

Kiwami – A Student App Using Flutter and Firebase

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Abstract—Kiwami is a comprehensive mobile application designed to enhance the academic and collaborative experience of college students. Developed using Flutter and Firebase, the app provides an integrated platform that addresses key aspects of student life. It features personalized student profiles highlighting individual skills, enabling peer-to-peer connections based on expertise. The academic module offers access to study notes, a to-do list, and quizzes uploaded by faculty members, supporting self-paced learning and task organization.

Kiwami also includes a project collaboration section where students can form groups with peers who accept their project requests and select a faculty guide. Once a group is established, a dedicated group chat is created for seamless communication. The placement module allows students to register for company drives and track their selection status in real-time. Additionally, the app supports one-on-one and group chat functionalities for students and faculty, fostering a connected academic community.

By centralizing these diverse features into a single mobile platform, *Kiwami* aims to streamline communication, academic engagement, and collaborative work among college students and staff, ultimately enhancing the overall campus experience.

Index Terms—Kiwami, student app, Flutter, Firebase, academic collaboration, project management, placement tracking, peer networking, mobile learning, college communication platform.

1. INTRODUCTION

In today's digital age, mobile applications play a significant role in streamlining everyday tasks and enhancing communication, especially in academic environments. Despite the growing number of educational tools, many college students still face challenges in managing academics, collaborating on projects, and staying updated with placement-related

information. These activities often require multiple platforms, resulting in fragmented experiences and reduced productivity.

Kiwami is a mobile application developed to address these challenges by providing a unified platform tailored specifically for college students. Built using Flutter for cross-platform compatibility and Firebase for real-time data handling and backend support, *Kiwami* integrates essential academic and social features into a single, user-friendly interface.

The application offers a dynamic student profile system where users can showcase their skills and connect with peers based on shared academic interests. It includes dedicated modules for academic resources, including notes, quizzes, and a to-do list managed by faculty and accessible to students. The project collaboration section simplifies group formation, faculty guidance requests, and communication through integrated group chat features.

Additionally, *Kiwami* features a placement module that allows students to register for recruitment drives and monitor their application status. To promote continuous interaction, the app includes real-time messaging between students and faculty members. With its holistic approach, *Kiwami* aims to improve engagement, foster collaboration, and enhance the overall college experience through a centralized digital ecosystem.

2. LITERATURE REVIEW

In recent years, the development of mobile applications for educational purposes has seen rapid growth, with various platforms attempting to address specific needs such as academic content delivery, student collaboration, or placement management.

However, most of these applications tend to focus on isolated functionalities rather than offering a comprehensive solution tailored to the holistic needs of college students.

Academic Tools:

Platforms such as Google Classroom and Moodle have become standard in academic environments for content sharing and assignment management. While these tools facilitate classroom instruction and resource dissemination, they lack features that support peer interaction, skill-based networking, and personalized project collaboration.

Student Networking:

Applications like LinkedIn offer professional networking opportunities, but they are more suited for career-oriented interactions rather than academic peer engagement. Platforms such as Discord and Slack have been adopted informally by student communities for communication, but they lack academic integration and institutional support.

Project and Task Management:

To-do list apps like Trello, Microsoft To Do, and Notion provide task management features, yet they are generic in nature and not designed for the academic workflow or group project lifecycle common in college settings.

Placement Portals:

Most placement-related systems used by colleges are web-based and often lack real-time updates or integration with student profiles. They typically do not provide mobile access or allow personalized tracking of placement status within a unified student platform. The gap identified in the existing literature and platforms is the absence of an all-in-one solution that addresses academic needs, student collaboration, skill-based networking, and placement tracking within a single, accessible mobile application. This gap creates the opportunity for *Kiwami*, which combines the strengths of these existing systems into a cohesive, mobile-first solution specifically designed for college students.

By analyzing the limitations of current systems and leveraging modern development frameworks such as Flutter and Firebase, *Kiwami* aims to deliver a robust

and scalable platform that enhances student productivity, communication, and campus engagement.

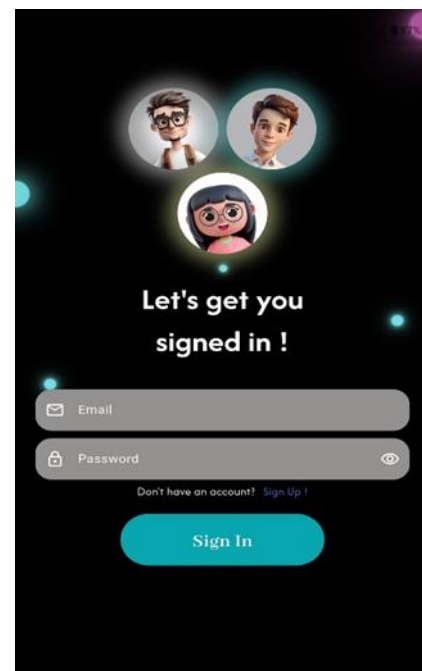
3. MODULES

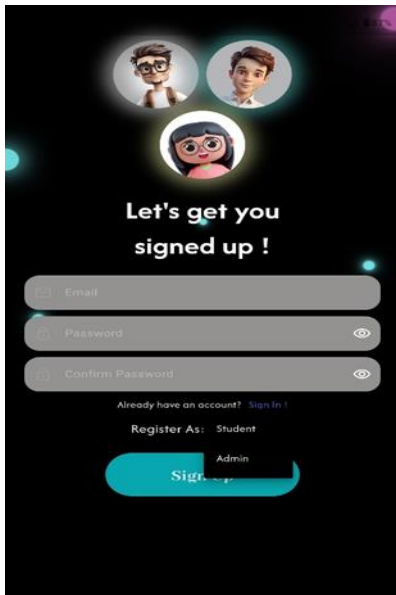
- User Creation and Login module
- Academic module
- Project collaboration module
- Placement module
- Communication and Chat module

3.1. User Creation & Login Module

The User Creation & Login Module serves as the gateway to the *Kiwami* application, handling secure authentication and role-based access for two distinct user types: students and admins. Students register by submitting personal details such as name, email, college ID, and skillsets, while admin accounts are set up with elevated permissions to manage academic content, placements, and student activities.

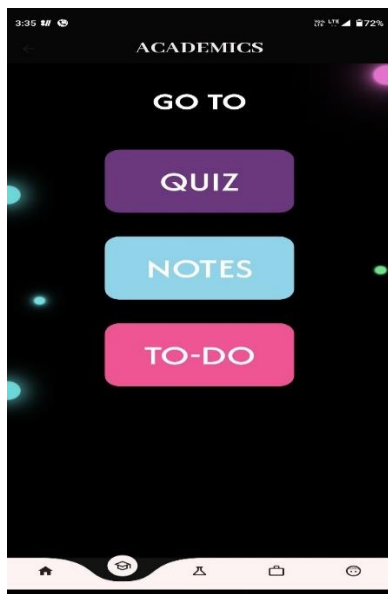
The module uses Firebase Authentication for login and session management, ensuring secure access and data protection. Depending on the user's role, the application redirects them to appropriate functionalities. Additionally, the module includes password recovery options via email and maintains persistent sessions until the user chooses to log out.





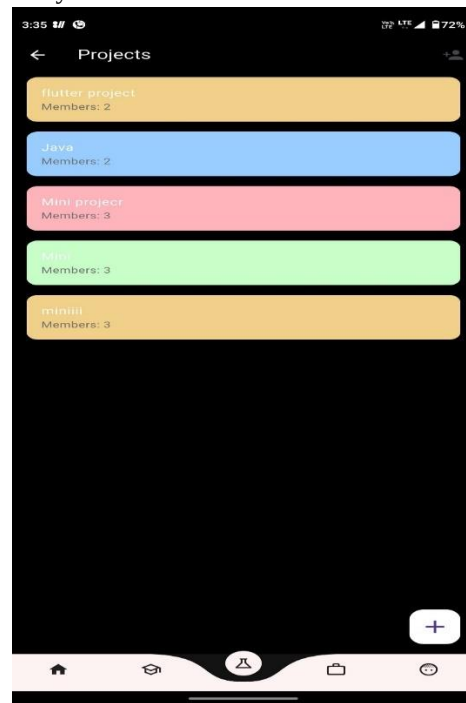
3.2. Academic Module

The Academic Module is designed to support students in their academic journey by offering access to essential learning resources and productivity tools. Faculty members can upload study materials, notes, and quizzes directly into the system, which are then accessible to all students. In addition, the module features an integrated to-do list that allows students to track assignments, deadlines, and academic tasks. The inclusion of interactive quizzes encourages self-assessment and continuous learning. By consolidating academic content and tools in a single place, this module enhances student engagement and academic performance.



3.3. Project Collaboration Module

The Project Collaboration Module facilitates the formation and management of student project groups. Students can browse profiles, send project invitations based on skillsets, and accept or decline requests. Once a group is successfully formed, students can select a faculty member to serve as their project guide. The guide can then oversee progress and offer mentorship throughout the project duration. Upon formation of a group, the application automatically generates a dedicated group chat to streamline communication among team members and their guide. This module encourages skill-based collaboration and provides a structured framework for managing academic projects effectively.



3.4. Placement Module

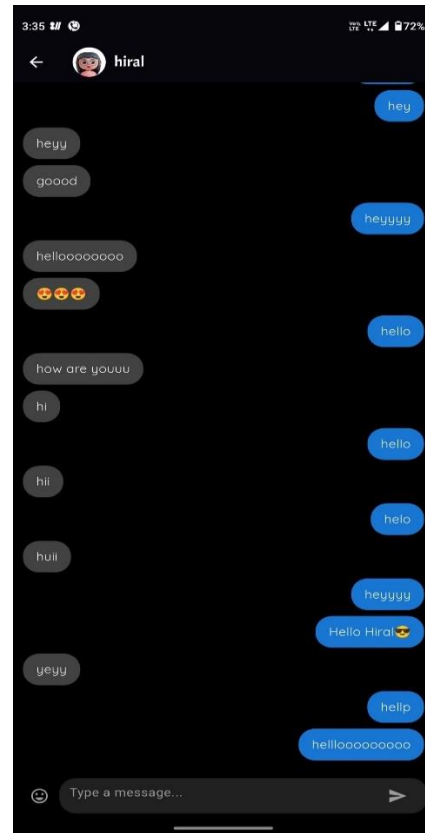
The Placement Module is built to simplify and digitize the campus placement process. Through this module, students can view a list of ongoing and upcoming company drives and register for those relevant to their interests and eligibility. Once registered, students can monitor their application status, which may be updated by admins to reflect whether they have been selected, rejected, or are still under review. Admins are provided with tools to manage company listings, update results, and track overall student participation. By integrating the placement process into the app, this

module eliminates the need for manual tracking and enhances transparency for all stakeholders.



3.5. Communication & Chat Module

The Communication & Chat Module supports real-time messaging between students, faculty members, and project groups. It enables one-on-one conversations between students, as well as communication with their assigned guides. Additionally, when a project group is created, a group chat is automatically initiated to facilitate seamless collaboration. The chat system ensures quick information exchange, reduces dependency on external messaging apps, and keeps all academic and project-related discussions within the platform. Backed by Firebase's real-time capabilities, this module ensures responsive and reliable communication at all times.



4. RESULTS

The development and implementation of *Kiwami* resulted in a fully functional mobile application that successfully integrates academic, collaborative, and placement-related features tailored to the needs of college students. The application was developed using Flutter for frontend flexibility and Firebase for secure backend operations, ensuring a smooth user experience.

Overall, the implementation of *Kiwami* demonstrated the feasibility and impact of an all-in-one academic platform. It not only addressed common challenges faced by students in terms of collaboration and information access but also provided faculty members and administrators with tools to better manage and communicate with students.

5. CONCLUSION

The development of *Kiwami* has successfully addressed the multifaceted needs of college students by offering a centralized digital platform that combines academic resources, student collaboration,

communication, and placement management. Through an intuitive mobile interface built using Flutter and powered by Firebase services, *Kiwami* bridges the gap between students and faculty, encourages skill-based peer interaction, and streamlines routine academic and placement processes.

By integrating modules such as project collaboration, academic content access, student-faculty communication, and real-time placement updates, *Kiwami* enhances the overall campus experience. It eliminates the inefficiencies of scattered systems by bringing all essential functions into a single, accessible application.

The successful implementation and positive user feedback demonstrate the potential of *Kiwami* to be adopted in real-time academic environments. It not only simplifies student life but also empowers faculty to engage more effectively with their students. With future enhancements and institution-wide deployment, *Kiwami* can scale to become a powerful educational ecosystem for colleges and universities.