Summer Internship Report
on

"College Project Management System"

Submitted in partial fulfillment of the Requirement for the award of the degree of

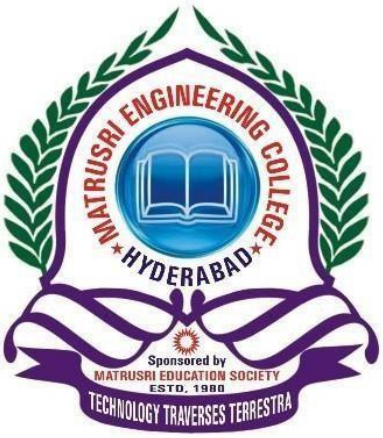
Bachelor of Engineering
in
Computer Science and Engineering

by

MULLAPUDI VENKATA KRISHNA SAI 1608-20-733-307

Under the guidance of

Mrs. Swapna Mudrakola
Assistant Professor



Department of Computer Science and Engineering
MATRUSRI ENGINEERING COLLEGE

FEBRUARY 2024

MATRUSRI ENGINEERING COLLEGE

SAIDABAD - 500059

Department of Computer Science and Engineering

CERTIFICATE

This is to certify that the internship report entitled **"College Project Management System"** submitted by **Mr. Mullapudi Venkata Krishna Sai** bearing **H.T. No: 1608-20733-307 ,** in the partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering** in **Computer Science and Engineering** is a bonafide work carried by him/her**.**

The results of the investigations enclosed in this report have been verified and found satisfactory.

Internal Supervisor
Dept. of CSE
MECS.

HOD
Dept. of CSE
MECS.

CLAROSOFTWARE
Solutions Pvt. Ltd.

17th June 2023

INTERNSHIP CERTIFICATE

This is to certify that **Mullapudi Venkata Krishna Sai** student of Matrusri Engineering College bearing roll number 1608-20-733-307, Hyderabad has successfully completed his Internship training on Android application for **College Project Management System** in the stream of **ANDROID** at **Claro Software Solutions Pvt. Lltd**, Hyderabad. During his internship program from **10th May 2023** to **09th June 2023** with us. He was found punctual, hardworking and inquisitive.

Mullapudi Venkata Krishna Sai possesses a good moral character and pleasing personality. I wish him every success in life.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

CLARO SOFTWARE SOLUTIONS PVT. LTD. Hyderabad

Ilyas,
Manager – Human Resources

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ACKNOWLEDGEMENT

This internship consumed huge amount of work, research and dedication. Still implementation would not have been possible if I did not had support of my Internship Guide, Internship Coordinator, Head of the Department and Principal. Therefore, I like to extend my sincere gratitude to all of them.

I wish to express my gratitude to internal internship supervisor **Mrs. Swapna Mudrakola**, Assistant Professor and internship coordinator for their indefatigable inspiration, constructive criticisms, advices and encouragement throughout this dissertation work.

I am grateful to my external internship supervisor **Mr. Nomula Suresh,** for technical support and guidance in the implementation of the internship project.

I would like to express my sincere thanks to the Professor and Head of the Department, **Dr. P. Vijaya Pal Reddy**, for permitting me to do this internship.

I would like to express my gratitude to **Dr. D. Hanumantha Rao**, principal of Matrusri Engineering College who permitted to carry out this project as per the academics.

I would like to thank CSE Department for providing me this opportunity to share and contribute my part of work to accomplish the internship in time and all the teaching and support staff for their steadfast support and encouragement.

Nevertheless, I express my gratitude towards my family and colleagues for their kind cooperation and encouragement which helped me in completion of this internship.

Mullapudi Venkata Krishna Sai (1608-20-733-307)

ABSTRACT

Academic Project management is a major issue which is faced by many educational institutes in India, the main reason for this is there is no automated system followed in any institute. College management/staff gathers all the project reports and project sources from students and store them physically in some locations probably libraries. To overcome this practical problem and also to make the process easy we developed an application which is useful for each and every institute.

The application should allow the student to login and upload/enter all his details regarding project such as project name etc. All this details must be maintained in database. HOD or the head of the projects can directly search of any project. We must provide role based authentication in this project for high level security. User can view all the documents online.

The objective is to develop an application which provides the details of project assigned to students. The purpose is to design an application which automates the processes involved and allows users to perform various operations.

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1. INTRODUCTION

In the contemporary educational landscape, academic projects constitute a vital component of learning, fostering practical skills, critical thinking, and innovation among students. However, the management of these projects poses significant challenges for educational institutions, particularly in India, where manual processes often dominate. The absence of streamlined systems leads to inefficiencies in collecting, storing, and accessing project-related information, impacting the overall academic experience.

Recognizing the pressing need for an automated solution, we introduce the "College Project Management System," a sophisticated Android-based application designed to revolutionize project management within educational institutes. This system aims to address the prevalent issues surrounding project administration by providing a comprehensive platform that simplifies the entire process for students, faculty, and administrators alike.

The traditional approach to managing academic projects involves labor-intensive methods, where students submit physical copies of project reports and materials to college authorities. These documents are then stored in various locations, such as libraries or administrative offices, making it challenging to organize and retrieve information efficiently. Moreover, manual record-keeping systems are susceptible to errors, data loss, and security breaches, further complicating the management process.

In light of these challenges, our project seeks to leverage the power of technology to streamline project management tasks and enhance collaboration among stakeholders. By developing an intuitive Android application, we aim to empower students to digitally submit project details, including project names, descriptions, and associated documents, directly into a centralized database. This approach eliminates the need for cumbersome paperwork and enables real-time access to project information from any location with internet connectivity.

One of the key features of our system is role-based authentication, which ensures that only authorized users, such as faculty members and project supervisors, can access sensitive project data. This implementation enhances security and confidentiality, safeguarding the integrity of student work and academic assessments. Additionally, the application provides robust search functionality, allowing faculty members to efficiently locate specific projects based on various criteria, such as student names, project titles, or keywords.

Furthermore, our system prioritizes user convenience by enabling seamless online access to project documents. Instead of relying on physical copies, students and faculty members can view, download, and review project materials directly within the application interface. This digital accessibility enhances collaboration, fosters feedback exchange, and promotes academic excellence by facilitating a more dynamic and interactive learning environment.

2. BACKGROUND KNOWLEDGE

Traditionally, the process of managing academic projects has been largely manual, relying on paper-based submissions, physical storage, and manual record-keeping systems. However, this approach is inherently inefficient and prone to numerous challenges, including:

2.1 Existing Challenges in Academic Project Management:

- **Manual Processes**: Traditional methods of managing academic projects often involve manual procedures, including physical submission of project reports, presentations, and associated documents. These processes are time-consuming, labor-intensive, and prone to errors.
- **Storage and Access Issues:** Storing and accessing physical project submissions pose significant challenges, especially in institutions with large student populations. It becomes difficult to organize, track, and retrieve project-related data efficiently.
- **Administrative Burdens**: Faculty members and administrative staff face administrative burdens associated with managing project submissions, providing feedback, and evaluating student performance. This can lead to delays in processing and grading projects.
- **Diverse Project Topics:** Educational institutes typically offer a wide range of academic programs and disciplines, leading to diverse project topics and requirements. Managing this diversity manually can be challenging and requires tailored solutions.

2.2 Need for Automation and Digital Solutions:

- **Efficiency Gains:** Automation of project management processes can lead to significant efficiency gains by reducing manual tasks, streamlining workflows, and improving overall productivity.
- **Data Accuracy and Integrity**: Digital solutions offer advantages in terms of data accuracy and integrity. Electronic submission and storage of project materials minimize the risk of errors, data loss, and inconsistencies.

2.3 Emergence of Mobile Technology and Android Applications:

- **Ubiquity of Smartphones**: The widespread availability and affordability of smartphones have made them ubiquitous tools for communication, productivity, and entertainment.
- **Android as a Platform:** Android, being an open-source mobile operating system developed by Google, powers a vast majority of smartphones globally. Its flexibility and accessibility make it an ideal platform for developing educational applications.

2.4 Importance of Database Management:

- **Centralized Data Storage:** Database management systems (DBMS) provide a centralized platform for storing, organizing, and retrieving project-related information. This ensures data consistency, reliability, and security.
- **Scalability and Flexibility:** A well-designed database can scale to accommodate growing volumes of data and adapt to changing requirements over time. This scalability and flexibility are essential for accommodating the diverse needs of educational institutions.
- **Data Security**: Implementing robust security measures within the database, such as encryption, access controls, and audit trails, helps protect sensitive project information from unauthorized access and data breaches.

2.5 User-Centric Design and Accessibility:

- **User Experience (UX) Design**: User-centric design principles focus on creating interfaces that are intuitive, user-friendly, and aesthetically pleasing. This involves understanding the needs, preferences, and behaviors of users and designing interfaces accordingly.
- **Accessibility Standards:** Adhering to accessibility standards ensures that the project management system is usable by individuals with disabilities. This includes providing alternative text for images, keyboard navigation options, and support for screen readers.

- **Responsive Design:** Designing the application to be responsive ensures that it adapts seamlessly to different screen sizes and devices, including smartphones, tablets, and desktop computers.

Overall, the "College Project Management System" represents a significant advancement in academic project administration, offering a modern, user-friendly solution to the challenges faced by educational institutions. By harnessing the capabilities of Android technology, we aim to optimize project management processes, improve efficiency, and ultimately enhance the overall academic experience for students and faculty members alike.

3. INTERNSHIP OBJECTIVES AND GOALS

The objective and goals of the internship includes the activities that are required to develop the project as per project requirements, specifications and functionalities.

1. **Develop an Android-based College Project Management System:**
    - The primary objective of this internship project is to design, develop, and implement an intuitive and user-friendly Android application tailored specifically for managing academic projects within educational institutes.
2. **Streamline Project Management Processes:**
    - The project aims to streamline the cumbersome processes associated with project management by replacing manual methods with automated systems. By digitizing project submission, storage, and retrieval, the application seeks to improve efficiency and eliminate unnecessary administrative overhead.
3. **Enhance Accessibility and Convenience:**
    - One of the key goals of the project is to enhance accessibility and convenience for both students and faculty members. By providing a centralized platform for project submission and document storage, the application enables users to access project information anytime, anywhere, thereby promoting flexibility and collaboration.
4. **Implement Role-Based Authentication:**
    - The project will implement role-based authentication to ensure secure access to project data. By assigning specific roles and permissions to users, such as students, faculty members, and administrators, the system will protect the integrity and confidentiality of sensitive project information.
5. **Enable Efficient Search and Retrieval:**
    - The application will feature robust search functionality, allowing users to efficiently locate specific projects based on various criteria, such as project titles, student names, or keywords. This goal aims to improve productivity and facilitate quick access to relevant project information.
6. **Ensure Scalability and Sustainability:**

- The project will be designed with scalability and sustainability in mind, allowing for future expansion and integration with additional features or modules. By adopting best practices in software development and utilizing scalable architecture, the application will be capable of accommodating the evolving needs of educational institutions over time.

7. **Promote Academic Excellence:**

   - Ultimately, the overarching goal of the project is to promote academic excellence by facilitating efficient project management practices. By providing students with the tools and resources they need to succeed in their academic endeavors, the application aims to contribute to the overall educational experience and outcomes.

8. **Improving Academic Project Management:**

   - Ultimately, the overarching goal of the College Project Management System is to improve the overall management of academic projects within educational institutions. By leveraging technology to streamline processes, enhance collaboration, and ensure data security, we aim to create a more efficient and conducive environment for projectbased learning and research.

4. TECHNOLOGY STACK / SKILLS ACQUIRED

4.1 Frontend:

- **Android Studio**: Interns learned to develop native Android applications using Android Studio, the official **Integrated Development Environment (IDE)** for Android app development.
- **Java**: Proficiency in Java programming languages was essential for building the frontend components of the Android application.

4.2 Android SDK (Software Development Kit):

- The Android SDK provides a comprehensive set of tools, libraries, and APIs necessary for developing Android applications. It includes essential components such as activity and fragment lifecycle management, user interface widgets, and system resources.

4.3 Backend:

- Expertise in **Java** programming language for backend development.
- Acquired knowledge of server-side scripting languages such as PHP or Node.js for implementing backend functionality and handling server requests.

5. ACHIEVEMENTS AND CONTRIBUTIONS

5.1 Achievements:

Enhanced Efficiency:

- The implementation of the College Project Management System in the stream of Android has led to a notable enhancement in efficiency within educational institutes. Tasks such as project submission, storage, and retrieval are now streamlined, saving valuable time and resources for both students and faculty members.

Improved Accessibility:

- Leveraging the Android platform, the project management system has improved accessibility for users. Students can easily upload project details from their smartphones or tablets, while faculty members can access project information from any device with internet connectivity, enabling seamless collaboration and communication.

Facilitated Project Supervision:

- Faculty members, particularly HODs and project supervisors, benefit from the system's ability to facilitate project supervision.

Role-Based Authentication Implementation:

- Implementation of role-based authentication has bolstered security measures within the system. By assigning specific roles and permissions to users, the system ensures that only authorized individuals have access to sensitive project data, safeguarding confidentiality and integrity.

5.2 Contributions:

Streamlined Academic Project Management:

- The College Project Management System in the stream of Android has made significant contributions to the streamlining of academic project management processes. It has provided a comprehensive solution for managing projects efficiently within educational institutes, contributing to overall operational effectiveness.

Frontend and Backend Development:

- Led the frontend and backend development efforts, leveraging expertise in frontend and backend technologies such as Java.
- Designed and implemented responsive user interfaces, RESTful APIs, and backend services, facilitating seamless communication and interaction with the android application.

Streamlined Academic Project Management:

- By providing a platform for centralized project management, the system has contributed to enhanced collaboration and communication among students, faculty members, and project supervisors. It has facilitated seamless information sharing and improved coordination, leading to more effective project outcomes.

Knowledge Sharing and Collaboration:

- Actively participated in knowledge sharing sessions, code reviews, and collaborative discussions with team members, sharing insights, best practices, and lessons learned throughout the project.

6. METHODOLOGY OF THE PROJECT

6.1 What is ANDRIOD?

Android is a software stack for mobile devices that includes an operating system, middleware and key applications. The android SDK provides the tools and APIs necessary to begin developing applications on the Android platform using the Java programming language.

The Android SDK includes a comprehensive set of development tools. These include a debugger, libraries, a handset emulator (based on QEMU), documentation, sample code, and tutorials. Currently supported development platforms include x86-architecture computers running Linux (any modern desktop Linux distribution), Mac OS X 10.4.8 or later, Windows XP or Vista. The officially supported integrated development environment (IDE) is Eclipse (3.2 or later) using the Android Development Tools (ADT) Plugin, though developers may use any text editor to edit Java and XML files then use command line tools to create, build and debug Android applications.

What is ANDRIOD STUDIO?

Android Studio is the official Integrated Development Environment (IDE) for Android app development. It provides a comprehensive suite of tools for developers to design, build, debug, and deploy Android applications. Android Studio is developed by Google and is the preferred IDE for Android app development.

To install Android Studio, follow these steps:

1. Download Android Studio: Go to the official Android Studio website at https://developer.android.com/studio and click on the "Download Android Studio" button.

2. Install Android Studio:

3. Set Up Android Studio:

4. Configure Android Virtual Device (AVD):

5. Start Developing:

6.2 CREATING AN ANDROID PROJECT:

The ADT plug-in provides a New Project Wizard that you can use to quickly create a new Android project (or a project from existing code).

➢ To create a new project:

- Select File > New > Project.
- Select Android > Android Project, and click Next.
- Select the contents for the project.
- Enter a Project Name. This will be the name of the folder where your project is created.
- Under Contents, select Create new project in workspace. Select your project workspace location.
- Under Target, select an Android target to be used as the project's Build Target. The Build Target specifies which Android platform you'd like your application built against.
- Unless you know that you'll be using new APIs introduced in the latest SDK, you should select a target with the lowest platform version possible, such as Android 1.1.
- Under Properties, fill in all necessary fields.
- At last, click finish.

6.3 UNIFIED MODELING LANGUAGE (UML)

The unified modeling is a standard language for specifying, visualizing, constructing and documenting the system and its components is a graphical language which provides a vocabulary and set of semantics and rules. The UML focuses on the conceptual and physical representation of the system. It captures the decisions and understandings about systems that must be constructed. It is used to understand, design, configure and control information about the systems.

The UML addresses the documentation of a system's architecture and all of its details. The UML also provides a language for expressing requirements and for tests. Finally, the UML provides a language for modeling the activities of project planning and release management.

SEQUENCE DIAGRAM

Sequence diagrams are a type of Unified Modeling Language (UML) diagram used to visually represent the interactions between objects or components in a system over time. They are particularly useful for illustrating the flow of messages, method calls, and interactions among different parts of a system during the execution of a particular use case or scenario.

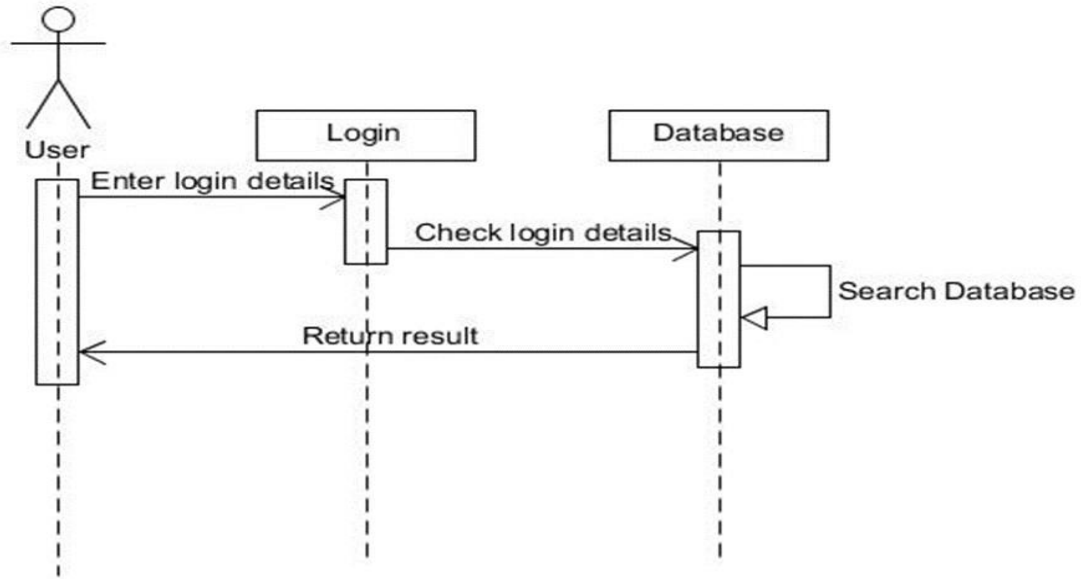

Fig 6.3.1 Sequence diagram

7. Result Screens

7.1 Home screen

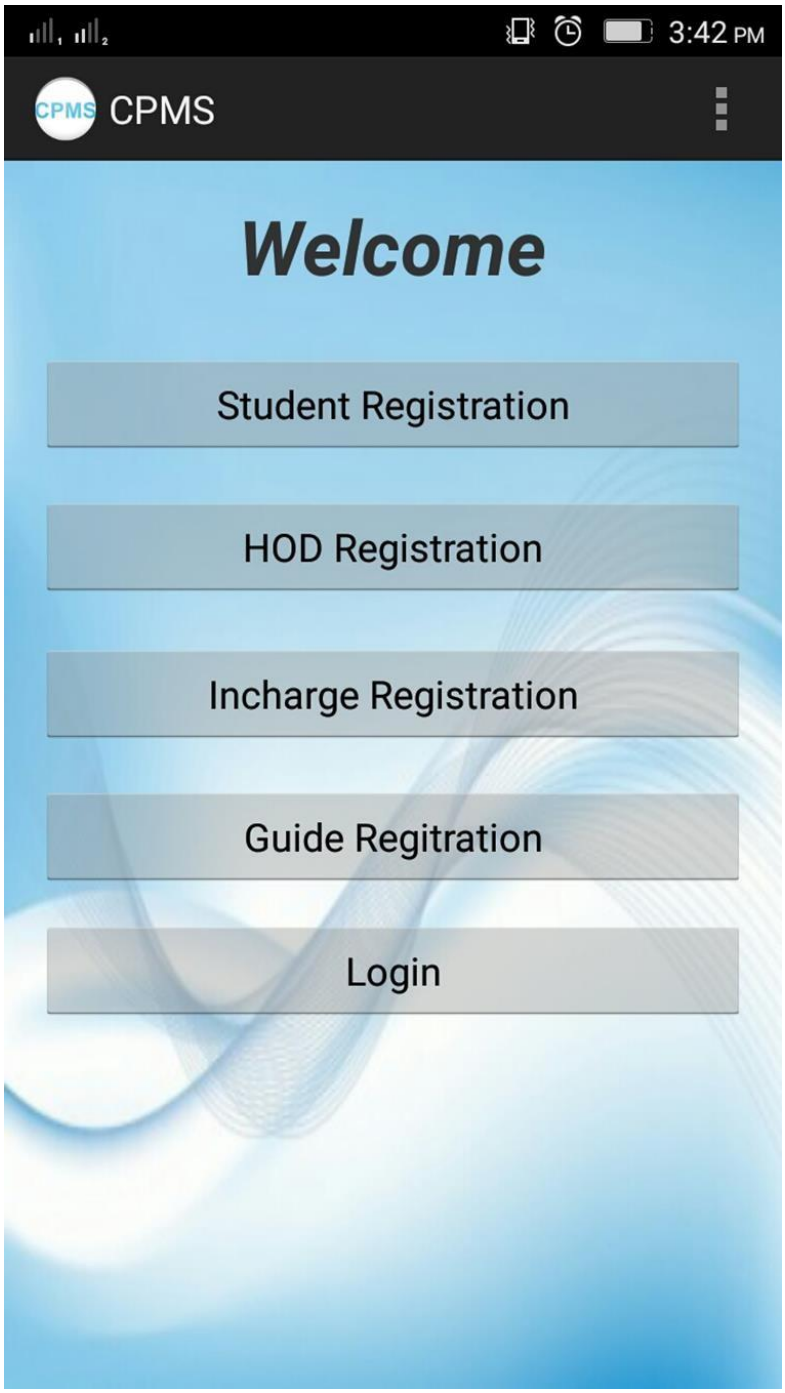

Fig 7.1 Home screen

7.2 Student Registration

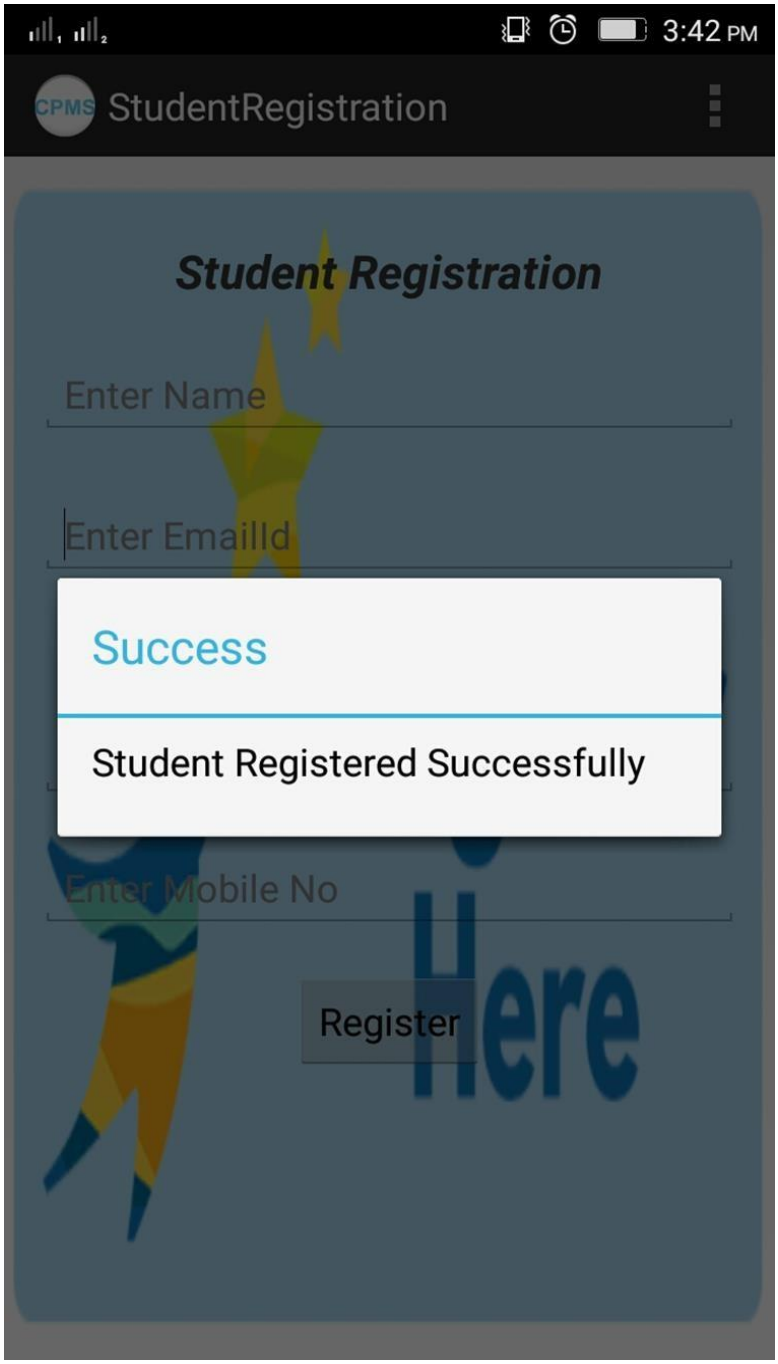

Fig 7.2 Student Registration

7.3 Student Login Page

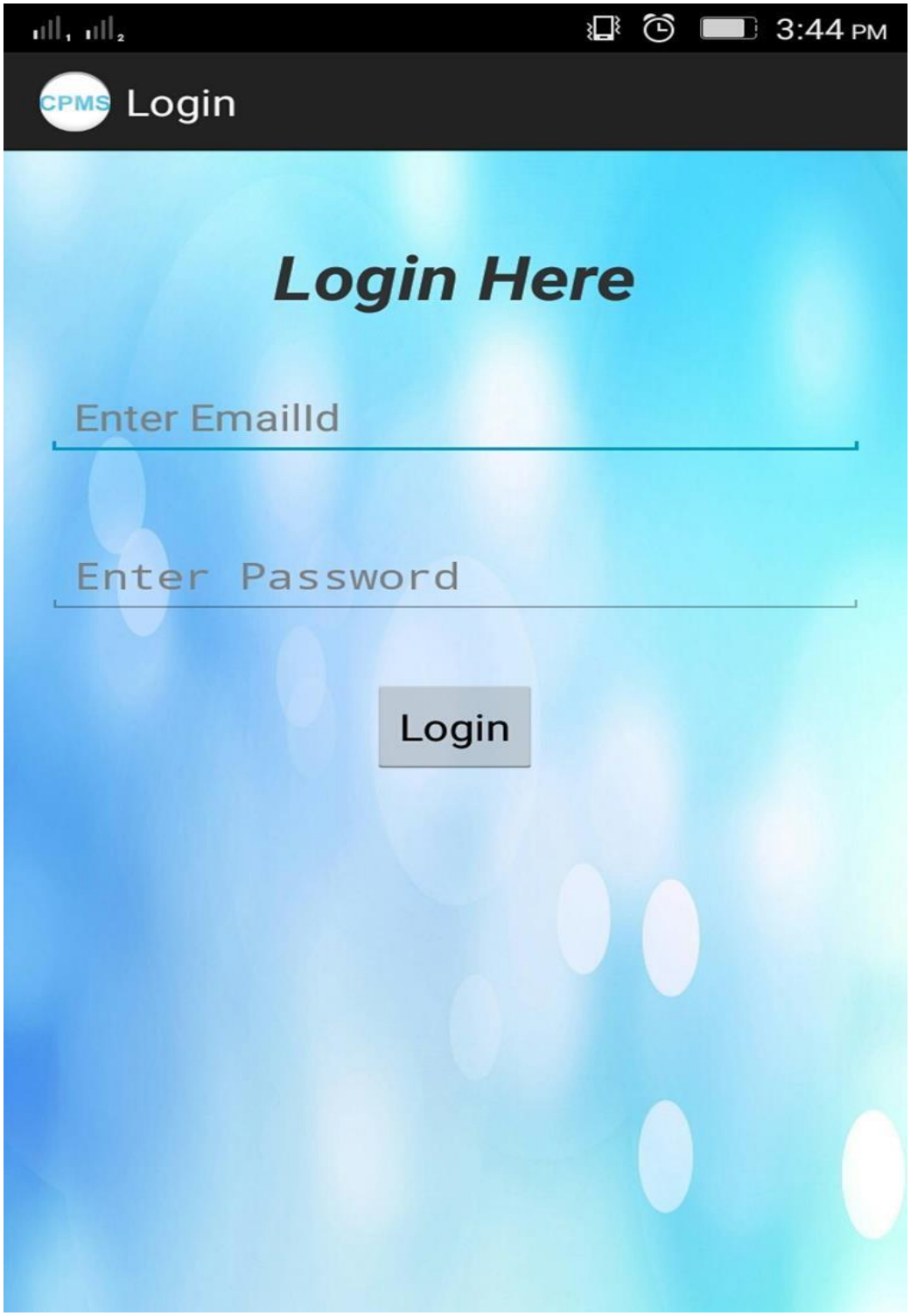

Fig 7.3 Student Login Page

7.4 Student Home

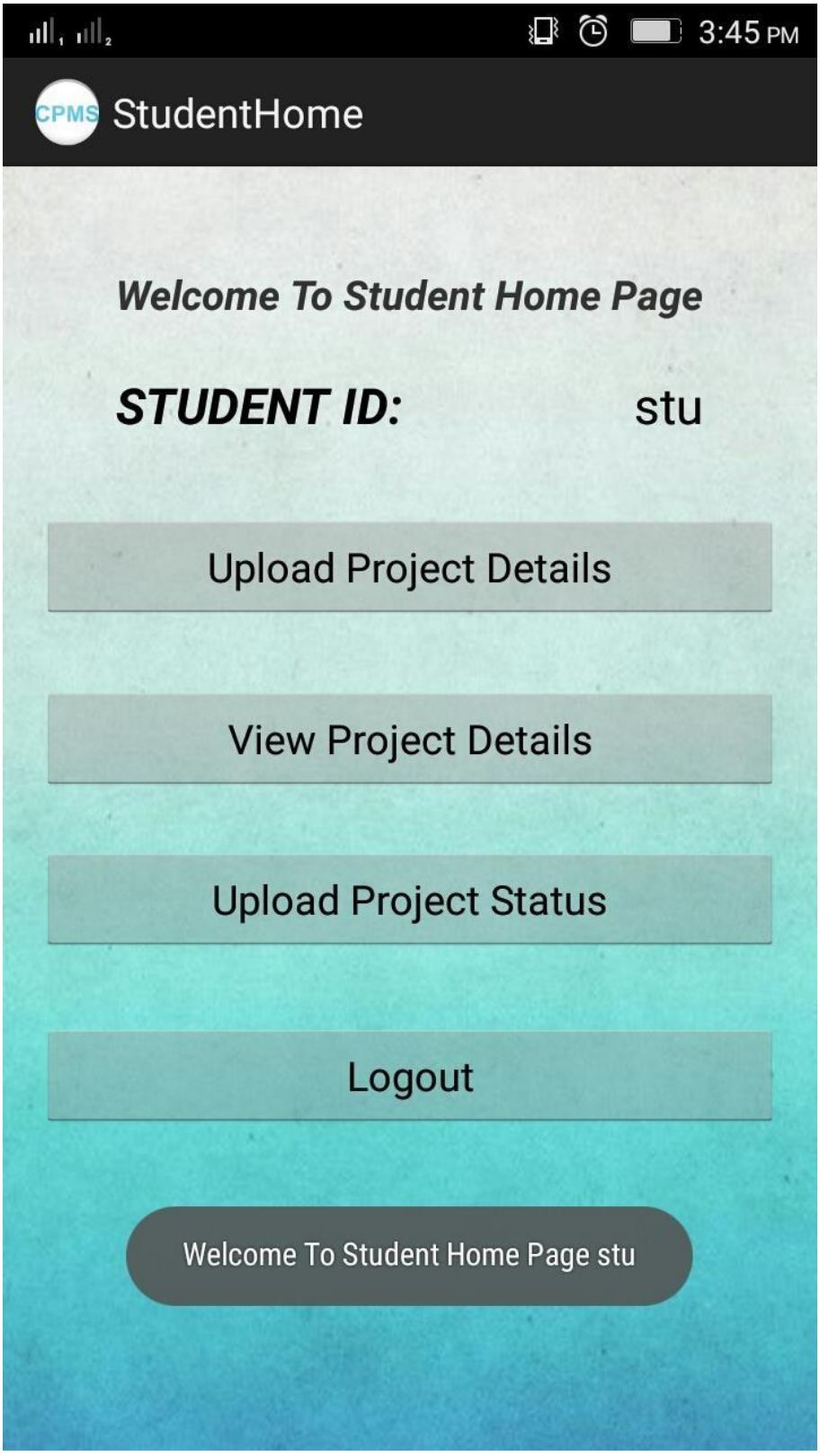

Fig 7.4 Student Home

7.5 Student Project Upload

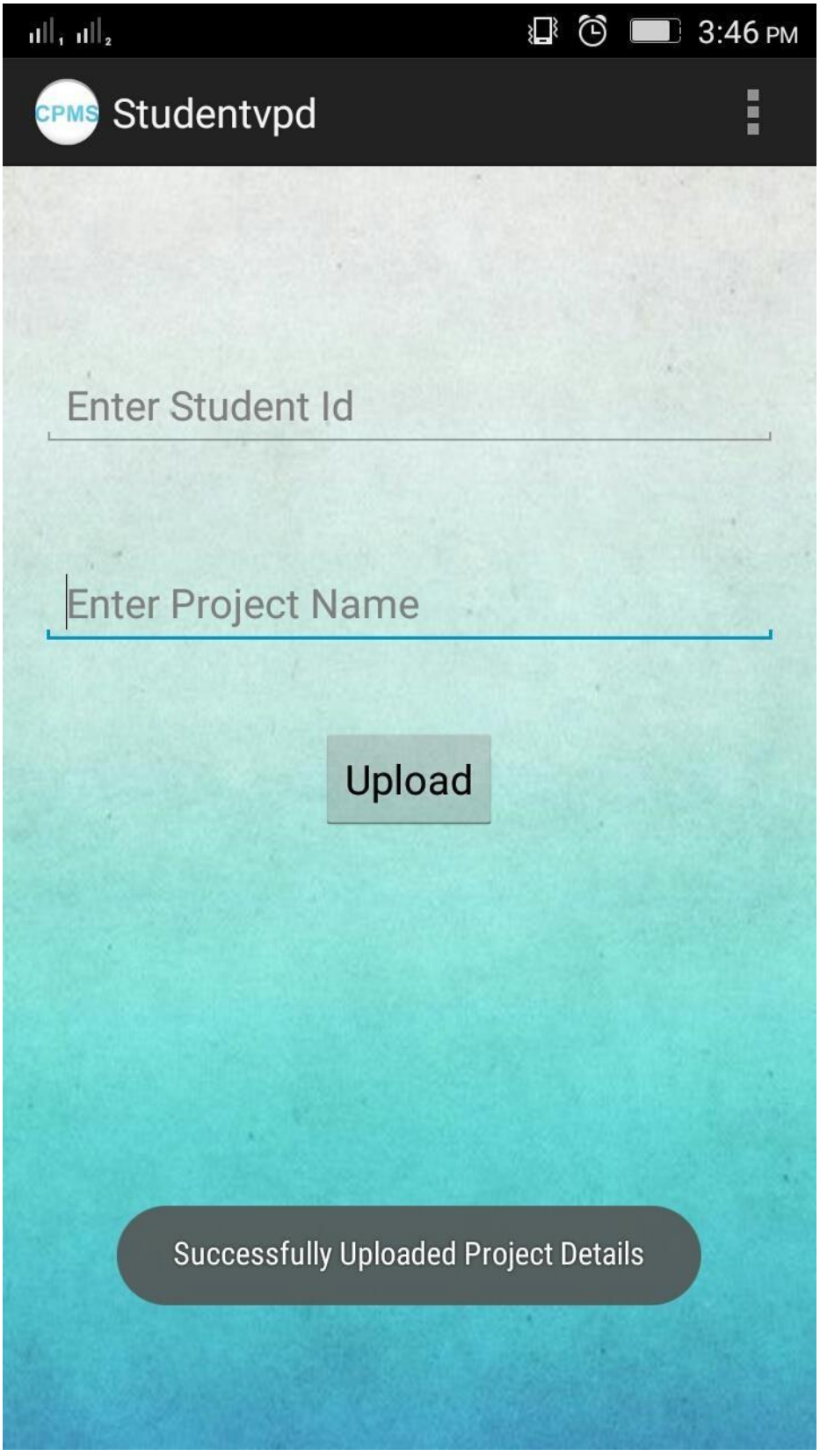

Fig 7.5 Student Project Upload

7.6 Student Project Details

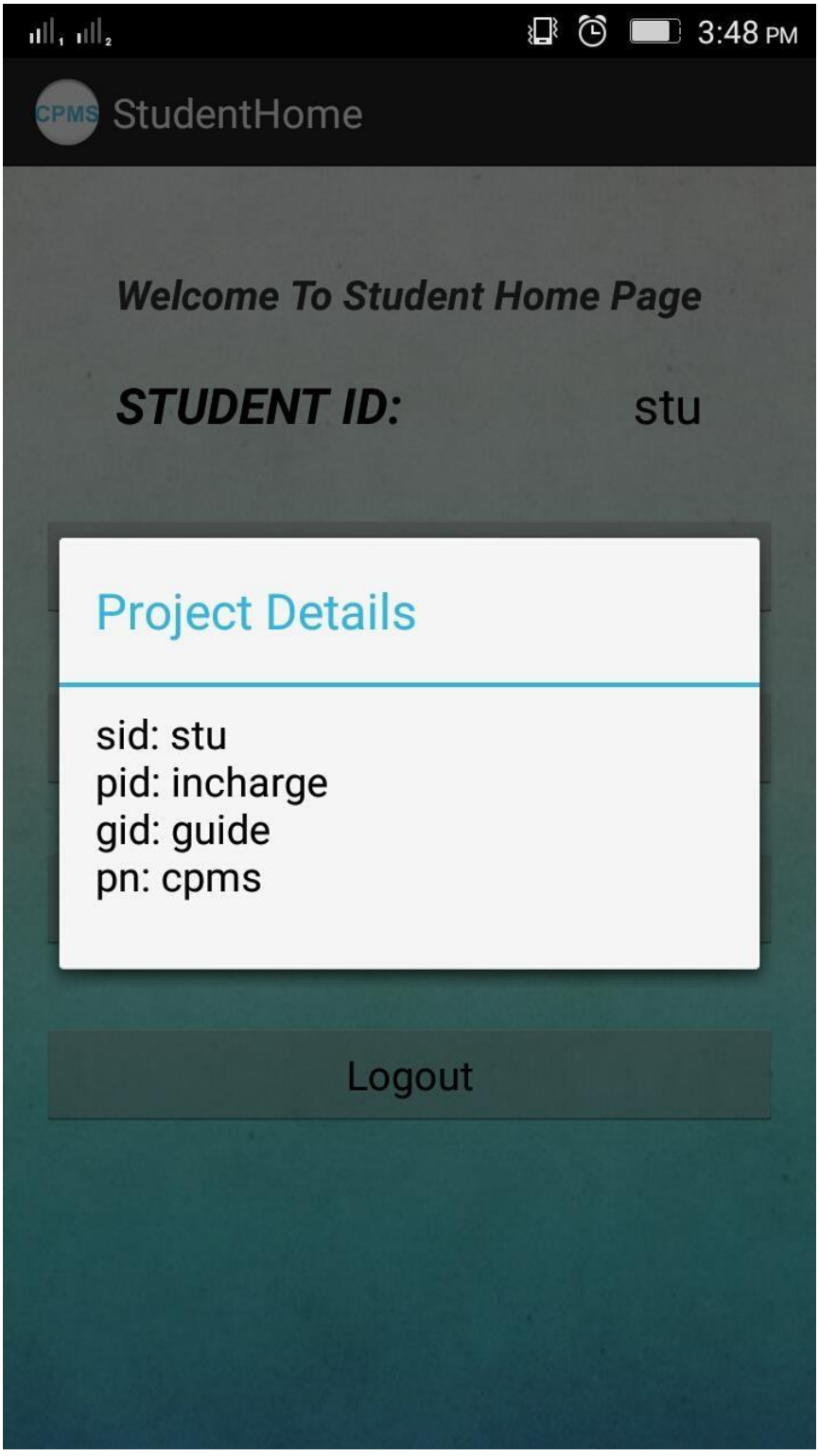

Fig 7.6 Student Project Details

7.7 Hod Registration

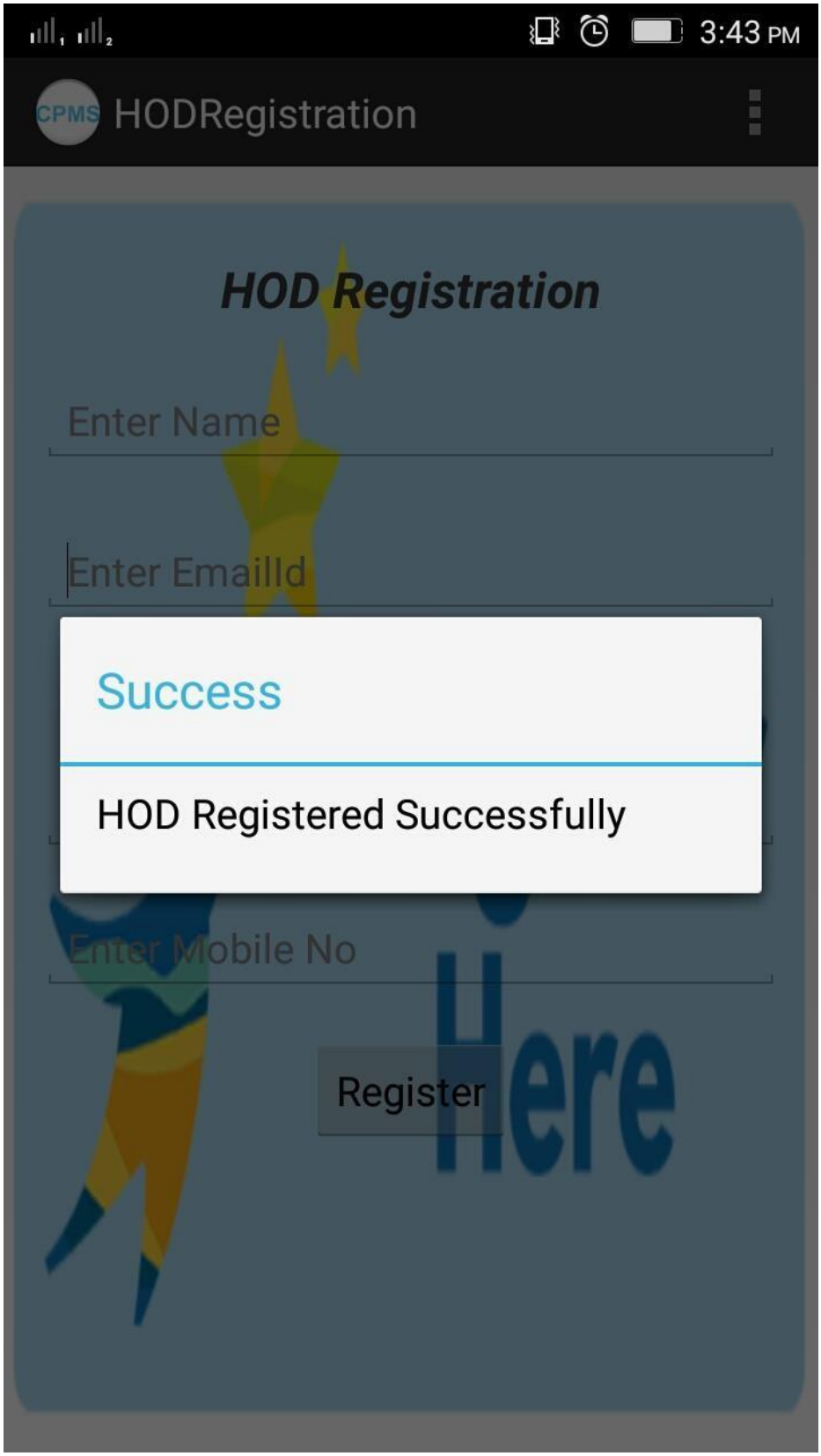

Fig 7.7 Hod Registration

7.8 Hod Home Page

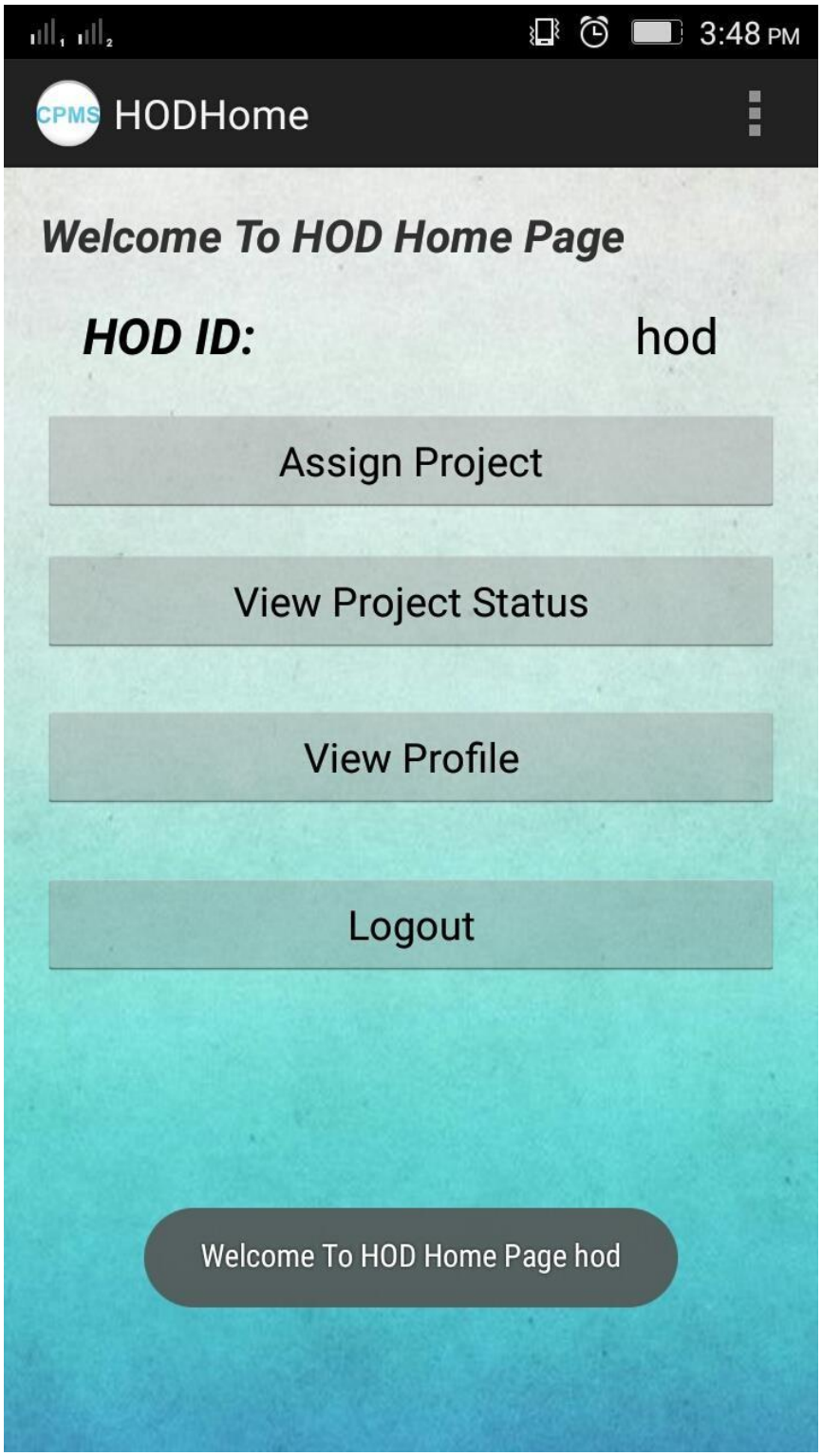

Fig 7.8 Hod Home Page

7.9 Hod Assign Project

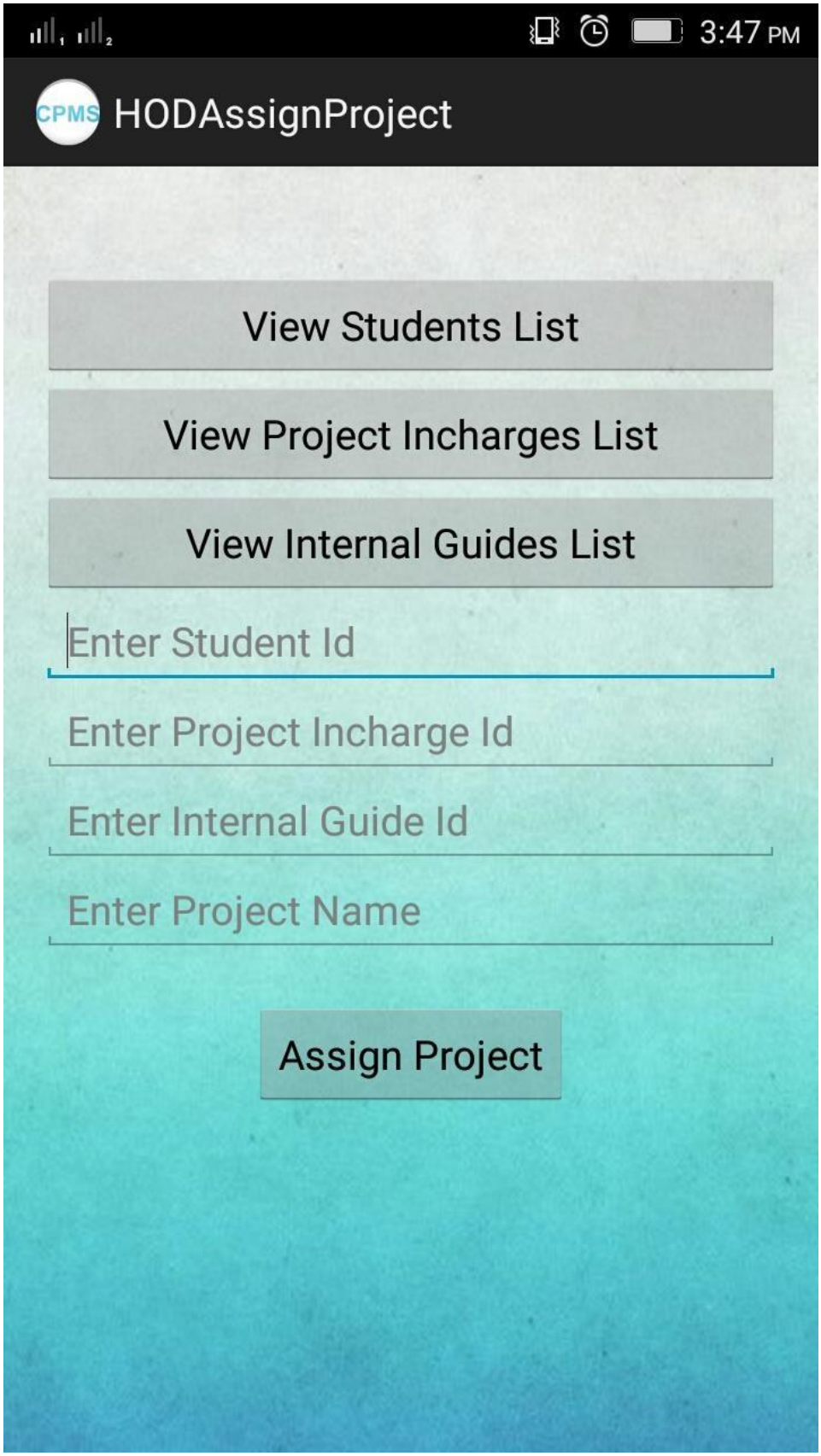

Fig 7.9 Hod Assign Project

7.10 Project Incharge Details

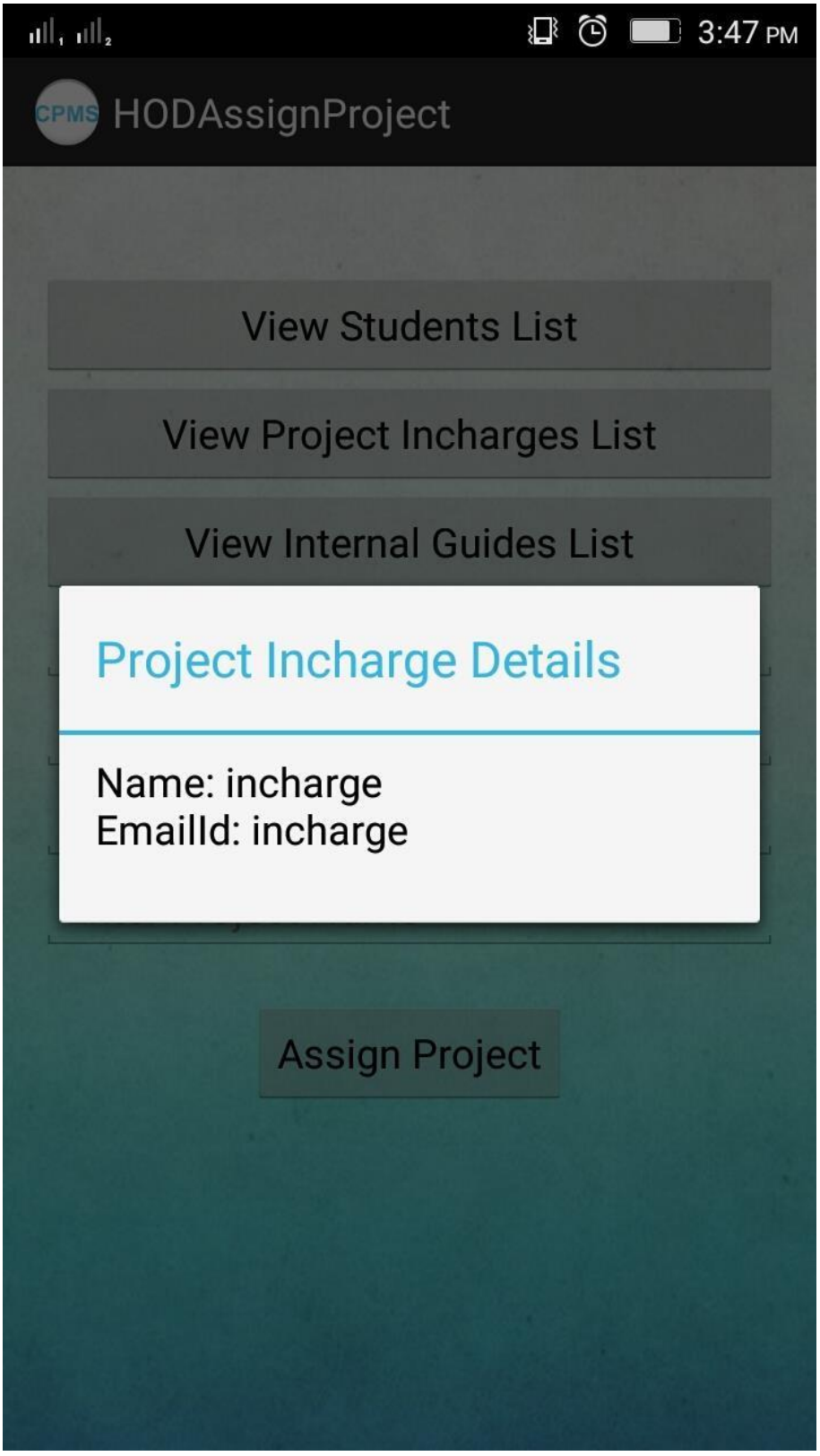

Fig 7.10 Project Incharge Details

7.11 Internal Guide Details

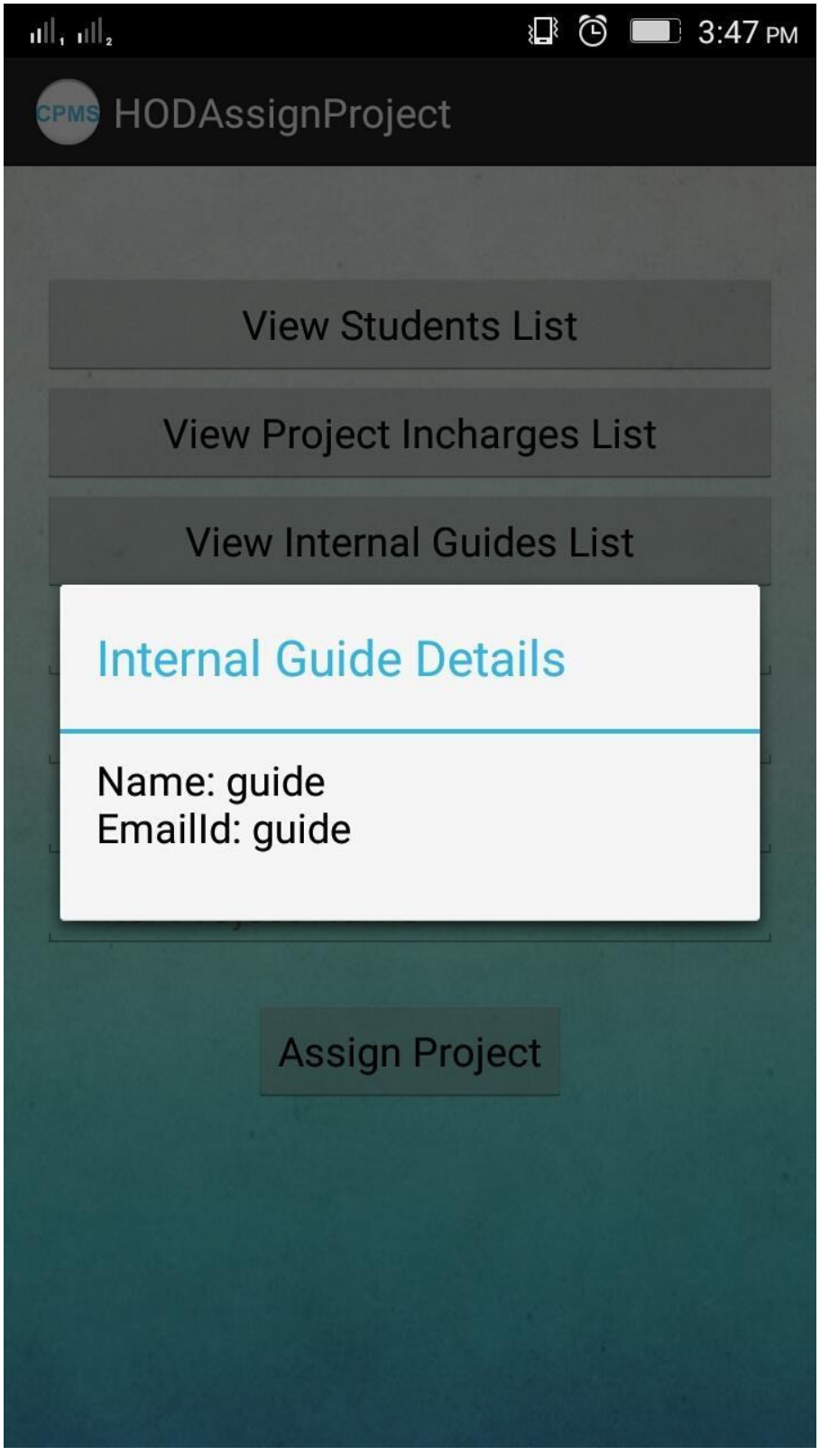

Fig 7.11 Internal Guide Details

7.12 Project Assign Successful

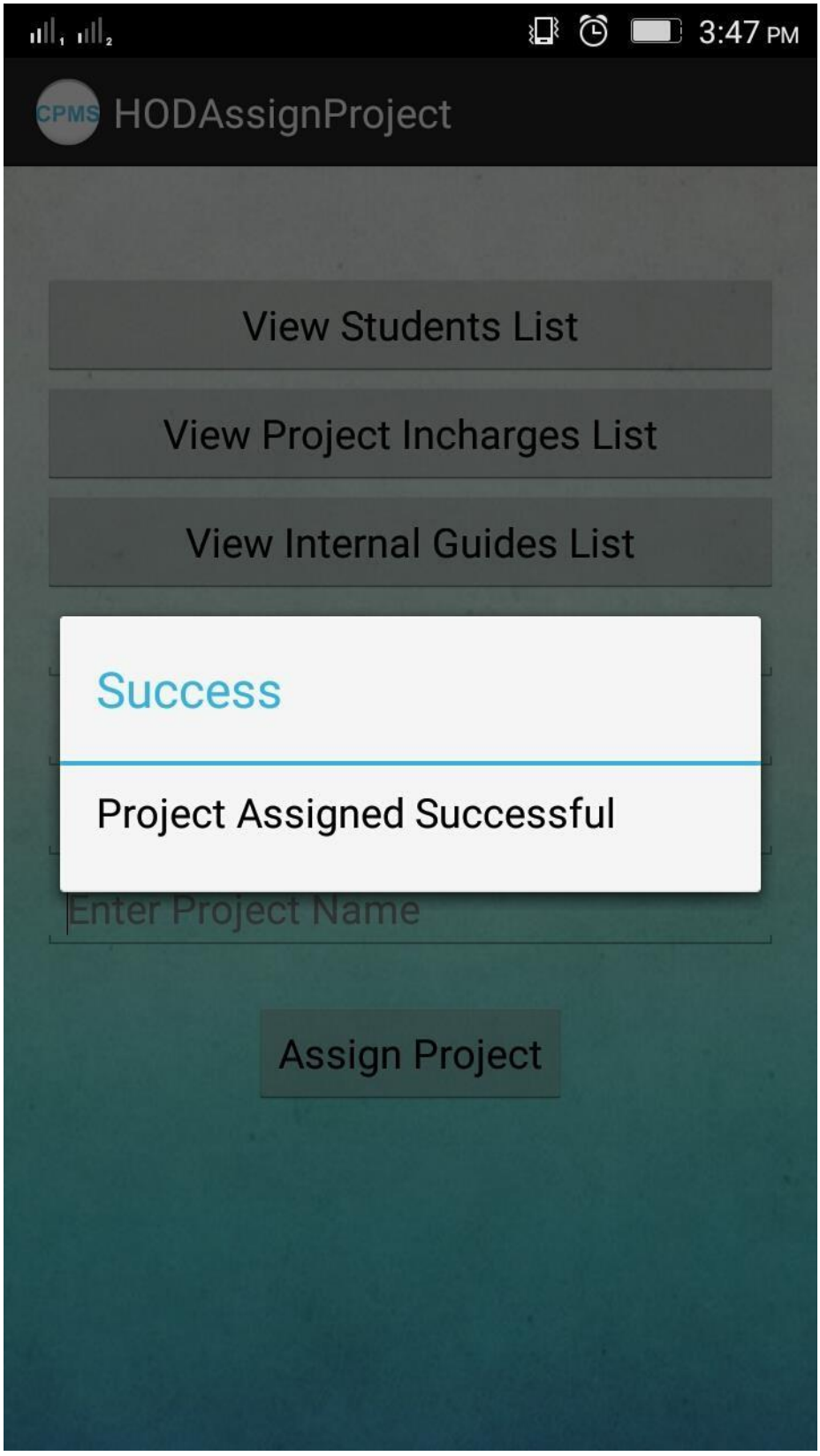

Fig 7.12 Project Assign Successful

7.13 Project Status

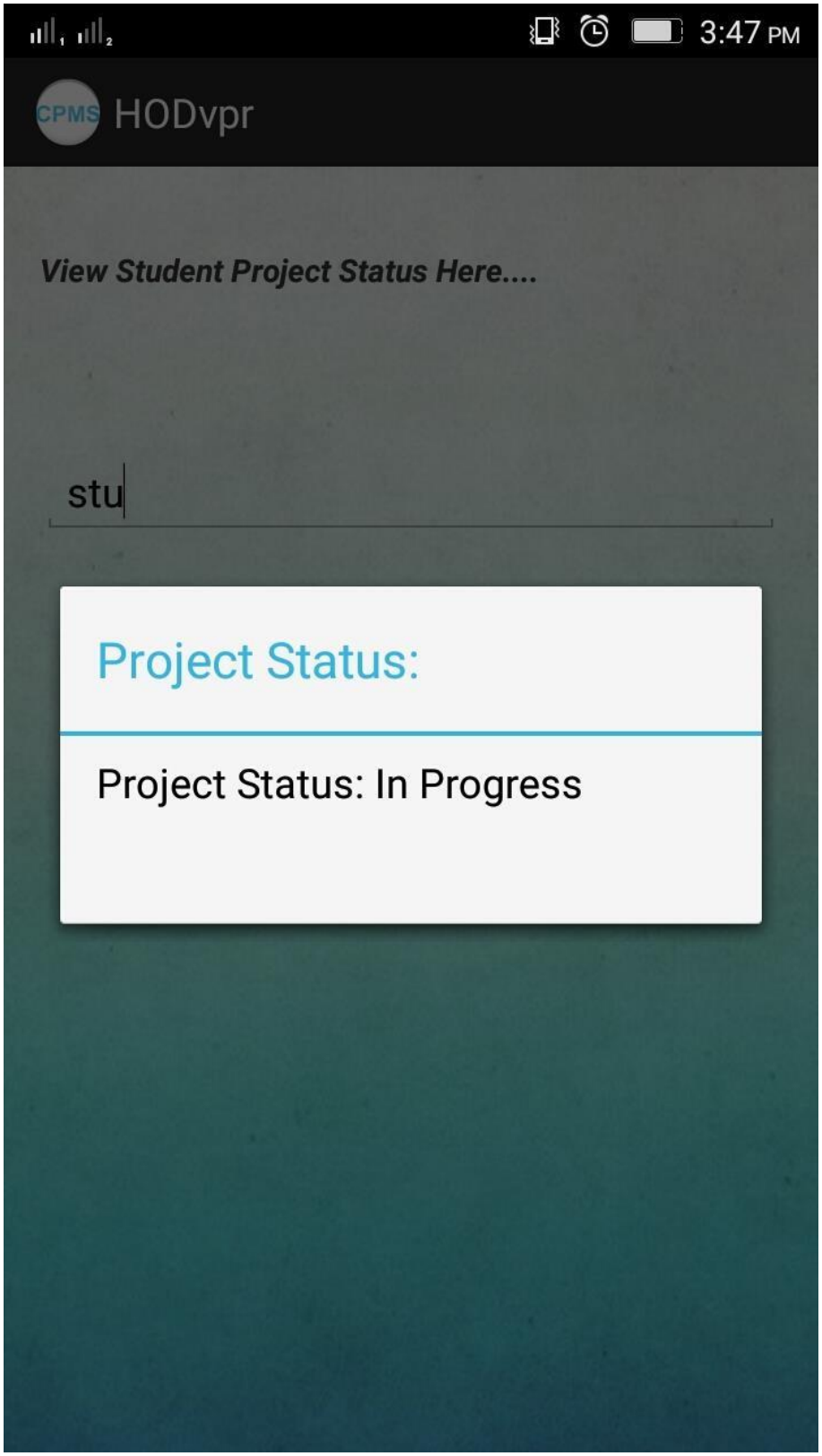

Fig 7.13 Project Status

7.14 Incharge Home Page

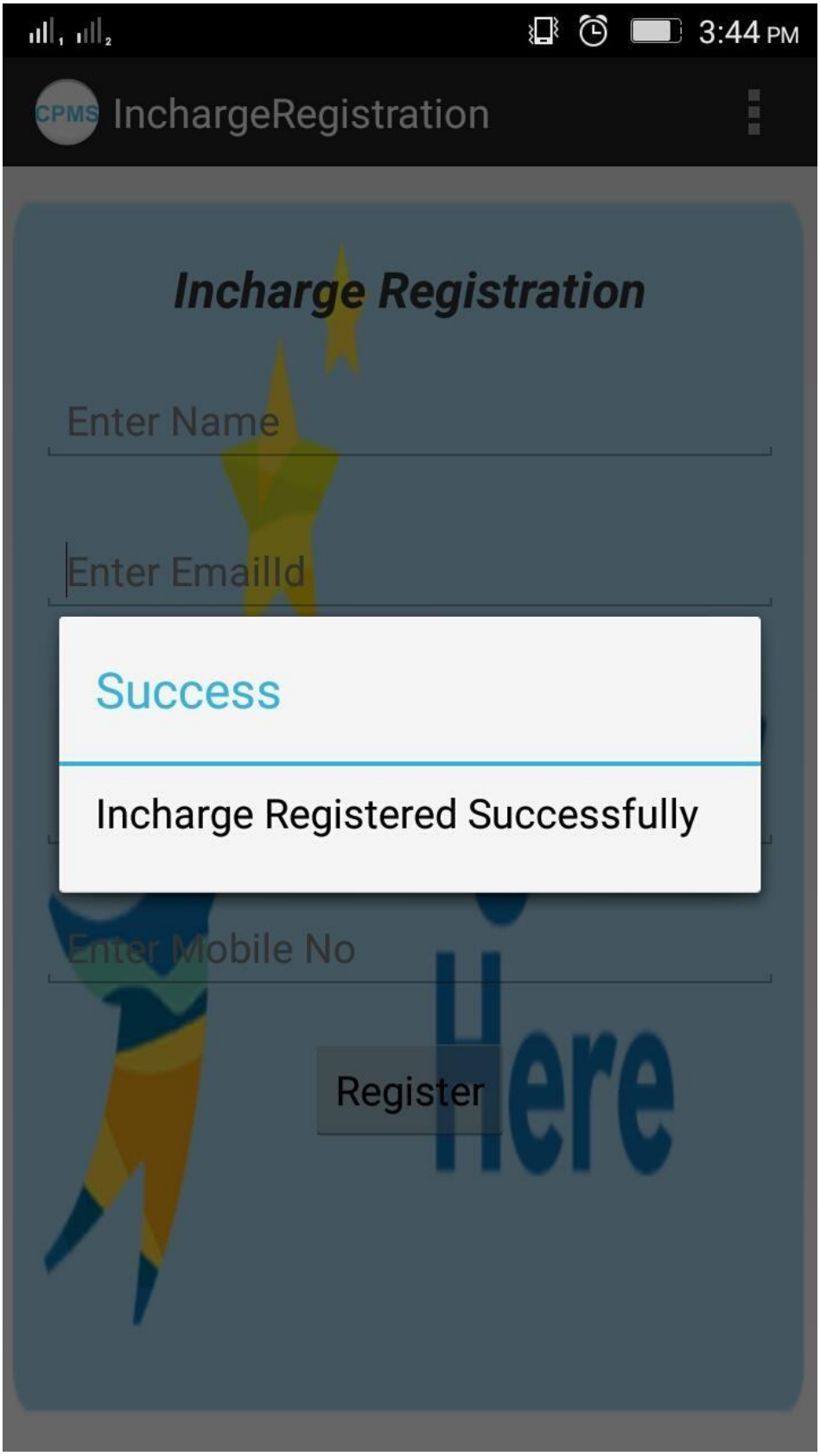

Fig 7.14 Incharge Home Page

7.15 Project Details

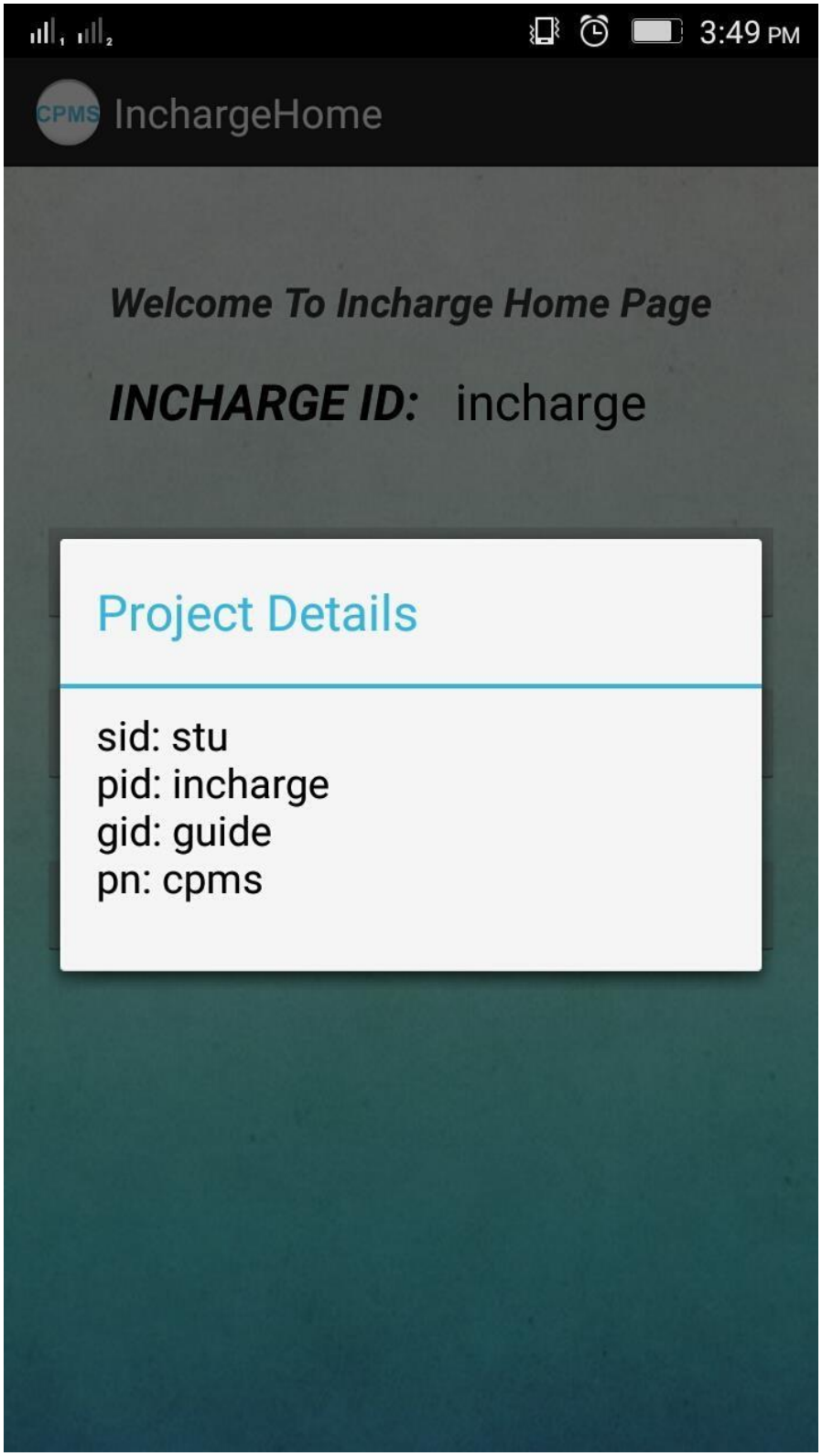

Fig 7.15 Project Details

7.16 Guide Home Page

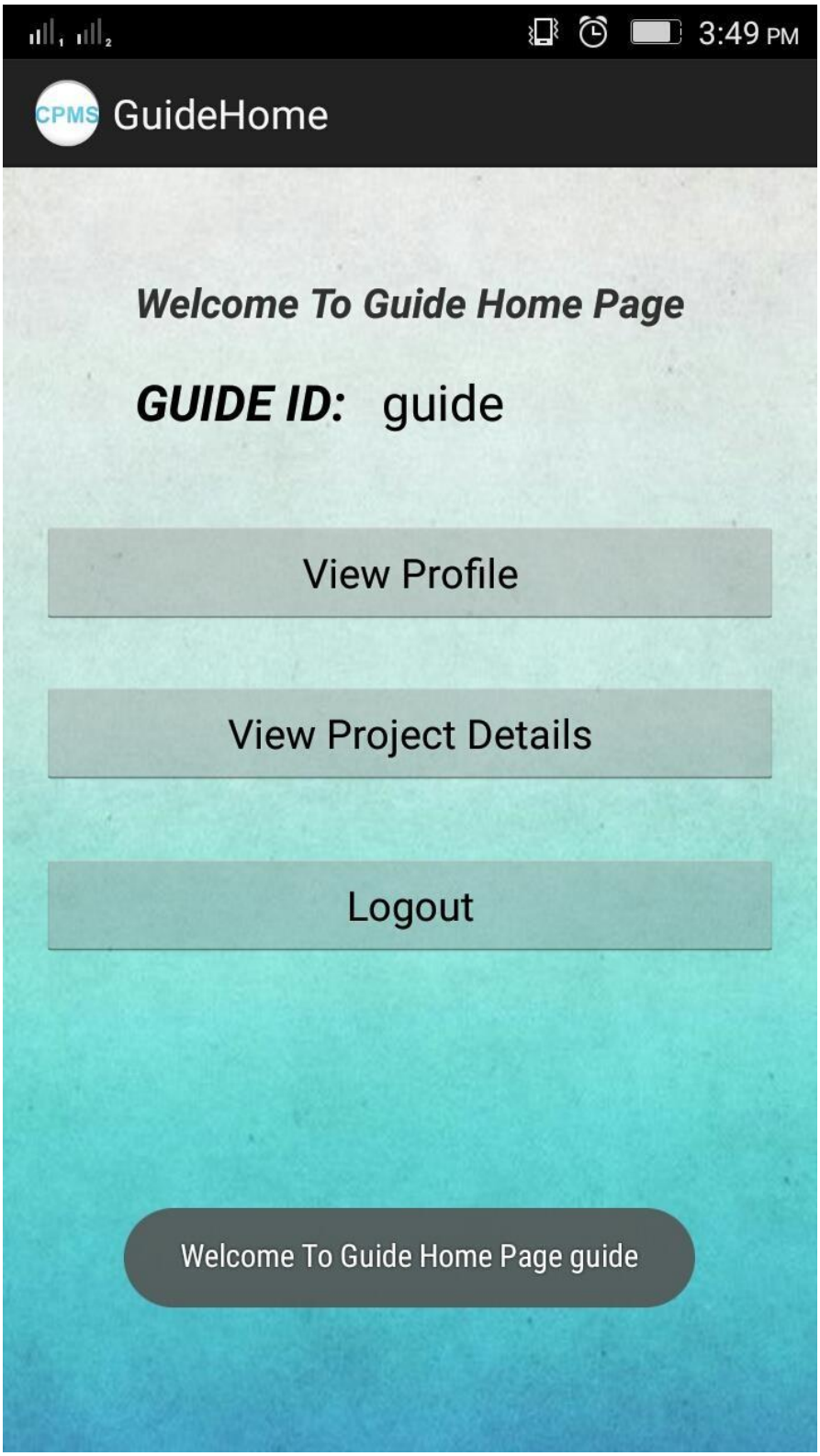

Fig 7.16 Guide Home Page

7.17 Main Login Page

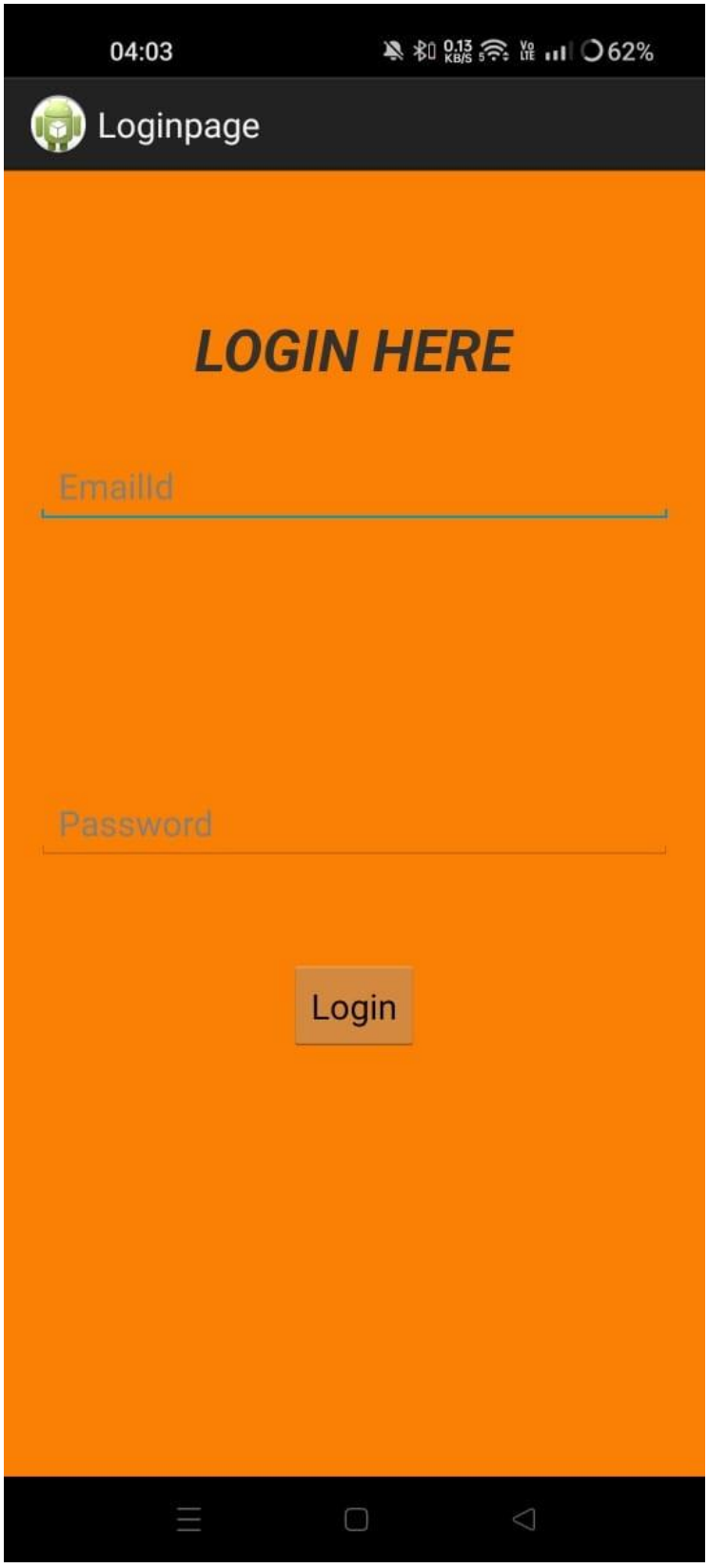

Fig 7.17 Main Login Page

7.18 Main Home Page

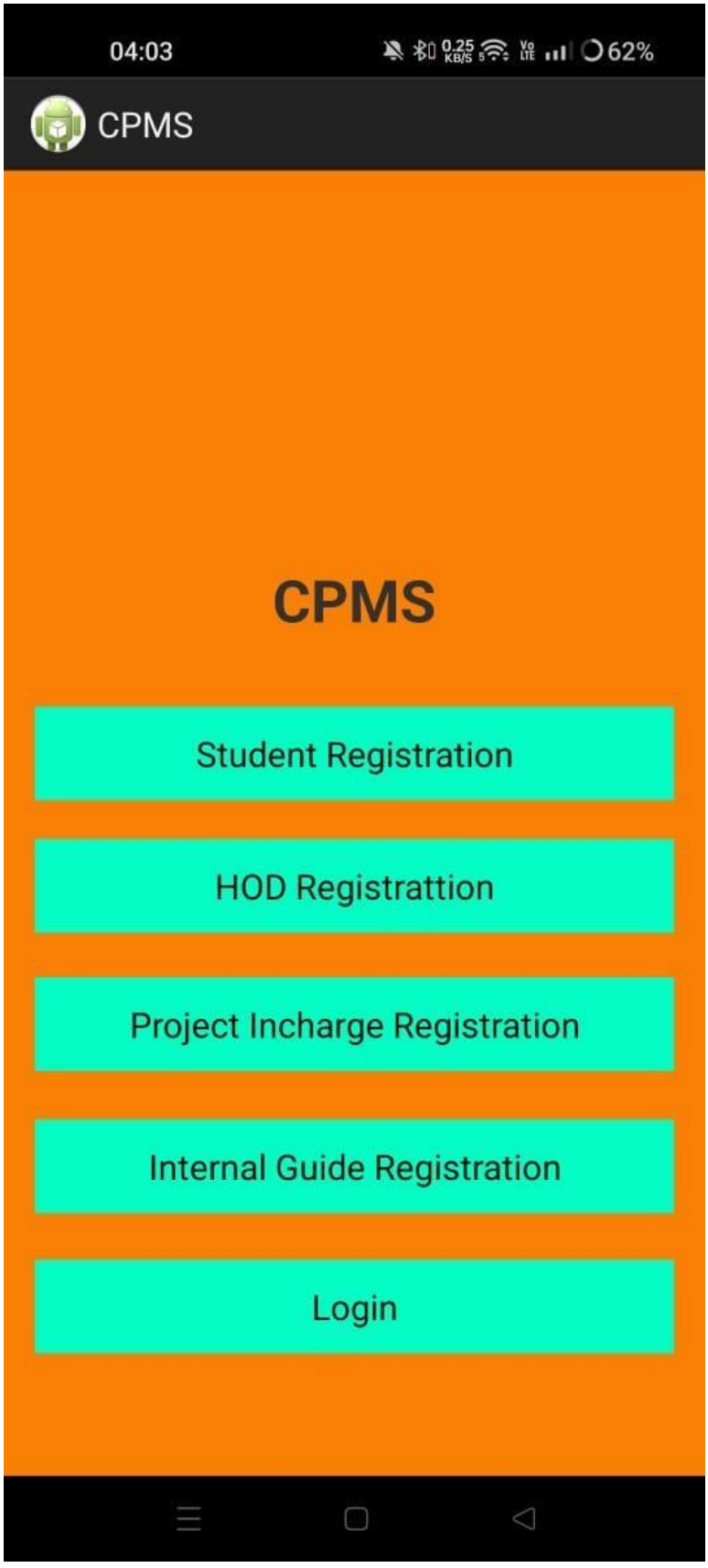

Fig 7.18 Main Home Page

8. FUTURE APPLICATIONS

1. **Further Development and Refinement:**
    - With a solid foundation in project management application development, interns could continue refining and enhancing the system.
    - This might involve adding new features based on user feedback, improving user interface design for better usability, or optimizing performance for scalability.
2. **Customization for Different Educational Institutions:**
    - The skills acquired during the internship can be applied to customize the project management system for various educational institutions beyond colleges.
    - This could include adapting the system for use in schools, vocational training centers, or online learning platforms.
3. **Expansion into Other Domains:**
    - The project focused on academic project management, but similar principles and technologies can be applied to manage projects in other domains such as corporate settings, research organizations, or non-profit sectors.
    - Interns can explore opportunities to adapt and expand the system for these different contexts.
4. **Integration with Learning Management Systems (LMS):**
    - There's potential to integrate the project management system with existing Learning Management Systems used by educational institutions.
    - This integration could provide a seamless experience for students and faculty, allowing them to access project-related resources within the same platform used for other academic activities.
5. **Mobile Application Development:**
    - The experience gained in developing an Android application can pave the way for interns to explore other mobile application development opportunities.
    - They could work on building new applications or contributing to existing projects in various industries.
6. **Consulting and Freelancing:**

- Armed with the knowledge and skills acquired during the internship, interns could offer consulting services or work as freelancers, helping other organizations develop similar project management solutions tailored to their specific needs.

9. CONCLUSION

The development of an Android-based College Project Management System represents a significant step forward in addressing the challenges faced by educational institutions in managing academic projects. By providing a user-friendly interface for students to submit project details and ensuring robust security measures through role-based authentication, the application streamlines project management processes.

The system's capability to store project information in a centralized database facilitates easy access and retrieval for faculty members, enhancing overall efficiency in project supervision and evaluation. Moreover, the provision of online access to project documents enables seamless collaboration and communication among students and faculty.

As educational institutes increasingly embrace technology-driven solutions, the implementation of such a project management system offers tangible benefits in terms of time savings, resource optimization, and improved academic outcomes. Moving forward, continued enhancements and adaptations to meet evolving institutional needs will be essential, ensuring the sustained effectiveness and relevance of the system in supporting academic endeavors.