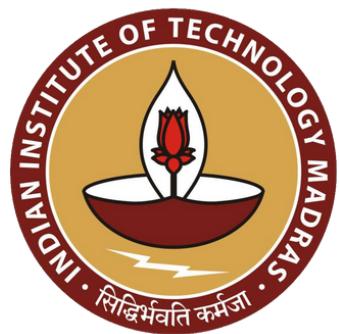




# Software Engineering

*Project*



## TEAM 27

**Prepared By :**

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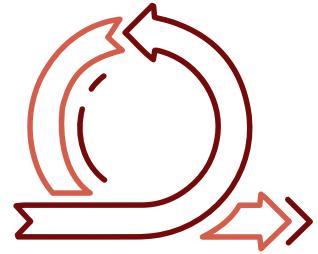
**Dev Khatri (21f3001150)**  
**Satish Jaiswal (21f2000142)**  
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# MILESTONE 3



## Scheduling & Design

# Project Schedule



## 1. Sprint Schedule

Sprint No.	Topic/Task	Timeline
Sprint 1	Identify Users & Requirements	15 June, 2024 - 20 June, 2024
Sprint 2	Create User Stories	21 June, 2024 - 23 June, 2024
Sprint 3	Develop Storyboards & Wireframes	24 June, 2024 - 27 June, 2024
Sprint 4	Schedule & Design Components	07 July, 2024 - 11 July, 2024
Sprint 5	Design API & Integrate GenAI	12 July, 2024 - 18 July, 2024
Sprint 6	Implement API	19 July, 2024 - 26 July, 2024
Sprint 7	Design Test Cases	27 July, 2024 - 02 August, 2024
Sprint 8	Conduct Unit Testing	05 August, 2024 - 07 August, 2024
Sprint 9	Integrate Frontend & Backend	08 August, 2024 - 18 August, 2024

Sprint 1 15 Jun – 20 Jun (1 issue)	
Identify Users & User Requirements	
KAN-9 Identify Users	MILESTONE 1 COMPLETED
+ Create issue	
Sprint 2 21 Jun – 23 Jun (2 issues)	
Create User Stories and Milestone 1 Report	
KAN-18 Create User Stories	MILESTONE 1 COMPLETED
KAN-22 Create Milestone 1 ...	MILESTONE 1 COMPLETED
+ Create issue	
Sprint 3 23 Jun – 27 Jun (3 issues)	
Develop Storyboards & Wireframes and Milestone 2 Report	
KAN-19 Create Storyboards	MILESTONE 2 COMPLETED
KAN-20 Create low-fidelity ...	MILESTONE 2 COMPLETED
KAN-21 Create Milestone 2 ...	MILESTONE 2 COMPLETED
+ Create issue	
Sprint 4 6 Jul – 11 Jul (5 issues)	
Schedule & Design Components	
KAN-23 Project Scheduling	MILESTONE 3 COMPLETED
KAN-24 Design of Compon...	MILESTONE 3 COMPLETED
KAN-25 Class Diagrams	MILESTONE 3 COMPLETED
KAN-26 Create Milestone 3...	MILESTONE 3 COMPLETED
KAN-52 Review and modifi...	MILESTONE 3 COMPLETED
+ Create issue	
Sprint 5 11 Jul – 18 Jul (4 issues)	
Create APIs and Milestone 4 report	
KAN-27 APIs Creation	MILESTONE 4 IN PROGRESS
KAN-28 YAML Documentati...	MILESTONE 4 IN PROGRESS
KAN-29 Create Milestone 4...	MILESTONE 4 IN PROGRESS
KAN-38 Review Milestone ...	MILESTONE 4 IN PROGRESS
+ Create issue	
Sprint 6 18 Jul – 26 Jul (2 issues)	
Implementation of APIs and Integrate GenAI	
KAN-31 Create ML Models	MILESTONE 5 TO-DO
KAN-30 Integration of GenAI	MILESTONE 5 TO-DO
+ Create issue	
Sprint 7 26 Jul – 2 Aug (3 issues)	
Design Test Cases	
KAN-32 Designing Test Ca...	MILESTONE 5 TO-DO
KAN-34 Fronted Developm...	MILESTONE 5 TO-DO
KAN-36 Backend Develop...	MILESTONE 5 TO-DO
+ Create issue	
Sprint 8 4 Aug – 6 Aug (4 issues)	
Conduct Unit Testing and Create Milestone 5 Report	
KAN-38 Perform Unit Testing	MILESTONE 5 TO-DO
KAN-36 Frontend Modificat...	MILESTONE 5 TO-DO
KAN-37 Backend Modificati...	MILESTONE 5 TO-DO
KAN-46 Create Milestone 5...	MILESTONE 5 TO-DO
+ Create issue	

Sprints as on Jira



# 2. About the Sprints



- **Sprint 1: Identify Users & Requirements**

Gather and analyse user needs and requirements. Ensure all key stakeholders are identified and their inputs collected.

Dates: 15 June, 2024 - 20 June, 2024

- **Sprint 2: Create User Stories**

Develop detailed user stories based on gathered requirements. Complete Milestone 1 Vetting and Submission.

Dates: 21 June, 2024 - 23 June, 2024

- **Sprint 3: Develop Storyboards & Wireframes**

Create visual representations and layouts following usability guidelines. Complete Milestone 2 Vetting and Submission.

Dates: 24 June, 2024 - 27 June, 2024

- **Sprint 4: Schedule & Design Components**

Develop project timeline and design key components. Complete Milestone 3 Report Vetting and Submission.

Dates: 07 July, 2024 - 11 July, 2024

- **Sprint 5: Design API & Integrate GenAI**

Plan API architecture and integrate GenAI functionalities. Set the foundation for API implementation.

Dates: 12 July, 2024 - 18 July, 2024

- **Sprint 6: Implement API**

Develop and deploy the designed API. Complete Milestone 4 Report Vetting and Submission.

Dates: 19 July, 2024 - 26 July, 2024

- **Sprint 7: Design Test Cases**

Create test cases for validating functionality and performance. Ensure comprehensive coverage for all features.

Dates: 27 July, 2024 - 02 August, 2024

- **Sprint 8: Conduct Unit Testing**

Perform unit testing to ensure code quality and reliability. Complete Milestone 5 Report Vetting and Submission.

Dates: 05 August, 2024 - 07 August, 2024

- **Sprint 9: Integrate Frontend & Backend**

Combine frontend and backend components into a cohesive system. Complete Milestone 6 Report Vetting and Submission.

Dates: 08 August, 2024 - 18 August, 2024

# 3. Scrum Board



Projects / SE Proj May 2024

All sprints

Search SS ST +3 Epic Sprint GROUP BY None

COMPLETED 11	IN PROGRESS 4	TO-DO 14
Identify Users <small>MILESTONE 1</small> KAN-9	APIs Creation <small>MILESTONE 4</small> KAN-27	Create ML Models <small>MILESTONE 5</small> KAN-31
Create User Stories <small>MILESTONE 1</small> KAN-18	YAML Documentation <small>MILESTONE 4</small> KAN-28	Integration of GenAI <small>MILESTONE 5</small> KAN-30
Create Milestone 1 Report <small>MILESTONE 1</small> KAN-22	Create Milestone 4 Report <small>MILESTONE 4</small> KAN-29	Designing Test Cases <small>MILESTONE 5</small> KAN-32
Create Storyboards <small>MILESTONE 2</small> KAN-19	Review Milestone 4 Report <small>MILESTONE 4</small> KAN-38	Frontend Development <small>MILESTONE 5</small> KAN-34
Create low-fidelity wireframes <small>MILESTONE 2</small> KAN-20		Backend Development <small>MILESTONE 5</small> KAN-35
Create Milestone 2 Report <small>MILESTONE 2</small> KAN-21		Perform Unit Testing <small>MILESTONE 5</small> KAN-33
Project Scheduling <small>MILESTONE 3</small> KAN-23		Frontend Modifications <small>MILESTONE 5</small> KAN-36
Design of Components <small>MILESTONE 3</small> KAN-24		Backend Modifications <small>MILESTONE 5</small> KAN-37
Class Diagrams <small>MILESTONE 3</small> KAN-25		Create Milestone 5 Report <small>MILESTONE 5</small> KAN-46
Create Milestone 3 Report <small>MILESTONE 3</small> KAN-26		Frontend and Backend Integration <small>MILESTONE 6</small> KAN-47
Review and modification of Milestone 3 Report <small>MILESTONE 3</small> KAN-52		Project Code Review <small>MILESTONE 6</small> KAN-48
		Project Report Review <small>MILESTONE 6</small> KAN-51
		Project Presentation Preparation <small>MILESTONE 6</small> KAN-49
		Create Milestone 6 - Final Report <small>MILESTONE 6</small>

# Scrum Meeting Minutes/Details



Scrum Meetings Schedule: Every Tuesday, Thursday, and Friday (20:30 - 22:30 PM)

**Mode:** Google Meet

## Attendees:

- Dev Khatri
- Satish Jaiswal
- Prem Kumar
- Srishti Singh
- Shrikanth V
- Shirang Sapate
- Pranav R
- Shristi Tiwari

## Sprint 1 Scrum meetings minutes/details:

- Dates: 15 June, 2024 - 20 June, 2024
- The team will be collaborating to identify and define different Users and User requirements. Each team member will be presenting their own ideas and insights based on their understanding of the project requirements. After identifying the users, each team member will be assigned a task to come up with user stories for the different users.

## Sprint 2 Scrum meetings minutes/details:

- Dates: 21 June, 2024 - 23 June, 2024
- User stories will be finalised. All team members will be sitting together in a meeting to review the milestone-1 report. The final submission will be made.

## Sprint 3 Scrum meetings minutes/details:

- Dates: 24 June, 2024 - 27 June, 2024
- The team will be collaborating to create storyboards and wireframes for the project. Each member will be giving their ideas and suggestions regarding the storyboards. A discussion will take place to review the storyboards and wireframes created by the team, providing feedback and suggestions for improvements. After the final review, the Milestone-2 report will be submitted.

## Sprint 4 Scrum meetings minutes/details:

- Dates: 07 July, 2024 - 11 July, 2024
- The team will be deciding on Project management software (JIRA) to keep track of the project's progress. After a thorough discussion among the team members, the project schedule will be decided, and a Gantt chart will be created. Components will be designed and a class diagram for the application will be made. Following the final review, the Milestone-3 report will be submitted.

## Sprint 5 Scrum meetings minutes/details:

- Dates: 12 July, 2024 - 18 July, 2024

- The team will be planning the API architecture and integrating GenAI functionalities. We will be setting the foundation for API implementation.

**Sprint 6 Scrum meetings minutes/details:**

- Dates: 19 July, 2024 - 26 July, 2024
- The team will be developing and deploying the designed API. We will be completing Milestone 4 Report Vetting and Submission.

**Sprint 7 Scrum meetings minutes/details:**

- Dates: 27 July, 2024 - 02 August, 2024
- The team will be creating test cases for validating functionality and performance. We will be ensuring comprehensive coverage for all features.

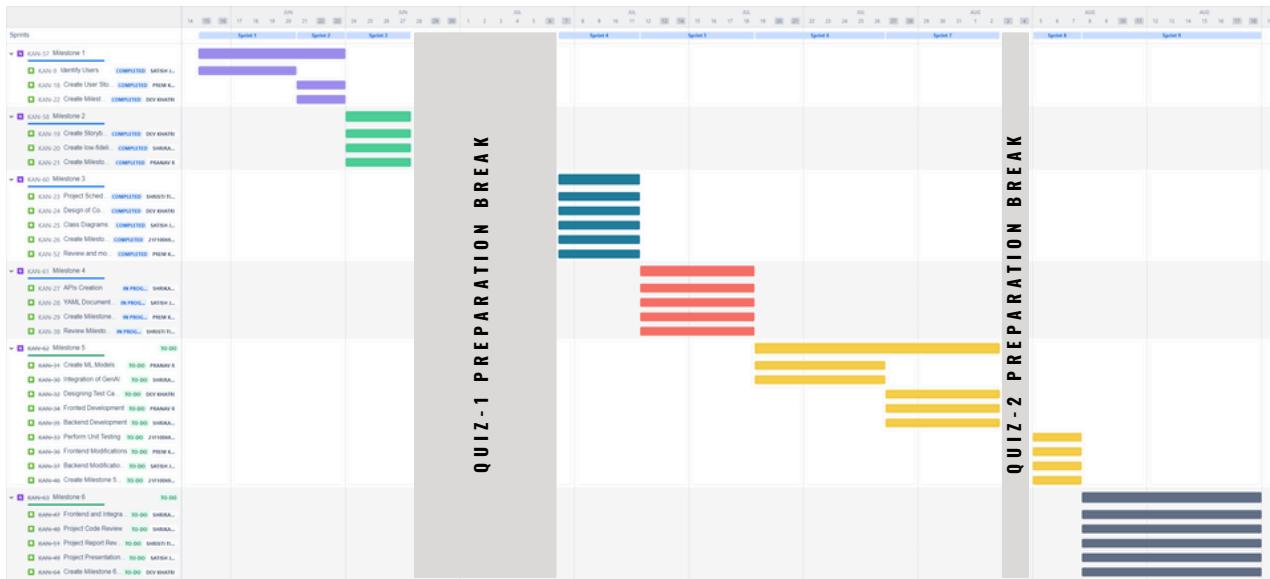
**Sprint 8 Scrum meetings minutes/details:**

- Dates: 05 August, 2024 - 07 August, 2024
- The team will be performing unit testing to ensure code quality and reliability. We will be completing Milestone 5 Report Vetting and Submission.

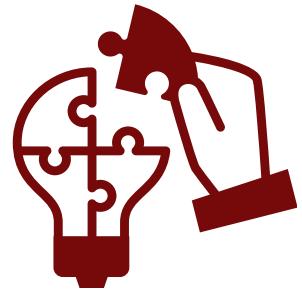
**Sprint 9 Scrum meetings minutes/details:**

- Dates: 08 August, 2024 - 18 August, 2024
- The team will be combining frontend and backend components into a cohesive system. We will be completing Milestone 6 Report Vetting and Submission.

# 4. Gantt Chart

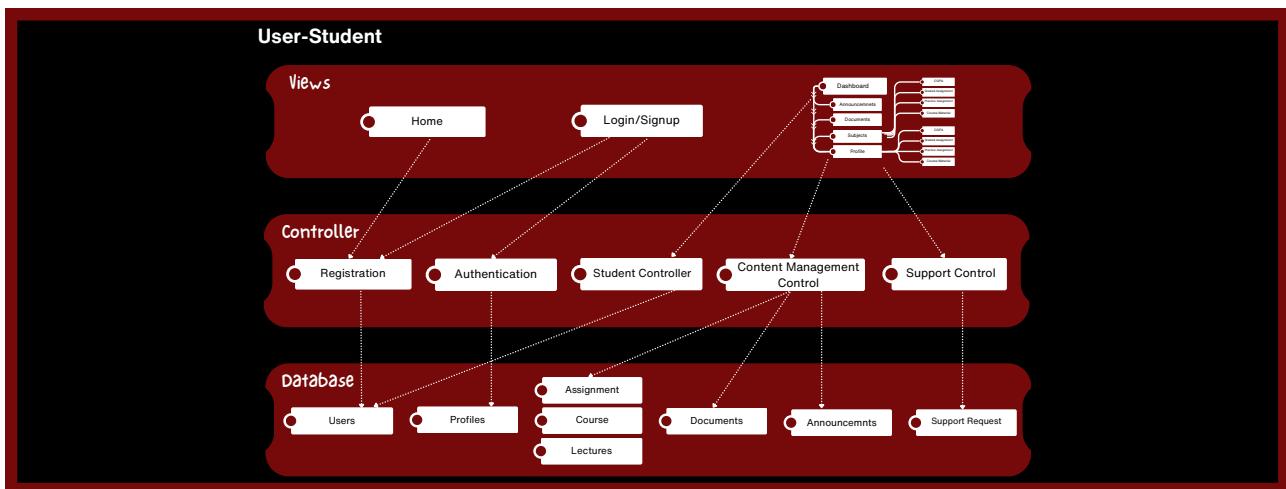


# Component Design



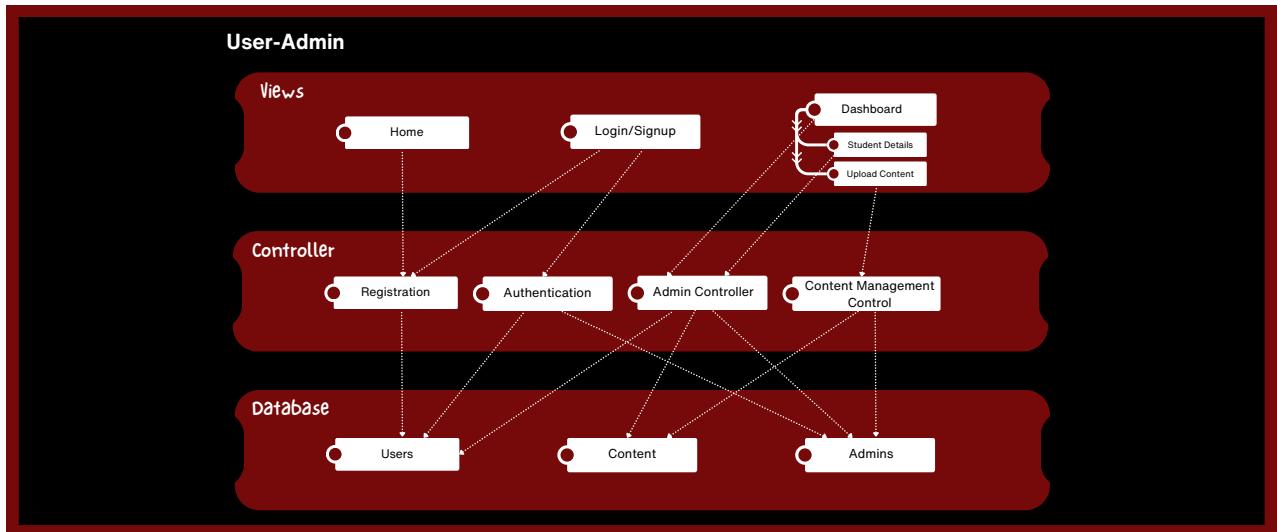
## 1. Student Component

- **Login/Signup:** This view component uses the Registration and Authentication controller, which interacts with the Users database.
- **Dashboard:** The Dashboard view is managed by the StudentController, which accesses data from the Users, Background, User\_courses, and Feedback databases.
- **Courses:** The Courses view is supported by the CourseController, connecting to the Courses database.
- **View Profile:** This component relies on the StudentController, which utilises data from the Users, Background, User\_courses, and Feedback databases.
- **Course Details:** The Course Details view is powered by the CourseController, fetching information from the Courses database.
- **Recommendation:** The Recommendation view is influenced by the RecommendationCourse controller, which interacts with data from the Users, Courses, Feedback, and Recommendation\_path databases.

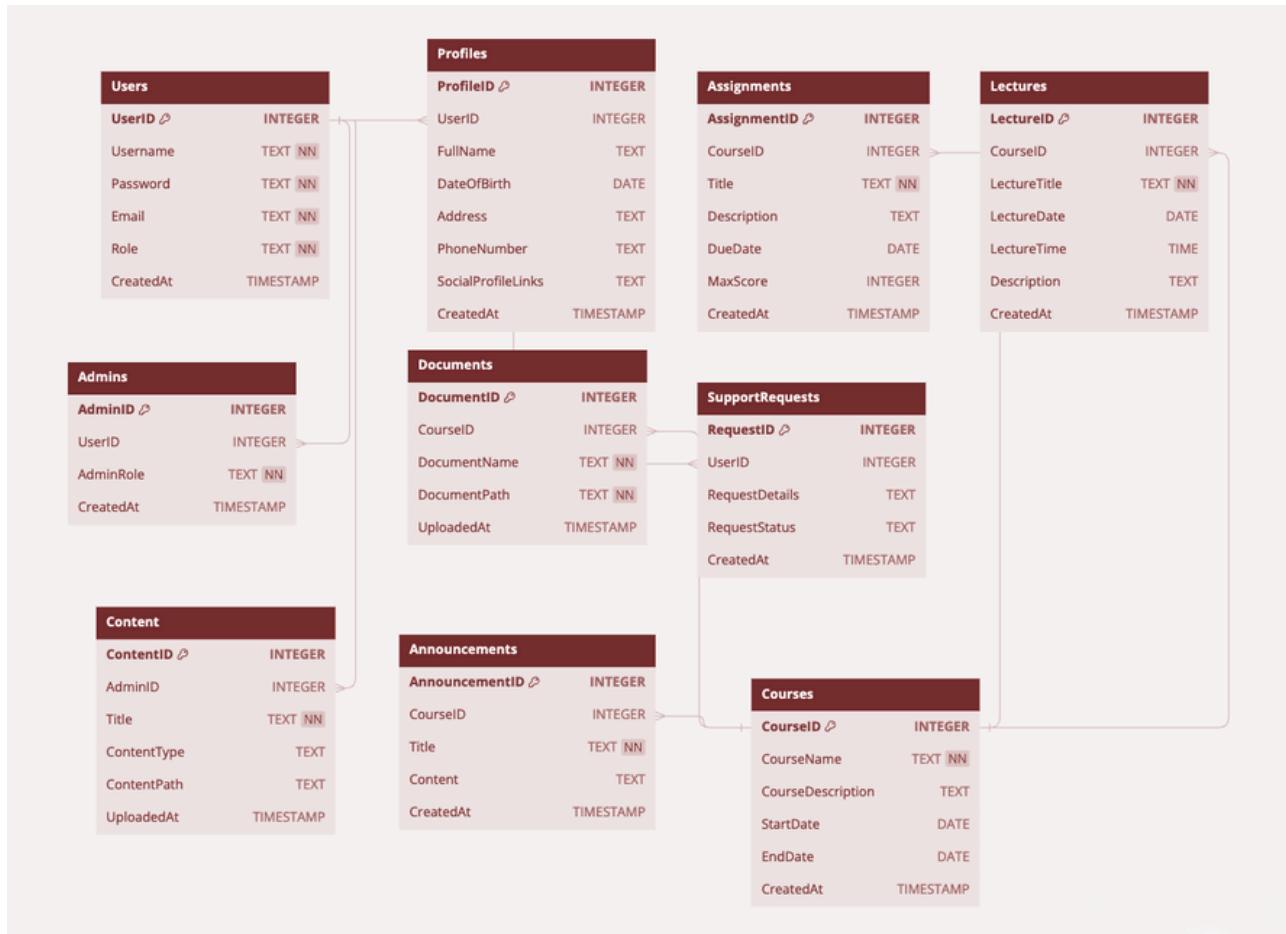


## 2. Admin Component

- **Login/Signup:** This view component uses the Registration and Authentication controller, which interacts with the Users database.
- **Dashboard:** The Dashboard view for admins is streamlined and focused on uploading content. It is managed by the AdminController, which accesses data from the Users, Courses, and Feedback databases.
- **Upload Content:** This component allows admins to upload and manage course content, assignments, quizzes, etc., and is supported by the AdminController connecting to the Courses and User\_Courses databases.
- **Manage Users:** This component enables admins to manage user information and access, interacting with the Users and Background databases.
- **Feedback and Reports:** This component allows admins to view and manage feedback and generate reports, interacting with the Feedback and Recommended\_Path databases.

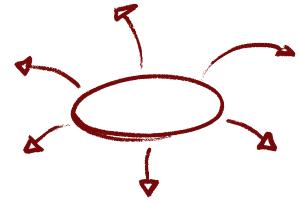


# DB Schema Design



The database schema for the SEEK portal consists of several interconnected tables designed to manage various aspects of the learning environment. The **Users** table stores user information, including credentials and roles, which links to the **Profiles** table containing additional user details such as full name, contact information, and social profile links. The **Admins** table manages administrator-specific data. The **Courses** table outlines course information, including names, descriptions, and schedules, and connects to the **Assignments**, **Lectures**, **Documents**, and **Announcements** tables to handle respective course-related content. Assignments have details such as titles, due dates, and maximum scores. Lectures record information about lecture titles, dates, and times. Documents store paths to course-related files, while Announcements contain course-specific announcements. The **SupportRequests** table logs user requests for support, and the **Content** table holds administrative content, including titles and paths for various content types. This schema provides a structured way to integrate Generative AI for enhancing feedback, support, and interactivity in the SEEK portal.

# Class Diagram



This class diagram depicts the LMS database schema, featuring entities such as Users, Courses, Assignments, Lectures, Announcements, Documents, SupportRequests, Profiles, Content, and Admins. Each entity has specific attributes and primary keys, with foreign keys establishing relationships (e.g., CourseID links Courses to Announcements, Assignments, Lectures, and Documents). Functions for creating, retrieving, and updating records are included, supporting comprehensive management of course materials, user profiles, administrative tasks, and support requests.

