

A
Synopsis
on

“SkillMates: Hire to Build”

Submitted By

Mr. Omkar Prakash Jambe

[72263392M]

Mr. Akshay Sunil Nabage

[72263469C]

Mr. Shaunak Sanjay Joshi

[72337655H]

Under the Guidance of

Prof: _____



**Sinhgad Technical Education Society's
NBN Sinhgad Technical Institutes Campus, Ambegaon (Bk), Pune-41
Department of Electronics & Telecommunication Engineering
[2025-26]**

ABSTRACT

SkillMates: Hire to Build is a mobile-based platform designed to solve the problem of forming effective project teams based on relevant skills and verified experience. Many students and developers have innovative project ideas but struggle to find collaborators with matching expertise. Existing freelance platforms are often transactional and do not support community-driven collaboration or learning. SkillMates bridges this gap by allowing users to post project requirements and selectively onboard applicants who demonstrate the needed technical skills.

Users can either post a project or apply to join one. Project owners define the scope, timeline, and required skills, while applicants submit profiles, previous work, and a short proposal. This structured recruitment process helps form high-quality, focused teams aligned with the project's goals.

The app is developed using Flutter for cross-platform support and Firebase for backend integration. Key features include real-time authentication, cloud database (Firestore), file storage, and push notifications. The interface is designed for easy navigation, enabling users to manage profiles, track applications, and communicate efficiently.

Unlike job boards, SkillMates is tailored for learners and early-stage creators who seek practical experience and portfolio growth through collaboration. It encourages peer learning, teamwork, and skill-based contribution in real-time environments. Planned future updates include chat integration, GitHub linking, project dashboards, and skill endorsements to enhance user engagement.

Keywords: *Skill-Based Collaboration, Project Hiring, Flutter App, Firebase Backend, Team Formation*

INTRODUCTION

Overview of Project Work:

The Project is a skill-based project collaboration platform developed as a mobile application aimed at simplifying the process of forming technical teams for real-time projects. The application allows users to either post a project as an initiator or apply to projects as skilled contributors. It creates a structured environment where users can match skills, apply to relevant projects, and build their experience portfolio through active participation in real-world development work. The platform is designed using Flutter for cross-platform UI and Firebase for backend services such as authentication, database, and real-time communication. The app promotes learning, collaboration, and efficient project execution in academic, startup, and student communities.

The core functionalities include project creation with role-specific requirements, user profile management, application submission, and selection-based onboarding. The platform aims to address challenges in team formation and collaboration for technical projects by providing a centralized, skill-driven ecosystem where opportunities are matched with talent. With intuitive UI and a scalable backend, SkillMates sets a strong foundation for community-driven software development.

Comparison :

Traditional freelancing platforms such as Fiverr and Upwork are built around one-time, paid contracts, usually between clients and anonymous freelancers. These systems are highly transactional, offering minimal room for personal growth, collaboration, or long-term engagement—especially for students or early-stage developers. They lack structured filtering based on learning goals or skill synergy, often resulting in mismatched expectations. On the other hand, SkillMates is designed specifically to foster community-driven development, where users build or join real projects based on interest, skill, and vision. The app includes profile-based shortlisting, past project tracking, and application filtering, offering a more structured and educational approach. Unlike casual team-building via social media or random outreach, SkillMates acts as a hybrid between LinkedIn for professional identity and

GitHub for collaborative execution, making it ideal for hands-on learning and meaningful project work.

Problem Statement :

Despite the increase in project-based learning and hackathon culture, there is still no efficient system for matching students or developers with the right teammates for collaborative project development. Individuals struggle to find people with compatible skill sets, aligned goals, or adequate experience. Informal methods like messaging groups or college notice boards lack structure, leading to poor team dynamics, missed deadlines, and incomplete projects. There is a need for a platform where project creators can clearly define their requirements and selectively onboard skilled contributors, creating focused, productive, and balanced teams. SkillMates is developed to solve this problem by digitizing the team formation process using a streamlined and skill-matching workflow.

Summary about Report Organization :

This report is organized into chapters that reflect the design, development, and implementation of the SkillMates application. The initial sections cover project-based collaboration, current team formation methods, and the need for a centralized platform, along with a detailed analysis of the problem statement and system goals. Later chapters explain the technology stack—Flutter for frontend and Firebase for backend—alongside architecture diagrams, flowcharts, and module breakdowns. A UI walkthrough with screen designs is included, followed by proposed enhancements like in-app chat, GitHub integration, and task tracking. The report concludes with testing outcomes, development challenges, and the project's long-term scalability and impact.

Block Diagram:

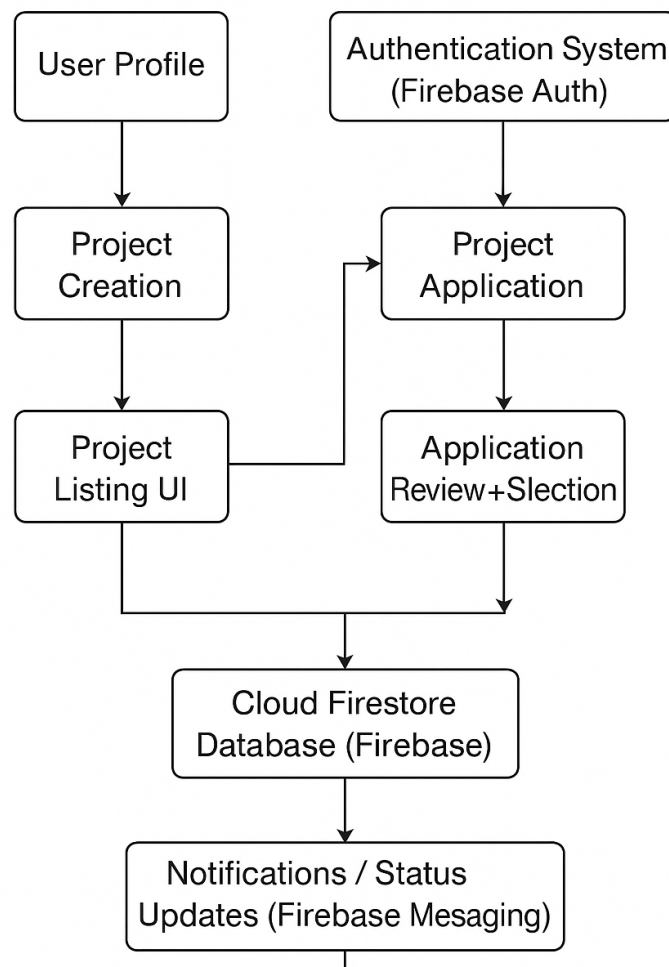


Fig: Architecture of App

The provided block diagram illustrates the architecture of a project collaboration platform, showing how user profiles interact with Firebase Authentication for secure access. Key functionalities like project creation, application, listing, and review all connect directly with the Cloud Firestore Database for data storage and retrieval. Finally, the database triggers Firebase Messaging to send notifications and status updates, ensuring real-time communication within the platform.

Algorithm Diagram:

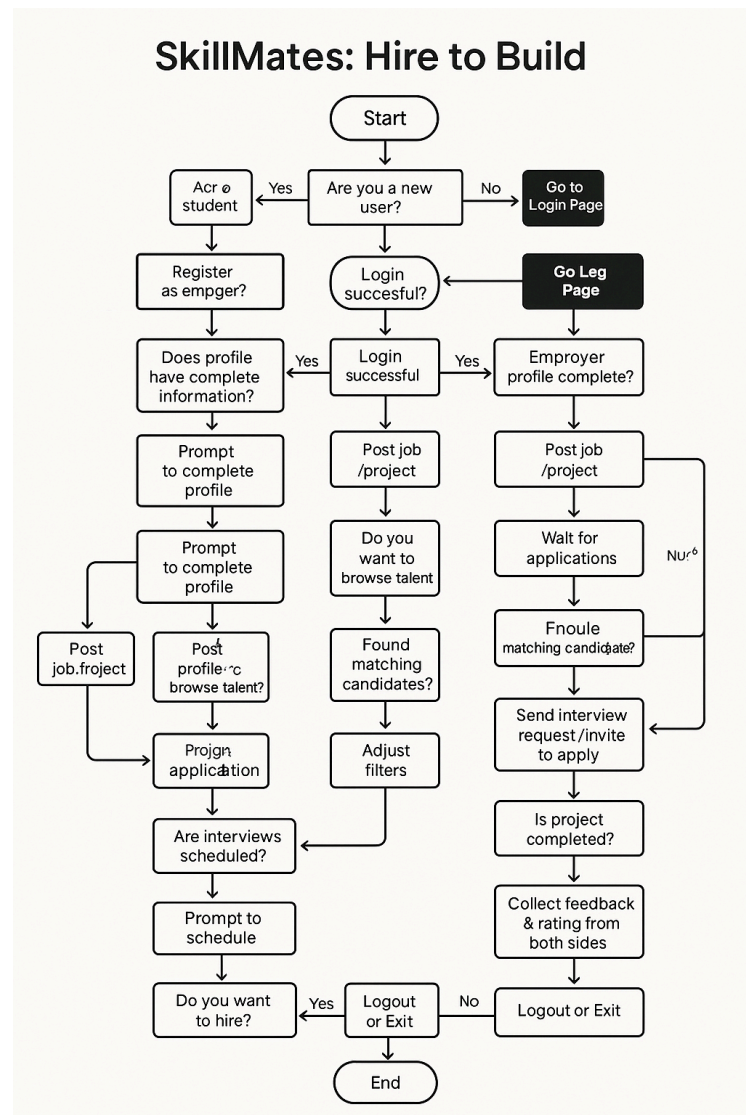


Fig: Flow of App

The SkillMates: Hire to Build algorithm guides both new and existing users (students or employers) through a structured hiring workflow. It starts with login or registration, followed by profile completion checks. Employers can post jobs or browse talent, and students can apply or get invited for interviews. The system handles application tracking, interview scheduling, hiring decisions, and finally collects feedback after project completion.

ADVANTAGES, DISADVANTAGES & APPLICATIONS

Advantages:

1. Skill-Centric Collaboration – Matches users based on verified skills.
2. Portfolio Growth – Developers gain real-world project experience.
3. Cost-Efficient – Startups/indie hackers find talent without agency fees.
4. Community-Driven – Ratings/reviews build trust and long-term networks.

Disadvantage:

1. Quality Control – Risk of inactive projects or unskilled applicants.
2. Scalability – Manual application review may slow growth.

Application:

1. Startups – Assemble MVP teams quickly.
2. Open-Source – Find contributors for niche tech stacks.
3. Freelancers – Transition to project-based partnerships.
4. Students – Build portfolios with collaborative projects.

CONCLUSION

SkillMates: Hire to Build is a step forward in solving the real-world challenge of forming effective project teams based on relevant skills and experience. By offering a structured and user-centric platform for project posting, skill-based filtering, and selective onboarding, it simplifies the collaborative process for students, developers, and innovators. Beyond just matching users, the platform nurtures a community focused on learning, portfolio growth, and practical exposure—key elements in today's competitive tech landscape.

The use of Flutter and Firebase ensures cross-platform accessibility, scalability, and real-time interaction, making the system technically sound and future-ready. With potential upgrades like in-app chat, GitHub integration, skill endorsements, and task management tools, the platform can evolve into a full-fledged collaboration suite. SkillMates not only empowers individuals to turn their ideas into reality but also contributes to building a culture of peer-driven innovation. Its long-term impact lies in democratizing access to skilled teammates and making project development more inclusive, structured, and success-oriented.

REFERENCES

- [1] N. Ahmad, M. Rizwan, and M. M. Khan, "*A Skill Based Collaborative Platform for Software Project Development*," International Journal of Computer Applications, vol. 150, no. 2, pp. 24–29, Sep. 2016.
- [2] S. Singh and R. K. Sharma, "*Team Formation Strategies in Software Project Management Using Expert Systems*," in Proc. IEEE Int. Conf. Advanced Computing and Communication Technologies (ACCT), pp. 205–209, Feb. 2015.
- [3] D. W. Lewis, A. Trivedi, and J. Patel, "*Cross-Platform Mobile App Development Using Flutter: A Practical Approach*," Int. J. Eng. Res. Technol. (IJERT), vol. 10, no. 6, pp. 182–187, Jun. 2021.
- [4] A. A. Dar and M. Shaikh, "*Implementation of Firebase as Backend-as-a-Service in Android Applications*," Int. Res. J. Eng. Technol. (IRJET), vol. 7, no. 5, pp. 3321–3325, May 2020.

