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Proposal and Planning

Executive Summary

Our software offers Legion a centralized flexible platform to plan for the expansion of their organisation and prepare their football teams to qualify for the 2026 FIFA World Cup. This allows Legion to include other sports such as basketball, hockey and volleyball in addition to football. Planning is vital to break goals into smaller chunks. Our software can handle the difficult chore of precisely managing and assessing a whole football team for achieving the big goal.

It allows Legion members, the HR (Human Resources Manager), the Financial Manager, the Coordinator and others to collaborate and communicate about the strategic planning towards the expansion of their company. The features of AI task assessment and time-saving templates for various planning processes distinguish our software from the competition. It provides organized workflows and enhanced team collaboration.

Company Description

Cerebral is a forward-thinking consultancy firm dedicated to creating impactful digital solutions for ambitious businesses. Partnering with Legion, a growing sports company, we are developing an innovative app to facilitate their expansion into multiple sports, including basketball, hockey, and volleyball.

The app will feature finance tracking, AI-driven analytics, scheduling tools, seamless communication, and data integration, ensuring a smooth transition for existing users. By enhancing user satisfaction, promoting adaptability, and optimizing costs, Cerebral empowers Legion to scale effectively while revolutionizing the sports tech landscape. Together, we are building the future of sports management.



System Development Methodology

Agile development methodology is highly suitable for an app that focuses on monitoring and accessing performance. The primary reasons for choosing agile development are:

- **Enhanced Flexibility:** One of the main advantages of using agile development approach is due to its enhanced flexibility which enables teams to adjust and respond to changing customer needs, market forces and feedback from customers. Agile development approach places a strong emphasis on accepting change on every stage of development process making it easier to incorporate new features, adjustments and improvements into the application. This process guarantees that the application stays in line with evolving user demands and company goals.
- **Improved risk management:** By offering frequent checkpoints for review and modification, the agile methodology helps reduce risks. Teams are able to evaluate the project's status and detect possible issues beforehand by providing minor, useful features or upgrades at the completion of each procedure. By enabling prompt modifications and corrective measures, this proactive risk management strategy lowers the possibility of significant development process setbacks. (Joshi, 2024 and merge.rocksundefined, n.d.)

System Vision Document

Problem Description

With the increased demand of customers to be able to practice and learn more sports like basketball, hockey and volleyball Legion would like to expand their existing sports company. Currently Legion only offers 1 sport in their company. When Legion will expand their range of sports, they want to be able to track all the different sports teams and the expenses to expand their company. They would also like to be able to organize and create schedules for the coaches in different teams and would prefer to have communication directly through the software. The software should also be linkable with their previous software so it would be easier for previous users to get used to it and to retrieve old data.

System Capabilities

- **Finance tracker-** Tracks the expenses to keep it under the budget and analyse the process.
- **Communication-** Provides communication tools like chats and video calls to enhance the teamwork.

- Plan Generator- Generates an organized schedule/plan for the tasks and goals.
- Preserve Data- Retains the data and essentials from the previous software even after the expansion.
- Technologically advanced- Includes latest technologies like AI to speed up and reduce errors.
- Dashboard- Displays a well-organized functioned dashboard to see the progress of the goal and objectives.
- Templates- System has built-in templates for planning process like Gant chart, Pestel analysis to save time and refine work quality.
- Data Analytics- Provides analytic diagrams for the data and staff including coaches to choose accordingly for the FIFA 2026 goal.
- Data protection- Protects data stored in the software including data backup and recovery measures.

Business Benefits

- Revenue Generation- The revenue generated is increased by the presence of promotional services and advertisements.
- Customer Acquisition: By incorporating a variety of sports, the app draws in clubs/teams from different sports, which boosts the user ratio.
- Enhanced Security: By guaranteeing data safety through encryption and authentication procedures, users are more confident to trust and rely on the app, raising the user rate.
- Adaptability- The software's scalability features ensure that the app continues to perform well as the user base grows, resulting in a higher retention rate.
- App advancement: By partnering with successful sports teams to manage their plans, we can increase app recognition globally and draw in further sports club/teams.

- User Satisfaction- The app's user-friendliness in checking out the schedule, tasks and using other features attracts loyal customers.
- AI Integration: AI improves efficiency, precision, automation, and error reduction which enhances system performance, thus attracting users.
- Cost Reduction: Online platform lowers overhead and other necessary costs, boosting profit. Also helping with environmental sustainability.
- Promotional Opportunities- Marketing tactics like social media, and email marketing make it possible to reach targeted audiences at a reasonable cost.
- Data analytics- Online platforms help in the collection and evaluation of user data, which helps to tailor the app features and marketing strategies effectively. (Sydoruk, 2024)

PESTLE Analysis

Political

Our project management software's main objective is to provide our client with a system that can efficiently track and organize their deadlines, dependencies and milestones in expanding the range of their sports programs. After the pandemic, The UAE Digital Government Strategy 2025 was established. This is a vision that aims to promote the integration of digital strategies into private sectors and businesses like Legion.

The strategy states that services must be "inclusive by default" and "data driven." This implicates that the design of the system must be intuitive and user-friendly and as well as abiding to the Personal Data Protection Laws of the country. By creating the system, our client goes in line with the Digital Agenda of the UAE, opening more doors for potential stakeholders and business partners. (u.ae, n.d.)

Economical

On average, developing a project management software is estimated to cost around \$150,000 to \$500,000 with the amount of data and integration of emerging technologies like AI contributing to the expenses. Our system also includes video conferencing capabilities that normally cost around \$80,000 to \$110,000 to develop. Being cloud based also means servers need to be constructed and

maintained which requires the allocation of physical space and setting up an energy and water efficient cooling system. (Makhov, 2024)

Social

To boost employee morale and well-being, we want our platform to encourage users to have a healthy work and life balance by designing flexible and relatively manageable schedules with customizable timers and reminders for breaks to reduce burn out.

The collaborative nature of our software also allows employees to work remotely through text-based communication and integrated video conferencing. This also makes communication with third parties and company suppliers easier and portable especially when there's conflict in schedules or transportation that make having face-to-face meetings challenging.

Technological

Our software ensures that teamwork, collaboration and decision making is optimized and made easy through quick and remote communication which would involve setting up a cloud-based system. For ease of access, our system needs to be platform compatible with the hardware and software already utilized by Legion's employees to reduce purchasing more resources and mitigating E-waste. To add on, our software is data driven and integrates emerging technologies such as AI which will provide our client with instant feedback, automated task and resource allocations and as well as solutions to aid company decision making.

Legal

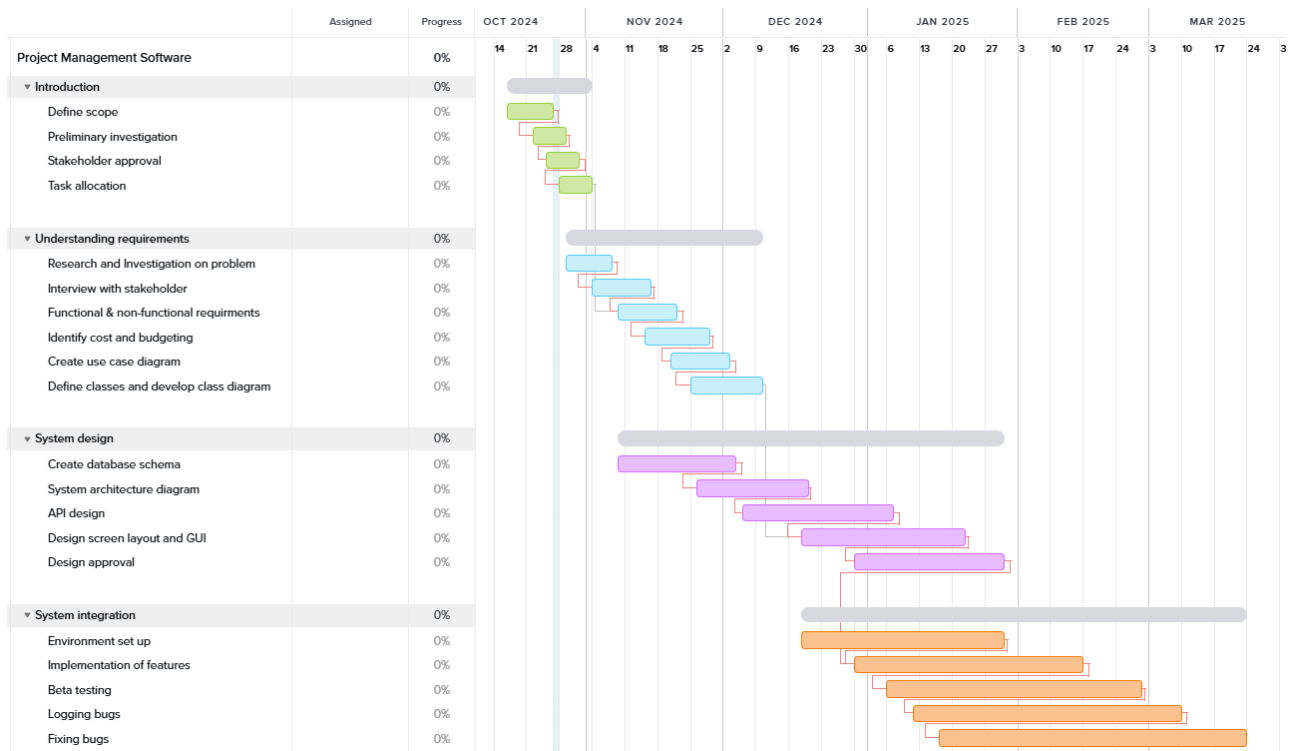
Being a data driven software concerns the safety of the employee's privacy and data. The UAE has strict data protection laws that govern how information is used and handled with cybersecurity requirements that individuals and private sectors need to follow (u.ae, n.d.). Our software allows our client to upload files and documents which will be used to create analytics on company employees, budget tracking and resource management that may contain sensitive information.

Environmental

Since our system is cloud-based, it mitigates the need for a paper-based system and promotes remote collaboration which provides the opportunity to minimize travel and face-to-face meetings. However, physical servers still need to be set up and maintained, which is a concern for high energy consumption. And since the servers need to be constantly running, a cooling system is required to avoid overheating making water consumption another concern. To ensure our system is sustainable, we can have a look at utilizing renewable energy and investing in energy efficient technology to reduce energy and water consumption.

System Analysis

Gantt Chart



Gathering Information About the System

Interview Questions:

1. What kind of communication do you prefer for team collaboration?
2. Do you have any specific suggestions for the software's user interface design?
3. Do you currently have a budget and timeline for the expansion and key goals?
4. Do you need to integrate any current software or tools?
5. What kind of analytical reports are you looking for?
6. What is the ideal structure for user roles and access levels?

7. What challenges is the existing system facing and what new feature do you want to incorporate to tackle these challenges?
8. How frequent do you expect new features or updates to be released?

Mock Interview answers:

1 - We would prefer a more organized and structured communication channel such as regular updates can be sent through emails and for quick doubt solving instant messaging apps such as Microsoft Teams and Slack would be a great option.

2 - We want the software to offer an appealing interface with an easy-to-use layout. Also, a positive theme design to improve the software's impression.

3 - We have agreed on a cost of approximately \$2,50,000, but we are free to adjust it based on requirements. This covers expenses for developing software, testing and deployment within a timeframe of 5-6 months.

4 - Yes, we would like to include management tools like excel, google meet, Microsoft teams and others as it would be easier for people to work with familiarized tools, thus saving time.

5 - We would like to have a broad range of analytical reports like finance analytics, staff analytics and performance analytics to precisely monitor the work.

6 - I would recommend a simple and scalable access level structure for different level of users like:

- Admin will require a Full control over the application for managing routine operations, and maintaining records.
- Manager will require a high-level access to monitor reports, manage projects and the team.

- Team members will require a limited access to see the projects and the tasks assigned to them.
- Viewer will require a read-only access to see reports, dashboards and also provide feedback and ratings about the app without affecting its operations.

7 - The most prominent challenge that we are currently facing with the existing system is:

- Limited Visibility- Its challenging to obtain a clear overview of how each team is doing on a project as there is no centralized dashboard that provides timely updates and accurate reports.
- This problem can be solved by creating a centralized dashboard that shows team progress, summary of all process and a performance indicator that enables faster decision making that in turn increases visibility.

8 - We expect the new features or updates to be released in a structured basis to make sure steady progress It can be customized by:

- Major updates can be done every 2-3 months that focuses on improving new features or improvements.
- Minor updates can be done as monthly updates for minor upgrades and error fixes to boost performance.

Stakeholders

Management

Role: Making key decisions

Responsibilities: Tracking performance and overlooking the app and making sure everything is on track.

Investors

Role: Provide funding for the app

Responsibilities: Frequently reviewing the potential of the app and possibly offer inputs/advice.

Customers

Role: Users of the app

Responsibilities: Diligently using the app and providing feedback.

Board of directors

Role: manage apps progress

Responsibilities: checking frequently with app progress and making sure employees are on the right track to completing the app

Research on similar business cases

1. Cascade is a strategic management platform that helps to monitor and connect investments, key performance indicators and many other aspects of business. Cascade is used by several reputable companies, such as Mercedes Benz, Toyota, KFC, UNICEF and many more, to track and assess performance. (Strategy, 2023)

Features:

- Business Transformation- Assists in replacing the company's outdated methods with innovative and sustainable technologies.
- Operational Efficiency- It helps to consolidate all data in one location and link work tools like excel, outlook and others. Generates plan updates without requiring additional meetings and instantly fixing flaws.
- Portfolio Management- Manage strategy while organising and establishing connections throughout portfolios. Helps to track any element or budget against every portfolio. Track Portfolio progress and aggregate results.
- Strategy Execution- Experimenting with various tactics and strategy maps. Once a plan has been created, systematically oversee its components. Also creates effective visualisations to simplify the organization's complexity.

2. Hive is a project management tool that aids in goal setting and tracking within an organization. For hybrid teams seeking active, seamless communication and collaboration, it is the ideal option. (Hive, n.d.)

Features:

- **Resourcing-** Enables resource management by setting timeline for resources and assigning tasks to the members.
- **Forms-** Generates feedback, client requests and comments through forms for identifying flaws and enhancing the caliber of work.
- **Goals-** Offers versatile goal formats ranging from task-based goals to monetary goals.
- **Time Tracking-** Automatically tracks the time spent on each course of plan and generates limitations. Also redistribute work in accordance with team requirements.

FURPS: Functional and Non-functional Requirements

Functionality

Our software will provide a multitude of functions that will assist Legion with strategic planning. Users of the system will be able to upload files and statistical documents to generate staff and budgeting analytics through the use of AI. In addition to that, our software also provides planning templates for PESTLE analysis and writing business cases that users can choose from and customize. Our software also functions as a platform for communication through the means of text-based chat and video conferencing which includes interactive whiteboards that can be utilized during online meetings. And finally, our software features a dashboard that showcases the project's tasks, progress, milestones and deadlines that the user can navigate, adjust and get feedback from.

Usability

Our software's interface needs to be intuitive and easy to navigate with a clean dashboard layout and organized sidebar that links to the software's different pages. It should also include informational tooltips that can guide the user with the interface's buttons and elements for when they use it for the first time.

Reliability

Being a cloud-based system, the software needs to be able to synchronize and back up files with little to no errors. With this being said, high-capacity servers need to be maintained and efficiently set up to avoid files getting lost or corrupted.

Performance

The platform must run efficiently at all times and must be able to accommodate multiple users accessing, uploading and making changes to files at the same time. It needs to be able to handle streaming or video conferencing with low latency to provide our client with a smooth experience.

Security

Our software will have a login system that requires the account to be authenticated. Messages shared on the platform should also be end-to-end encrypted to protect users' privacy and shared data. Each meeting hosted on the platform should also be password protected and only accessible through invitation links.

Use Case

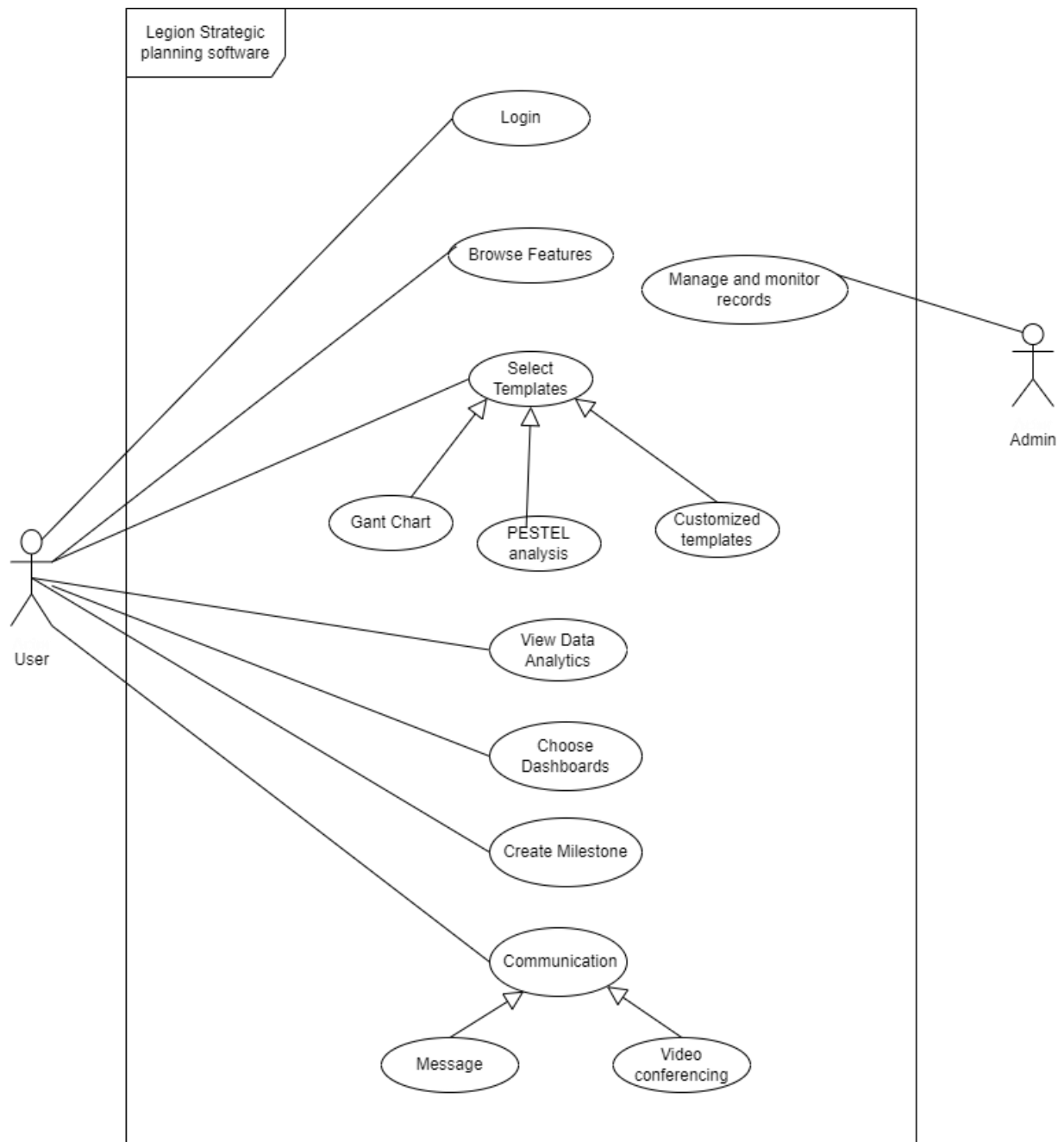
Actors

- User
- Admin

Use cases:

- Browse Features – User can browse for several features to use according to their requirement.
- Select Templates- User has the choice to choose from the in-built templates like for Gant Chart, Pestel analysis or create their own unique templates.
- View Data Analytics- User can view the analytics reports of various departments like finance, performance and staff.
- Choose Dashboards- User can choose dashboards of the preferred topic to view, complete and assign task. Also to set goals and view progress.
- Create Milestone- User can create milestone to monitor and track their goal.
- Communication- User can communicate with other team members to highlight change or flaws, thus increasing collaboration.

- Manage and monitor records- The admin oversees and manages the data to enhance workflow and reduce errors.

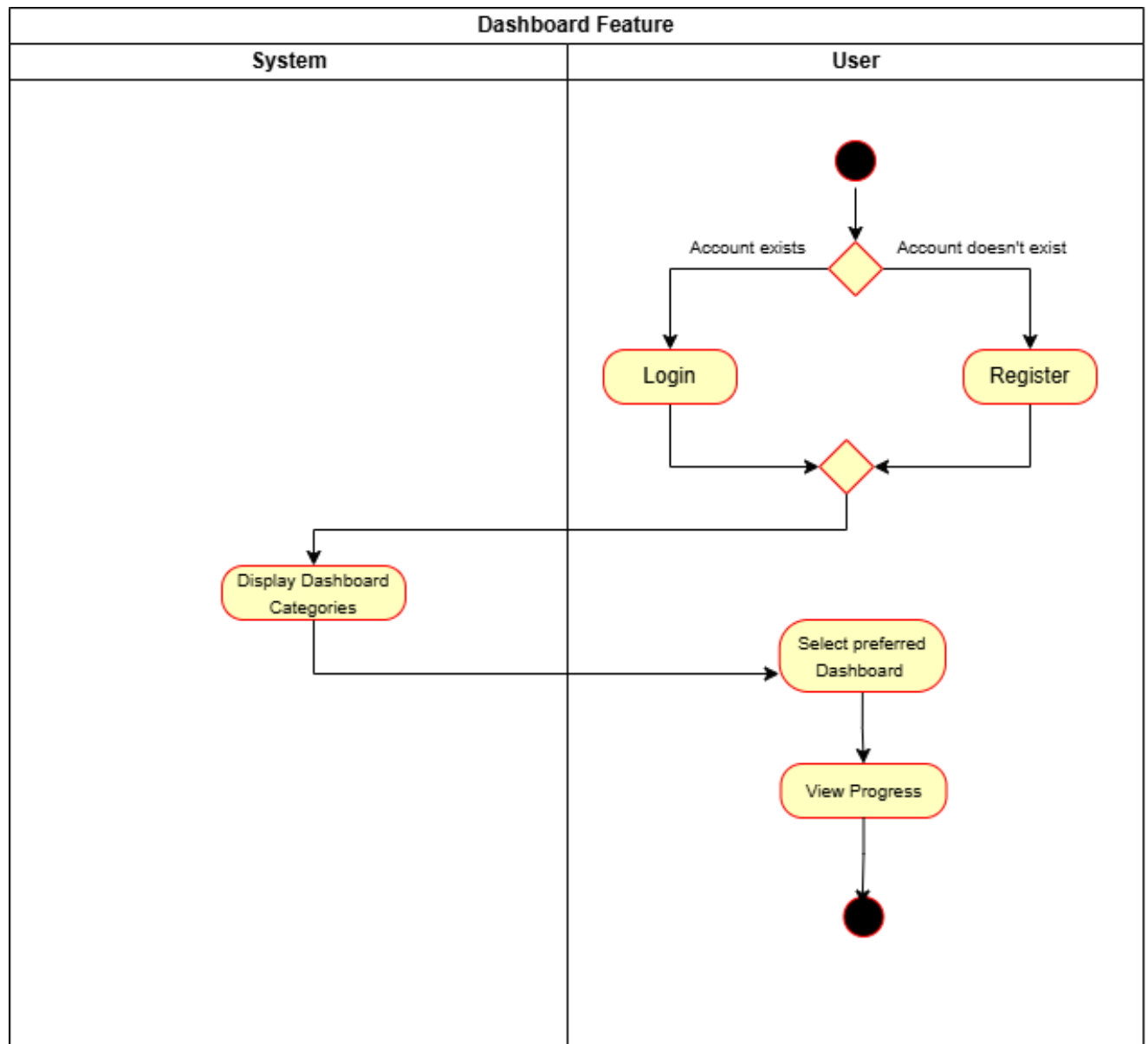


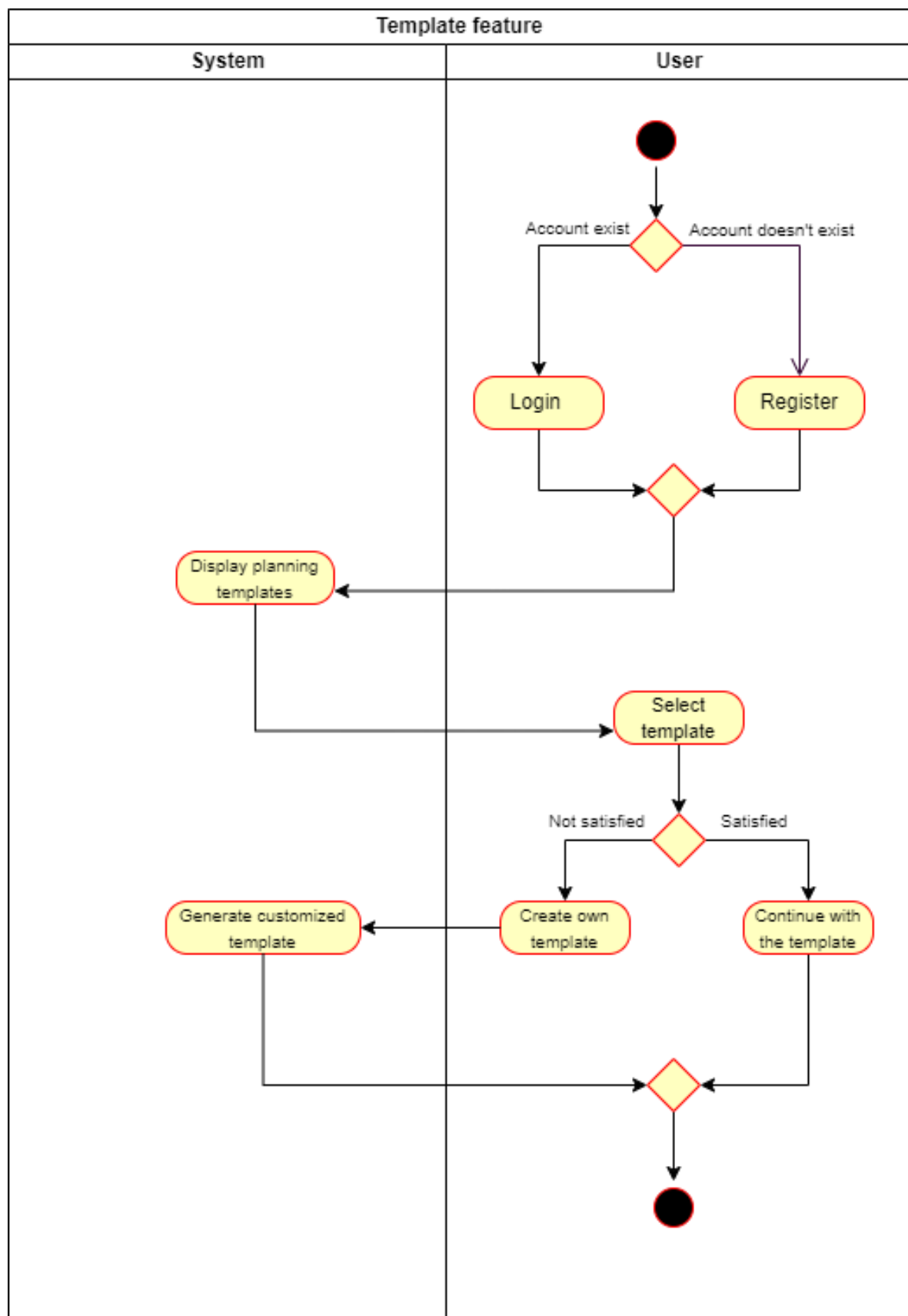
Activity Diagram

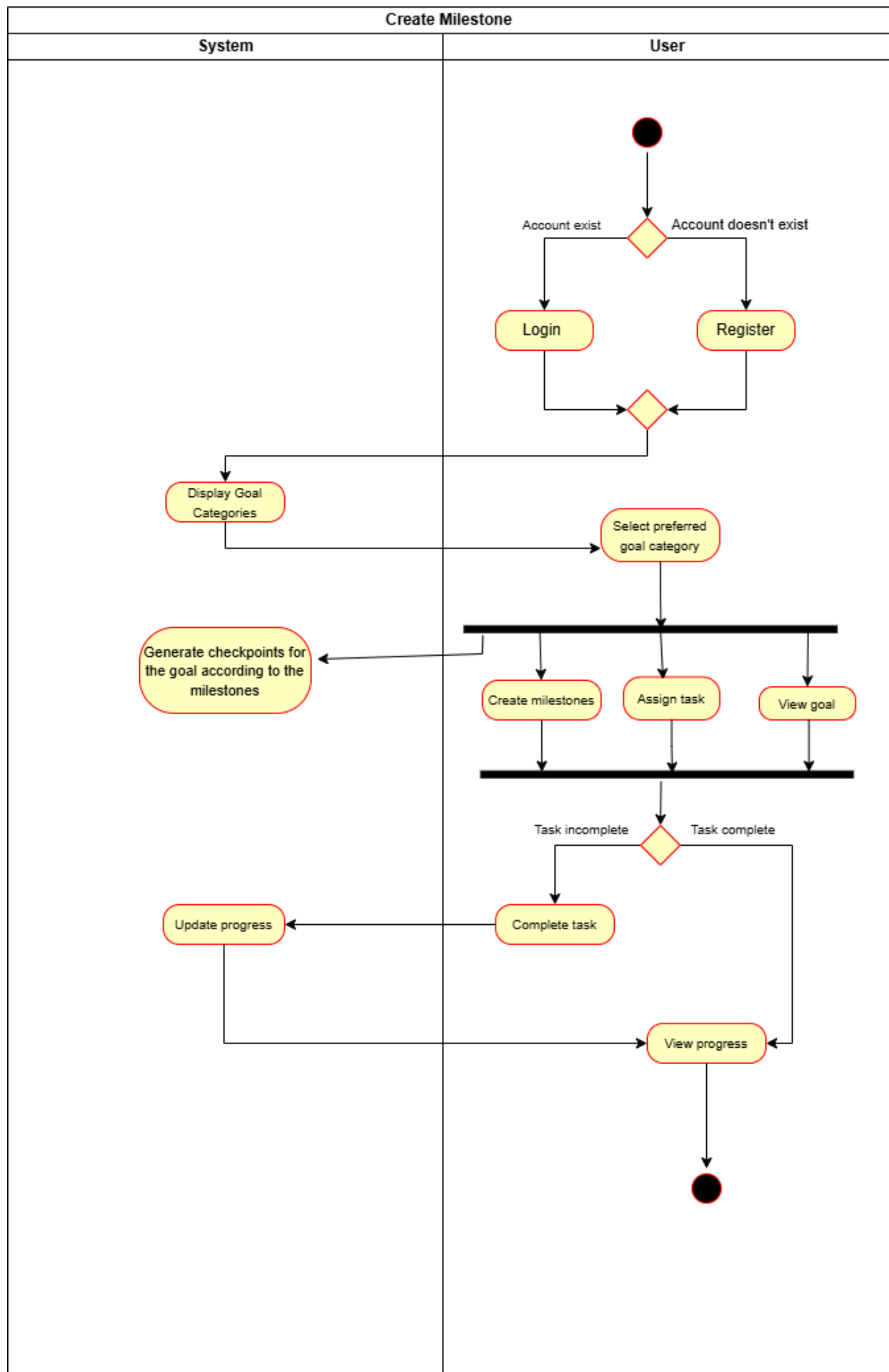
Below are explanations of five different activity diagrams for five distinct features.

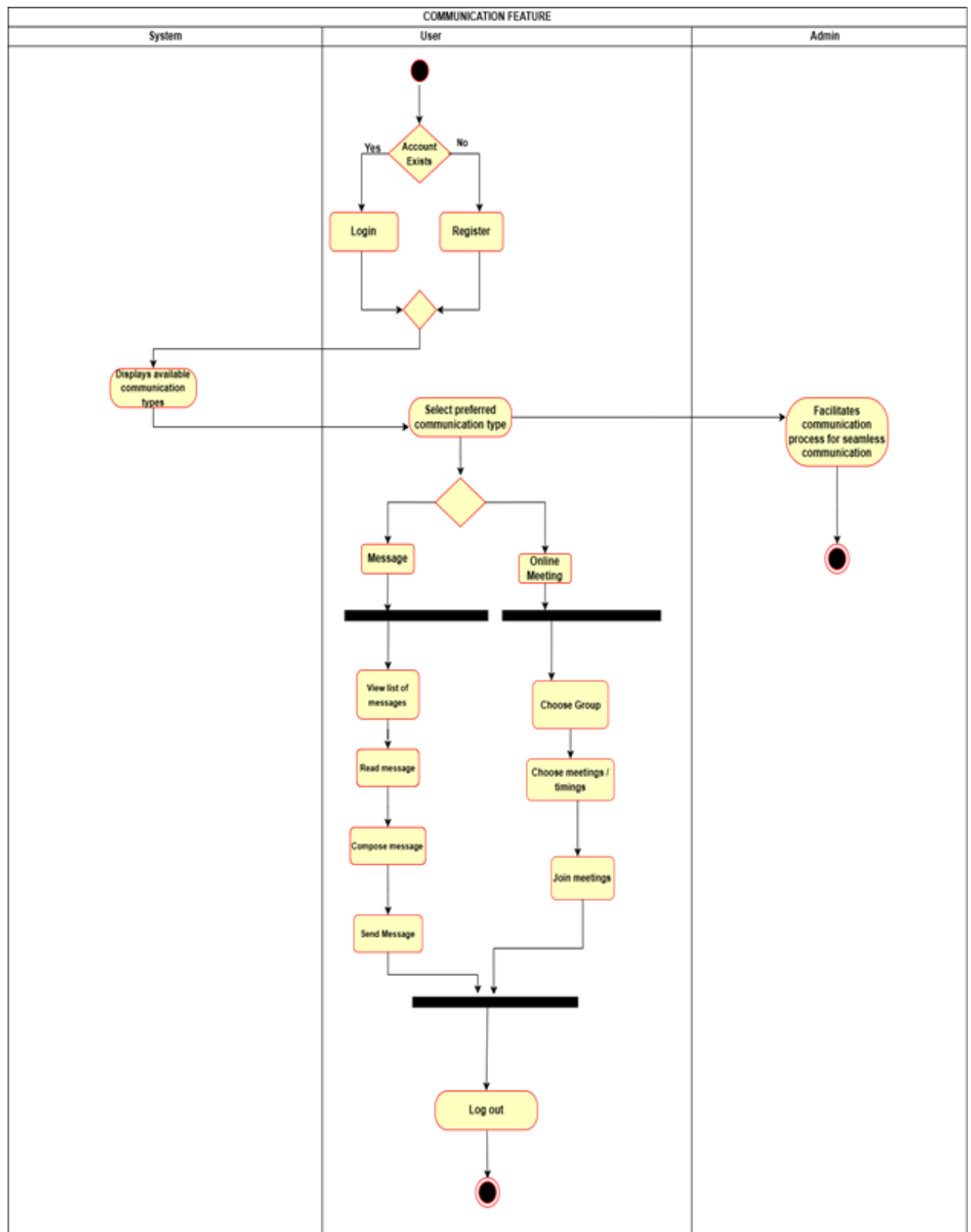
- Dashboard Feature
- Template Feature

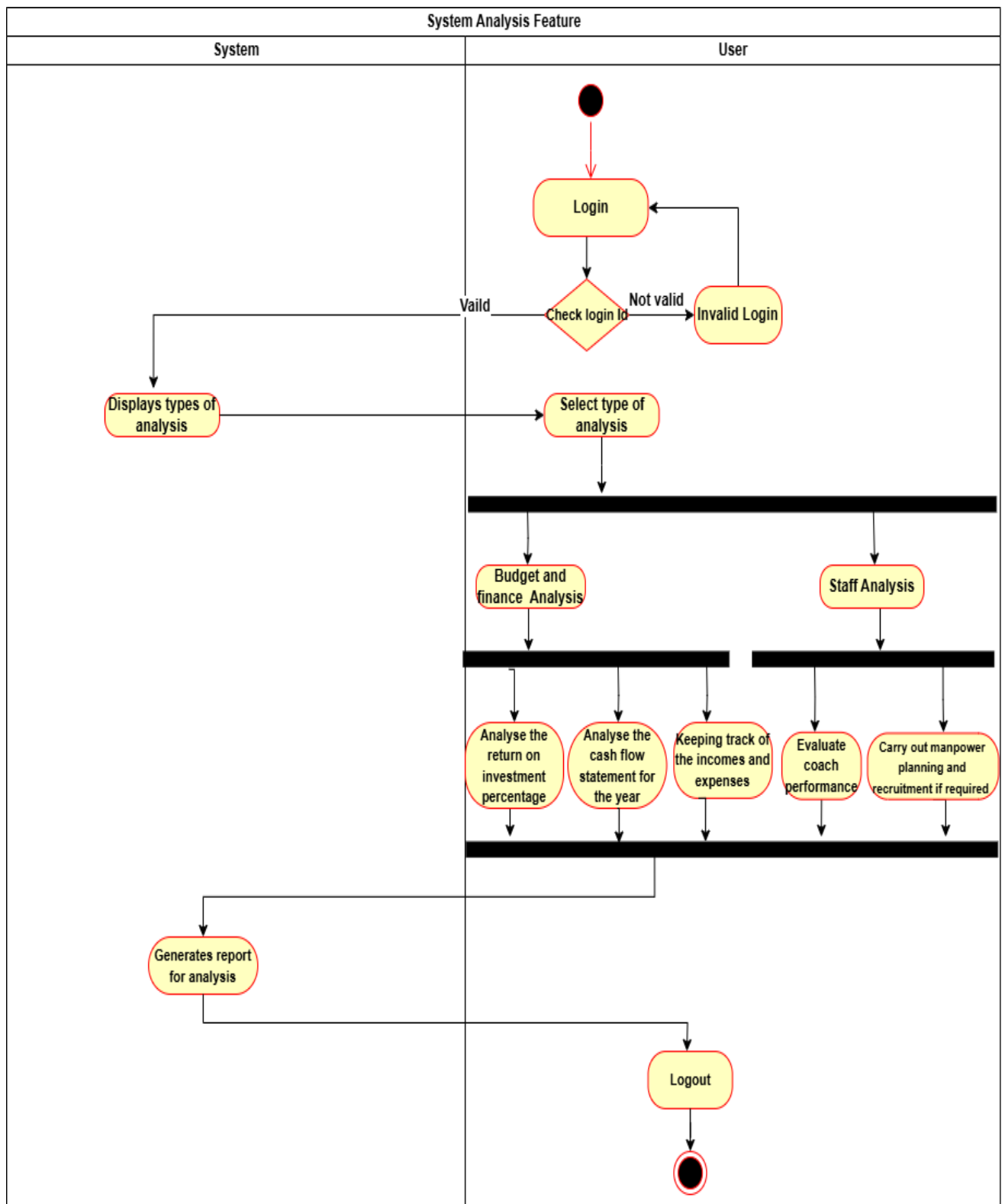
- Creating Milestone Feature
- Communication Feature
- System Analytics Feature





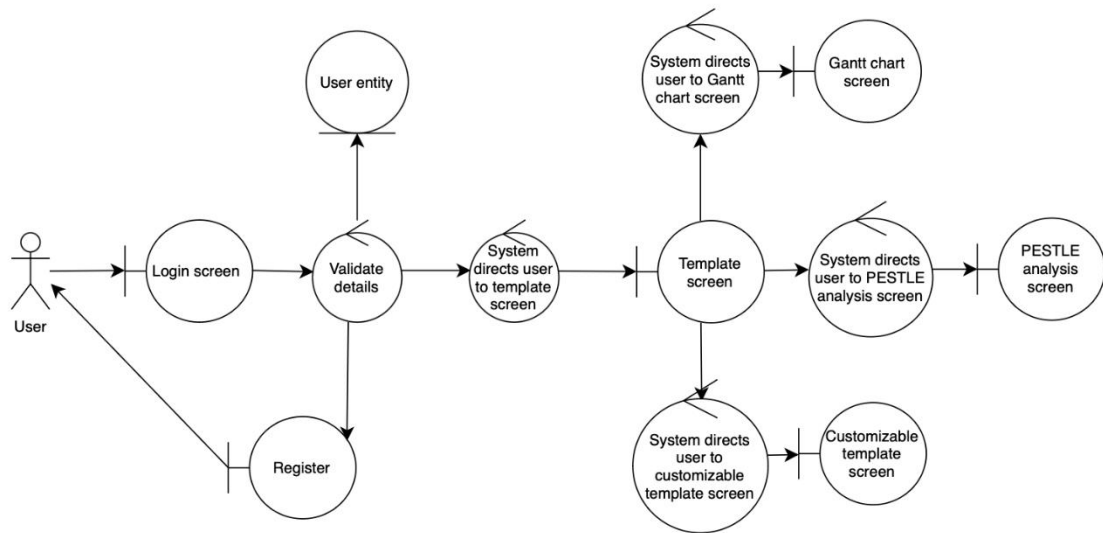




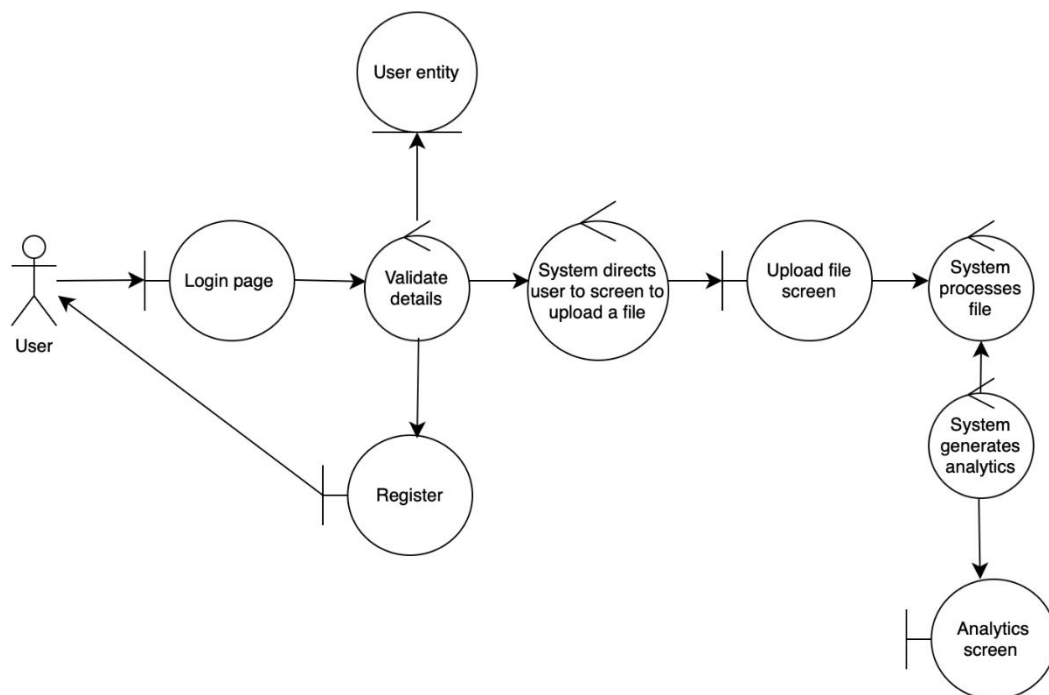


Robustness Diagram

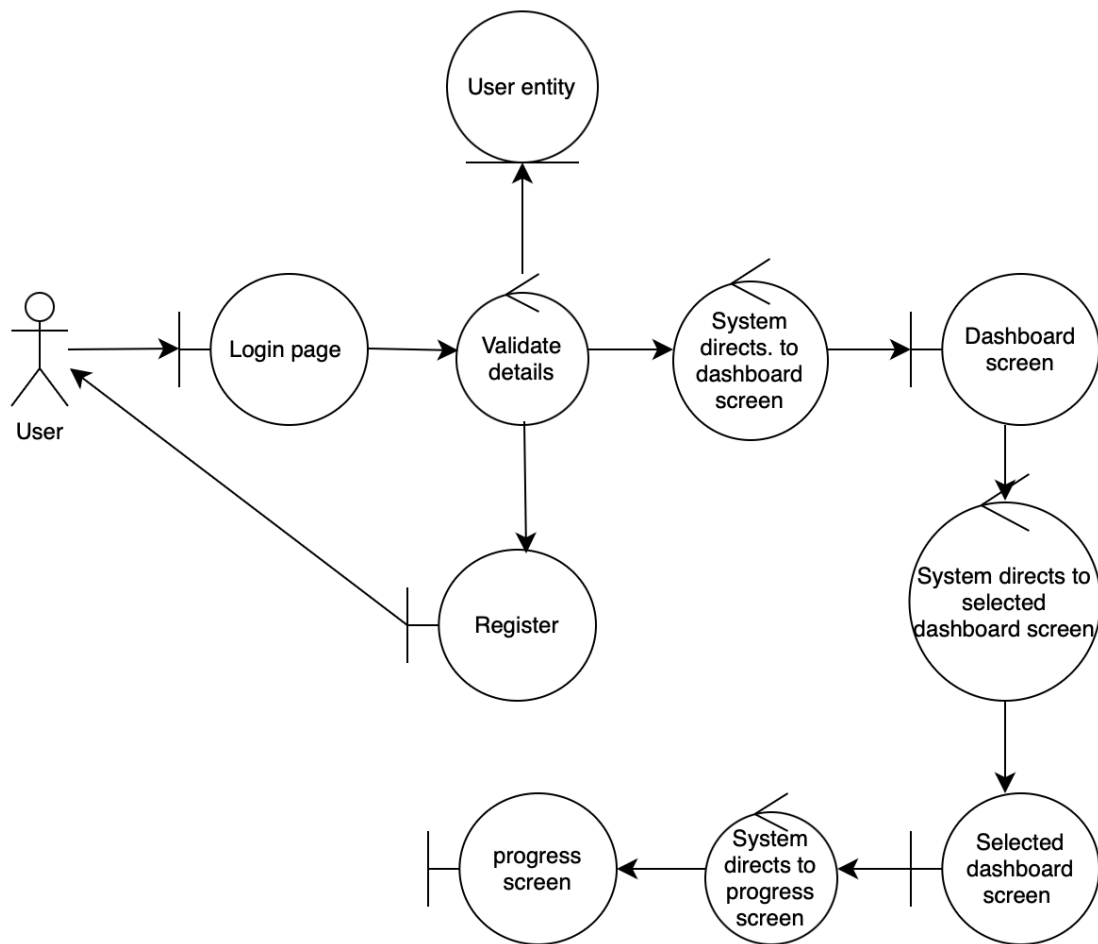
Template



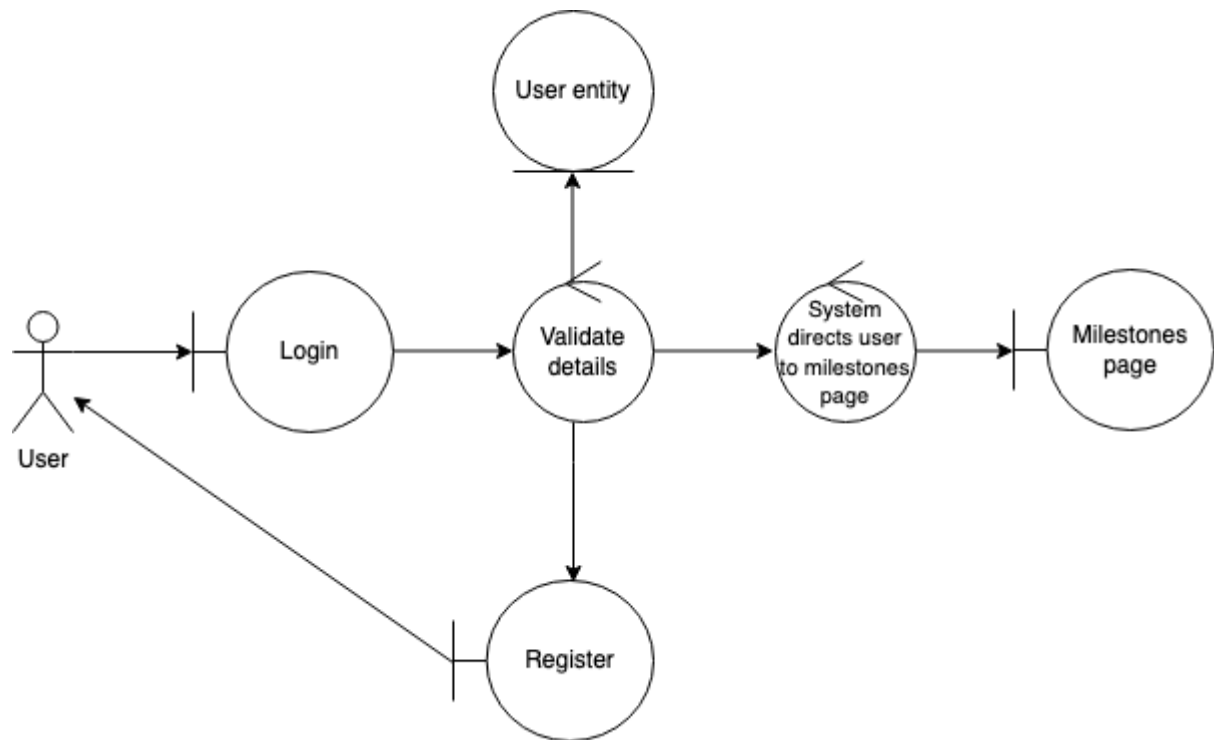
Data analytics



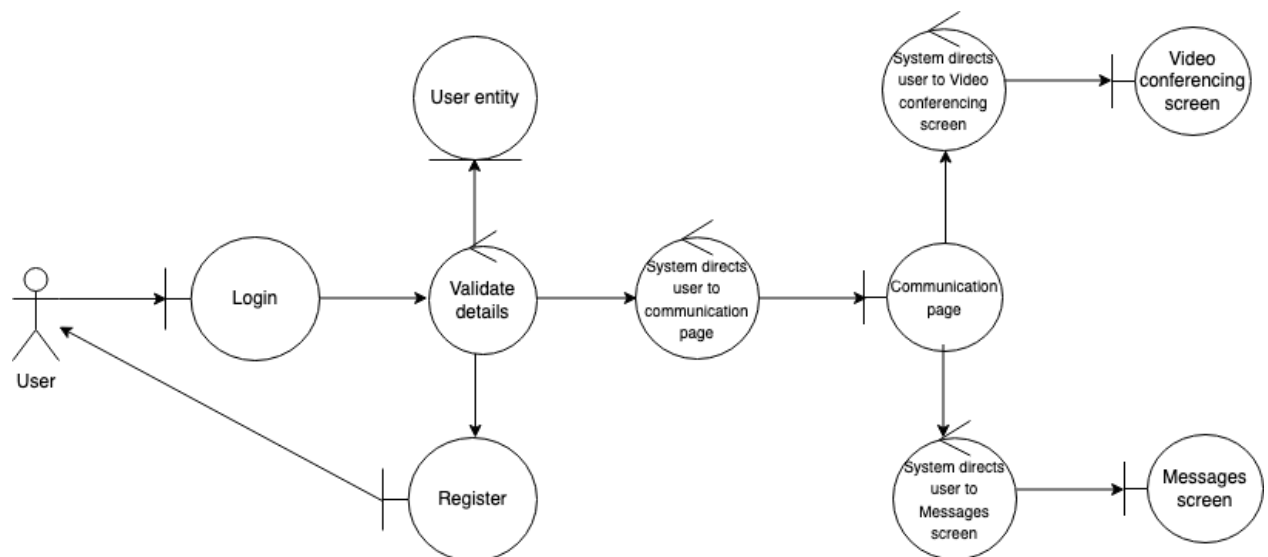
Dashboard



Milestones



Communication



System Design

CRC Cards

User	
User ID	Team
User Name	Task
User Email	Template
User Phone number	Online meeting
User Address	Message
Complete Tasks	Analytics
Choose and apply template	
Update user information	
Communicate between team	
View Data analytics	

Strategy	
Strategy ID	Milestone
Strategy Type	Task
Strategy Name	Team
Implementation Period	Analytics
Add new strategies	
Set a common method for all strategies	

Milestone	
Milestone ID	Team
Milestone Name	Task
Milestone due date	Strategy
Assigned team members	User
Track completion status	
Update project status based on milestone completion	
Notify stakeholders when milestone reached	

Task	
Task ID	User
Task Name	Team
Task due date	Milestone
Task status	
Update task information	
Store task details	

Team	
Team ID	User
Team Name	Task
Team Members	Online Meeting
Team Leader	Messages
Assign roles within team	Milestone
Facilitate team communication via online meeting/messages	
Track team activity/progress	
Manage team tasks	

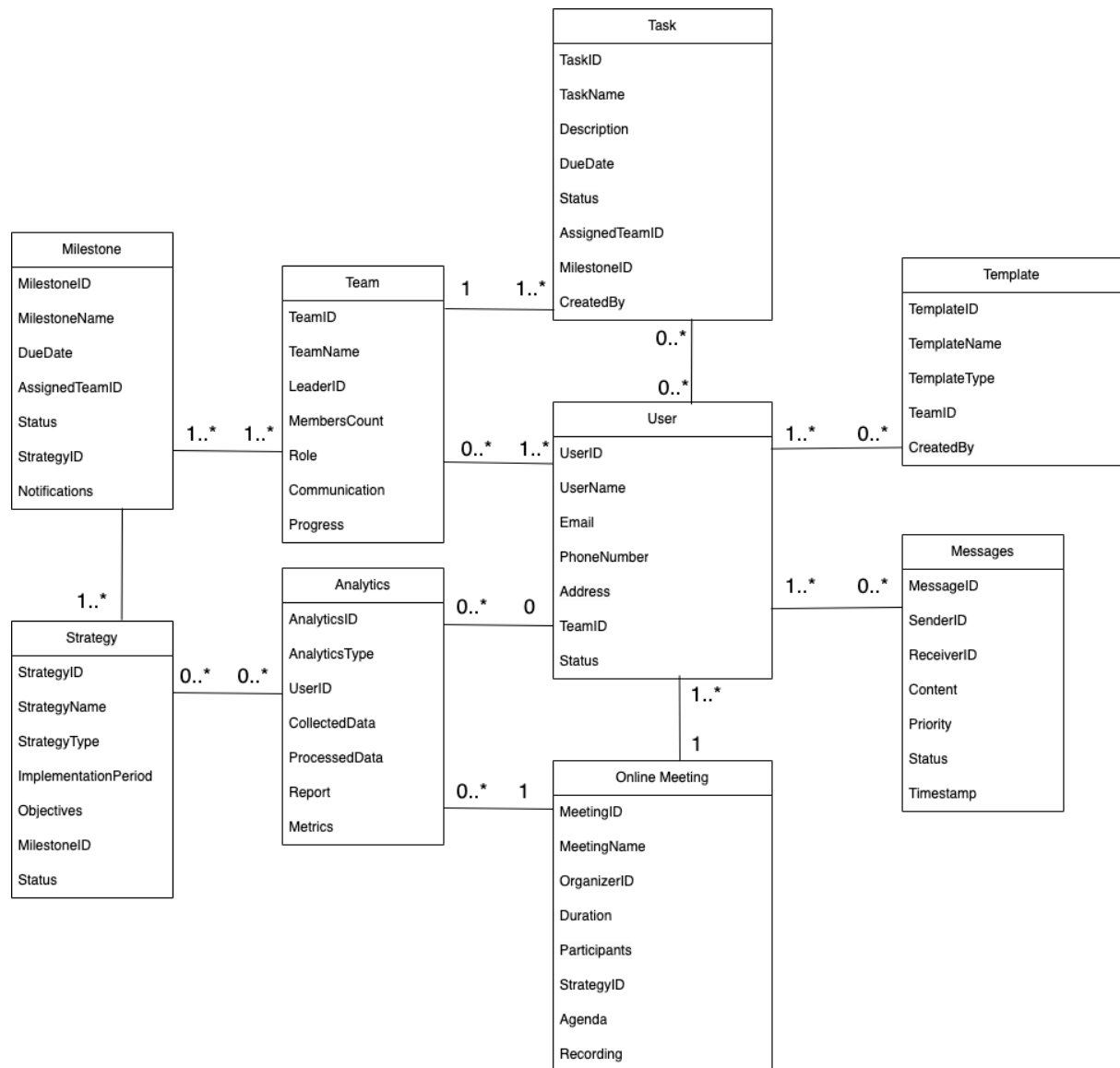
Template	
Template ID	User
Template Name	Team
Template type	
Choose template	
Create template	

Analytics	
Analytics ID	User
Analytics type	Team
Collect data	Strategy
Process data	Online meeting
Generate reports	
Calculate metrics	

Online meeting	
Meeting ID	User
Meeting Name	Team
Meeting organizer	Strategy
Meeting duration	Analytics
Meeting participants	
Provide meeting access	
Manage meeting recording	
Record Meeting Agenda and Notes	

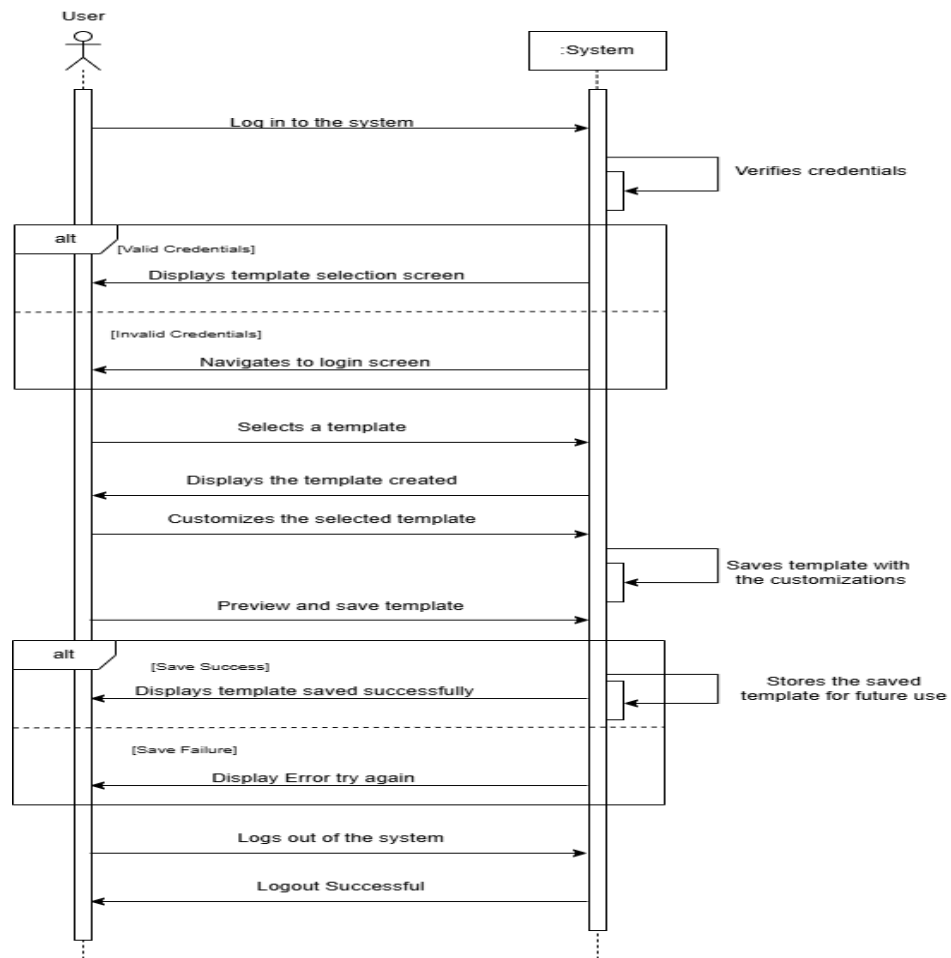
Messages	
Message ID	User
Message Content	Team
Message Sender	Online meeting
Message Receiver	
Message priority	
Message status	
Send message	
Receive message	
Archive message	

Domain Class Model

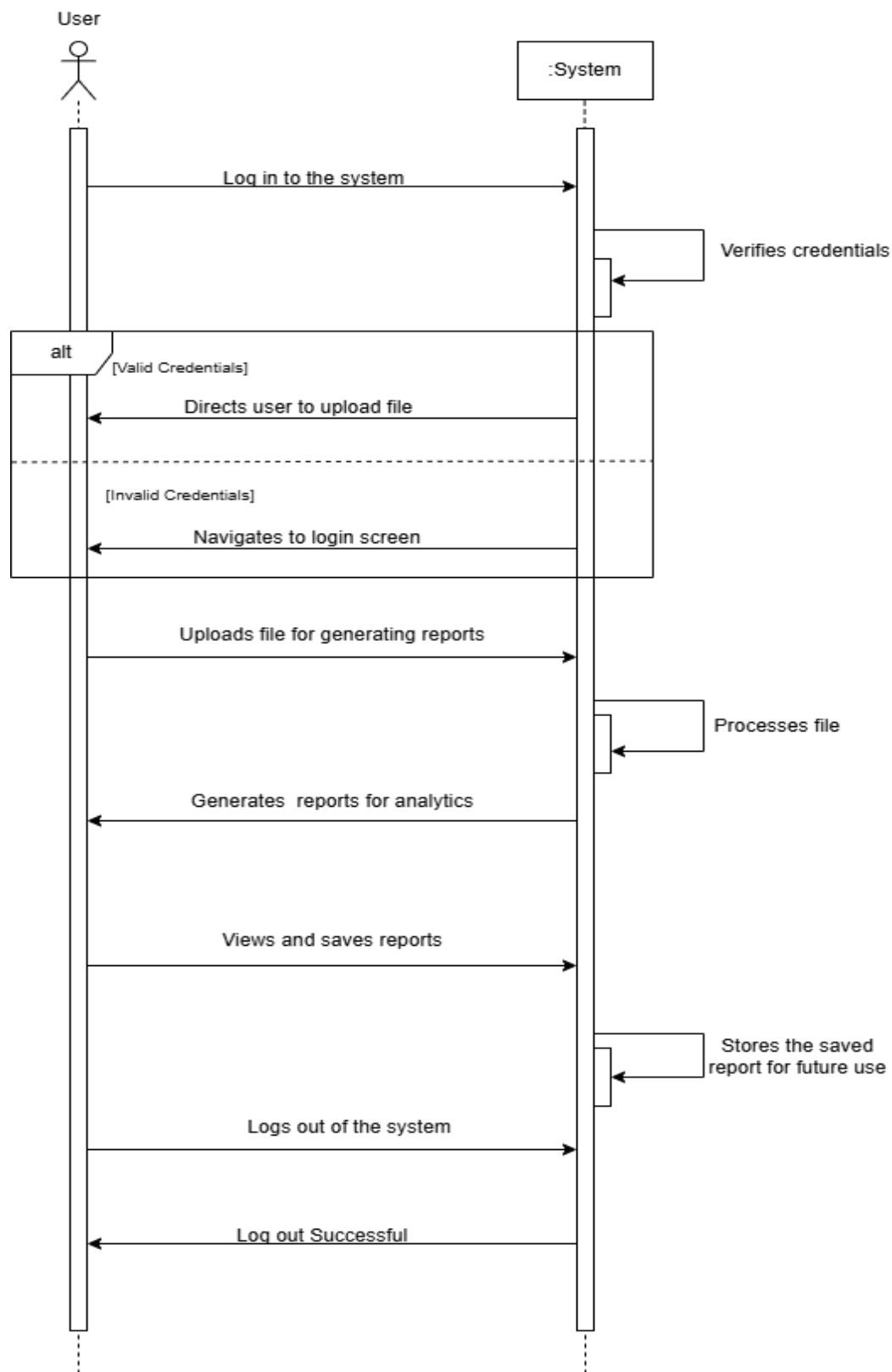


Sequence Diagram

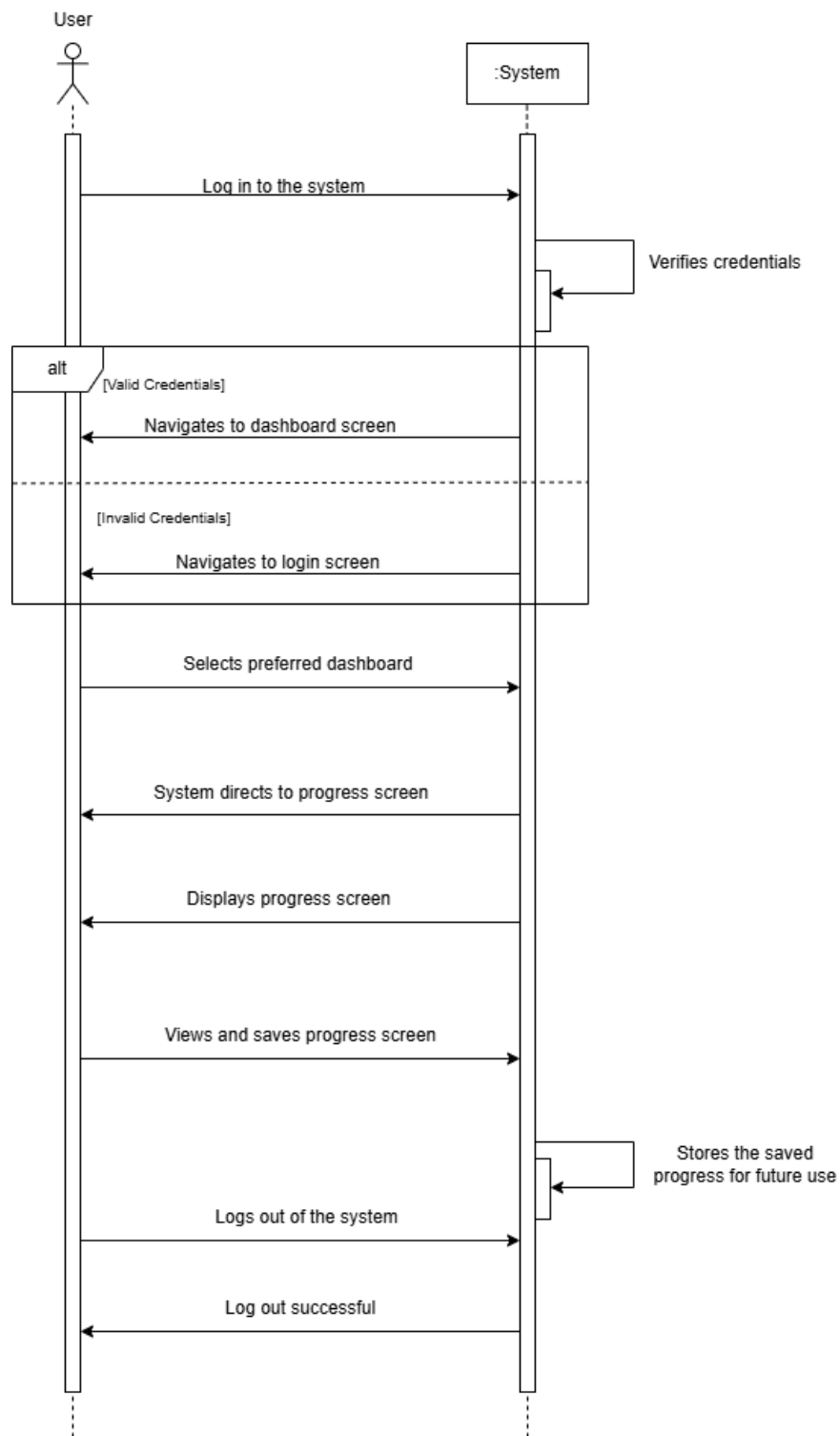
Template



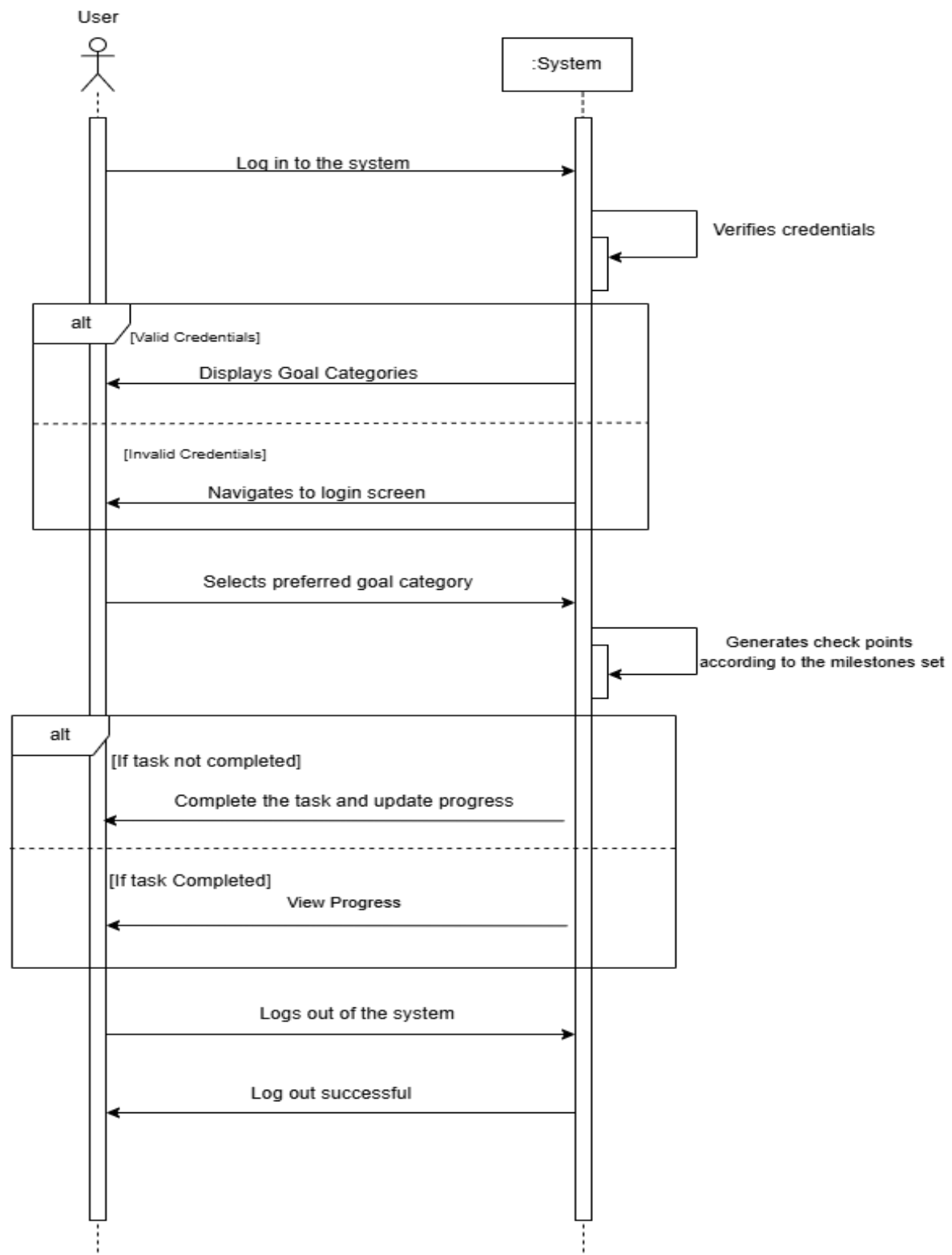
Analytics



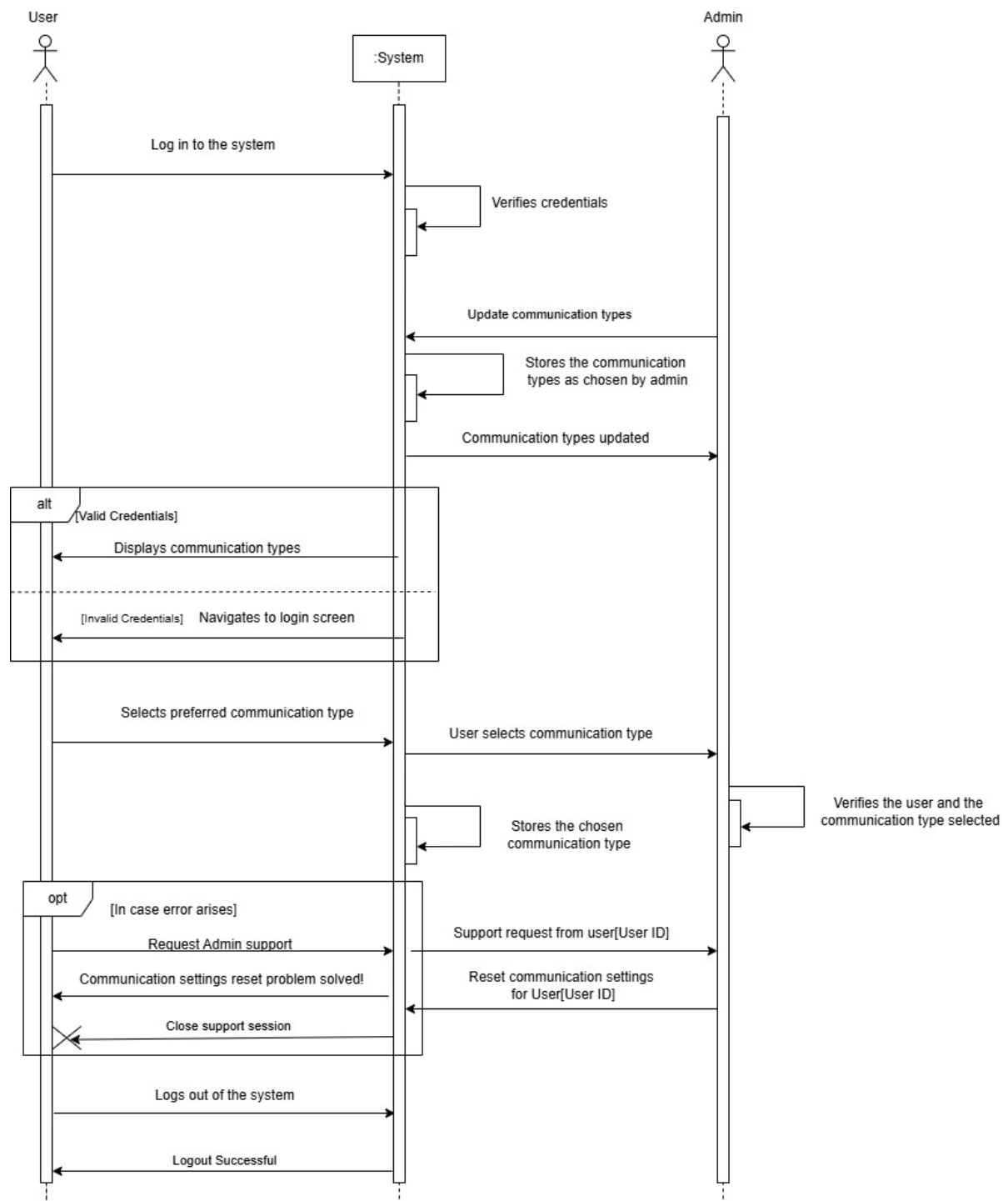
Dashboard



Milestone

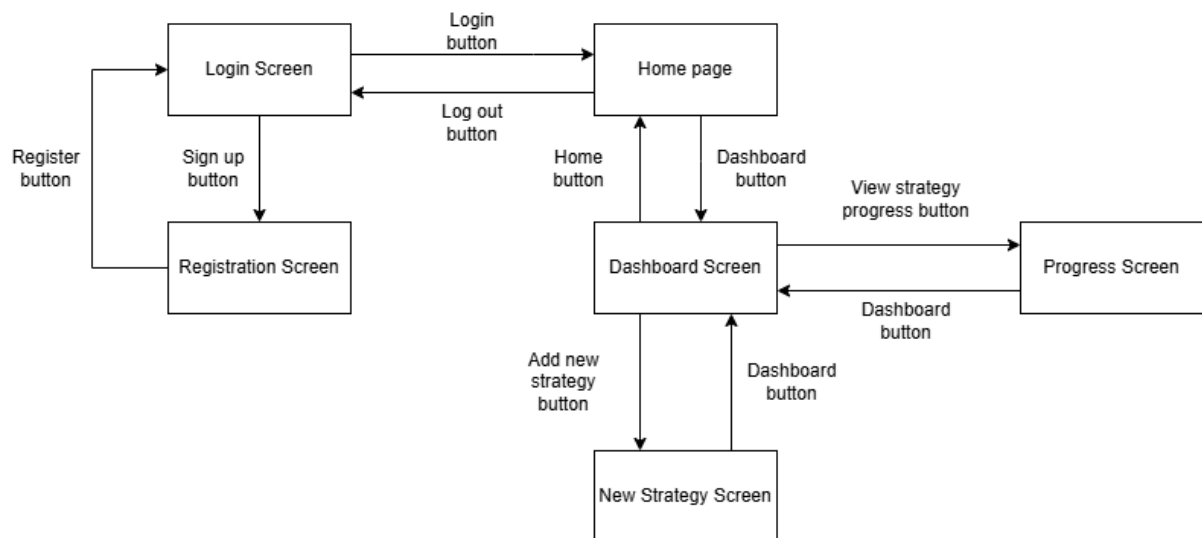


Communication

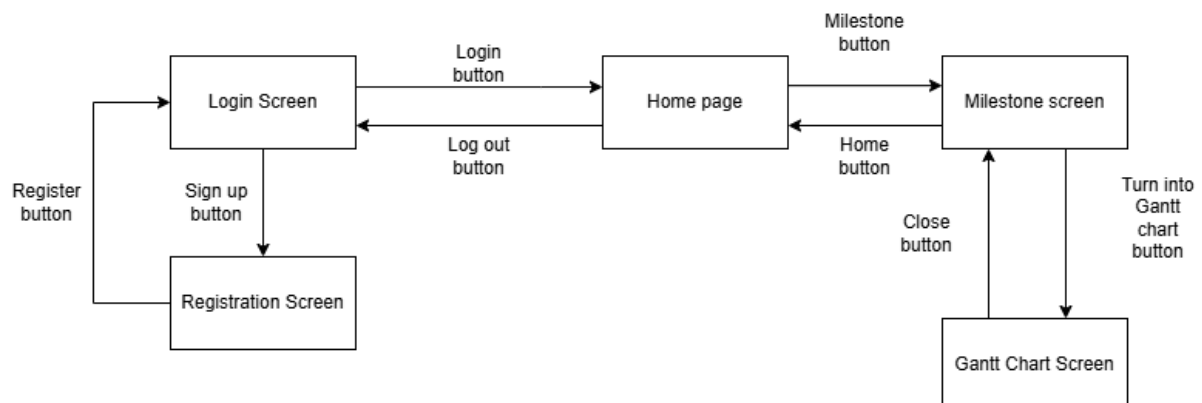


UI Flow Diagram

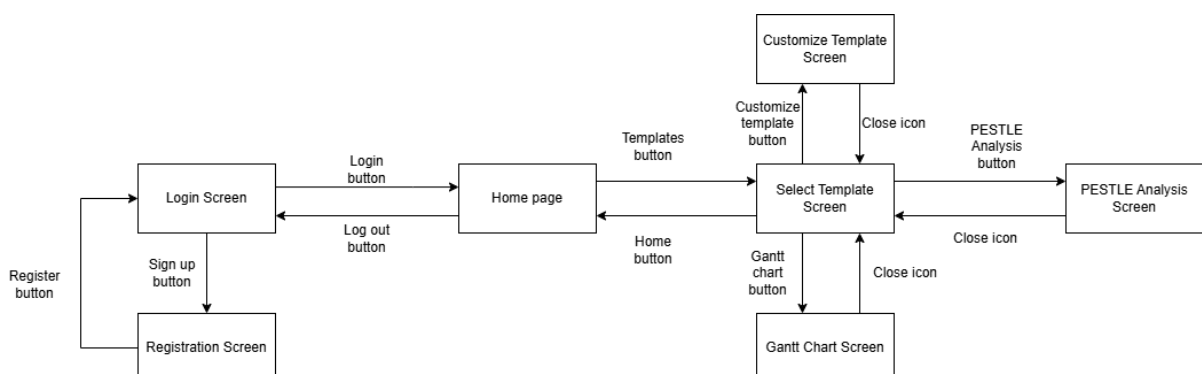
Dashboard



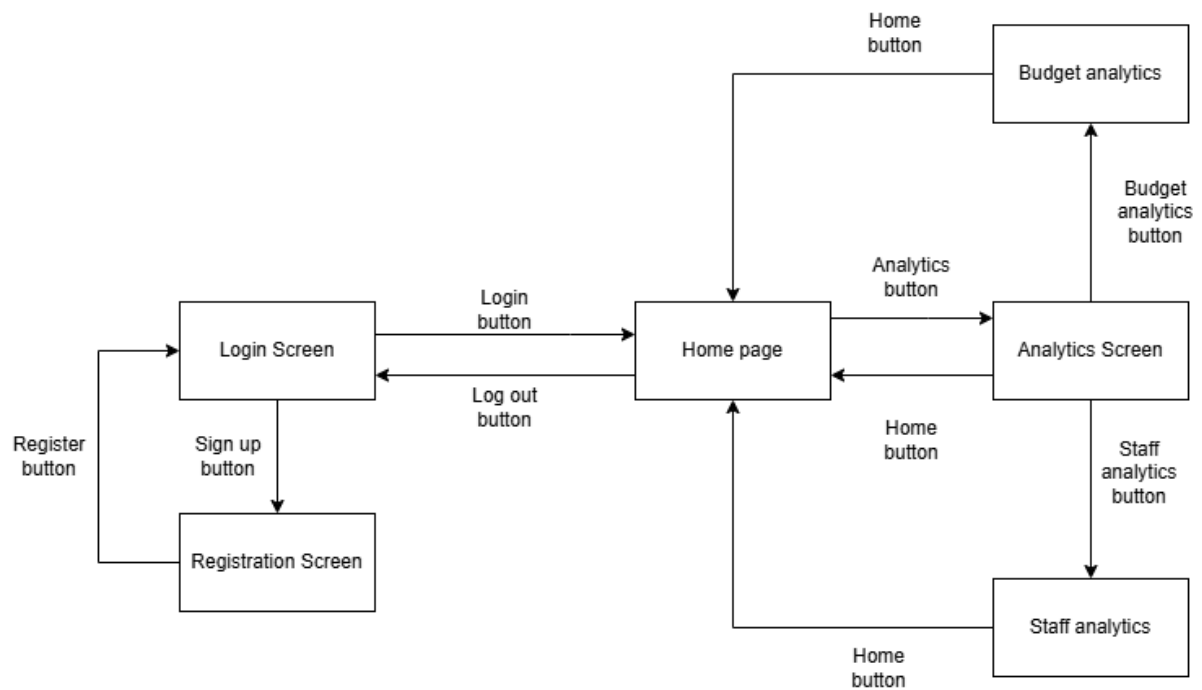
Milestone



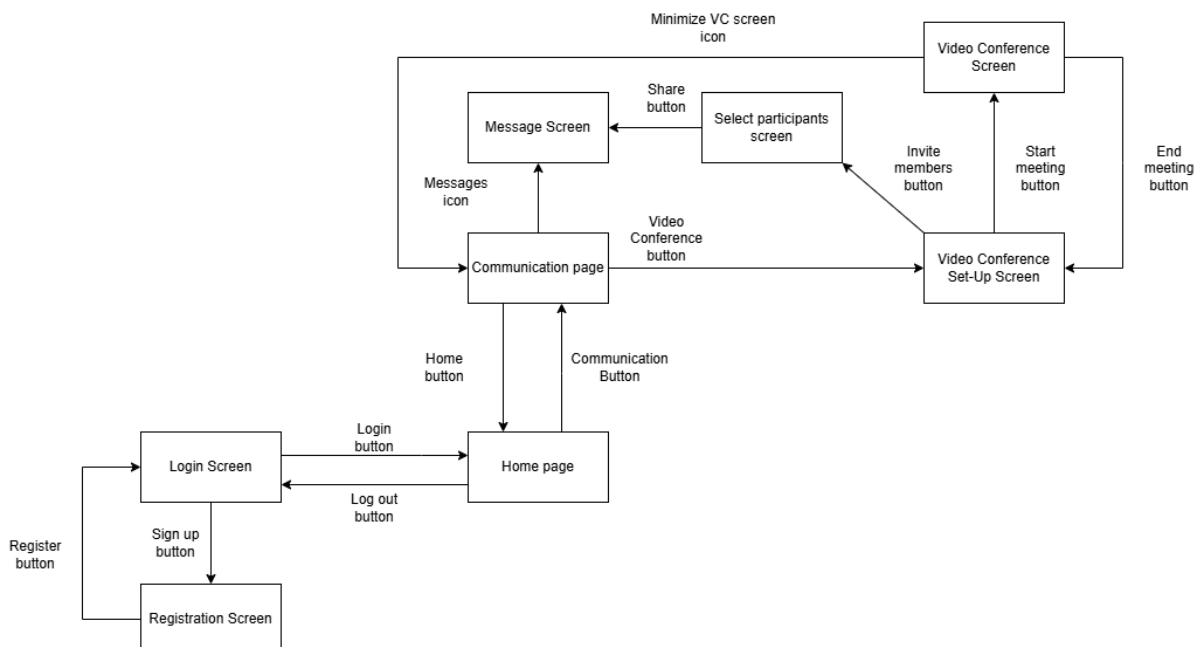
Templates



Analytics

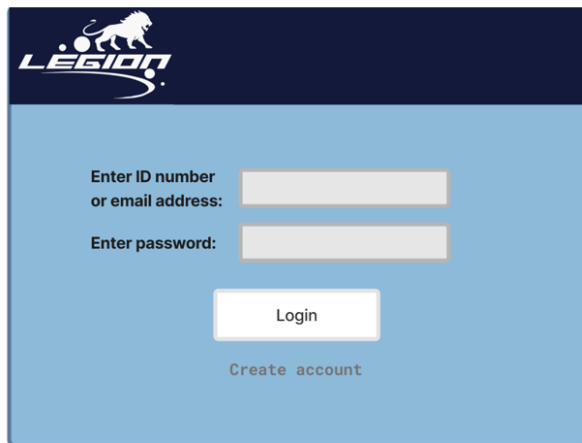


Communication



UI Storyboard

Login and Home Page



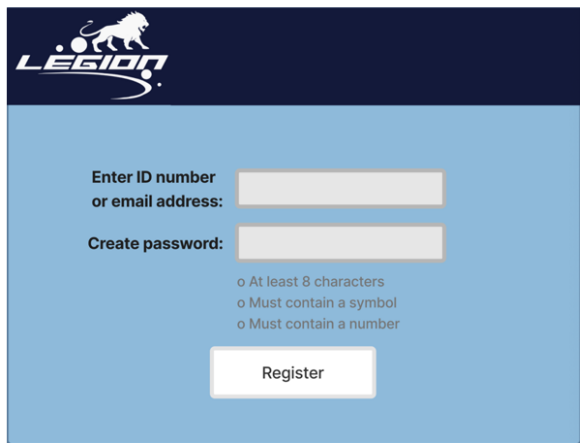
LEGION

Enter ID number
or email address:

Enter password:

Login

Create account



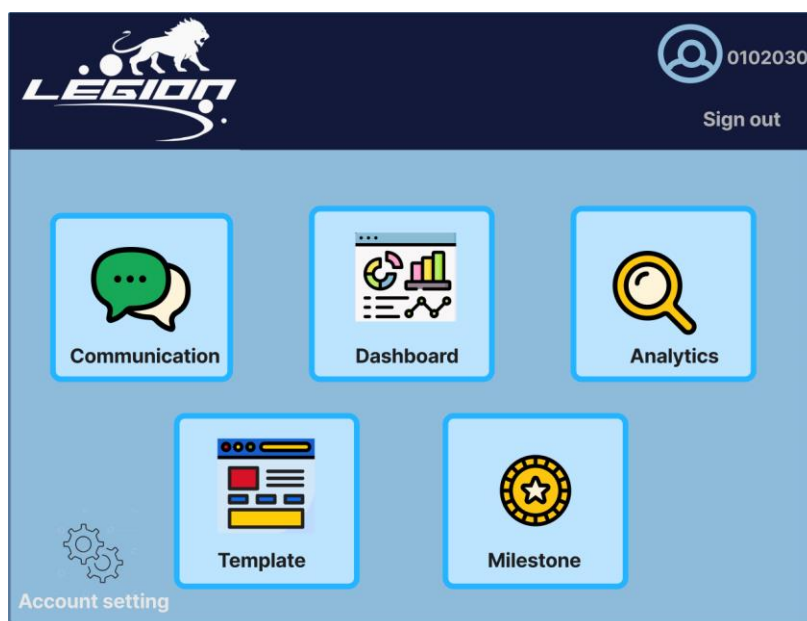
LEGION

Enter ID number
or email address:

Create password:

- o At least 8 characters
- o Must contain a symbol
- o Must contain a number

Register



Dashboard



Communications



Analytics



Templates

0102030
Sign out

Home page

Dashboard

Communication

Analytics

Gantt chart

Pestle analysis

Customizable template

Gantt chart

+ add

Expand all

Collapse all

Search

Assigned	Progress	NOV 2024	DEC 2024	JAN 2025	FEB 2025	MAR 2025
Project Management Software						
Introduction	100%					
Define scope	100%					
Requirements investigation	100%					
Stakeholder approval	100%					
Task allocation	100%					
+ Understanding requirements						
Research and investigation on problem	100%					
Interview with stakeholders	100%					
Functional & non-functional requirements	100%					
Monitor cost and budgeting	100%					
Create use case diagrams	100%					
Define classes and develop class diagrams	100%					
+ System design						
Create database schema	100%					
System architecture diagrams	100%					
API design	100%					
Design network layout and GUI	100%					
Design approval	100%					
+ System integration						
Environment set up	100%					
Implementation of features	100%					
Unit testing	100%					
Logging traps	100%					
Final testing	100%					

PESTLE analysis

P

E

S

T

L

E

Customizable template

+ Text

+ Shapes

Save

Milestone

Milestone

Home page

Communication

Analytics

Template

Task

Task

Task

Members:

Duration:

Members:

Duration:

Members:

Duration:

Turn to Gantt chart

System Architecture

Presentation Tier

The presentation tier handles user interfaces (UIs), that enable effortless communication, data visualization, and functionality. It's designed to meet Legion's growing business needs while ensuring a smooth, reliable, and enjoyable user experience. The main components include:

1. **User Interface:** Includes web and mobile apps, accessible to users and admins. Provide a user-friendly interface for users to access features like strategy planning, communication tools, budget management, and data analytics. Data is presented in an organized way, using dashboards, graphs, and reports making complex data easy to understand at a glance.
2. **Interactive Elements:** These features enable smooth data exchange by allowing users to input data and get meaningful outputs. Furthermore, it helps users in decision-making and planning by analysing past and current data trend.
3. **Integration Framework:** Facilitates synchronization between new and old user interfaces for a seamless transition.

Application layer

Shows the applications business logic. It controls data storage, data retrieval as well as data manipulation.

The components:

User profile service: Stores user details (login credentials) and progress

Task service: Updates and stores task information and details, processes task status and stores it.

Template service: Creates templates, stores templates in the application made by the user.

Analytics service: Generates reports and saves it for the user to be able to reuse, carries out necessary calculations.

Milestone service: updates the status of strategies, processes and stores new strategies and displays progress of each strategy based on provided data.

Communication service: Stores messages, records meeting agenda and notes.

Data Tier

The data tier is responsible for managing all data related processes such as storage and update data.

The components of data tier include: -

User Database: The user database stores the information of the users including names, id, phone number and goals set by the users.

Milestone Database: The milestone database stores the progress of goals as defined by the users. It records goal descriptions, percentage complete for each goal.

Task Database: The task database stores the task descriptions, task deadlines and task status (completed, pending or overdue). Tasks can be associated with milestone to track progress.

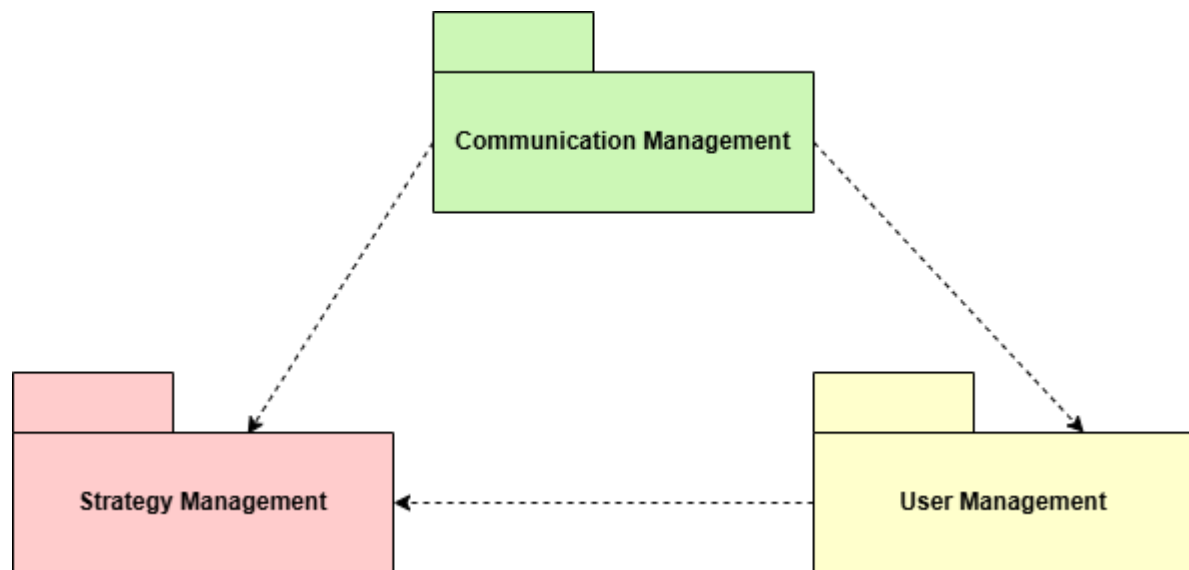
Template Database: The template database stores the reusable templates designed by the users.

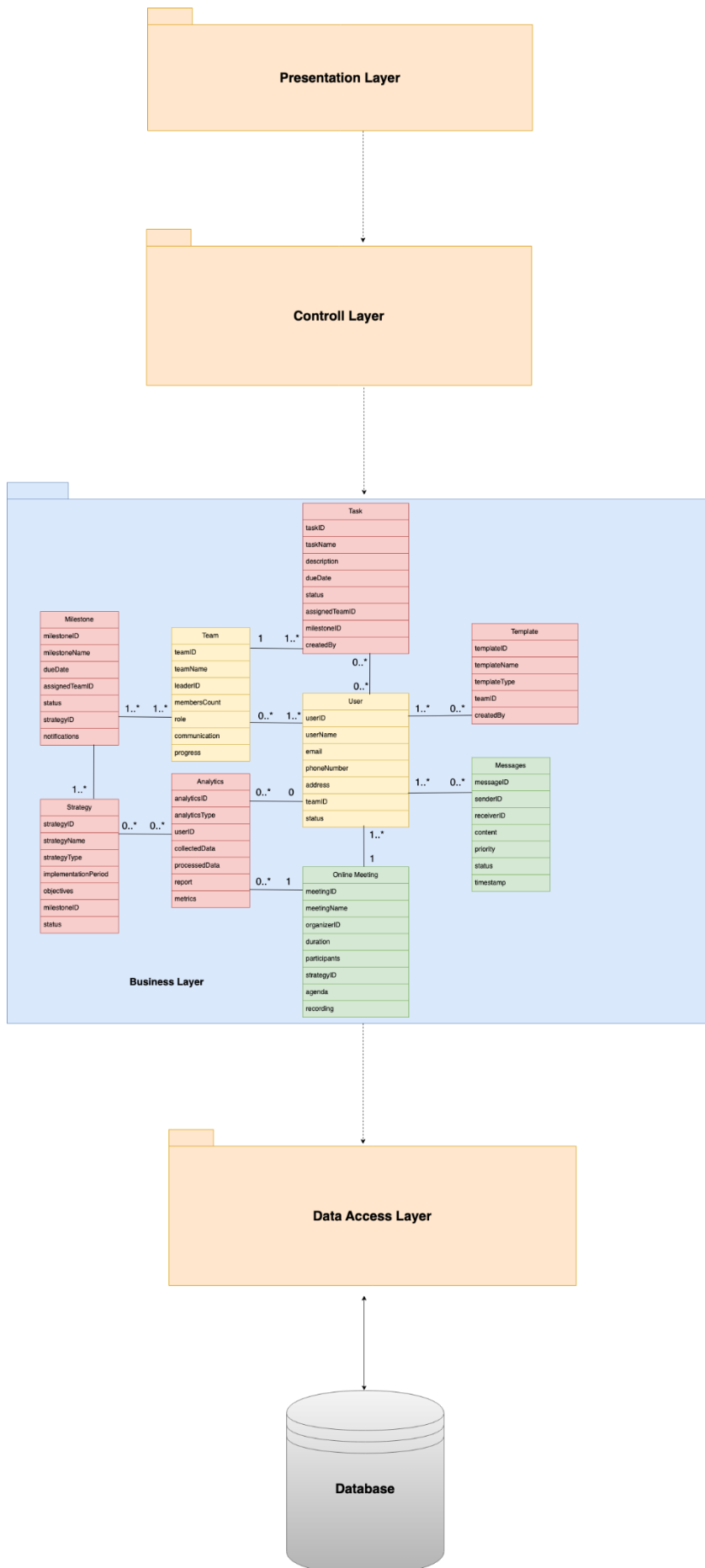
Analytics Database: The analytics database takes input from the users and generates reports and stores the report for future use.

Communication database: The communication database stores the preferred type of communication chosen by the users to personalize how users receive updates and reminders.

In a multi-tier system architecture as the system is separated by distinct layers it can be easily modified and updated without affecting the other parts of the system. Two-tier architecture also enhances security as each layer has its own control system leading to increase in its performance and reliability. This type of structure is suitable for complex and large-scale applications with many users and devices.

Diagrams





References

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