

Final Project Proposal Plan

Working Title : SheSafe

– Empowering Personal Safety/Emergency Assist Through Technology

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1. INTRODUCTION

In this document, we are pleased to introduce **SheSafe**, a mobile application dedicated to enhancing personal safety for all users, with a particular focus on empowering for girls and women. Our primary goal is to provide a reliable, easy-to-use tool that helps individuals feel secure in their daily lives, whether at home, at work, or while traveling.

Owls Studio is a technology startup company which dedicated to developing innovative safety solutions. Our flagship project, SheSafe, is a mobile application designed to enhance personal safety especially for women and girls. By providing real-time emergency assistance and community support. Inspired by the vigilant nature of owls, our mission is to create an intuitive and reliable platform that empowers users to feel secure in their daily lives.

If you would like to know more about the SheSafe project or our development team, please feel free to contact us at the information provided below.

2. Company Profile

Owls Studio (virtual company)

“Always watching, always ready.”

Background:

Owls Studio is a technology- driven team passionate about creating innovative solutions for real world safety challenges. Our current focus is the development of SheSafe, a mobile application dedicated to enhancing personal safety for everyone, with a special emphasis on empowering women and girls.

SheSafe is a digital platform designed to provide reliable, accessible safety tools for women and girls, offering emergency assistance, real-time location sharing, and community support.

Vision:

To build a society where everyone can feel strong and safe, knowing that assistance is always available, regardless of gender or situation.

Mission:

To provide reliable, user-friendly technological solutions that improve individual security and give communities a greater sense of safety.

Contact Information:

Owls Studio

Yangon, Myanmar

Contact: 09451234567, 09787654321

3. Types of Clients

For this project, there would be two types of clients that will be using our app.

(i) **Normal User**

- Will be able to use essential features

(ii) **Premium User**

- Will be able to use essential features plus more various features

4. Project Overview:

4.1. Purpose:

The purpose of this project is to develop a mobile application that enhances personal safety in daily life. This application enable users to quickly alert, notify the trusted contacts and emergency service during critical situations.

4.2. Aim:

The aim is to create and deploy a user-friendly application that integrates emergency communication, real-time location monitoring, and safety features dedicated to the requirements of a wide range of users, with an emphasis on empowering women and girls.

4.3. Project Overview:

4.3.1. Objective 1 – To identify the requirements of the application

Objective Tasks:

- Research safety needs and existing mobile solutions
- Conduct stakeholder interviews and user surveys
- Define functional and non-functional requirements
- Assess feasibility (technical, economic, operational)

Deliverables:

- Requirements Specification Document
- Feasibility Study Report

4.3.2. Objective 2 – To design an application based on the outcome of Objective 1

Objective Tasks:

- Investigate appropriate programming languages (e.g., Java), frameworks (e.g., Android SDK), and libraries (e.g., Google Maps API, Firebase)
- Analyze UI/UX design patterns for safety apps
- Conduct user questionnaire on interface preferences
- Create wireframes and mockups for each screen

Deliverables:

- Technical Review Report
- Design Specification Document
- Interface Design Mockups (Splash, Login, Home, etc.)
- UI Design Questionnaire Results

4.3.3. Objective 3 – To implement the design produced in Objective 2

Objective Tasks:

- Develop the graphical user interface (Splash Screen, Login, Home, etc.)
- Develop the backend using SQLite and Firebase for local and remote data
- Implement key features:
 - SOS Trigger (Shake and Tap)
 - Emergency Contact Management
 - Live Location Sharing
 - Incident Logging
 - Fake Call Setup
 - In-App Messaging
 - Map and Compass Navigation
- Ensure app-wide security (e.g., PIN protection)

Deliverables:

- Working Prototype Application
- Source Code Repository

4.3.4. Objective 4 – To test the application

Objective Tasks:

- Perform functional testing of each screen and feature
- Conduct user acceptance testing with sample users
- Identify and fix bugs and UI issues
- Evaluate app performance in offline mode

Deliverables:

- Test Plan Document
- Bug Report and Fixes Summary
- User Feedback Report

4.3.5. Objective 5 – To create, evaluate, and review the project

Objective Tasks:

- Compile technical and user documentation
- Discuss challenges, limitations, and future improvements
- Present findings and app demonstration
- Reflect on personal and professional development

Deliverables:

- Final Project Report
- Evaluation Summary
- Presentation Slides

5. Project Scope

The SheSafe project aims to create a secure mobile app for Android devices to improve personal safety, particularly for women and vulnerable groups. The app will enable secure registration, access to SOS features, incident logs, and customizable privacy settings. The project will cover all phases, requiring 44 working days for completion. Changes will be managed through a formal change request process, and all work will comply with privacy and security standards.

6. System Scope

Functional Requirements

- Secure user registration and login.
- Quick access to SOS, live location sharing, and incident logging from the home screen.
- Add, edit, or delete emergency contacts.
- View incident history and personal safety logs.
- Update user profile information.
- Trigger a fake call for discreet escapes.
- Enable “shake-to-send SOS” for instant alerts.
- Instantly share live location with trusted contacts.
- In-app messaging to emergency contacts or services.
- Use integrated map and compass for navigation.
- Adjust settings and enable PIN code protection.
- Modern splash screen and calming UI theme.

Non-Functional Requirements

- **Security:** Protect all user data and communications.
- **Usability:** Simple, intuitive interface for all users.
- **Performance:** Fast loading and responsive actions.
- **Reliability:** Stable and available 24/7.
- **Compatibility:** Supports a wide range of Android devices.
- **Scalability:** Ready for future features and more users.
- **Maintainability:** Easy to update and fix.
- **Privacy:** Complies with data protection standards.
- **Extensibility:** Allows easy integration of new features.

7. Software & Tools

The development of the SheSafe application will utilize a combination of modern software tools and technologies to ensure a robust, secure, and user-friendly product. The primary software components are as follows:

- Front-End Development:
 - The mobile application will be developed using **Java 17** in Android Studio, specifically utilizing **Java SE Runtime Environment version 17.0.15 (LTS)** for compatibility, stability, and access to modern Java features within the Android development environment.
- Local Database:
 - **SQLite** will be used to control the user's device's local data storage. As a result, users may access crucial features and information without constantly having an internet connection, allowing the app to operate efficiently even when offline.
- Cloud Services:
 - **Firebase** will serve as the backbone for cloud-based functionalities.
 - **Firebase Authentication:** will manage safe user login and registration.
 - **Firebase Realtime Database:** will enable real-time data synchronization, such as location sharing and incident logs.
 - **Firebase Cloud Messaging:** will be used to send instant notifications and alerts to users and their emergency contacts.
- Design Tools:
 - User interface and experience designs will be created using **Draw.io** and **Figma**.
- Testing Tools:
 - The application will be tested using **real Android devices** and **the Android Studio Emulator**, ensuring compatibility and dependability under real-world conditions, and using **JUnit** for unit testing.

8. Preliminary Literature Review

Methodology:

The project adopts an Agile methodology, supporting iterative development and frequent user feedback to ensure the app meets real-world needs.

Methods:

- Conduct user surveys and interviews to gather requirements from women, girls, and other target users.
- Analyze existing safety apps to identify best practices and feature gaps.
- Develop early prototypes for usability testing.

Analysis Techniques:

- Use SWOT analysis to evaluate strengths, weaknesses, opportunities, and threats.
- Perform a feasibility study (technical, economic, social).
- Analyze user feedback thematically to guide design decisions.

Design Tools & Techniques:

- Figma and Draw.io for wireframing and prototyping.
- Apply user-centered design principles for accessibility and ease of use.

Programming Languages, Database, Server, Hosting, Network:

- Java (Android) for app development.
- SQLite for offline local data storage.
- Firebase for authentication, real-time database, and cloud messaging.
- Firebase Hosting for backend services.
- Supports both online (WiFi/mobile data) and offline modes.

Testing Tools/Techniques:

- Android Studio Emulator and real Android devices for functional and compatibility testing.
- JUnit for unit testing.
- User acceptance testing to ensure usability and reliability.

Implementation Strategies & Tools:

- Incremental feature development for manageable progress.
- Git for version control and collaboration.
- Continuous integration for regular code updates and automated testing.

9. Feasibility Study

9.1. Technical Feasibility

SheSafe is technically feasible because it developed by using technologies like Firebase for real-time data and cloud-based authentication, SQLite for offline data storage, and Java for Android development. These technologies can provide all necessary capabilities, such as offline functionality, live location sharing, and SOS notifications. The app may be used on a variety of Android devices, guaranteeing broad compatibility and scalability, and the development team has the requisite experience.

9.2. Economic Feasibility

SheSafe is a cost-effective project using technologies like Firebase, SQLite, and open-source Android tools. Its minimal expenses include testing devices, cloud services, and internet connectivity. The team structure reduces labor costs. The project's anticipated benefits in user safety and social impact outweigh the initial investment.

9.3. Social Feasibility

SheSafe offers a modern and conveniently accessible safety a system especially for women and girls, thereby focusing on a critical social need. There is a high demand for such an app, according to survey results and community feedback. The project is developed with privacy and ethical standards in mind, ensuring user data is protected and only shared with agreement. SheSafe is anticipated to receive broad acceptance and support from people and organizations by empowering users and creating safer communities.

10. Work Breakdown Structure – SheSafe App

1. Project Initiation

1.1. Requirement Analysis

- 1.1.1. Conduct user research and surveys
- 1.1.2. Identify user types (normal, premium, admin)
- 1.1.3. Define essential and advanced safety features

1.2. Project Planning

- 1.2.1. Define project scope and objectives
- 1.2.2. Identify stakeholders and allocate team roles
- 1.2.3. Develop project schedule and milestones
- 1.2.4. Establish project timeline and budget

2. Design Phase

2.1. UI/UX Design

- 2.1.1. Design splash, permission, and welcome screens
- 2.1.2. Design authentication screens (login, admin login, register)
- 2.1.3. Design home screen and navigation bar
- 2.1.4. Design SOS and alert screens (share location, fake siren, incident log, shake for SOS)
- 2.1.5. Design location sharing and contact management screens
- 2.1.6. Design incident CRUD (create, read, update, delete) screens
- 2.1.7. Design emergency contact CRUD screens
- 2.1.8. Design alert/panic mode (auto location sharing, auto recording, add message)
- 2.1.9. Design navigation menu (profile, pin lock, safety tips, policies, about, contact)
- 2.1.10. Design admin panel (user management: normal/premium)

2.2. Prototype & User Feedback

- 2.2.1. Develop interactive prototypes
- 2.2.2. Conduct usability testing and collect feedback
- 2.2.3. Refine UI/UX based on feedback

3. Development Phase

3.1. Frontend Development

- 3.1.1. Implement splash, permission, welcome, and onboarding flows
- 3.1.2. Develop authentication (login, admin login, register)
- 3.1.3. Build home screen with main features (share location, fake call, incident log, contacts)
- 3.1.4. Implement navbar navigation (home, contact, SOS, alert, settings)
- 3.1.5. Develop SOS features (share location, fake siren, SOS button, shake for SOS)
- 3.1.6. Implement share location with contact selection
- 3.1.7. Develop incident log CRUD
- 3.1.8. Implement emergency contact CRUD
- 3.1.9. Build alert/panic mode (auto location, auto recording, add message)
- 3.1.10. Develop navigation menu screens (profile, pin lock, safety tips, privacy, terms, about, contact)

- 3.1.11. Implement admin features (user role management)

3.2. Backend Development

- 3.2.1. Set up Firebase authentication and user roles
- 3.2.2. Implement real-time database for incidents, contacts, and logs
- 3.2.3. Set up cloud messaging for alerts and notifications
- 3.2.4. Integrate SQLite for offline data
- 3.2.5. Configure admin backend for user management

3.3. Integration

- 3.3.1. Connect frontend and backend
- 3.3.2. Integrate third-party APIs (e.g., OSMDroid for maps, Firebase for auth/location)
- 3.3.3. Ensure data synchronization (offline/online)

4. Testing Phase

4.1. Functional Testing

- 4.1.1. Test each screen and feature on emulator and real devices
- 4.1.2. Conduct unit and integration tests (JUnit)

4.2. User Acceptance Testing

- 4.2.1. Recruit target users for testing
- 4.2.2. Collect and analyze feedback
- 4.2.3. Refine app based on test results

4.3. Security & Privacy Testing

- 4.3.1. Test PIN lock, privacy policy, and data encryption
- 4.3.2. Verify compliance with data protection standards

5. Deployment & Training

5.1. App Deployment

- 5.1.1. Prepare app for Google Play release
- 5.1.2. Deploy backend services

5.2. User Training & Documentation

- 5.2.1. Prepare user guides and FAQs
- 5.2.2. Provide training for admin users

6. Evaluation & Project Closure

6.1. Project Evaluation

- 6.1.1. Review objectives and outcomes
- 6.1.2. Document lessons learned and recommendations

6.2. Handover & Support

- 6.2.1. Handover documentation and source code
- 6.2.2. Set up support channels

6.3. Project Closure

- 6.3.1. Final project review and sign-off
- 6.3.2. Archive files and close project

11. Project Member Table

Role	Key Responsibilities	Number Needed
Client	Provide user feedback, validate features, and suggest improvements	2
Stakeholder	Approve deliverables, monitor progress, resolve project risks	2
Project Manager	Lead the team, manage schedule and resources, ensure project goals are met	1
Analyst	Gather requirements, analyze user needs, document specifications	2
UI/UX Designer	Design user interfaces, create wireframes and prototypes, ensure usability	1
Developer	Implement app features, integrate backend and frontend, maintain code quality	3
Tester	Test app functions, report bugs, verify fixes, ensure overall quality	2
Writer	Develop user manuals, prepare documentation	1
Trainer	Conduct training sessions	1

Table : Project Member Table

12.Features (List)

Secure Registration & Login: Robust authentication ensures user data privacy and safety.

One-Tap SOS Alerts: Instantly trigger SOS and share your live location from the home screen.

Emergency Contact Management: Easily add, edit, or remove trusted contacts for rapid communication in emergencies.

Comprehensive Incident Log: Track and review your personal safety history with detailed incident records.

Personal Profile Management: Update and manage your personal information with ease.

Discreet Fake Call: Activate a simulated call to help safely exit uncomfortable situations.

Shake-to-Send SOS: Instantly send an emergency alert by shaking your device.

Real-Time Location Sharing: Share your live location instantly with selected contacts.

In-App Emergency Messaging: Send quick messages to emergency contacts or services directly from the app.

Integrated Map & Compass: Navigate safely with built-in mapping and orientation tools.

Customizable Security Settings: Enable PIN code protection and adjust privacy preferences to your needs.

Modern, Calming UI: Enjoy a sleek splash screen and a soothing, monochromatic theme for a user-friendly experience.

Note:

As the project evolves and with additional time and resources, more advanced features—such as voice-activated SOS, group location sharing, or integration with local emergency services—can be incorporated to further enhance user safety and experience.

13.Constraints & Obstacles Table

Constraint / Obstacle	Description	Mitigation Strategy / Solution
Time Constraint	Limited working days; risk of delays due to unforeseen issues	Set clear milestones, use Agile sprints, adjust priorities
Budget Limitation	Restricted funds for development, devices, or cloud services	Use open-source tools, prioritize essential features
Technical Limitations	Device compatibility, integration issues, or lack of advanced hardware	Focus on Android support, test on multiple devices
Limited Testing Resources	Few real devices for comprehensive testing	Use emulators, borrow/rent devices, beta testing programs
Data Privacy & Security Compliance	Need to protect sensitive user data and comply with privacy laws	Implement encryption, follow best practices, legal review
User Adoption & Engagement	Risk of low user uptake or engagement	Conduct outreach, provide training, gather ongoing feedback
Internet Connectivity Issues	Users may experience poor or no connectivity	Ensure robust offline functionality with SQLite
Change Management	Scope creep or unplanned feature requests	Formal change request process, clear documentation

Table : Constraints & Obstacles Table

14. Budgeting

Deliverable	Schedule (DAYS)	Person(s)	Rate (USD)	Budget (USD)
Requirement Gathering (Surveys, Research)	4	2 Analysts	\$15/hr × 4 hrs/day	\$480
UI/UX Design (Figma/Draw.io)	4	1 Designer	\$15/hr × 4 hrs/day	\$240
App Architecture & Planning	5	1 Project Manager, 1 Full Stack Developer	\$20/hr × 4 hrs/day	\$800
Frontend Development (Java/Android Studio)	10	2 Frontend Developers	\$20/hr × 6 hrs/day	\$2,400
Backend Development (Firebase, SQLite)	8	2 Backend Developers	\$20/hr × 6 hrs/day	\$1,920
Testing (Testers)	4	2 Testers	\$10/hr × 4 hrs/day	\$320
User Training (Preparation & Sessions)	3	2 Trainer	\$10/hr × 4 hrs/day	\$240
Documentation & Manuals	4	1 Writer	\$10/hr × 4 hrs/day	\$160
Testing Devices (Android phone purchase)	2	-	\$200 (one-time)	\$200
Cloud Services (Firebase, 2 months)	0	-	\$25/month	\$50
Miscellaneous (Internet, Power, 6 months)	-	-	\$10/month	\$60
Total Project Budget	44	-	-	\$6,870

Table : Budgeting Table

15.Summary Timeline

	Main Tasks	Sub-Tasks	Duration (days)	Start Date	End Date	Total Duration
1	Project Initiation	Requirement Analysis	2	11-Jun	12-Jun	43
		Project Planning	2	13-Jun	16-Jun	
2	Design Phase	UI/UX Design	2	17-Jun	18-Jun	
		Prototype & User Feedback	2	19-Jun	20-Jun	
3	Development Phase	Frontend Development	11	23-Jun	7-Jul	
		Backend Development	7	8-Jul	16-Jul	
		Integration	4	17-Jul	22-Jul	
4	Testing Phase	Functional Testing	2	23-Jul	24-Jul	
		User Acceptance Testing	2	25-Jul	28-Jul	
		Security & Privacy Testing	2	29-Jul	30-Jul	
5	Deployment & Training	App Development	1	31-Jul	31-Aug	
		User Training & Documentation	2	1-Aug	4-Aug	
6	Evaluation & Project Closure	Project Evaluation	1	5-Aug	5-Aug	
		Handover & Support	2	6-Aug	7-Aug	
		Project Closure	1	8-Aug	8-Aug	

Table : Summary Timeline Table

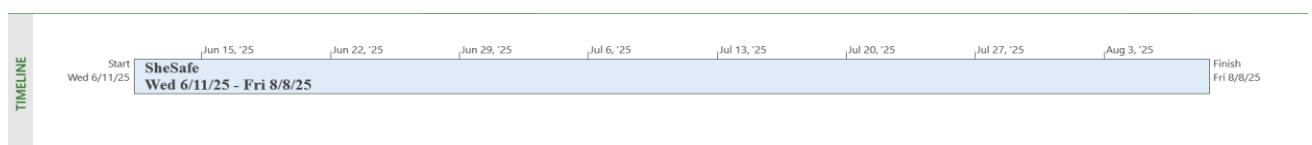


Figure 15.1 : Timeline Summary

16. Gantt Chart

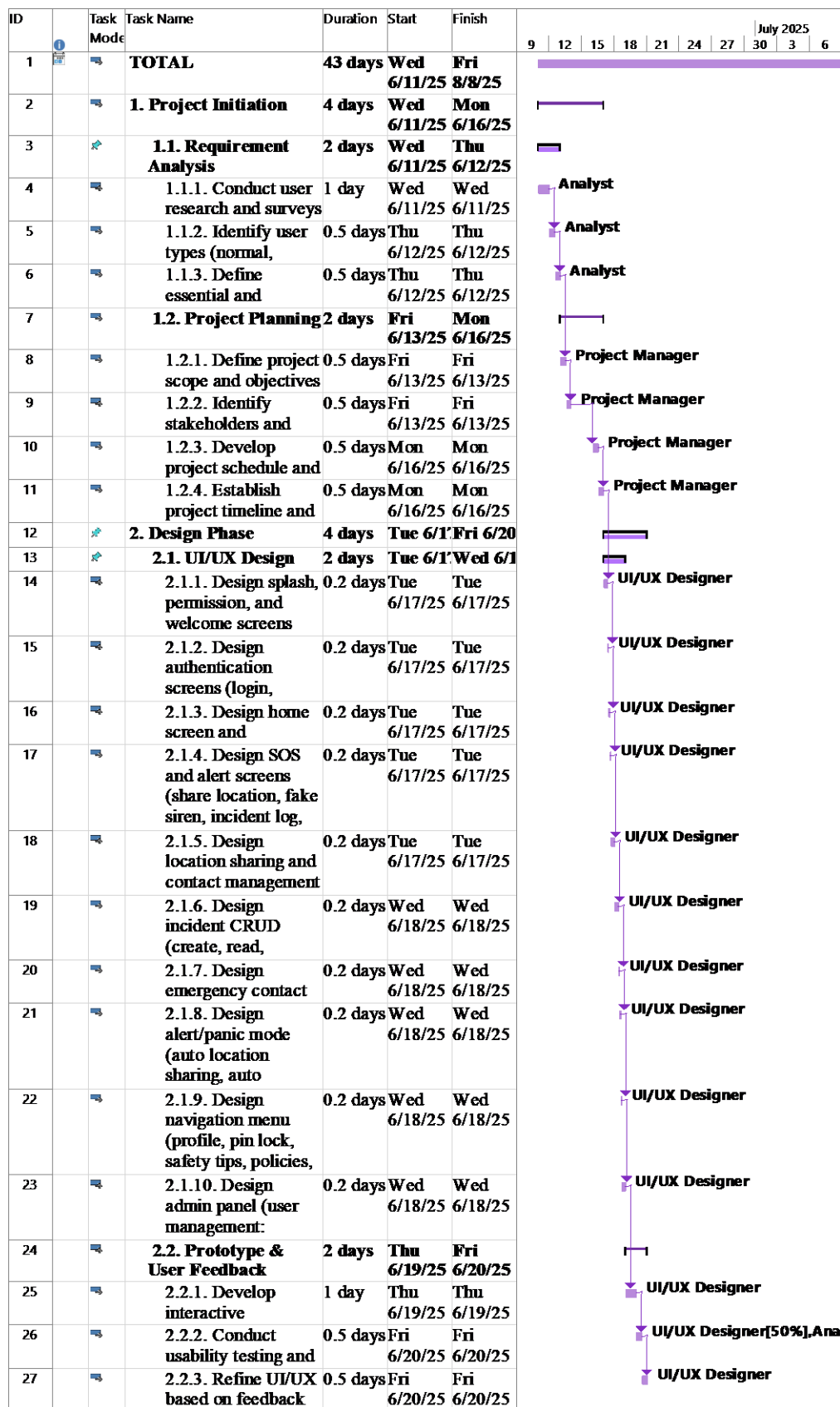


Figure 16.1: Task Overview & Gantt Chart of SheSafe Project

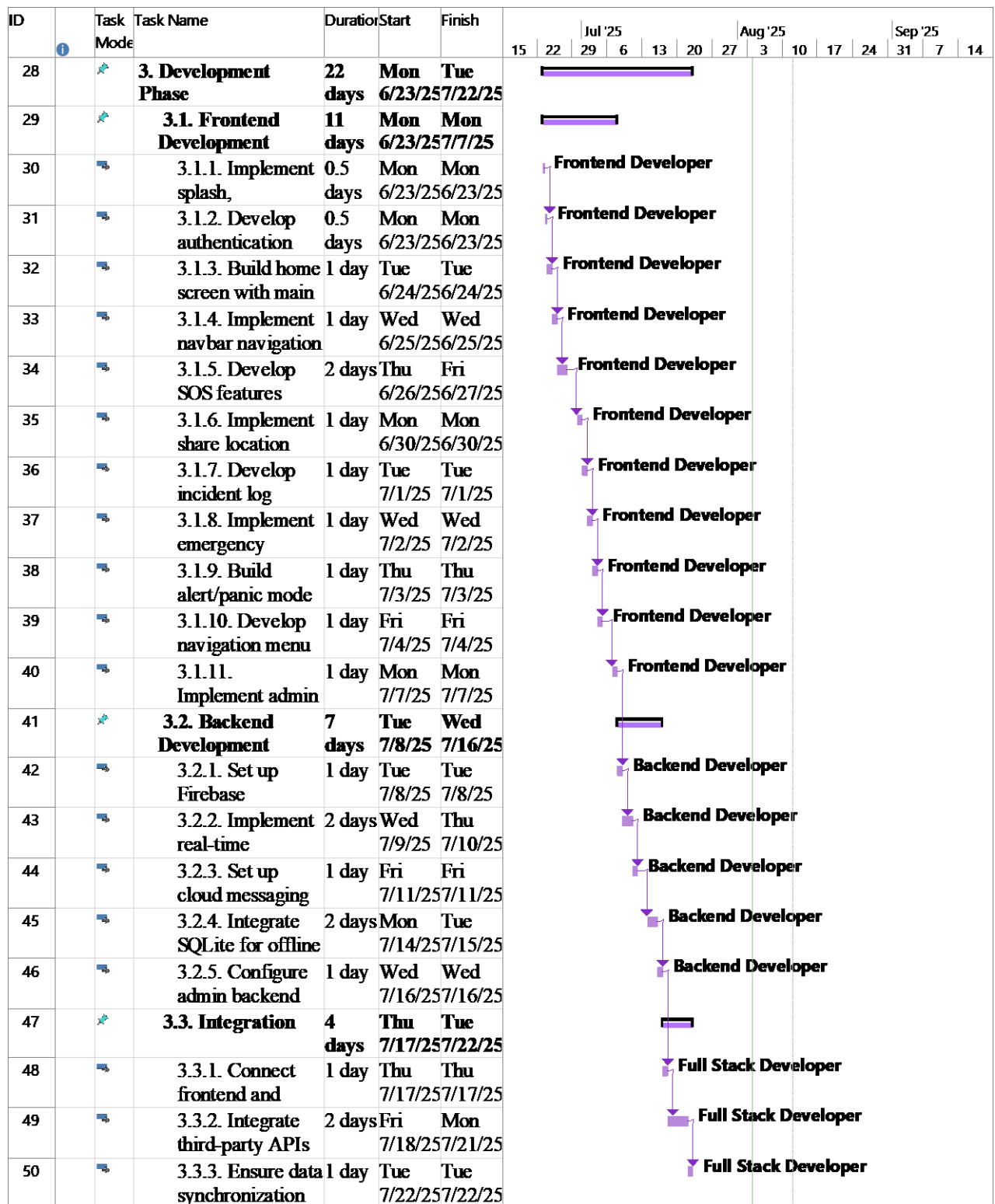


Figure 16.2: Task Overview & Gantt Chart of SheSafe Project

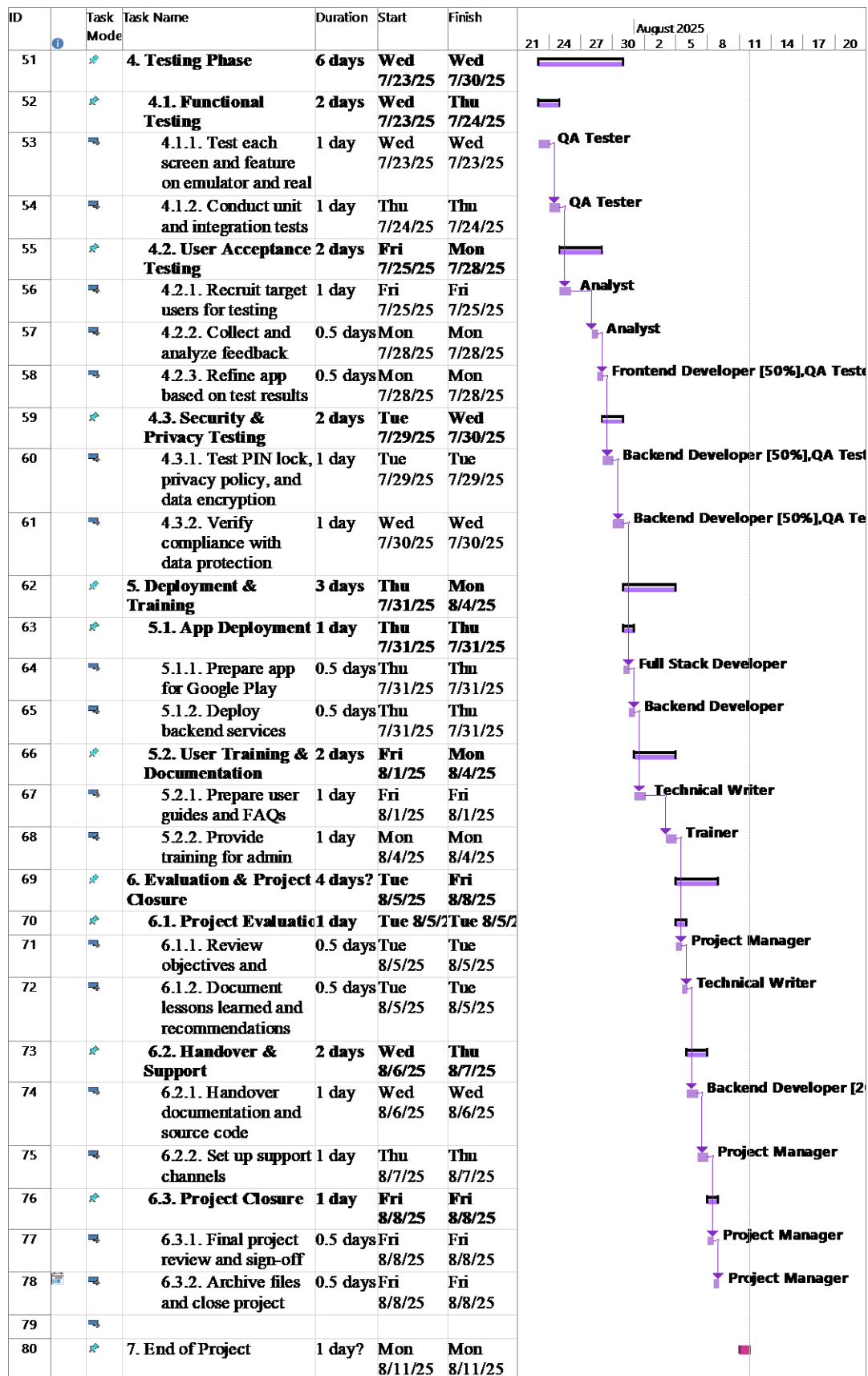


Figure 16.3: Task Overview & Gantt Chart of SheSafe Project

17. Conclusion

The SheSafe project proposal offers a thorough, organized strategy for creating a cutting-edge mobile application that improves personal safety, especially for women and girls. Through the use of tried-and-true technologies like Java, Firebase, and SQLite, as well as an Agile, user-centered development process, the project provides useful, approachable solutions to a pressing social need.

The project's goals, scope, functional and non-functional requirements, and the whole development lifecycle—from requirements collection and design to implementation, testing, deployment, and evaluation—are all spelled out in detail in the proposal. Every stage is carefully planned and resourced when a thorough work breakdown structure, feasibility study, and roles are included.

SheSafe's feature set, which includes emergency contact management, secure registration, quick SOS alerts, incident tracking, and privacy controls, shows a strong dedication to user protection and accessibility. With the potential to empower people and promote safer communities, the project's expected social impact is substantial, and its technical and financial viability has been thoroughly evaluated.

With a realistic timeline, clear deliverables, and a dedicated team, SheSafe is positioned for successful development and deployment. Numerous opportunities exist for future improvements and wider effect as the project moves forward. Through adherence to best practices and a commitment to user needs, SheSafe aims to provide significant value and establish a new benchmark for personal safety applications.