

# CEBU INSTITUTE OF TECHNOLOGY UNIVERSITY

## COLLEGE OF COMPUTER STUDIES

Software Requirements Specifications for  
**Intellectual Property Asset Management System (IPAMS) Integration with OpenAI**

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*Project Manager*

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*Full-Stack Developer*

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*UI/UX Lead Designer*

*Front-End Developer*

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*UI/UX Designer*

*Back-End Developer*

***Aric Elian Paras***

*AI Specialist*

*Quality Assurance Tester*

***Tracy Godwin Martinez***

*Technical Writer*

*Quality Assurance Tester*

**UI/UX Website Prototype:**

<https://www.figma.com/file/NEFEQclgi12vck5RC43wiV/IPAMS-Wireframe?type=design&node-id=0%3A1&mode=design&t=djiLojFm9rMg7M0v-1>

**Diagrams:**

<https://drive.google.com/file/d/1MRq0tW3mLjc3ouCVdSRWvnGBSLMZtLcP/view?usp=sharing>

## Preface

In the rapidly evolving landscape of technology and innovation, the management of intellectual property assets stands as a critical endeavor for academic institutions and organizations alike. Recognizing this importance, the Intellectual Property Asset Management System (IPAMS) Integration with OpenAI project emerges as a collaborative effort between our capstone group and Team Hotdog.

At the heart of our endeavor lies the goal to design, develop, and implement a sophisticated system that harnesses the power of Artificial Intelligence (AI) technologies to revolutionize the management of intellectual property assets within the esteemed Cebu Institute of Technology University. By integrating OpenAI, a cutting-edge AI platform, into the IPAMS framework, we endeavor to enhance efficiency, accuracy, and accessibility in handling intellectual property assets.

In our pursuit of this ambitious endeavor, we are privileged to collaborate not only with Team Hotdog but also with past capstone groups who have contributed to the development and enhancement of IPAMS. Additionally, our partnership extends to the Narrative Association of Linked Content for IPAMS (NALC), further enriching our collaborative efforts and collective expertise.

This preface marks the commencement of a journey fueled by innovation, collaboration, and a shared commitment to advancing the management of intellectual property assets. Together, we embark on a path towards realizing a transformative solution that will undoubtedly leave a lasting impact on the intellectual landscape of our institution.

## Technology Stack

We will be utilizing the following technology stack to develop and deploy our web application:

### Framework:

- **Django:** We've chosen Django, a Python web framework, for its robust features and efficient development process. Django's batteries-included approach provides built-in functionalities, allowing us to focus on building our application's unique features.

### Frontend:

- **HTML:** HyperText Markup Language will structure our web pages, ensuring semantic and accessible content.
- **Bootstrap:** We'll leverage Bootstrap for responsive and visually appealing UI design. Its extensive library of pre-designed components and CSS styles will streamline our frontend development process.

### Backend:

- **Python:** With Python as our backend language, we benefit from its readability, versatility, and vast ecosystem of libraries. Python's simplicity allows for rapid development and easy maintenance of our application's logic.

## **Database:**

- **MySQL:** Our choice of MySQL as the relational database management system ensures scalability, reliability, and robust data management capabilities. We'll manage our MySQL databases efficiently using phpMyAdmin's intuitive web interface.

## **IDE:**

- **Visual Studio Code (VS Code):** VS Code will serve as our integrated development environment, offering a rich set of features for writing, debugging, and collaborating on code. Its extensive marketplace of extensions enhances productivity and customizability.

## **Deployment:**

- **Azure:** Leveraging Microsoft Azure for deployment provides scalability, reliability, and security for our web application. Azure's comprehensive suite of cloud services offers seamless integration with our development workflow and ensures high availability.

## **Additional Services/APIs:**

- **OpenAI:** Integrating OpenAI's API into our application enables powerful artificial intelligence capabilities, such as natural language processing and text generation. This enhances user experience and unlocks innovative features.
- **SMTP Google:** Utilizing Google's SMTP service enables seamless email functionality within our application. We can easily send notifications, alerts, and other important communications using Google's robust email infrastructure.

## **Interface Design:**

Our interface design incorporates HTML templates styled with the Bootstrap framework. Bootstrap, a widely adopted front-end framework, facilitates the creation of responsive and visually appealing web interfaces by providing pre-designed components and styles. It offers seamless implementation of grids, navigation bars, forms, buttons, and various other UI elements, ensuring consistency and efficiency across different devices and screen sizes.

Furthermore, Font Awesome is utilized for the integration of icons, enhancing the visual presentation and user experience of your interface. This combination of HTML, Bootstrap, and Font Awesome ensures a professional and visually engaging design for your web application.

Therefore, our interface design can be summarized as:

1. HTML templates
2. Styled with Bootstrap framework
3. Font Awesome for icons

## **GIT Repository URL**

GitHub Repository: IPAMS\_06-Main [https://github.com/EarlClaro/IPAMS\\_06-Main](https://github.com/EarlClaro/IPAMS_06-Main)

This repository contains the basic structure of our base code.

## **Module Decomposition:**

**Module 1 (Account Registration):**

The module handles the registration process for users, where they provide necessary credentials and select their roles.

**Module 2 (Landing Page):**

This module encompasses the landing page functionality, allowing users to either login or sign up. It also provides access to published records.

**Module 3 (Home Screen):**

This module presents different home screens based on user roles, including guest, student, adviser, ITSO, and RDCO/KTTO/TBI.

**Module 4 (Profile):**

Handles the display and management of user profiles, allowing users to view and edit their profile information.

**Module 5 (Records):**

Provides functionality for users to view all approved records in their home view.

**Module 6 (My Records):**

Enables users to view and edit their uploaded records, including pending, approved, and declined records. Also handles delete and download abstract requests.

**Module 7 (Record Uploads):**

Allows users (students, advisers, TBI, KTTO, RDCO) to upload records such as proposals, projects, and thesis papers.

**Module 8 (Record Evaluation):**

Facilitates the evaluation of submitted records by advisers, KTTO, TBI, and RDCO, including the approval or decline process.

**Module 9 (Import Records):**

Allows administrators and authorized users to import record files using an Excel file with a specific format.

**Module 10 (Dashboard):**

Provides a customizable dashboard feature intended for KTTO, RDCO, ITSO, and TBI users.

**Module 11 (Help):**

Implements a help module accessible through user profiles, including a user manual and support documentation.

**Module 12 (Admin File Management):**

Enables admins (advisers, KTTO, TBI, RDCO) to upload, organize, and manage various files and documents related to intellectual property records.

**Module 13 (Download Record PIN Authentication):**

Implements PIN authentication for users downloading certain records, ensuring added security.

**Module 14 (Admin Dashboard):**

Provides admins with a centralized view to monitor system activities, user interactions, and key performance indicators.

**Module 15 (OpenAI Integration):**

Integrates OpenAI capabilities, including chatbot, record summarization, AI plagiarism checker, and AI citing generation.

**Module 16 (Updated Record Sorting):**

Enables users to sort and filter records based on various criteria such as views, downloads, and likes.

**Module 17 (Subscription Tier System):**

Introduces a flexible pricing model with distinct subscription tiers tailored to different user roles and needs.

## **Assumptions for Intellectual Property Asset Management System (IPAMS)**

**User Engagement:**

- It is assumed that users, including students, advisers, and administrators, will actively engage with the IPAMS platform, providing accurate and relevant information for effective intellectual property management.

**Data Accuracy:**

- The success of IPAMS relies on the accuracy of the data provided by users. It is assumed that the information entered, including record details and user profiles, is truthful and reliable.

**Accessibility:**

- Users are expected to have access to the internet and standard web browsers for seamless interaction with the IPAMS platform.

**Educational Institution Cooperation:**

- Collaboration with educational institutions is essential for obtaining up-to-date information on intellectual property records. It is assumed that institutions will cooperate in sharing accurate and timely data.

**Privacy and Security Compliance:**

- It is assumed that the implemented security measures within IPAMS will be sufficient to protect user data and comply with relevant privacy regulations.

**System Improvement:**

- The feedback mechanism is expected to contribute to the continuous improvement of IPAMS. Users are assumed to provide constructive feedback for enhancing the platform's features and usability.

Technological Compatibility:

- Users are assumed to have devices that meet the technical requirements of IPAMS for optimal performance and usability.

Training Material Effectiveness:

- The training materials provided to users are assumed to be effective in guiding them on how to use IPAMS features and understand the intellectual property management processes.

## Detailed Requirements List

### 1. Account Registration and Profiles

- 1.1 Users must be able to register with valid credentials and select their roles.
- 1.2 Collect relevant information during the registration process, including user credentials and role-specific details.
- 1.3 Allow users to update their profiles with changes in credentials or additional information.

### 2. Home Screen

- 2.1 Differentiate home screens for guest users, students, advisers, administrators, and external counsel.
- 2.2 Provide a user-friendly interface for seamless navigation.

### 3. Profile Management

- 3.1 Allow users to view and edit their profile information.
- 3.2 Provide a secure and user-friendly interface for profile management.

### 4. Records Management

- 4.1 Display all approved records in the user's home view.
- 4.2 Enable users to view, upload, and edit their records.

### 5. Record Uploads

- 5.1 Allow students, advisers, TBI, KTTO, and RDCO to upload records, including proposals, projects, and thesis papers.
- 5.2 Implement a submission workflow with evaluation stages.

### 6. Record Evaluation

- 6.1 Enable advisers, KTTO, TBI, and RDCO to evaluate and approve or decline records.
- 6.2 Implement a delete request system and download abstract request system.

### 7. Dashboard

- 7.1 Design a dashboard feature intended for KTTO, RDCO, ITSO, and TBI.
- 7.2 Provide a customizable dashboard with relevant widgets.

## **8. Help**

- 8.1 Implement a help module accessible through user profiles.
- 8.2 Include a user manual and support documentation.

## **9. Notifications**

- 9.1 Implement a notification system for record approvals, declines, and other relevant updates.
- 9.2 Ensure users receive timely and accurate notifications.

## **10. OpenAI Integration (AIAMS)**

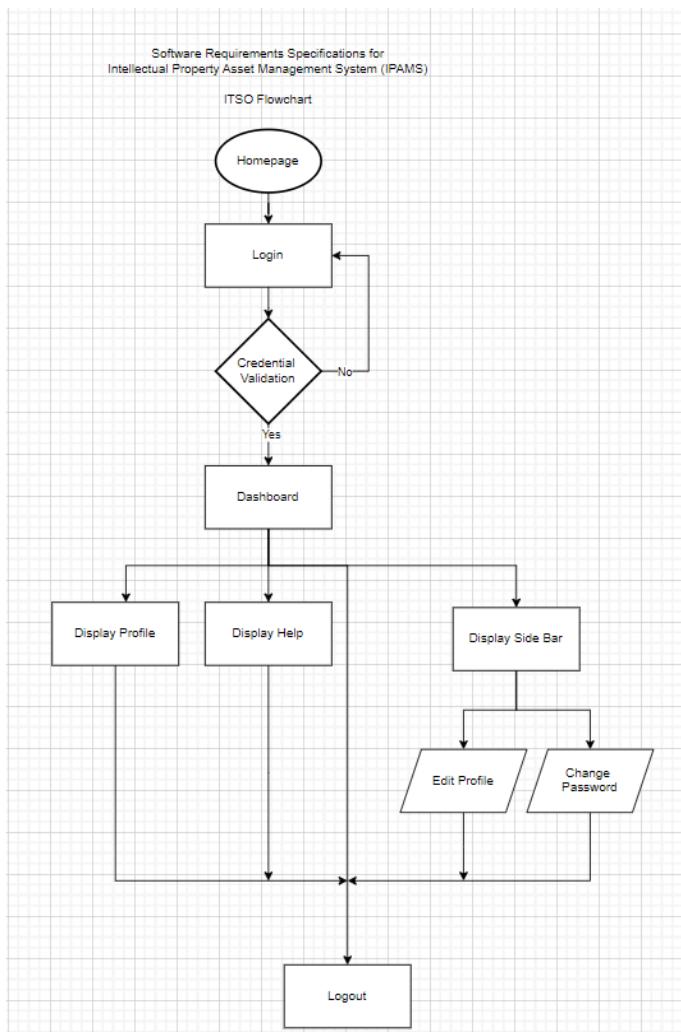
- 10.1 Implement artificial intelligence algorithms to enhance record assessment.
- 10.2 Utilize machine learning models for improved accuracy in evaluating intellectual property records.

## **11. Subscription System**

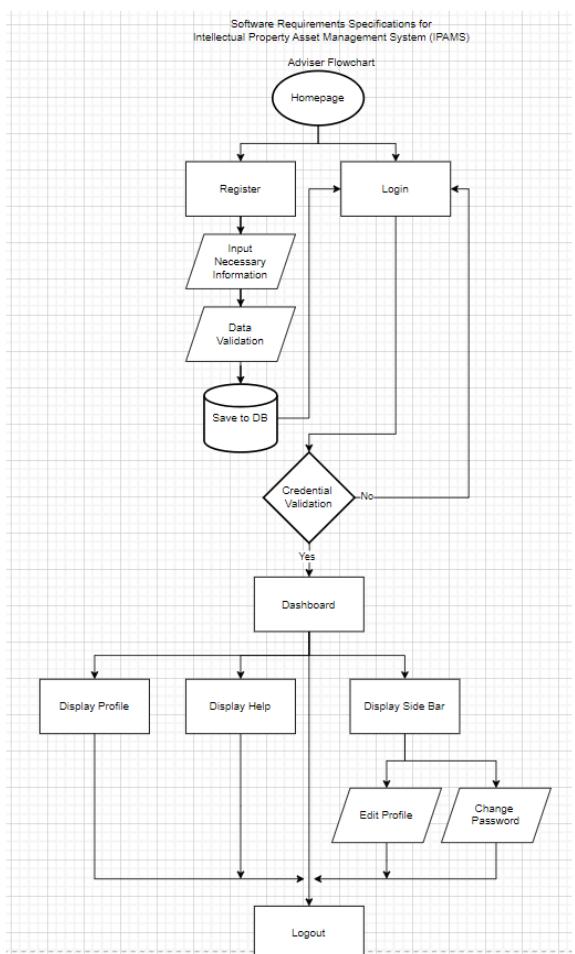
- 11.1 Implement subscription plans for users with different levels of access and features.
- 11.2 Provide options for users to upgrade, downgrade, or cancel their subscriptions.
- 11.3 Include payment processing functionality for managing subscription payments securely.
- 11.4 Ensure users have access to subscribed features and content based on their active subscription plan.

## 1. Flowchart

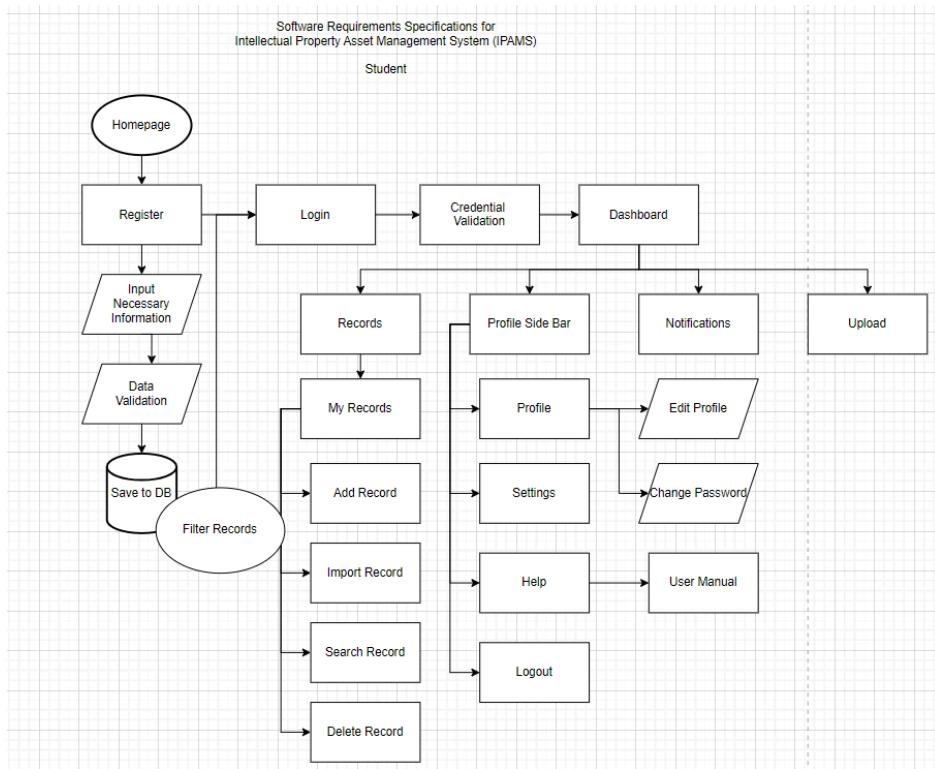
### ITSO,TBI ,KTTO ,RDCO Flowchart



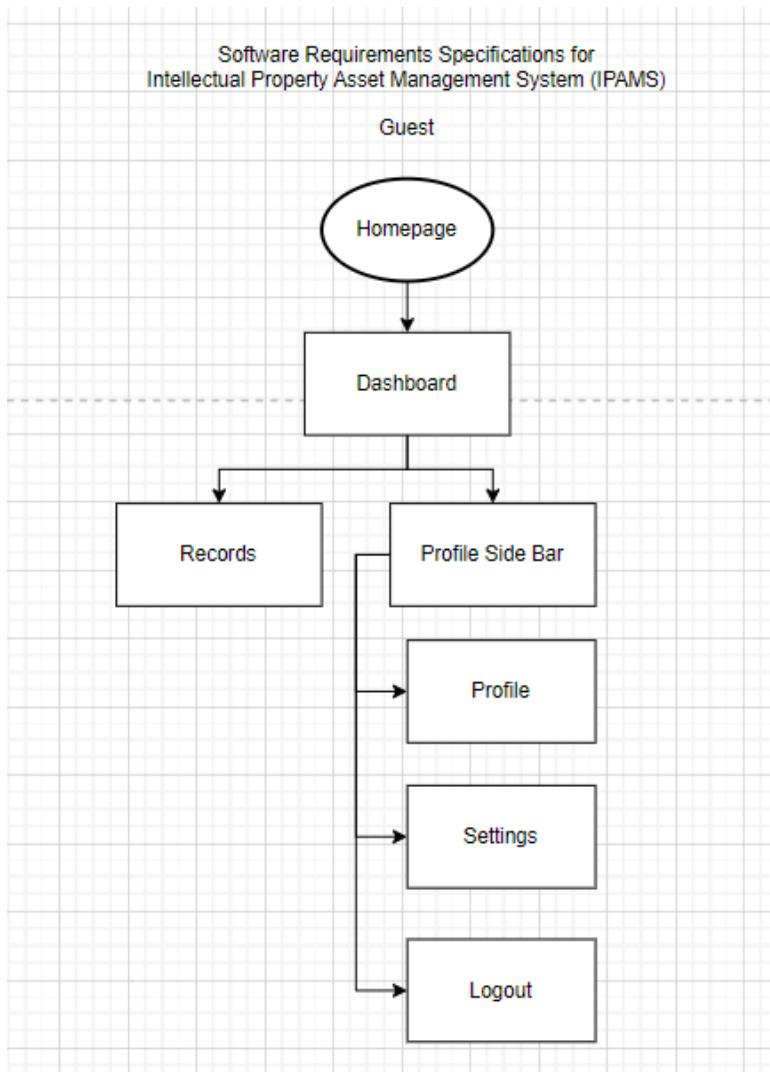
### Adviser Flowchart



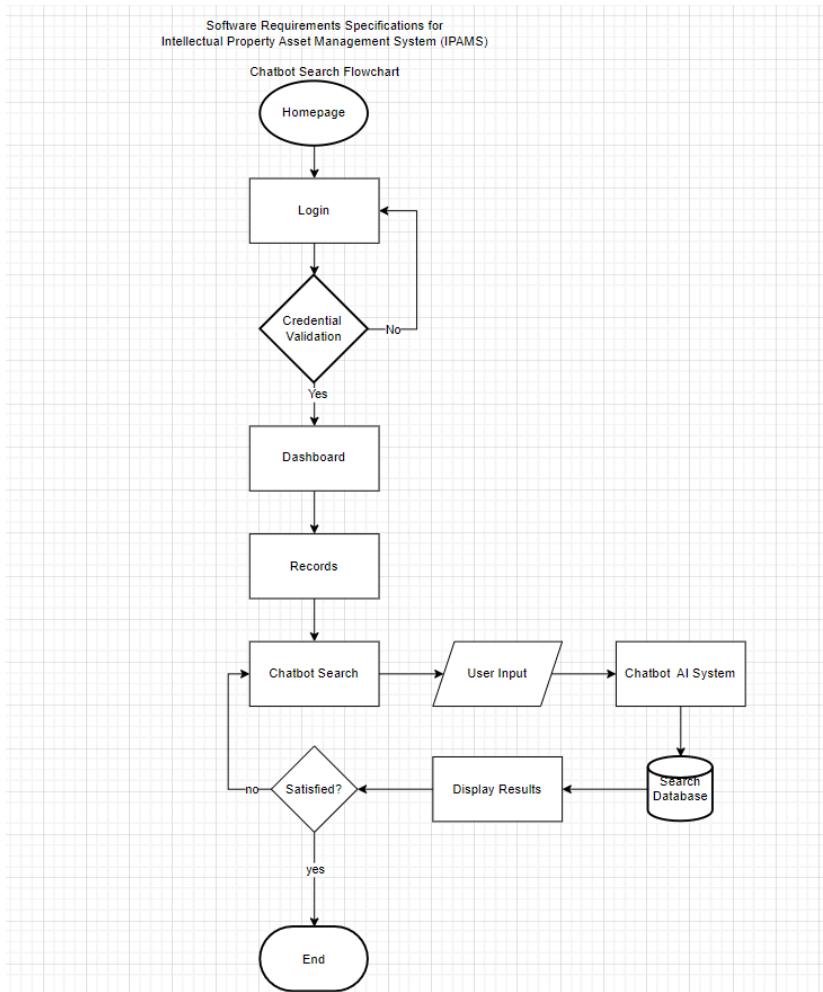
## Student Flowchart



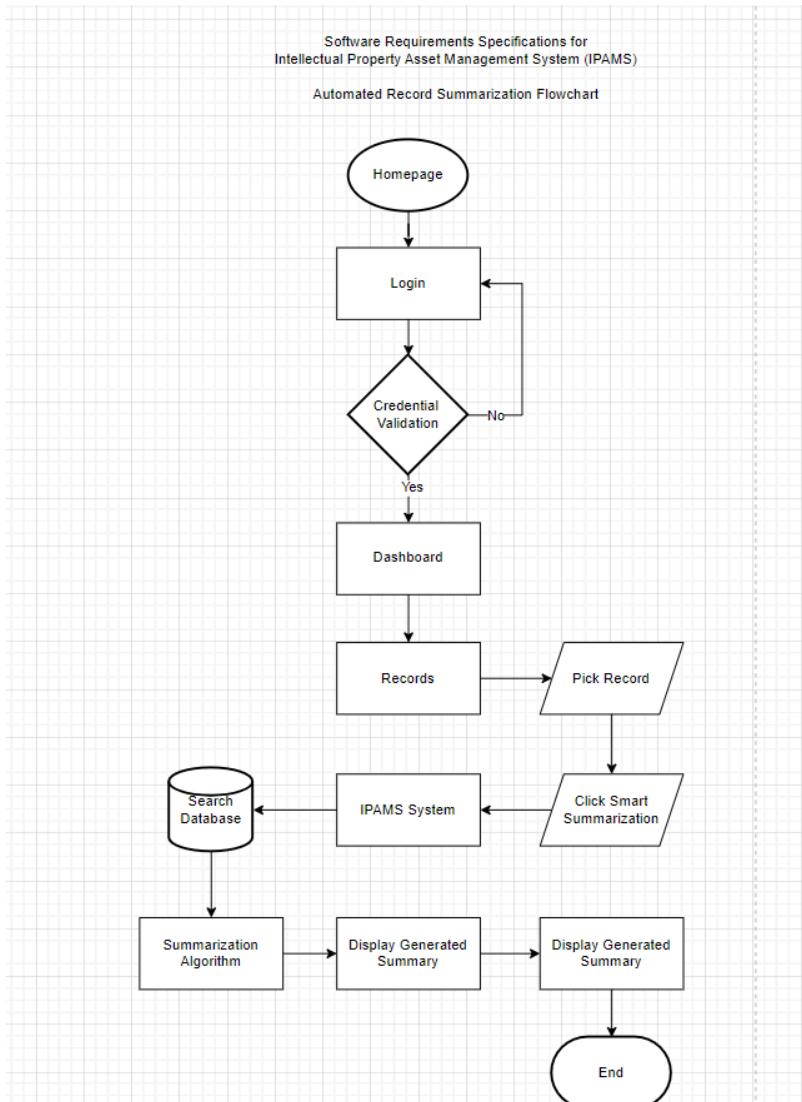
## Guest Flowchart



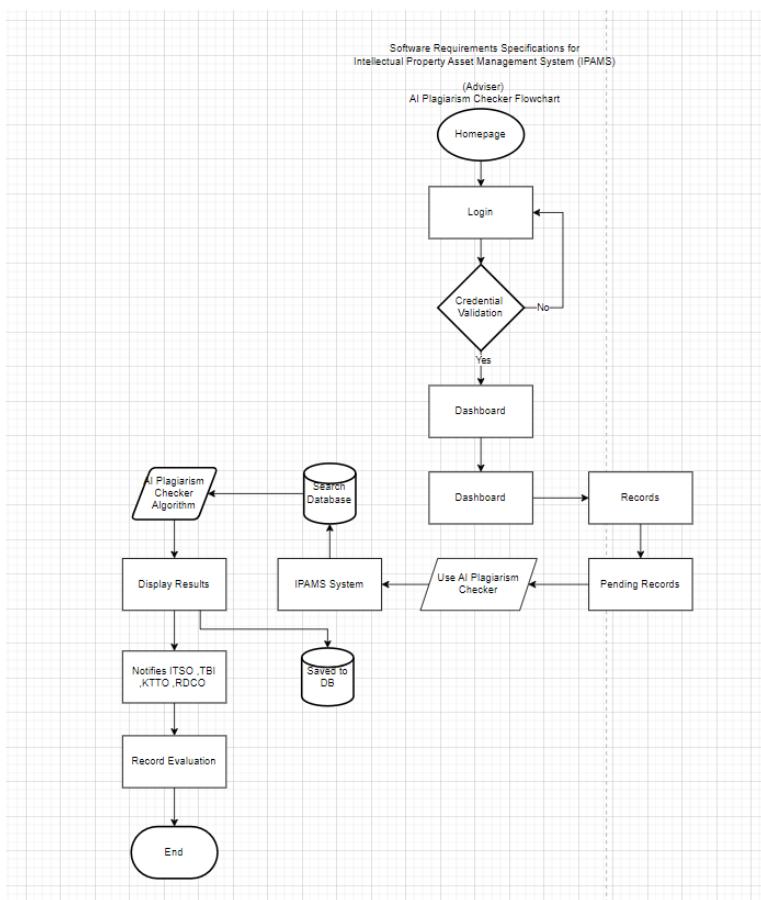
## Chatbot Flowchart



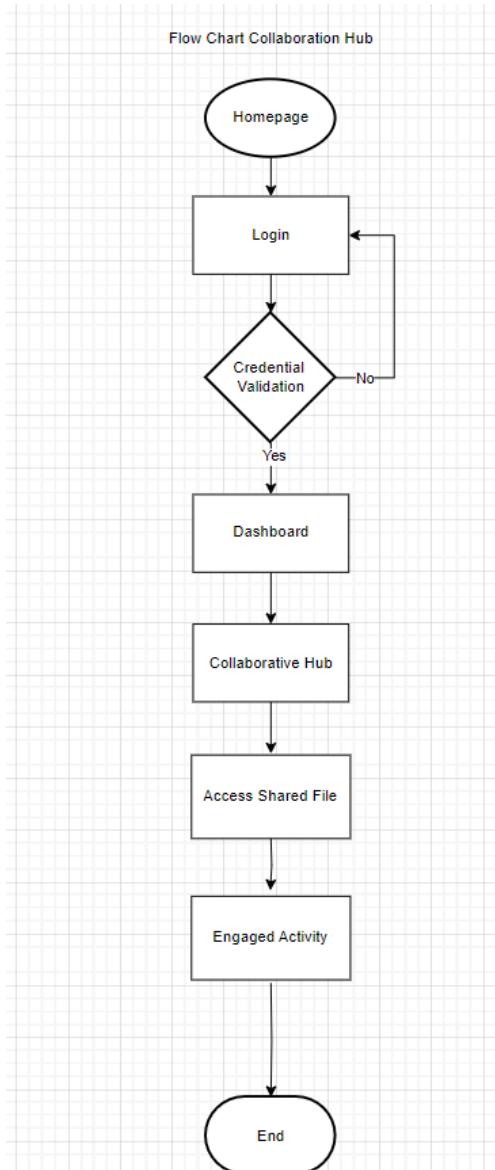
## Automated Record Summarization Flowchart



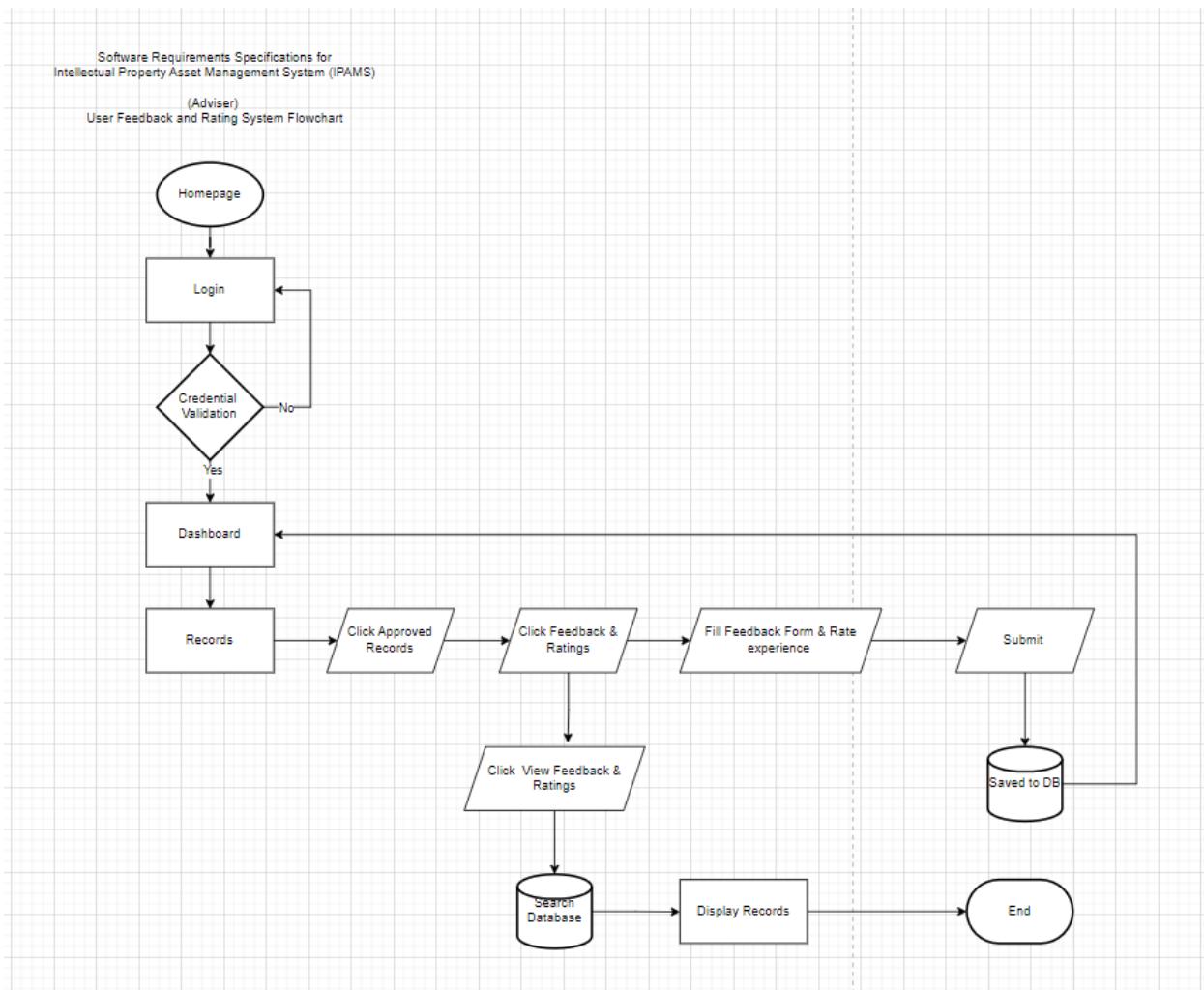
## AI Plagiarism Checker Flowchart



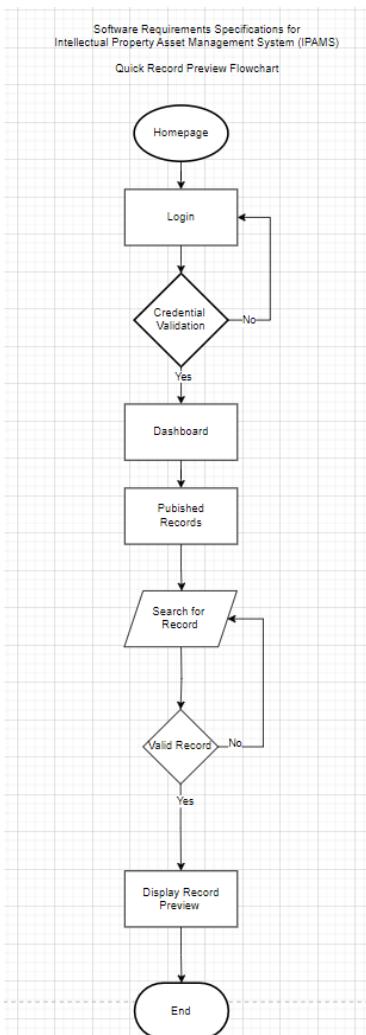
### Flow Chart Collaboration Hub



### User Feedback and Rating System Flowchart

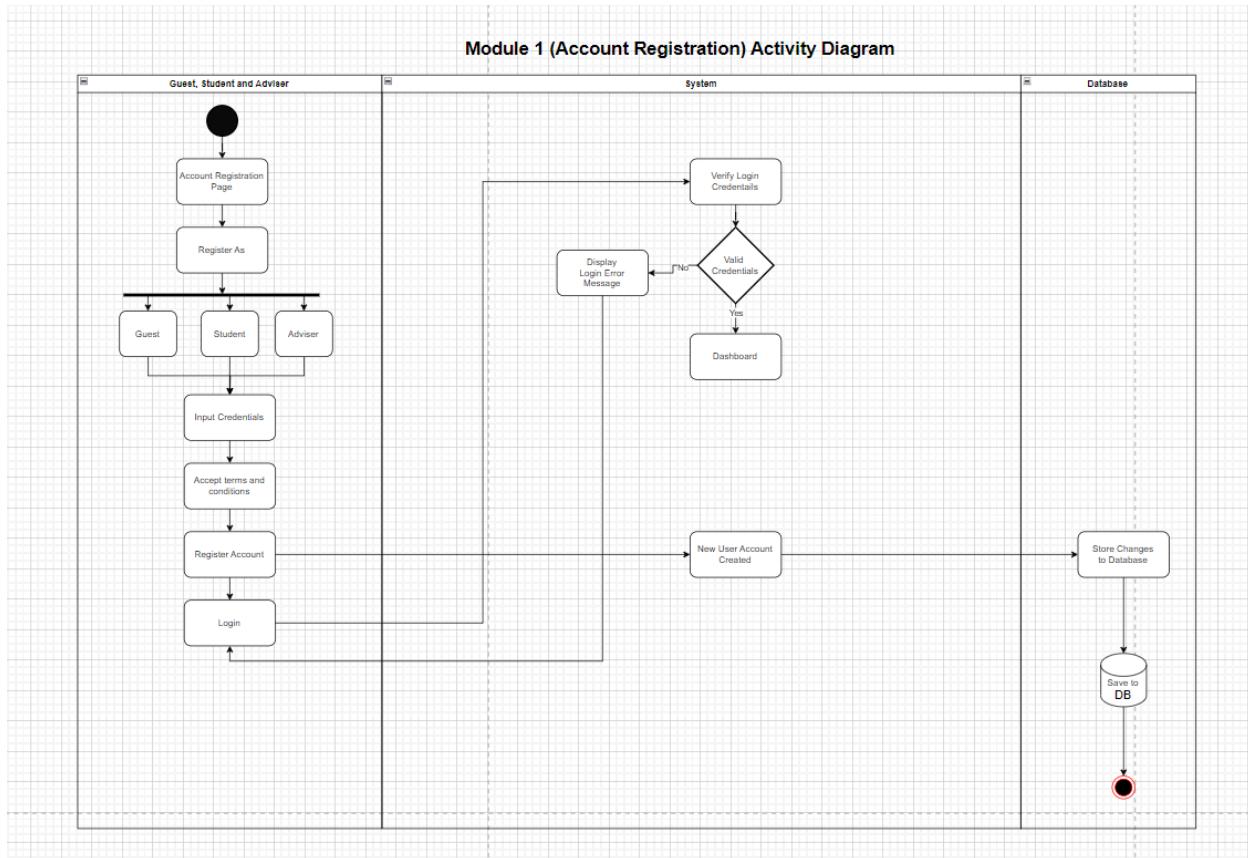


## Quick Record Preview Flowchart

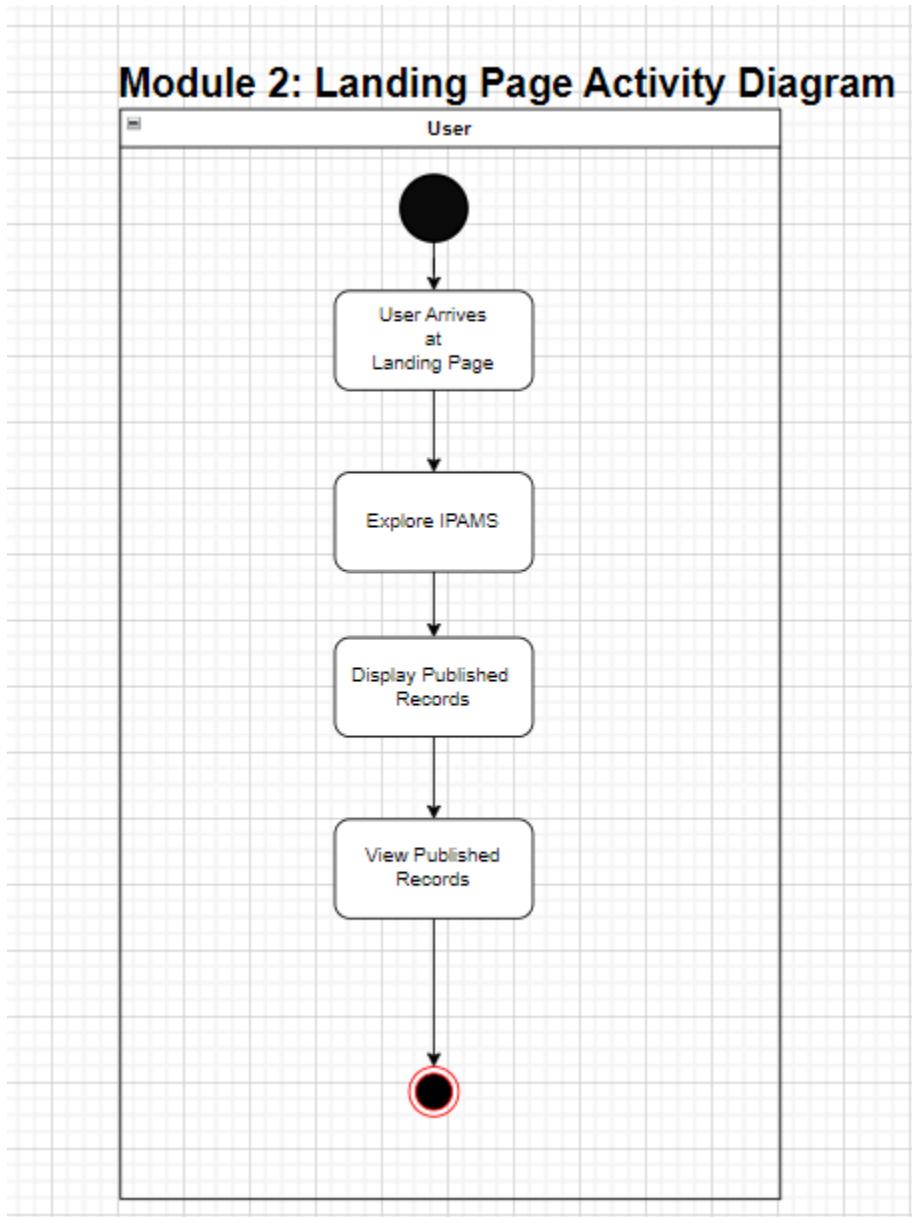


## 2. Activity Diagram

### Module 1: Account Registration

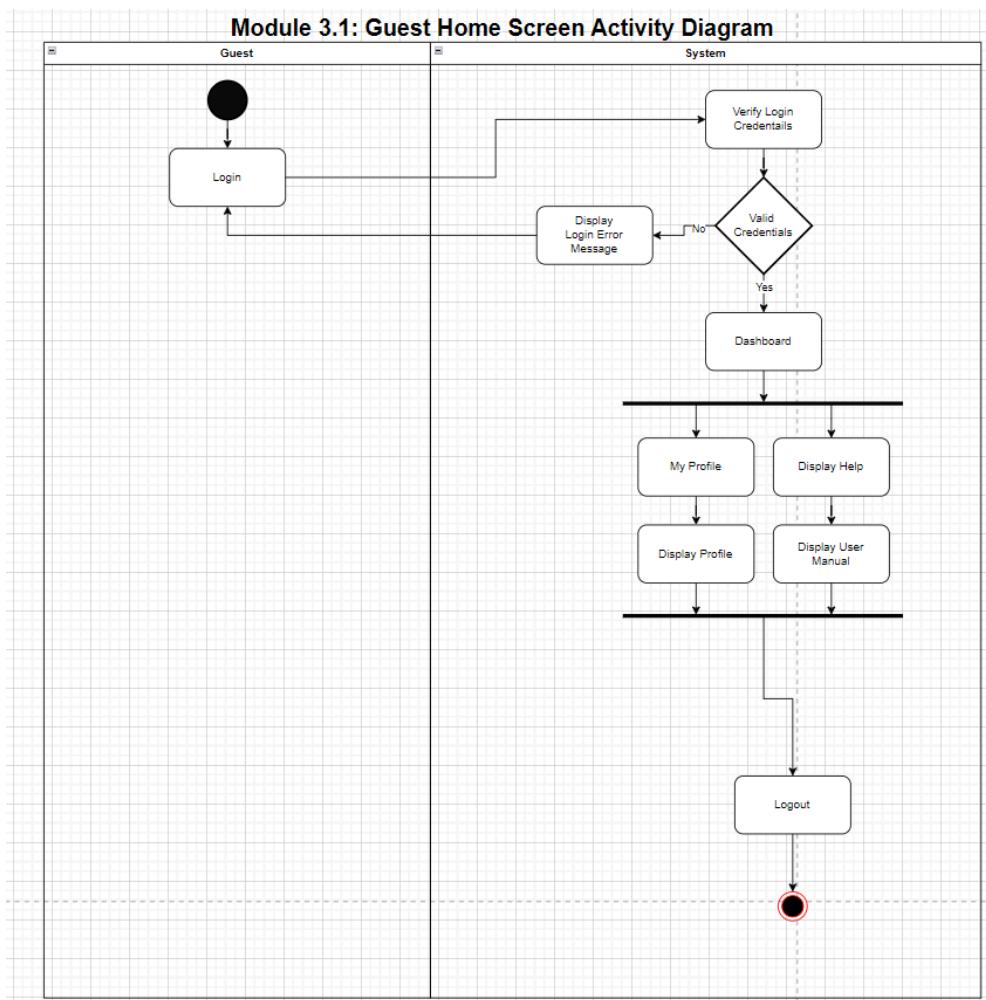


### Module 2: Landing Page

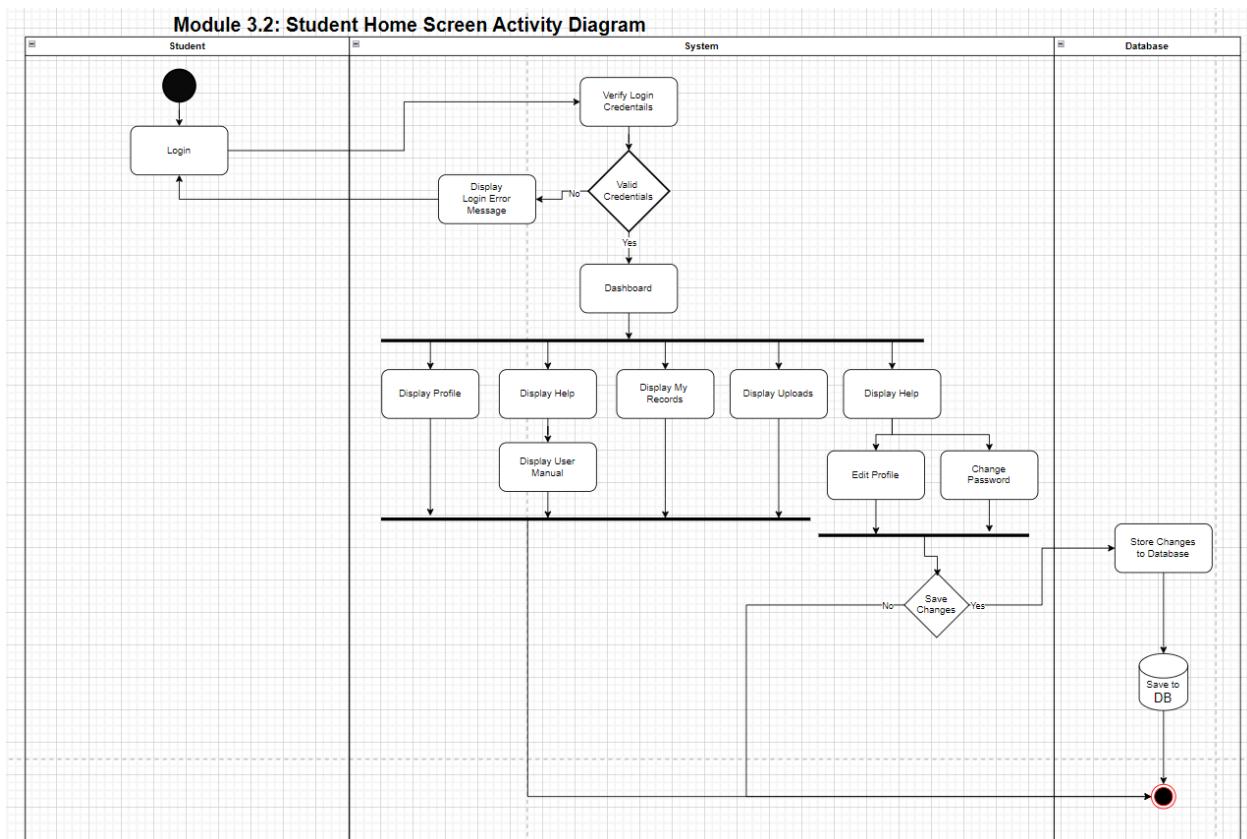


## Module 3: Home Screen

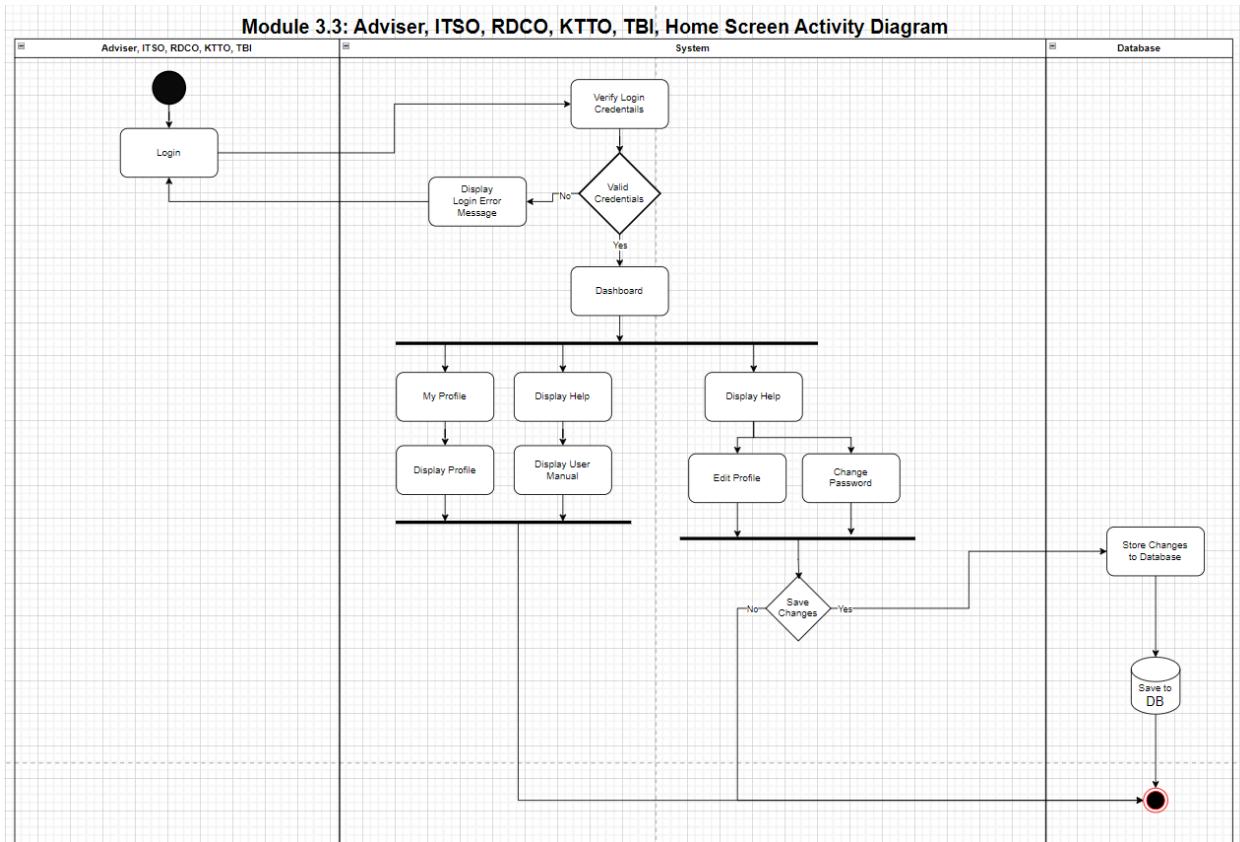
### Module 3.1 Guest



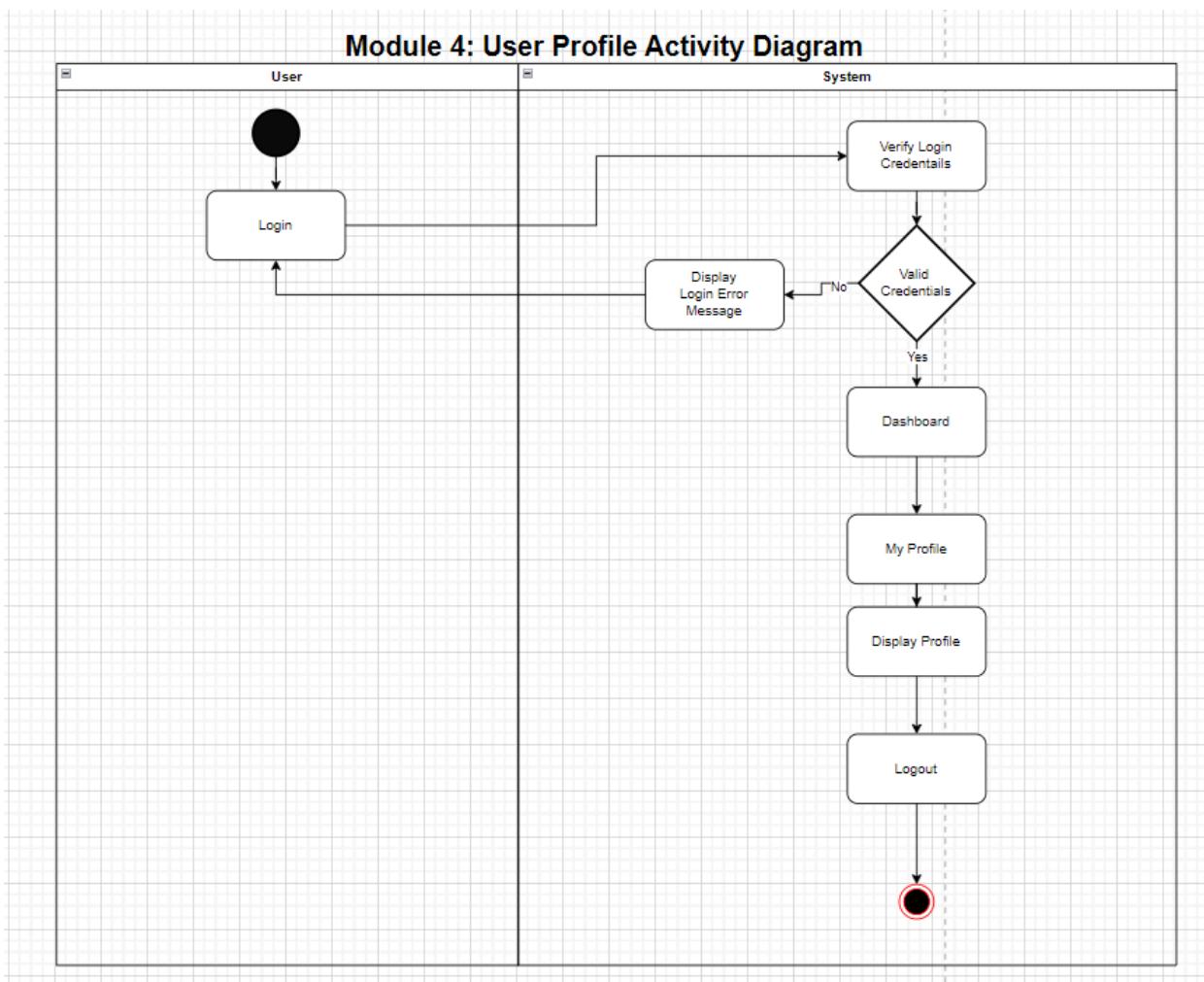
### Module 3.2 Student



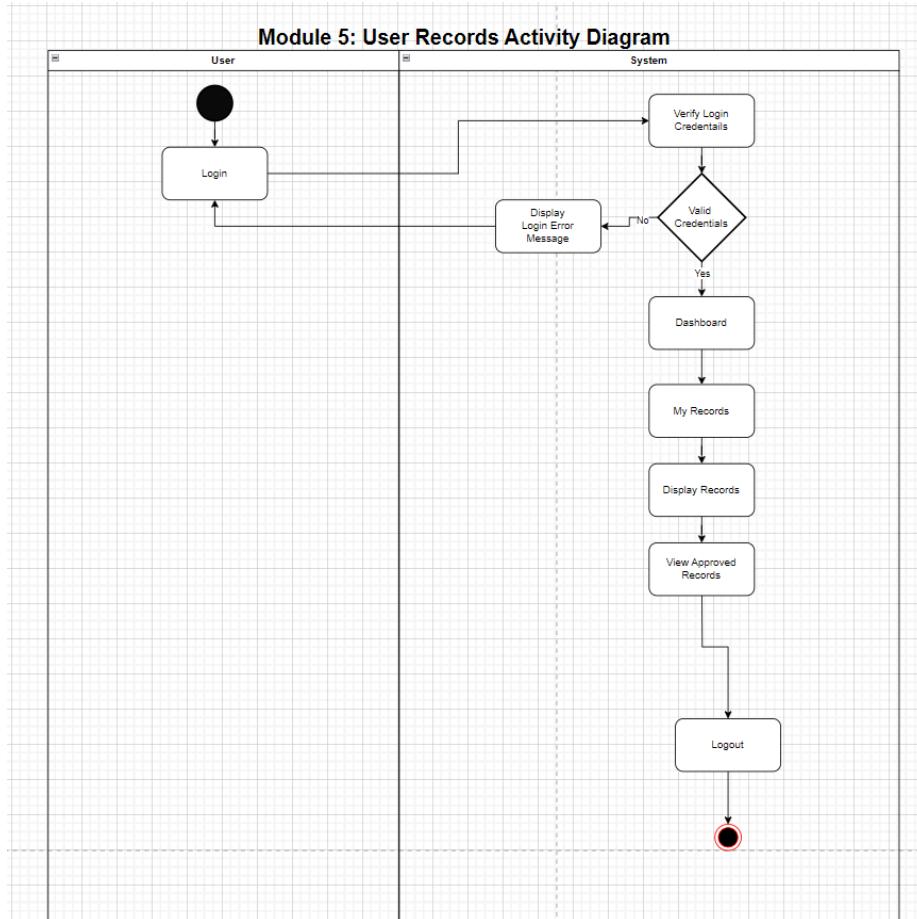
### Module 3.3 Adviser, ITSO,RDCO,KTTO,TBI



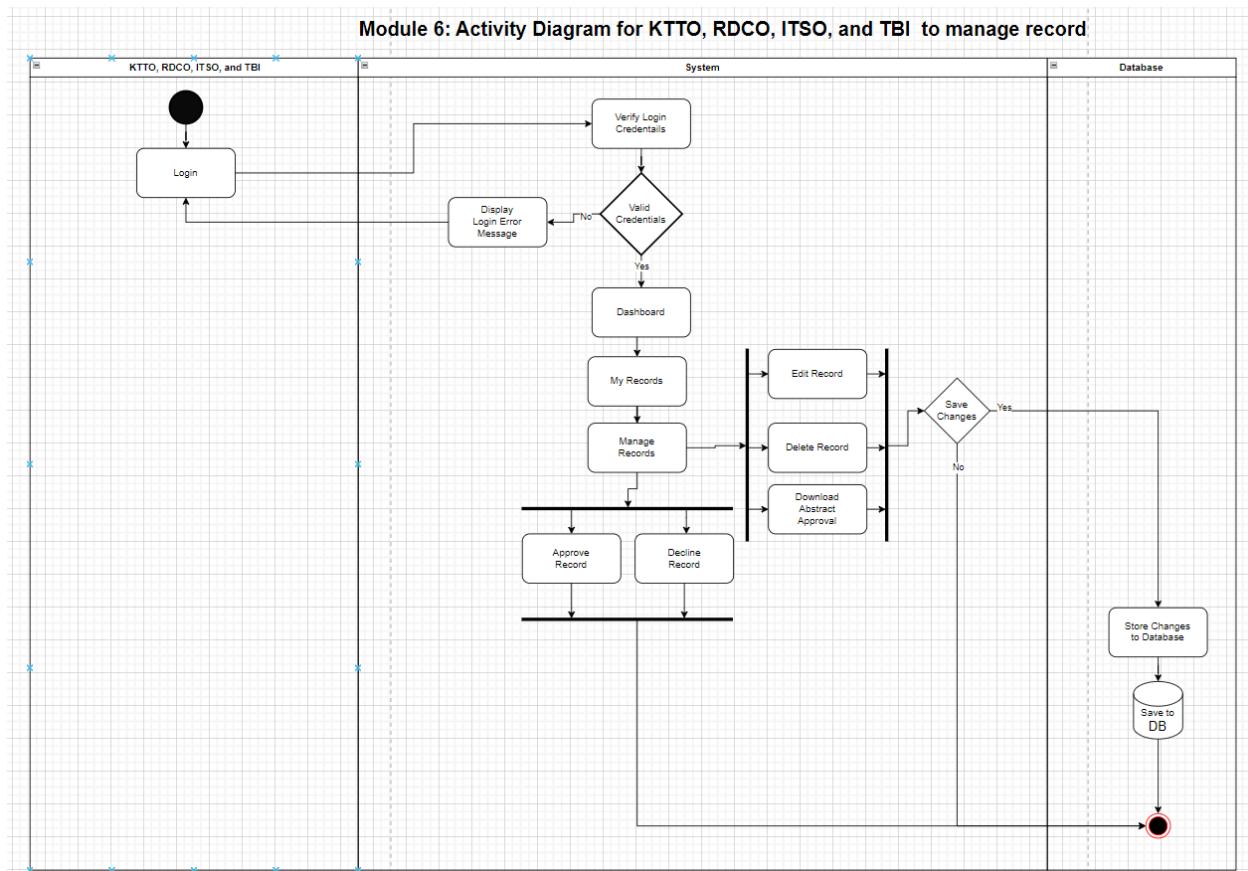
### Module 4: User Profile



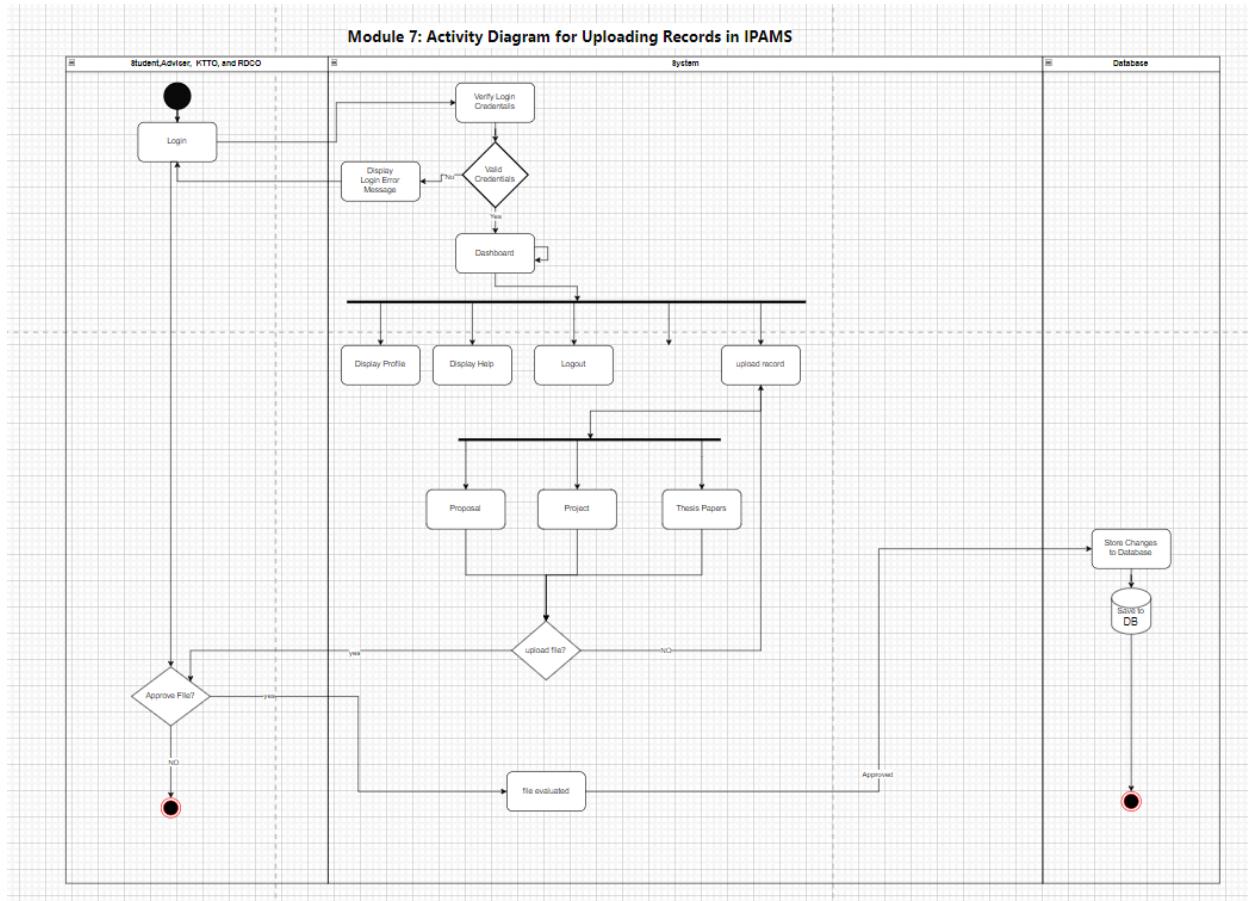
## Module 5: User Records



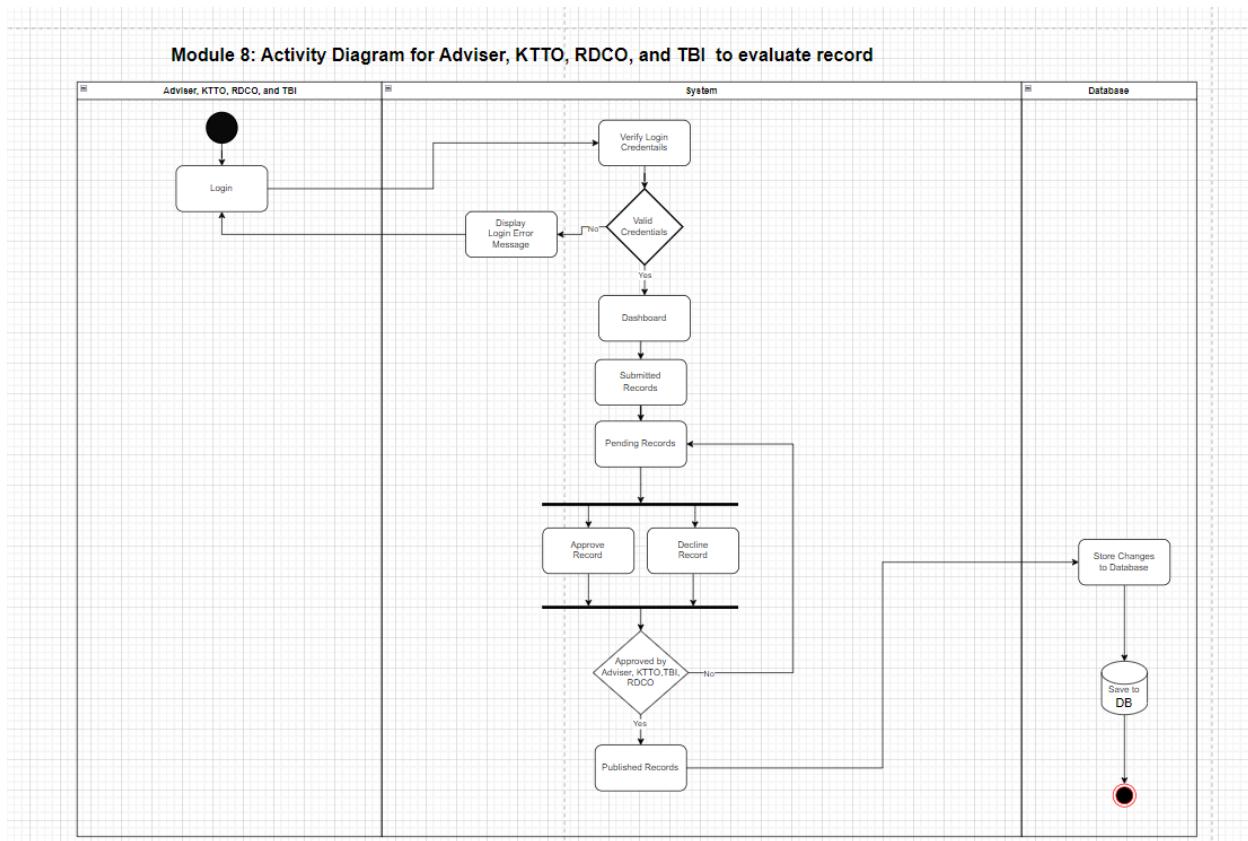
## Module 6: KTTO,RDCO,ITSO,TBI Record Management



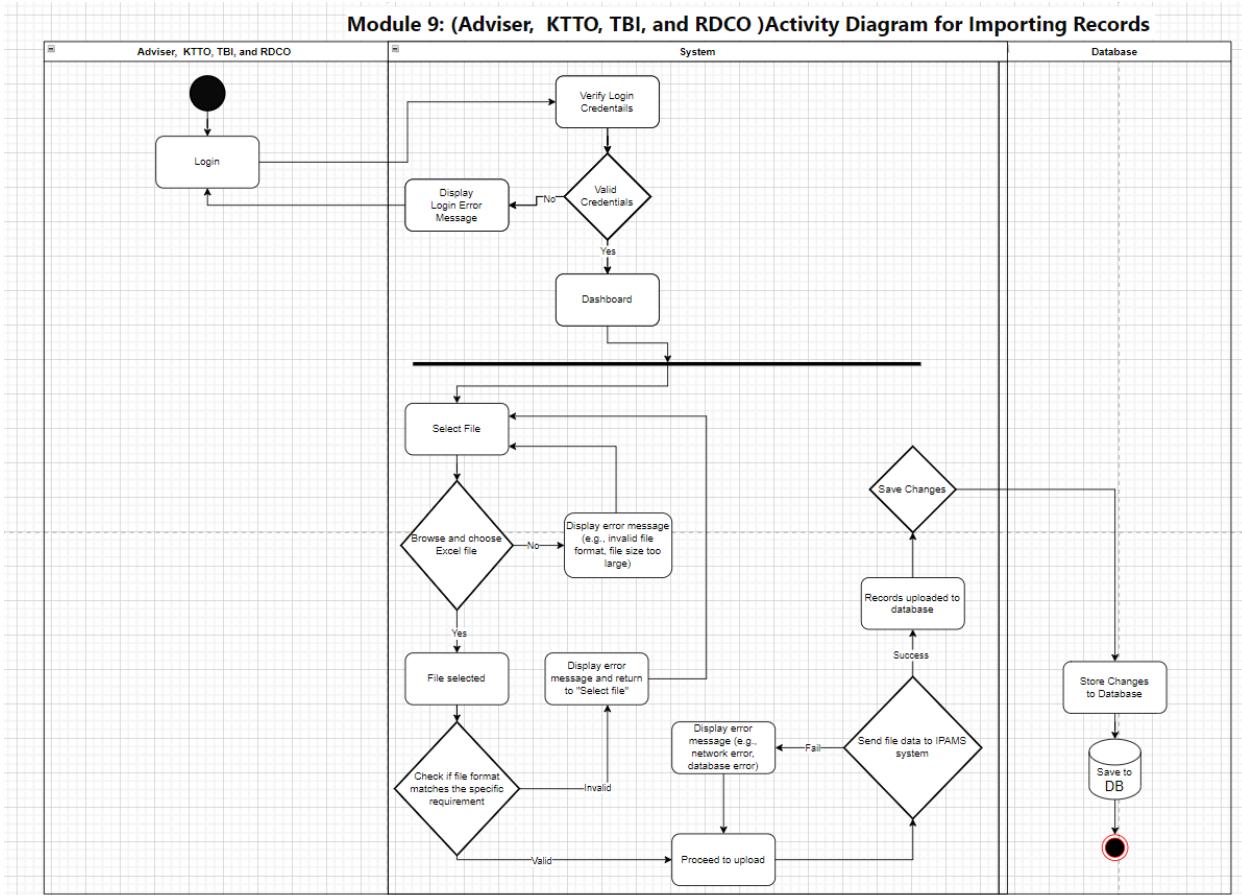
## Module 7: Uploading Records



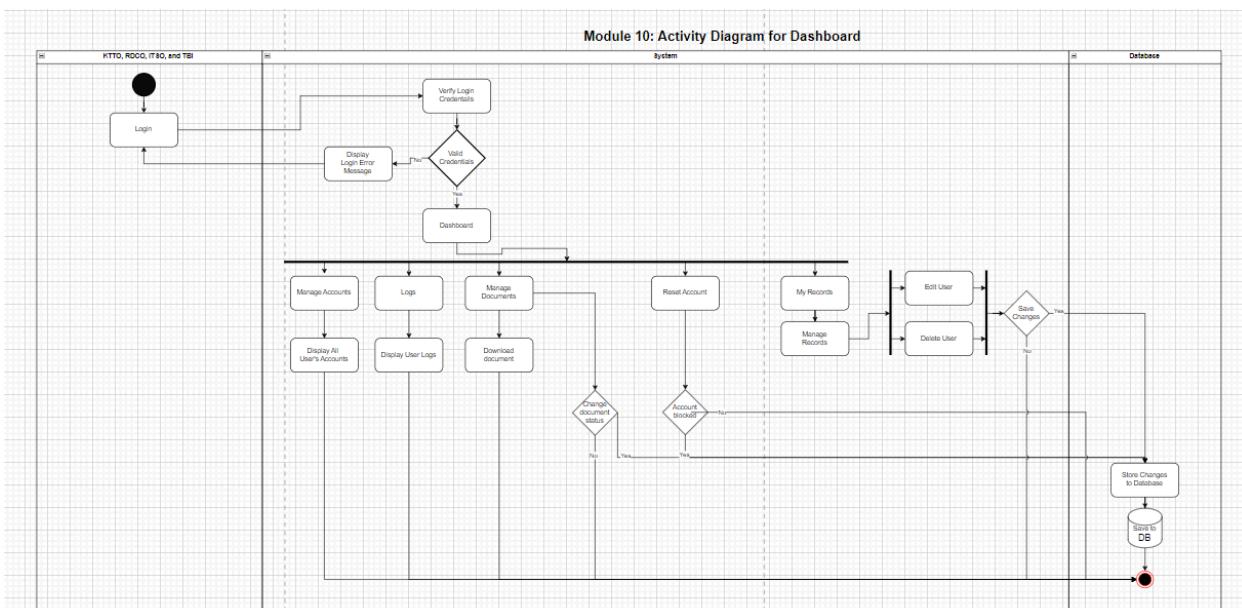
## Module 8: Record Evaluation



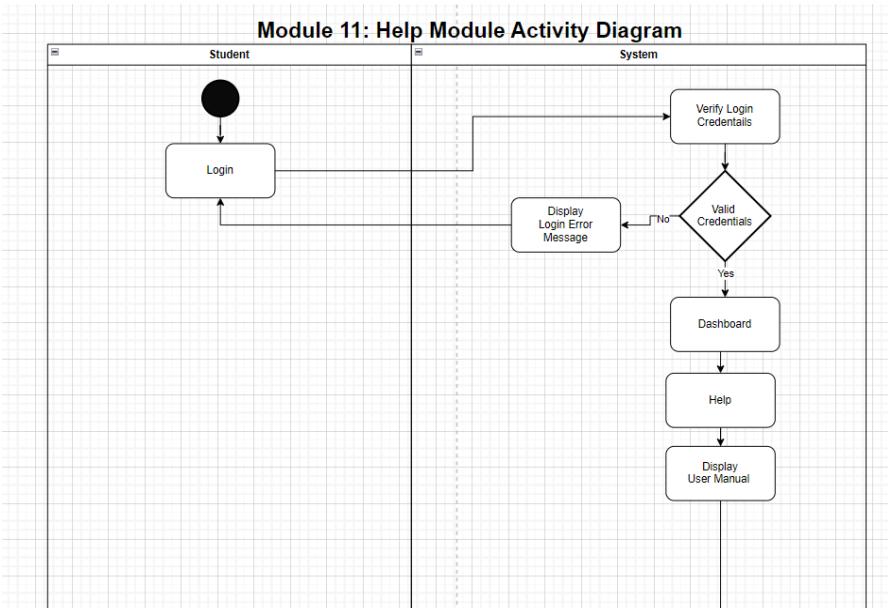
## Module 9: Import Records



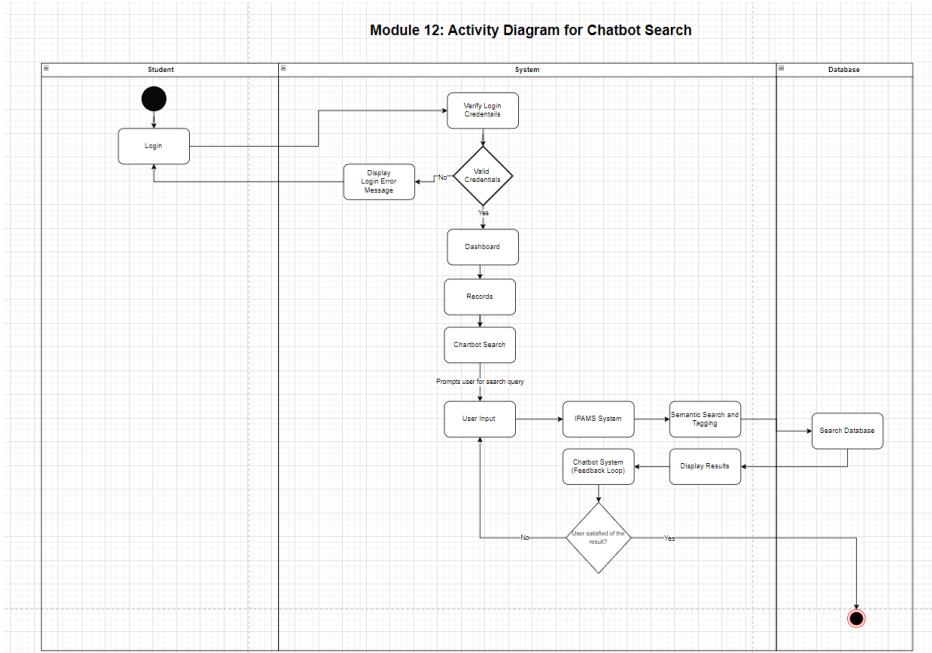
## Module 10: Dashboard



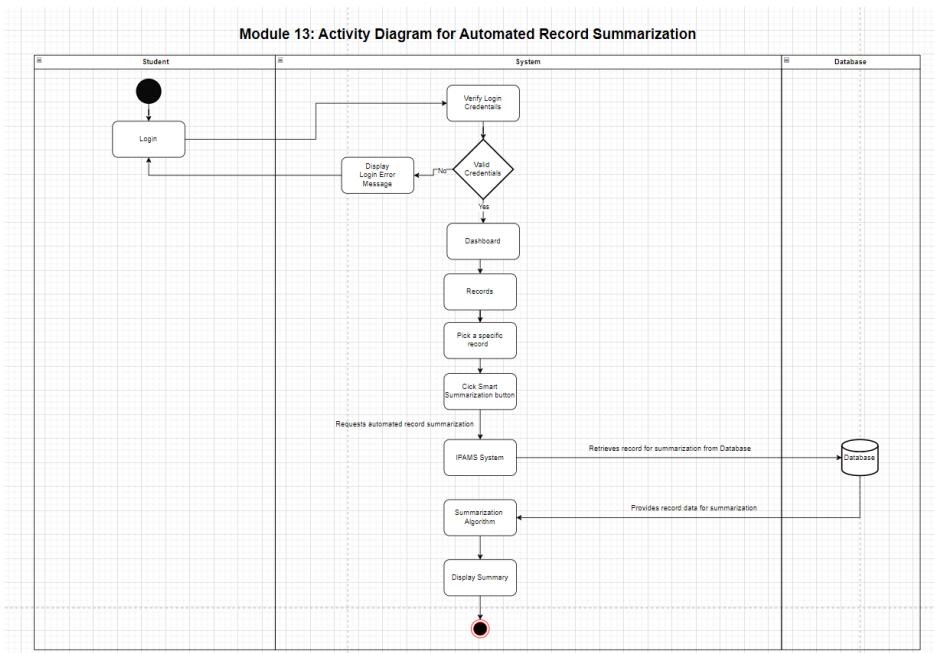
## Module 11: Help



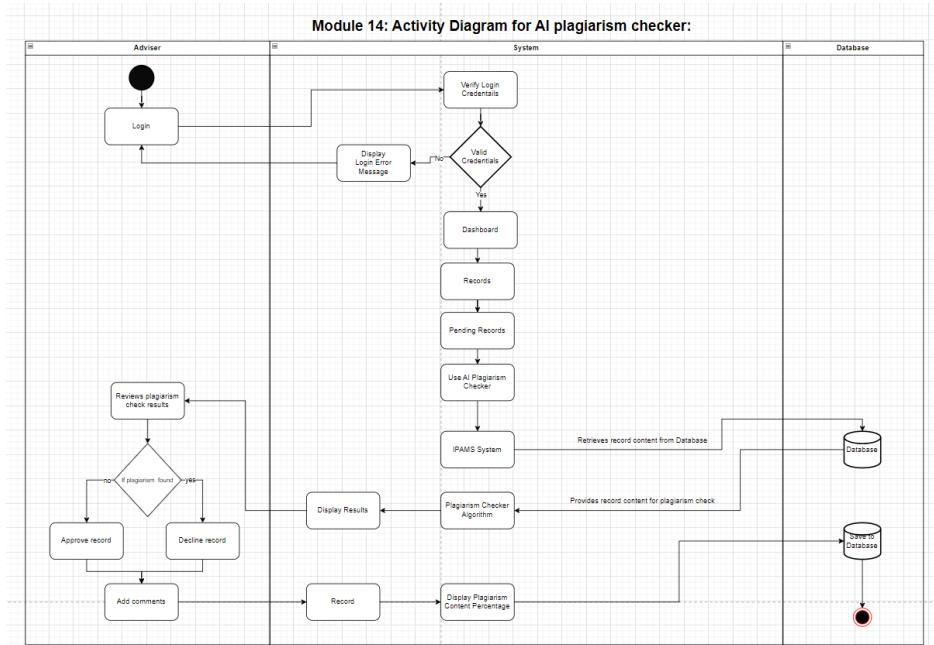
## Module 12: Chatbot Search



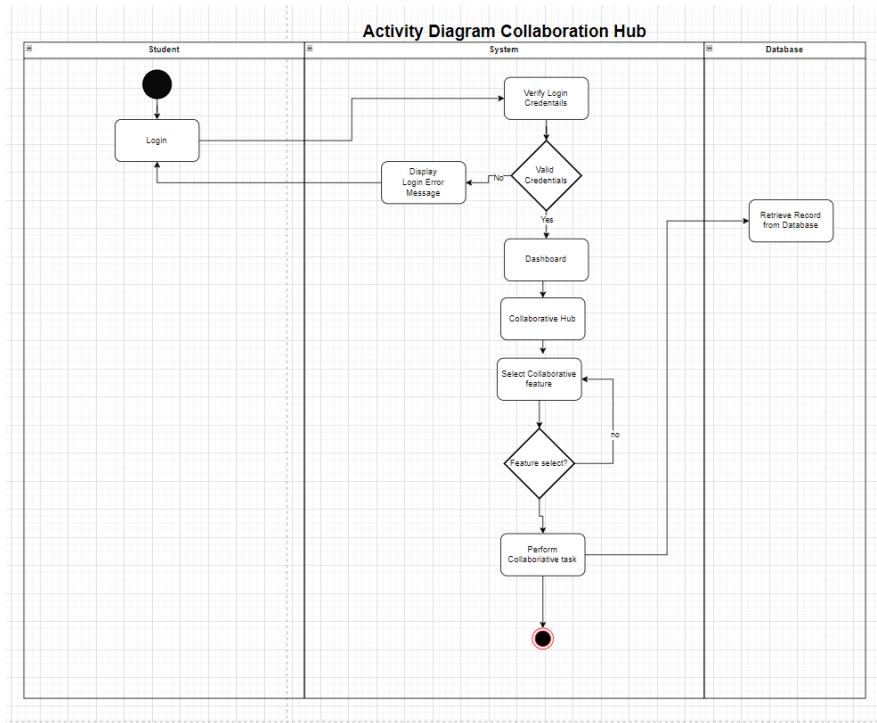
## Module 13: Automated Record Summarization



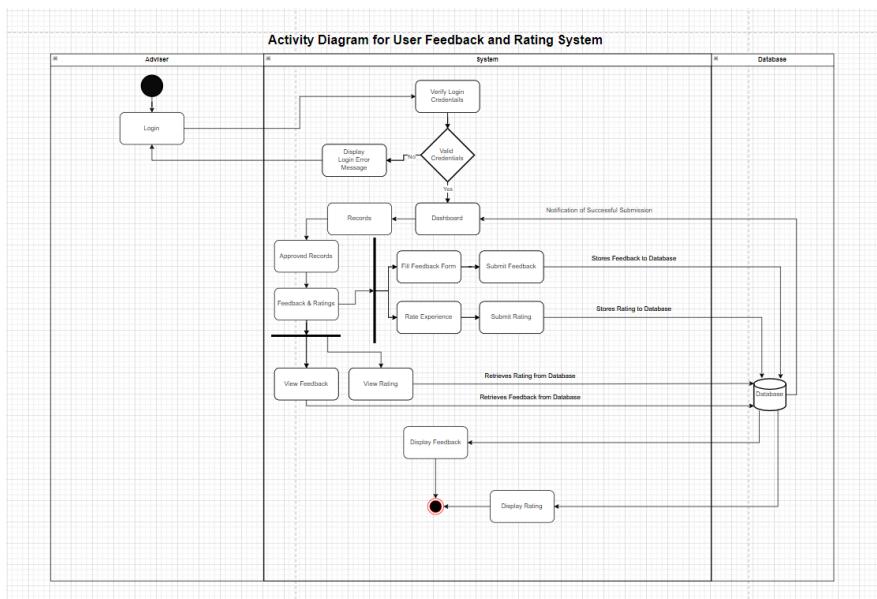
## Module 14: AI plagiarism checker



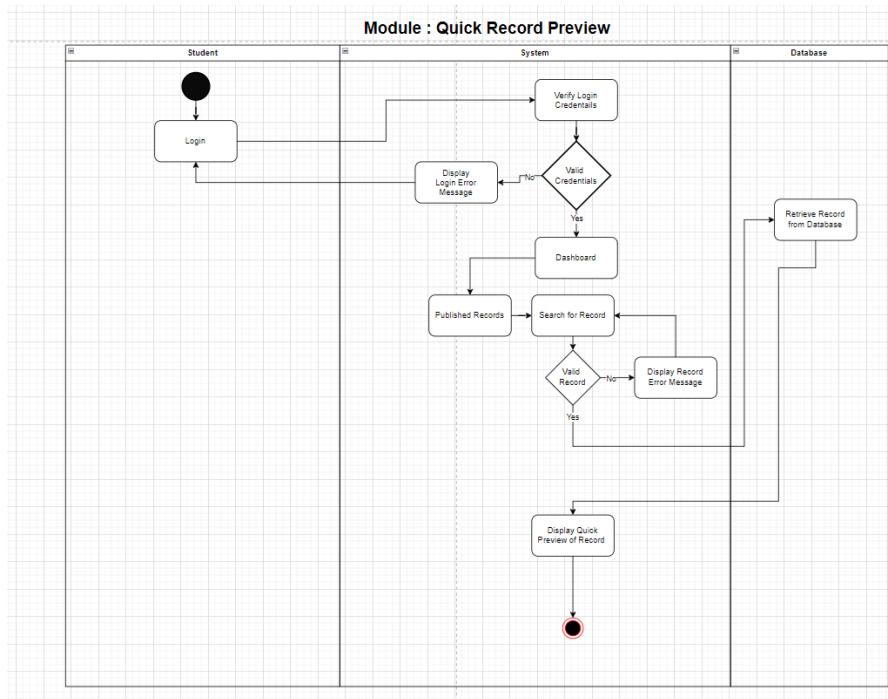
## Module 15: Collaboration Hub



## Module 16: User Feedback and Rating System

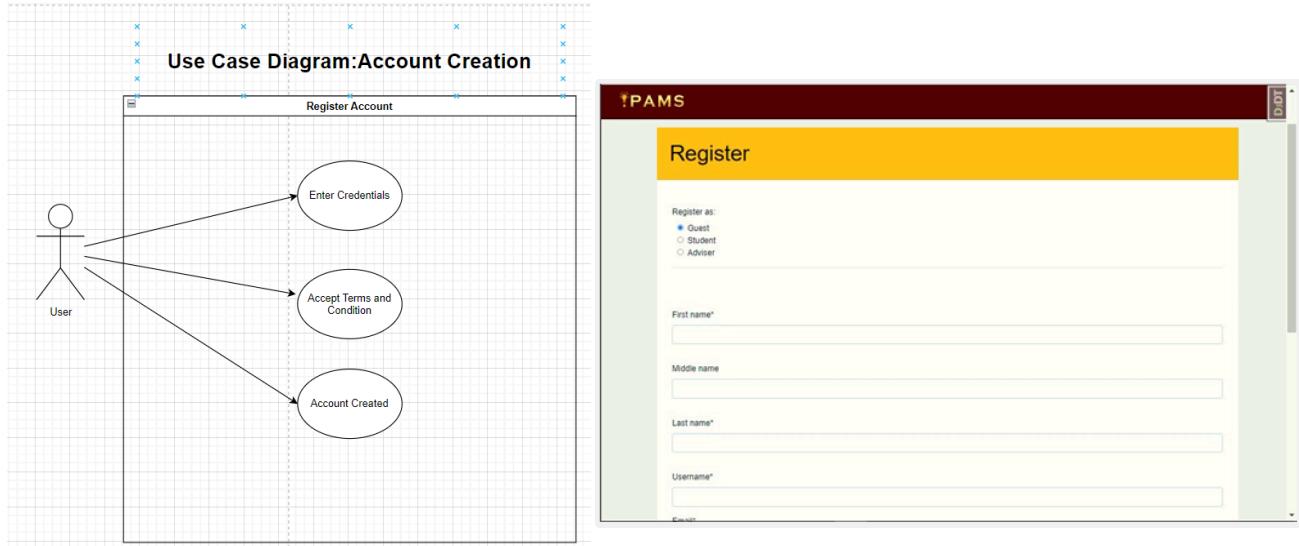


## Module 17:Quick Record Preview

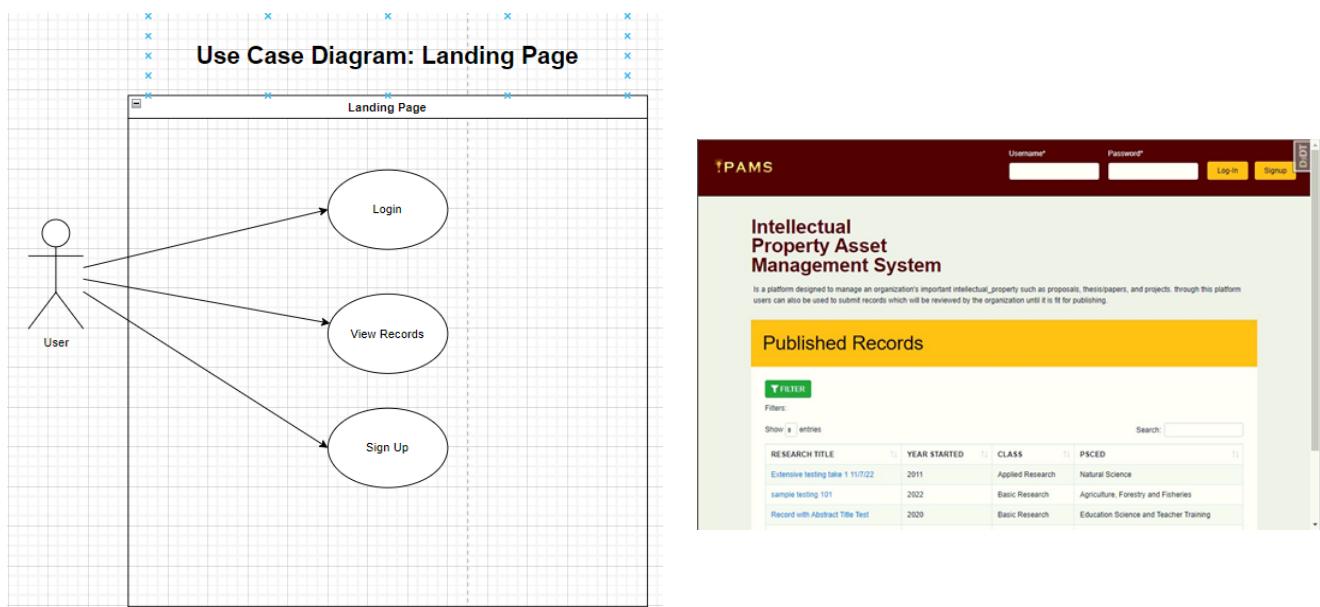


### 3. Use Case Diagram and Wireframe

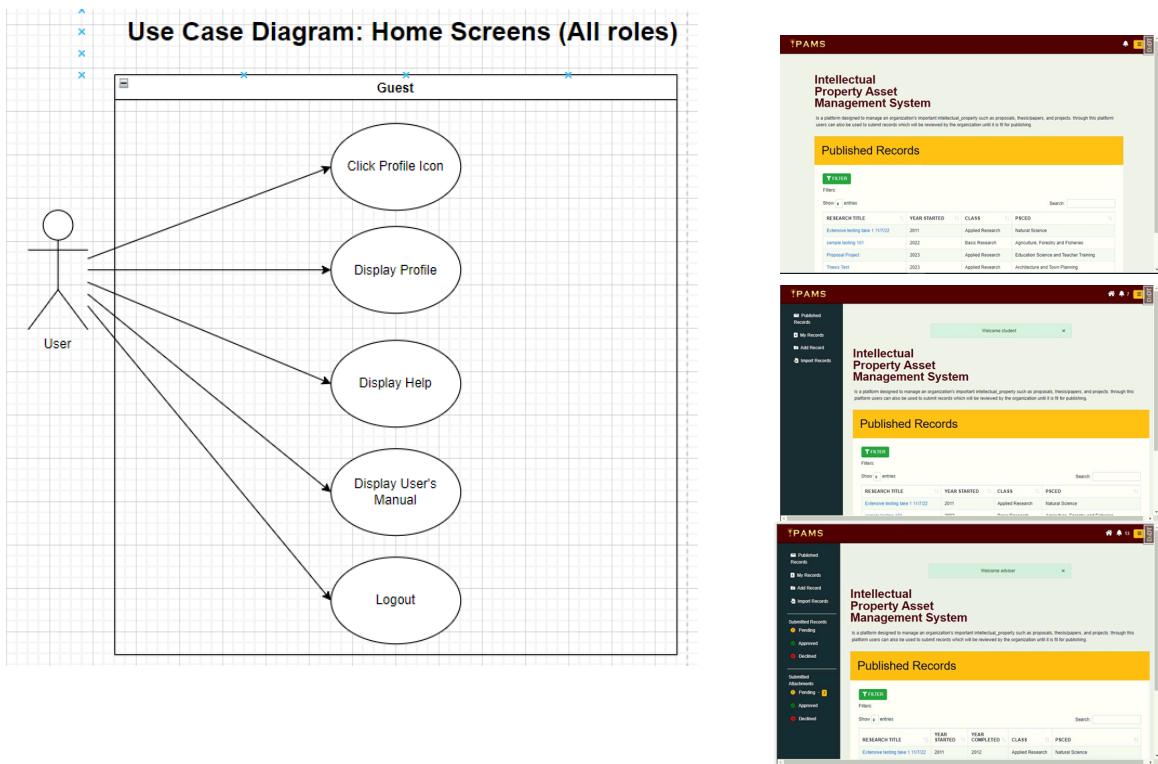
#### Account Creation



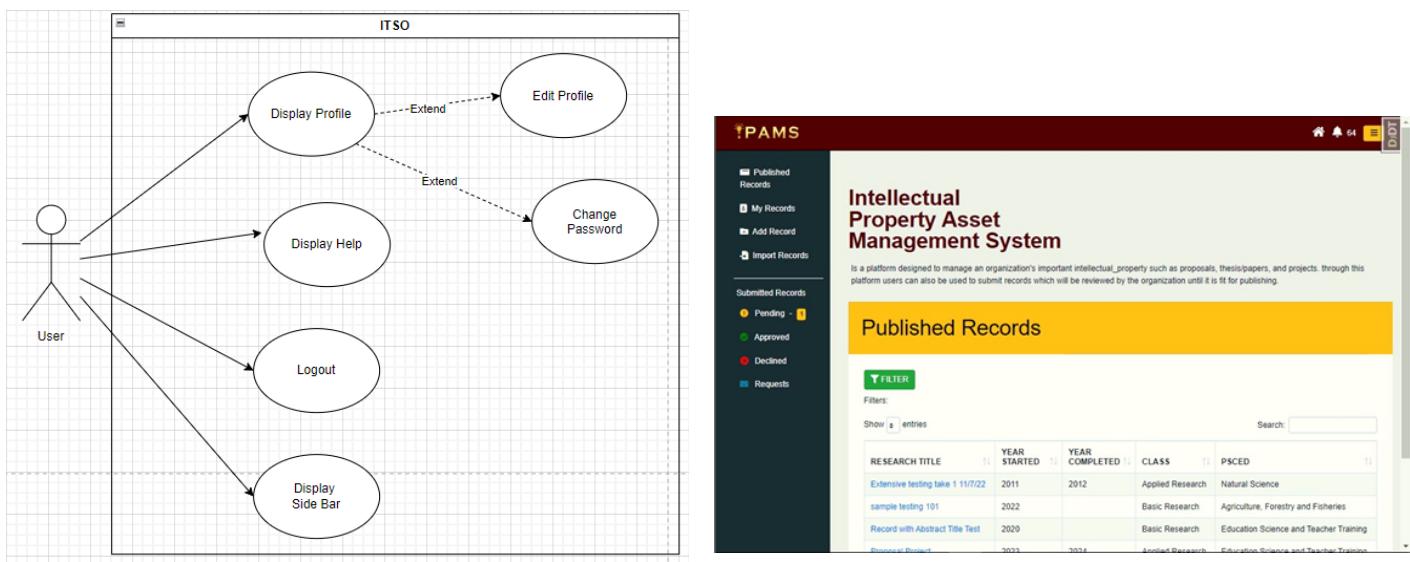
#### Landing Page



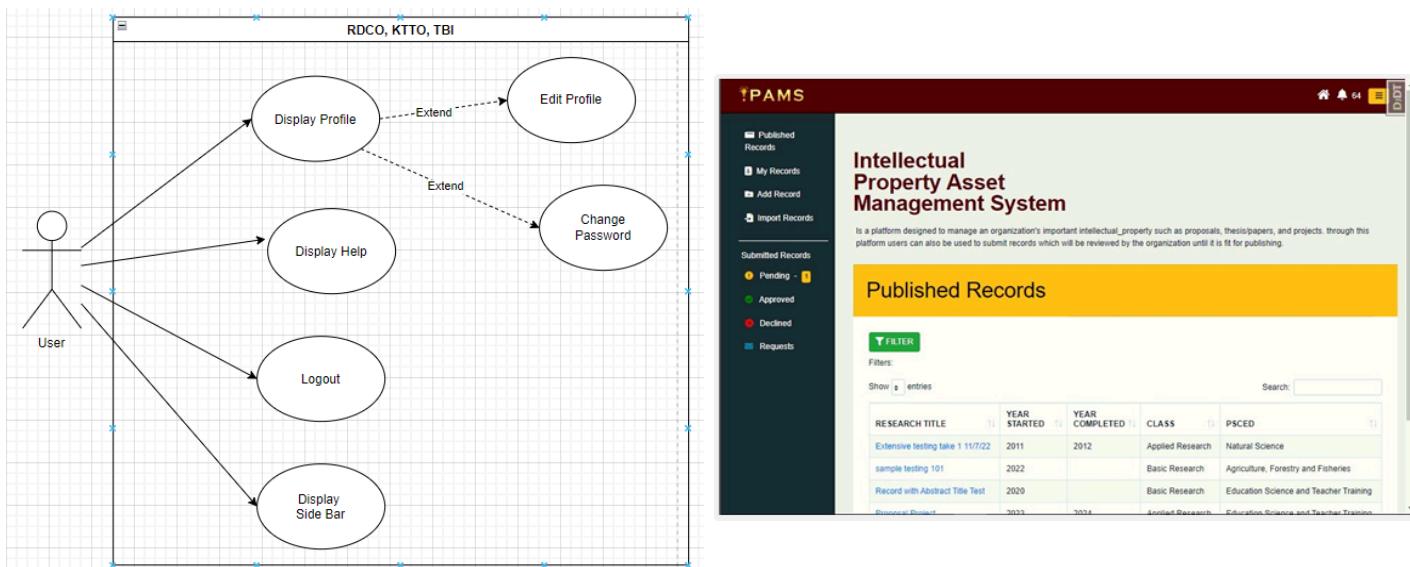
## Home Screen (All roles)



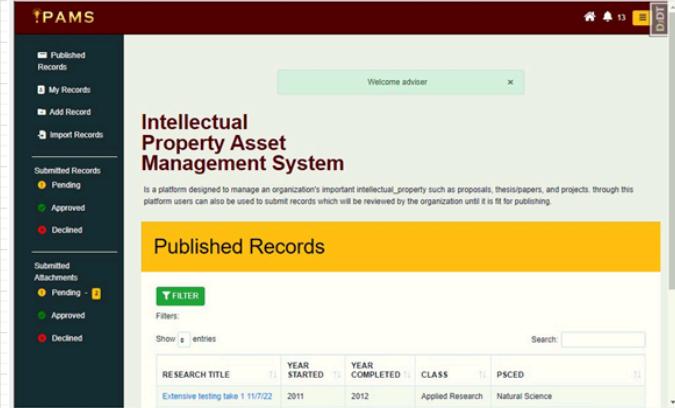
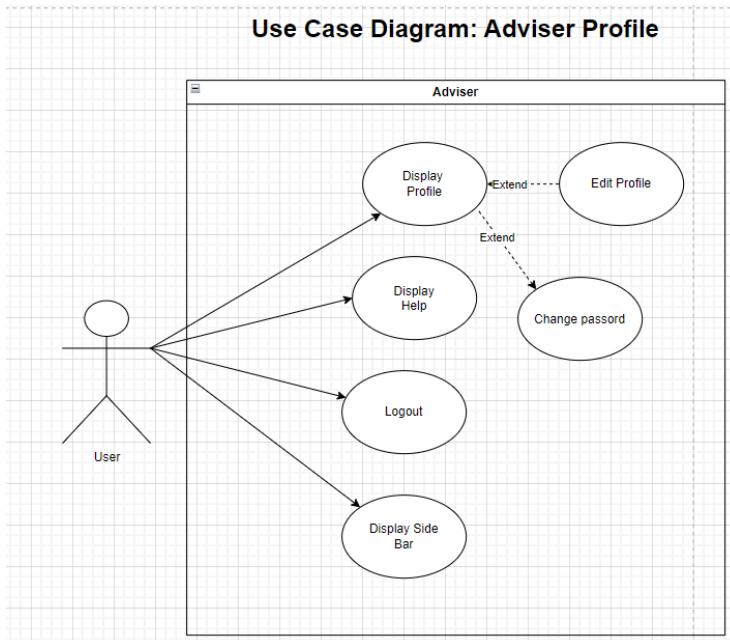
## ITSO



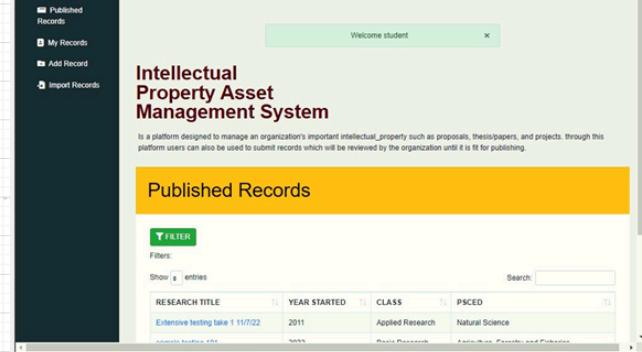
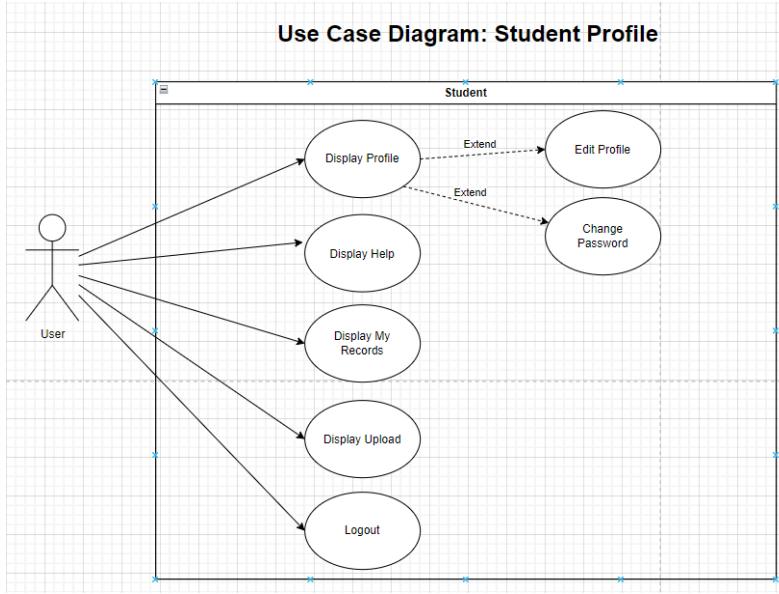
## RDCO, KTTO, TBI



## Adviser Profile

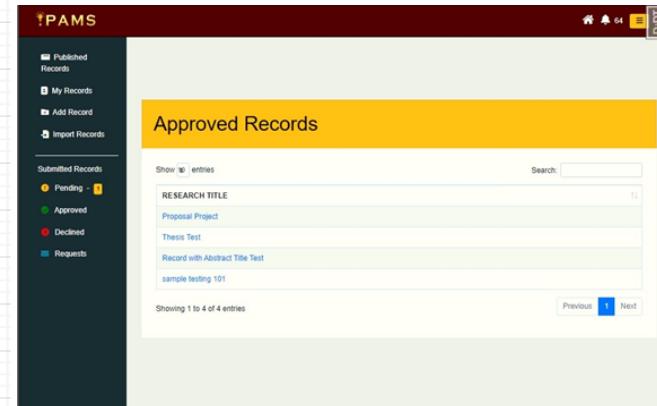
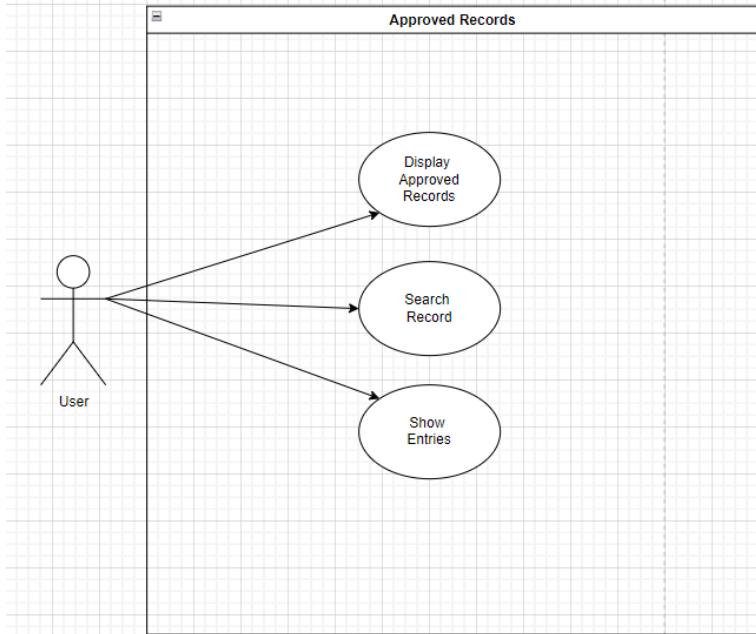


## Student Profile

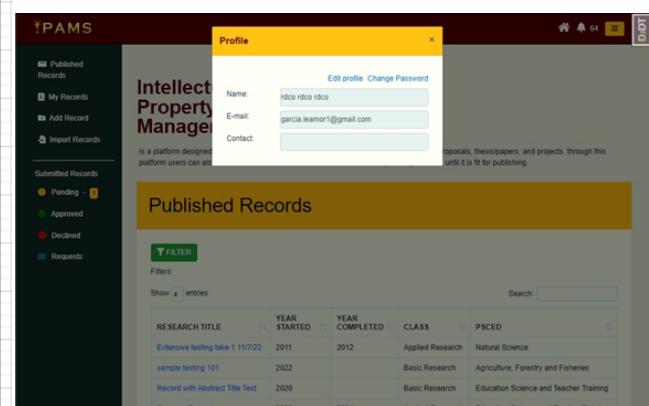
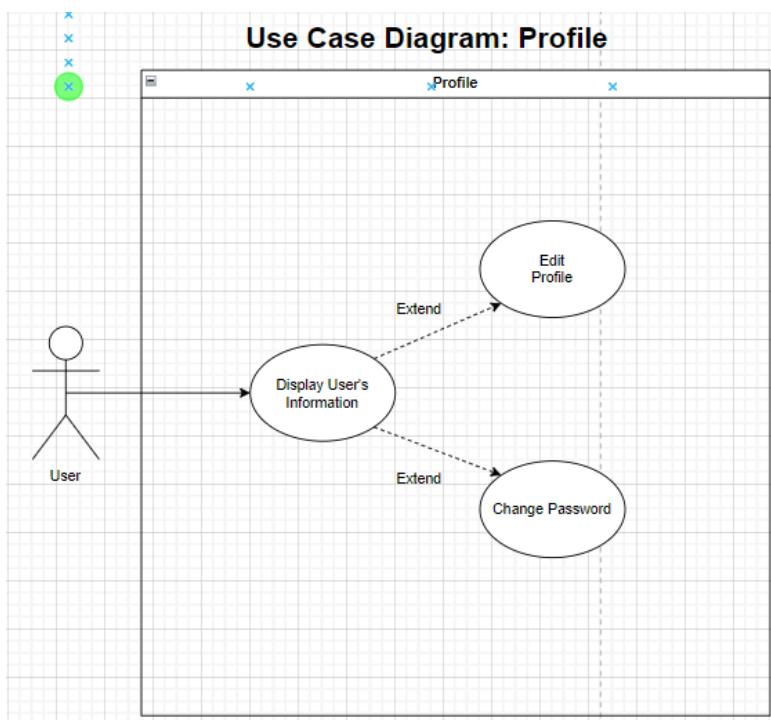


## Approved Records

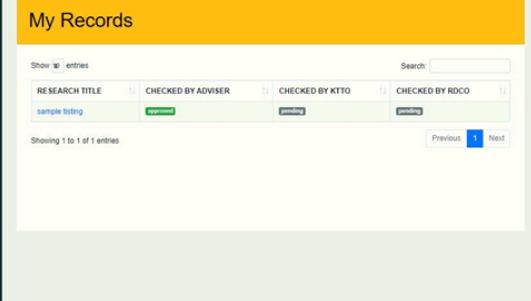
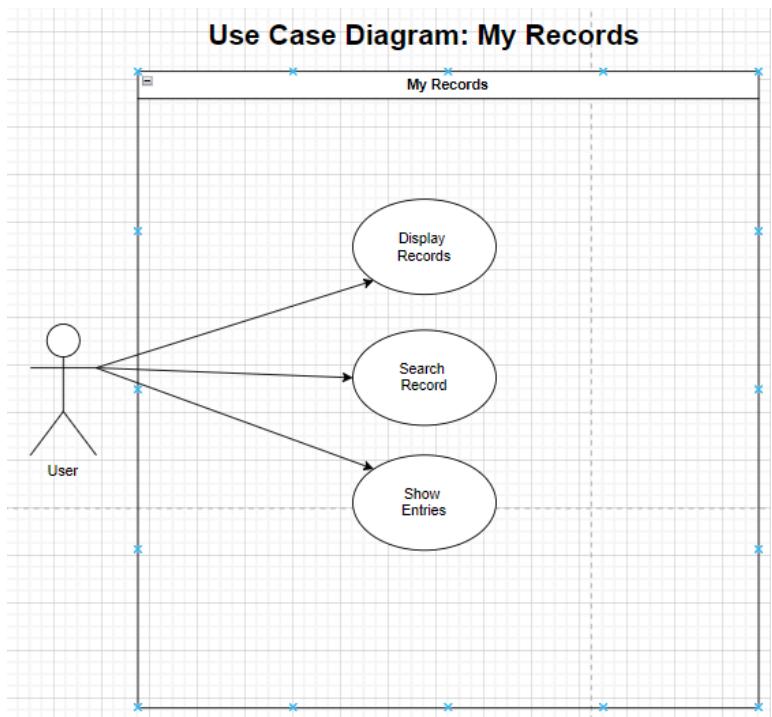
### Use Case Diagram: Approved Records



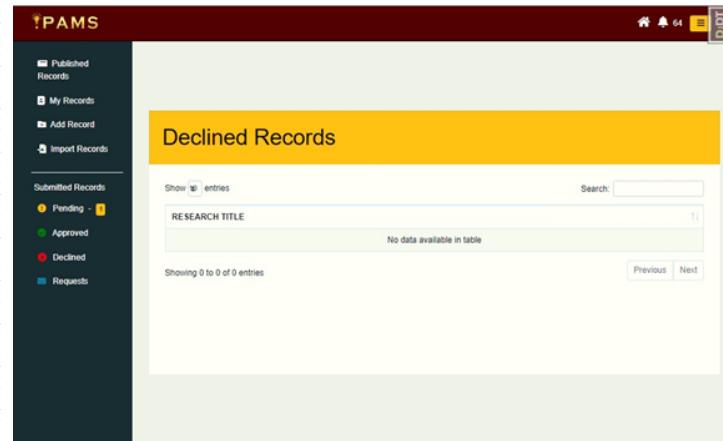
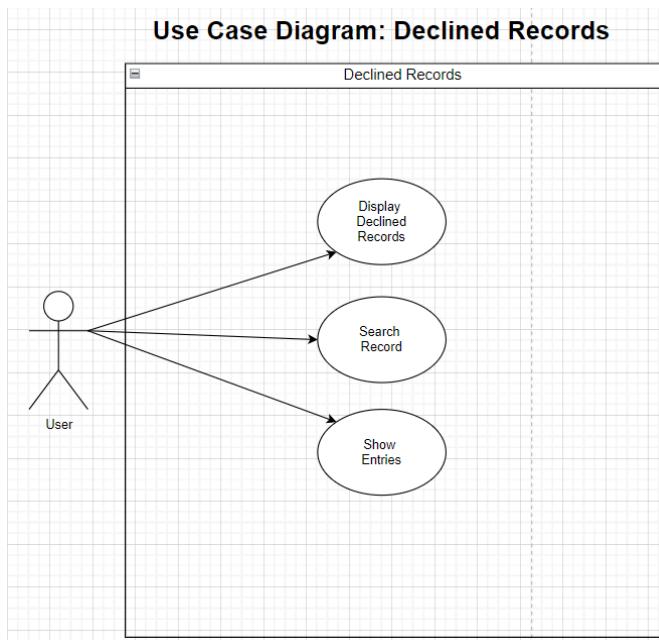
### Profile



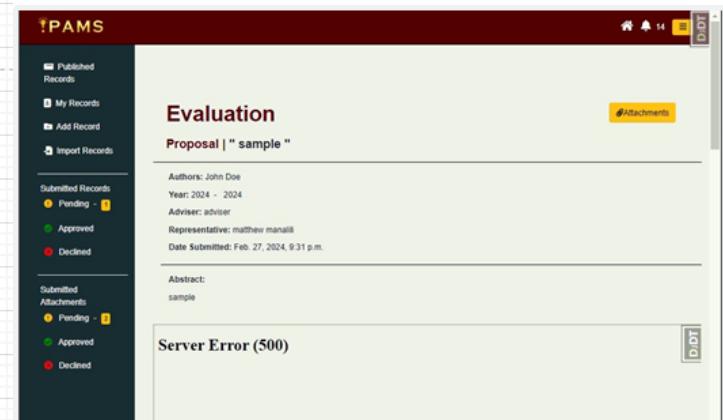
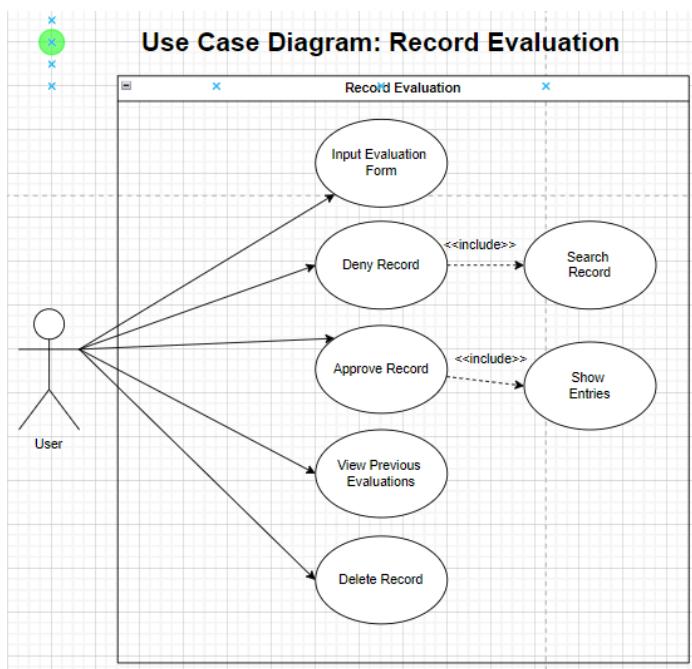
### My Records



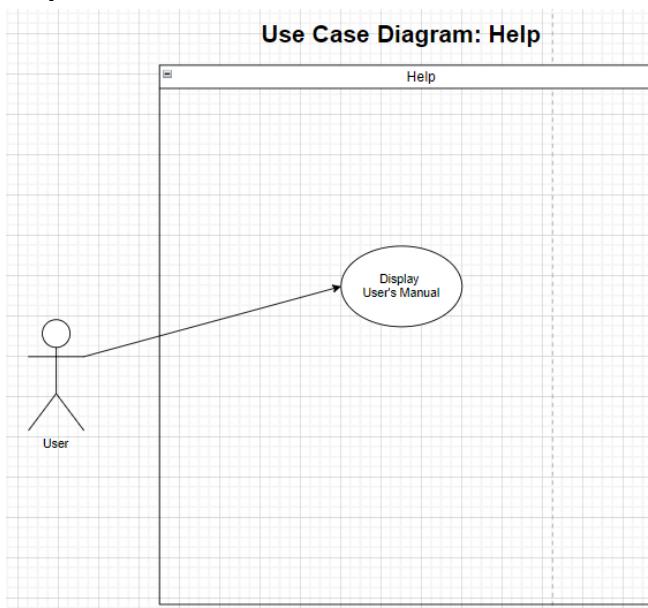
### Declined Records



### Record Evaluation



## Help



**!PAMS**

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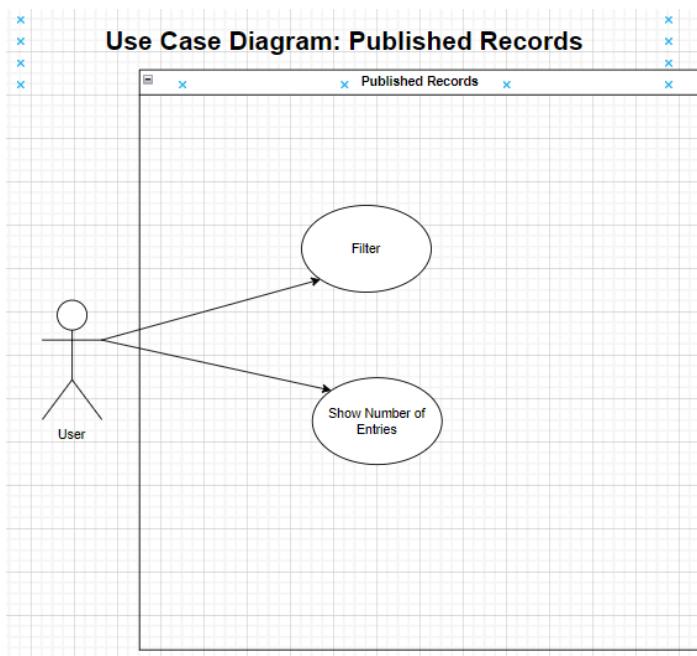
- 1. Record types
  - Proposed Thesis/Research Project
  - 2. Record submission flow
  - 3. Managing records
    - Adding records
    - Migrating records from spreadsheet
    - Editing records
    - Deleting records
    - Approving records
    - Approving delete request
    - Viewing records
    - Record comments
    - Resubmit a record
    - Viewing owner's details
  - 4. Managing documents
    - Uploading documents
    - Document status
  - 5. Profile Records

**Record Types**

There are 3 types of records for any record submitted:

- Proposal**
  - Records that are to be proposed to the advisers. This is a pre-requisite for "Thesis/Research" record type
  - Can be created by any non-guest users
- Thesis/Research**
  - Must have submitted a proposal already.
  - This is automatically grouped together with the "Proposal" record so that you can easily navigate from "Proposal" to "Thesis/Research" or vice versa
  - Only the owners of the record with "Proposal" record type can add a new record with "Thesis/Research" record type
  - Users can only add the "Thesis/Research" record type from the opened "Proposal" record
- Project**
  - Other records
  - Can be created by any non-guest users

## Published Records



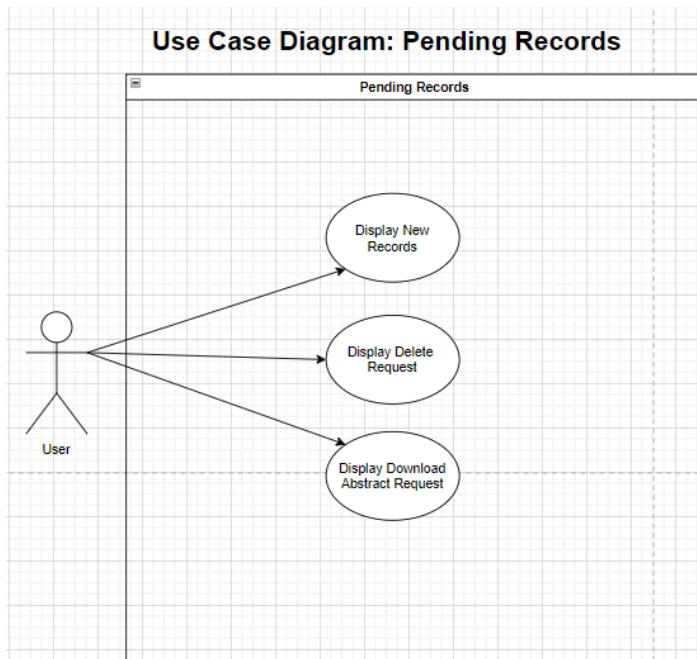
**!PAMS**

**Published Records**

RESEARCH TITLE	YEAR STARTED	YEAR COMPLETED	CLASS	PSCED
Extensive testing take 1 11/7/22	2011	2012	Applied Research	Natural Science
sample testing 101	2022		Basic Research	Agriculture, Forestry and Fisheries
Record with Abstract Title Test	2020		Basic Research	Education Science and Teacher Training
Proposal Project	2023	2024	Applied Research	Education Science and Teacher Training
Thesis Test	2023	2022	Applied Research	Architecture and Town Planning

Showing 1 to 5 of 5 entries

## Pending Records



**!PAMS**

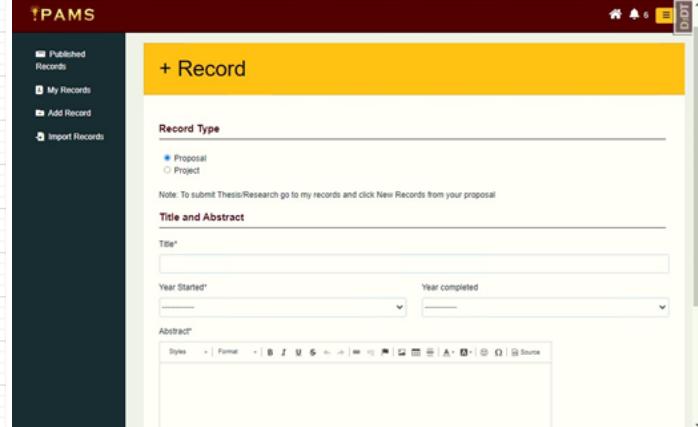
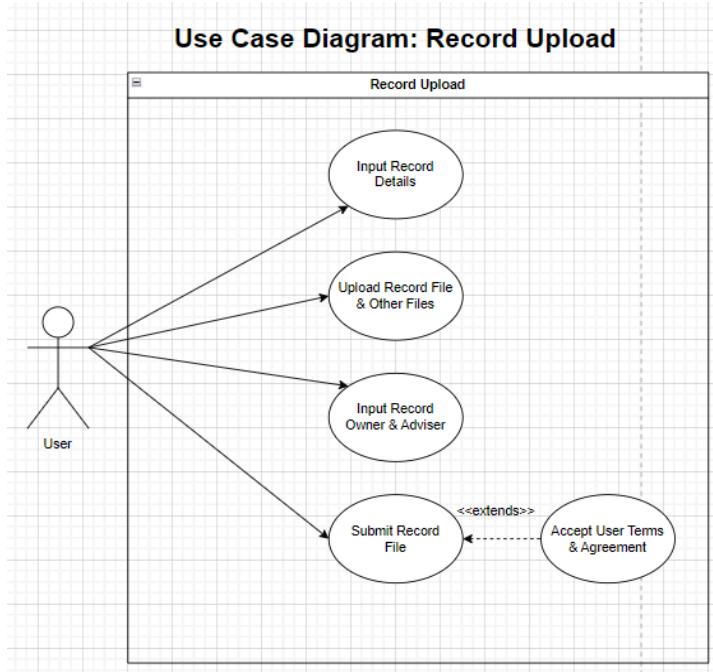
**Pending Records**

**NEW RECORDS TO BE APPROVED**

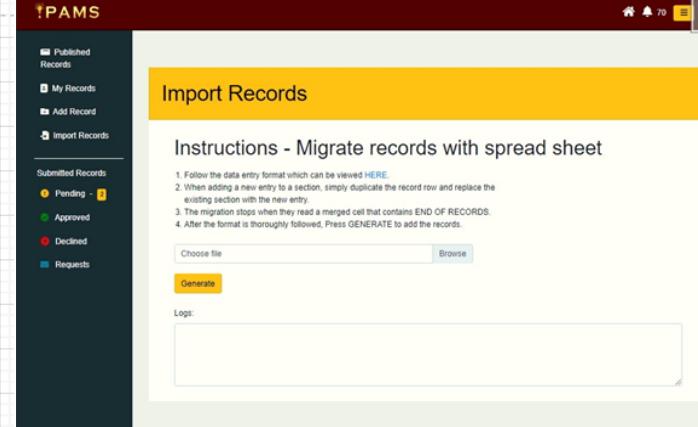
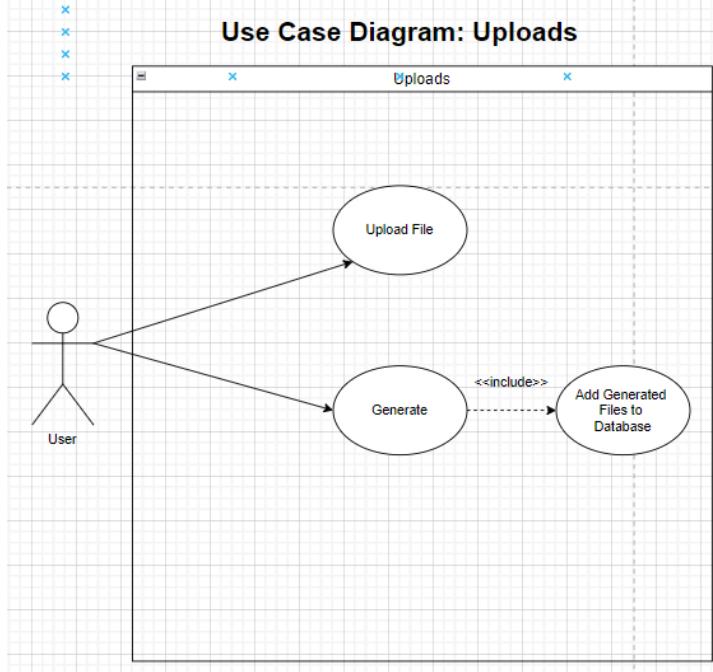
RESEARCH TITLE
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Showing 0 to 0 of 0 entries

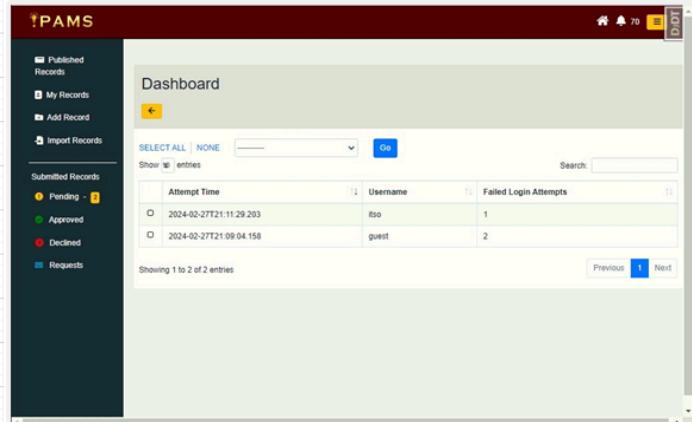
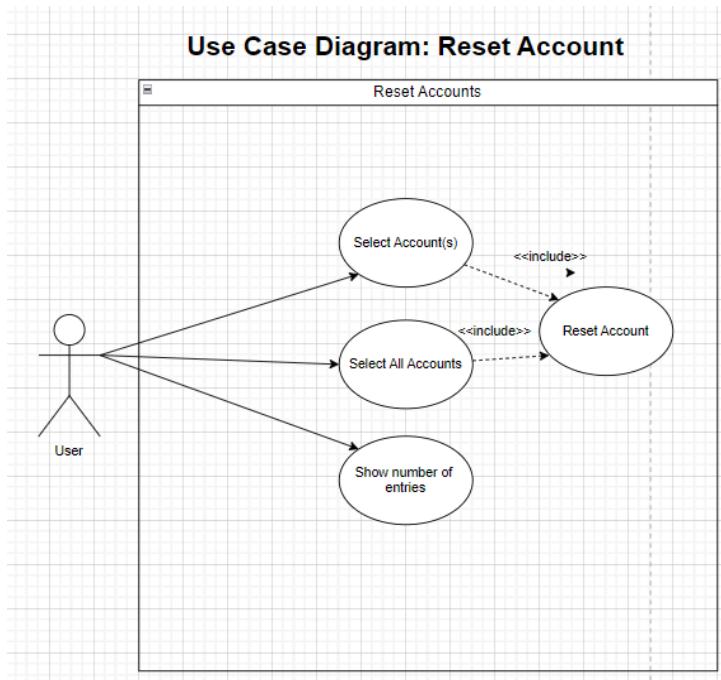
## Record Upload



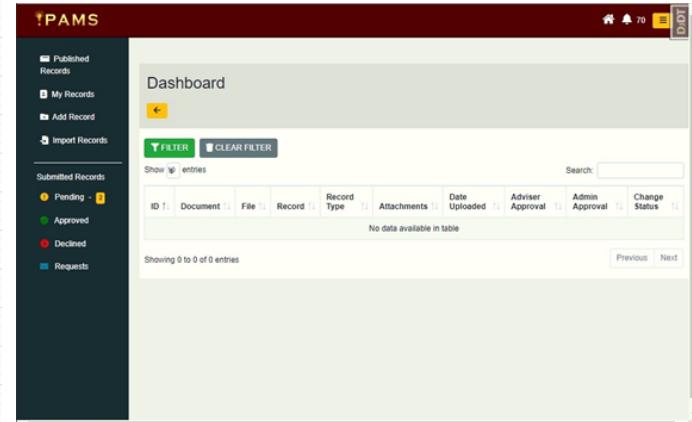
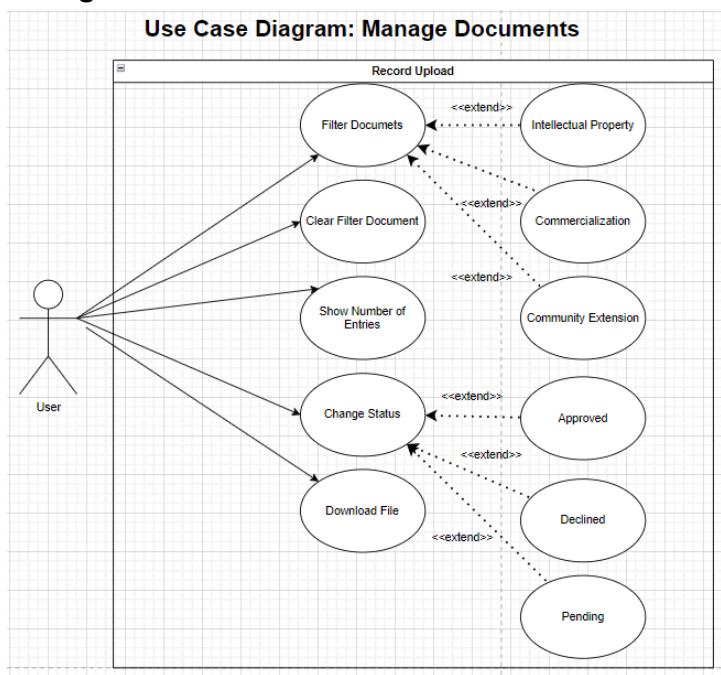
# Uploads



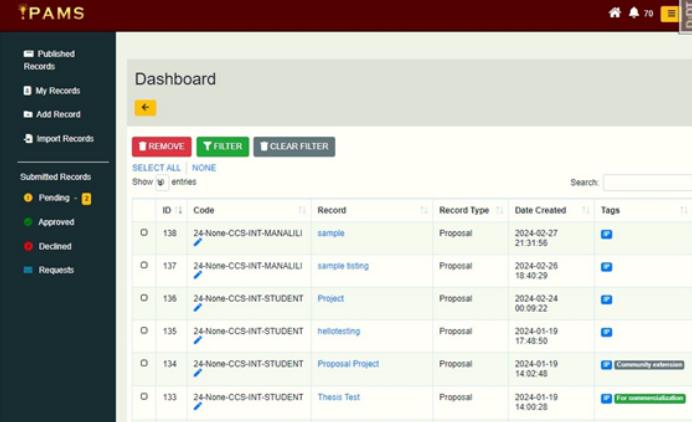
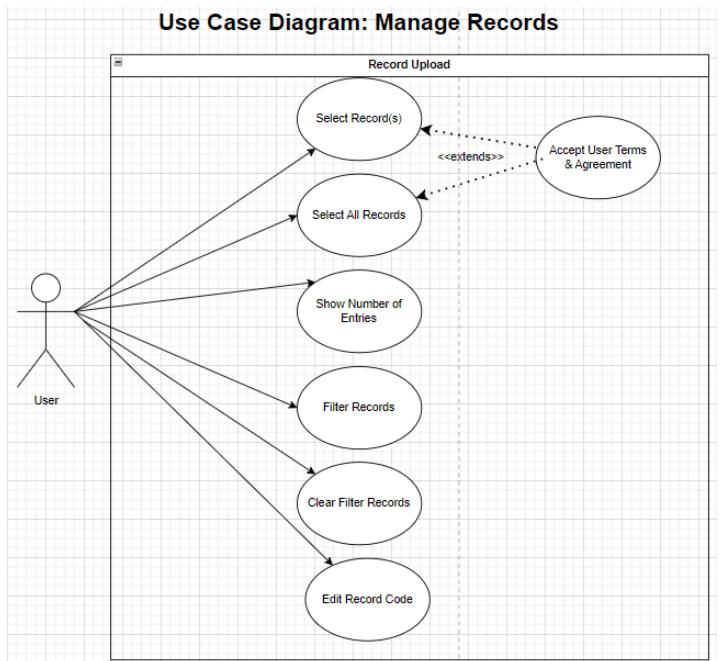
## Reset Account



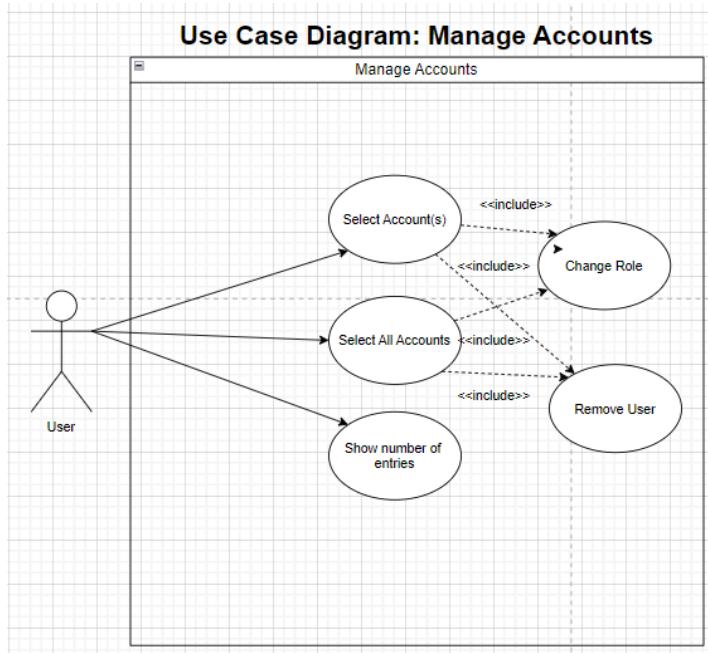
## Manage Documents



## Manage Records



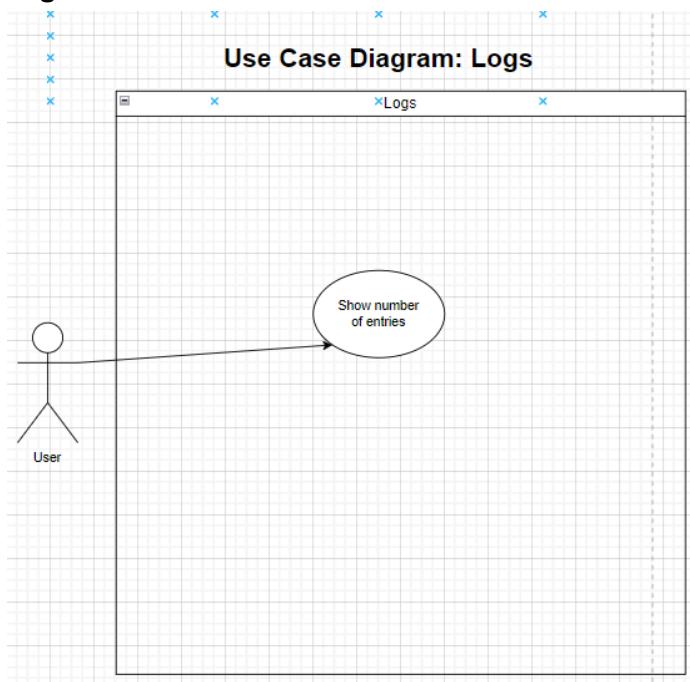
## Manage Accounts



IPAMS Dashboard showing a list of submitted records:

USERNAME	NAME(Last, First, Middle)	ROLE	REQUESTS
matthew.manalili	manalili, matthew asd	Student	
germaine	Ladera, Germaine Telosa	Student	
stress_test_guest	Testing, Stress Admin TestOne	RDCO	
tester_6	Testing, Tester Six Tester	Adviser	
tester_5	Testing, Tester Five Tester	Student	
yangj42	Yangos, Tristan Josh Domingo	KTTO	
superuser1	.	TBI	
tbi.admin	tbi, tbi	TBI	
itso.admin	itso_admin, itso_admin	ITSO	
rdc0.admin	rdco_admin, rdco_admin	RDCO	

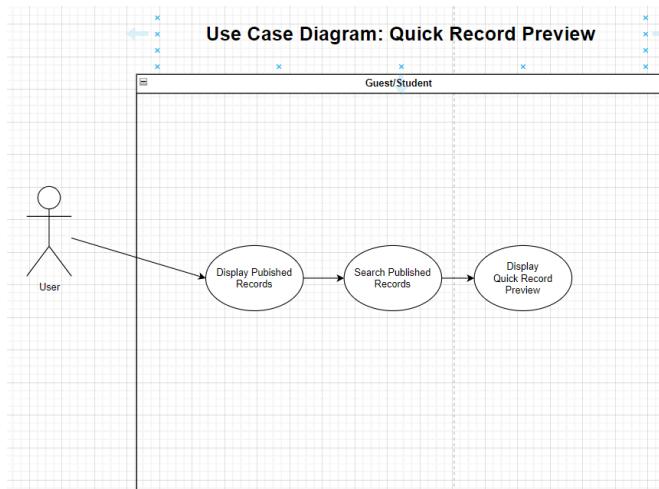
## Logs



IPAMS Dashboard showing a list of log entries:

ID	Action	User	Date
520	ip_tag status changed to "enabled"; record ID: #138	adviser	2024-02-27 21:35:05
519	commercialization_tag status changed to "disabled"; record ID: #137	adviser	2024-02-26 19:45:56
518	ip_tag status changed to "enabled"; record ID: #137	adviser	2024-02-26 18:46:42
517	commercialization_tag status changed to "enabled"; record ID: #137	adviser	2024-02-26 18:44:37
516	accounts: matthew.manalili account_role changed to "Student" by: rdc0	rdco	2024-02-25 14:24:36
515	commercialization_tag status changed to "disabled"; record ID: #136	adviser	2024-02-24 09:13:01
514	commercialization_tag status changed to "enabled"; record ID: #136	adviser	2024-02-24 00:10:42
513	ip_tag status changed to "enabled"; record ID: #136	adviser	2024-02-24 00:10:42
512	ip_tag status changed to "enabled"; record ID: #135	adviser	2024-01-19 17:50:09
511	commercialization_tag status changed to "enabled"; record ID: #133	ktto	2024-01-19 14:39:39

## Quick Record Preview



IPAMS Record Detail View for "Automated Sewage System (Preview)":

**Records**

**Title:** Automated Sewage System (Preview)

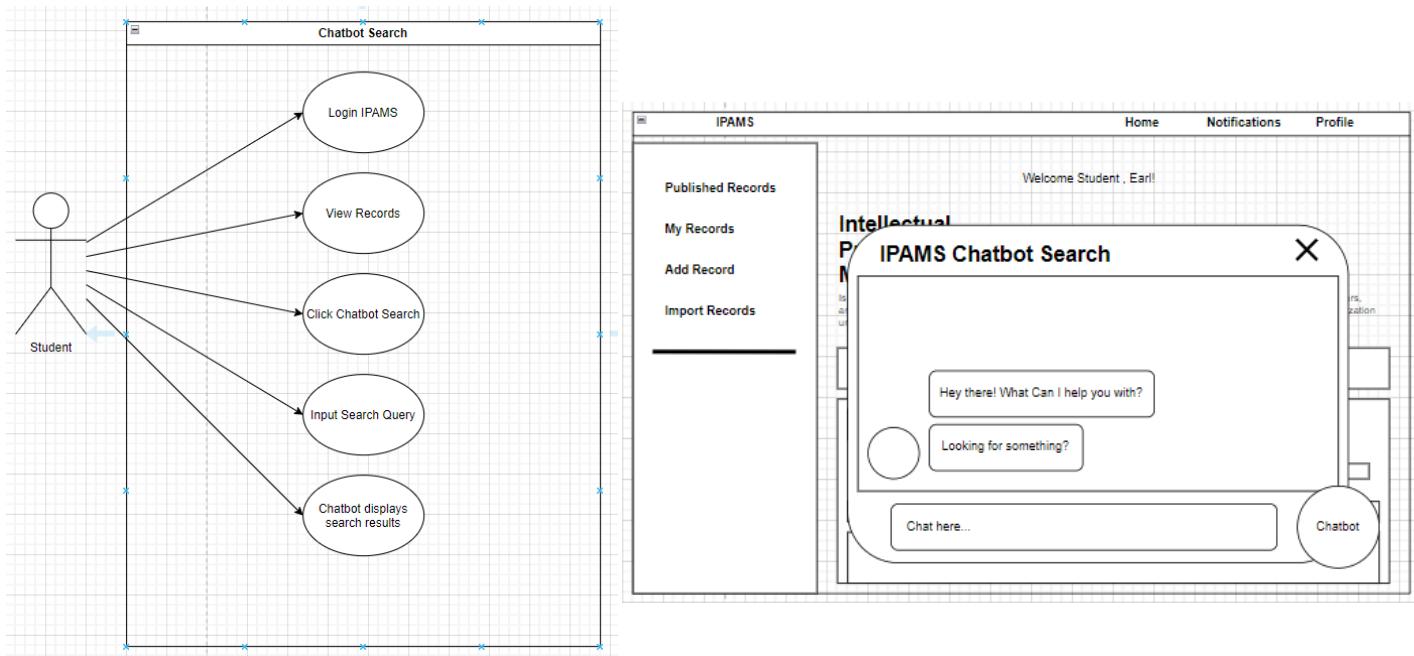
Record Type: Proposal  
Year: 2020-2023  
Classification: Applied Research  
FSCED: Others

Authors:  
Earl Joseph Capo  
Jesse Matthew Uasingina  
Mikael Aphorose Alafate  
Adviser: Jane Doe

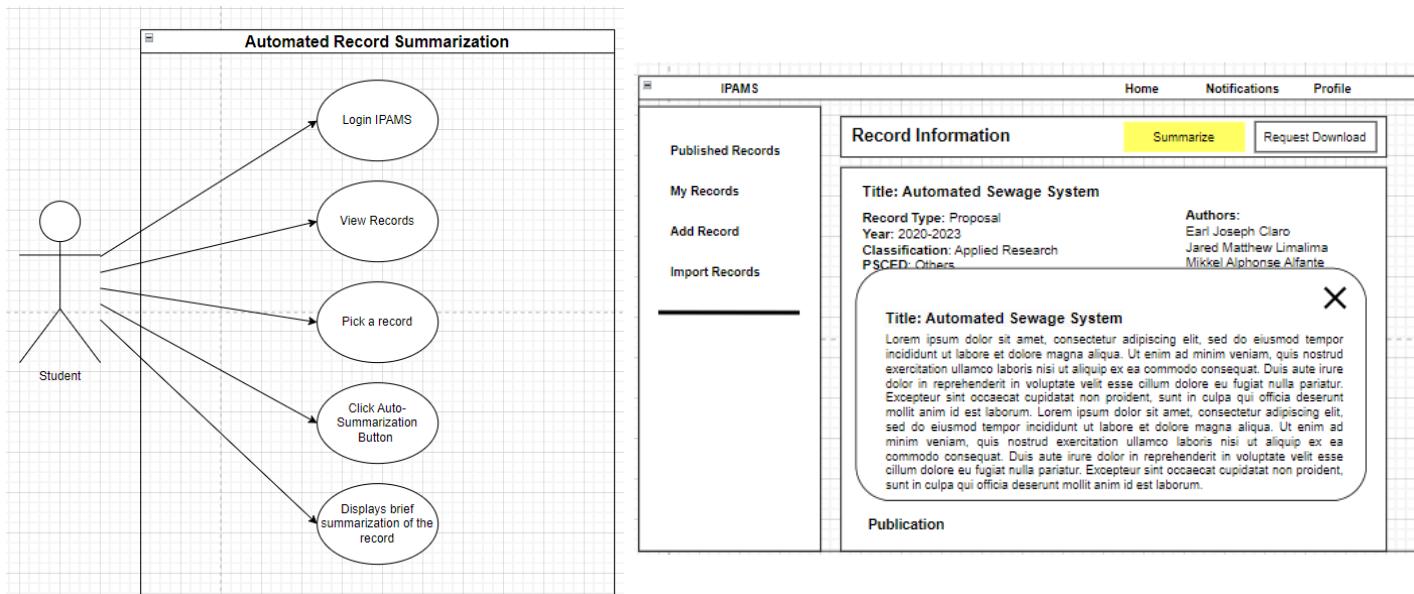
Content Summary (Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.)

Access restricted. Additional permissions required to view.

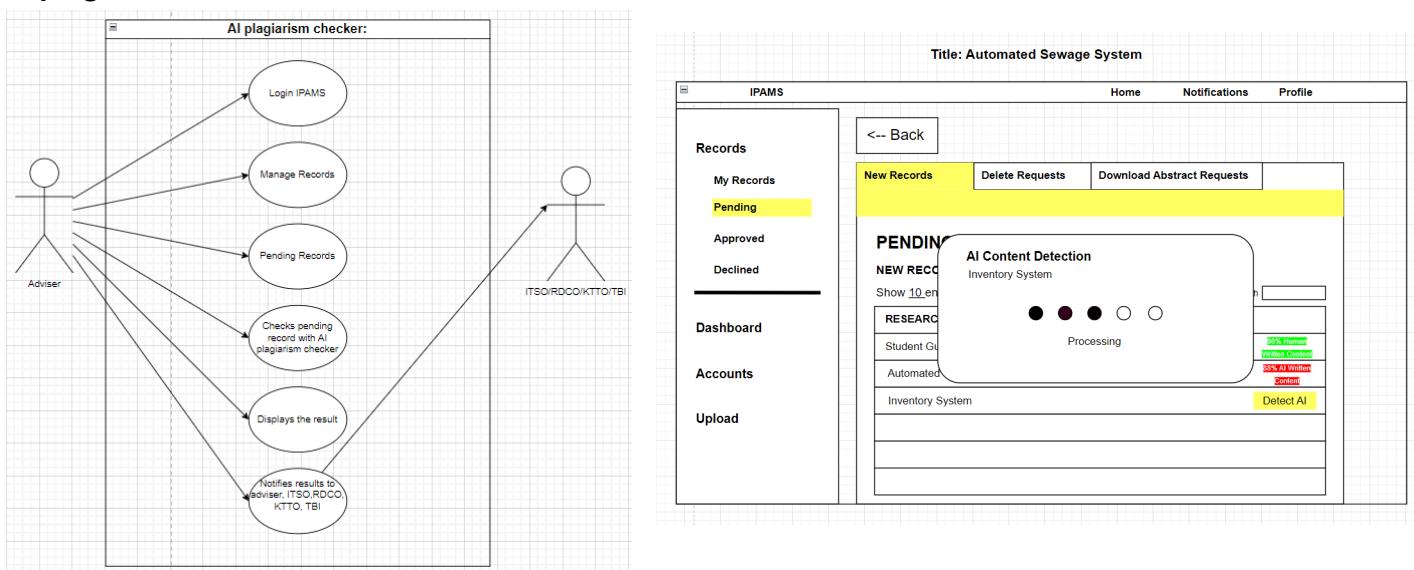
## Chatbot Search



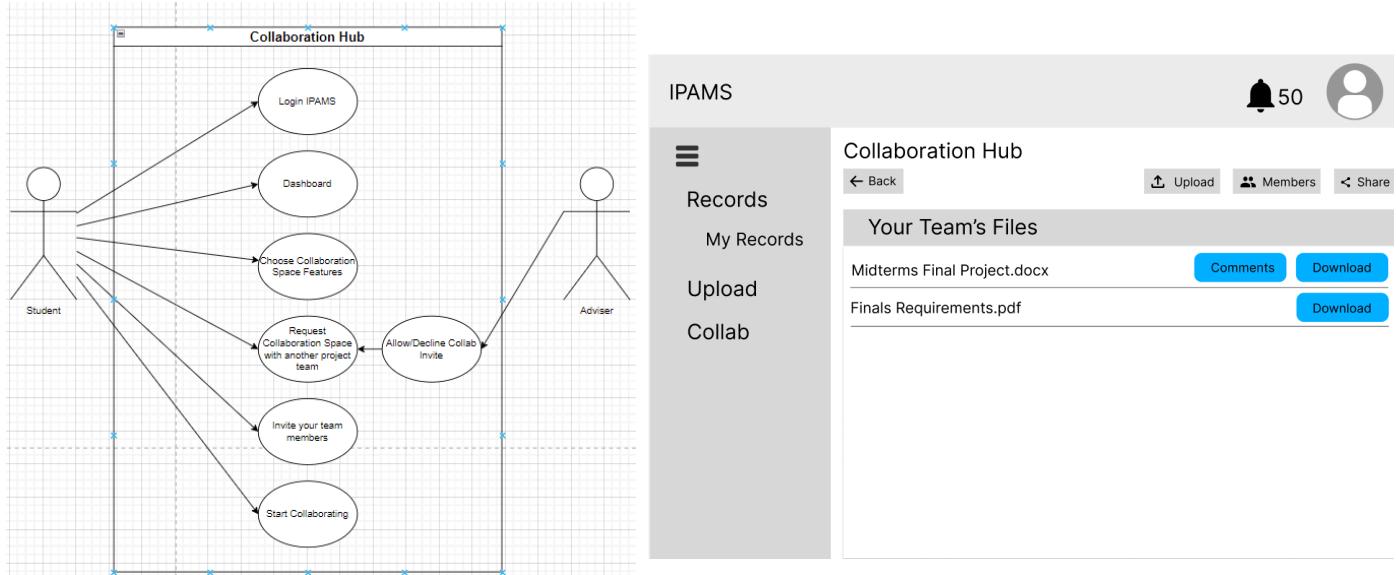
## Automated Record Summarization



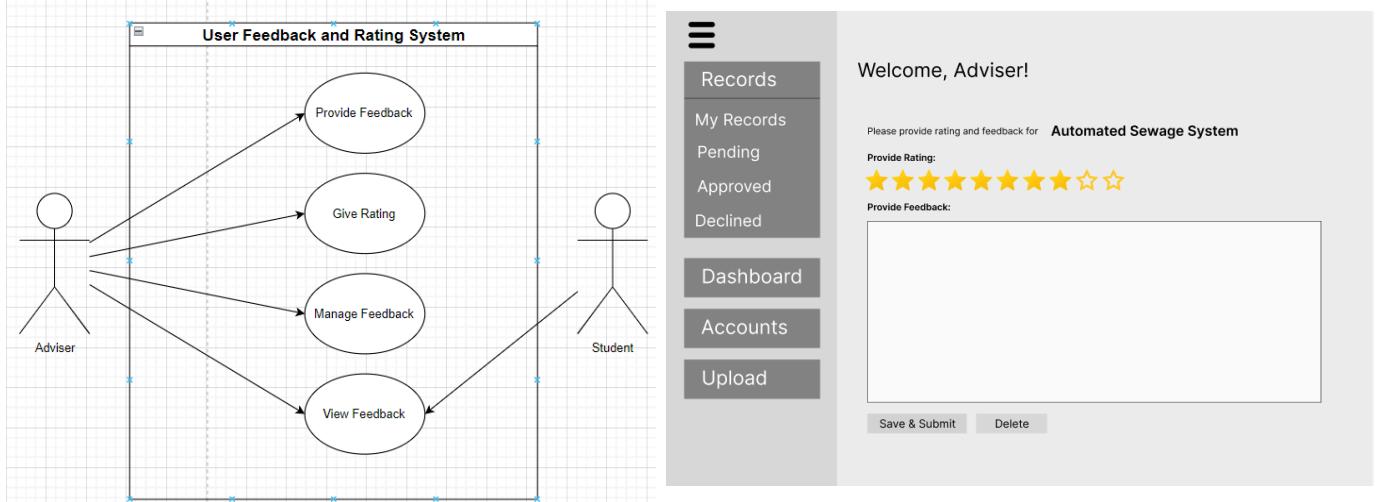
## AI plagiarism checker



## Collaboration Hub



## User Feedback and Rating System



## Mobile Responsive Design

