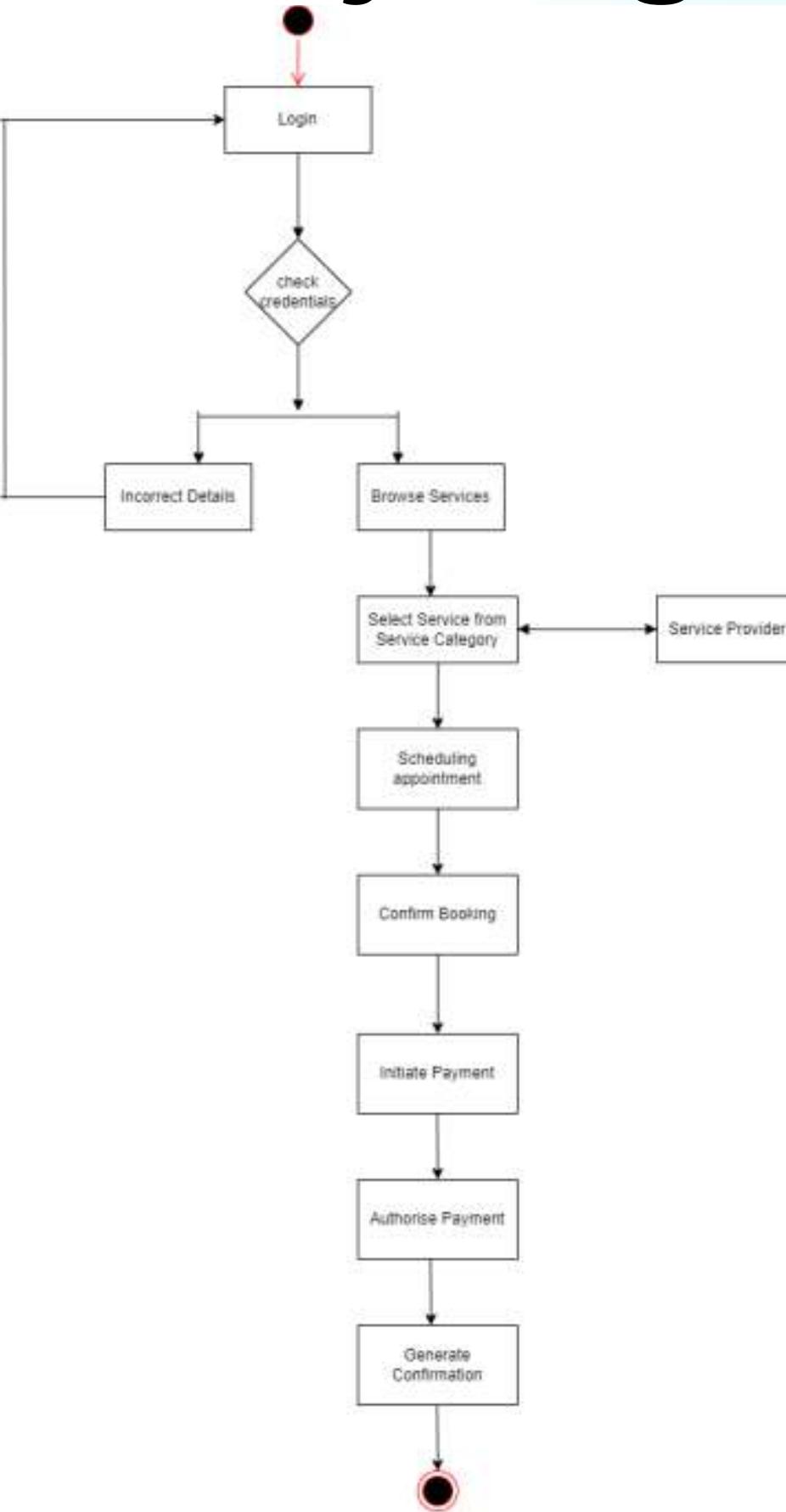
User-System-Payment-ServiceProvider



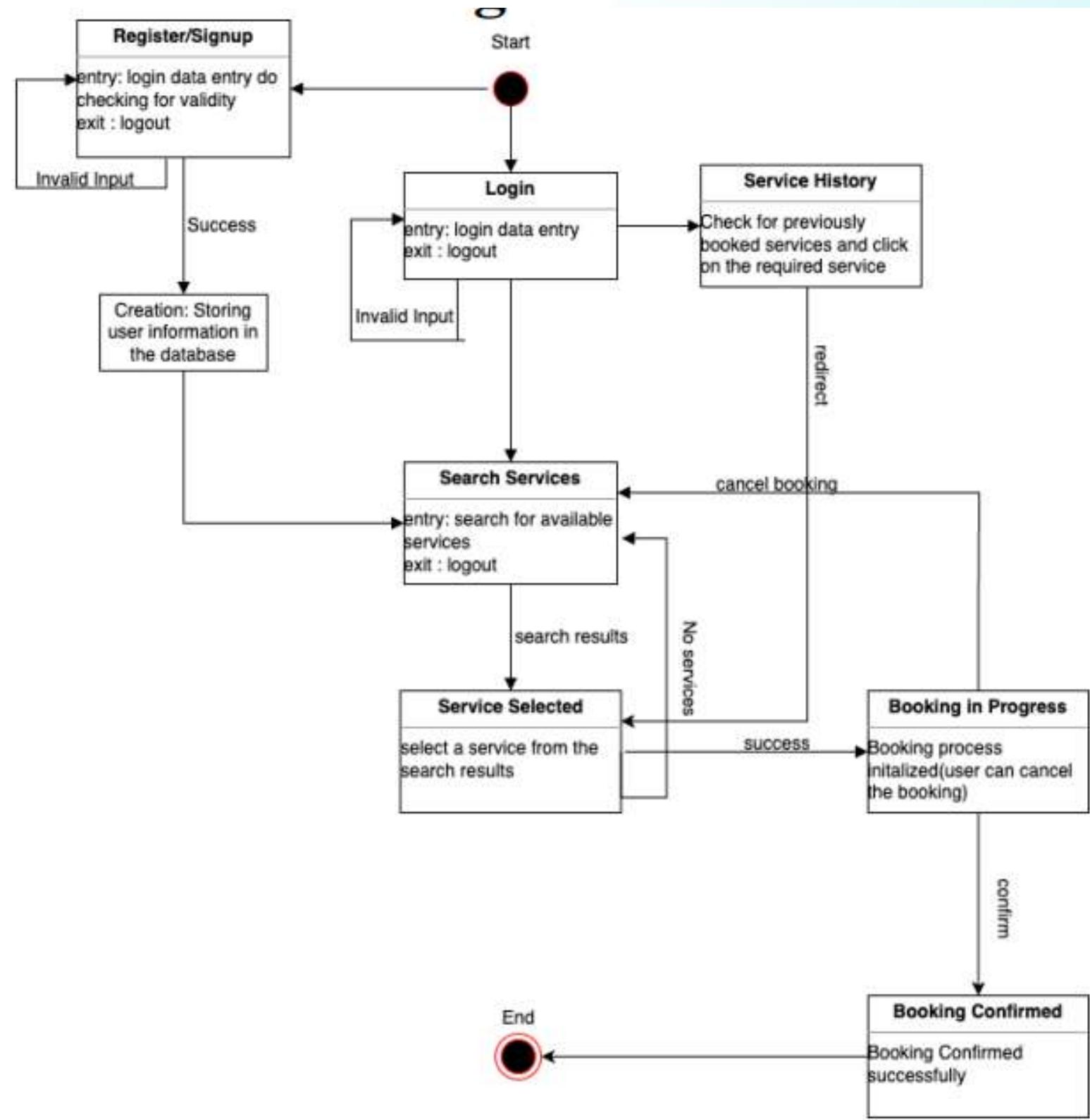
Class Diagram



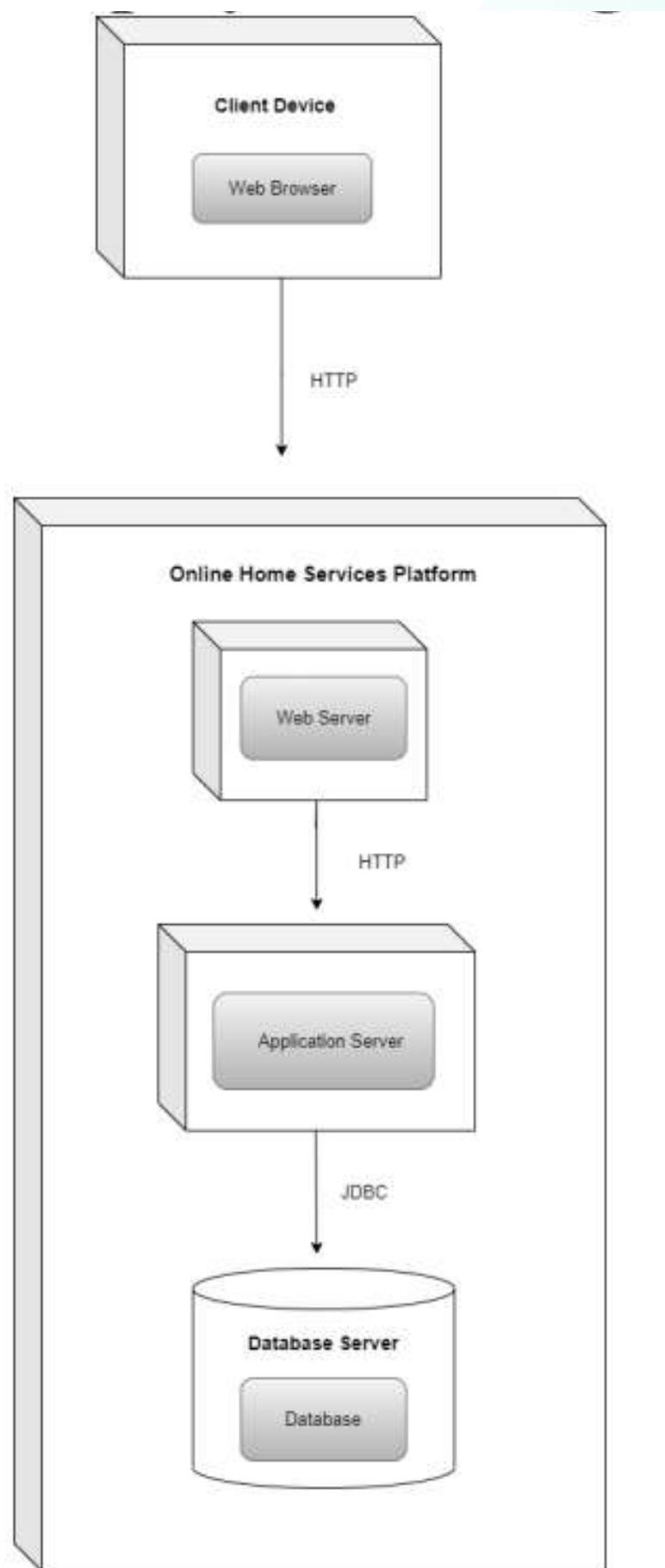
Activity Diagram



State Chart Diagram



Deployment Diagram



Identify Test Cases

Test Case ID	Scenario / Condition	User Type	Service Type	Date/Time	Booking Status	Input/Actions	Expected Result
TC_001	Scenario - 1 User searches and finds a service	V	V	N/A	N/A	V	User sees a list of plumbing service providers which are shown
TC_002	Scenario - 2 User views service provider details	V	V	V	V	V	Detailed information about the provider is shown
TC_003	Scenario - 1 User searches and finds a service	V	V	N/A	V	V	Detailed information about the provider is shown

VALIDATING TEST CASES

[Open with Google Docs](#)

Use Case : User Booking a Service

Actors - User

Description - The use case involves a user searching for a specific home service on an online platform, selecting a preferred service provider, configuring the details of the service, and completing the booking by confirming details and making a payment.

Validating test Cases :

Test Case Metric	Metric Description	Metric Evaluation
Search Success Rate	Measure the percentage of successful searches where users find the desired service.	Higher values indicate effective service discovery.
Average Search Time	Track the average time it takes for users to find a service.	Lower values indicate quicker and more efficient searches.
View Success Rate	Percentage of users successfully viewing service details	Higher values indicate effective presentation of details.
Average Time Spent Viewing Details	Average time users spend reviewing service provider details	Higher engagement times may suggest interest in services.
Booking Conversion Rate	Percentage of users successfully initiating a booking	Higher values indicate a positive booking conversion.
Booking Confirmation Time	Time taken to confirm a booking	Faster confirmation enhances user satisfaction.
Cancellation Rate	Percentage of bookings canceled by users	Lower values indicate satisfied users with fewer cancellations.
Repeat Booking Rate	Percentage of users making repeat bookings	Indicates user satisfaction and loyalty.

Use Case : Receive and Accept Service Requests

Actors - User, Service Provider

Description - The use case involves service providers receiving and reviewing incoming service requests, evaluating their suitability, and either accepting or declining them. This process includes confirming the service details and coordinating with users as needed.

Validating test Cases :

Test Case Metric	Metric Description	Metric Evaluation
Notification Delivery Time	Time taken to notify service providers of a new request	Faster delivery enhances providers' responsiveness.
Access Speed to Service Details	Time taken for providers to access request details	Quick access facilitates prompt decision-making.
Request Suitability Analysis	Evaluation of how well service requests match providers' expertise and availability	Higher suitability enhances acceptance rates.
Acceptance Rate	Percentage of service requests accepted by providers	Higher acceptance rates indicate platform effectiveness.
Declination Rate	Percentage of service requests declined by providers	A balance between acceptance and declination is desired.
Confirmation Time to User	Time taken to confirm the service request to the user	Faster confirmation contributes to user satisfaction.
Communication Effectiveness	Assessment of communication between providers and users	Efficient communication ensures clarity and coordination.
User Satisfaction	User feedback on the acceptance process and communication	Gather qualitative insights into user experience.

Use Case : Booking Confirmation

Actors - User, Service Provider

Description - The use case involves the steps taken by the platform to confirm a service booking after a user has selected a service, provided necessary details, and completed the booking process.

Validating test Cases :

Test Case Metric	Metric Description	Metric Evaluation
Confirmation Speed	Time taken to confirm a booking after user submission	Faster confirmation contributes to a positive user experience.
Booking Accuracy	Precision in confirming the correct service, date, and time	High accuracy ensures that users get the intended service.
Notification Delivery Time	Time taken to notify the user of the confirmed booking	Quick notification enhances user satisfaction.
User Notification Clarity	Clarity of information provided in the confirmation notification	Clear and detailed notifications reduce user confusion.

Test Case Metric	Metric Description	Metric Evaluation
Provider Availability Check	Verification of service provider's availability for the confirmed time	Ensures that the selected provider is available as scheduled.
Modification Flexibility	Ease of modifying booking details post-confirmation	Higher flexibility allows users to make necessary adjustments.
User Satisfaction	User feedback on the booking confirmation experience	Gathering qualitative insights into user satisfaction.



THANK YOU