



TEAM BOB

ONLINE CLASS MANAGEMENT SYSTEM



PROBLEM DESCRIPTION

The Online Class Management System (OCMS) is a web-based platform enabling virtual classrooms for professors, students and TA's. Professors can create and manage classes, share lectures, assignments, and tests, while students access class materials and submit work on time. Personalized calendars help users track schedules, and students monitor their grades and evaluations from professors or teaching assistants assigned by the Professor. The system also provides messaging interfaces for communication and support from teaching assistants.



TECHNOLOGICAL SPECIFICATIONS

FRONTEND DEV

- React.js with Redux: Predictable state management for dynamic user interfaces.
- CSS frameworks for design consistency and responsiveness.

BACKEND DEV

- Node.js : for high performance scalable platforms .
- EXPRESS frameworks : simplified API development with middleware integration.
- Authentication with JWT: Secure user access to application resources.



DEV TOOLS

- Git for version control
- Visual Studio Code for coding

SECURITY MEASURES

- SSL encryption
- CORS policies

USE CASES

TEACHERS

CREATE CLASSES

Teachers can create classes and student can join that class using the class code

TIME TABLE

The the teachers can set the timetable of the classes they have created

LIVE CLASS

The teacher can create a live class link and share it to the students to join the live class using it.

CREATE ASSIGNMENT

The teachers can create assignments and tests for the students

STUDENTS

JOIN CLASS

The students can join the class using the class code of that class shared by their teacher

UPLOAD FILES

The student can upload the assignments ,tests before the deadline

CHECK GRADES

The student can check the grade received on a particular assignment or test.

DISCUSSION

The students can discuss their doubts with the teacher here

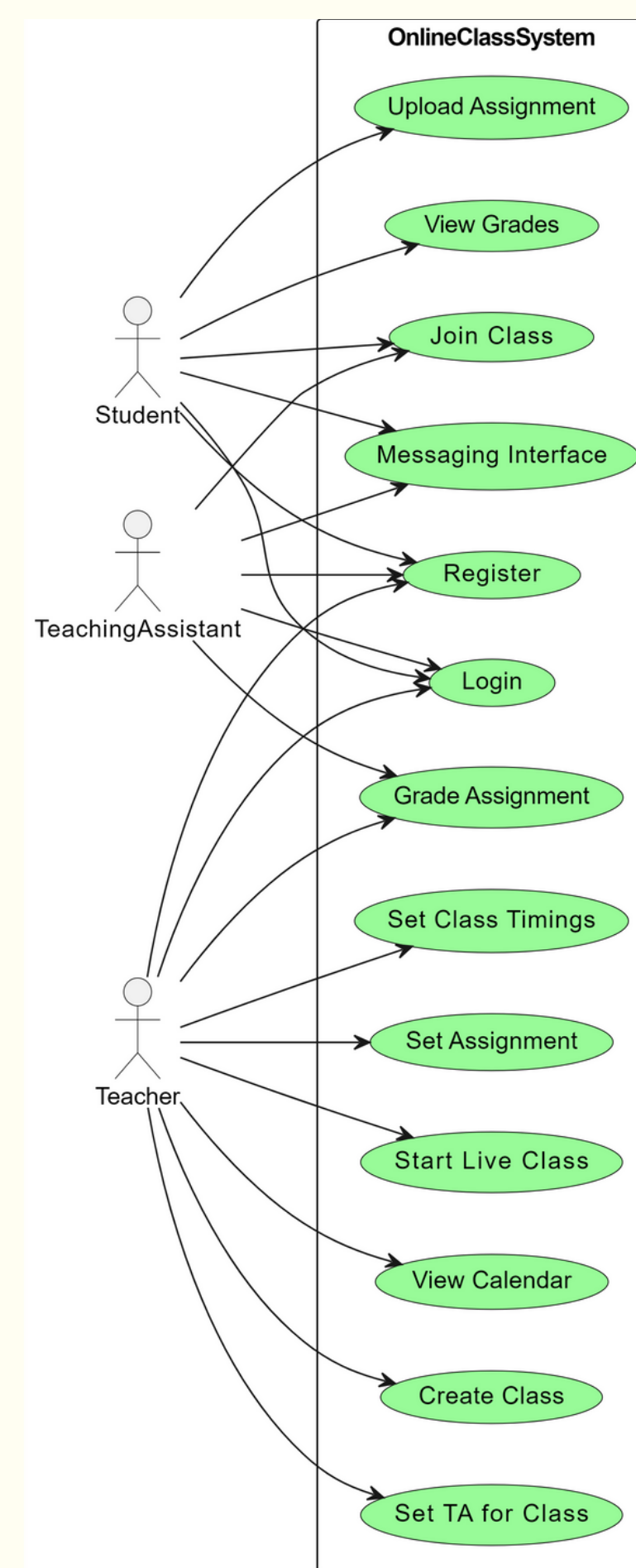
TAs

JOIN CLASS

The TAs can join the class using the class code of that class shared by their teacher ,and enjoy other functionalities.

SET GRADES

The TAs can set the grades of the assignments submitted by the students .



CHALLENGES FACED

LIVE CLASSES

Implementing the live class posed a major problem in network stability, real-time video streaming, and scalability.

CHAT BOX

Developing a messaging interface within the virtual classrooms where students can ask doubts in real-time and professors can respond promptly.





THANK YOU