



MYTE

Managing your tasks **efficiently**



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Ministry of Higher Education
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College of Computer Sciences & Information Technology

Myte:

Managing your tasks efficiently

*A project submitted
in partial fulfillment of the requirements for the degree of
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ABSTRACT

Today's households require the same effective responsibility management that professional teams require because families perform equivalent tasks. Most current task management tools were originally created for workplaces but fail to provide essential features that assist parents in teamwork with children and their active involvement. This project fills the current shortfall through its development of a mobile task management system built specifically for domestic functions. Through Myte parents can give multiple children tasks which they can track alongside receiving instant updates with notifications. The app provides media upload features and location tracking thus making it straightforward to instruct tasks and verify completion. Myte implements rewards to inspire family collaboration for chores which results in developing growth through family communication while improving household performance.



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Chapter 1: Introduction



1.1 Introduction

This proposal introduces Myte as a mobile application built to increase organization and responsibility along with family collaboration through its platform. Where parents through the app create household duties that children need to complete which parents track through monitoring systems. Children must perform their assigned tasks to receive points they can use for later reward acquisitions. The system enables parents to track responsibilities effectively while children develop better behaviors because of the positive reinforcement system which additionally lowers friction concerning daily tasks.

Instead of being a simple to-do list platform Myte works as an organized system that structures behavior. Myte functions as a digital task tracker that links professional forms of record-keeping to family interactions while combining user-friendly interfaces with game-based features. Users can move through all features of the app with no interruptions: they start by building family groups then assign and track tasks and finish by adding evidence documents and receiving their rewards. The app targets functionality that streamlines parenting needs while enhancing child motivation to achieve better family cohesion.



1.2 Problem Statement

Modest families usually experience difficulties when handling household responsibilities alongside teaching their kids how to become responsible. Household systems which rely on verbal reminders and physical chore charts alongside whiteboards usually experience forgetfulness issues and lack of motivation from users. Children fail to participate because incentives have no tangible value or delayed delivery.

Most current digital solutions do not achieve success since they either focus on business needs or simplicity or lack understanding of family relationships. Existing digital tools fail to deliver functional reward mechanisms which combine easy child interaction methods and active features that promote family engagement through continuous communication. Myte resolves the identified deficiencies through its system which unites assignments distribution and progress observation with media attachment features and rewards systems that monitor family requirements.

1.3.1 Background

Parents utilized chore assignment as an accountability teaching tool until recent times, but their traditional approaches were basic analog methods such as calendars or verbal agreements and sticky notes. These techniques, though familiar, offer little to no performance monitoring, historical tracking, or motivational reinforcement.

Modern technological progress brought about fundamental changes in productivity tools. Family-based online platforms exist at a lower technological development level than business-oriented systems. The family-specific task management system needs to feature easy-to-use interfaces that support adults along with children alongside configurable task sequences and reward programs. Myte uses behavioral psychology techniques particularly positive reinforcement to maintain sustained responsibility from users



1.3.2 literature review

The design of a family-specific task management system requires an investigation into present tools from productivity domain and parenting domain as well as gamification domain. This section investigates multiple tools in three parts: their significance to the project along with their main advantages and drawbacks.

1. Trello

Trello is one of the most widely used task management tools, particularly valued for its simplicity and flexibility in organizing tasks visually using boards, lists, and cards. Trello allows teams and individuals to collaborate in real time, assigning tasks to different users, attaching files, setting deadlines, and tracking progress through a Kanban-style interface. The platform's intuitive design and the ability to add comments, tags, and custom fields help enhance team collaboration [6]. Trello is especially popular for small to medium-sized teams looking for an easy-to-use tool that can manage workflows and personal productivity.

2. Asana

Asana is another leading task management tool that provides a comprehensive suite of features for team collaboration and task tracking. With its ability to create projects, assign tasks, set priorities, and monitor deadlines, Asana helps teams keep track of ongoing tasks and deliverables. Asana also includes advanced functionalities like timelines, dependencies, and workload management, making it a versatile tool for project management. It is particularly suited for larger organizations that require more structure and control over workflows, from small tasks to large projects [7]. The inclusion of file attachments, comments, and notifications further enhances its role as a tool for collaborative task management.



3. OurHome

Out of the available options OurHome emerges as a specialized application that handles family task organization and management. Features of OurHome comprise the process of assigning tasks to people while using accumulated points to reward basic accomplishments. Its purpose matches Myte yet it lacks sophisticated configuration possibilities and contemporary user interface standards. The application presents an old-fashioned look, and users encounter minimum flexibility to create meaningful tasks together with rewards. Moreover, this platform provides neither external file insert capability nor does it permit location integration nor notification services.

4. Cozi Family Organizer

Cozi delivers excellent capabilities for managing calendars between family members while providing shopping list functionality and reminders to users. Cozi serves as an effective tool for family members to coordinate logistics between each other. The absence of both points-based rewards program and gamer-based elements runs through Cozi Family Organizer. This application emphasizes planning activities above the tracking of responsibilities. The system targets parents primarily and achieves low child involvement because its targeted audience consists of adult users.

5. ClassDojo

ClassDojo operates in schools mainly for student reward programs that celebrate positive conduct and educational achievements. Young users find the learning system attractive because it integrates avatars together with points for the gamified approach. Because it targets classroom activity management its functions remain restricted to the educational environment beyond school hours. Myte adopts the same behavioral model structure as Myte yet specifically tailors this approach to address family requirements.



6. FamJam

The family organizer application FamJam operates using a task structure with additional gamified elements. Users can create assignments for chores and children obtain points through this system. The platform maintains a modest user count and falls short in essential capabilities related to location marking and extended media content posting and customizable incentives. The Myte platform aims to create a better engaging solution with advanced backend service compatibility.

7. Google Tasks

Google Tasks is a simple and easy-to-use task management tool that is well integrated with other Google services such as Gmail and Google Calendar. Users can create tasks, set deadlines, and add subtasks. While it lacks the robust features of some other task management platforms, its seamless integration with the Google ecosystem makes it a convenient tool for individuals and small teams who are already using Google's suite of apps. Google Tasks is ideal for users who want a lightweight, no-frills task manager that is easily accessible within their existing workflows.

8. Microsoft To Do

Microsoft To Do is a task management tool designed to integrate with Microsoft 365, providing users with a simple, yet effective way to manage tasks. It allows users to create to-do lists, set reminders, prioritize tasks, and track progress. Microsoft To Do also integrates with Outlook, allowing users to synchronize their tasks and emails seamlessly. Its focus on simplicity, coupled with powerful integrations within the Microsoft ecosystem, makes it an excellent tool for both personal productivity and small teams.



1.4 Motivation

The development of Myte took place due to the evident difference between tools for productivity and assistive applications for parenting. Families experience problems using current apps as these applications either attempt vague solutions or neglect the particular emotional and behavioral requirements of families. Parents find it difficult to build responsible conduct with their children when children fail to see motivation for dutiful task completion. Myte offers parents a balanced solution that incorporates tracking features together with digital rewards enabling a fair method and efficient approach.

Games integrated into household chores convert ordinary household work into accomplishments that players can achieve. The progress feedback combined with visual confirmation helps users develop their behavioral abilities through this process. Through its development platform Myte creates family bonds while promoting teamwork while rewarding participation which creates tasks into shared activities for constructive family bonds.

1.5 Justification

Digital parental tools face rising interest because they surpass traditional capabilities of content restriction and screen time management. The current demand on households includes seeking motivational tools which incorporate children's needs for productivity solutions. Myte presents a multi-role system that features behavioral reinforcement while general task management tools mainly serve individual and team productivity needs.

The application finds justification from both its unique features and its importance to society. Children need early instruction in responsibility skills and time management besides accountability training to build essential life capabilities. Standard devices available in every household enable Myte to provide this practical and fun and measurable service.



1.6 Aims & Objectives

A user-friendly mobile application development stands at the core of this project to enhance household organization capabilities alongside family collaboration features. Through this system parents can manage their tasks, and their children will interact with the system through tracked progress reports alongside rewards earned through point accumulation.

Objectives:

- Enable parents to create family groups and invite members
- Allow parents to create tasks with deadlines, descriptions, media, and location info
- Let children view tasks, submit completion proof, and track their points
- Implement a reward system configurable by parents
- Provide notifications for upcoming or overdue tasks
- Allow toggling between light and dark mode
- Integrate basic user profile and settings features
- Ensure secure user authentication via email, username, or phone

By achieving these objectives, Myte will offer families a meaningful tool for both household management and behavioral development — improving productivity while making the process fun and interactive.



1.7 Scope / Limitation of the Study

The proposed mobile application enables parents to give tasks to their children for monitoring their progress while using reward systems to motivate them. The application will present core organizational features together with deadline tracker functionality and progress monitoring and it will enable users to exchange rewards between members. Advanced capabilities such as comprehensive calendar connections and business analytics or time log tracking exceed the boundaries of what this project should contain. The main project focuses on making family task distribution easier while designing an interface that rewards children with games for following their assigned routines.

1.8 Significance of Study

The research brings forward a functional task management solution which was created to fulfill family-specific requirements. Myte enables parents to give responsibilities to children while helping them take active ownership of their assigned duties thus building responsibility together with consistency and routine at home. The system enhances family communication while improving collaboration and rewards positive behavior through organized reward systems. Myte differs from other to-do apps because it concentrates on typical family interaction patterns to deliver household solutions instead of workplace group features.



1.9 Professional and Ethical Implications

Professional Responsibilities

- Designers and developers must follow established industry standards both when building software and when implementing database management systems which handle personal data within a broad range of users. For Myte, professionalism includes:
- The design implements secure software practices which fulfill SQL and application-layer security standards to defend data integrity and eliminate bugs and SQL injection exploits.
- Quality coding practices that use modules enable the application to grow by implementing features including analytics and parental controls.
- User-Centered Design puts forth an accessible and intuitive interface which serves both tech-savvy parents and their young children who are less skilled digitally.
- The application reveals all operational procedures with clear documentation about reward point computation methods and task validation procedures.



Ethical Considerations

- The company should follow ethical standards because it handles data from children together with family relationships plus the opportunity for tracking their behavioral patterns.
- Child Protection causes every aspect dealing with children to have safety and privacy built into their design parameters since children are involved. Data sharing with external entities as well as profiling are never permitted.
- Parents need complete disclosure about what data Myte collects from its features and its complete storage practices and data using (for instance images and task logs and location links). The participation of children in features requiring personal data must have guardian supervision or must receive explicit permission from a guardian.
- Users should have restricted data access through MYTE software to only fundamental functionality-related information. The application needs to avoid requesting superfluous permissions along with unnecessary storage or handling of personal information.
- The digital reward distribution method is needed to prevent dishonest or unacceptable manipulation which drives children toward excessive engagement or unregulated competition. Healthy habits combined with collaborative behavior should be encouraged by the offered rewards.



1.10 Project Organization

This chapter presented an overview of the Myte app by outlining its objectives, purpose, and relevance in improving family task management. It discussed the background of task management tools and the motivation behind developing a solution specific to households. The chapter also clarified the scope and limitations of the project, explained its potential impact, and reviewed ethical considerations related to software development for families. The following chapters will expand on the system design, features, technical specifications, and implementation strategies for building the application.



Chapter 2: Project Plan



2.1 Overview

2.1.1 Project Summary

"Myte" functions as a mobile application which specifically optimizes family task execution and organization through its capabilities. The app serves as a single interface where parents both set household responsibilities for children and track their work along with confirming finished chores. Children access assigned tasks from the platform before they upload media evidence to receive points that parents specify as rewards. This mobile application delivers features like real-time alerts in addition to deadline-based task delegations and media sharing capabilities and it links with location system functions. Improving home productivity stands as the main goal while using a reward system to enhance both responsibility and engagement among younger family members.

2.1.2 Purpose, Scope, and Objectives

2.1.2.1 Purpose

Myte serves to develop a mobile system that digitizes household task coordination while enhancing family communication through digital task assignment and completion. Myte offers digital assignment of chores and provides gamified motivational features to replace traditional methods that use verbal reminders or whiteboards. The application establishes family engagement and accountability to create structured family routines which brings out children's responsibility through enjoyable organized tasks.

2.1.2.2 Scope

The task-focused application concentrates on necessary features that support task management between family members. The application enables parents to establish family groups followed by task assignments to their children while setting deadlines and requiring suitable proof submissions from child users via media uploads. Children need



to submit their finished tasks for parental review before getting approval. The implementation of a points and rewards system will create an incentive system that reinforces responsibility among users. User profiles are available together with notifications and status updates and the light/dark mode option alongside task status updates. This version will lack support for sophisticated capabilities including entire calendar integration, recurring assignment automation and advanced analytics systems.

2.1.2.3 Objectives

The main goal of this project involves developing a mobile application that enables organized household duties along with specific task assignments and positive behavior promotion. The application allows parents complete task definitions with time constraints alongside monitoring features which children can access through simplified interface to perform and submit assigned tasks. The application utilizes a points system that functions as its core reward mechanism to enable children to gain points by finishing tasks which they can subsequently convert into parent-set motivational incentives. With secure authentication and media management and notification capabilities the application provides a clean user interface for supporting these processes.

2.1.3 Assumptions and Constraints

2.1.3.1 Assumptions

The Myte platform relies on the premise that families who want to use it must possess both smartphones and knowledge of mobile application functions. Myte requires parents to work with the system for defining tasks and defining rewards while children experience the app through structured engaging activities. The system depends on consistent internet access to enable live synchronization and automatic alerts. The platform has to offer adaptable reward options which families can customize according to their specific family beliefs and everyday routines.



2.1.3.2 Constraints

The first version of Myte will not enable advanced features that include calendar integration and AI-based activity predictions and intricate scheduling capabilities. Development of Myte as a mobile app will limit software availability to smartphones that run Android or iOS with no support for tablets or computers. The design of interactions will include privacy protections for all cases, especially when children are present while keeping exposure to a necessary minimum. Parent accounts will retain sole access to reward features and system approvals while remaining in control of the data protection measures.

2.1.4 Project Deliverables

A mobile application with family-oriented features will be developed by this team while also receiving complete documentation and design materials. The deliverables will follow an academic schedule through phased submissions that begin with the initial proposal then proceed to the problem statement and end with the mobile app project. Consecutive phases of the project lead from the initial proposal to problem statement and system requirement specifications (SRS) to software design specifications (SDS) for the delivery of a tested mobile application in the final project report.



Table 1: Project Deliverables

#	Clause	Dates	Weeks
1	Proposal discussion	Week of 18/08/2024	1-2
2	Problem statement	Week of 01/09/2024	3-4
3	Project plan (SPMP)	Week of 29/09/2024	5-6
4	Midterm report	Week of 06/10/2024	7
5	System requirements (SRS)	Week of 20/10/2024	8-9
6	Initial design (SDS)	Week of 27/10/2024	10
7	Final design	Week of 24/11/2024	11-13
8	Final report	Week of 01/12/2024	14

2.1.5 Master Schedule and Budget Summary

2.1.5.1 Master Schedule

The table below shows the master schedule for the project.

#	Clause	Time
1	Proposal discussion	2 weeks
2	Problem statement	2 weeks
3	Project plan (SPMP)	3 weeks
4	Midterm report	1 week
5	System requirements (SRS)	2 weeks
6	Initial design (SDS)	1 week
7	Final design	3 weeks
8	Final report	1 week

Table 2: Master Schedule



2.1.5.2 Budget Summary:

The total development expenses for Myte amount to SAR 265. The budget includes expenses for database management together with server hosting but relies on no-cost tools for development and design work. The storage and crash tracking functions of MyTe rely on Firebase and AWS infrastructure which operate under the free-tier model.

Development Tools: SAR 0 (Free tools like Flutter, Android Studio, Xcode)

Testing Devices: SAR 0 (Personal devices used)

Cloud Services: SAR 10-15 (AWS S3 beyond free-tier usage)

Bug Tracking Tools: SAR 0 (Using free Firebase Crashlytics)

Database Management: SAR 150 (For setup and hosting)

UI/UX Tools: SAR 0 (Free versions of Figma or Balsamiq)

Server/Hosting Costs: SAR 100 (Outside free-tier plans)

Total Estimated Budget: SAR 265

2.1.6 Evolution of the Plan

The Myte project plan will transform through development feedback and testing results and supervisor guidance. Meeting sessions occur on a schedule to evaluate progress and solve problems and maintain priority alignment. Updates through reviews help both technical and practical teams stay on their designated goals while overseeing potential implementation challenges.



2.1.7 Document Structure

Abstract: Summary of the project's purpose, features, and goals.

Project Summary: Brief overview of Myte App's purpose, features, and goals.

Project Deliverables: List of milestones

Master Schedule and Budget Summary: Timeline for the project's key phases

Evolution of the Plan: Regular updates, supervisor feedback, and plan adjustments throughout the project lifecycle.



2.4. project organization

2.4.1. External interfaces

The Myte application functions to serve both internal users within the system and external program-related parties. The primary end users of Myte consist of family members where parents along with their children serve as the main participants. Within Myte parents have two main functions which include establishing family accounts and giving assignments while granting approval to child work and administering rewards. Children within the system can view their given assignments, submit images as completion documentation and check their gathered points. The app incorporates specific roles that create organization for user behavior while the third-party system Firebase provides backend abilities through real-time database technology and user authentication and media storage features. The app utilizes Google Maps for incorporating task destination points. Functionally robust interfaces within the app design make it easy to use and operate smoothly across different members and their devices.

2.4.2 internal structure

The internal structure defines how the project team is organized to facilitate efficient communication, collaboration, and the delivery of project objectives. It includes a hierarchy, roles, and responsibilities that drive accountability and streamline workflow.

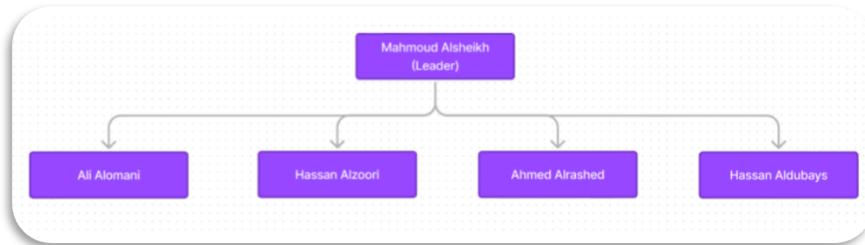


Figure 1: internal structure



2.4.2.1 The Project Manager

The Project Manager plays a central role in organizing, overseeing, and ensuring the project's successful execution. Their responsibilities include:

- **Project Planning:** Scoping the project, defining objectives, timelines, and deliverables.
- **Resource Management:** Allocating resources, including team members, tools, and technologies, to meet project demands effectively.
- **Team Coordination:** Managing collaboration among developers, designers, and testers.
- **Risk Management:** Identifying potential risks and ensuring the project remains on track.

2.4.3 project roles and responsibilities

The project team includes several roles, each contributing to different development aspects. Clear role definitions are essential for effective task execution and timely completion. Key roles and responsibilities include:

- **Project Manager:** Responsible for overseeing project planning, execution, and successful completion. This includes coordinating team efforts, managing resources, setting deadlines, and ensuring the project stays aligned with scope, time, and budget. Additionally, the Project Manager ensures clear communication with team members and stakeholders, resolves conflicts, and adapts to any changes in the project scope as needed.



2.5. Management Process

2.5.1 Start-up

2.5.1.1 Estimation

It is proposed to be implemented in 4 months, starting from the next semester. To ensure the expenses are kept as low as possible we will be sourcing materials that are either cheap or come without a price tag all together. To achieve this, we will be using Flutter SDK and IDEs, which include the Android Studio for the android application and Xcode for developing the iOS application and all this are free for development. The testing will be carried out on personal Android and iOS devices, hence there are no extra costs in testing devices.

For cloud services, we have AWS S3 to use for storage and AWS S3 backend services, we anticipate being spending around SAR 10 – 15 givens that we use more than what is covered in the free tier. Also, Firebase for crash reporting and repulsive for bugs tracking will be used during the development while posing minimal or no charges at all. Database management is expected to cost SAR 150, With server hosting outside the free-tier plan, if required, costing an expected SAR 100. When it comes to the UI/UX design the open-source tool like Figma or Balsamiq will be used for prototyping purposes.

Overall, the cost parameters for them are estimated to be SAR 265 in total. This includes any costs associated with cloud services, databases, and what it could cost to host any server.



2.5.1.2 Staffing

The following table outlines the staffing plan for the project, detailing each team member's role and the duration of their involvement.

Table 3: Staffing Table

Team Member	Role	Skill Level	Duration (Months)
Mahmoud Alsheikh	Project Manager / Backend Developer	High	4
Ali Alomani	Frontend Developer (UI/UX)	Medium	4
Hassan Aldubais	API Integration / Backend	Medium	4
Hassan Alzoori	Testing / Quality Assurance	Medium	4
Ahmed Al-Rashed	Documentation / Frontend Developer	Medium	4

2.5.1.3 Resource Acquisition

The project requires the acquisition of:

Development tools: Flutter SDK, Android Studio (free), and Xcode (for iOS testing).

Testing devices: Access to Android and iOS phones for testing. Each student is expected to use their own devices, so no extra purchases are needed.

Software licenses: None required (using open-source software).

Cloud resources: Potentially, a free-tier hosting platform like Firebase for backend services.



2.5.1.4 Staff Training

We will carry out self-training in our group to ensure that we gain the relevant skills in developing the app on the chosen platform. Each of us will spend enough time to learn the development framework, and equally, both front-end and back-end technologies will be learned. Online resources include official documentation, tutorials, and courses that we will use to gain a better understanding of the involved tools and technologies.

Training will be self-paced and distributed over the first month of the project, with an emphasis on collaborative learning and knowledge sharing. Each member will focus on specific areas based on their assigned roles, ensuring comprehensive skill development across the team.

2.5.2 Work Planning

2.5.2.1 Work Activities

The following Work Breakdown Structure (WBS) shows the general areas and subareas in the efficient management of a project. From Project Initialization where goals are set, objectives developed and team meetings held, it follows by the Planning and Requirement Phase which encompasses users' feedback, documented requirements, functional and non-functional specifications. The flow of the Design Phase is the creation of SDS, prototyping, and the design of databases. This is then succeeded by the Development Phase, which involves front-end and back-end development and APIs as well. In the Testing Phase, the sub systems are tested, problems are resolved, and user acceptance testing is done by the users. Last of all, the Project Closure Phase includes the review meeting, activity of identifying lessons learnt, and filing of materials for future use. This manner of structuring the approach guarantees a holistic approach in the management of the projects from the initial phase to the last phase.

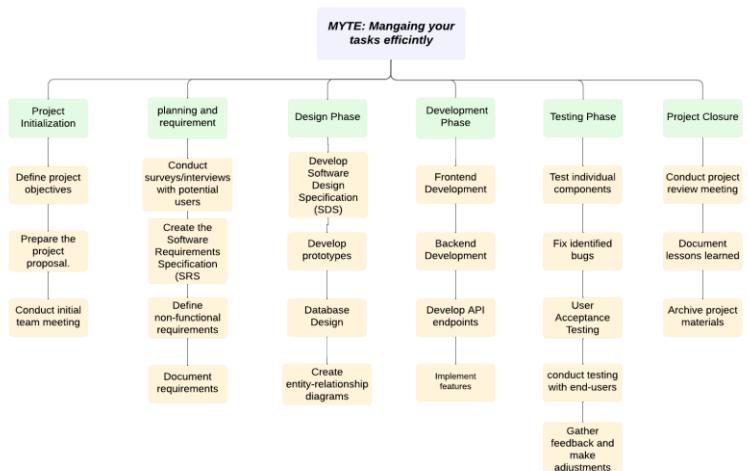
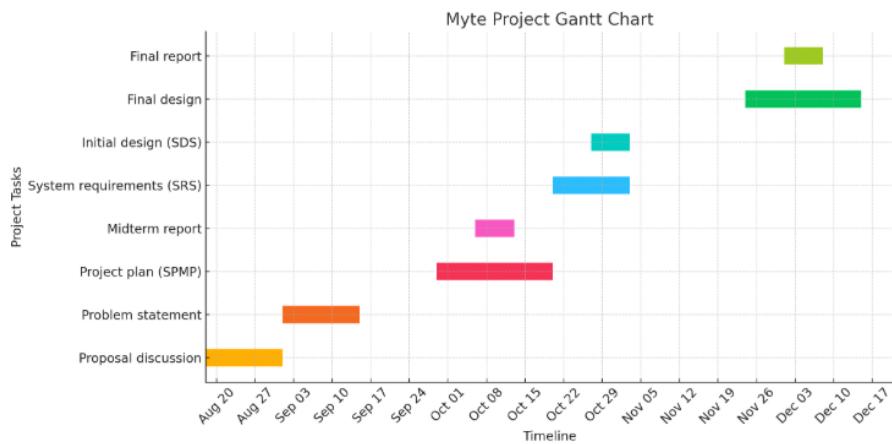


Figure 2: Work Breakdown Structure (WBS)



2.5.2.2 Schedule Allocation

Below is the schedule allocation for our project "MYTE: Managing Your Tasks Efficiently." The other important aspect of project management is project schedule organization. It refers to the process of completion of the tasks in the schedule. A Gantt chart, as shown above, gives an overview of the first semester; it points out approximately when specific activities will take place and gives a visual model of the development of the project. This schedule helps in working in a methodical manner and allows completion of the project on time, being sure that all the required components are solved on time.



2.5.2.3 Resource Allocation

This table outlines resource allocation for a software development project, detailing activities, personnel, and tools used. Tasks include requirements gathering, UI/UX design, backend/frontend development, testing, and bug fixing.

Work Activity	Personnel	Tools and Resources
Requirements gathering and finalizing features	Ahmed Al-Rashed Ali Alomani Hassan Aldubais Mahmoud Alsheikh	Figma/Adobe XD, GitHub, Slack
UI/UX design and prototyping	Ali Alomani Mahmoud Alsheikh	Figma/Balsamiq, GitHub
Backend development	Ahmed Al-Rashed Hassan Aldubais	Flutter, Android Studio, Xcode, GitHub
Frontend development and integration with backend	Ali Alomani Mahmoud Alsheikh Ahmed Al-Rashed Hassan Aldubais	Flutter, Android Studio, Xcode, GitHub
Testing and quality assurance	Hassan Alzoori Hassan Aldubais Ali Alomani	Real devices, emulators, Firebase
Bug fixing, deployment, and final testing	Hassan Alzoori Hassan Aldubais Ali Alomani	Real devices, Firebase, GitHub



Table 4: Resource Allocation Table

2.5.2.4 Budget Allocation

Category	Estimated Cost (SAR)	Details
Development Tools	0	Flutter SDK, Android Studio, and Xcode are free.
Testing Devices	0	Team members will use their personal Android/iOS devices for testing. No additional purchases required.
Cloud Services	10-15	AWS S3 for storage and backend services. Costs are estimated for storage and hosting beyond free-tier usage.
Bug Tracking & Testing Tools		Tools like Firebase Crashlytics for monitoring performance and tracking bugs during development.
Database Management	150	Estimated cost for database setup, management, and hosting, if additional resources beyond free-tier services are required.
UI/UX Design Tools	0	Free versions of Figma or Balsamiq for prototyping and design.
Server/Hosting Costs	100	Estimated for server hosting outside of the free-tier plan, if necessary.



Total Estimated Budget	265
------------------------	-----

Table 5: Budget Allocation Table

2.5.3 Project Controls

2.5.3.1 Requirements Control

Changes to requirements will be managed through weekly meetings where any modifications will be discussed and documented. A simple change control process will ensure that all team members agree on the scope and impact of changes.

2.5.3.2 Schedule Control

We used WhatsApp to manage meetings and review sessions.

2.5.3.3 Budget Control

Budget performance will be reviewed monthly, comparing actual expenses with estimated costs. Any variances will be discussed, and necessary actions will be taken to bring the budget back on track.

2.5.3.3.1 Cost Management.

Cost management involves tracking the project's expenditures to ensure that spending remains within the allocated budget. The project budget, estimated at SAR 265, will be divided into specific categories such as development tools, cloud services, and incidental costs. Each expenditure will be recorded and compared against the original estimate to ensure that costs remain under control. Any significant deviations will be addressed through cost adjustments or reallocation of funds. Monthly reviews will be conducted to identify any cost overruns early and to implement corrective actions where necessary.



2.5.3.3.2 Methods to Ensure Cost Adherence.

Regular Monitoring: There will be a dedicated budget tracking tool used to keep the focus on the expenditure. This will help us to see how actual spending differs from what we project as we spend.

Pre-Approval for Expenses: The project manager must approve of any new or unexpected expenses before being incurred. It will ensure no unnecessary or excessive spending.

Utilization of Free Resources: With that in mind, we will be able to pick tools and services that work where possible on the open-source tool set and free tier services like you may have heard of Firebase.

2.5.3.4 Quality Control

The quality control plan for the project includes the processes being used to produce the work products as well as the resulting product having the desired level of quality. It is crucial to achieve a good project that satisfies the functional and nonfunctional requirements.

The quality control mechanisms employed in this project include:

Verification and Validation: Verification of deliverables like code, documentation and design prototypes will be done to assert that each works in accordance with the requirement it is supposed to meet. To validate it will be done through user acceptance testing (UAT) to ensure that what is finally being provided meets the user's needs.

Quality Assurance (QA): QA will look forward to have a dedicated QA team member monitoring continuously the development process in order for the agreed in quality criteria's to be met in all the stages. That will mean manual testing, automated testing, code reviews, compliance with industry standards.

Bug Tracking and Resolution: A defect tracking system will be used to record, prioritize and fix defects encountered as the results of the gap between development and testing phases. The purpose is to reduce the number of defects and respond as soon as possible to maximize the entire product's quality.



2.5.3.5 Project Reporting and Communication.

2.5.3.5.1 Electronic Media

For instant communication inside the team, we will primarily use WhatsApp and Discord to discuss and update each other quickly. The code repositories and version control monitoring will be happening in GitHub so that everyone can have access to the most recent developments. Documents will be stored in Google Drive and team members can easily review project files and reports.

2.5.3.5.2 Meetings

There will be a weekly virtual meeting using Discord, the team will review progress, address issues at hand, and plan future tasks.

2.5.3.5.3 Information Repository

All project documentation, deliverables, and reports on progress are to be centrally housed on Google Drive. It should then be made accessible for all members to refer to and contribute their efforts.

2.5.3.5.4 Reviews

The project will be reviewed on a periodic basis, biweekly, to see how it's coming along. The focus of these reviews are deliverables, timelines budget performance and quality metrics. They will then adjust the plan out of these reviews.

2.5.3.5.5 Status Reporting.

Status reports will be prepared and submitted in accordance with the syllabus guidelines. These reports will summarize key activities, progress achieved, potential risks, and upcoming tasks.



2.5.3.6 Metrics Collection

To ensure effective project tracking, the following metrics will be collected:

- Effort metrics: A time management tool like Clockify will capture how much time you spend on tasks. That'll let the team see how much estimation was off from actual time spent.
- Progress metrics: Using Github's issue tracker we will monitor task completion rates and will visually see progress towards the goals of our project.

2.5.4 Risk Management

A proactive risk management plan has been developed to address risk identification, risk analysis and risk mitigation of project risks. The key risk categories and mitigation strategies include:

- Technological risks: Because this relies thus heavily on open-source tools (such as Flutter) to build, you may run into compatibility, or integration difficulties. This risk will be mitigated by regular testing and using well supported versions of tools.
- Resource risks: There's also a chance that progress may be derailed as team members are testing their personal devices. Contingency plan: sharing device for a period of time to prevent delays.
- Schedule risks: The project manager monitors if any significant deviation occurs from the schedule and will reallocate task assignments to recover the project delays.

Month by month risk levels will be reviewed and contingency plans will be updated when required.



2.5.5 Project Closeout

Upon completion of the project, the following steps will ensure a smooth closeout:

- Archiving project materials: It will be stored for future reference and use in Google Drive and GitHub.
- Final meeting: During a final review meeting, the lessons learned, challenges experienced, and successes achieved in implementation will all be discussed. Information of this will be documented in a post project report.
- Final report: An overall report will be made covering the objectives, outcomes and the lessons learned about the project will be summarized and shared with all stakeholders.

2.6. Technical Process

2.6.1 Process Model

The Waterfall model used for “MYTE” project attaches to a sequence of processes, with each phase being completed before going to the next. It uses tools like project management software, documentation tools and formal reviews to provide systematic project control. Roles are clearly defined, and there is clear planning in the project infrastructure, which is well-organized. Formal phase signoffs, user acceptability testing, and plentiful documentation are all required for product acceptance. This approach strongly emphasizes a phase-by-phase, precise project evolution, making it simpler to uphold adhere control and documentation throughout the project lifecycle.

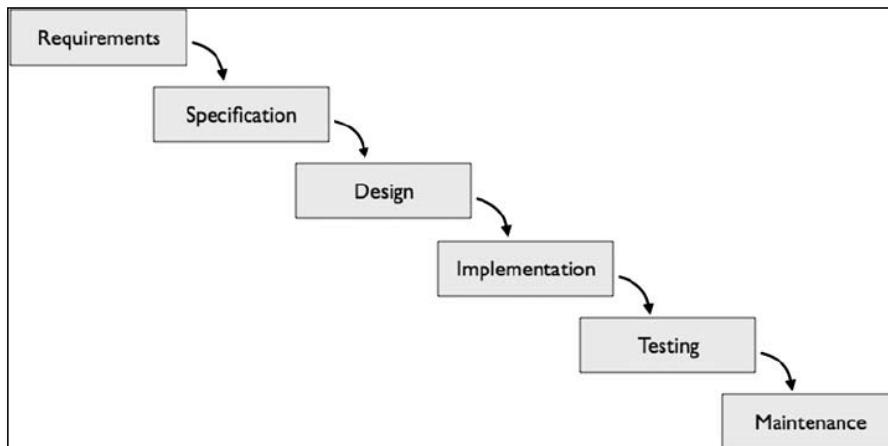


Figure 3: Waterfall Process Model



2.6.2 Methods, Tools, and techniques

Hardware tools include computers and laptops.

Software tools and techniques include Microsoft office (reporting and documentation), Flatter (application programming), Firebase (database management), Lucidchart (diagram drawing).

2.6.3 Project infrastructure

Windows-based computers are used for system coding, while Firebase will be used for database management to store data of user profiles and information, and Flatter for front-end and back-end development.

2.6.4 Product acceptance

For product acceptance, the delivery of the product will be done in multiple phases or milestones, and the supervisor will review each phase to confirm whether proper work on the product is done or not. It properly requires evaluation and testing firstly by team members and then by the supervisor so that it can be cleared that the product is going to finalize phase correctly. The product acceptance criteria include a meeting of the final product according to project objectives. User acceptance testing and performance testing methodology will be used where the overall performance of the final product will be evaluated.



2.7 Supporting Processes

2.7.1 Configuration Management

Configuration management for Myte will manage changes to the project's configuration items (CIs), such as task assignments progress tracking, and notification systems. All changes will be version-controlled to ensure systematic documentation. GitHub will be our primary tool for version control and change management. Configuration baselines will be created at significant milestones, like after completing task assignment features. Any changes will go through a formal change request system and reviewed to ensure alignment with project objectives and stability.

2.7.2 Independent Verification and Validation

Independent Verification and Validation will ensure Myte meets user and technical requirements.

- **Verification** will involve continuous peer code reviews and functionality checks after each module, such as task management and reminder systems, is completed.
- **Validation** will be carried out through user testing, with an emphasis on both functionality and usability, in settings similar to the operational context. It will be confirmed by surveys and usability tests conducted with a limited user base whether the app lives up to user expectations.



2.7.3 Documentation

Adequate documentation will ensure that every phase of Myte's development is appropriately documented. User manuals, Software Design Specification (SDS), Software Requirements Specification (SRS), and other comprehensive documentation will be maintained up to date for developers and end users. Every change to the documentation will be made using the same version control system as the codebase, and they will all be kept in a single, accessible repository.

Table 6: [Myte] Documentation

Document Type	Format Standard	Estimated Page Count	Peer Review Type
Software Development Document	IEEE	100	Collaborative



2.7.4 Quality Assurance

To fulfill functional and performance requirements, Myte will go through a complete Quality Assurance (QA) process. QA tasks will be composed of:

Unit Testing: Testing individual features like task reminders and notifications [14].

Integration Testing: confirming the seamless integration of modules for instance media uploads, task assignment, and progress tracking [15].

User Acceptance Testing: End-users will test the app's functionality and interface to confirm it meets expectations [16].

Performance Testing: Assessing system behavior under different workloads, particularly with large teams [17].

Security Testing: Using OWASP Mobile Top 10 guidelines to test for vulnerabilities like insecure data storage and communication [18].

To guarantee prompt corrections, defects will be recorded and tracked in a bug-tracking system. And we'll be tracking and reporting key data involving unresolved issues, test completion rates, and accessibility difficulties on a regular basis to give the best experience.

2.7.5 Reviews and Audits

Myte will go through several formal audits and reviews, such as:

Design Reviews at major design milestones to assess whether the design meets project goals.

Code Audits to ensure adherence to best practices in security and performance.

Test Audits to confirm thorough test coverage of critical user flows.



2.7.6 Problem Resolution

Any problems that will be found during the development or testing phase will be recorded in an issue tracker. Issues will be ranked in order of importance, with urgent bugs getting priority treatment, with critical bugs receiving immediate attention. The resolution process will include root cause analysis and fixes, followed by retesting to ensure the issue is resolved. Regular status reports will keep supervisors informed of progress.

2.7.7 Contractor Management

There are no external contractors involved in the Myte project, as development, design, and testing are handled internally. If external help is needed in the future, clear agreements with specific timelines and deliverables will be established, with regular check-ins and performance reviews to ensure quality and alignment with project goals.

2.7.8 Process Improvement

A continuous process of improvement will be crucial for Myte's long-term success.

Systems/Software Process Improvement Lead: A designated team member will identify areas of improvement based on user feedback and team retrospectives. This lead will monitor the efficiency of development tools, workflows, and collaboration methods.

Systems Engineering Process Group: The core development team will work on identifying and implementing process improvements, evaluating new tools and methodologies to streamline development and enhance the Myte platform's quality.

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Chapter 3:

Software Requirements Specification



3.1 Introduction

3.1.1 Purpose

The "Myte" project software requirements document presents the essential attributes and ambitions of a mobile application which improves family task organization management. Through its platform parents obtain the capability to give tasks to children while monitoring their accomplishment through deadline enforcement and instant communication features. Through the app children can see their assigned responsibilities as well as both present and finish them for point accumulation. The accumulated points let children access rewards that parents have approved including extra time on screens and food treats and additional privileges. The application system enables users to share media files and tracks deadlines while also enabling location tracking. This system aims to organize families while teaching accountability while encouraging positive conduct through an entertaining platform.

3.1.2. Document Conventions

This document adheres to the following formatting and typographical conventions:

- **Bold:** Used for section headings and key terms to distinguish major sections and concepts.
- **Plain Text:** Used for detailed descriptions, explanations, and content of the requirements.
- **Numbered Headings:** Section headings and subsections are numbered for clear navigation and organization throughout the document.
- **Table of Contents:** A table of contents is provided at the beginning of the document to outline the structure and allow for easy access to each section.
- **Tables:** Used to present detailed lists, schedules, and data (e.g., Functionality Table 1), ensuring structured and concise presentation of information.
- **References:** Where external sources or literature are cited, they are presented in a numbered format for easy cross-referencing within the document (e.g., [1], [2], etc.).



These conventions are used to ensure clarity, ease of understanding, and consistent formatting throughout the SRS, making it easier for stakeholders to follow and review the content.

3.1.3. Intended Audience and Reading Suggestions

The following are the primary readers and their respective interests:

Developers: Responsible for building the application. They should focus on the detailed functional and non-functional requirements, architecture, and interface specifications in sections related to project organization and SPMP.

Project Managers: Interested in understanding the project scope, timeline, deliverables, and risks. They should prioritize reading the Project Summary, Project Deliverables, Schedule and Budget Summary, and Risk Management sections.

Testers: Responsible for validating whether the system meets its requirements. They should focus on functional descriptions, acceptance criteria, and quality assurance processes in sections like Requirements Control, Quality Control, and Verification & Validation.

End Users: May review the Introduction, Problem Statement, and Aims & Objectives to understand the purpose of the application and the problems it solves.

Reading Suggestions:

For an Overview: Start with the Introduction (Chapter 1), Problem Statement, and Aims & Objectives sections to understand the overall purpose of the project.

For Developers: Proceed to Functional Requirements, Scope/Limitation, and the SPMP chapter to understand the specific system behaviors and technical details.

For Testers: Focus on Quality Control, Project Controls, and Verification & Validation sections to identify test cases and evaluation criteria.



For Project Managers: Review the Project Summary, Deliverables, and Master Schedule and Budget Summary to manage timelines, resources, and risks effectively.

3.1.3. Product Scope

Users can use Myte as an app which simplifies household management through collaborative features. The Myte app gives parents the ability to create tasks for children and shows live updates about their task completion. Users benefit from uploading task-related media together with receiving reminders and tagging specific locations for tasks within the system. The app distributes points to children when they finish their work which they can exchange for chosen rewards that parents approve. Myte enhances responsibility learning through a game system that keeps children motivated and trains them in discipline while providing parents with the ability to efficiently manage household responsibilities.



3.2 Overall Description

3.2.1 Product Perspective

Users can use Myte as an app which simplifies household management through collaborative features. The Myte app gives parents the ability to create tasks for children and shows live updates about their task completion. Users benefit from uploading task-related media together with receiving reminders and tagging specific locations for tasks within the system. The app distributes points to children when they finish their work which they can exchange for chosen rewards that parents approve. Myte enhances responsibility learning through a game system that keeps children motivated and trains them in discipline while providing parents with the ability to efficiently manage household responsibilities.



3.2.2 Product Functions

Feature	Description
Task Assignment	Parents can assign tasks to children with titles, descriptions, deadlines, and reward values.
Deadline Reminders	Remind users when a task is approaching its deadline (3 days before or less).
Progress Bar	Users can update how much progress they've made on each task, visible to the task creator.
Task Description with Media	Task creator can provide detailed descriptions, upload photos and videos for clarity.
Map Integration	Use Google Maps to specify a location for tasks involving travel to certain places.
Notifications	Real-time push notifications for task updates and reminders.
Task progression	Children can view, complete, and submit proof of task completion.
Priority Levels	Set priority levels for tasks (high, medium, low) to help users focus on urgent tasks first.
Task History	Keep a log of completed tasks and task progress over time for performance tracking.

Table 7: Functionality Table



3.2.3 User Classes and Characteristics

Myte has two main user roles:

- **Parents:** Responsible for creating family groups, assigning tasks, defining rewards, and approving completions. They have full administrative access.
- **Children:** Responsible for viewing and completing tasks, submitting evidence, and redeeming points. Their access is restricted to personal task-related features.

The app is designed for all ages, with a simplified interface for children and more detailed controls for parents. No advanced technical knowledge is required.

3.2.4 Operating Environment

The Myte app runs on mobile devices with:

- Android 7.0+ or iOS 10.0+
- Internet connection for syncing tasks, sending notifications, and media uploads
- Access to device camera and storage
- Google Maps support for location tagging
- AWS-S3 for cloud-based media handling
- Firebase backend for real-time data operations and secure user management

Offline viewing is supported, and data is synced once a connection is restored.

3.2.5 Design and Implementation Constraints

Several constraints impact the design and development:



- **Hardware Limitations:** The app will run on low-end smartphones and tablets and be at the cutting edge of low resource mobile app development.
- **Technology Stack:** The app will be based on Flutter as the cross-platform mobile framework and AWS-S3 for storage as well as Firebase for real-time notifications.
- **Security and Privacy:** It is important to observe data protection laws regarding the user's data, location services and the media files.
- **External Dependencies:** Full integration into external services like Google maps for geographical based tasks completion is mandatory.

3.2.6 User Documentation

The following documentation will be delivered with the software:

- **User Manual:** A clear tutorial on how to navigate within the application, how to allocate tasks, how to post multimedia, and how to monitor the work accomplished.
- **Online Help:** An in-app support center which contains tutorials and frequently asked questions.
- **Video Tutorials:** Guided instructional videos that demonstrate how to maneuver the application for important tasks that include creating a new task or assigning it to more users.

3.2.7 Assumptions and Dependencies

Key assumptions and dependencies include:



- **Assumed Smartphone Access:** All the users will use a contemporary smartphone capable of utilizing Android or iOS applications.
- **Dependency on Third-Party Services:** This app is fully dependent on third party services like Google map and AWS-S3 to work at its optimum level. If any of these services is changed or removed, then doing so can have an impact on the application.
- **User Collaboration:** The app presupposes that users will cooperate in accomplishes and would engage real-time updates and notifications.



3.3 External Interface Requirements

3.3.1 User Interface

The user interface of Myte provides an easy-to-use navigation system which serves parents and children simultaneously. The design shows users how to move between pages and displays important tasks while maintaining a streamlined interface connection throughout the system.

- Screen Layout and Design Standards:**

The system interface keeps its layout uniform throughout all screens which users can easily access Home, Tasks, Rewards and Profile sections through the bottom navigation bar. The color-based section design helps users identify specific areas of the interface particularly those who are children.

- Sample Screen Layouts:**

Current assignments and upcoming awards and family notification are visible on the main screen. The task submittal screens contain form fields that let users add names and deadlines together with media files and location links.

- Standard Buttons and Functions:**

The main features of the application are accessible through clearly defined buttons named "Create Task," "Submit Task" and "Redeem Reward." Users can access help at all times through a reachable help button.

- Error Messages:**

The application verifies all user data entries through user-friendly error message notifications. The system alerts users to select a date when they leave a task deadline empty through a popup notification. The interface provides contextual messages about format errors and field requirements which do not interrupt the user experience.



- **Required Software Components:**

The application uses Flutter to develop its functionality for running on Android and iOS devices. Tasks together with user information and transaction data are managed through Firebase as the backend system.

3.3.2 Hardware Interfaces

Myte will interact with mobile devices in the following ways:

- **Device Compatibility:**
 - Specifically designed to work on both Android and iOS smartphones and tablets.
 - Supports GPS-enabled devices for location-based task tracking.
- **Interaction with Device Components:**
 - **Camera/Media:** Allows users to attach photos or videos to tasks, adding helpful context when needed.
 - **GPS:** Provides location tracking for tasks tied to specific locations, making it easier to monitor progress.

3.3.3 Software Interfaces

Myte will be integrated with several software components to enhance functionality:

- **Operating System:**
 - Compatible with both Android and iOS.
- **APIs:**
 - **Google Maps API:** Supports location-based task tracking and visualization.
 - **Firebase Server:** All user data, task records, and point transactions are stored and managed using Firebase.



- **AWS S3:** Provides secure storage for media files.

- **Data Exchange Formats:**

Firebase is used directly for data exchange between the app and the backend, with encrypted API requests.

- **User Authentication:**

All login credentials and session data are handled via secure SQL queries and token-based sessions.

3.3.4 Communication Interfaces

Myte will use specific protocols to handle data smoothly and securely:

- **Network Requirements:**

- The app needs an internet connection for real-time updates, media uploads, and notifications.
- Basic offline functionality will be available, allowing users to view tasks and sync changes when connectivity is restored.

- **Communication Protocols:**

- **HTTPS:** Ensures that all data transmitted is secure.
- **Custom Notification System:** A custom-built push notification mechanism delivers alerts for deadlines, reward redemptions, and task approvals using standard device notification services.

- **Security Measures:**

- All data will be encrypted both during transmission and when stored, aligning with data protection standards.
- Firebase will manage user authentication securely, allowing only authorized users to access data.



3.4 System Features

3.4.1 Register

3.4.1.1 Description and Priority

Allow new users to register by providing basic details like name, email, and password.

Priority: High

3.4.1.2 Stimulus/Response Sequences

- User enters registration details.
- System validates input and creates a new user account.

3.4.1.3 Functional Requirements

- **REQ-1:** System should validate that the email is unique.
- **REQ-2:** Password should meet security measures (minimum length, character requirements).
- **REQ-3:** User account is stored in the database.

3.4.2 Login

3.4.2.1 Description and Priority

Enables existing users to access the application by providing credentials (email and password).

Priority: High

3.4.2.2 Stimulus/Response Sequences

- User submits login credentials (email and password).
- System checks the credentials and grants access on successful authentication.

3.4.2.3 Functional Requirements

- **REQ-1:** System should verify the user's credentials.
- **REQ-2:** System should show users a message if incorrect login details are submitted.
- **REQ-3:** On successful login, redirect the user to the dashboard.





3.4.3 Logout

3.4.3.1 Description and Priority

Allows users to log out of the system, ending the session securely.

Priority: Medium

3.4.3.2 Stimulus/Response Sequences

- User clicks the logout button.
- System ends the current session and redirects the user to the login page.

3.4.3.3 Functional Requirements

- **REQ-1:** System should terminate the session upon logout.
- **REQ-2:** Redirect user to the login screen post-logout.

3.4.4 Profile Update

3.4.4.1 Description and Priority

Allows users to update their profile information (name, email, password).

Priority: Medium

3.4.4.2 Stimulus/Response Sequences

- User accesses the profile section and edits their information.
- System saves changes and updates the user's profile.

3.4.4.3 Functional Requirements

- **REQ-1:** Validate inputs before saving profile updates.

3.4.5 Create Task

3.4.5.1 Description and Priority

Parents can create new tasks with name, description, deadline, media, and location.

Priority: High



3.4.5.2 Stimulus/Response Sequences

- Parents input task details.
- Task is stored in the database and shown in the child's task list.

3.4.5.3 Functional Requirements

- **REQ-1:** Task name is mandatory.
- **REQ-2:** The system should allow adding descriptions and deadlines to tasks.

3.4.6 Edit Task

3.4.6.1 Description and Priority

Enables users to modify the details of existing tasks.

Priority: Medium

3.4.6.2 Stimulus/Response Sequences

- Parent opens task and updates fields.
- System saves the changes and updates the task.

3.4.6.3 Functional Requirements

- **REQ-1:** Only authorized users should be able to edit tasks.

3.4.7 Delete Task

3.4.7.1 Description and Priority

Allows parents to remove tasks

Priority: Medium

3.4.7.2 Stimulus/Response Sequences

- Parent selects task and confirms deletion.
- System removes it from the database.

3.4.7.3 Functional Requirements

- **REQ-1:** Users should confirm task deletion before proceeding.
- **REQ-2:** System should support soft deletion, allowing tasks to be restored.



3.4.8 Change Task Status

3.4.8.1 Description and Priority

Children can mark tasks as “In Progress” or “Completed.”

Priority: High

3.4.8.2 Stimulus/Response Sequences

- Child updates status.
- Status is stored and triggers notification.

3.4.8.3 Functional Requirements

- **REQ-1:** Task status should be visible on the dashboard.
- **REQ-2:** The system should trigger notifications when status changes.

3.4.9 Remove Task Status

3.4.9.1 Description and Priority

Parents can clear a task’s status.

Priority: Low

3.4.9.2 Stimulus/Response Sequences

- Parent resets task status.
- System removes the status from the task.

3.4.9.3 Functional Requirements

- **REQ-1:** Only authorized users should be able to remove task status.

3.4.10 Assign Task

3.4.10.1 Description and Priority

Parents assign tasks to one or more children.

Priority: High

3.4.10.2 Stimulus/Response Sequences

- Parents choose child and assigns task.
- Task is linked to the child’s profile.



3.4.10.3 Functional Requirements

- **REQ-1:** System should allow assignment to multiple users.
- **REQ-2:** Notification must be sent to assigned users.

3.4.11 Choose a Task to Assign to Yourself (Mark the Task by Name, Email, or ID)

3.4.11.1 Description and Priority

Allows children to self-assign open tasks by linking them to their account.

Priority: Medium

3.4.11.2 Stimulus/Response Sequences

- User selects a task and marks it with their information (name, email, or ID).
- System updates the task and assigns it to the user.

3.4.11.3 Functional Requirements

- **REQ-1:** System should auto-populate the user's info when assigning the task to themselves.
- **REQ-2:** Notification should be sent confirming the self-assignment.

3.4.12 Set a Deadline

3.4.12.1 Description and Priority

Parents can set due dates for tasks.

Priority: High

3.4.12.2 Stimulus/Response Sequences

- User selects a task and sets a deadline.
- System updates the task with the deadline and triggers notifications.

3.4.12.3 Functional Requirements

- **REQ-1:** System should enforce date format validation.
- **REQ-2:** System should support reminders based on the deadline.



3.4.13 Edit Deadline

3.4.13.1 Description and Priority

Allows parents to modify task deadlines.

Priority: Medium

3.4.13.2 Stimulus/Response Sequences

- User edits the deadline for a task.
- System saves and updates the task with the new deadline.

3.4.13.3 Functional Requirements

- **REQ-1:** Only authorized users should be able to edit deadlines.
- **REQ-2:** Notifications must be triggered for deadline changes.

3.4.14 Remove Deadline

3.4.14.1 Description and Priority

Parents can remove deadlines if not needed.

Priority: Medium

3.4.14.2 Stimulus/Response Sequences

- User removes the deadline from the task.
- System updates the task and clears the deadline.

3.4.14.3 Functional Requirements

- **REQ-1:** System must confirm deadline removal with the user before proceeding.
- **REQ-2:** The system should update any associated reminders.

3.4.15 Set a Reminder

3.4.15.1 Description and Priority

Lets users schedule alerts for approaching task deadlines.

Priority: High

3.4.15.2 Stimulus/Response Sequences

- User sets a reminder for a task.
- System schedules the reminder notification and updates the task.





3.4.15.3 Functional Requirements

- **REQ-1:** Reminders should be configurable by time (e.g., 1 day before the deadline).
- **REQ-2:** System should support multiple reminders for a single task.

3.4.16 Edit Reminder

3.4.16.1 Description and Priority

Enables users to edit previously set reminders.

Priority: Medium

3.4.16.2 Stimulus/Response Sequences

- User selects a reminder to edit.
- System updates the reminder and adjusts the notification schedule.

3.4.16.3 Functional Requirements

- **REQ-1:** Only authorized users can edit reminders.
- **REQ-2:** System should maintain a log of reminder edits.

3.4.17 Delete Reminder

3.4.17.1 Description and Priority

Allows users to delete reminders set for a task.

Priority: Medium

3.4.17.2 Stimulus/Response Sequences

- User deletes a reminder for a task.
- System removes the reminder and cancels notifications.

3.4.17.3 Functional Requirements

- **REQ-1:** Users should confirm before deleting reminders.
- **REQ-2:** Notifications should be canceled once the reminder is deleted.



3.4.18 Notifications

3.4.18.1 Description and Priority

Notifications alert users about tasks, deadlines, reminders, or changes in task status and file attachments.

Priority: High

3.4.18.2 Stimulus/Response Sequences

- System triggers notifications based on task activity or reminders.
- User receives a notification and views task updates.

3.4.18.3 Functional Requirements

- REQ-1:** System should support in-app notifications.
- REQ-2:** Notifications must include relevant task details (e.g., task status changes, added task, approaching deadlines, changes in reminders).

3.4.19 Attach File

3.4.19.1 Description and Priority

Allows users to attach files to tasks or comment sections, such as documents or images.

Priority: High

3.4.19.2 Stimulus/Response Sequences

- User uploads a file or image and attaches it to a task.
- System stores the file in AWS S3 and links it to the task.

3.4.19.3 Functional Requirements

- REQ-1:** System should support multiple file types (PDF, DOC, images).
- REQ-2:** File size restrictions should be enforced.

3.4.20 Edit Attached File

3.4.20.1 Description and Priority

Allows users to update or replace attached files.

Priority: Medium

3.4.20.2 Stimulus/Response Sequences

- User selects the option to edit an attached file.



- System updates the file in AWS S3 and links the updated file to the task.

3.4.20.3 Functional Requirements

- **REQ-1:** Only authorized users can edit attached files.
- **REQ-2:** System should maintain version control of edited files.

3.4.21 Delete Attached File

3.4.21.1 Description and Priority

Enables users to remove attached files from tasks.

Priority: Medium

3.4.21.2 Stimulus/Response Sequences

- User deletes the attached file.
- System removes the file from AWS S3 and detaches it from the task.

3.4.21.3 Functional Requirements

- **REQ-1:** Users should confirm file deletion before proceeding.
- **REQ-2:** System must ensure the file is permanently deleted from the cloud storage.

3.4.22 Create Group

3.4.22.1 Description and Priority

Parents can create a family group.

Priority: Medium

3.4.22.2 Stimulus/Response Sequences

- User enters and creates a new group.
- System stores the group information and lists it under the user's account.

3.4.22.3 Functional Requirements

- **REQ-1:** Groups should have unique identifiers.
- **REQ-2:** Group details (name, members, etc.) must be editable.



3.4.23 Add Members to Group

3.4.23.1 Description and Priority

Adds children or guardians to a family group.

Priority: Medium

3.4.23.2 Stimulus/Response Sequences

- User selects a group and adds members.
- System updates the group with new members after accepting and notifies them.

3.4.23.3 Functional Requirements

- **REQ-1:** System must validate the members being added (existing users).
- **REQ-2:** Invitation must be sent to added members.
- **REQ-3:** Notifications must be sent to added members.

3.4.24 Delete Members from Group

3.4.24.1 Description and Priority

Allows authorized users to remove members from a group.

Priority: Medium

3.4.24.2 Stimulus/Response Sequences

- Authorized user selects a member to remove from the group.
- System removes the member and notifies the group.

3.4.24.3 Functional Requirements

- **REQ-1:** Only group admins should be able to delete members.
- **REQ-2:** System should keep a log of member removals.

3.4.25 Edit Group

3.4.25.1 Description and Priority

Edits group details such as name or members.

Priority: Medium

3.4.25.2 Stimulus/Response Sequences

- User selects a group to edit and updates the details.



- System saves the changes and notifies the members.

3.4.25.3 Functional Requirements

- **REQ-1:** Only group admins can edit group details.
- **REQ-2:** Notifications must be sent for group updates.

3.4.26 Delete Group

3.4.26.1 Description and Priority

Allows parent to remove a member.

Priority: Medium

3.4.26.2 Stimulus/Response Sequences

- User selects a group to delete.
- System removes the group and its tasks from the database.

3.4.26.3 Functional Requirements

- **REQ-1:** Only authorized users can confirm group deletion before proceeding.
- **REQ-2:** System should allow archiving groups before deletion.

3.4.27 Task Progress Bar

3.4.27.1 Description and Priority

Displays a progress bar for tasks to visually indicate task completion.

Priority: Medium

3.4.27.2 Stimulus/Response Sequences

- User completes a portion of the task.
- System updates the progress bar according to the completion percentage.

3.4.27.3 Functional Requirements

- **REQ-1:** System should dynamically calculate task completion and update the progress bar.
- **REQ-2:** The progress bar must visually represent the percentage of the task completed.



3.4.28 Draw on File (Taking Notes)

3.4.28.1 Description and Priority

Allows users to draw on or annotate attached files, such as PDFs or images.

Priority: Medium

3.4.28.2 Stimulus/Response Sequences

- User opens a file and uses drawing tools to annotate.
- System saves the annotated file.

3.4.28.3 Functional Requirements

- **REQ-1:** System should support common annotation tools (pen, highlight, text).
- **REQ-2:** System should save a versioned copy of the annotated file.

3.4.29 Set a Location as a Link

3.4.29.1 Description and Priority

- **Description:** Allows users to assign a location (e.g., a map link) to tasks for meeting points or delivery locations.
- **Priority:** Medium

3.4.29.2 Stimulus/Response Sequences

1. User inputs a location link (e.g., Google Maps URL) for a task.
2. System links the task to the provided location.

3.4.29.3 Functional Requirements

- **REQ-1:** The system must validate the format of the location link.
- **REQ-2:** Clicking the location link should open the map in a new window.

3.4.30 Create Task Categories

3.4.30.1 Description and Priority

- **Description:** Allows users to create categories for organizing tasks.
- **Priority:** Medium





3.4.30.2 Stimulus/Response Sequences

1. User defines a new task category.
2. System saves the category and associates tasks with it.

3.4.30.3 Functional Requirements

- **REQ-1:** The system should allow users to define custom categories.
- **REQ-2:** The system should list available categories when creating or editing tasks.

3.4.31 Edit Task Categories

3.4.31.1 Description and Priority

- **Description:** Allows users to modify existing task categories.
- **Priority:** Medium

3.4.31.2 Stimulus/Response Sequences

1. User selects a category to edit and updates the name or description.
2. System saves the updated category.

3.4.31.3 Functional Requirements

- **REQ-1:** The system should allow editing of category details (e.g., name, description).
- **REQ-2:** Updates to categories should reflect across all tasks using that category.

3.4.32 Delete Task Categories

3.4.32.1 Description and Priority

- **Description:** Enables users to delete task categories that are no longer in use.
- **Priority:** Low

3.4.32.2 Stimulus/Response Sequences

1. User selects a category to delete.



2. System removes the category and reassociates affected tasks with a default or unassigned category.

3.4.32.3 Functional Requirements

- **REQ-1:** The system should prevent deletion if the category is associated with active tasks.
- **REQ-2:** User must confirm deletion of categories before proceeding.

3.5 Other Nonfunctional Requirements

This subsection outlines other nonfunctional requirements for the “MYTE” application, including performance requirements, safety requirements, security requirements, software quality requirements and business rules, ensuring a secure, efficient, and user-friendly application.



3.5.1 Performance

The Myte app requires speed to offer an uninterrupted user experience to its users. Tasks like opening the task list and both file uploads and status updates need to finish operation within two seconds. The system will use Firebase queries combined with backend indexing to deliver rapid data retrieval. Basic offline functionality of the app enables users to check assigned tasks while allowing them to submit task updates. The complete reconnection will result in automatic synchronization of changes with the Firebase. The application needs to handle growing family bases with their diverse number of tasks and users by minimizing performance losses.

3.5.2 Safety

The storage methods and regular backups Myte implements will protect all data. The Firebase implements automatic backup sessions that will safeguard user data and enable backup rollbacks when necessary. The app requires each completed task along with uploaded media files and reward transactions to remain uncorrupted in case the application shut down unexpectedly. The application will apply an automatic logout feature that secures user accounts by disconnecting sessions while devices remain idle.

3.5.3 Security

Myte requires users to receive full protection for their data throughout all operation periods. The login credentials stored within Firebase receive encryption with secure storage measures. Users have the option to protect their accounts with either biometric authentication capabilities of their device or a PIN and password combination. HTTPS encryption will secure every communication link between app components and database components. The system controls access by role so parents handle task creation, but parents maintain exclusive rights to approve them, and children receive only access to perform their specified tasks. System logs will maintain records of fundamental user actions starting from task completion up to reward redemption for auditing purposes.



3.5.4 Software Quality Attributes

The Myte platform bases its operation on usability principles. The interface system will prioritize mobile accessibility by implementing buttons with large dimensions while offering straightforward navigation features and easy-to-read texts. The system must run at 99.9% availability while operating correctly across multiple devices and screen sizes. The software development includes error-handling routines which protect against system crashes in all program modules. Future maintenance along with updates for both frontend and backend will become simpler because of their modular structure. Performance and stability tests will occur regularly before major Myte releases.

3.5.5 Business Rules

Myte enforces several rules to maintain control and consistency:

- **Role Permissions:** Parents can manage tasks, rewards, and family settings.
Children can only view and interact with tasks assigned to them.
- **Point System:** Points are awarded only when a parent approves a completed task.
Points cannot be transferred or edited manually.
- **Reward Redemption:** A child can only redeem rewards if they have sufficient points. Redemption will trigger a record in the Database and notify the parent.
- **File Uploads:** Only supported file types (images/videos) can be attached to tasks.
Maximum file size will be limited to ensure performance.
- **Group Membership:** A user must belong to one family group at a time. Changes to group membership must be initiated by a parent.



Chapter 4:

Software Design Specification.



4.1 Overview

4.1.1 Scope

Myte operates as a mobile task management platform that helps families organize their tasks and build children's responsibility through family chore responsibilities. Parents can use the application to distribute and track assignments for their children yet children can perform tasks and submit documentation which leads to the accumulation of reward points. Beyond typical task list applications Myte uses multimedia upload features together with real-time alerts and reward tracking and location-based classification of tasks.

The Myte application functions across Android and iOS with optimization features for operating on devices with limited processing capabilities. The system structure enables future additions that will not alter the current work processes. Myte provides present-day family requirements while showing versatility to handle future requirements in task tracking and digital parenting operations.

The defined scope ensures that the SDS provides adequate coverage of Myte app technical abilities together with its functional requirements needed for implementation success and system evolution.

- Task Assignment and Family Coordination:**

Parents can assign tasks to children and track progress in a shared family group environment.

- Reminders and Notifications:**

Custom alerts notify both parents and children about task deadlines, approvals, and rewards.

- Progress Tracking:**

Visual progress bars show real-time updates for each task's completion status.

- Media and Location Integration:**

Tasks can include photos, videos, or location links to provide clear instructions.

- Cross-Platform Accessibility:**

Compatible with Android and iOS, supporting a wide range of smartphones and tablets.



4.1.2 Purpose

The document includes thorough specifications for building the family-oriented Myte Task Management App. This document displays system architecture along with its components and interactions through specifications that match user requirements and project goals. Staff engaged in development testing and stakeholder activities will use this Software Design Specification (SDS) as their reference guide throughout application development.

The document supports the following goals:

- Define the system's functional and non-functional requirements.
- Guide developers in building a scalable, family-centered solution.
- Serve as a reference for testing, updates, and user documentation.
- Ensure best practices in mobile design and software architecture.

4.1.3 Intended Audience

This SDS is intended for the following stakeholders:

- **Developers:** To understand the design and technical architecture for implementing family-based functionality.
- **Testers:** To develop test cases and validation methods based on task management, reward handling, and user interaction flows.
- **Project Managers:** To monitor adherence to design requirements and delivery milestones.
- **End-Users/Clients (Families):** To validate that the design meets the family-centered goals and usability expectations.



Future Developers: To use as a reference when updating or maintaining the application

4.1.4 Conformance

The Myte Task Management Application adheres to the following standards and guidelines to ensure quality, compatibility, and usability:

1. [IEEE 1016-2009](#): To have structured and comprehensive design documentation for Software Design Descriptions.
2. [IEEE 830-1998](#): To maintain consistency and clarity in the software requirement specifications.
3. [OWASP Mobile Top 10](#): So that we can develop the application with robust security practices.
4. [ISO 25010](#): In order to meet the software quality standards of usability, reliability, maintainability, and portability.
5. [Platform Guidelines](#): It's designed to follow Android and iOS design principles, so that the experience is consistent and user friendly on both platforms.

This adherence guarantees that the application complies with industry security, performance, and scalability standards, ensuring that the application is a reliable and user-friendly product.

Commented [aa1]: Use case diagram is not shown.
Commented [aa2R1]: Class digarm



4.2 Definitions

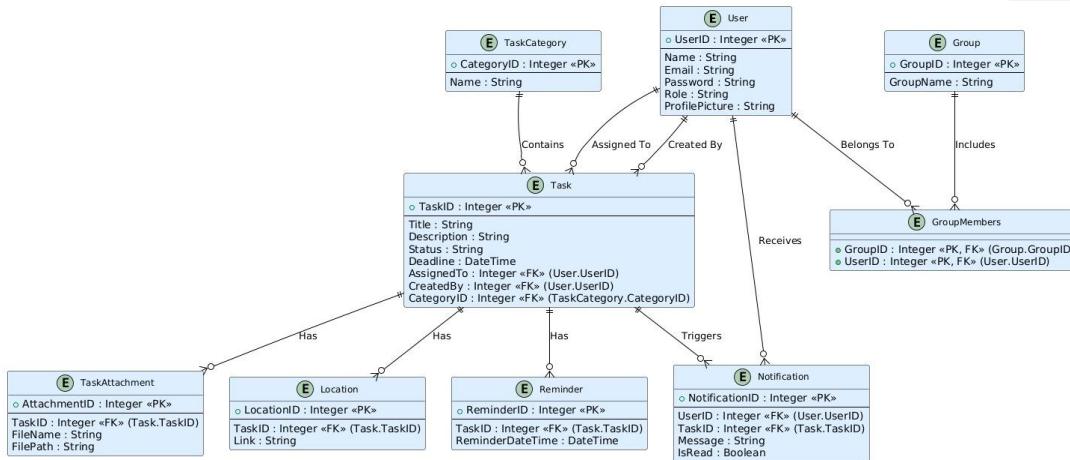
1. **Task:** It is a specific activity or assignment that users can create, assign, track and complete within the Myte application.
2. **Task Assignment:** The task of assigning tasks to users or groups for execution.
3. **Task Progress:** A progress bar in the app to show the percentage of completion or updates on a task.
4. **Task Reminder:** Alerts sent to users notifying them of upcoming deadlines or pending actions on a task.
5. **Media Attachment:** Additional clarity or reference, such as files like images or videos uploaded to tasks.
6. **Location-Based Task:** A task that is linked to a specific geographical location and integrated with Google Maps to track or to navigate.
7. **Notification:** Users get real time alerts on task updates, assignments or status changes.
8. **User Collaboration:** The ability of multiple users to work together on tasks, to share updates, and to contribute to the completion of tasks.
9. **Google Maps Integration:** The ability to associate tasks with locations for better context or logistical planning.



4.3 Entity relationship diagram (ER) [aa3]

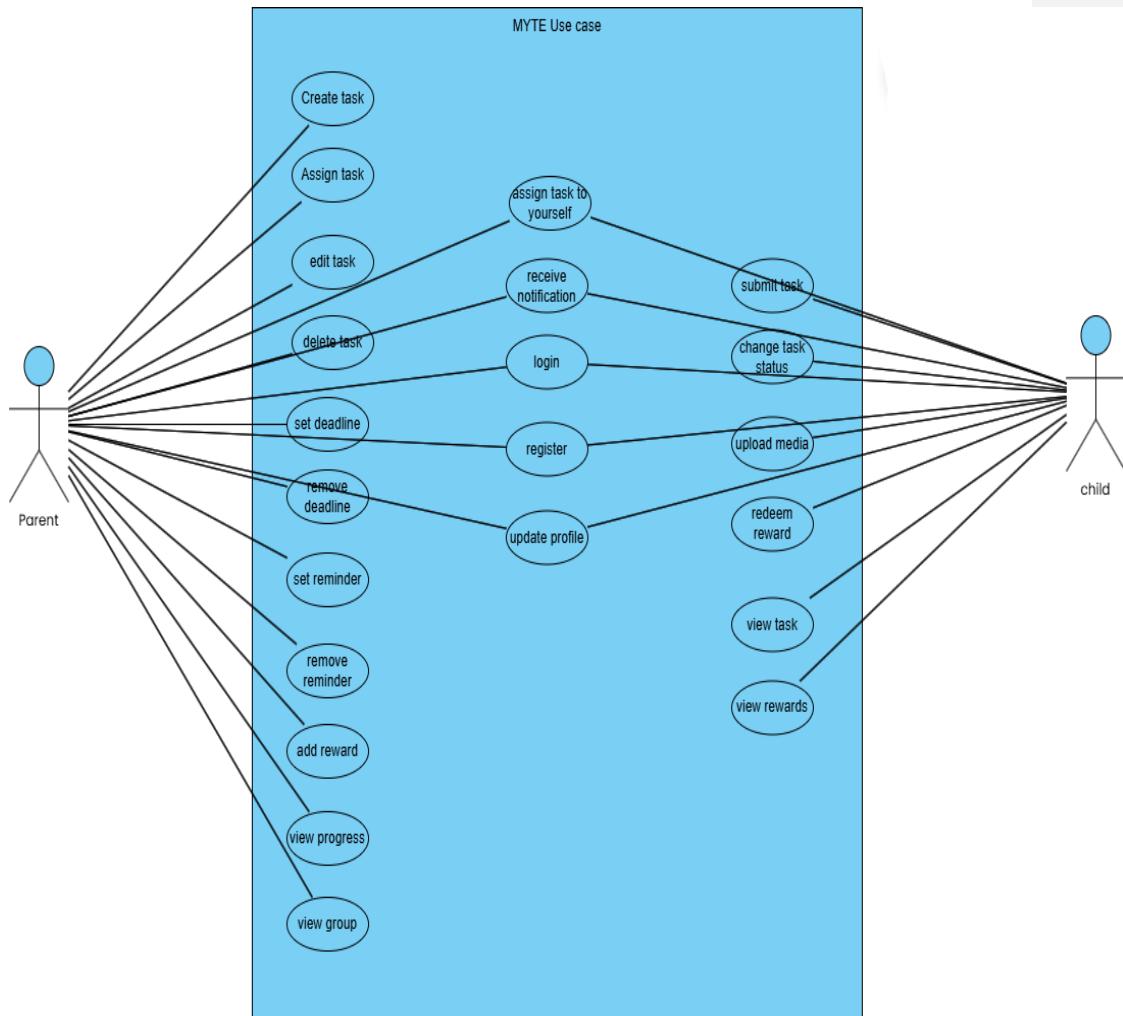
Commented [aa3]: Where is the relational schema?

Figure 4.3: ER Diagram





4.3.1 Use case diagram



4.4 sequence diagrams

This section focuses on sequence diagrams, which show how system components interact over time. They outline the flow of messages between entities, highlighting the dynamic behavior required to achieve specific functionalities.

4.4.1 register

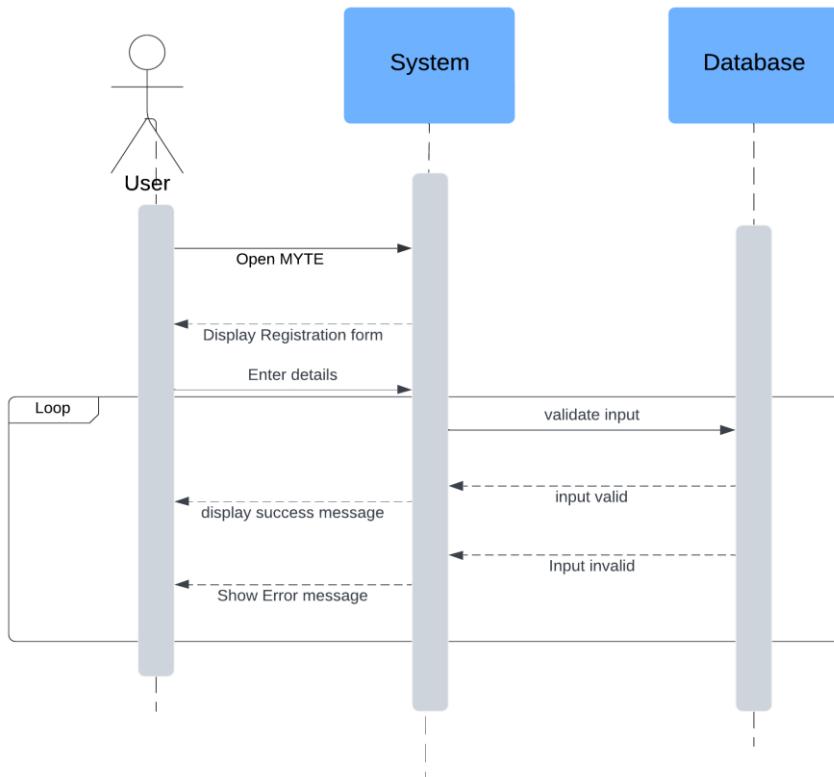


Figure 4: Register Sequence Diagram



4.4.2 login

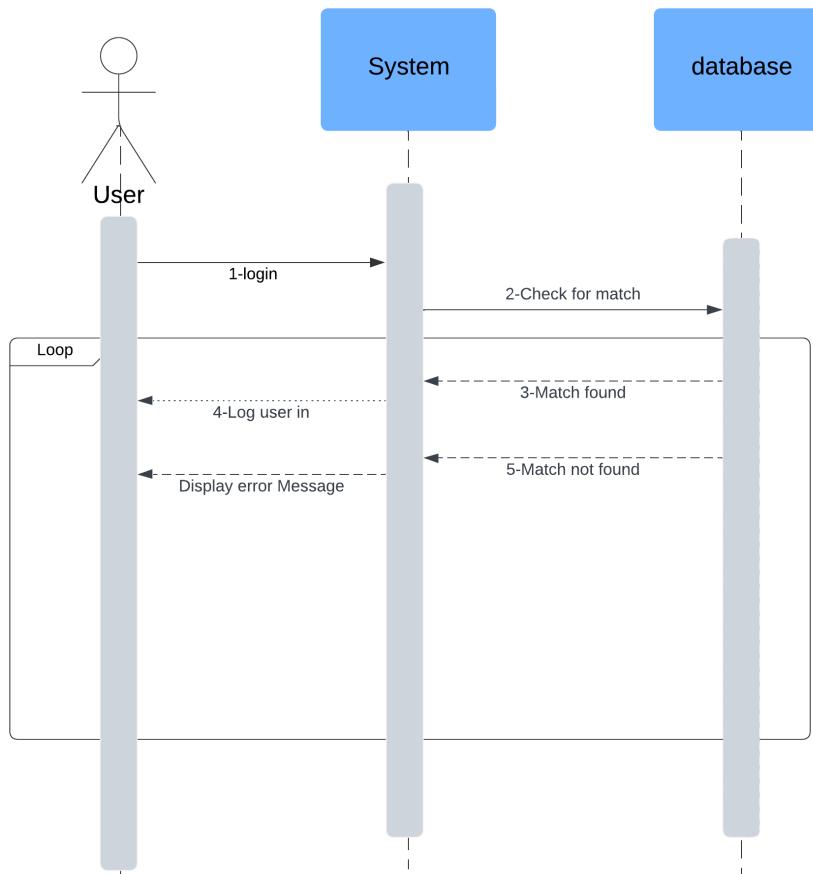


Figure 5: Login Sequence Diagram

4.4.3 log out

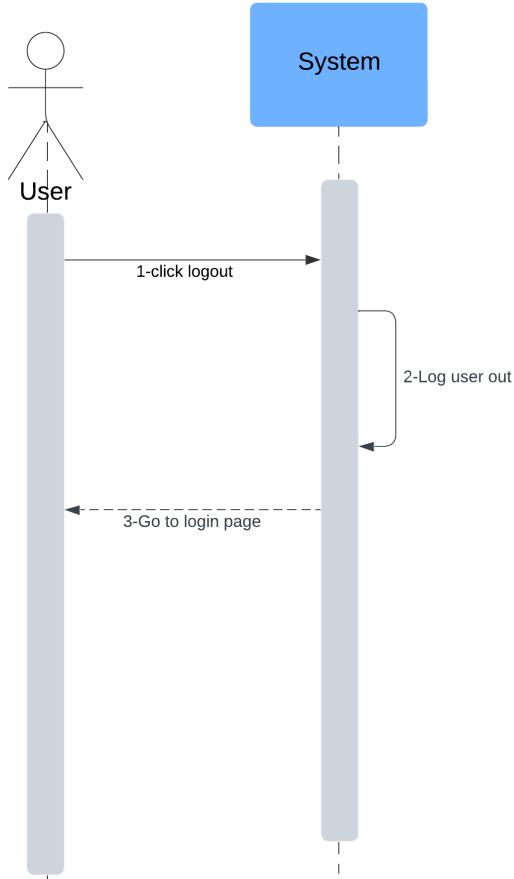


Figure 6: Log out Sequence Diagram



4.4.4 create group

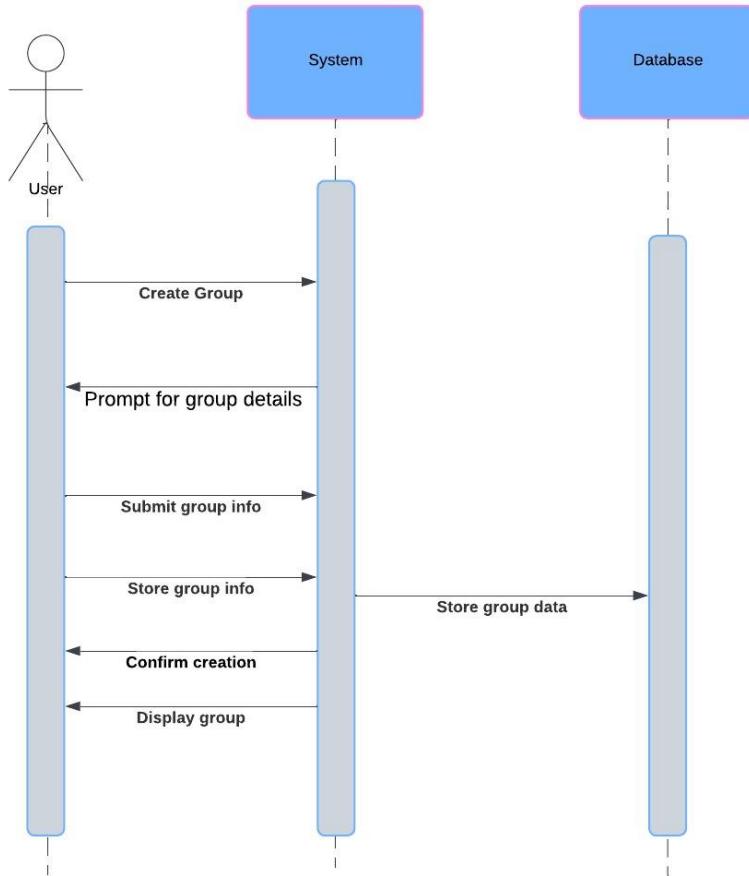


Figure 7: Create group Sequence Diagram

4.4.5 delete group

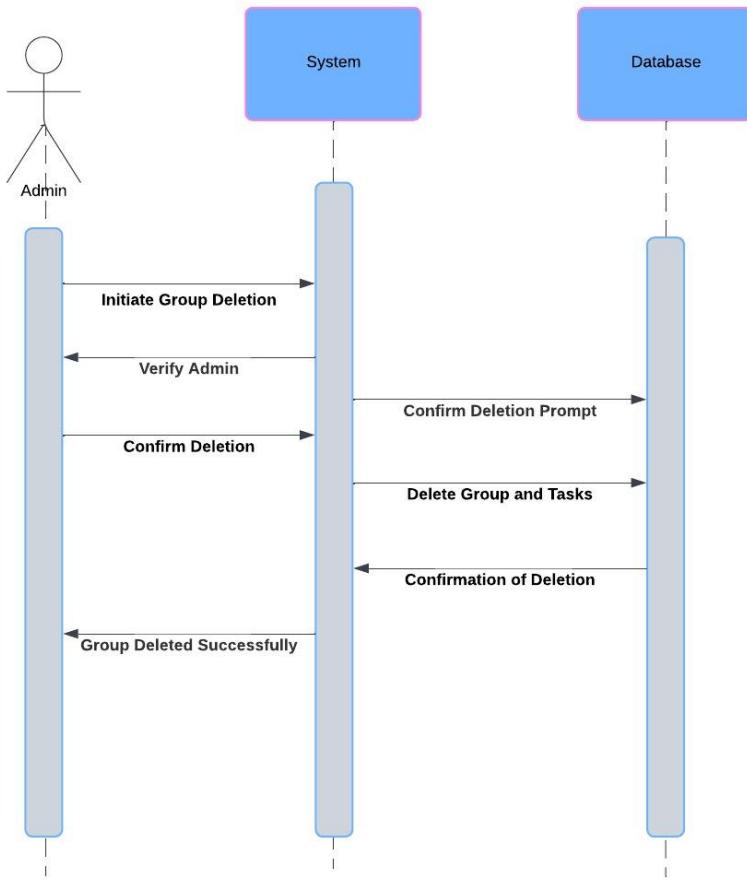


Figure 8: Delete Group Sequence Diagram



4.4.6 add member

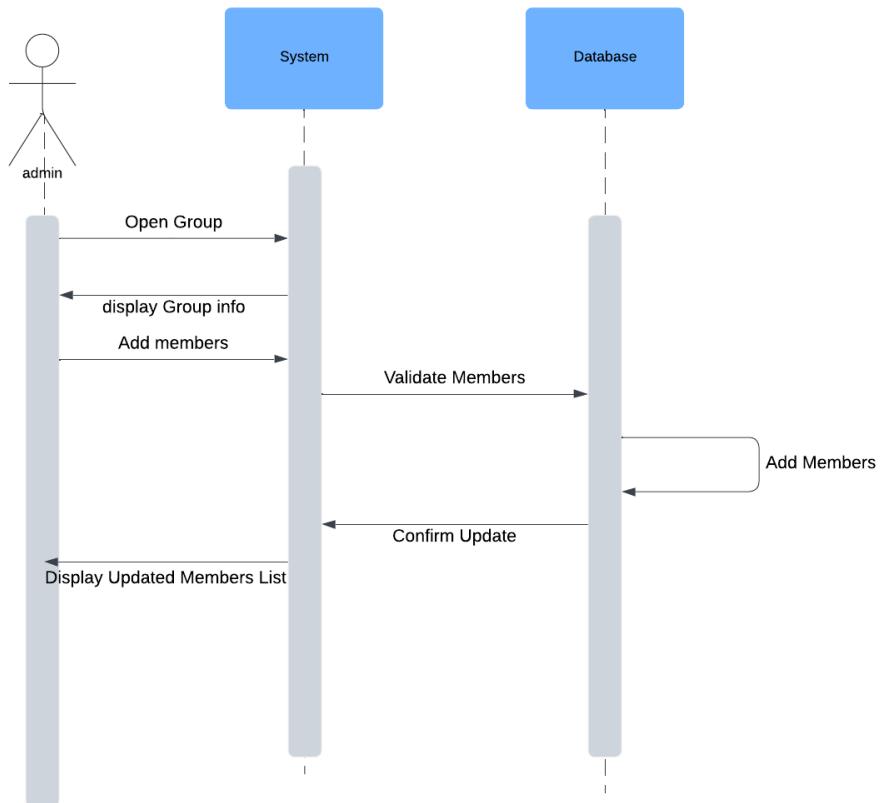


Figure 9: Add a Member Sequence Diagram



4.4.7 Delete member

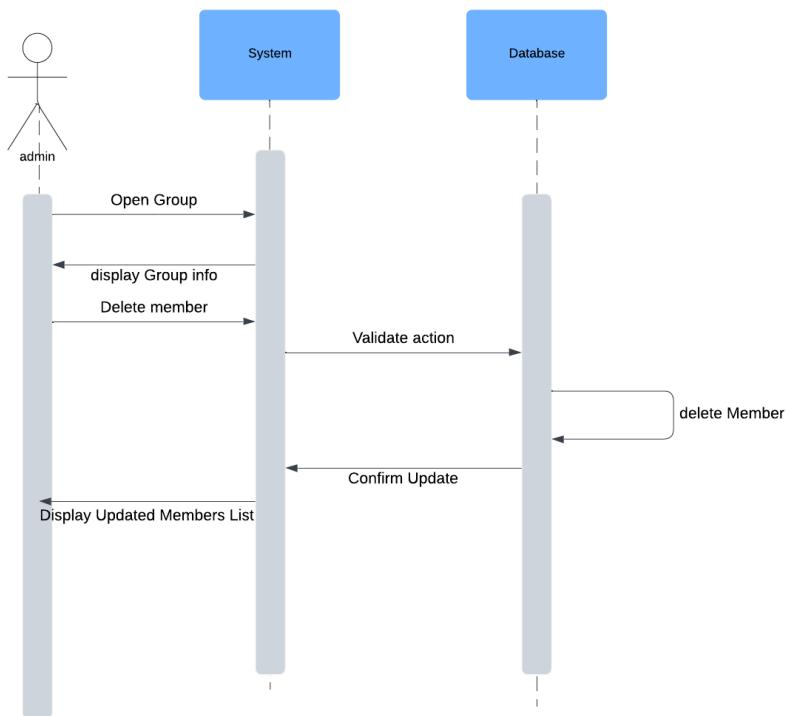


Figure 9: Delete a Member Sequence Diagram

4.4.8 create task

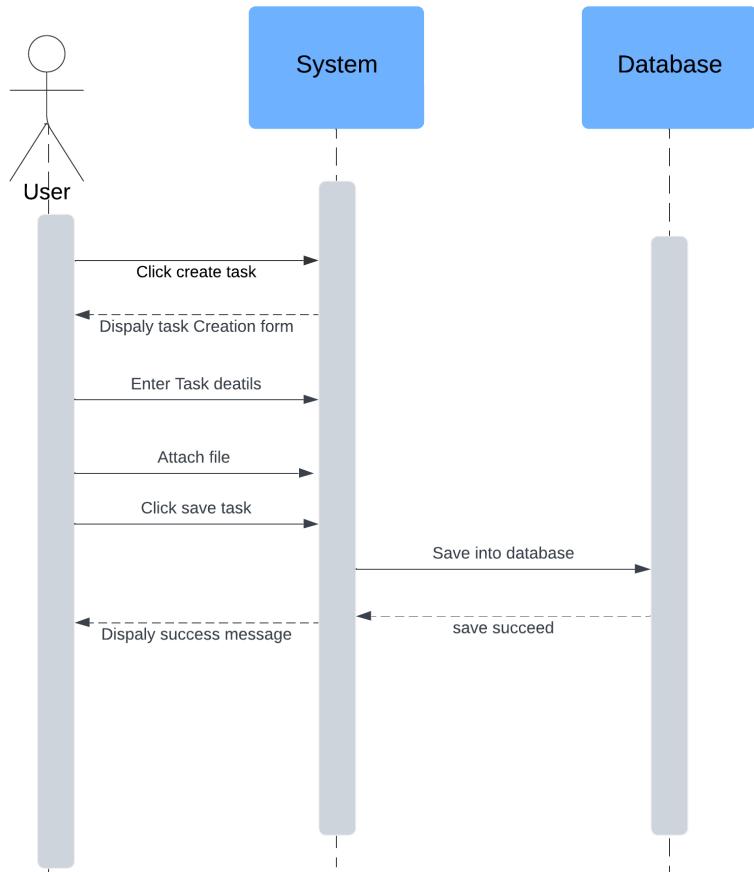


Figure 10: Create Task Sequence Diagram



4.4.9 edit task

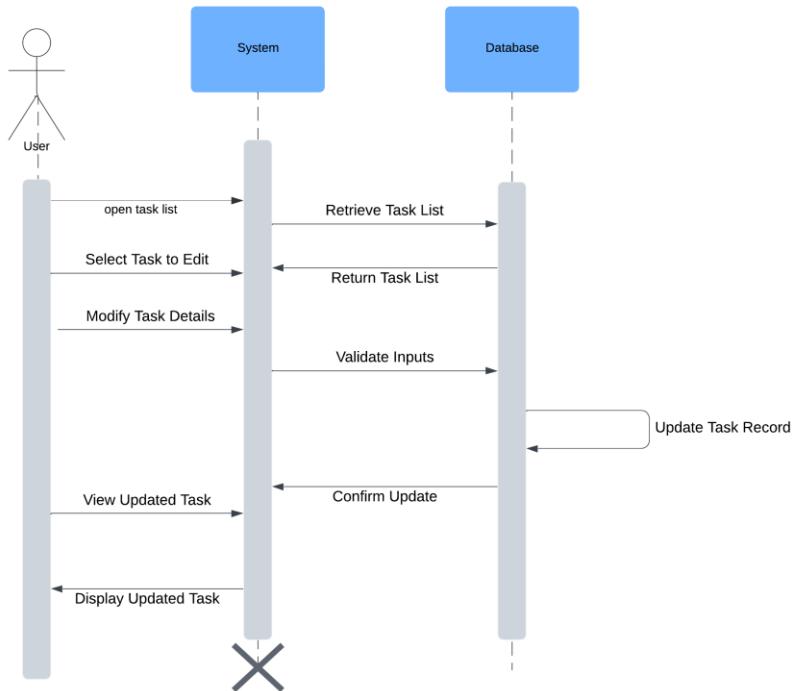


Figure 11: Edit Task Sequence Diagram



4.4.10 Delete task

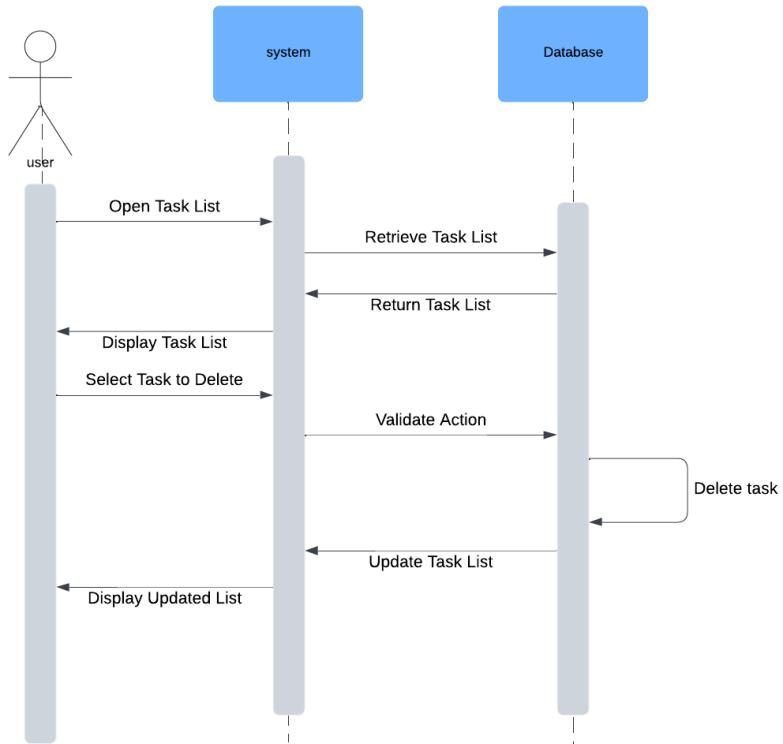


Figure 12: Delete Task Sequence Diagram



4.4.11 Assign task

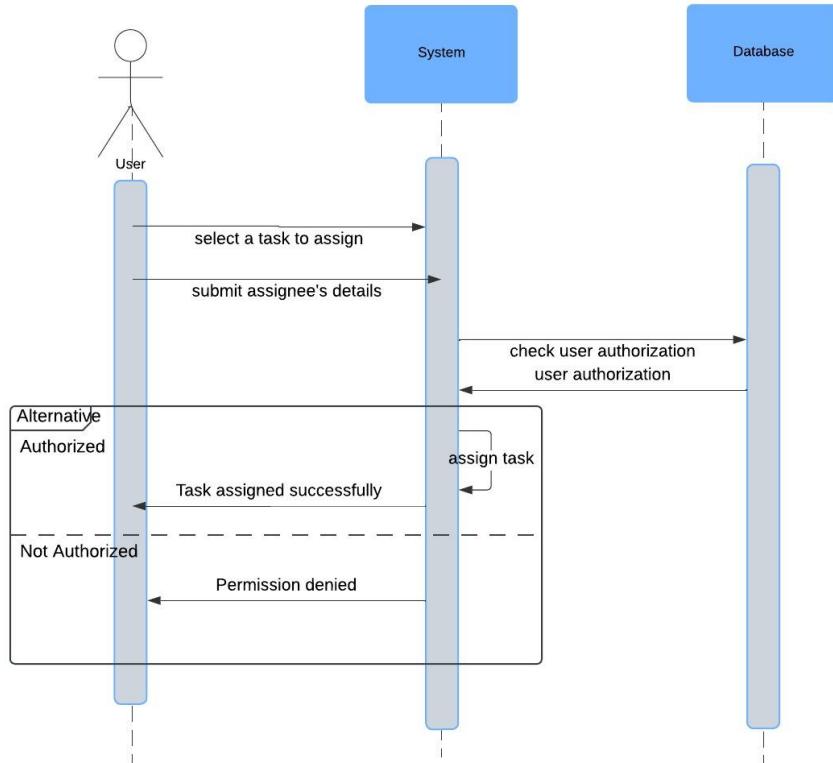


Figure 13: Assign Task Sequence Diagram



4.4.12 Attach file

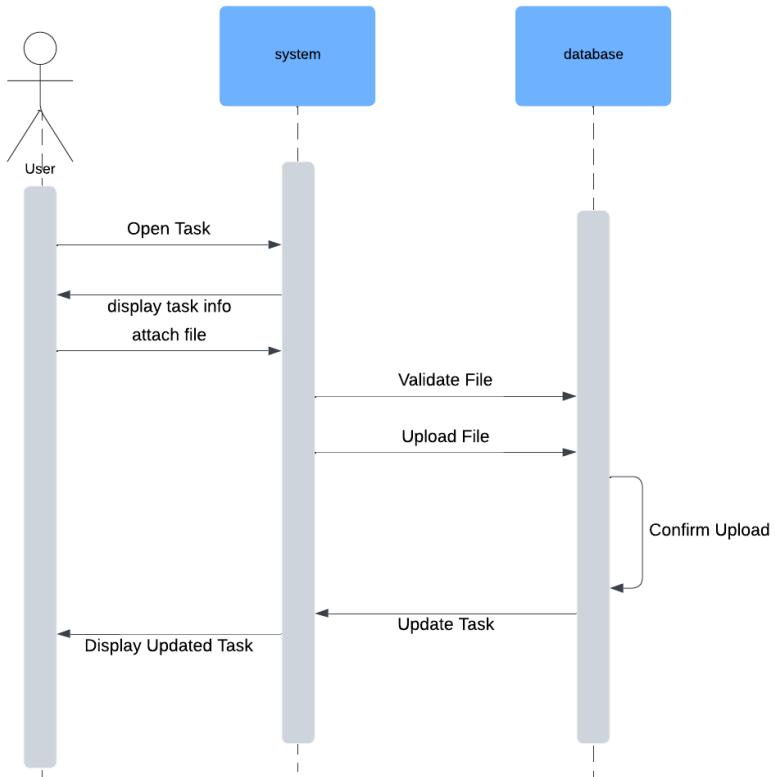


Figure 14: Attach file Sequence Diagram



4.4.13 Delete attached file

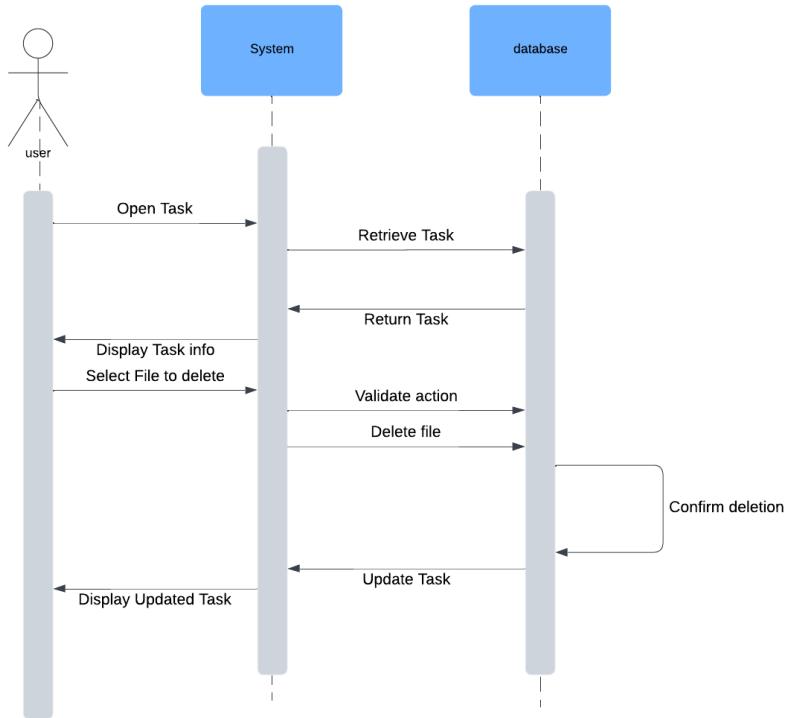


Figure 15: Delete Attached File Sequence Diagram

4.4.14 Edit attached file

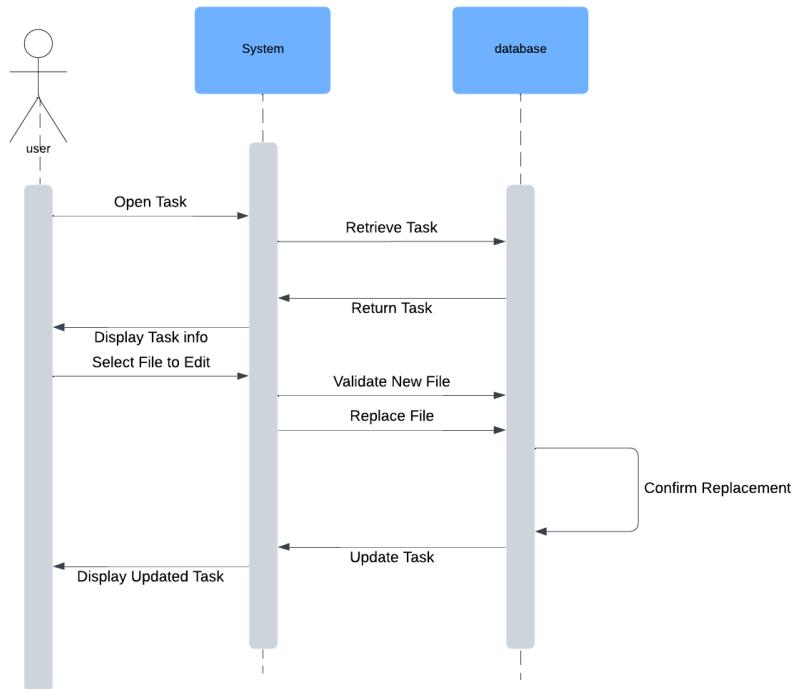


Figure 16: Edit Attached File Sequence Diagram

4.4.15 Create task category

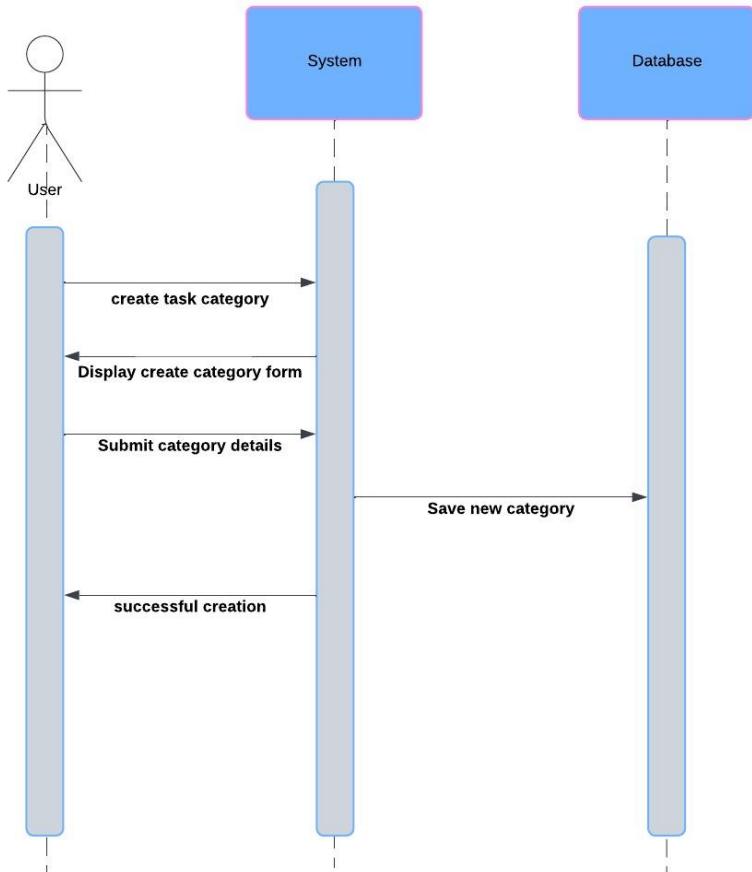


Figure 17: Create Task Category Sequence Diagram

4.4.16 Delete task category

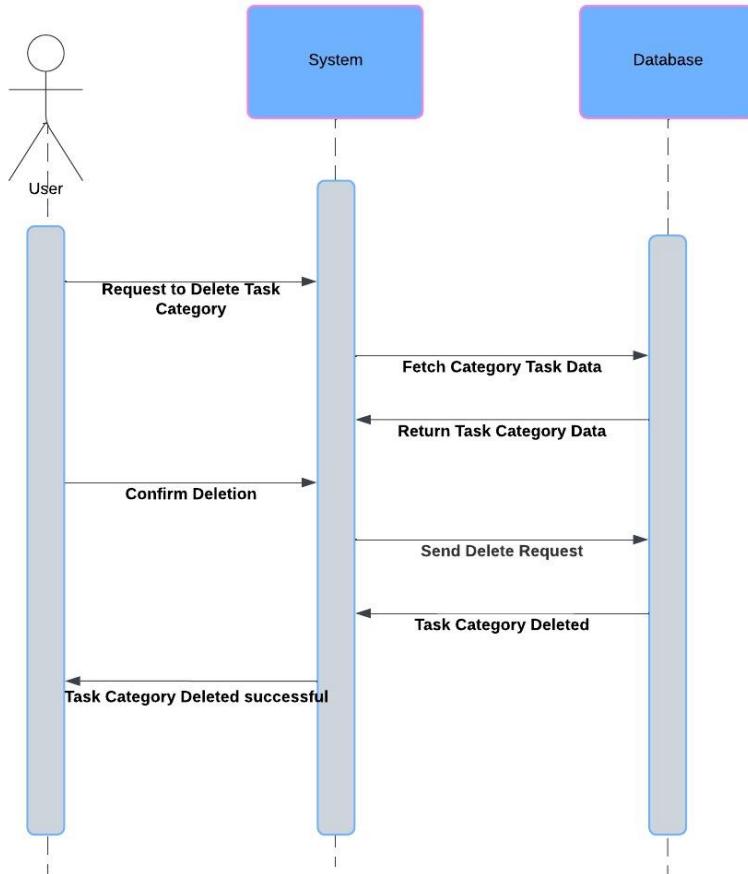


Figure 18: Delete Task Category Sequence Diagram



4.4.17 Set reminder

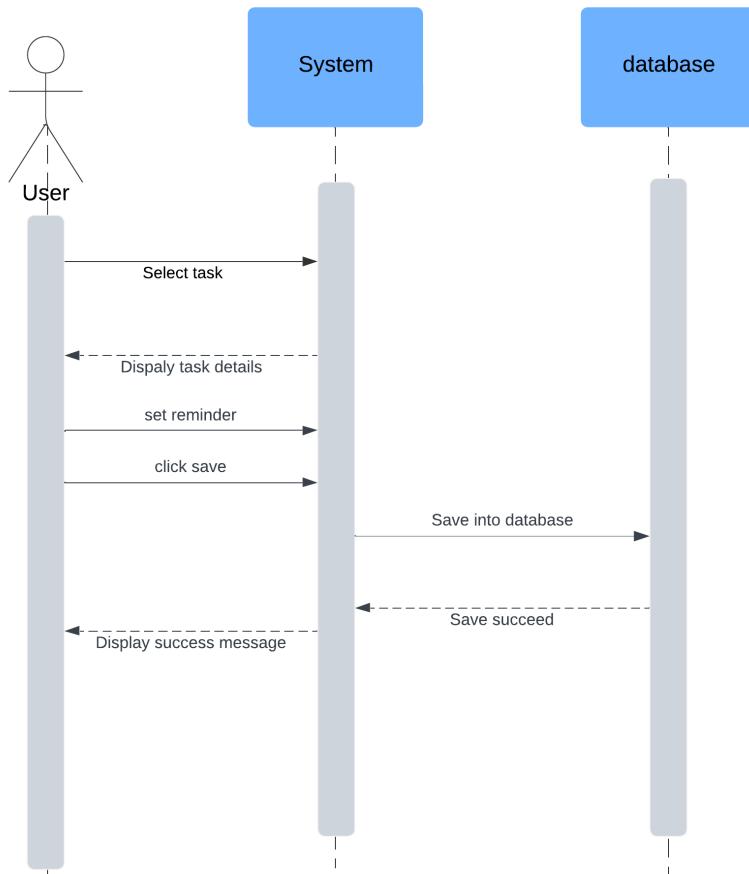


Figure 19: Set Reminder Sequence Diagram

4.4.18 Edit reminder

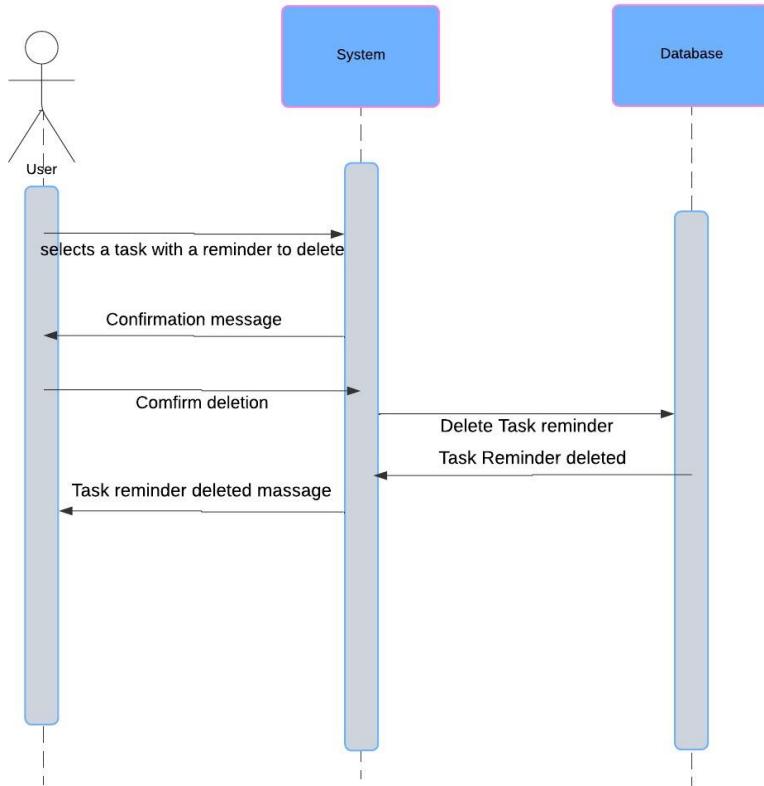


Figure 20: Edit Reminder Sequence Diagram

4.4.19 Delete Reminder

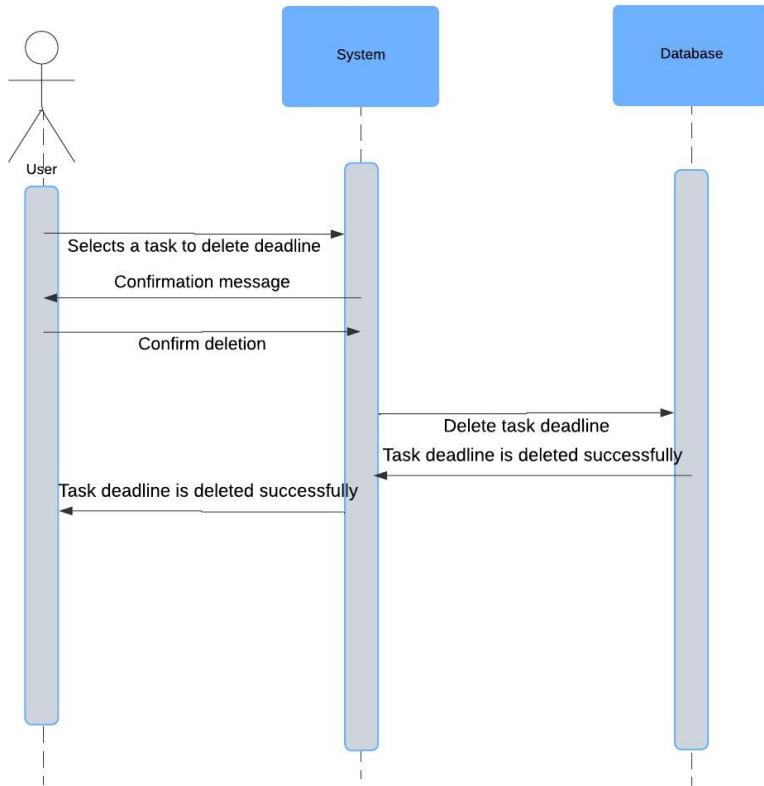


Figure 21: Delete Reminder Sequence Diagram



4.4.20 Set deadline

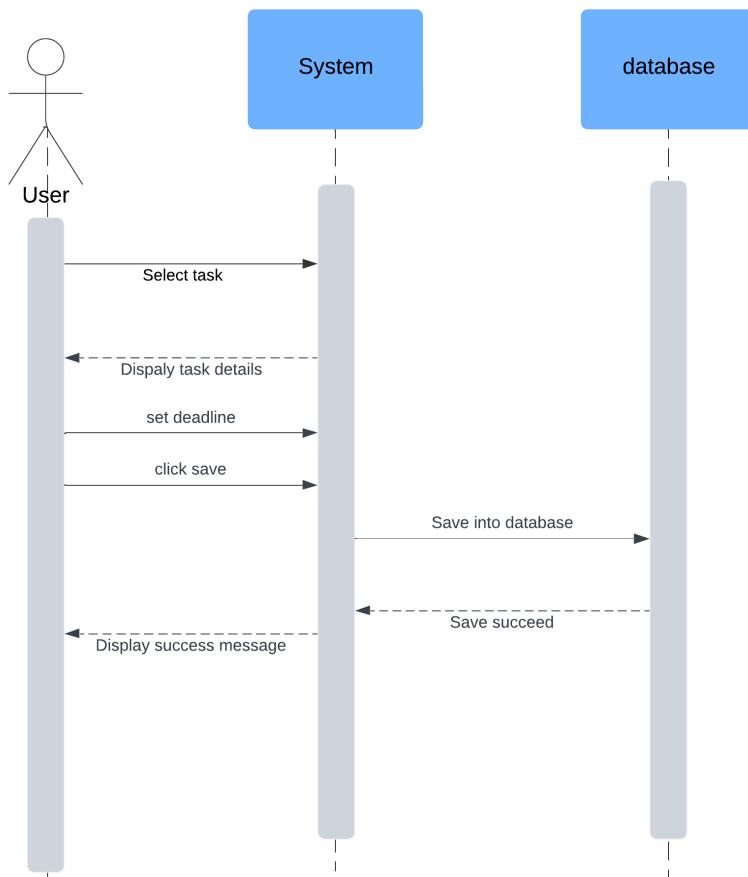


Figure 22: Set deadline Sequence Diagram



4.4.21 Edit deadline

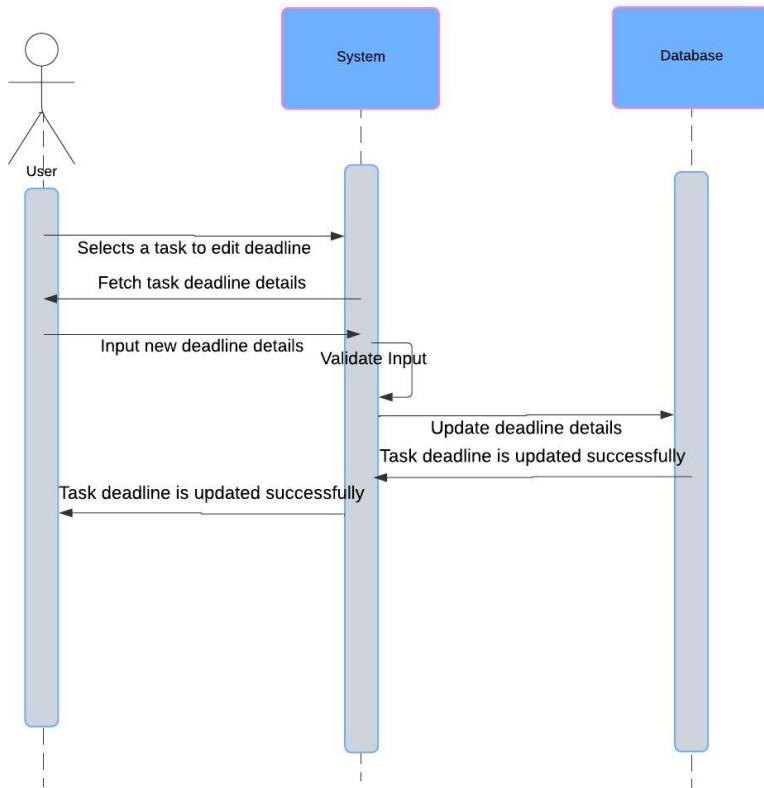


Figure 23: Edit Deadline Sequence Diagram

4.4.22 Delete deadline

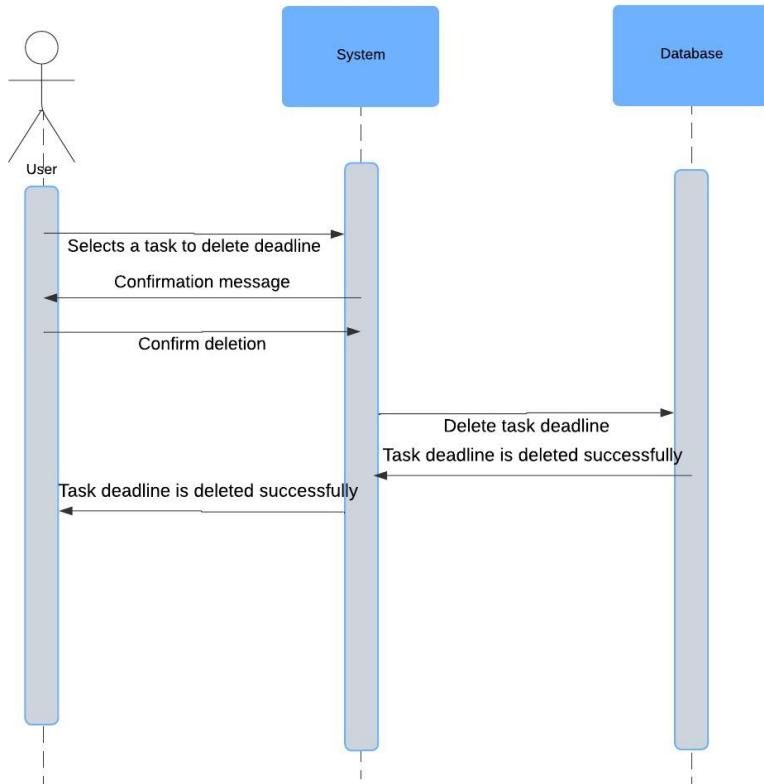


Figure 24: Delete Deadline Sequence Diagram



4.4.23 Mark task to yourself

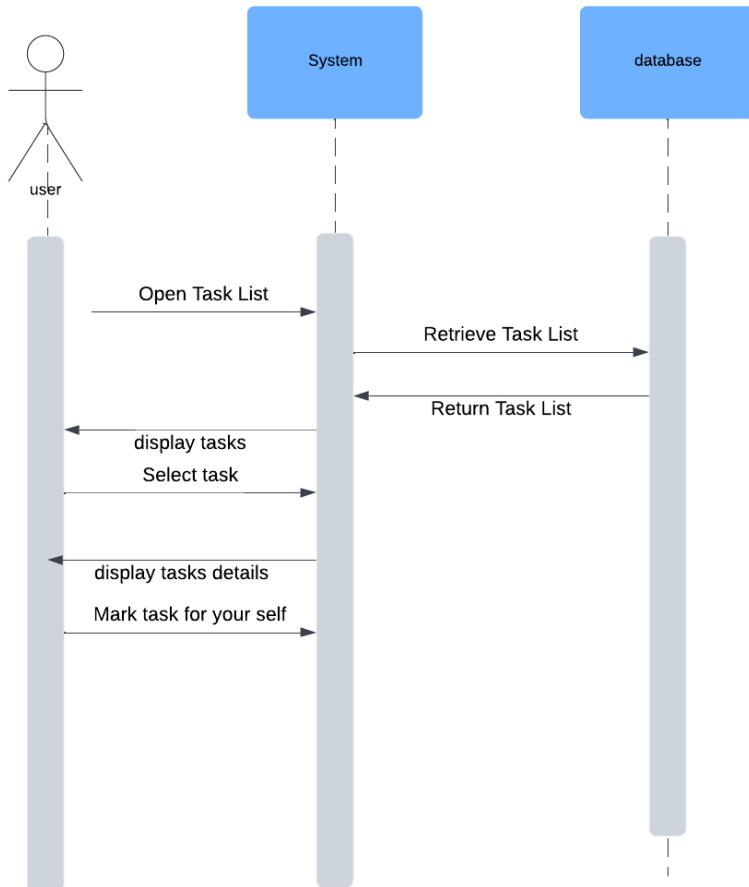


Figure 25: Mark Task To Yourself Sequence Diagram

4.4.24 Update task status

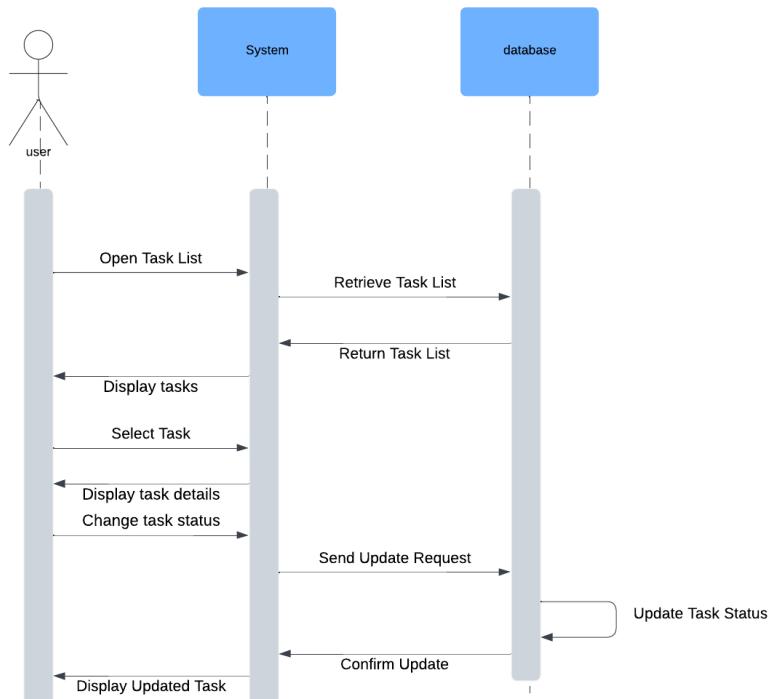


Figure 26: Update task status Sequence Diagram

4.4.25 Set location link

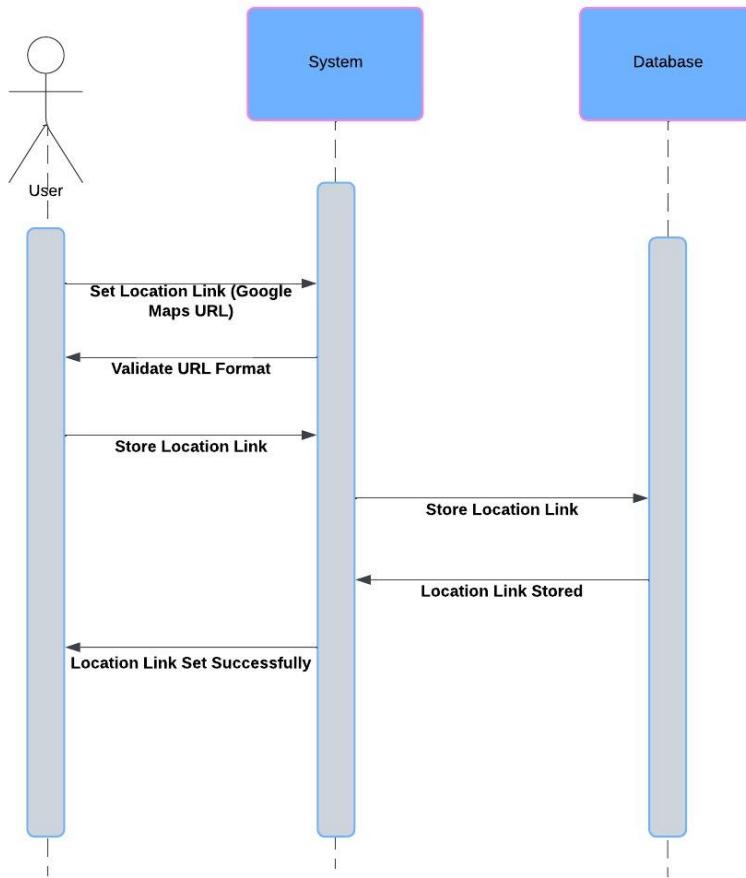


Figure 27: Set Location Link Sequence Diagram

4.4.26 Update Task Progress bar

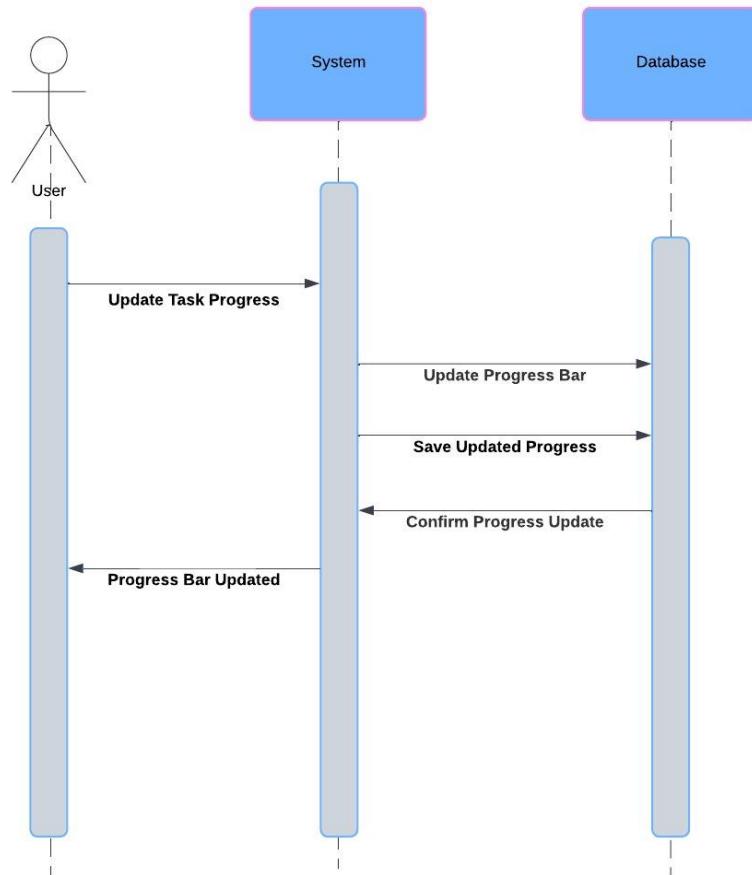


Figure 28: Update task Progress bar Sequence Diagram

4.4.27 Update profile

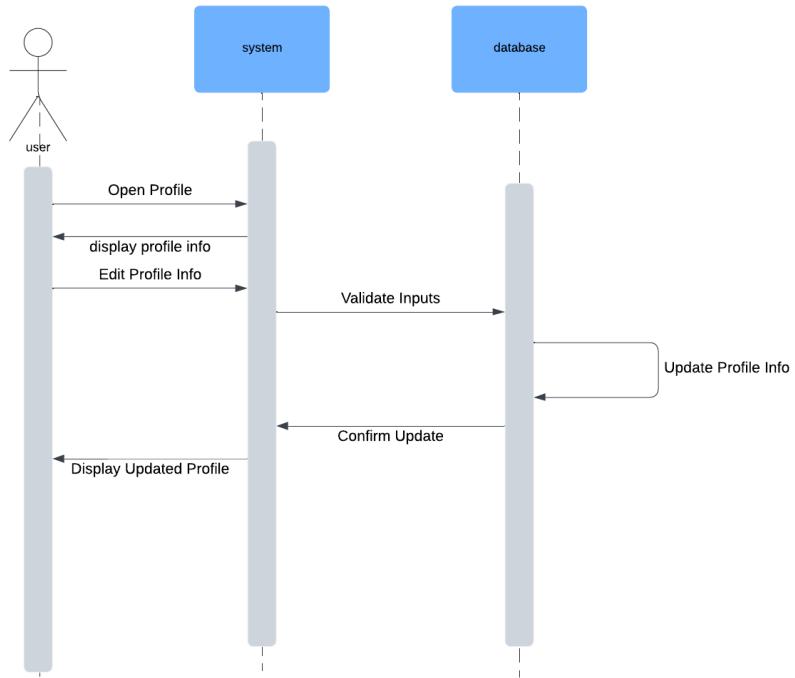


Figure 29: Update Profile Sequence Diagram



4.4.28 Turn on/off notification

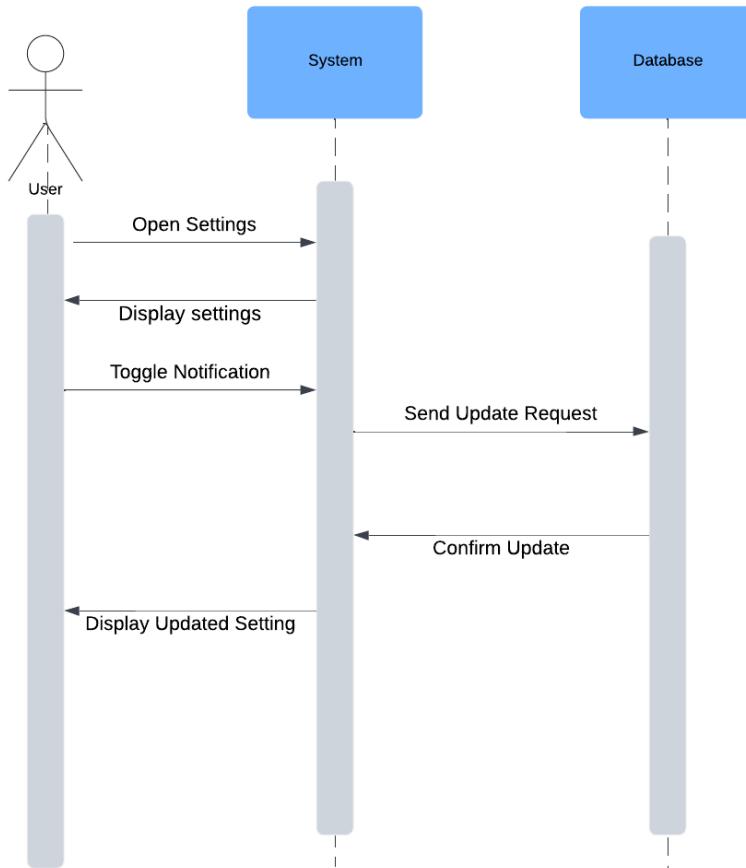


Figure 30: Turn on/off notification Sequence Diagram



4.4.29 Add rewards

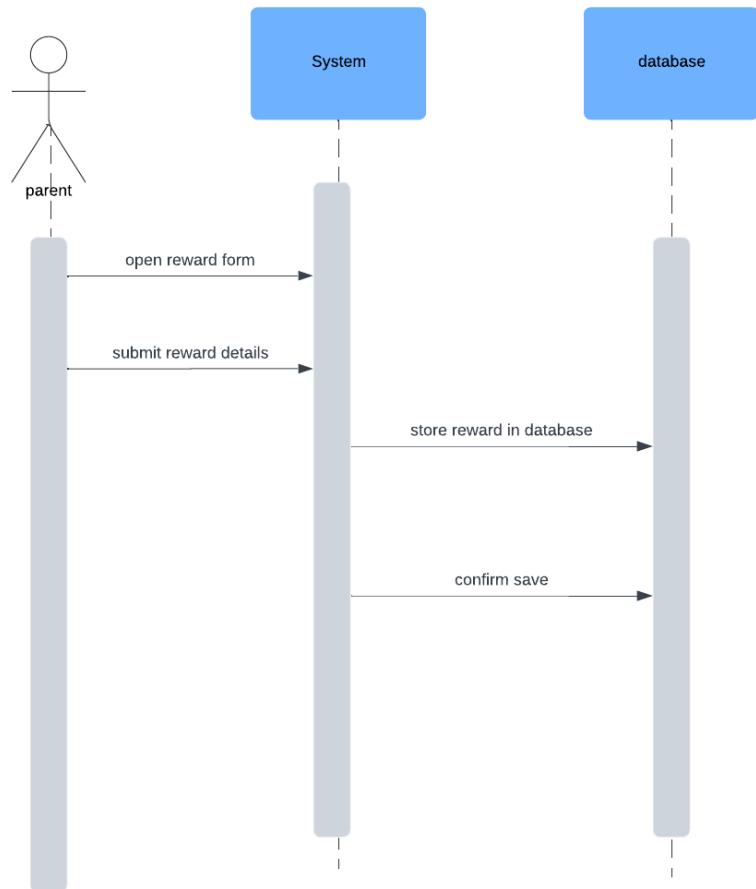


Figure 31: Add rewards Sequence Diagram

4.4.30 Redeem rewards

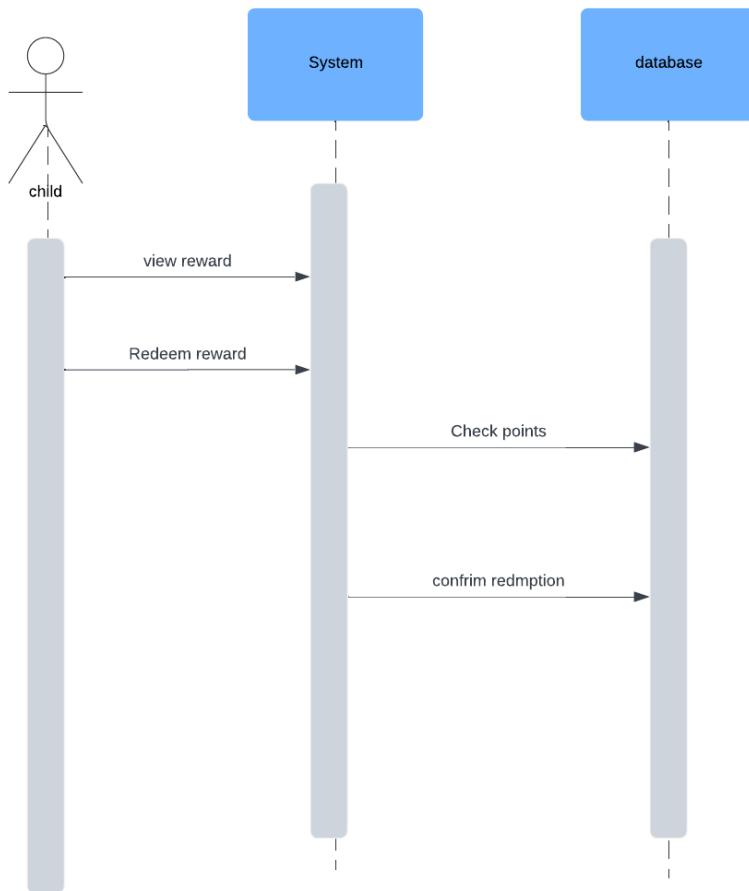


Figure 32: Redeem rewards Sequence Diagram

4.5 Activity diagram

An activity diagram visually represents workflows, showing the sequence of activities, decisions, and parallel actions. It helps clarify processes and system behavior for better understanding and analysis.

4.5.1 Register

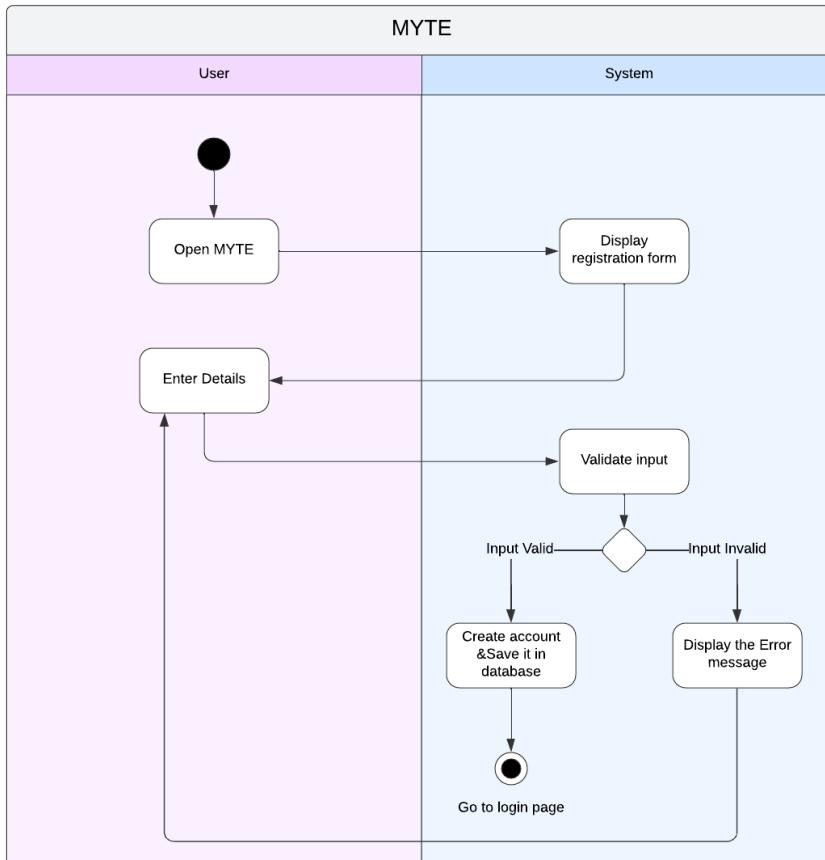


Figure 33: Register Activity Diagram

4.5.2 Login

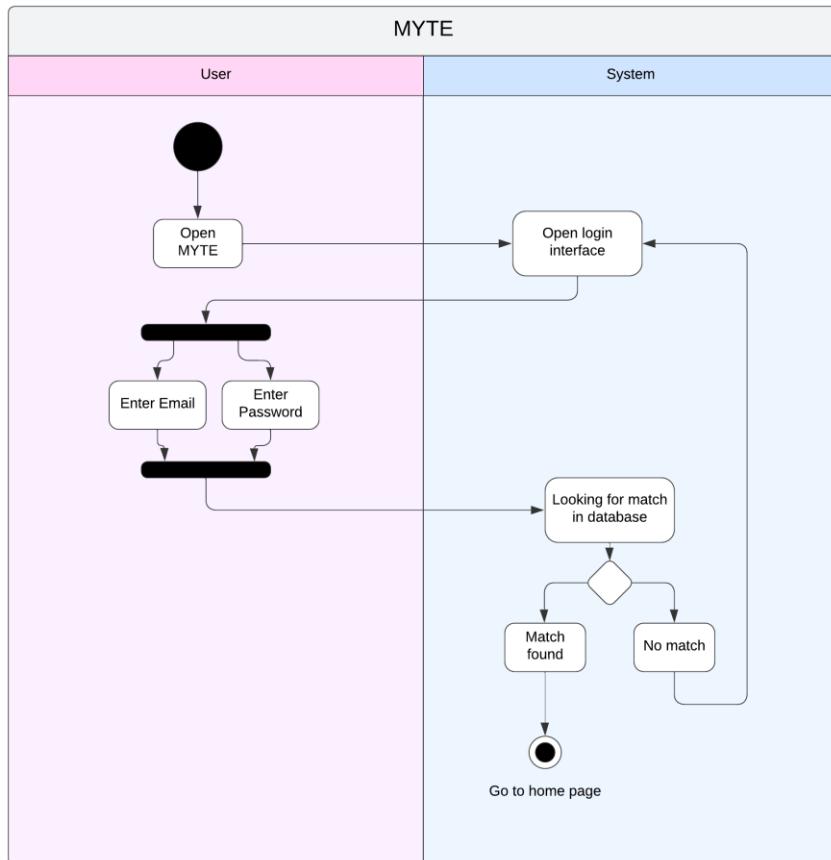


Figure 34: login Activity Diagram

4.5.3 logout

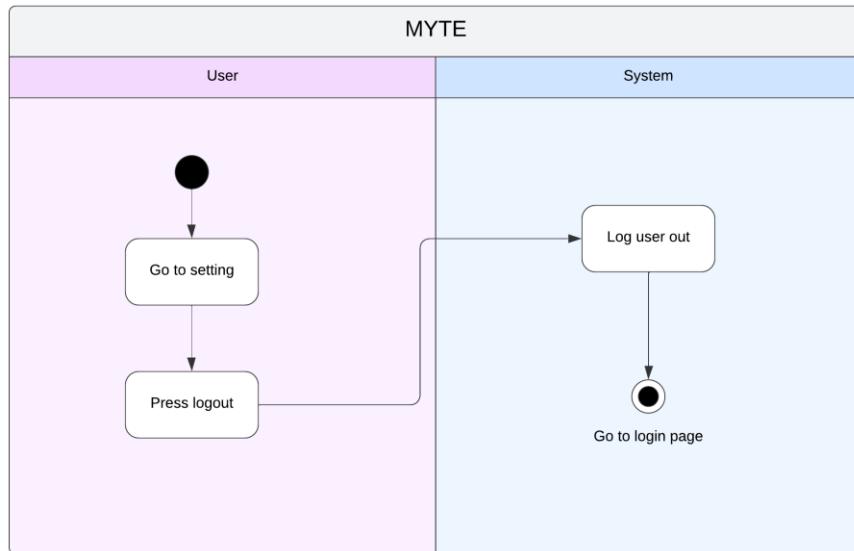


Figure 35: logout Activity Diagram

4.5.4 Create Group

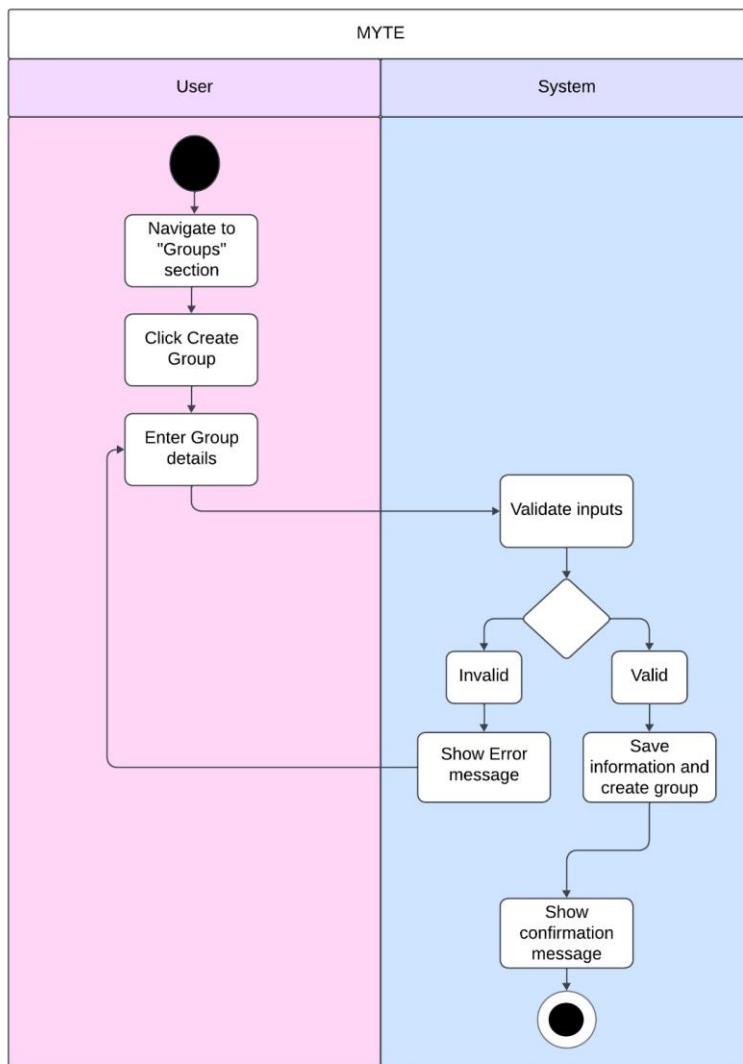


Figure 36: Create Group Activity Diagram

4.5.5 delete group

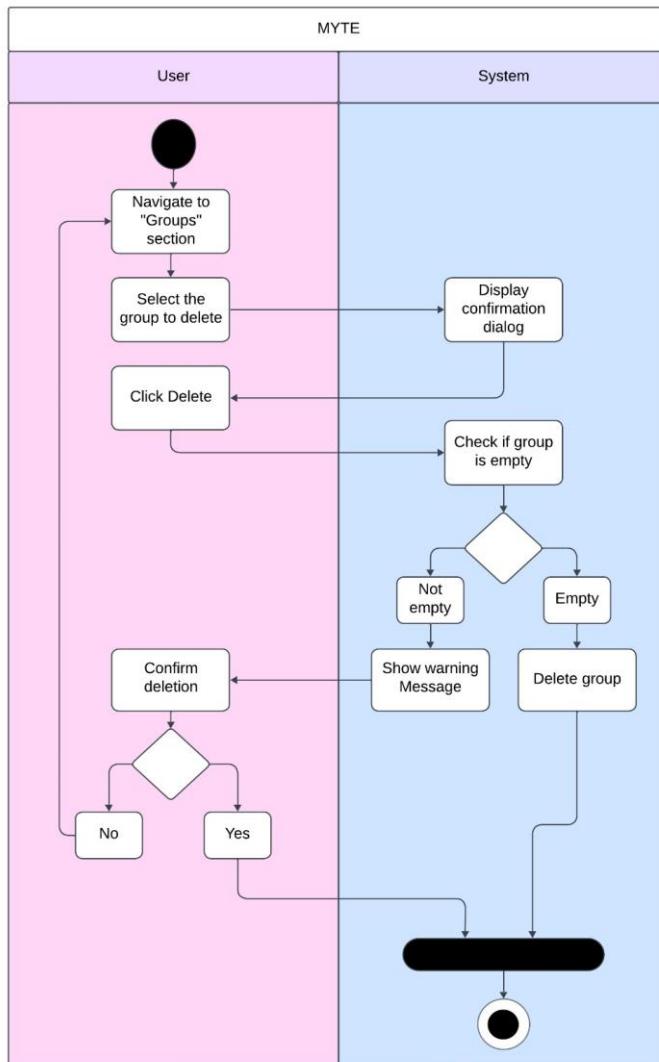


Figure 37: Delete Group Activity Diagram

4.5.6 add member

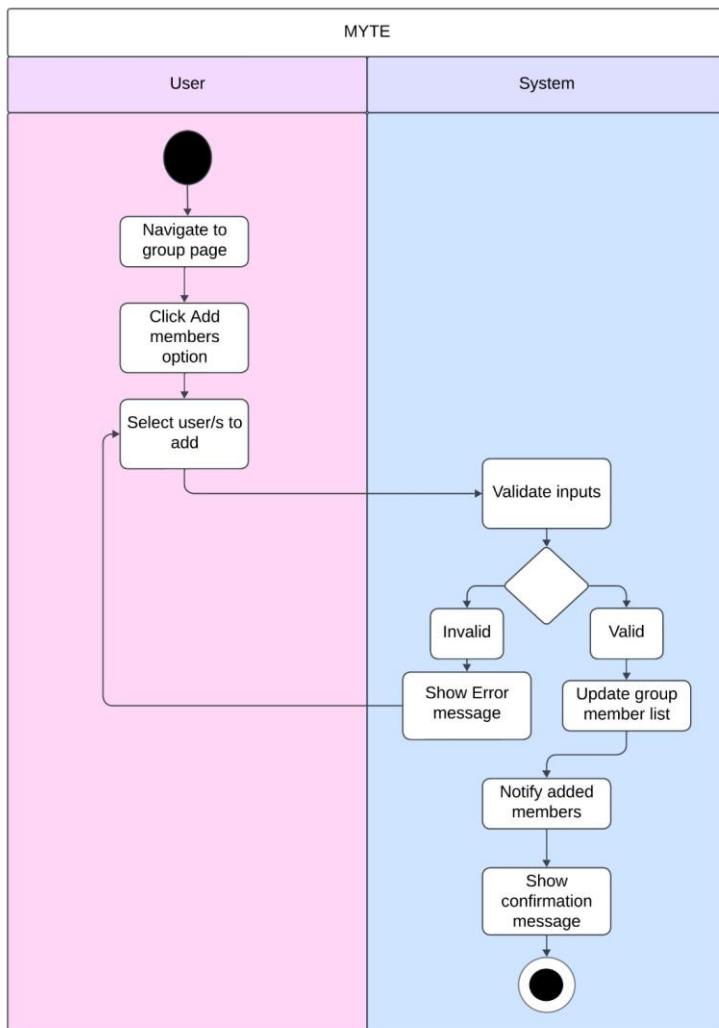


Figure 38: Add a Member Activity Diagram

4.5.7 Delete member

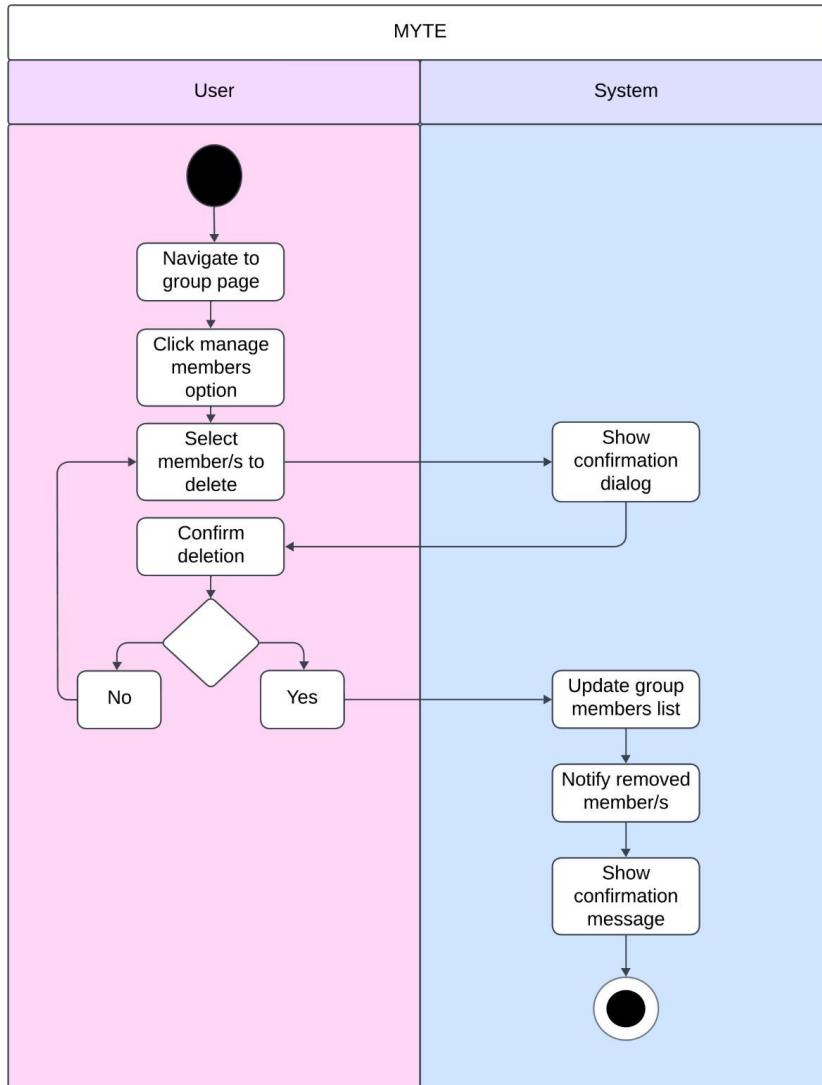


Figure 39: Delete a Member Activity Diagram

4.5.8 create task

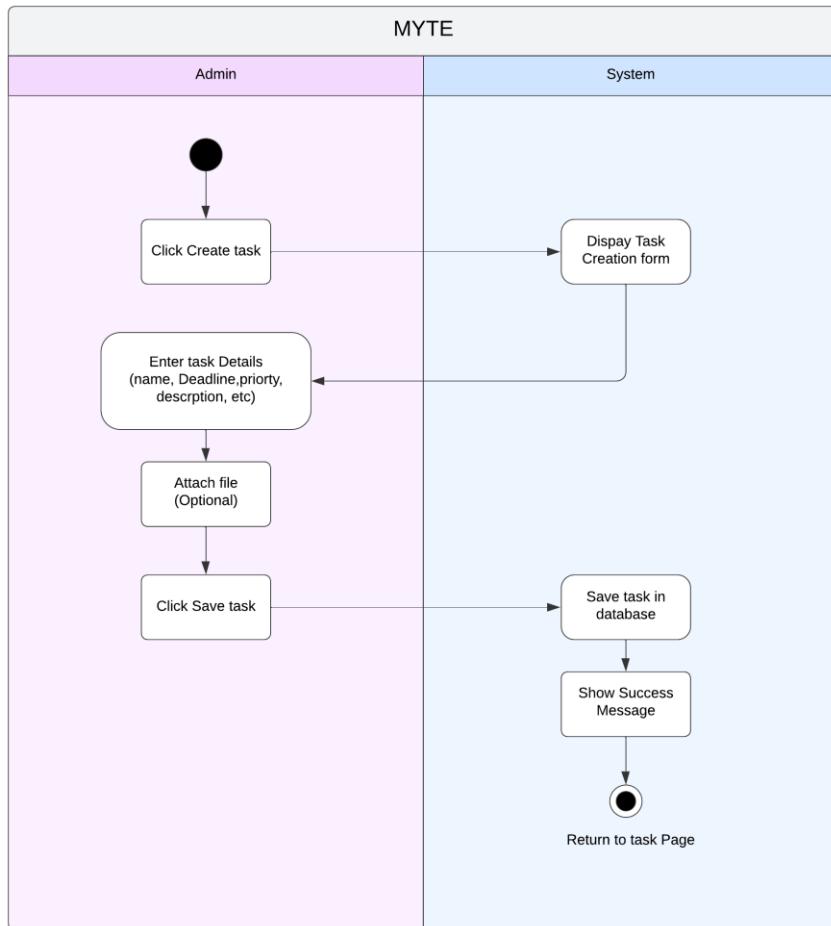


Figure 40: Create Task Activity Diagram

4.5.9 edit task

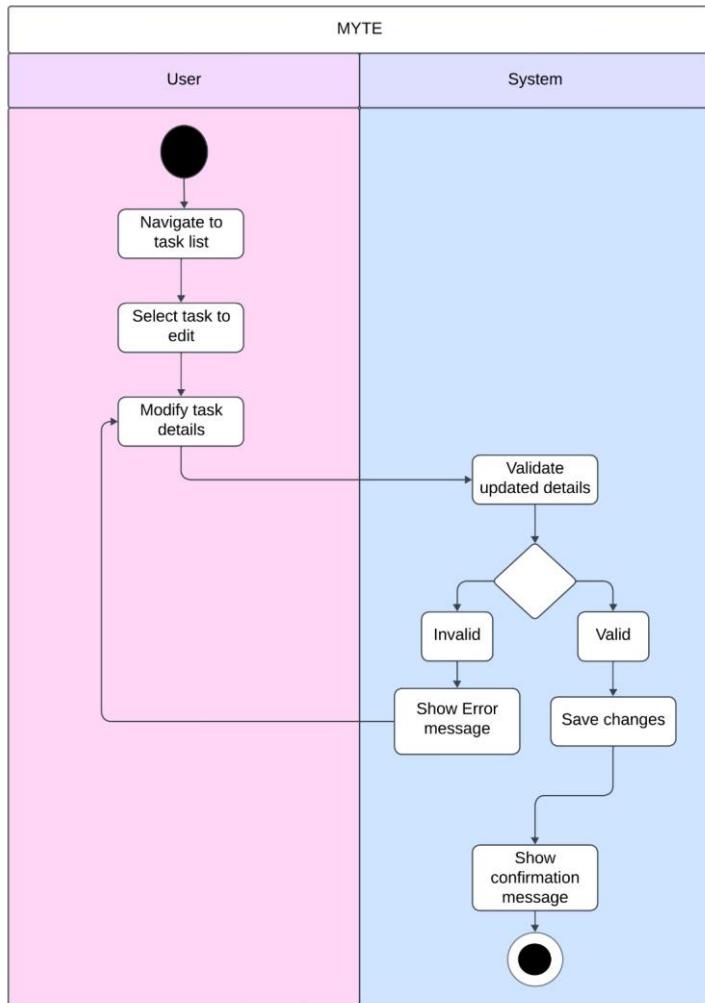


Figure 41: Edit Task Activity Diagram

4.5.10 Delete task

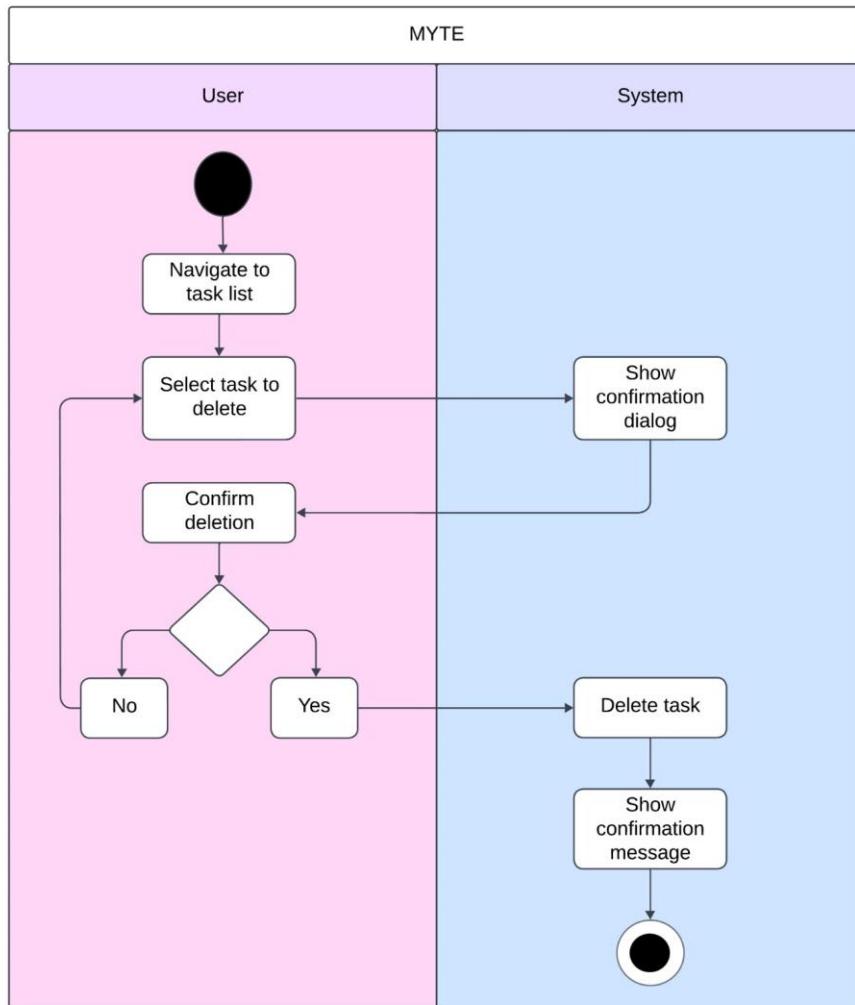


Figure 42: Delete Task Activity Diagram

4.5.11 Assign task

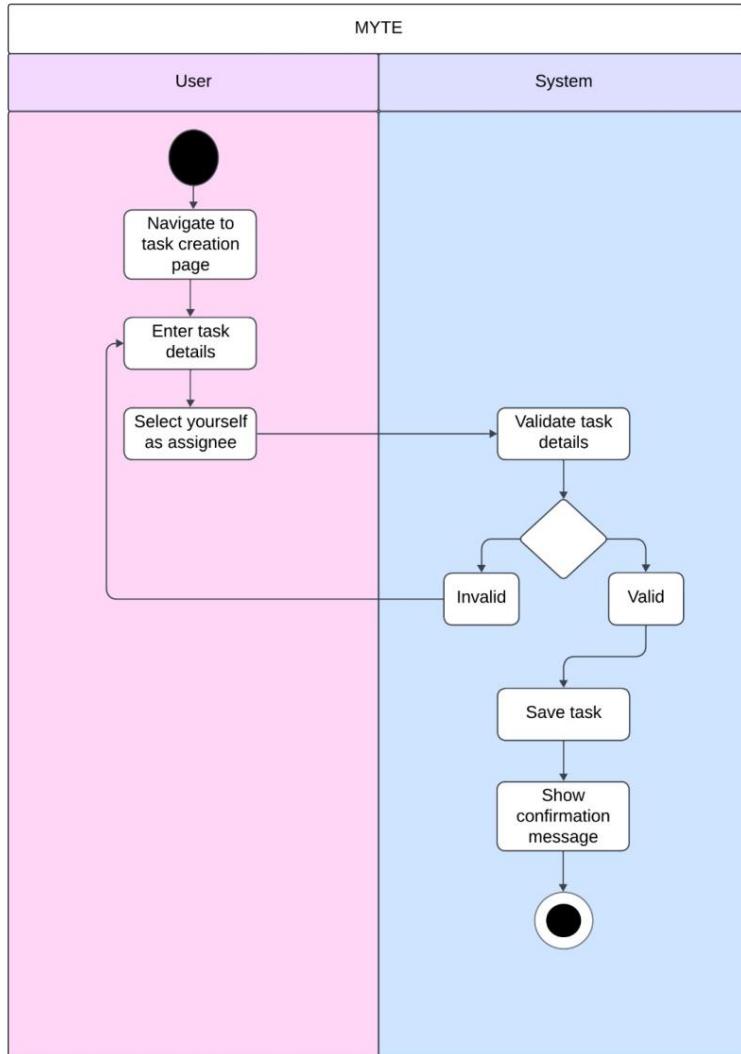


Figure 43: Assign Task Activity Diagram

4.5.12 Attach file

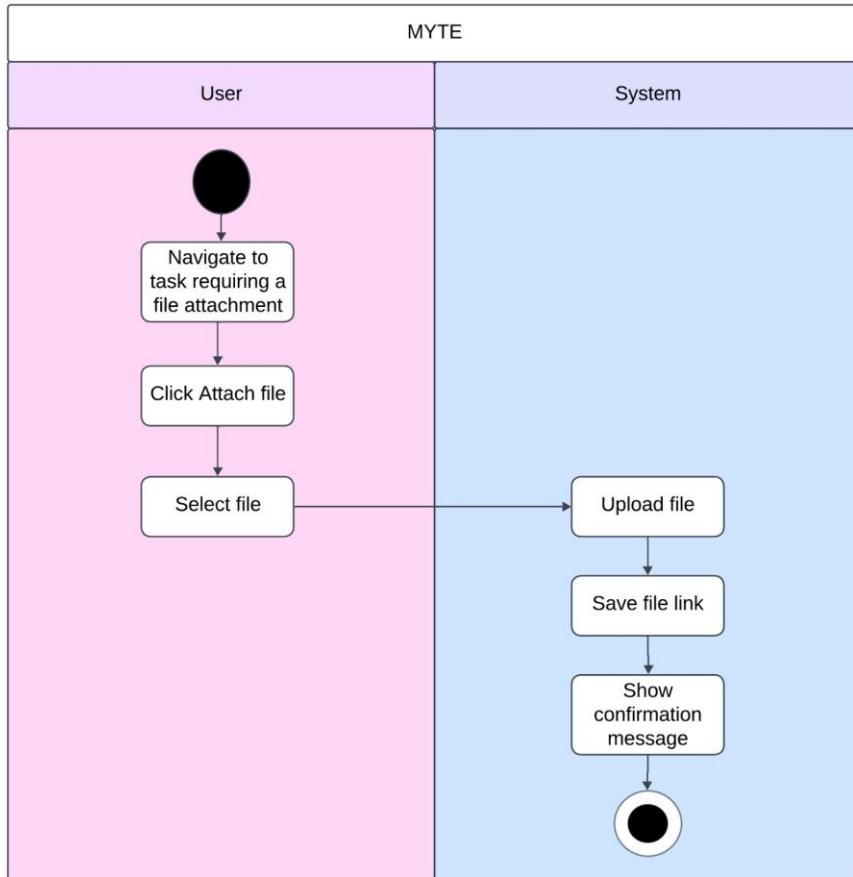


Figure 44: Attach File Activity Diagram

4.5.13 Delete attached file

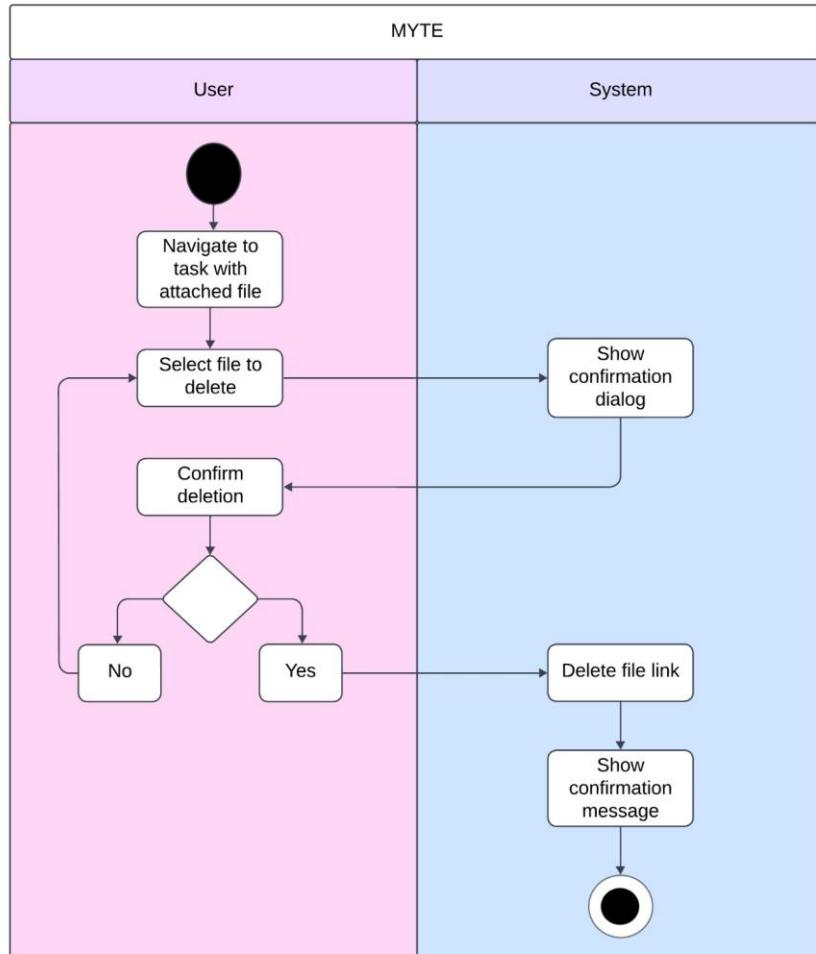


Figure 45: Delete Attached File Activity Diagram

4.5.14 Edit attached file

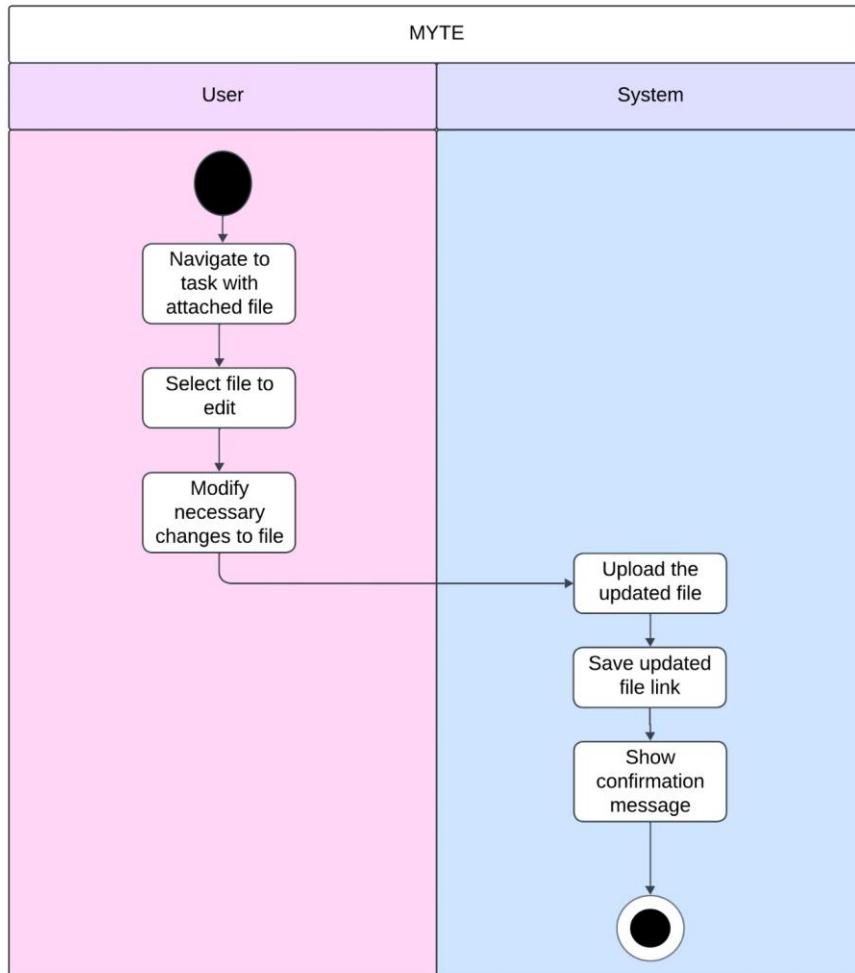


Figure 46: Edit Attached File Activity Diagram

4.5.15 Create task category

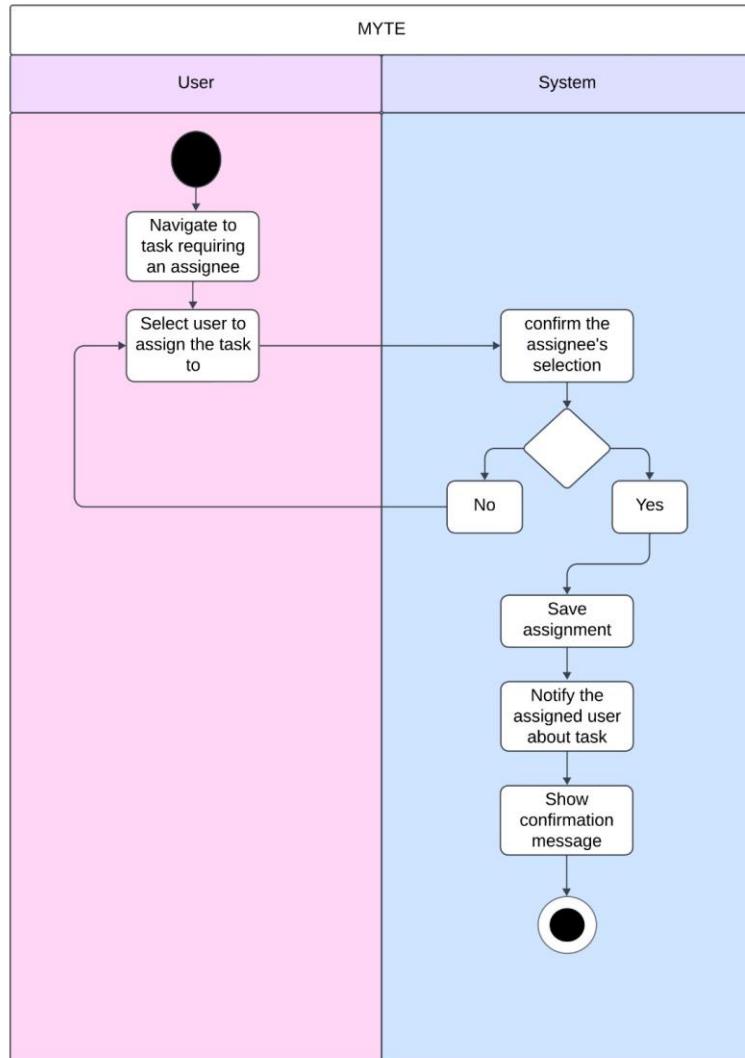


Figure 47: Create Task Category Activity Diagram

4.5.16 Delete task category

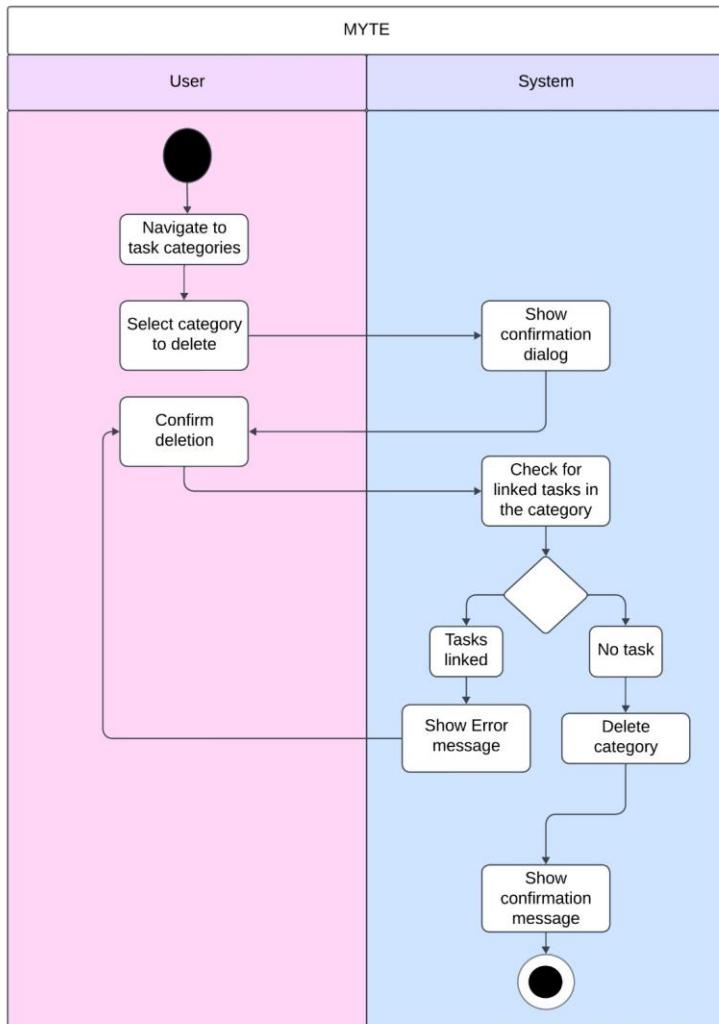


Figure 48: Delete Task Category Activity Diagram

4.5.17 Set reminder

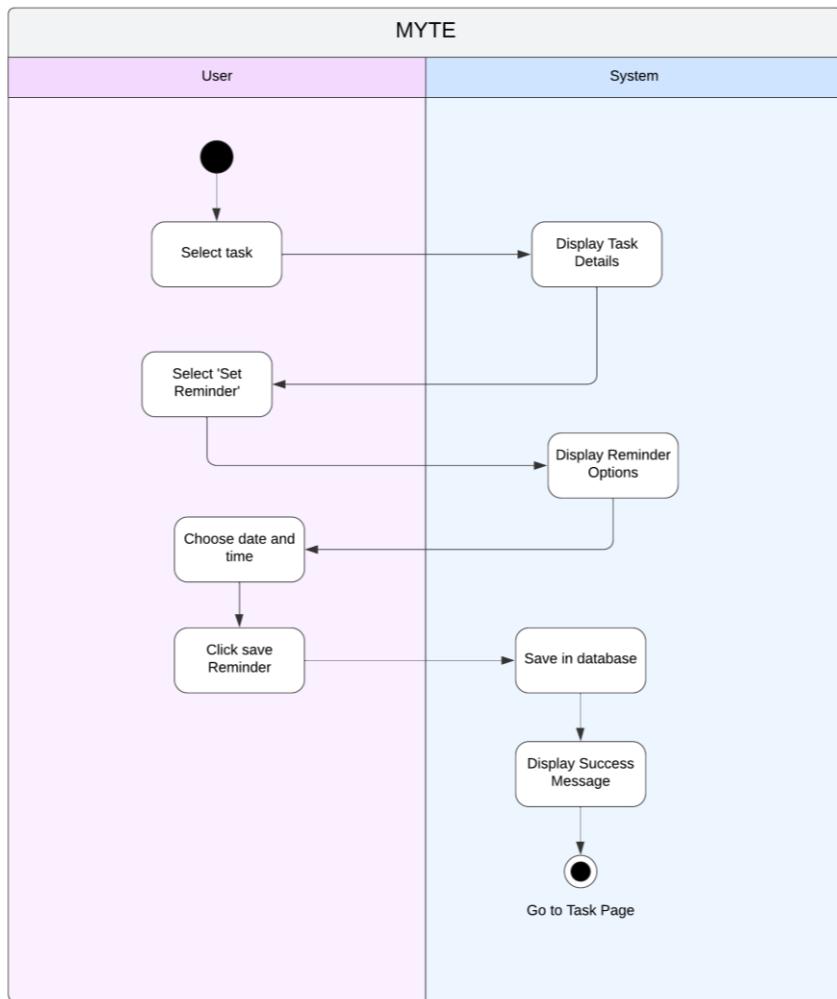


Figure 49: Set Reminder Activity Diagram

4.5.18 Edit reminder

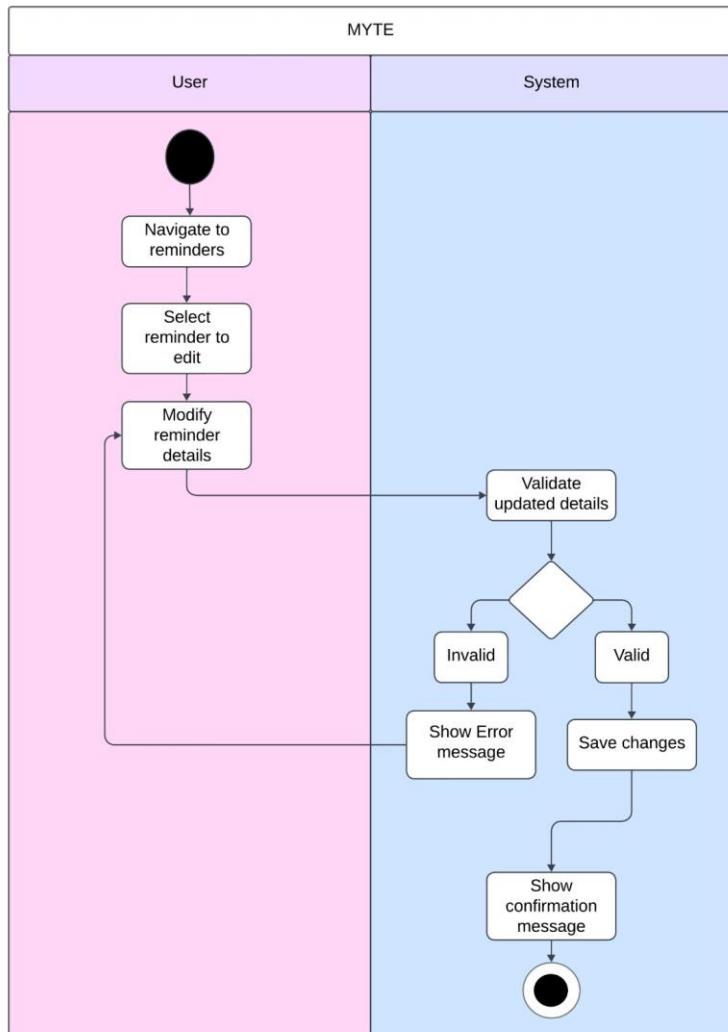


Figure 50: Edit Reminder Activity Diagram

4.5.19 Delete Reminder

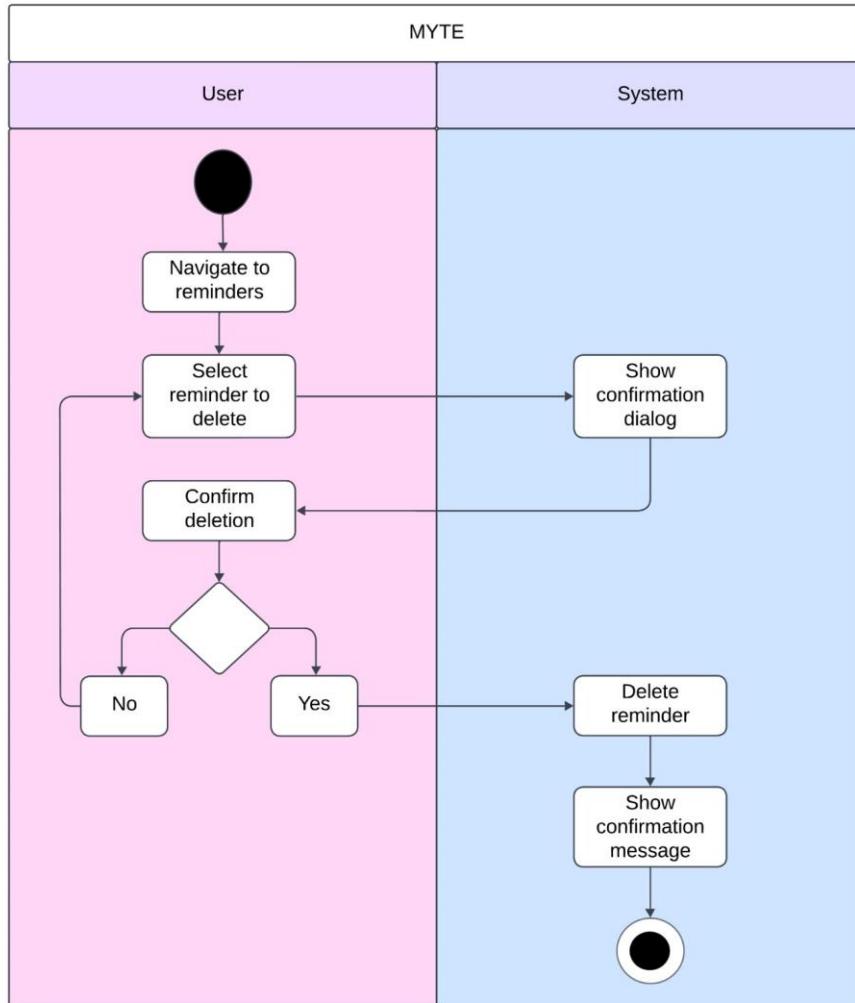


Figure 51: Delete Reminder Activity Diagram

4.5.20 Set deadline

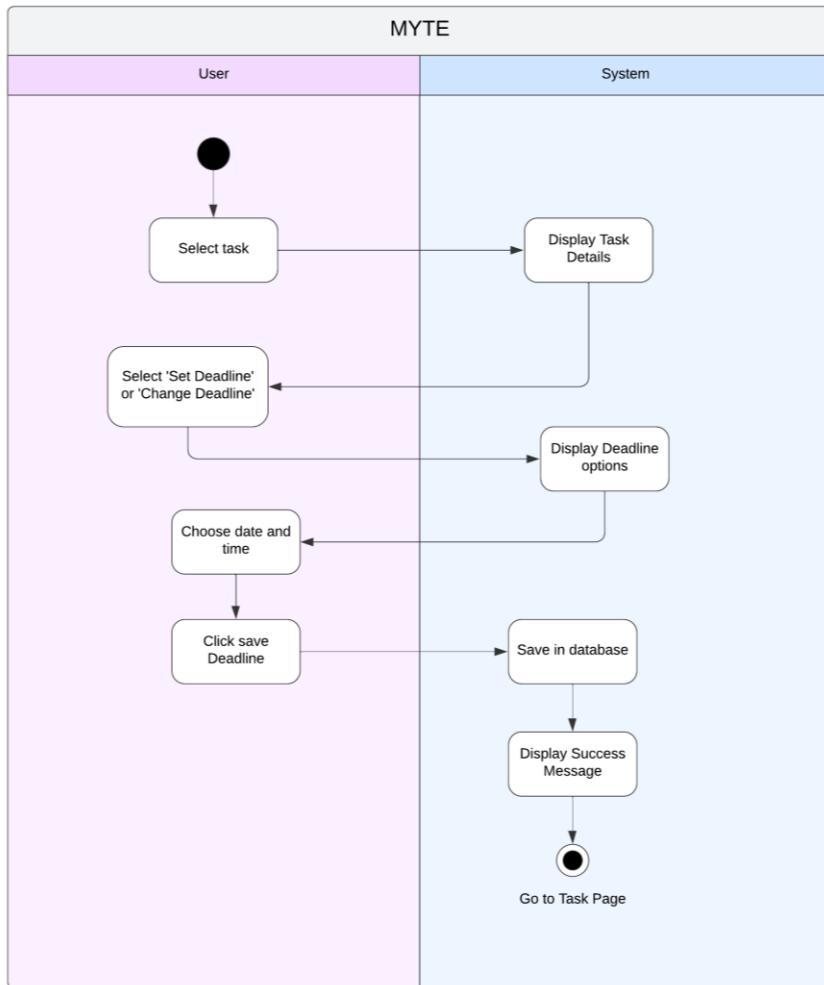


Figure 52: Set Deadline Activity Diagram

4.521 Edit deadline

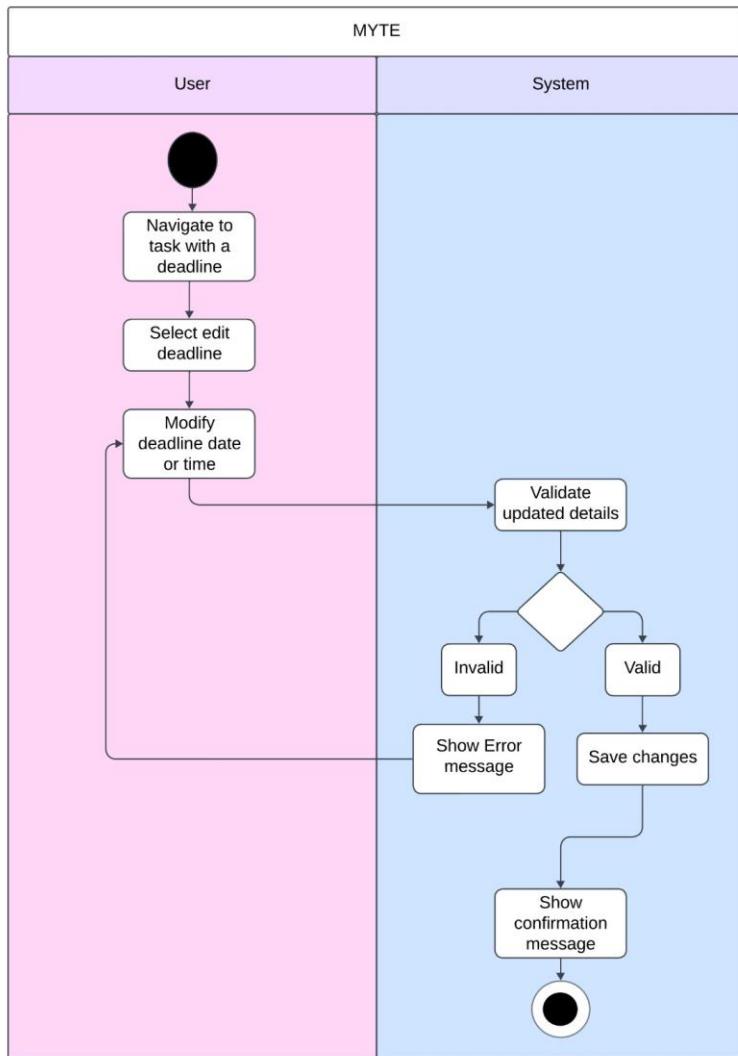


Figure 53: Edit Deadline Activity Diagram

4.5.22 Delete deadline

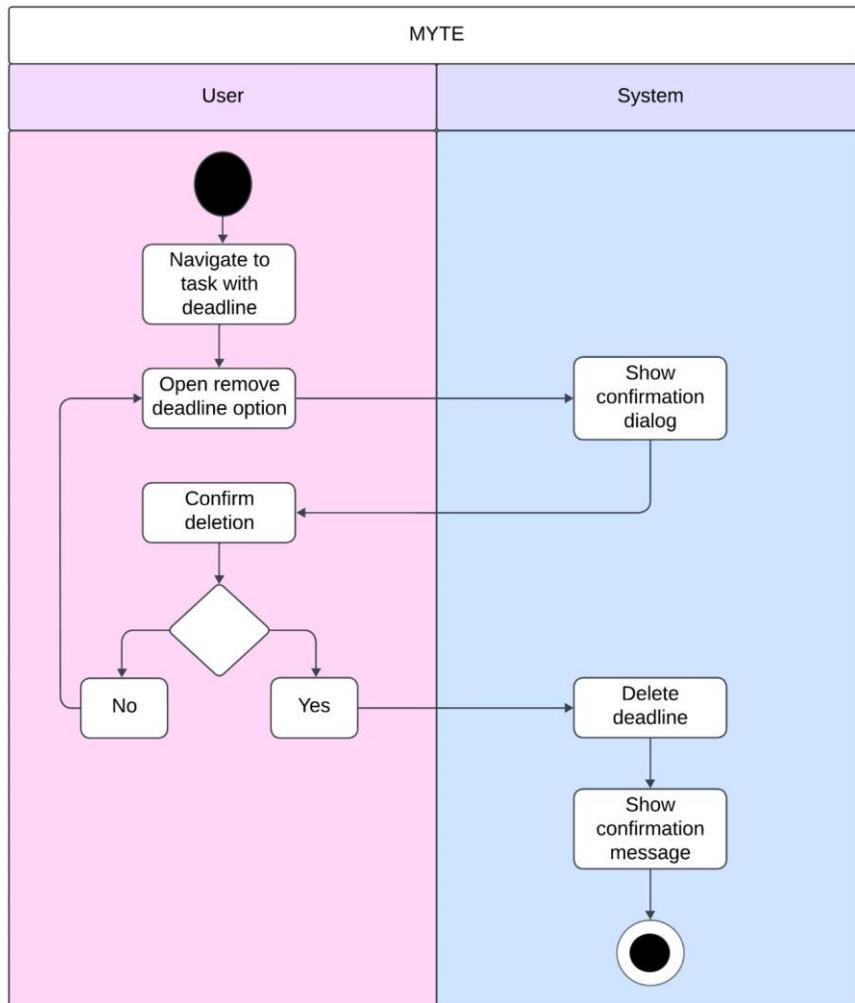


Figure 54: Delete Deadline Activity Diagram

4.5.23 Mark task to yourself

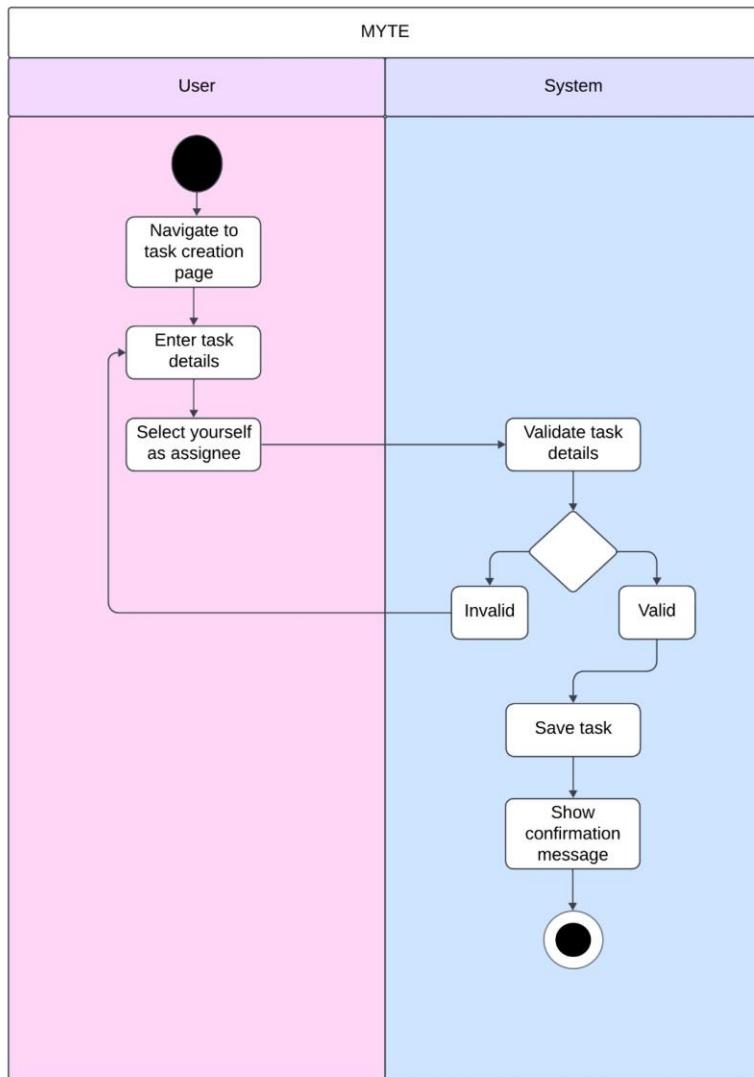


Figure 55: Mark Task to Yourself Activity Diagram

4.5.24 Update task status

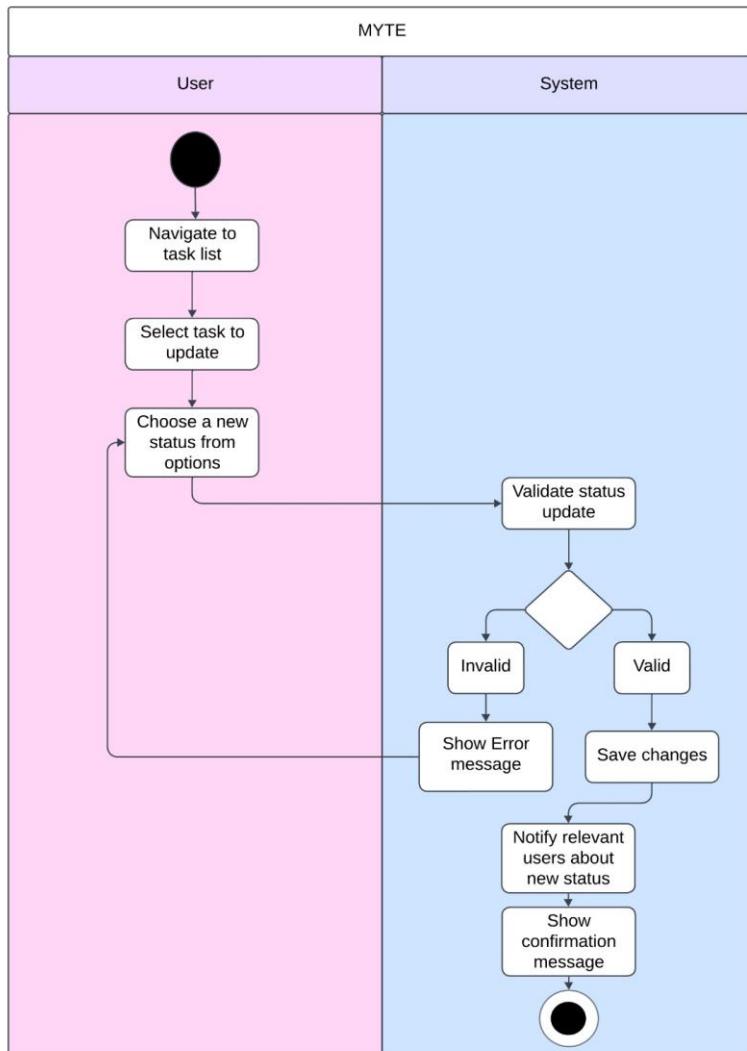


Figure 56: Update Task Status Activity Diagram

4.5.25 Set location link

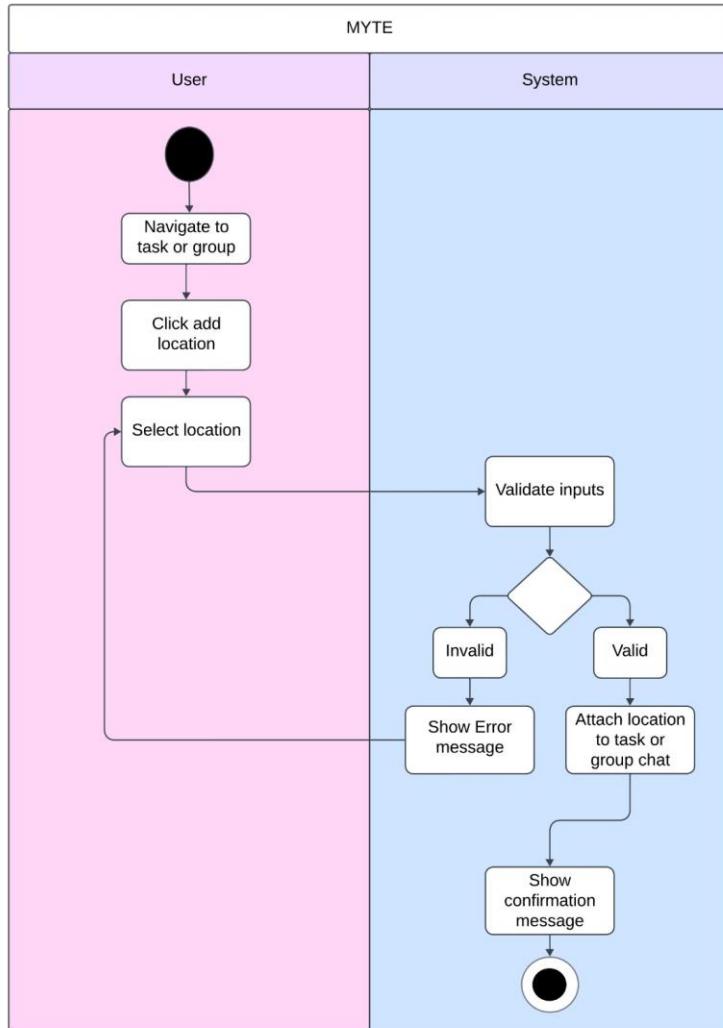


Figure 57: Set Location Link Activity Diagram

4.5.26 Update Task Progress bar

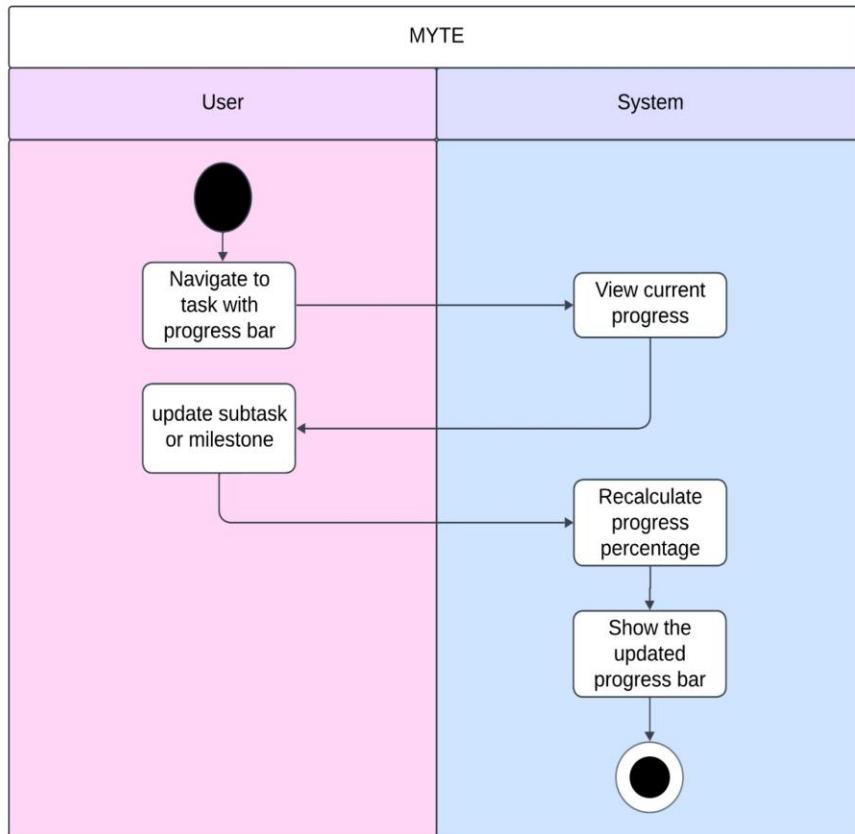


Figure 58: Update Task Progress Bar Activity Diagram

4.5.27 Update profile

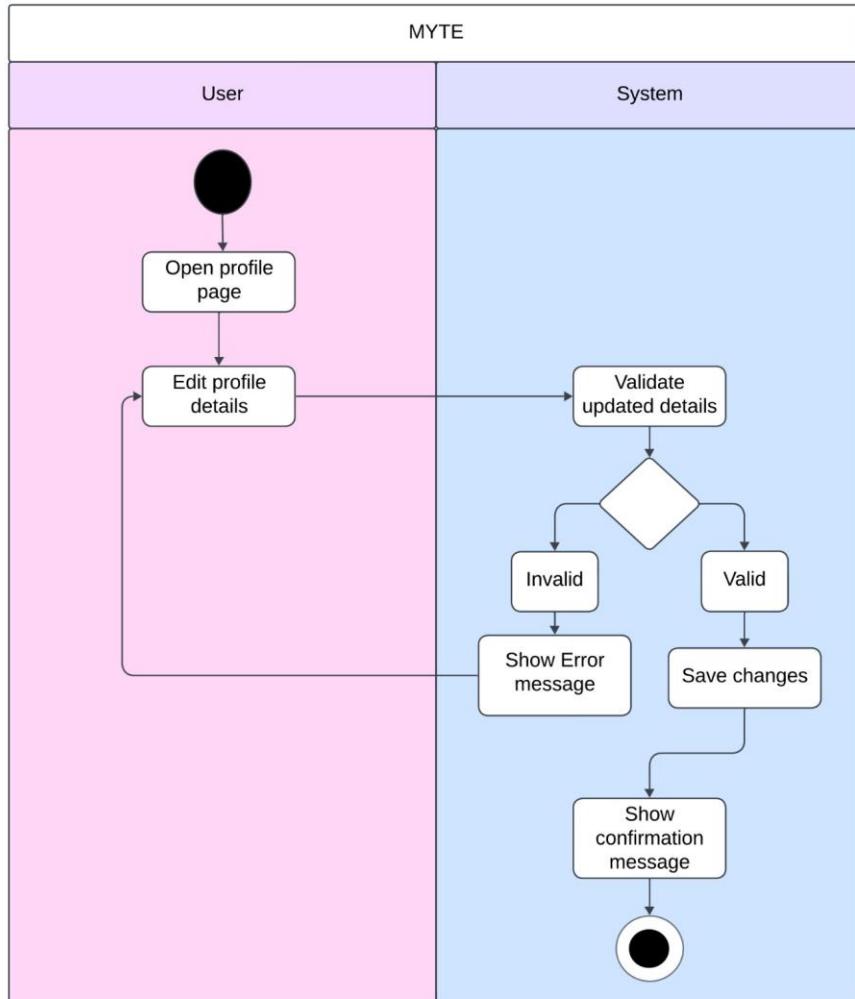


Figure 59: Update Profile Activity Diagram

4.5.28 Turn on/off notification

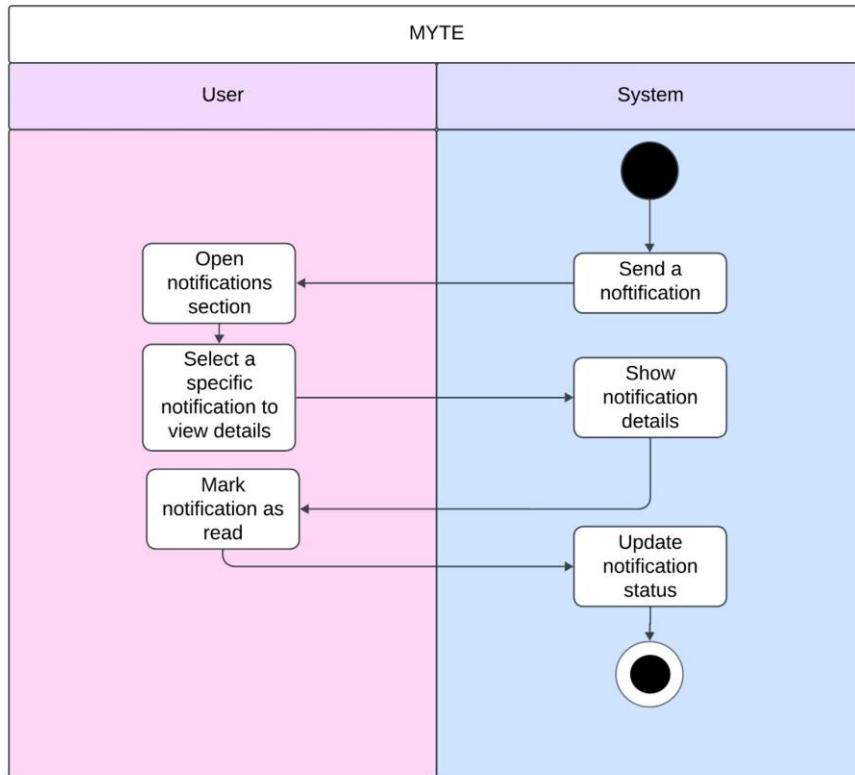


Figure 60: Turn On/Off Notification Activity Diagram

4.5.28 Add rewards

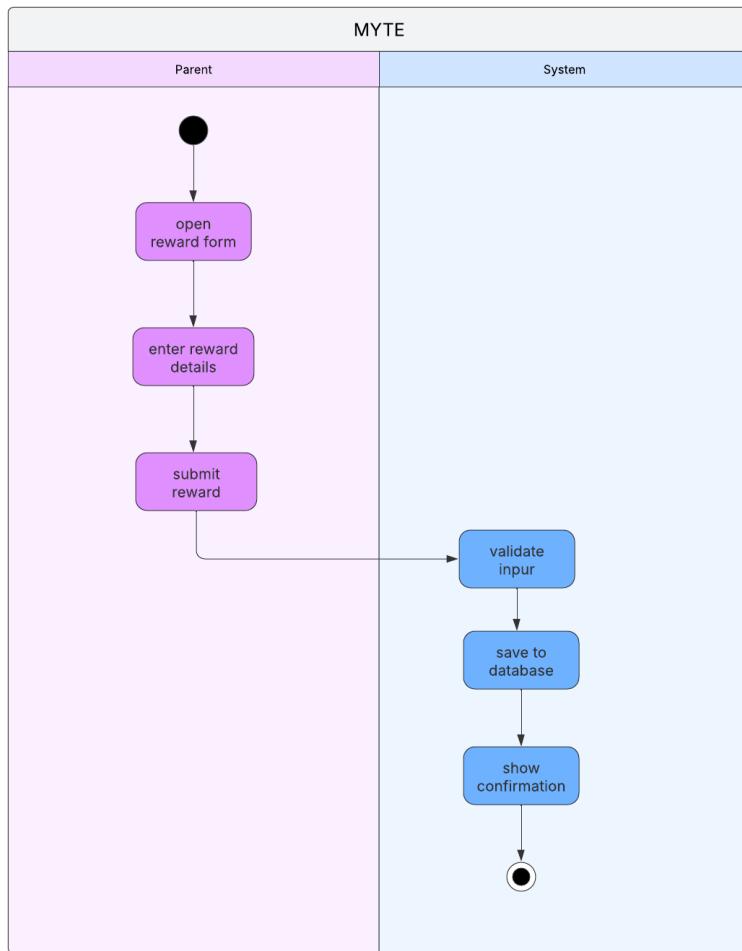


Figure 61: Add rewards Activity Diagram

4.5.28 redeem rewards

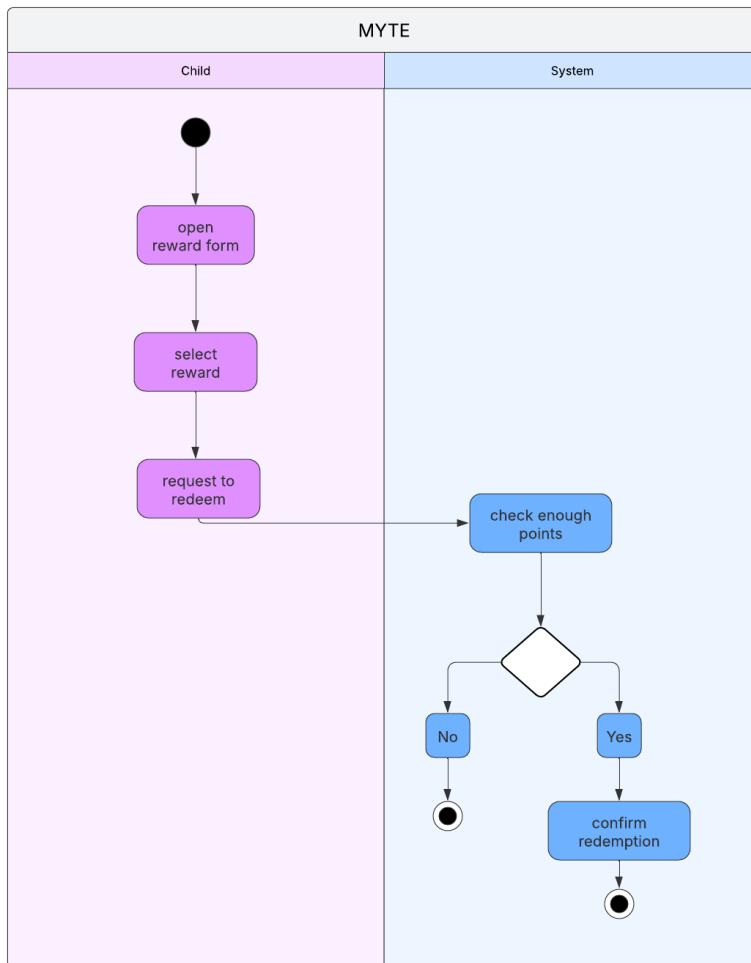


Figure 62: Add rewards Activity Diagram



4.6 Interface design

4.6.1 Main Screen



Figure 59: Main Screen Interface



4.6.2 Sign Up Screen

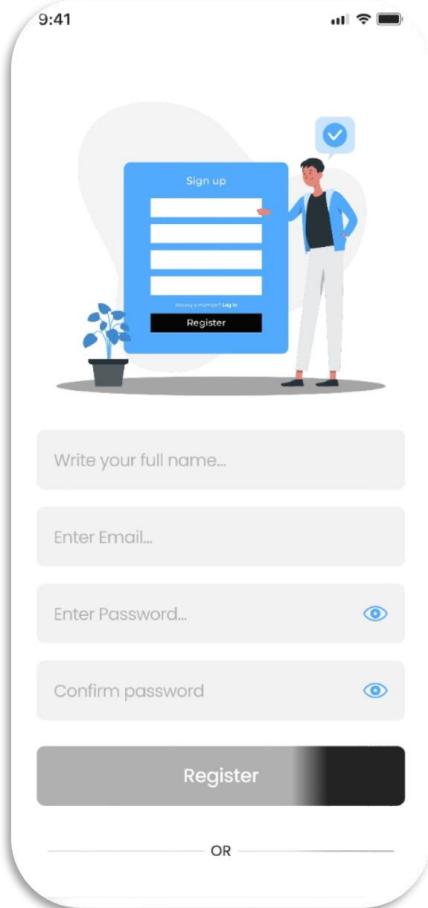


Figure 60: Sign Up Screen Interface



4.6.3 Login Screen

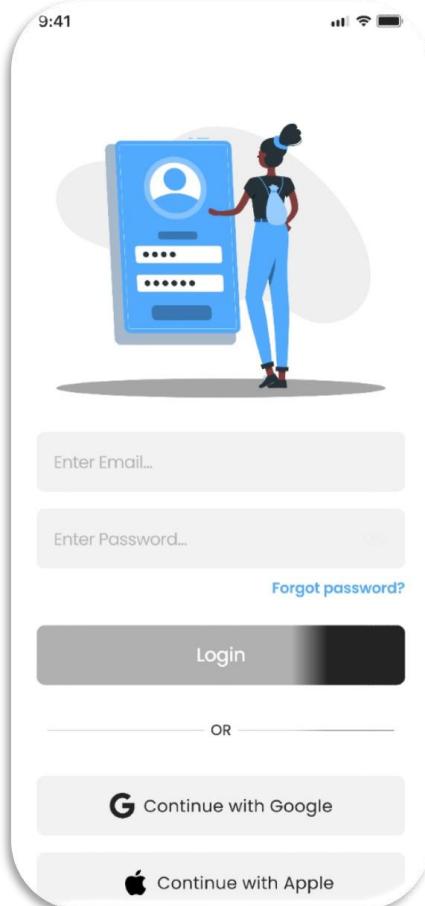


Figure 61: Login Screen Interface



4.6.4 Forgot Password Screen

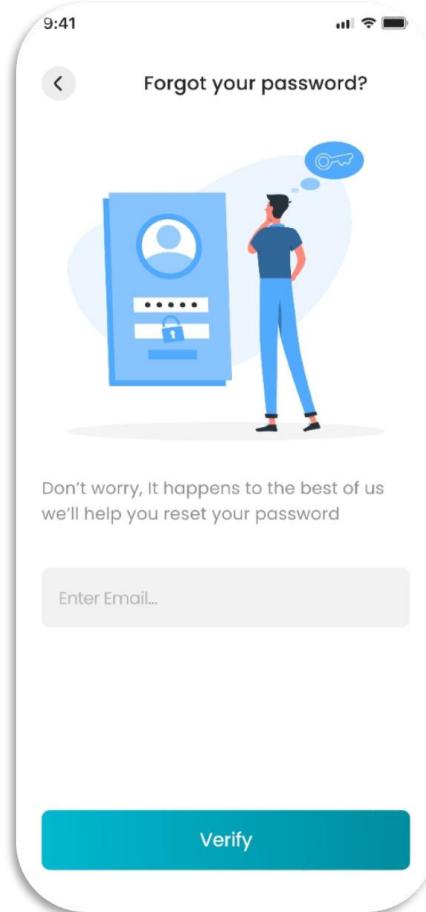


Figure 62: Forgot Password Screen Interface



4.6.5 Otp Received Screen

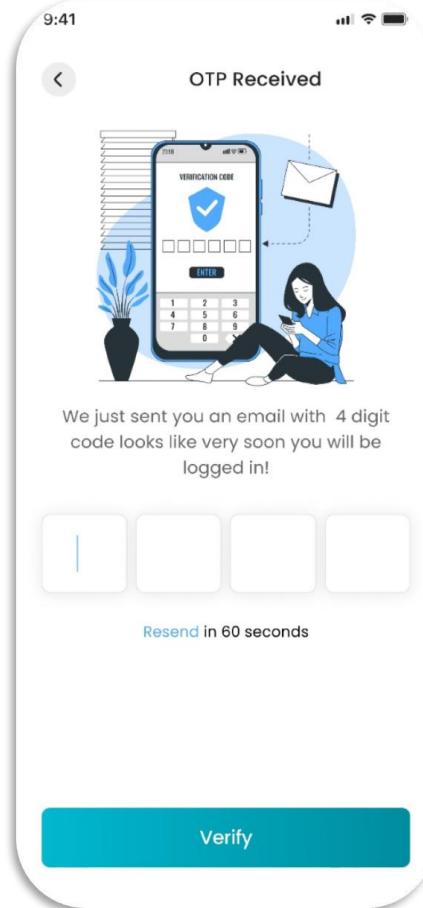


Figure 63: Otp Received Screen Interface



4.6.6 Recover Password Screen

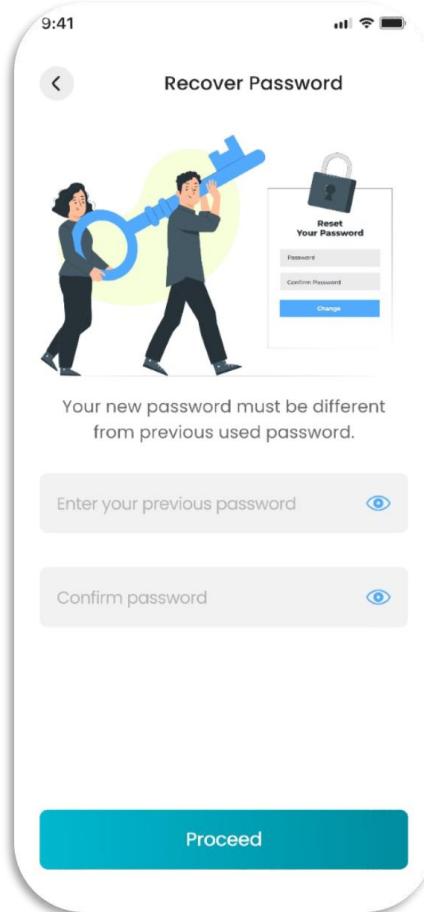


Figure 64: Recover Password Screen Interface



4.6.7 Password Updated Screen

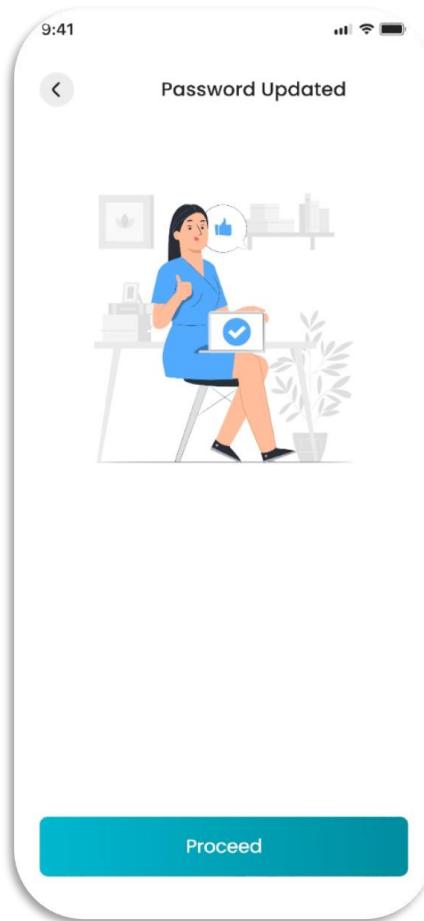


Figure 65: Password Updated Screen Interface



4.6.8 Home/Dashboard Screen

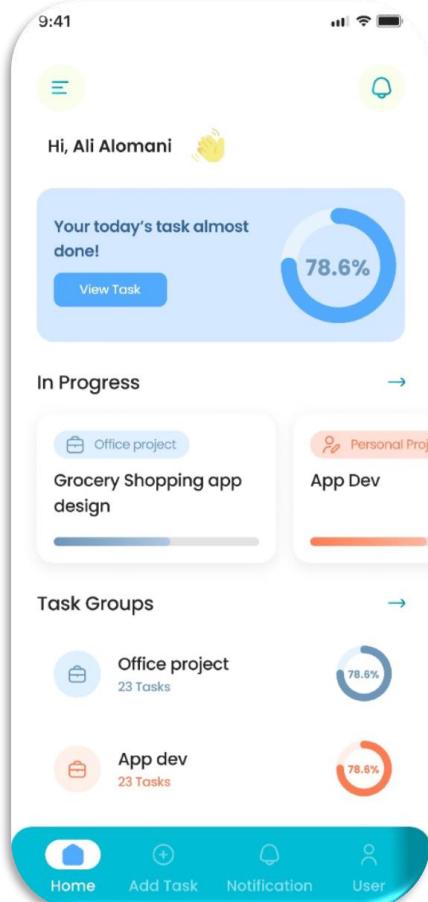


Figure 66: Home/Dashboard Screen Interface



4.6.9 Create Task Screen

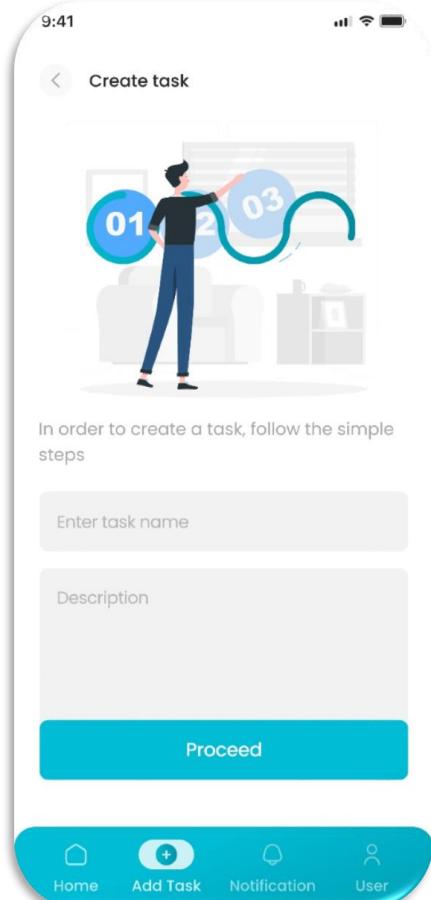


Figure 67: Create Task Screen Interface



4.6.10 Create Task Step 2 Screen

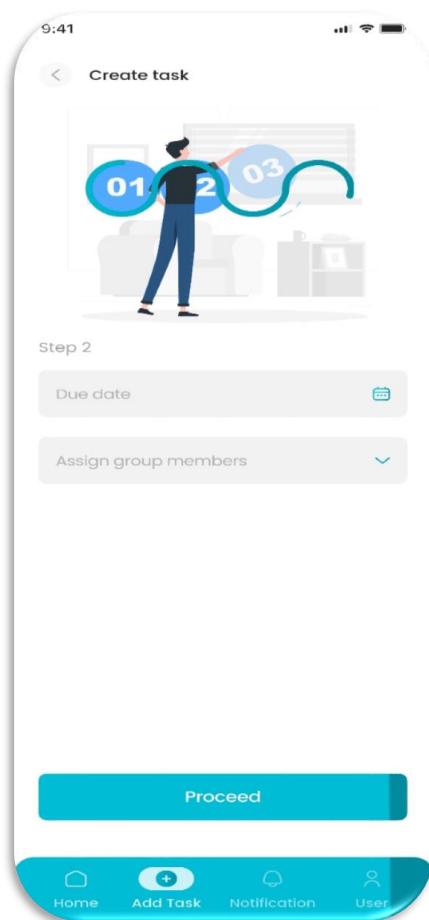


Figure 68: Create Task Step 2 Screen Interface



4.6.11 Create Task - Upload Media Screen

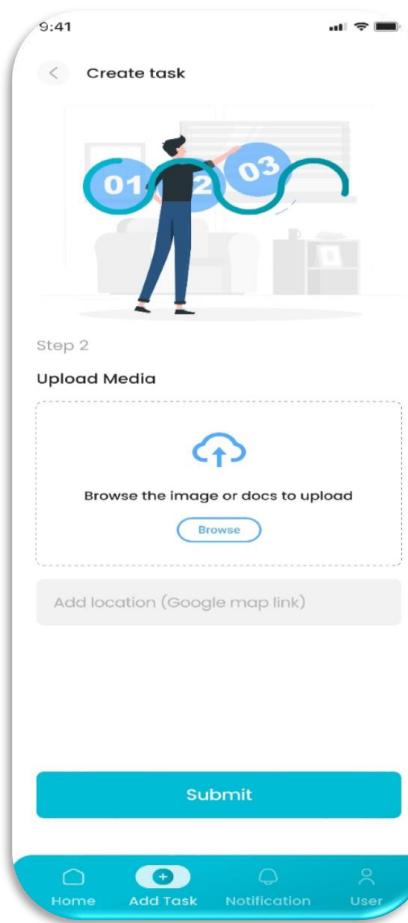


Figure 69: Create Task – Upload Media Screen Interface



4.6.12 Task Details Screen

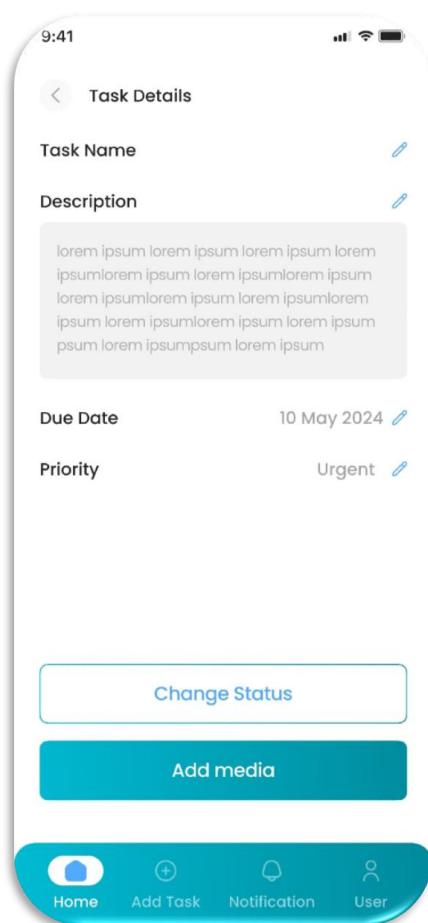


Figure 70: Task Details Screen Interface



4.6.13 Task Created Successfully Screen

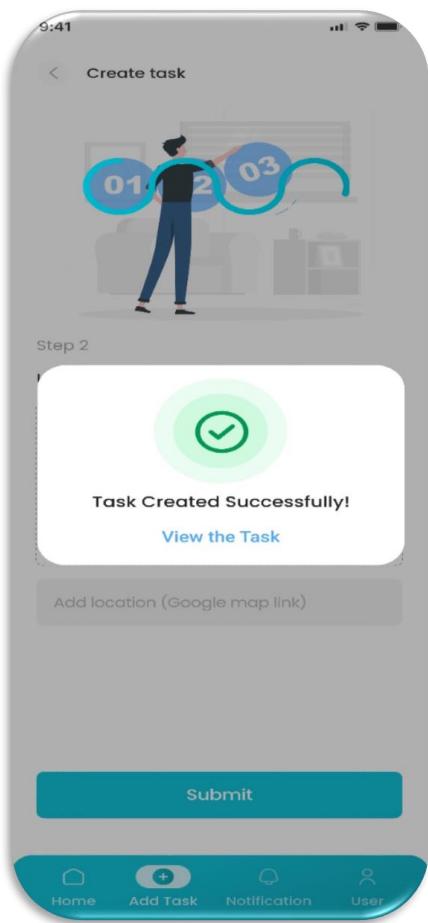


Figure 71: Task Created Successfully Screen Interface



4.6.14 Group Management



Figure 72: Group Management Screen Interface



4.6.15 Create a New Group

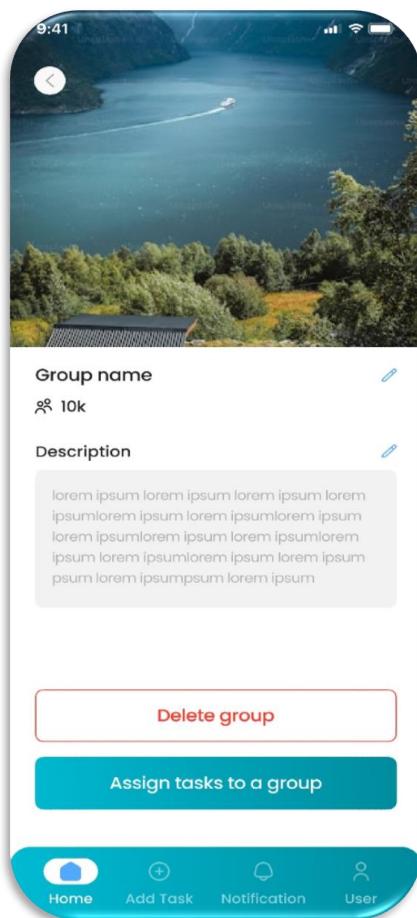


Figure 73: Create a New Group Screen Interface



4.6.16 Profile Screen

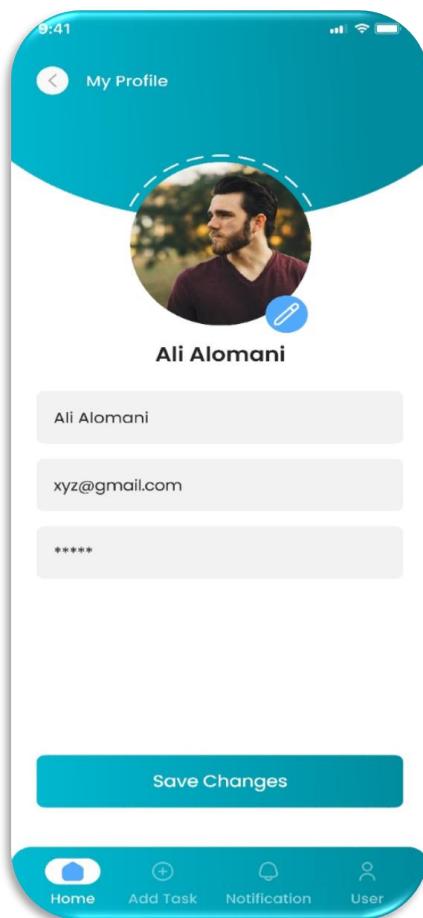


Figure 74: Profile Screen Interface

4.6.17 Notification Unread Screen

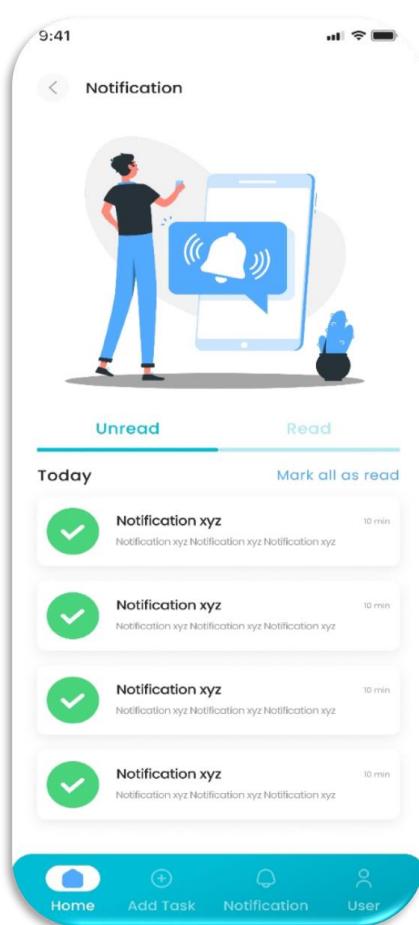


Figure 75: Notification Unread Screen Interface



4.6.18 Notification Read Screen

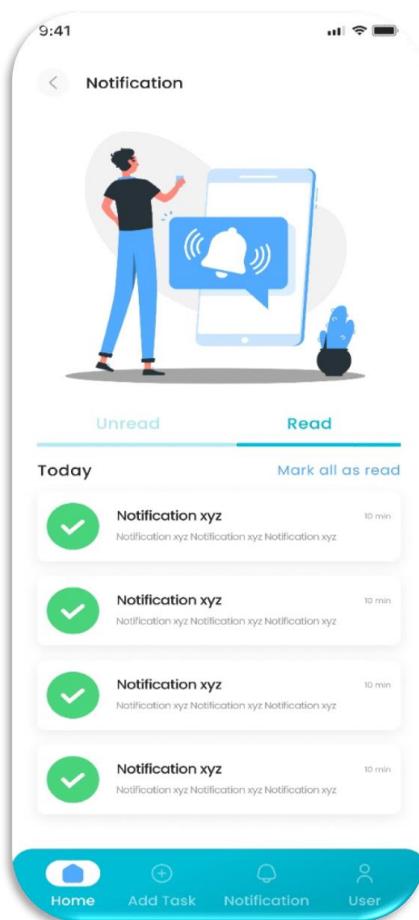


Figure 76: Notification Read Interface



4.6.19 Tasks List Screen

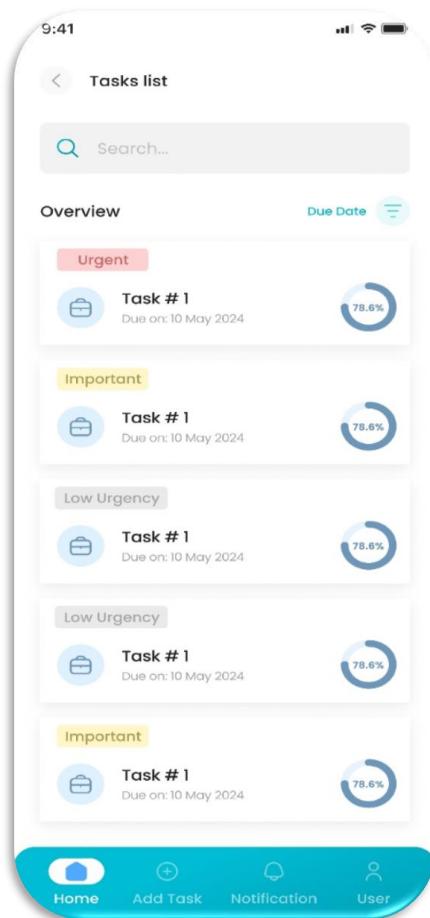


Figure 77: Tasks List Screen Interface



4.6.20 Settings Screen

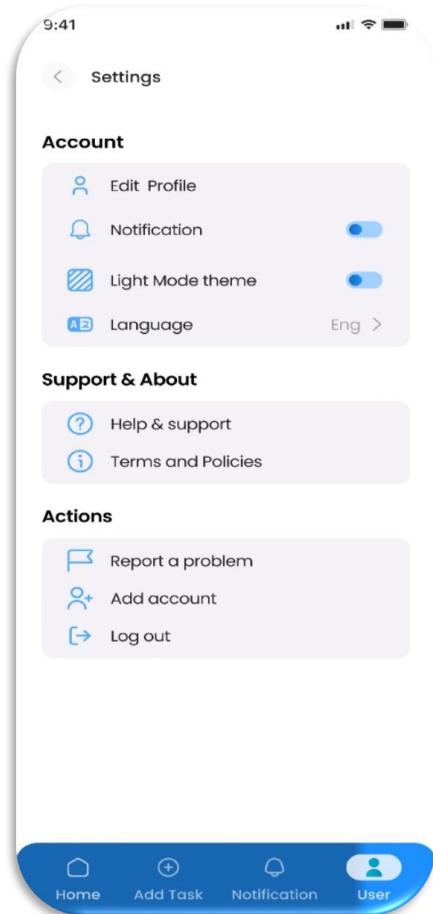


Figure 78: Settings Screen Interface



4.6.21 Progress Screen

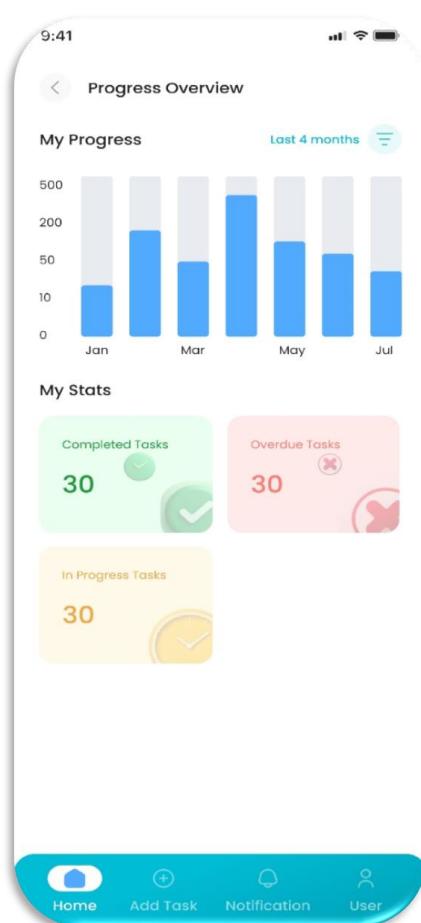


Figure 79: Progress Screen Interface



Chapter 5: Software Test Plan



1. Introduction

The Software Test Plan (STP) for the Myte application outlines the testing strategy, scope, objectives, and resources required to ensure the quality and reliability of the software. Myte is designed as a family-oriented task management app, facilitating household task assignments, progress tracking, and collaboration among family members.

The purpose of this document is to define the structured approach for testing Myte's features, ensuring that they meet functional, security, usability, and performance requirements. It also serves as a guide for testers, developers, and stakeholders to track the testing progress and outcomes. The document follows the IEEE 829-1998 standard for Software Test Documentation.



1.1 Objectives

The objectives of this Software Test Plan are to ensure the Myte application meets its functional, performance, security, and usability requirements. The key goals include:

- Define the scope and approach for testing Myte's **family-based task management** features.
- Ensure that all components function correctly and integrate seamlessly.
- Identify and document defects early in the development lifecycle, reducing the risk of post-deployment issues.
- Validate that Myte is **stable, secure, and performs efficiently** under different conditions.
- Ensure compatibility across **mobile devices** (Android and iOS), guaranteeing a consistent experience.
- Confirm that **user roles, permissions, and workflows** align with Myte's intended purpose.
- Assess **usability and accessibility** to optimize the user experience for both parents and children.
- Establish **test deliverables** such as test cases, reports, and logs to maintain transparency and traceability.
- Verify that Myte's **family-based task management** features work as intended.
- Ensure the **stability, security, and performance** of the application.
- Identify defects early in the development lifecycle and provide a structured process for resolving them.
- Establish **test deliverables** such as test cases, reports, and logs.
- Ensure compatibility across **mobile devices** (Android and iOS).
- Validate the **user experience** for both parents and children using the app



1.2 Testing Strategy

Testing will be performed at multiple levels, including:

- **Unit Testing:** Ensuring individual components, such as task creation and notifications, function correctly.
- **Integration Testing:** Validating that different modules interact seamlessly (e.g., parent-to-child task assignment).
- **System Testing:** Evaluating Myte as a complete product under real-world conditions.
- **Security Testing:** Assessing vulnerabilities, particularly in user authentication and data storage.
- **User Acceptance Testing (UAT):** Gathering feedback from real families to refine usability.

Each level of testing will have specific deliverables, including test cases, pass/fail criteria, and evaluation reports.

1.3 Scope

The scope of testing includes:

- Core **task management features** (task assignment, status updates, notifications, and rewards system).
- **User roles and permissions**, ensuring parents and children have appropriate access controls.
- **Performance under different workloads**, such as a family with multiple members.
- **Security measures**, including OAuth-based authentication and data encryption.
- **Usability testing**, ensuring intuitive navigation for all family members.



2. Test Items

2.1 Program Modules

Each module of the Myte app will undergo testing to verify its functionality:

- **User Authentication & Account Management:**
 - Parent and child account creation
 - Login/logout, password reset
- **Task Management Features:**
 - Task creation, editing, and assignment
 - Task status updates and progress tracking
- **Reward System:**
 - Earning and redeeming points for completed tasks
- **Notifications & Reminders:**
 - Push notifications for due tasks
 - Reminder alerts for pending assignments
- **Media Attachments:**
 - Uploading images/videos to tasks
 - Viewing media within the app
- **Security & Access Control:**
 - Role-based access for parents and children
 - Data encryption and authentication mechanisms

2.2 Job Control Procedures

This section outlines how the app manages automated processes:

- **Task Scheduling:** Ensuring tasks with deadlines trigger reminders correctly.
- **Reminder System:** Evaluating push notifications for task completion reminders.
- **Error Handling:** Ensuring Myte gracefully handles invalid inputs and system failures.



2.3 User Procedures

User documentation will be tested to confirm:

- Clear instructions for using Myte's task management features.
- Comprehensive help guides for parents and children.
- Consistency between in-app help and actual functionality.

2.4 Operator Procedures

Operator testing ensures Myte functions correctly in production:

- App stability on supported devices (Android/iOS smartphones and tablets).
- Help Desk procedures for issue resolution and troubleshooting.
- System monitoring to detect crashes or performance issues.

3. Features To Be Tested

The following features will be tested to ensure that the Myte application functions correctly and meets the specified requirements for family task management:

1. User Authentication and Account Management

- Parent and child account creation.
- Login/logout functionality.
- Password reset and profile updates.

2. Task Creation and Assignment

- Parents assign tasks to children.
- Tasks being claimed by children.
- Setting task descriptions with media uploads (images/videos).
- Setting deadlines and reminders for tasks.



3. Task Progress and Status Updates

- Children updating task completion status.
- Progress bar reflects task completion.
- Parents reviewing task updates.

4. Reward System

- Points being awarded to children upon task completion.
- Points being accumulated in the child's profile.
- Parents setting up a reward store with redeemable items.
- Children redeeming points for rewards.

5. Notifications and Reminders

- Parents receive notifications when a task is completed.
- Children receiving reminders for pending tasks.
- Push notifications for deadline alerts.

6. Media and File Attachments

- Parents attach images, PDFs, or videos to tasks.
- Children being able to view task-related media.
- Ensuring uploaded media is correctly stored and accessible.

7. Security and Access Control

- Ensuring children cannot assign tasks or change reward settings.
- Verifying only authorized users can access the app.
- Role-based access controls for parents and children.



8. User Interface and Usability Testing

- Mobile responsiveness and UI consistency.
- Navigation experience for both parents and children.
- Intuitive reward claiming and task tracking flow

3. Features Not To Be Tested

Some features will not be tested because they are not included in this version of the app:

1. Smart Task Suggestions

- The app will not suggest tasks automatically based on past activities.
- Buying Rewards with Real Money

2. The app will not allow parents or children to buy rewards using real money.

- Voice Commands

3. The app will not support voice commands for adding tasks or rewards.

- Offline Mode

4. The app needs an internet connection to create tasks, track progress, and claim rewards.

- Website Version



5. The app is only for mobile phones; a website version will not be tested.

- Multiple Families Using One Account

5. APPROACH

The testing approach for the Myte Task Management application is designed to ensure comprehensive validation of its functionalities. This involves multiple levels of testing, each focusing on a specific aspect of system integrity. Testing tasks will be outlined with their estimated time requirements, inputs, outputs, and evaluation criteria.

5.1 Component Testing

Individual features, such as task reminders and notifications, will be tested to verify correctness.

5.2 Integration Testing

Ensuring that modules such as media uploads, task assignments, and progress tracking integrate seamlessly.

5.3 Job Stream Testing

The application will be tested in a production-like environment using real devices and Firebase.

5.4 Interface Testing

Ensuring smooth operation with external APIs such as Google Maps.



5.5 Security Testing

Using OWASP Mobile Top 10 guidelines to check for vulnerabilities like insecure data storage and communication.

5.6 Recovery Testing

Evaluating application restart mechanisms and backup functionalities.

5.7 Performance Testing

Assessing system behavior under different workloads, especially for large families.

5.8 Regression Testing

Verifying that updates do not break existing features.

5.9 Acceptance Testing

Conducted by end-users to validate functionality and usability.

5.10 Beta Testing

Involves real users testing a pre-release version to detect faults and defects.

6. PASS / Fail Criteria

Each test case will be evaluated based on predefined pass/fail conditions. The following criteria will be used:

- Pass: A test case is considered passed if the expected output matches the actual output without any errors or deviations.
- Fail: A test case fails if the actual results deviate from expected results, cause system crashes, or fail to meet performance benchmarks.



6.1 Suspension Criteria

Testing activities suspended under the following conditions:

- Critical bugs that block further testing (e.g., system crashes, data corruption).
- Insufficient test data or missing dependencies preventing execution.
- Major performance issues causing system instability.
- Hardware or software failures preventing test execution.

6.2 Resumption Criteria

Testing will resume when the following conditions are met:

- All critical issues have been resolved and verified.
- Required test data, dependencies, and resources are available.
- System stability has been restored, and performance issues have been mitigated.
- A re-execution plan has been defined for interrupted test cases, ensuring that affected areas are retested.

6.3 Approval Criteria

The system will be approved for release based on the following:

- Successful completion of all mandatory test cases.
- User Acceptance Testing (UAT) has been completed with no critical defects.
- Performance benchmarks have been met.
- Compliance with security, usability, and functional requirements.
- Formal review and sign-off by the project team and stakeholders.



7. Testing Process

7.1 Test Deliverables

- Test Plan document (this document).
- Test Cases and Scenarios.
- Test Execution Reports.
- Defect Reports and Bug Logs.
- Final Test Summary Report.

7.2 Testing Tasks

- Develop test cases for each feature in MYTE.
- Execute test cases and report defects.
- Perform regression testing after bug fixes.
- Conduct performance and security testing.
- Validate UI/UX against design specifications.
- Perform UAT with selected users.

7.3 Responsibilities

- Project Manager: Oversees testing progress and resource allocation.
- QA Team: Designs and executes test cases, reports defects.
- Developers: Fix reported bugs and assist with debugging.
- End Users (for UAT): Provide feedback on usability and functionality.



7.4 Resources

7.4.1 Hardware and Software

- Smartphones (Android 7.0+ and iOS 10.0+).
- Laptops or desktops with development environments.
- Internet access for cloud-based testing.

7.4.2 Tools

- Testing Tools: Firebase Crashlytics, real device emulators.
- Version Control: GitHub.
- Bug Tracking: GitHub Issues, Jira.
- Security Tools: OWASP ZAP.
- Collaboration Tools: Slack, Discord.

7.5 Schedule

Table # Scheduling table

Phase	Duration
Test Case Development	2 Weeks
Unit Testing	2 Weeks
Integration Testing	2 Weeks
System Testing	3 Weeks
Performance & Security Testing	2 Weeks
User Accepting Testing	2 Weeks
Final Review & Sign-off	1 Week



8. Environmental Requirements

8.1 Hardware

- Smartphones (Android 7.0+ and IOS 10.0+)
- Laptops or desktops
- Internet access

8.2 Software

- Firebase Crashlytics for testing
- Device Emulator for testing
- Discord for collaboration

8.3 security

- OAuth-based authentication for both authentication and authorization
- AES-256 for encryption
- TLS 1.2+ for API communication

8.4 Publications

- Official Flutter documentation.
- Google Maps API documentation.
- AWS S3 integration guides.
- Security best practices from OWASP.



8.5 Risks and Assumptions

Table # Risks and Mitigation Strategies

Risk	Mitigation Strategy
Device compatibility	Test on various devices
Delays due to bug fixes	Allocate buffer time in schedule
Security vulnerabilities	Regular security testing and code reviews
Server downtime	Backup servers
API rate limits	Retry logic and caching mechanisms implementation
User data privacy	Adhere to GDPR and CCPA guidelines

9. Change Management Procedures

All modifications to the Software Test Plan must adhere to a formal change management procedure in order to maintain the consistency and integrity of the software testing process. The three steps in the process change authorization, change review, and change initiation are as follows:

9.1 Initiation of Change

Any team member, manager, or assessor may suggest modifications to the software test plan. It is necessary to fill out a Change Request Form that includes the suggested modification, its rationale, and its anticipated impact.

The Change Management Log is used to track and review the Change Request Form.

9.2 Review of Change

The suggested modification will be examined by the supervisor, project manager, and QA lead. Among the crucial factors taken into account during the review process are:

- influence on the objectives, deliverables, and scope of the test.
- possibility of incorporating the modification into the project timeline.
- The proposed change carries some risk.
- If the change is significant, a formal Test Plan Review Meeting might be called.



9.3 Authorization for Change

- The QA Lead has the authority to approve minor changes (such as test case modifications or minor scope adjustments).
- The project leader and supervisor must approve any significant changes (such as new test objectives or modifications to the fundamental test procedures).
- All pertinent team members are informed of approved changes, which are recorded in the Test Plan Revision Log.
- If the change has a substantial effect on test execution, a new version of the STP is published.

10. Plan Approvals

The following personnel have reviewed and approved this Software Test Plan:

Name	Designation	Signature	Date
Mr.Saeed AlQahtani	Project Supervisor	/ / /
Mahmoud AlSheikh	Project Leader	/ / /
Ali AlOmani	QA Lead	/ / /

Any amendments to this document must follow the Change Management Procedures outlined in Section 9.

This ensures that changes are effectively managed and that all approvals are documented for accountability and traceability.



Chapter 6: Conclusion



5.1 Introduction

The Myte Family Task Management Application came about to help households tackle their persistent issue of organizing and assigning daily chores to their family members. Task management tools break down into two separate categories since they handle solo work activities plus collaborative work activities while failing to include features specific to family dynamics. The development team identified the market potential for designing software which serves families by giving parents tools to distribute tasks to children and track their progress with rewards determined through a system of points.

Through Myte users can enhance family productivity through its system which simplifies job allocation and monitoring features. The app allows users to handle multi-user task delegation along with deadline notification capabilities through progress evaluation and media storage and placement tracking and real-time geographic location monitoring that prioritizes both structured management and adaptable features. Myte encourages children to understand ownership of their work activities while offering rewards for finished tasks which create positive responsible behaviors throughout the household.

The application development incorporated Flutter as the cross-platform framework alongside AWS S3 as media storage in the cloud combined with Firebase for real-time data control and user identity verification. The chosen technologies excelled in terms of performance alongside scalability at reasonable costs for the application. The Myte family app delivers complete home management capabilities through its systems that unite family communication with household responsibility management and member interaction.



5.2 Findings and Contributions

Family-Centered Coordination:

Through Myte the company implemented collaboration standards that matched household structures. The shift to parent-child task assignments within the app improved family involvement along with increased responsibility measurement and organized home task delegation.

All-in-One Task Management:

Through a single platform the application merged chore organization with task monitoring and points systems as well as resources for rewards. The system combined all requirements for family needs including task distribution and academic tasks through a unified platform approach.

Technical Integration:

The development demonstrated modern technologies applied practically to domestic needs. Framework-based compatibility from Flutter combined with Google Maps tracking features resulted in secure cloud storage through AWS S3 and Firebase management for fast reliable scalable functionalities.

Cost-Effective Development:

The project proved that building a fully operational family-oriented application requires only open-source tools and free-tier cloud services and Firebase hosting solutions so developers can achieve high quality and reliable outcomes on a limited budget.



5.3 Lessons Learned

Project Management:

The development team encountered many performance issues due to the lack of clear role and responsibility definitions shortly after beginning the project. The success of our project depended heavily on establishing clear communication pathways alongside tracking key milestones together with performing regular risk assessment meetings.

Technical Proficiency:

The creation of Myte let team members gain advanced experience with Flutter development along with Firebase.

Family-Centric Design:

The move towards household collaboration instead of workplace collaboration revealed the necessity of user-friendly interfaces. Our design efforts focused on combinations of user interfaces for tech-proficient mothers while also addressing the needs of their developing children.

Adaptability:

Agile thinking proved its value when the project team had to handle unexpected bugs that appeared in task assignment processes or needed to modify media upload functionalities. Constant revisions of feature priorities and new implementation methods became necessary for the team to maintain app stability and user need alignment.



5.4 Future Works

Development for Myte Family Task Management application starts its first phase which will receive continuation work during the incoming semester. The next stage of development will concentrate on producing essential functionalities which fulfill genuine family requirements through secure shared platforms and complete task rewards tracking and dynamic progress status updates.

Designing a fully functional interface represents the core goal to manage household responsibilities efficiently and effectively along with user-friendly functionality. Close focus on user experience ensures parents together with their children will find the app satisfactory in terms of access and engagement.



MYTE TEST REPORT

1. Introduction

This test report summarizes the testing activities performed for the Myte mobile application. The goal was to verify that key features of the app function as intended and provide a smooth experience for users.

2. Test Scope

The following features were tested:

- User Registration and Login
- Task Creation and Assignment
- Task Completion with Media Upload
- Notifications and Reminders
- Reward and Points System
- Group Creation and Member Management
- Basic Profile and Settings Features

3. Test Environment

- OS: Android 12, iOS 15
- Tools: Firebase Crashlytics, Flutter, Personal Devices
- Backend: Firebase



4. Summary of Test Cases

Test Case	Expected Outcome	Status
Register	Account created with valid input	Pass
Login	Access granted with correct credentials	Pass
Create Task	Task saved and visible in dashboard	Pass
Submit Task	task marked done	Pass
Set Reminder	User notified on time	Pass
Reward Redemption	Points deducted, reward confirmed	Pass
Group Management	Add/remove members works correctly	Pass
Create rewards	Add rewards	Pass

5. Conclusion

Most core features are working as expected with a few minor issues that do not affect overall usability. The app is ready for presentation as a functional prototype. Additional improvements can be made based on future user feedback.



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