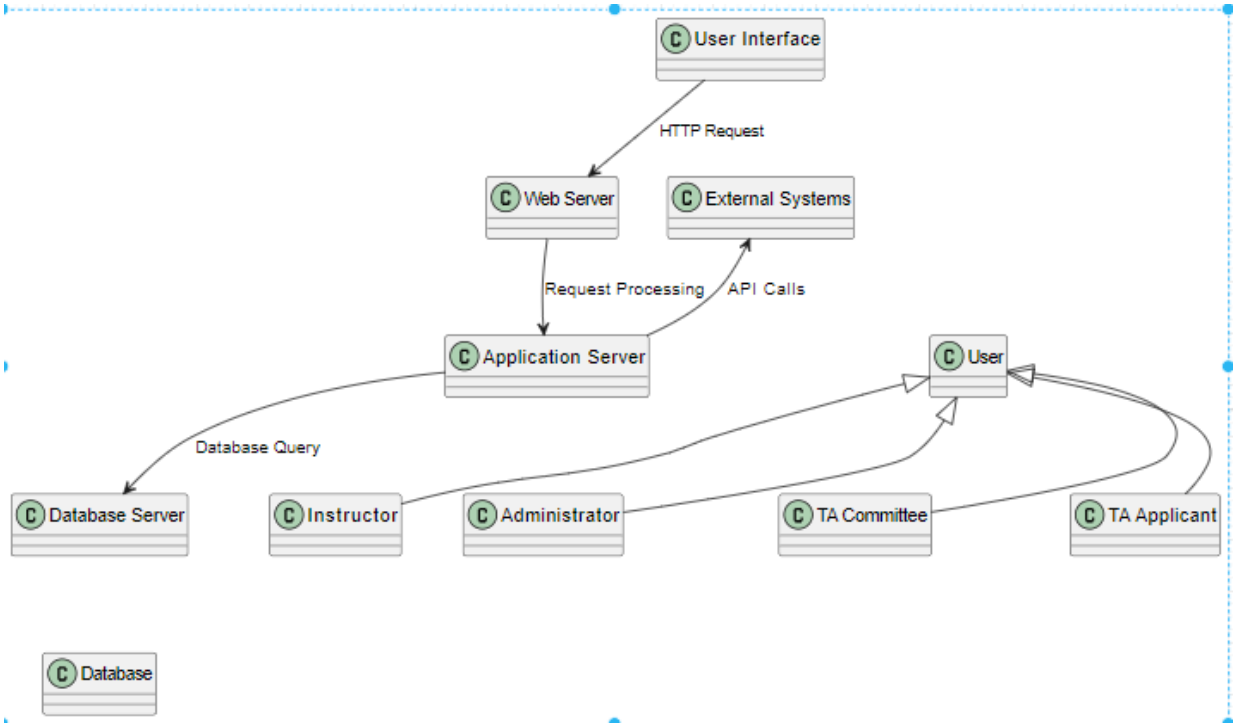
ASSIGNMENT: 3 (GROUP-8)
SYSTEM DESIGN

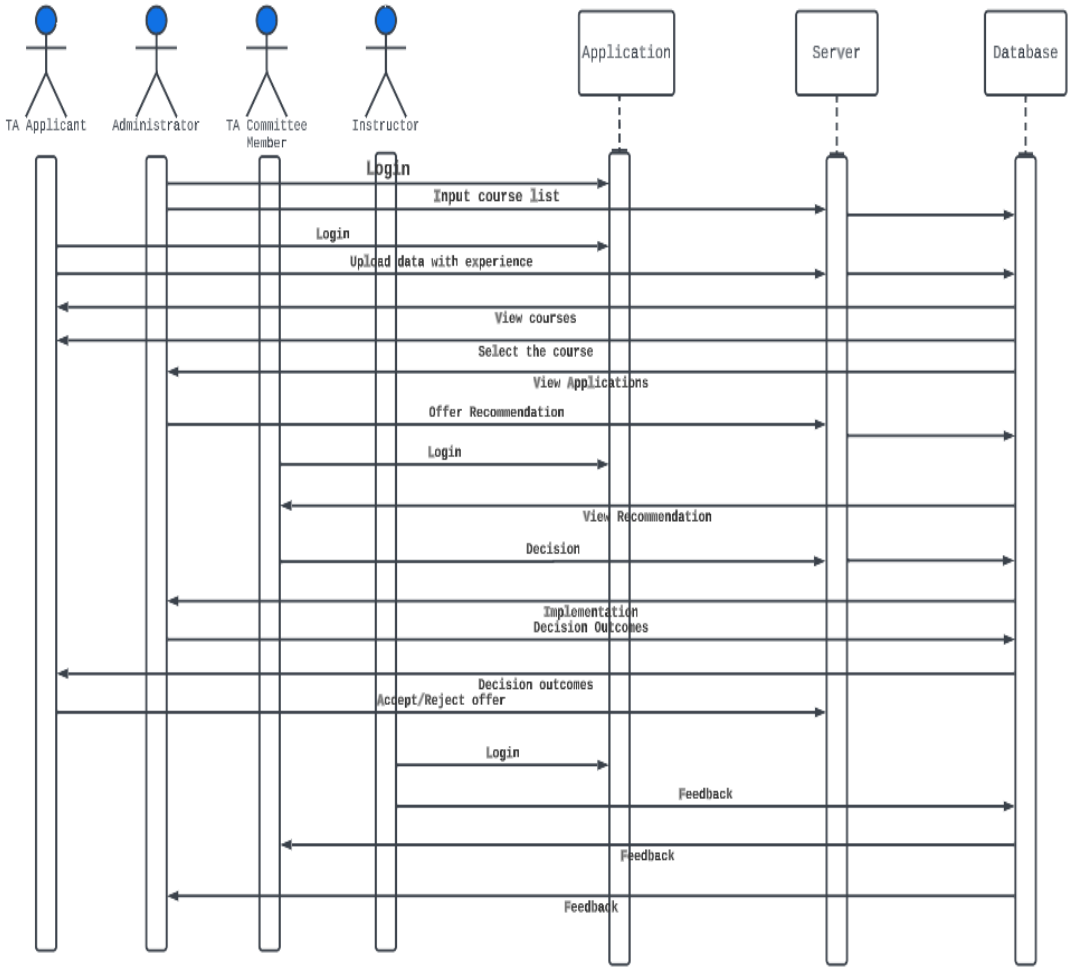
OVERALL SYSTEM LEVEL DESIGN



The overall System diagram provides a complete visual representation of the major components and interactions inside North University's TA Management System. This diagram is a must-have for understanding the system's sophisticated inner workings, containing a plethora of functionalities critical to the smooth management of Teaching Assistants (TAs). It depicts four unique user roles, namely TA Applicants, Administrators, TA Committee Members, and Instructors, each with their own set of tasks and interactions with the system.

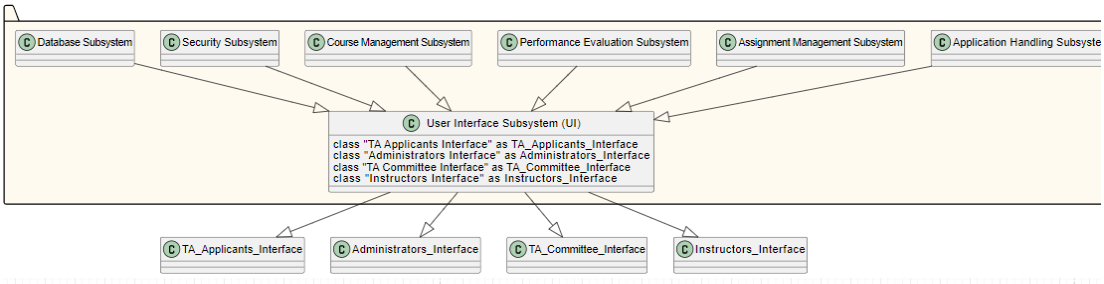
SEQUENCE DIAGRAM

The picture represents the sequence diagram of the overall application. The sequence diagram shows the process interactions arranged in time sequence.



TA APPLICANT

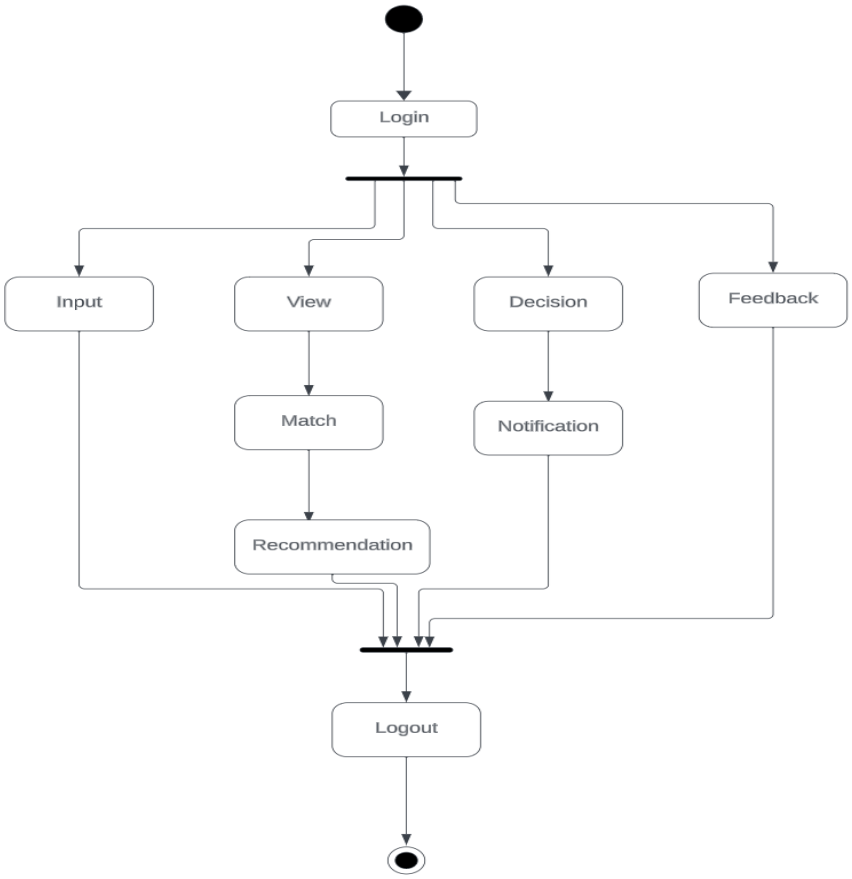
Samhitha Reddy Patloori



The TA Management System subsystem diagram provides a visual representation of the system's many components and interfaces. The User Interface Subsystem, which contains separate interfaces for TA Applicants, Administrators, TA Committee Members, and Instructors, is at the heart of this system. These interfaces act as points of entry for users to interact with the system. The Application Handling Subsystem is in charge of coordinating the submission and processing of TA applications, as well as ensuring that applicant information is recorded correctly. The Assignment Management Subsystem allows TAs to be assigned to specific courses, whilst the Performance Evaluation Subsystem records and assesses TA performance with comments from Instructors. The Course Management Subsystem manages course information and requirements.

TA ADMINSTRATOR

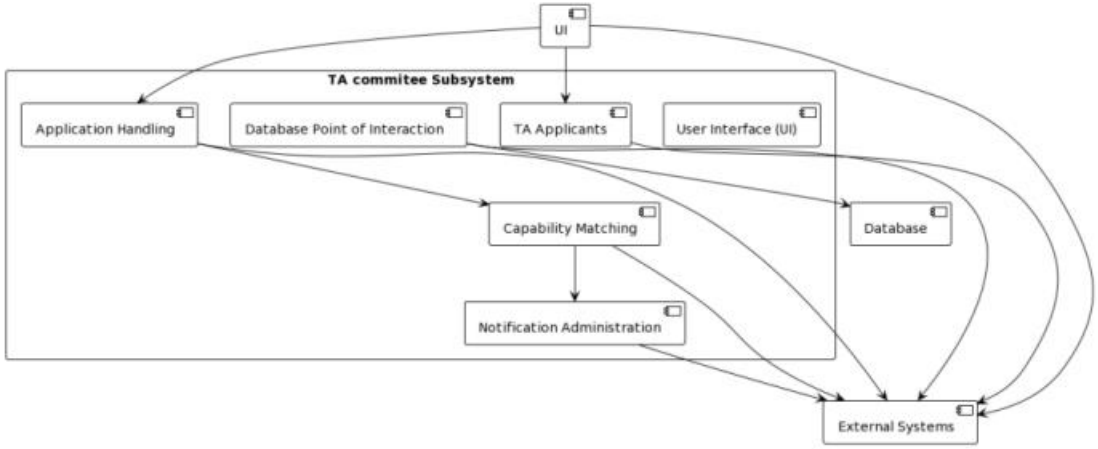
Nithya Pullamolla



State	**Description**
Login	The administrator logs in to the application
Input	The administrator will input the course list
View	The administrator is able to view the applications in this state
Match	Administrator matches the experience of applicants to the relevant courses
Recommend	Offers preliminary recommendations to TA committee members
Decision	Receive decisions from TA committee members
Notify	In this state administrators notify the successful TA applicants
Feedback	Receives feedback from the instructor
logout	The administrator logs out of the application

TA COMMITTEE MEMBER

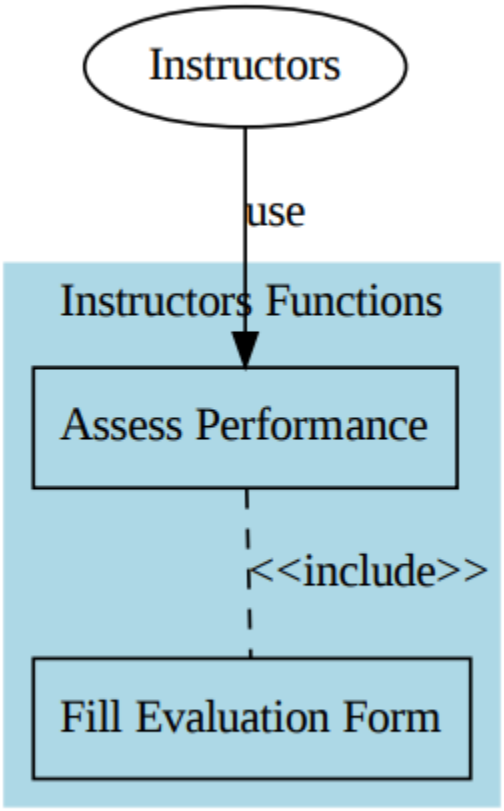
Shruthi Kamsani



The above picture depicts the subsystem diagram of the TA Committee members.

INSTRUCTOR

Saket Shreyas Guda &Vaishnavi Dasari



Software tools needed for subsystem implementation and integration

To provide quick development, smooth integration, effective testing, and efficient troubleshooting for the Teaching Assistants Recruitment System, a full suite of software tools is required. Version control is essential, and integrated development environments (IDEs) like PyCharm or Visual Studio Code are suggested for authoring and managing code. For developing, querying and updating database schemas, use MySQL Workbench or Admin. Python web frameworks like Django or Flask are great for creating web-based interfaces, but frontend development requires specialized HTML, CSS and JavaScript IDEs. For API requests, inspection and automation, Postman serves as a platform. For consistent development environments, containerization is necessary and Docker is a useful in managing dependencies and management tools.

In conclusion, these software tools work together to successfully build, integrate, and test the Teaching Assistant System's subsystems. They provide a thorough and effective development lifecycle with a variety of functions that include coding, database administration, testing, monitoring, documentation, security, and collaboration. The selection of particular tools is influenced by the needs of the project, the team's expertise, and the technology stack.

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