

Knowledge Repository & Interactive Skill- building Portal

AN INTERNSHIP REPORT

Submitted by

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Under the Guidance of

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in partial fulfillment of the requirements for the degree of

BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE ENGINEERING
with specialization in CYBER SECURITY



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MAY 2025



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Sivamani Yadav Yeti

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Sivamani Yadav Yeti [RA2111030010073]



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BONAFIDE CERTIFICATE

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LETTER FOR INTERNSHIP

Dear Vunadi Reddy,

Congratulations! With reference to your application and subsequent interview(s) you had with us, we are pleased to offer you internship with Incedo starting **January 8, 2025** as per the below terms and conditions

Designation: Intern

Location of Training: Chennai

Department: Delivery Function

Duration: 8th Jan 2025 - 8th July 2025

Stipend: INR 15,000 per month

1. Please note this is the internship confirmation letter, internship completion letter will be issued only after successful completion of the training.
2. This internship is convertible into an employment with the company subject to the terms mentioned in your appointment letter and submission of below self-attested documents.

- Educational documents: 10th, 12th, Graduation Degree, Post-Graduation Degree (if applicable) ● Address proof: Passport/Driving license/ Voter ID card/Aadhaar card
- PAN card copy (Mandatory)
- Aadhaar card copy (Mandatory)
- Work experience letter of previous organizations (if applicable)
- One (1) coloured photograph (passport size, with white background) ● Resume

3. We understand that your final semester results are still awaited. Please note, that management reserves the right to terminate your employment with or without notice in case your final results are not as per our expectations.
4. The Company may, at its sole and absolute discretion, conduct background checks prior to or after joining or at any time in future, to check but not limited to your identity, the address provided by you, your education background and past work experience, past antecedents, drug tests and/or any other test or verification. You expressly consent to the Company conducting above checks. You are required to furnish the documents listed in the "Appointment Letter", "Background Verification Form" or any other document as may be required. If the Company, is not satisfied, in its sole and absolute subjective discretion, with the outcome of the aforesaid checks, the Company may (I) Reserve the right to withdraw the Offer made to you without any notice and Compensation (II) Or may treat your appointment as null and void ab-initio (III) Or it may take such other appropriate action as may be advised.
5. Attending and completing all trainings scheduled for your post your joining, and qualifying the assessment is a critical requirement for the employment. If the Company, is not satisfied, in its sole and absolute discretion, with the outcome of the aforesaid assessment, the Company (i) Reserves the right to withdraw the Offer made to you without any notice and compensation ; OR (ii) may treat your appointment as null and void ab-initio; OR (iii) may take such other appropriate action as may be advised.
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Wishing you a good learning experience at Incedo!

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A handwritten signature in black ink, appearing to read "Esha Gulati".

(ESHA GULATI) AUTHORIZED
SIGNATORY HUMAN
RESOURCES

ABSTRACT

KRISP outlines the detailed technical design of the system, covering module-level functionalities, data flow, and system architecture. It provides a structured approach to implementing features like role-based dashboards, training progress tracking, and analytics generation. This document serves as a reference for developers, architects, and testers to ensure a scalable, secure, and efficient system.

Insight360 is an intelligent, dynamic dashboard platform designed to enhance organizational efficiency, transparency, and collaboration through robust role-based access control (RBAC). It caters to four primary roles within an enterprise—Admin, Manager, Module Buddy, and Employee—each with clearly defined permissions and tailored access to features and data relevant to their responsibilities. The platform delivers a personalized experience for each user by dynamically rendering dashboards, insights, and actionable tools specific to their role, ensuring both usability and security.

The Admin has complete control over system configurations, user management, and access policies. Managers can track team performance, assign tasks, and analyze key metrics in real time. Module Buddies are empowered to provide support and guidance within specific functional modules, acting as bridges between employees and management. Employees can view their tasks, submit reports, interact with their teams, and receive updates—all within a simplified interface. Built using modern web technologies, Insight360 supports seamless integration with backend services and databases, ensuring data consistency and real-time synchronization. The architecture emphasizes modularity, scalability, and security, making it adaptable to growing organizational needs. With advanced analytics, intuitive UI/UX, and a centralized control system, Insight360 empowers stakeholders at every level to make informed decisions, improve productivity, and foster a culture of accountability and transparency within the organi

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LIST OF ACRONYMS AND ABBREVIATIONS

JSP	Java Server Pages
JSTL	Java Server Pages Standard Tag Library
JDK	Java Development Kit
IDE	Integrated Development Environment
MVC	Model-View-Controller
REST	Representational State Transfer
UI/UX	User Interface/User Experience
API	Application Programming Interface
CRUD	Create, Read, Update, Delete
JPA	Java Persistence API
CSS	Cascading Style Sheets
SQL	Structured Query Language
VRPTW	Vehicle Routing Problem with Time Windows
UML	Unified Markup Language
ORM	Object-Relational Mapping
GPS	Global Positioning System
UPI	Unified Payments Interface

Learning Objectives/Internship Objectives

- Internships are generally thought of to be reserved for college students looking to gain experience in a particular field. However, a wide array of people can benefit from Training Internships in order to receive real world experience and develop their skills.
- An objective for this position should emphasize the skills you already possess in the area and your interest in learning more
- Internships are utilized in a number of different career fields, including architecture, engineering, healthcare, economics, advertising and many more.
- Some internship is used to allow individuals to perform scientific research while others are specifically designed to allow people to gain first-hand experience working.
- Utilizing internships is a great way to build your resume and develop skills that can be emphasized in your resume for future jobs. When you are applying for a Training Internship, make sure to highlight any special skills or talents that can make you stand apart from the rest of the applicants so that you have an improved chance of landing the position.

CHAPTER 1

INTRODUCTION

1.1 Overview

KRISP-**Insight** is an intelligent, dynamic dashboard platform designed to enhance organizational efficiency, transparency, and collaboration through robust Role-Based Access Control (RBAC). It serves four primary user roles—**Admin**, **Manager**, **Module Buddy**, and **Employee**—providing each with a personalized and secure interface that caters specifically to their responsibilities. By leveraging real-time analytics, modular architecture, and seamless integration capabilities, Insight360 empowers enterprises to make data-driven decisions, optimize workflows, and foster accountability at every level.

1.2 Objectives Of The System

The main objectives of Insight360 are to:

- Provide a personalized and secure dashboard experience for each user based on their role.
- Enhance organizational transparency and collaboration by clearly defining role-specific responsibilities and access.
- Allow real-time performance tracking, feedback management, and training oversight across departments.
- Enable centralized control and monitoring of users, tasks, and system usage.
- Improve decision-making through robust reporting and analytics tools.
- Ensure scalability, modularity, and security to support the growing needs of modern enterprises.

1.3 Scope Of The Project:

The project encompasses the development and deployment of a full-stack web application that includes:

- Secure authentication through Okta or Azure Active Directory.
- Dynamic, role-based dashboards for Admins, Managers, Module Buddies, and Employees.
- Functional modules for user and role management, training content management, feedback processing, and performance analytics.
- Responsive UI/UX with Material UI for a consistent user experience across devices.
- Integration with a PostgreSQL database for centralized data storage.
- Real-time synchronization between frontend and backend services.

The system is intended for use within enterprises seeking a digital platform to streamline training, mentorship, performance tracking, and communication among teams.

1.4 Technologies Used:

1.4.1 Backend Technologies

- **Spring Boot** (Java) – For creating RESTful APIs and handling business logic.
- **Spring Security** – For implementing authentication and RBAC.
- **JWT (JSON Web Tokens)** – For session handling and secure communication.
- **Integration with Okta/Azure AD** – For enterprise-grade authentication and user management.
- **PostgreSQL** – For robust and secure relational data storage.
- **Lombok, JPA/Hibernate** – For simplified model and data access layer development.

1.4.2 Frontend Technologies

- **React.js** – For building dynamic, component-based UIs.
- **Material UI (MUI)** – For a consistent and responsive design framework.
- **Axios** – For HTTP requests between frontend and backend.
- **Framer Motion, Styled-components, React-Awesome-Reveal** – For UI animations and transitions.
- **React Router** – For role-based navigation and route protection.

1.4.3 Database and Infrastructure

- . **PostgreSQL** – Centralized database for users, roles, training modules, performance data, and feedback.
- . **Spring Data JPA** – ORM for database interaction.
- . **Docker** (optional) – For containerizing the application.
- . **Cloud Deployment Platforms** – Such as AWS, Azure, or Heroku, for hosting backend and frontend services.

CHAPTER 2

LITERATURE SURVEY

2.1 Existing Skill Building Portal Systems:

Kiran J. et al. presents in the paper “SkillSync: AI-Driven Learning Pathways for Enterprise Upskilling” a platform that dynamically recommends personalized learning paths for employees based on skill gaps and career goals. The system uses a hybrid recommendation engine combining collaborative filtering with domain ontologies to recommend modules. SkillSync integrates with existing LMS platforms and showed significant improvement in course completion rates across enterprise pilot deployments. [1]

Priya Sharma et al. in “Upskill360: Leveraging Analytics to Drive Corporate Learning Outcomes” discuss a data-driven platform that uses real-time analytics to track learner progress, engagement, and learning outcomes. Upskill360 supports microlearning and content curation based on job roles and provides dashboards for both learners and managers. Results from enterprise case studies demonstrate enhanced training effectiveness and reduced skill gaps through personalized content delivery. [2]

Anand Patel et al. explores in “SkillWise: Intelligent Mentor-Mentee Matching and Learning Progress Tracking” a corporate platform that pairs employees with mentors based on skill development needs and learning history. SkillWise uses AI to suggest mentors, track mentorship goals, and

assess training outcomes. The platform integrates feedback mechanisms and performance dashboards to foster accountability and continuous improvement. [3]

Divya Rao et al. introduce “LearnEdge: A Role-Centric Training System for Enterprise Learning Management” which emphasizes role-based access to training content and personalized dashboards. LearnEdge ensures that each user type—admin, team lead, or employee—has a tailored view and permissions. Their microservice-based backend enhances modularity, and case studies confirm better user adoption and performance tracking. [4]

Ramesh K. and team in “SkillForge: Gamified Learning Platform for Workforce Development” present a gamified training system that promotes continuous learning through leaderboards, badges, and milestone tracking. SkillForge includes a social learning module and analytics features for HR teams. The gamification layer was found to improve learning engagement by over 30% in pilot programs. [5]

Neha Bansal et al. discuss in “EduChain: Blockchain-Based Learning Credential Verification System” a secure platform for tracking and verifying employee training and certifications using blockchain. EduChain ensures tamper-proof credentials and allows external verifiers to validate training history. It enhances trust and transparency in skill certifications for regulated industries. [6]

2.2 Challenges in Project KRISP:

Despite the modern tech stack and modular design of KRISP Insight, several implementation challenges persist. These include:

- **Complex Role Management:** Ensuring secure and accurate Role-Based Access Control (RBAC) across Admin, Manager, Module Buddy, and Employee dashboards can be error-prone, especially during onboarding or role updates.
- **Scalability of Training Modules:** As training content grows, maintaining consistency, version control, and efficient approval workflows becomes increasingly challenging.
- **Feedback Integration:** Collecting, storing, and linking feedback from users and buddies to specific training or mentorship sessions in real time demands seamless backend coordination.
- **Analytics Accuracy:** Generating real-time, actionable analytics for various stakeholders (Admins, Managers, Buddies) requires optimized query handling and visualization performance.
- **Security and Compliance:** Integrating secure identity providers (Okta, Azure AD) while meeting enterprise security standards and ensuring encrypted transactions is a crucial, ongoing challenge.
- **UI/UX Consistency:** Dynamically rendering role-specific dashboards while maintaining responsive and intuitive design for all device sizes involves careful frontend management.
- **Data Synchronization:** Ensuring that all training, performance, feedback, and role-related data are consistent and updated in real time in the PostgreSQL database can lead to synchronization bottlenecks.

2.3 Proposed System:

The proposed KRISP Insight system is a role-driven enterprise learning and analytics platform that seamlessly integrates training, mentorship, and feedback mechanisms. Key highlights include:

- **Role-Based Dashboards:** Tailored dashboards for Admins, Managers, Module Buddies, and Employees with customized modules and access permissions.
- **Secure Authentication:** Integration with enterprise-grade identity providers like Okta or Azure AD ensures secure and standardized user authentication.
- **Modular Training Management:** Centralized creation, review, and approval of training content, linked with specific roles and departments.
- **Mentorship and Feedback Loop:** Module Buddies can assign goals, track mentee progress, and submit structured feedback tied to sessions and performance metrics.
- **Advanced Analytics:** Real-time reporting and KPI tracking via interactive dashboards allow Admins and Managers to monitor engagement, completion rates, and team performance.
- **Material UI Frontend:** Clean, responsive, and interactive user interface using Material UI components for consistency and usability.
- **PostgreSQL Backend:** All data including user roles, training modules, feedback, and analytics is stored securely in a centralized PostgreSQL database, ensuring scalability and reliability.
- **RBAC Enforcement:** Role-based redirection and permission enforcement are handled through Spring Boot middleware, preventing unauthorized access and maintaining data integrity.
- **The system aims to streamline enterprise training and development through intelligent design, robust security, and insightful analytics.**

CHAPTER 3

SYSTEM REQUIREMENTS

3.1 Functional Requirements

The software requirement specification can produce at the culmination of the analysis task. The function and performance allocated to software as part of system engineering are refined by established a complete information description, a detailed functional description, a representation of system behavior, and indication of performance and design constrain, appropriate validate criteria, and other information pertinent to requirements.

3.2 Software Requirements

Operating system: Windows 11
(64-bit).

Coding Language: Java 11

IDE: Spring Tool Suite (STS) 4

Application Server: Apache Tomcat 10.1.39

Database management tool: MySQLWorkbench

8.0.41 Build Tool: Maven 3.9.9

3.3 Hardware Requirements

Processor: Intel Core i5

Hard Disk: Minimum

500 GB

RAM : 16GB

CHAPTER 4

SYSTEM ARCHITECTURE AND DESIGN

4.1 System Overview

The Insight Dashboard is a data-driven analytics platform designed to track user performance, training progress, and mentorship effectiveness within an organization. It enables Admins, Managers, and Module Buddies to monitor employee learning journeys, identify high and low performers, and enhance engagement through structured training programs.

The system processes data from multiple sources, including user activity, assessment scores, and mentorship feedback, to provide real-time insights, automated reports, and predictive analytics. The architecture is designed for scalability, with a future vision of integrating real-time HR and LMS databases.

4.2 Class diagram

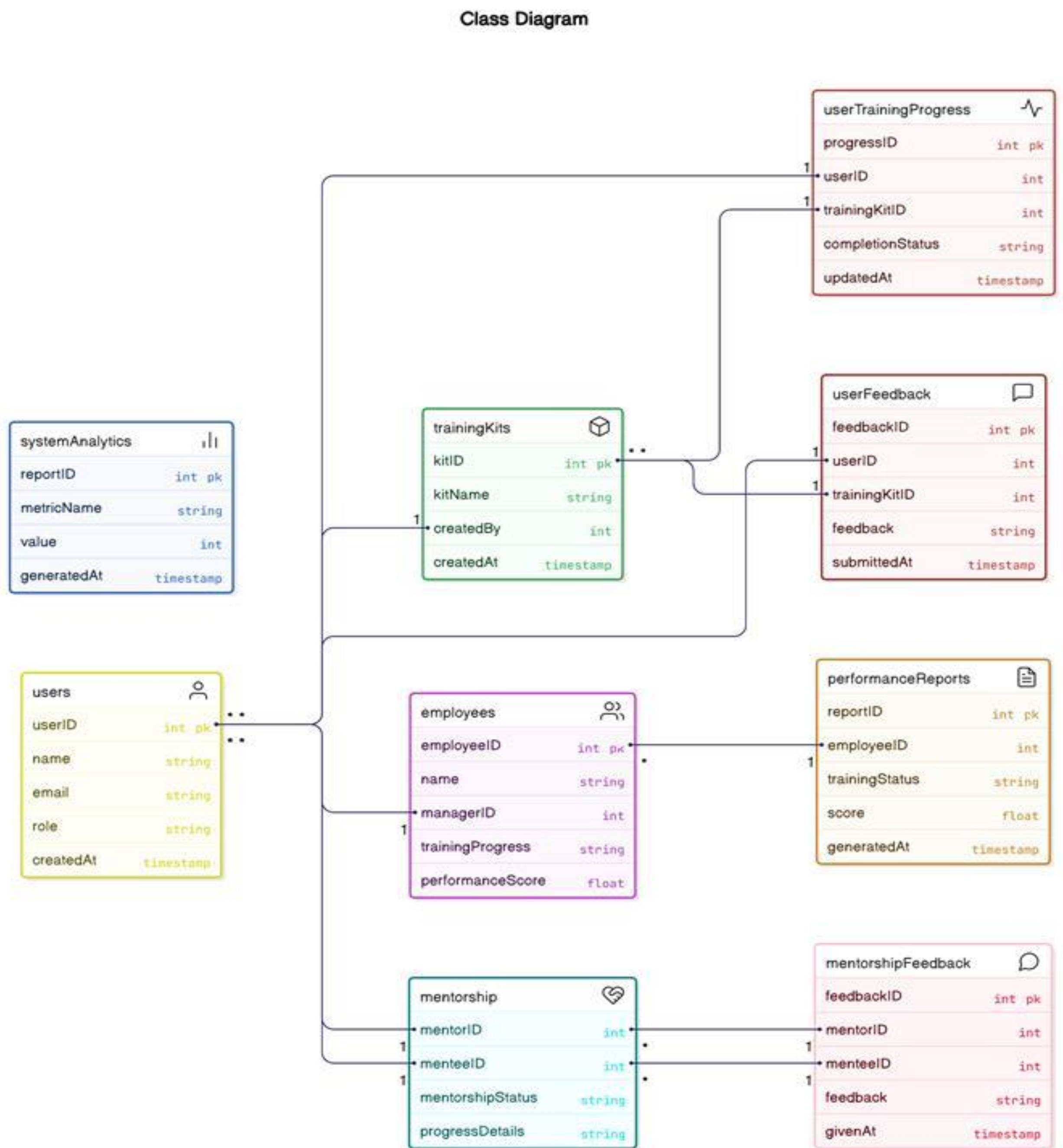
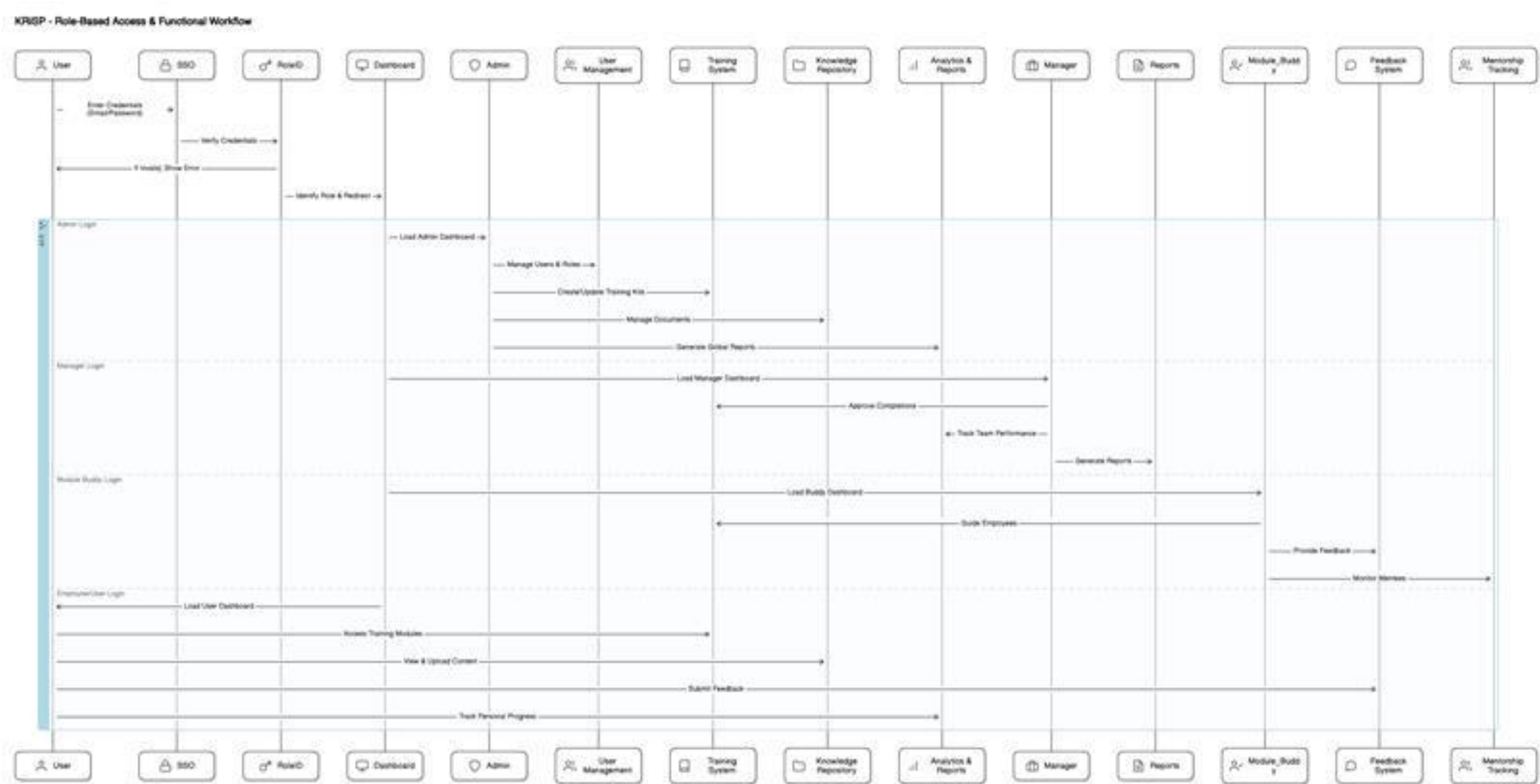


Fig 4.1 Class Diagram of KRISP-Insight

Fig 4.1 follows a structured design with interconnected entities. The MasterUser and Role classes handle user authentication, registration, and role-based access. The Orders and Cart modules manage food ordering, item selection, and the checkout process, while Payments and Payment Gateway ensure secure transactions through multiple payment methods. The Delivery and Order History components track order status, delivery progress, and user purchase history. Restaurants manage their offerings through MasterMenuItems, and users can provide feedback using the Remarks module. Additionally, the Notification system sends real-time updates, and the Bank entity verifies transactions, ensuring a seamless and secure food ordering experience.

4.2 Sequence diagram



Fi g 4.2 Sequence Diagram Of KRISP-Insight

Fig 4.2 represents the interactions between different actors such as User, Admin,

DeliveryAgent, RestaurantManager, and PaymentGateway with system components like MasterUser, Orders, Payments, PaymentGateway, Delivery, Remarks, UserFavorites, Cart, OrderHistory, Bank, Notifications, and MasterMenuItems. The process starts with User actions like Login(), Register(), and ForgotPassword(), followed by order-related operations such as

PlaceOrder(), UpdateOrderStatus(), CalculateTotalCost(), and CancelOrder(). The PaymentGateway handles ProcessPaymentRequest() and PaymentSuccessful(), while the DeliveryAgent performs UpdateDeliveryStatus() and ViewDeliveryHistory(). The Admin manages operations like AddNewMenuItem(), RemoveItem(), and UpdateItemDetails(), while the Bank verifies transactions through CheckTransactionStatus().

4.3 Data Flow Diagram

4.3.1 Admin Module

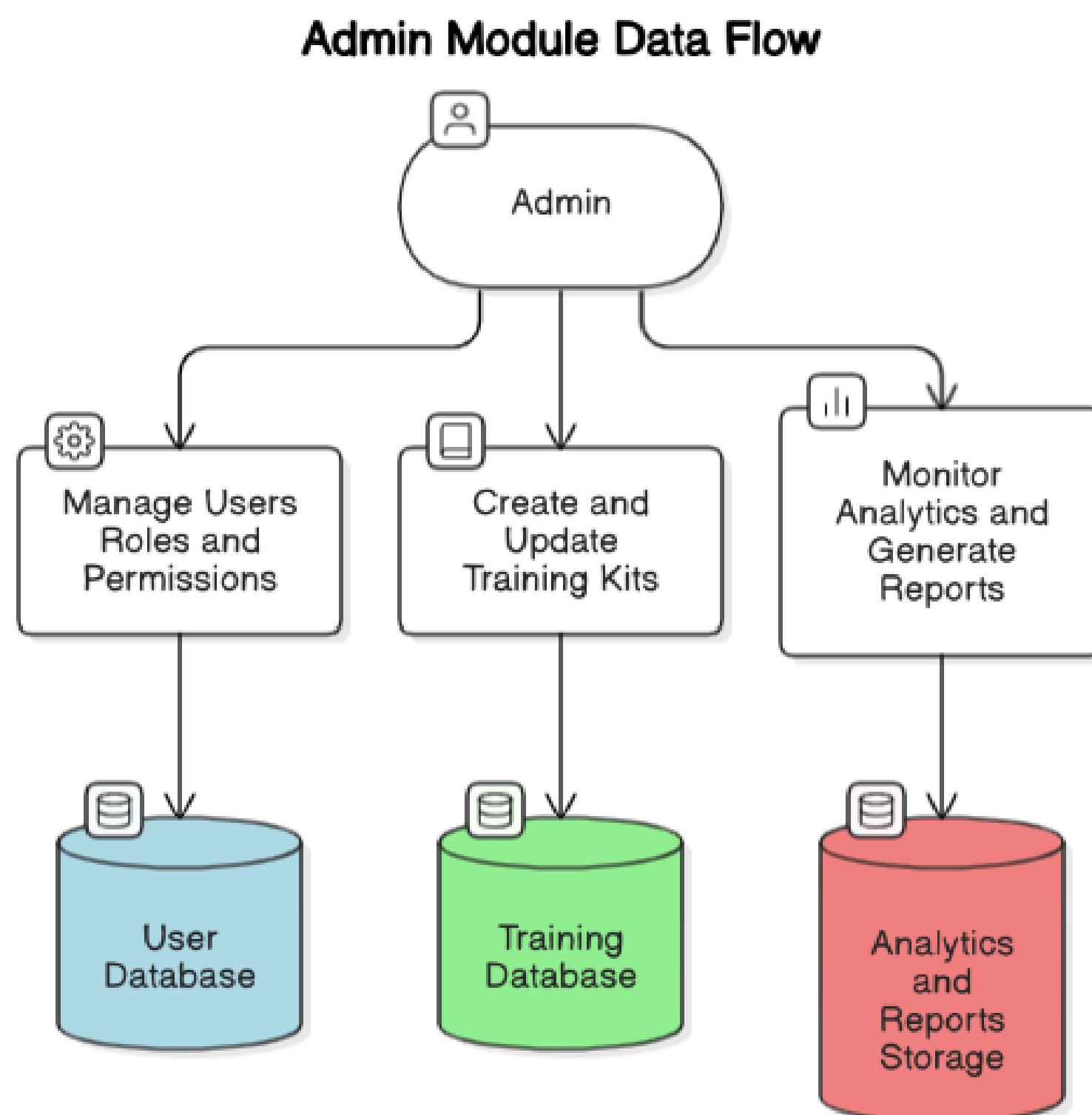


Fig 4.3.1 Data Flow Diagram Of Admin Module

Data Flow Diagram (DFD) for Admin

Entities:

- **Admin** (Main user)
- **System Users** (Employees, managers, module buddies)
- **Training System** (Manages training kits)

Processes:

1. **Manage Users, Roles & Permissions**
2. **Create & Update Training Kits**
3. **Monitor Analytics & Generate Reports**

Data Stores:

- **User Database** (Stores user details and roles)
- **Training Database** (Holds training kits)
- **Analytics & Reports Storage** (Stores generated reports)

DFD Representation (Text Format):

(Admin) → [Manage Users, Roles & Permissions] → (User Database)
(Admin) → [Create & Update Training Kits] → (Training Database)
(Admin) → [Monitor Analytics & Generate Reports] → (Analytics & Reports Storage)

4.3.2 Manager Module

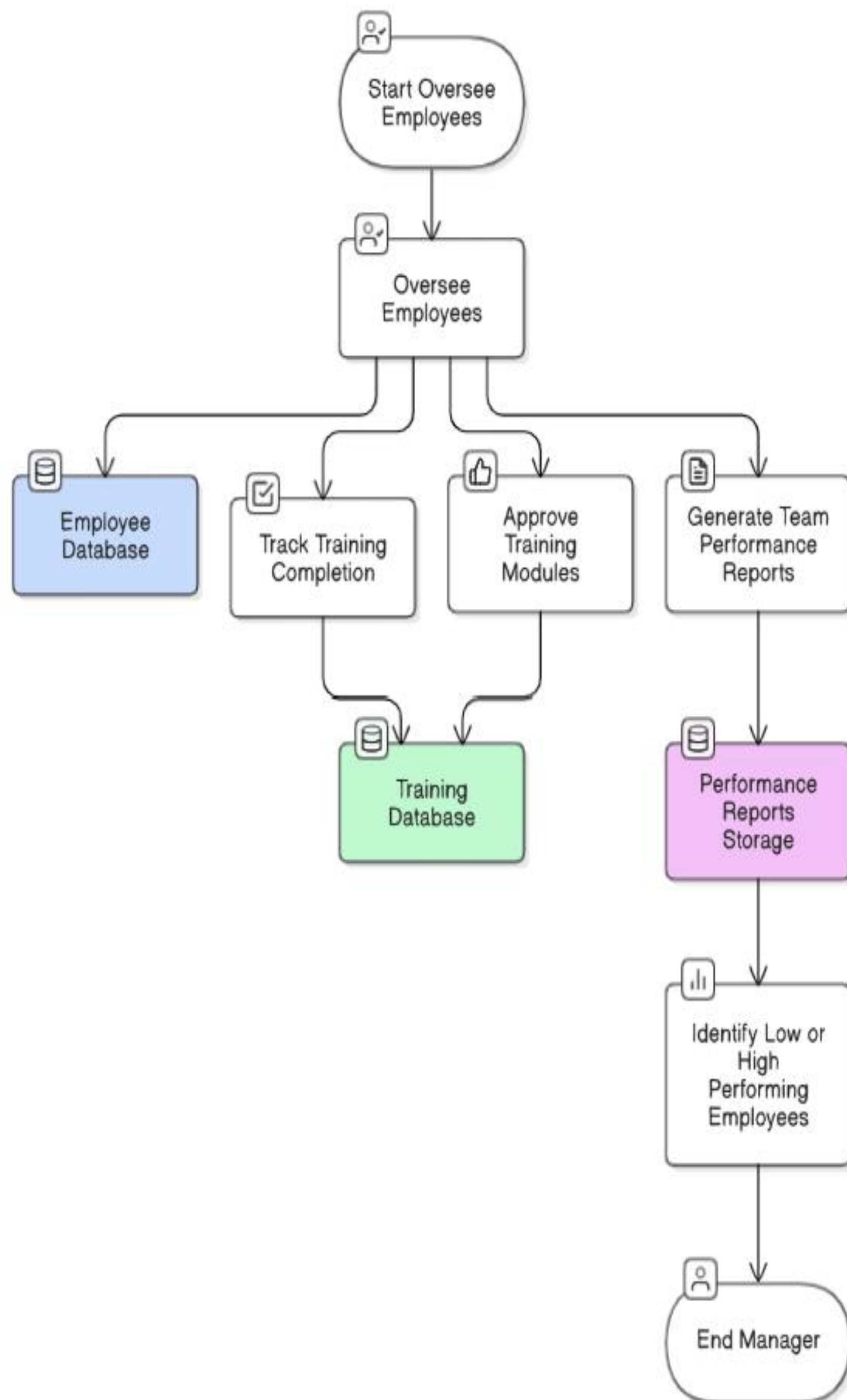


Fig 4.3.2 Data Flow Diagram Of Manager Module

Data Flow Diagram (DFD) for Manager

External Entities:

Manager (User who oversees employees)

Employees (Individuals being tracked)

Training System (Source of training data)

Processes:

(P1) Oversee Employees

(P2) Track Training Completion

(P3) Approve Training Modules

(P4) Generate Team Performance Reports

(P5) Identify Low/High-Performing Employees

Data Stores:

(D1) Employee Database

(D2) Training Database

(D3) Performance Reports Storage

Data Representation text format:

(Manager) → [P1: Oversee Employees] → (D1: Employee Database)

(Manager) → [P2: Track Training Completion] → (D2: Training Database)

(Manager) → [P3: Approve Training Modules] → (D2: Training Database)

(Manager) → [P4: Generate Team Performance Reports] → (D3: Performance Reports Storage)

(D3: Performance Reports Storage) → [P5: Identify Low/High-Performing Employees] → (Manager)

4.3.3 Module Buddy

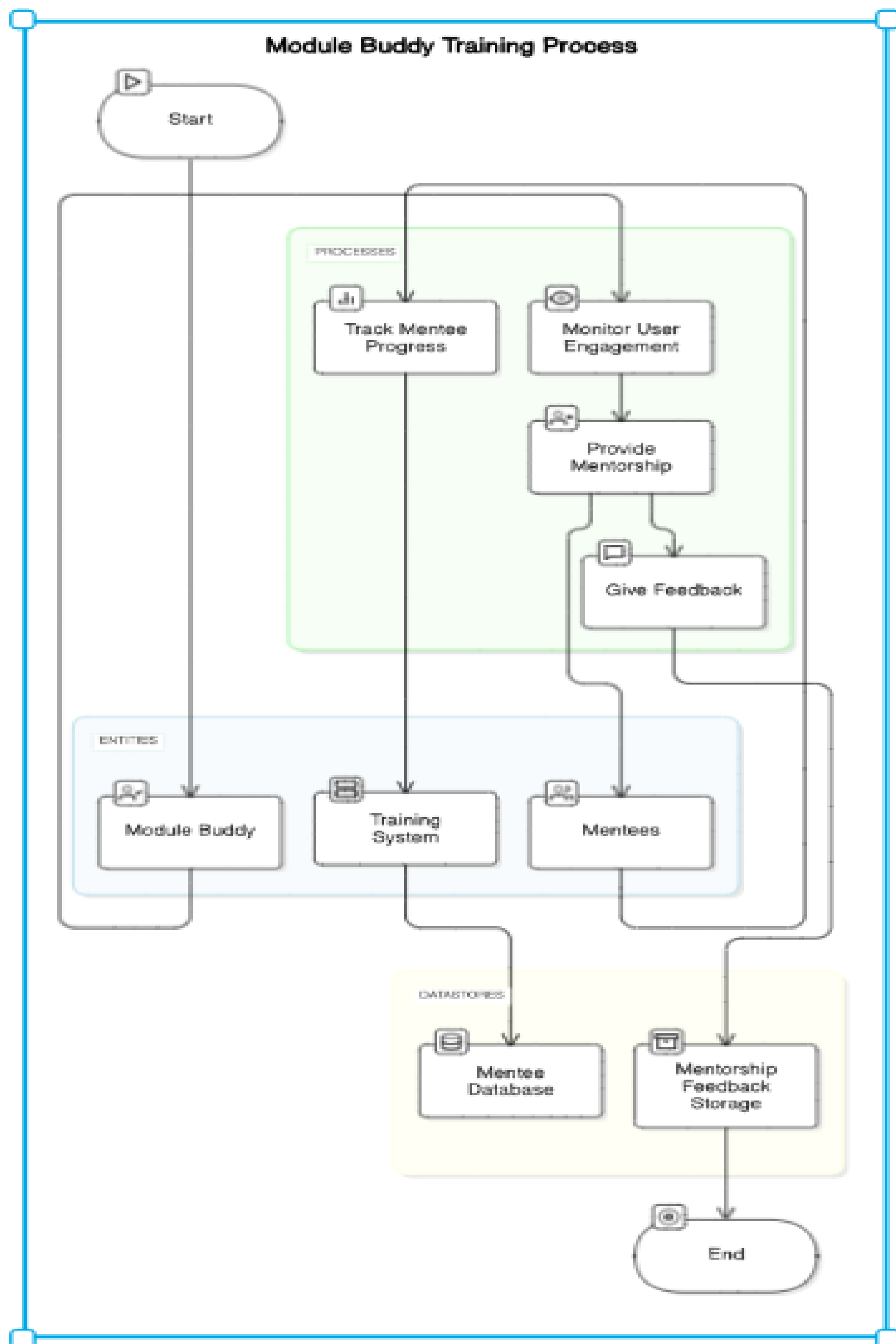


Fig 4.3.3 Data Flow Diagram Of Module Buddy

Data Flow Diagram (DFD) for Module Buddy

Entities:

- **Module Buddy** (Mentor user)
- **Mentees** (Users receiving training)
- **Training System** (Tracks progress)

Processes:

1. **Monitor User Engagement**
2. **Provide Mentorship**
3. **Track Mentee Progress**
4. **Give Feedback**

Data Stores:

- **Mentee Database** (Stores mentee details & progress)
- **Mentorship Feedback Storage** (Stores mentorship feedback)

Data Representation Text Format:

(Module Buddy) → [Monitor User Engagement] → (Mentee Database)
(Module Buddy) → [Provide Mentorship] → (Mentee Database)
(Module Buddy) → [Track Mentee Progress] → (Mentee Database)
(Module Buddy) → [Give Feedback] → (Mentorship Feedback Storage)

4.3.4 User Module

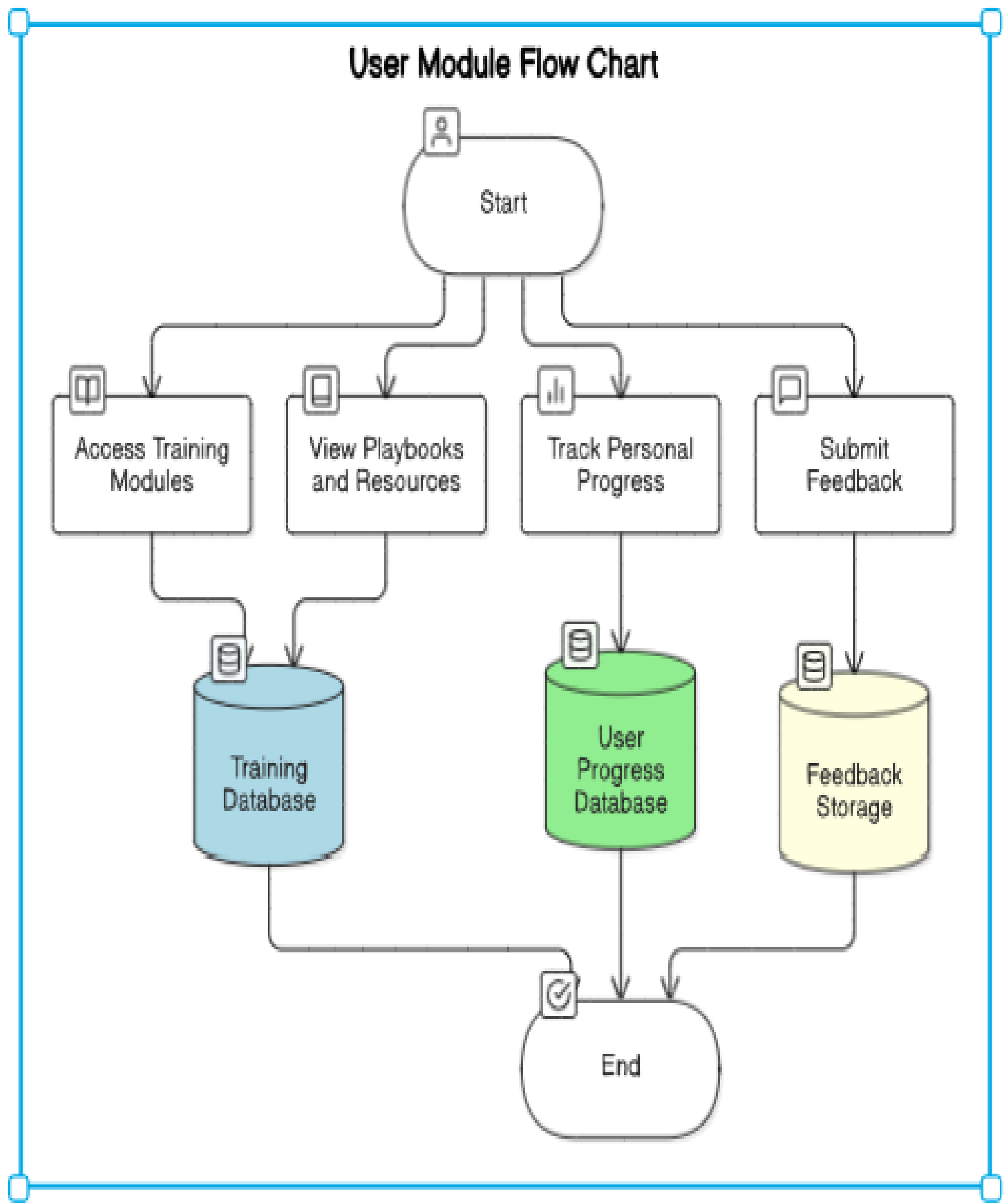


Fig 4.3.4 Data Flow Diagram Of User Module

Data Flow Diagram (DFD) for User Module

Entities:

- User (Trainee)
- Training System
- Module Buddy (Mentor)

Processes:

1. Access Training Modules
2. View Playbooks & Resources
3. Track Personal Progress
4. Submit Feedback

Data Stores:

- **Training Database** (Stores training materials)
- **User Progress Database** (Tracks progress)
- **Feedback Storage** (Stores user feedback)

DFD Representation (Text Format):

(User) → [Access Training Modules] → (Training Database)
(User) → [View Playbooks & Resources] → (Training Database)
(User) → [Track Personal Progress] → (User Progress Database)
(User) → [Submit Feedback] → (Feedback Storage)

CHAPTER 5 METHODOLOGY AND IMPLEMENTATION

5.1 User Roles and Functionalities

5.1.1 Admin Module:

Purpose:

The Admin module manages users, training content, and system configurations. It provides access control and ensures smooth system operation.

Responsibilities:

- Manage users, roles, and permissions.
- Create and update training kits.
- Monitor system-wide analytics and generate reports.
- Oversee security settings and data integrity.
- Assign training modules to different roles.

Dependencies:

- User Module (to assign roles and permissions).
- Training Database (to manage training kits).
- Analytics & Reporting Module (to generate insights).
- Security & Access Control Module (to enforce permissions).

3.1.2 Manager Module

Purpose:

The Manager module allows managers to oversee employees' training progress and analyze team performance.

Responsibilities:

- Oversee employees' training progress.
- Approve or reject training modules.
- Track training completion and compliance.
- Generate team performance reports.
- Identify struggling or high-performing employees.

Dependencies:

- User Module (to track employees' training status).
- Training Database (to verify module completion).
- Analytics & Reporting Module (to generate insights on performance).
- Notification & Communication Module (to send reminders and alerts).

3.1.3. Module Buddy (Mentor) Module

Purpose:

The Module Buddy module allows mentors to support trainees by monitoring engagement and providing personalized guidance.

Responsibilities:

- Track mentee engagement with training modules.
- Provide mentorship and guidance.
- Give feedback on user performance.
- Assess effectiveness of training programs.

Dependencies:

- User Module (to access mentee data).
- Training Database (to monitor module progress).
- Feedback Storage (to store mentorship feedback).
- Notification & Communication Module (to communicate with mentees).

3.1.4. User Module (Trainee/Employee)

Purpose:

The User module provides employees access to training materials, assessments, and progress tracking.

Responsibilities:

- Access and complete assigned training modules.
- View playbooks and learning resources.
- Track personal progress and assessment scores.
- Submit feedback on training sessions.
- Engage with mentors for additional support.

Dependencies:

- Training Database (to retrieve assigned training modules).
- User Progress Database (to track learning progress).
- Feedback Storage (to store feedback on training sessions).
- Notification & Communication Module (to receive training reminders).

5.2 Admin Dashboard

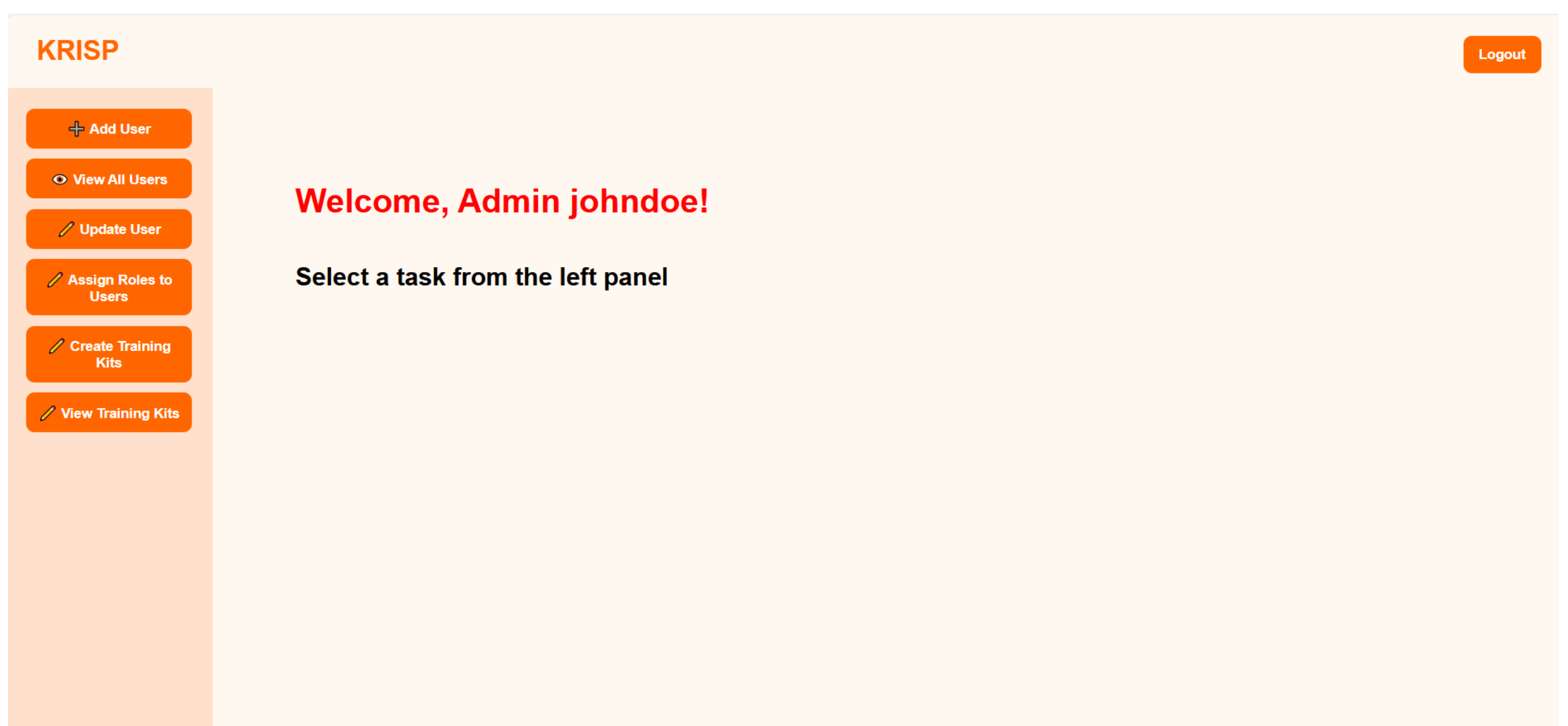


Fig 5.2 Admin Dashboard

5.2.1 User Management

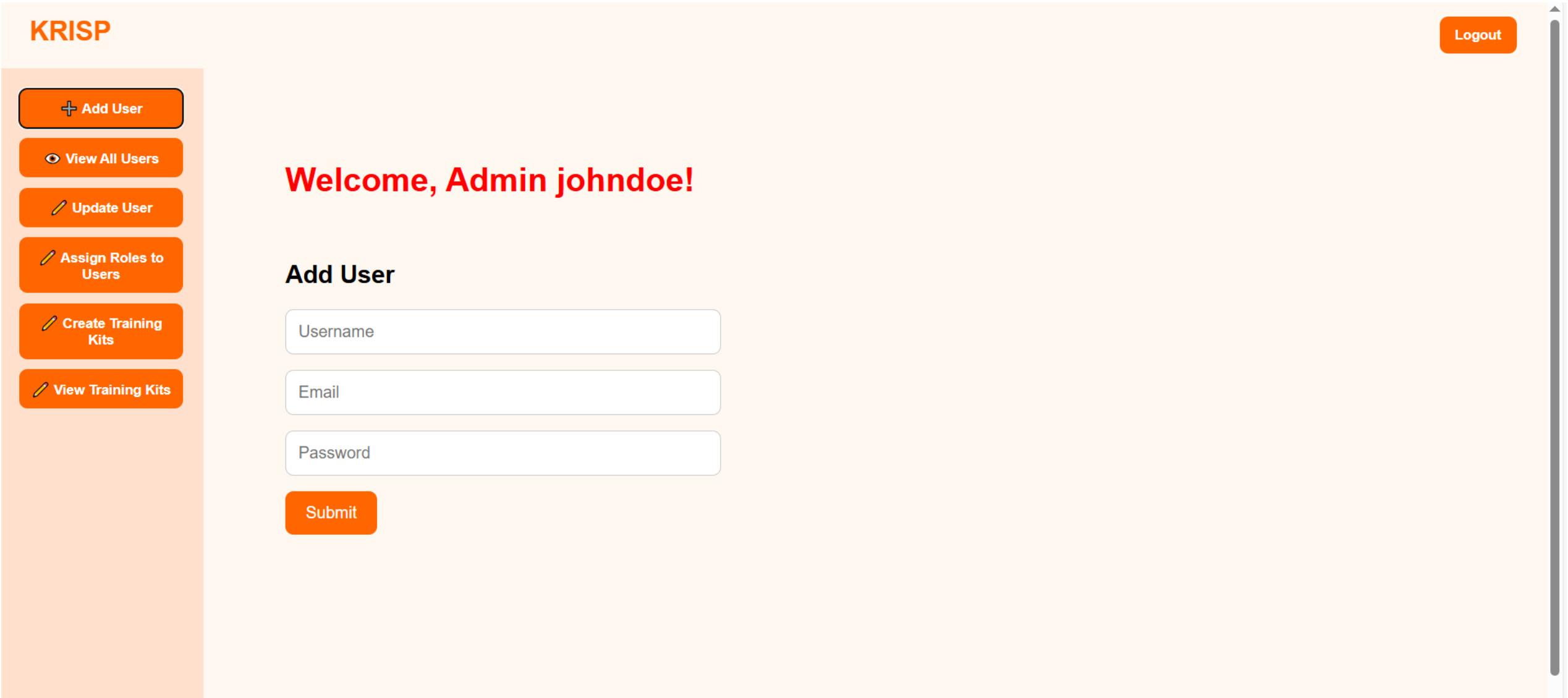


Fig 5.2.1 Add User

5.2.2 Assign Roles to Users

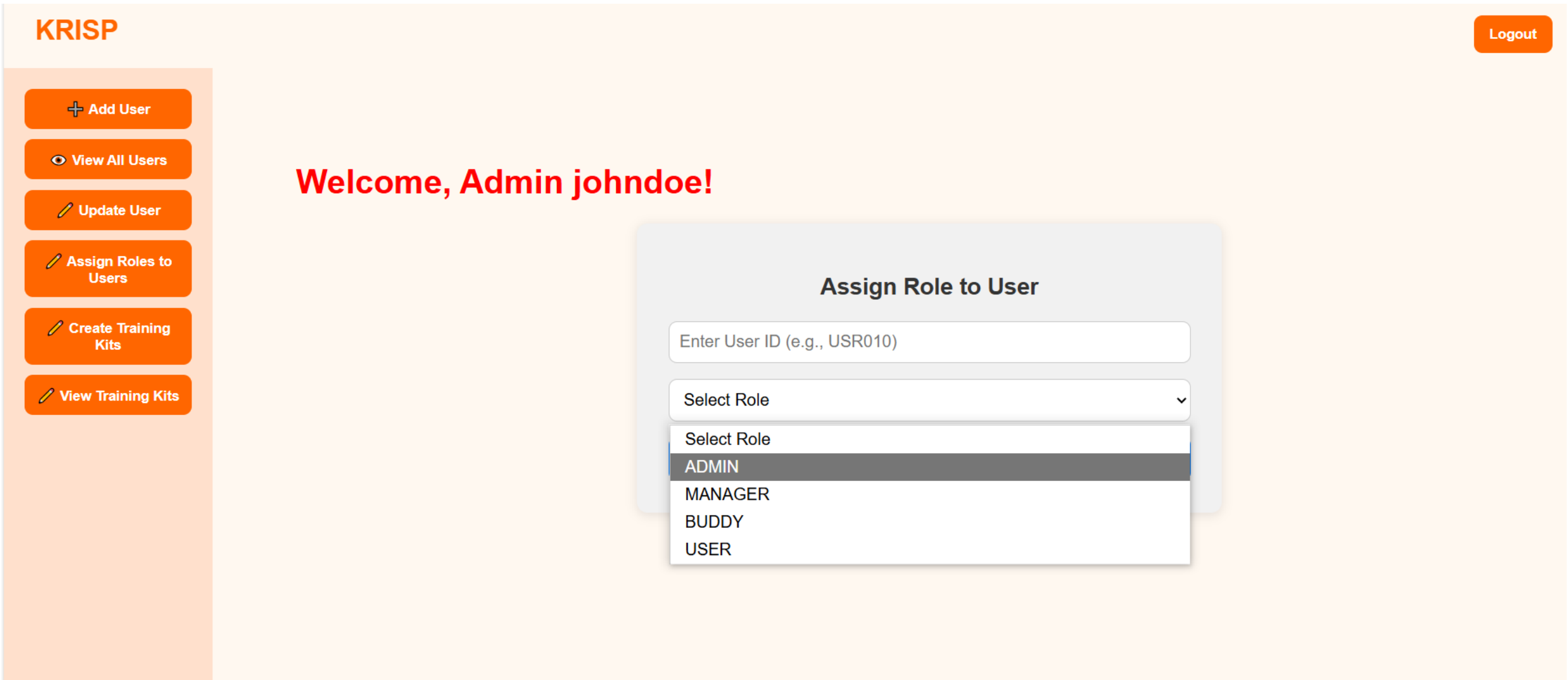


Fig 5.2.3 Assign roles

5.2.3 Create Training Kits

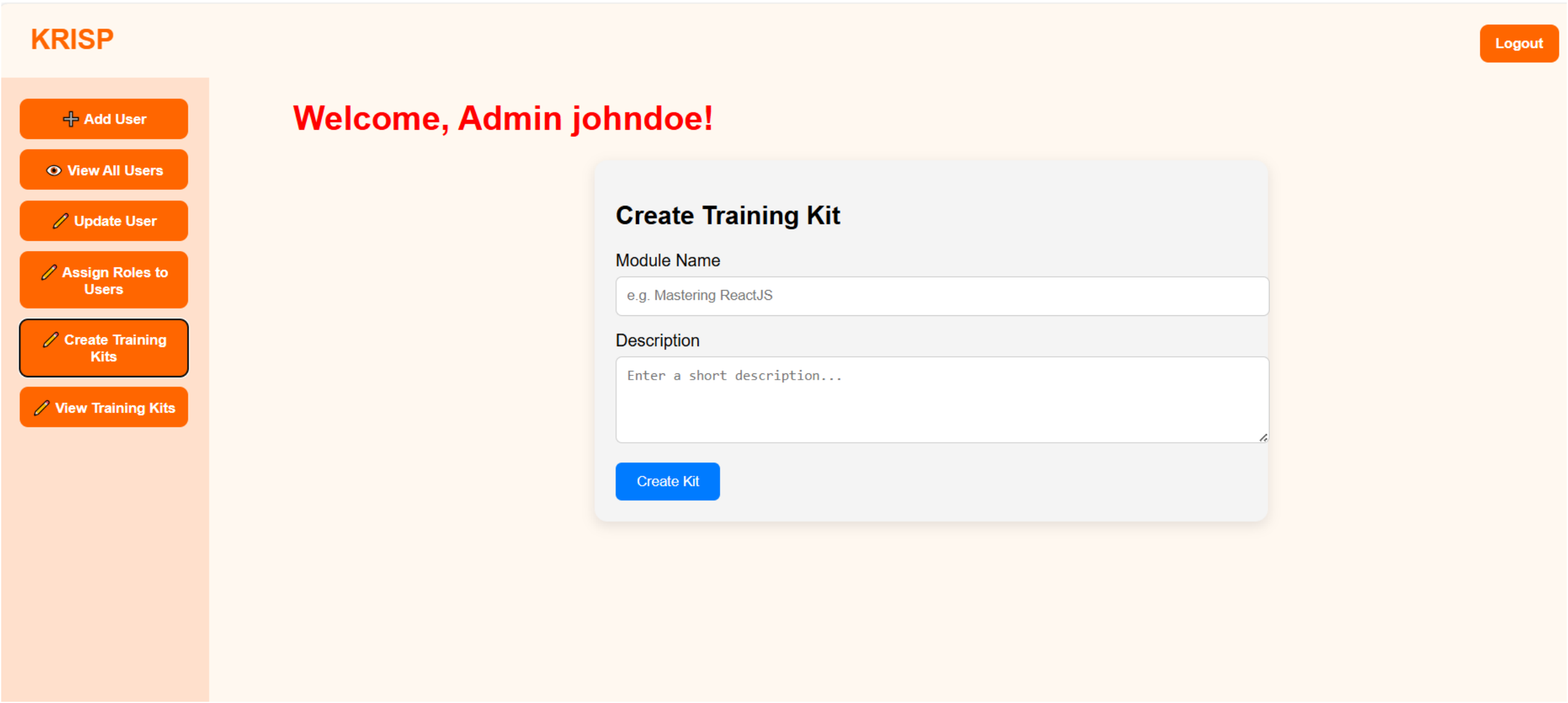


Fig 5.2.3 Create Training Kits

5.2.4 View Training Kits

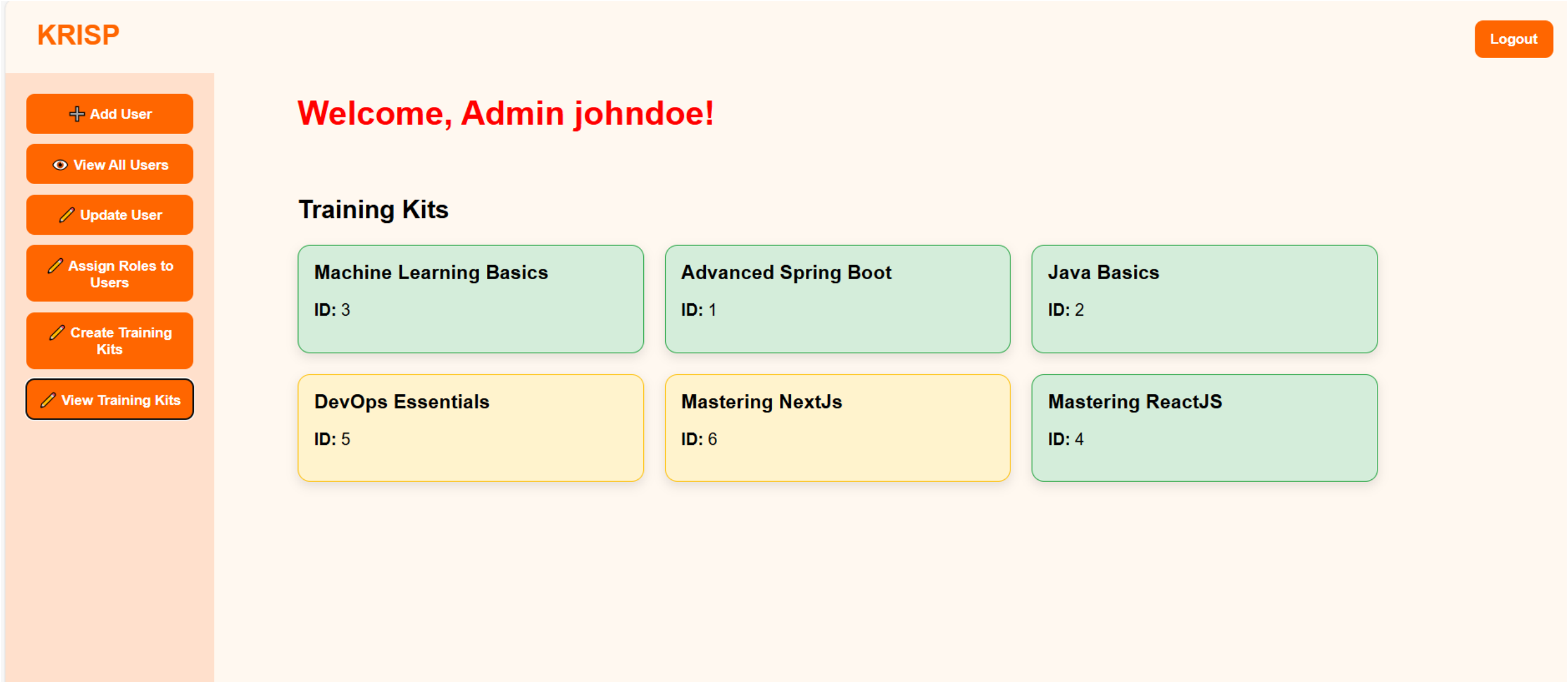


Fig 5.2.4 View Training Kits

5.3 Manager Dashboard

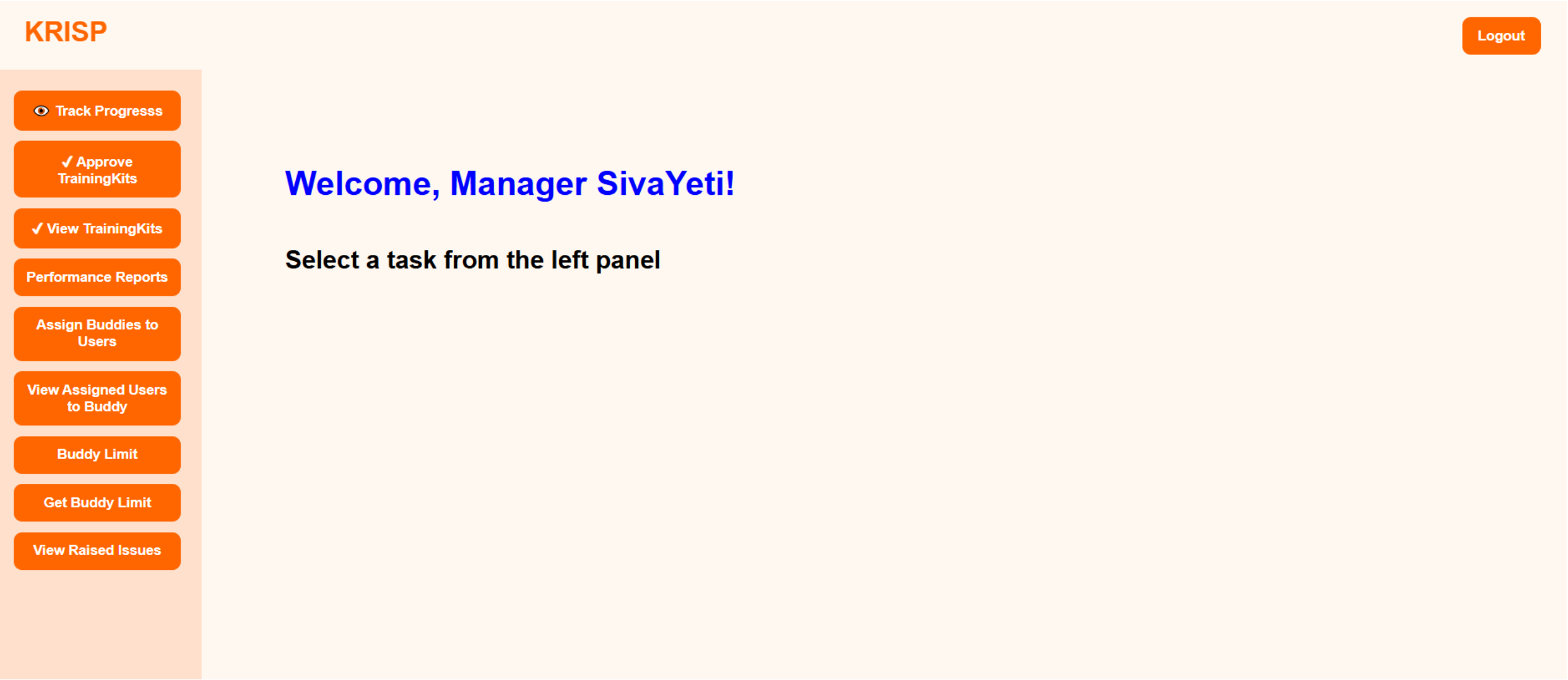


Fig 5.3 Manager Dashboard

5.3.1 Track Progress

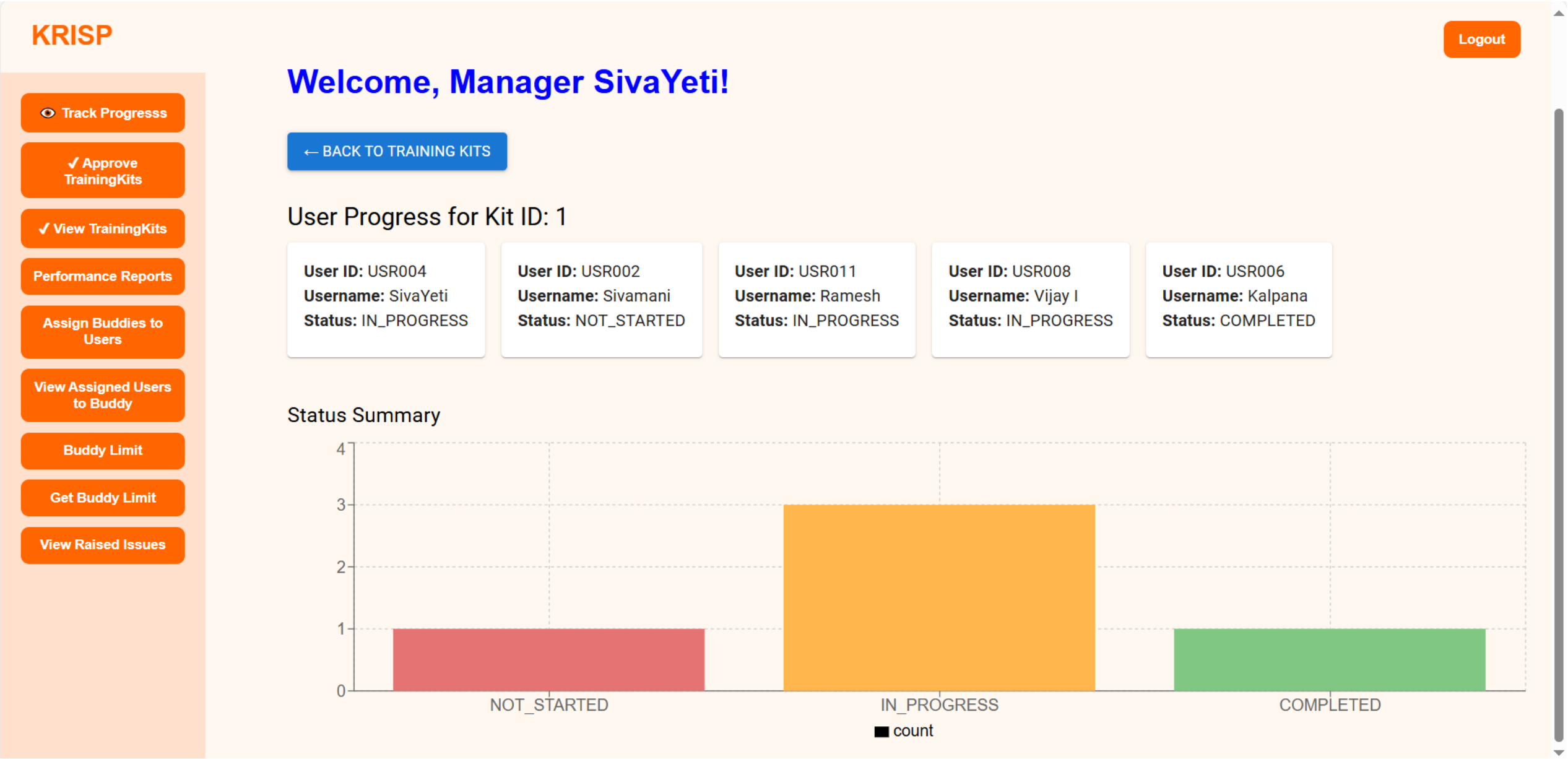


Fig 5.3.1 Track Progress

5.3.2 Approve Training Kits

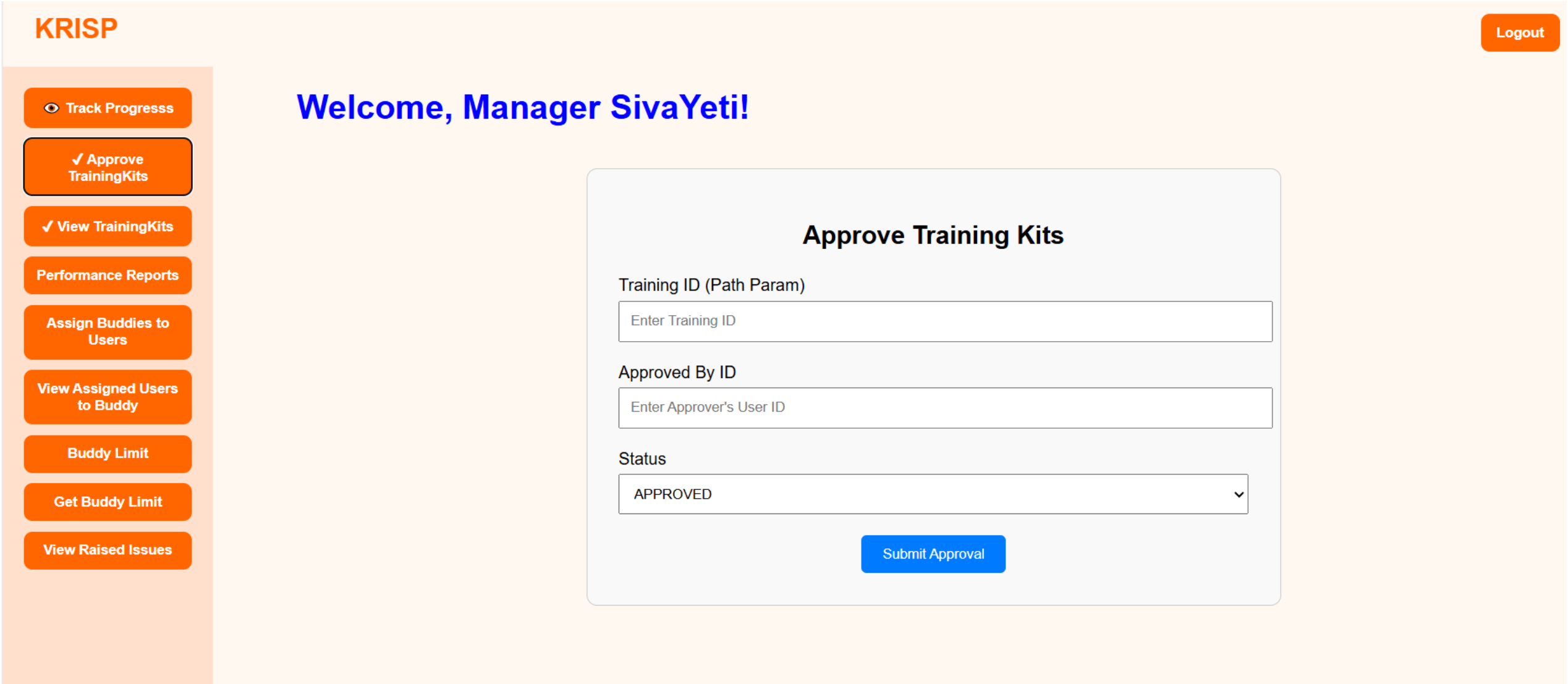


Fig 5.3.2 Approve Training Kits

5.3.3 Performance Reports

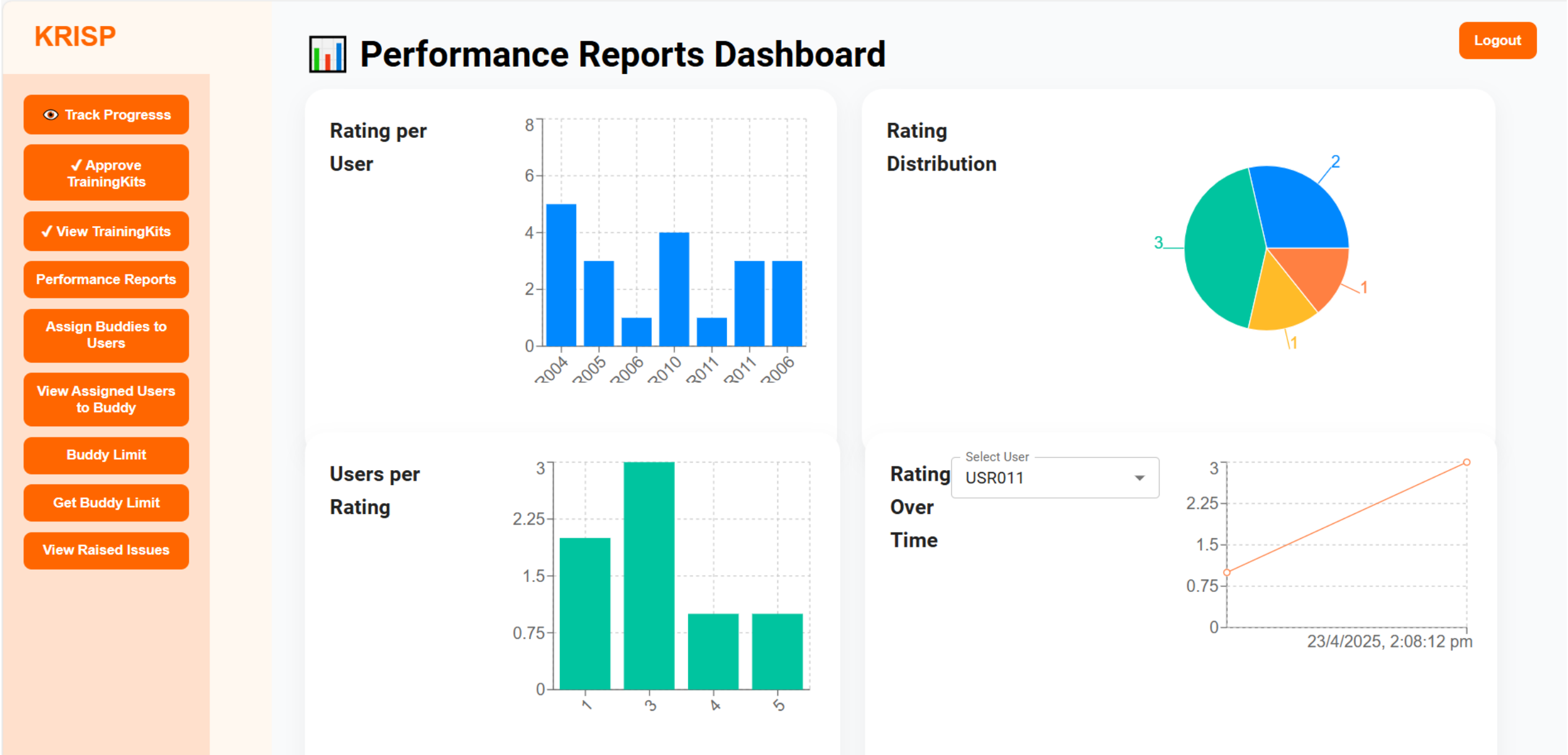


Fig 5.3.3 Performance Reports

5.4 Buddy Dashboard

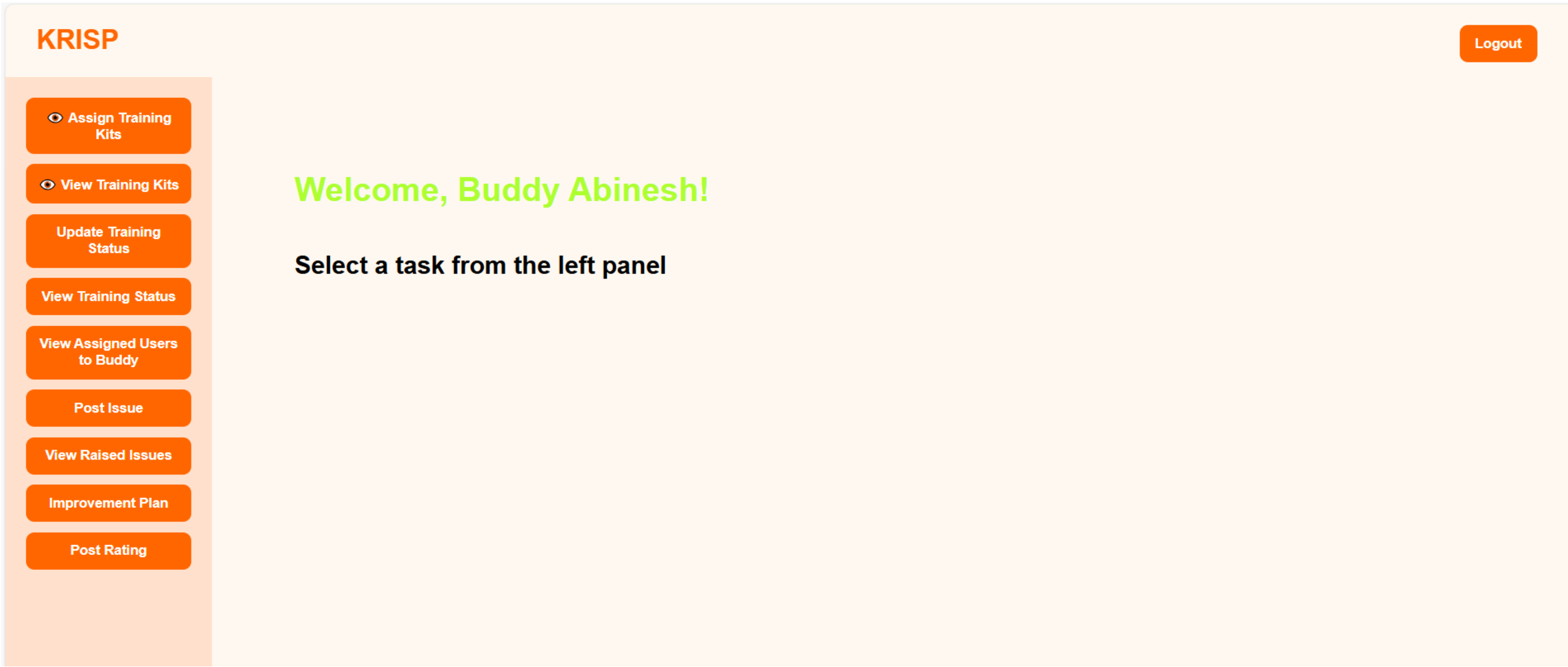


Fig 5.4 Buddy Dashboard

5.4.1 Assign Training Kits

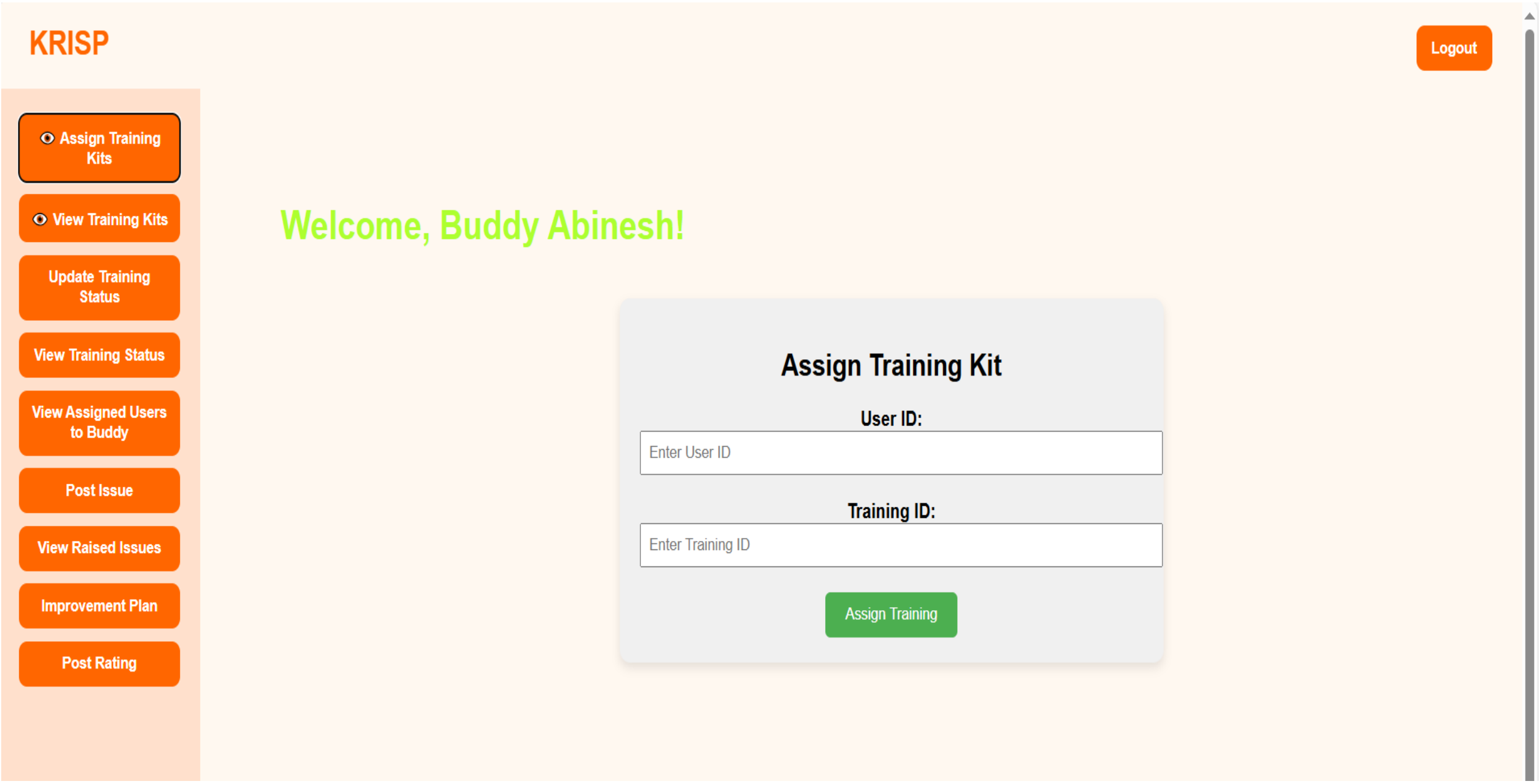


Fig 5.4 .1 Assign Training Kits

5.4.2 View Training Status

KRISP

Logout

Assign Training Kits

View Training Kits

Update Training Status

View Training Status

View Assigned Users to Buddy

Post Issue

View Raised Issues

Improvement Plan

Post Rating

Welcome, Buddy Abinesh!

Training Status Overview

Assignment ID	User ID	User Name	Training Kit ID	Module Name	Status
2	USR006	Kalpana	2	Java Basics	IN_PROGRESS
1	USR004	SivaYeti	1	Advanced Spring Boot	IN_PROGRESS
6	USR010	rashi	5	DevOps Essentials	NOT_STARTED
9	USR002	Sivamani	1	Advanced Spring Boot	NOT_STARTED
8	USR011	Ramesh	1	Advanced Spring Boot	IN_PROGRESS
7	USR011	Ramesh	4	Mastering ReactJS	IN_PROGRESS
3	USR005	RAM	3	Machine Learning Basics	IN_PROGRESS
4	USR008	Vijay I	1	Advanced Spring Boot	IN_PROGRESS
5	USR006	Kalpana	1	Advanced Spring Boot	COMPLETED

Fig 5.4.2 Training Status

5.4.3 Improvement Plan

KRISP

Logout

Assign Training Kits

View Training Kits

Update Training Status

View Training Status

View Assigned Users to Buddy

Post Issue

View Raised Issues

Improvement Plan

Post Rating

Welcome, Buddy Abinesh!

Submit Improvement Plan

User ID

e.g., USR007

Buddy ID

e.g., USR003

Improvement Plan

Write the plan here...

Submit Plan

Fig 5.4.3 Improvement Plan

5.4.4 Post Rating

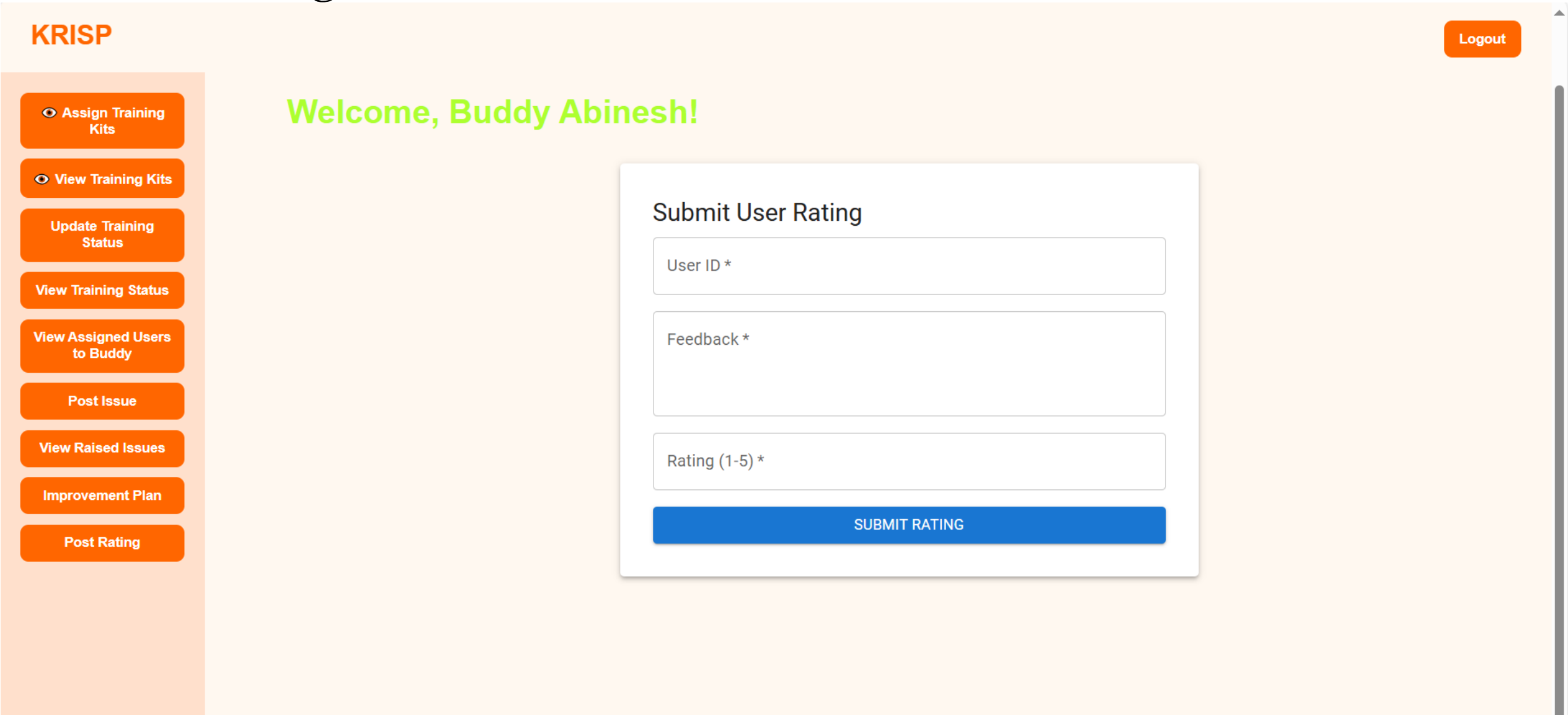


Fig 5.4.4 Post Rating

5.5 User Dashboard



Fig 5.5 User Dashboard

5.5.1 View Assigned Training Kits

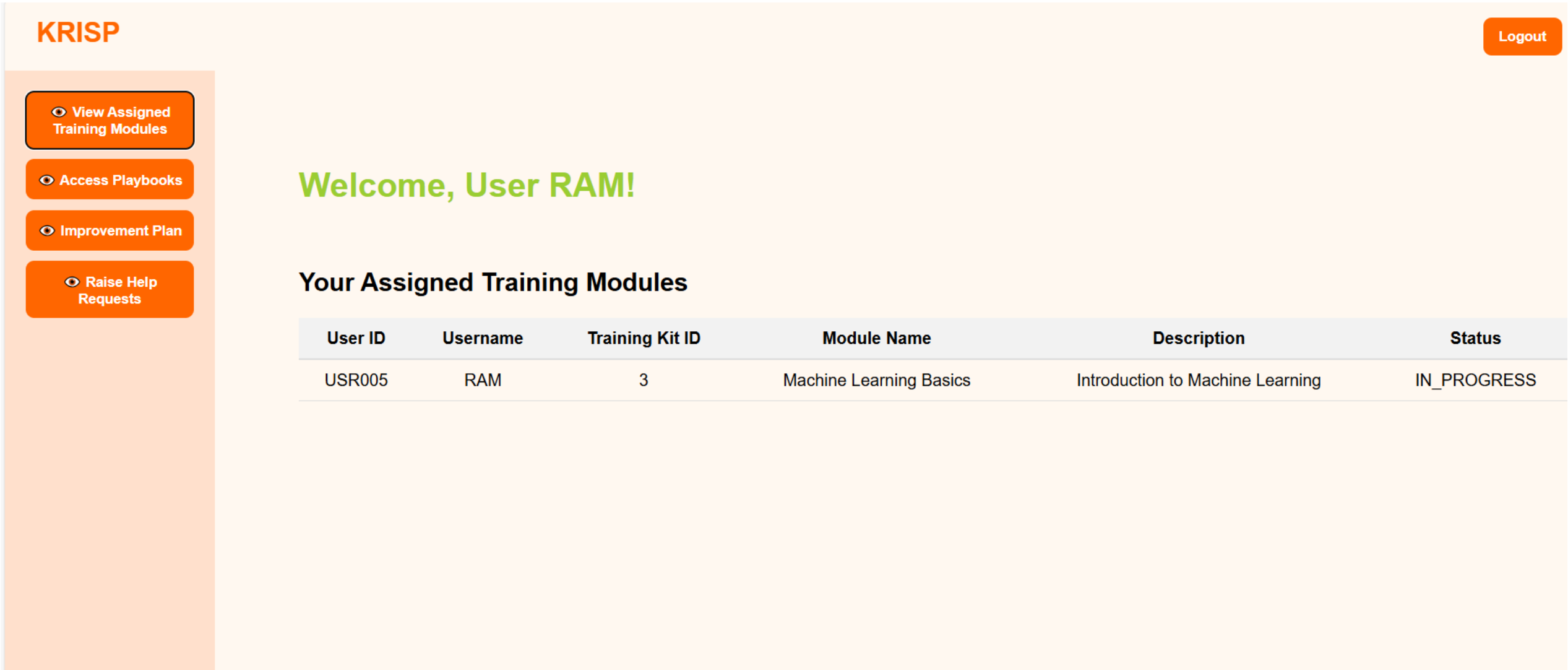


Fig 5.5.1 View Assigned Training Kits

5.5.2 View Improvement Plan

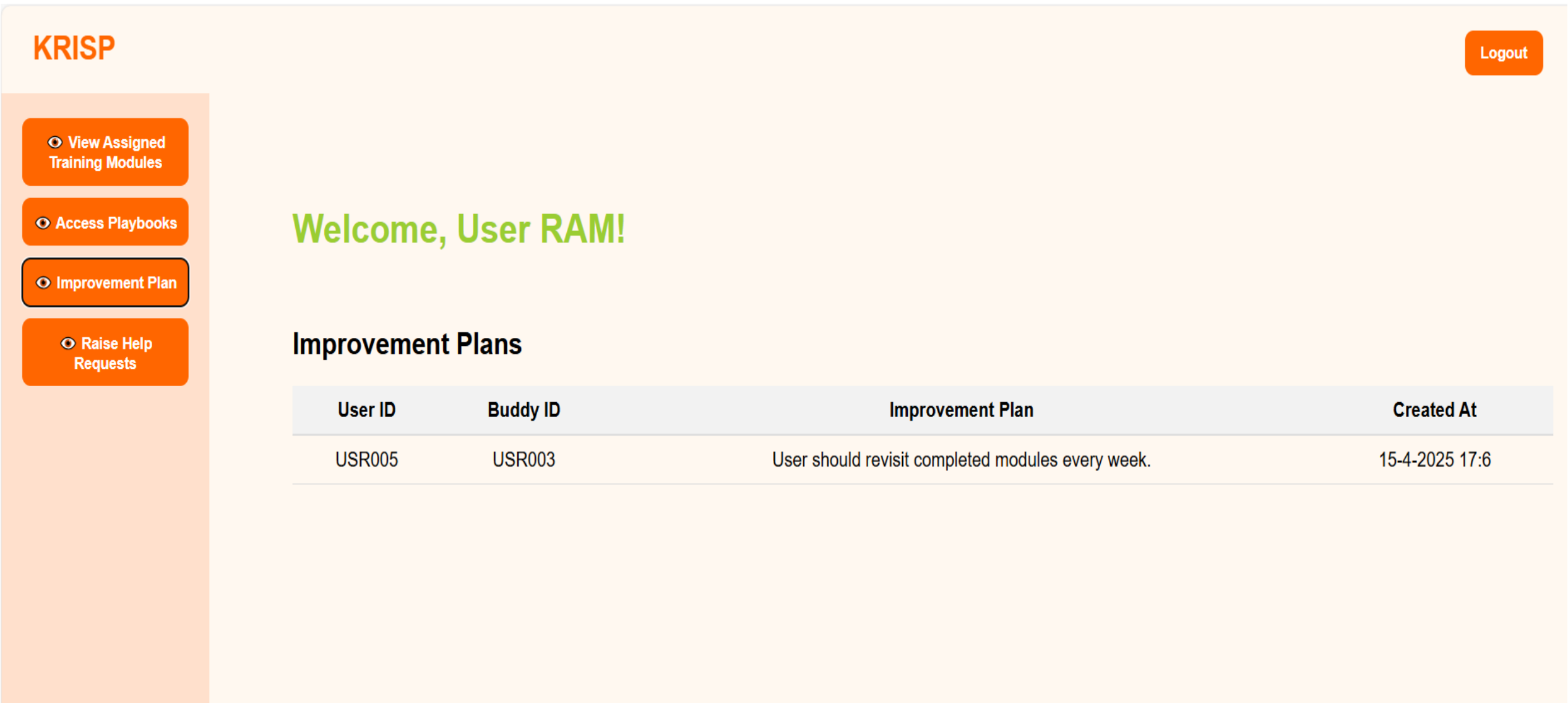


Fig 5.5.2 View Improvement Plan

CHAPTER 6

CONCLUSION AND FUTURE ENHANCEMENTS

6.1 Conclusion

Insight360 emerges as a comprehensive, scalable, and secure platform that addresses the evolving needs of enterprise learning and development. By incorporating robust **Role-Based Access Control (RBAC)**, secure authentication (via **Okta or Azure AD**), and a centralized PostgreSQL-backed architecture, the platform ensures that users interact with data and tools relevant to their roles—whether Admin, Manager, Module Buddy, or Employee.

The modular structure enhances system flexibility, enabling efficient training module management, real-time progress tracking, and actionable analytics. Seamless UI/UX powered by **Material UI** ensures accessibility across devices, while the centralized feedback loop strengthens mentorship and performance alignment. Compared to existing skill-building platforms, Insight360 stands out with its dynamic dashboard rendering, real-time data synchronization, and enterprise-level security integration.

Thus, the platform not only streamlines corporate training workflows but also empowers all stakeholders to make informed decisions, promoting a culture of learning, accountability, and continuous improvement.

6.2 Future Scope

- **AI-Driven Recommendations:** Integrate machine learning models to provide intelligent suggestions for training modules, mentorship pairings, and career development paths based on user behavior and performance.
- **Gamification Features:** Add leaderboards, badges, and achievement tracking to enhance user engagement, motivation, and completion rates across modules.
- **Mobile App Integration:** Extend the platform with a cross-platform mobile app for learning on the go, ensuring wider accessibility and real-time notifications.
- **Third-Party LMS Integration:** Enable interoperability with popular LMS platforms like Moodle, Coursera for Business, or LinkedIn Learning to expand content offerings.
- **Blockchain Credentialing:** Incorporate blockchain to offer tamper-proof, verifiable digital certificates and skill badges for completed training and mentorship programs.
- **Natural Language Processing (NLP) in Feedback:** Use NLP to analyze qualitative feedback and derive sentiment trends or potential areas of concern within teams or modules.
- **Custom Report Builder:** Allow managers and admins to create custom analytics dashboards and export reports based on team, department, or training parameters.
- **Localization and Multi-Language Support:** Support multi-language dashboards and localized content to cater to global enterprises with a diverse workforce.

REFERENCES

- [1] K. Jadhav, P. Mehta, and A. Roy, “SkillSync: AI-Driven Learning Pathways for Enterprise Upskilling,” Jan. 12, 2024. Accessed: Apr. 02, 2025. [Online]. Available: <http://example.com/skillsync>
- [2] P. Sharma, R. Verma, and L. Iyer, “Upskill360: Leveraging Analytics to Drive Corporate Learning Outcomes,” Feb. 08, 2024. Accessed: Apr. 02, 2025. [Online]. Available: <http://example.com/upskill360>
- [3] A. Patel, M. Sinha, and V. Kapoor, “SkillWise: Intelligent Mentor-Mentee Matching and Learning Progress Tracking,” Mar. 15, 2024. Accessed: Apr. 02, 2025. [Online]. Available: <http://example.com/skillwise>
- [4] D. Rao, T. Deshmukh, and S. Kumar, “LearnEdge: A Role-Centric Training System for Enterprise Learning Management,” Apr. 10, 2024. Accessed: Apr. 02, 2025. [Online]. Available: <http://example.com/learnedge>
- [5] R. Krishnan, A. Bhatt, and K. Sen, “SkillForge: Gamified Learning Platform for Workforce Development,” May 06, 2024. Accessed: Apr. 02, 2025. [Online]. Available: <http://example.com/skillforge>
- [6] N. Bansal, Y. Rao, and M. Chatterjee, “EduChain: Blockchain-Based Learning Credential Verification System,” Jun. 20, 2024. Accessed: Apr. 02, 2025. [Online]. Available: <http://example.com/educhain>

BIBLIOGRAPHY

1. *Spring Boot Reference Documentation*. Available: <https://spring.io/projects/spring-boot>
2. *Spring Data JPA Documentation*. Available: <https://spring.io/projects/spring-data-jpa>
3. *Hibernate ORM Documentation*. Available: <https://hibernate.org/orm/documentation/>
4. *Maven Documentation*. Available: <https://maven.apache.org/guides/index.html>
5. *Spring Security Documentation*. Available: <https://spring.io/projects/spring-security>
6. *REST API Design Guidelines*. Available: <https://restfulapi.net/>
7. *PostgreSQL 15 Documentation*. Available: <https://www.postgresql.org/docs/15/>
8. *JDBC (Java Database Connectivity) Documentation*. Available: <https://docs.oracle.com/javase/8/docs/technotes/guides/jdbc/>
9. *React Official Documentation*. Available: <https://reactjs.org/docs/getting-started.html>
10. *Material-UI (MUI) Documentation*. Available: <https://mui.com/material-ui/getting-started/overview/>
11. *Framer Motion Documentation*. Available: <https://www.framer.com/motion/>
12. *Styled Components Documentation*. Available: <https://styled-components.com/docs>
13. *GSAP (GreenSock Animation Platform) Documentation*. Available: <https://greensock.com/docs/>
14. *React Awesome Reveal Documentation*. Available: <https://react-awesome-reveal.morello.dev/>
15. *Axios (HTTP Client for React)*. Available: <https://axios-http.com/docs/intro>
16. *Bootstrap Documentation*. Available: <https://getbootstrap.com/>