



Conclusion

- The Study Buddy App delivers a scalable solution for peer support tailored to women in STEM.
- Core features including email-link sign-in, profile management, and real-time messaging—met all functional requirements.

Introduction

Women are under-represented in STEM fields, often facing social isolation and weak peer networks [1]. These barriers lower confidence and contribute to higher dropout rates [2]. The Study Buddy App uses mobile tech to support peer engagement through matching and messaging tailored to women in STEM.

Aim

To develop an Android application that fosters peer support and academic belonging among women in STEM through profile-based matching and seamless messaging.

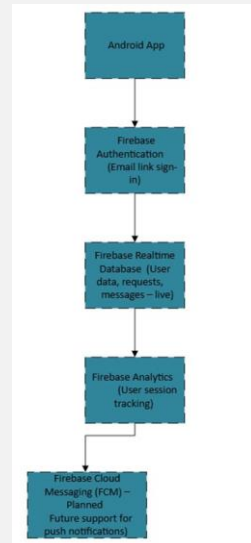
Objectives

1. Research the challenges faced by women in STEM education and the role of peer networks in academic success.
2. Review best practices for mobile app development using Kotlin and Android Studio.
3. Design an intuitive UI for user registration, profile creation, and study-partner matching.
4. Implement real-time messaging functionality between matched users.
5. Conduct usability and functional testing to evaluate user experience and performance.

Method

The Study Buddy App was developed and evaluated through a clear process covering development, implementation, usability testing, and analytics:

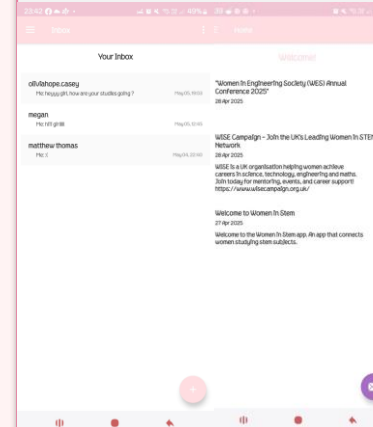
- Agile feature-driven development in Kotlin[3] with Android Studio[4], with code managed on GitHub[5]
- Core features—email-link sign-in, user profiles, and real-time messaging built with Firebase[6]
- Authentication, Cloud Firestore, and Cloud Messaging
- Usability testing to measure task success rates and completion times
- Firebase Analytics to track user engagement and feature usage



Results

Screenshots results

- **Home Screen:**
Personalized study feed with match suggestions
- **Chat Screen:**
Real-time messaging interface



User testing

confirmed the app is easy to use and fast—95 % of core tasks succeeded on the first try, and messages delivered in under 200 ms.

Key Metrics

- Task success rate: 95 % (registration & messaging)
- Average message latency: < 200 ms.

User Feedback

- “Intuitive interface”
- “Responsive messaging”
- “Clear navigation flow”

Future Work

- Enhance matching with recommendation-engine logic.
- Add user profile photos, privacy controls, and push notifications.
- Conduct a formal usability study and performance benchmarking.
- Develop iOS and web versions to broaden accessibility.

References

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