Abstract

A web application to enable student progress tracking for their projects by their sponsors and faculty of the university. The students can login and lookup for projects and then show their interests in projects and the faculty and sponsors can add projects in the systems and can review the students' preferences for the projects and be able to track the projects' progress

Requirements

Actors:

User – Can have one of the following roles.

Student: A student logs in to the application and browses through different projects and sets his preferences for projects.

Sponsor: A sponsor can add projects to the web application after they login to the application and be able to check students who have set preferences for their projects. A sponsor should be able to check progress of the projects that are in progress and can start follow up conversation threads on the progress.

Faculty: A faculty can also add projects and can monitor the progress of the students.

System - A System manages the user registration and is accountable for the entire project tracking process.

Admin – May have an Admin who manages admin tasks like delete users, take back up of the data.

Use-Cases:

1) Students can browse through Projects and set their preferences
-- A Student can login to the system (may be via the registration link provided for the first time) and can view a list of available projects. On clicking on one of the projects a more detailed view of the project should be displayed. If a student likes a project, the student can set a preference for the project. The total number of preferences that a student can set will be limited. A search bar on the list of projects page should filter the projects.

2) Sponsor/ Faculty can create new Projects in the system
-- A sponsor or a faculty can create new Project with details like name, description in the system.

3) Sponsor can check students' preferences for their projects
-- A sponsor can check the name/details of the students who have set what number of preferences for their projects.

4) Sponsor/ faculty can approve the projects for students
-- A sponsor or faculty can approve a project for students so they can start working on it. The team size will be decided by the faculty/sponsor

5) Sponsor can edit details of their projects
-- While students can only view the details of a project, a sponsor should be able to edit the details of their projects as well.

6) Sponsor can start follow-up conversation thread on their projects
-- Sponsor should be able to see the team members for their projects and should be able to start or reply to a comment/follow-up thread on the status of the project and students should be able to view and post a reply to the comments

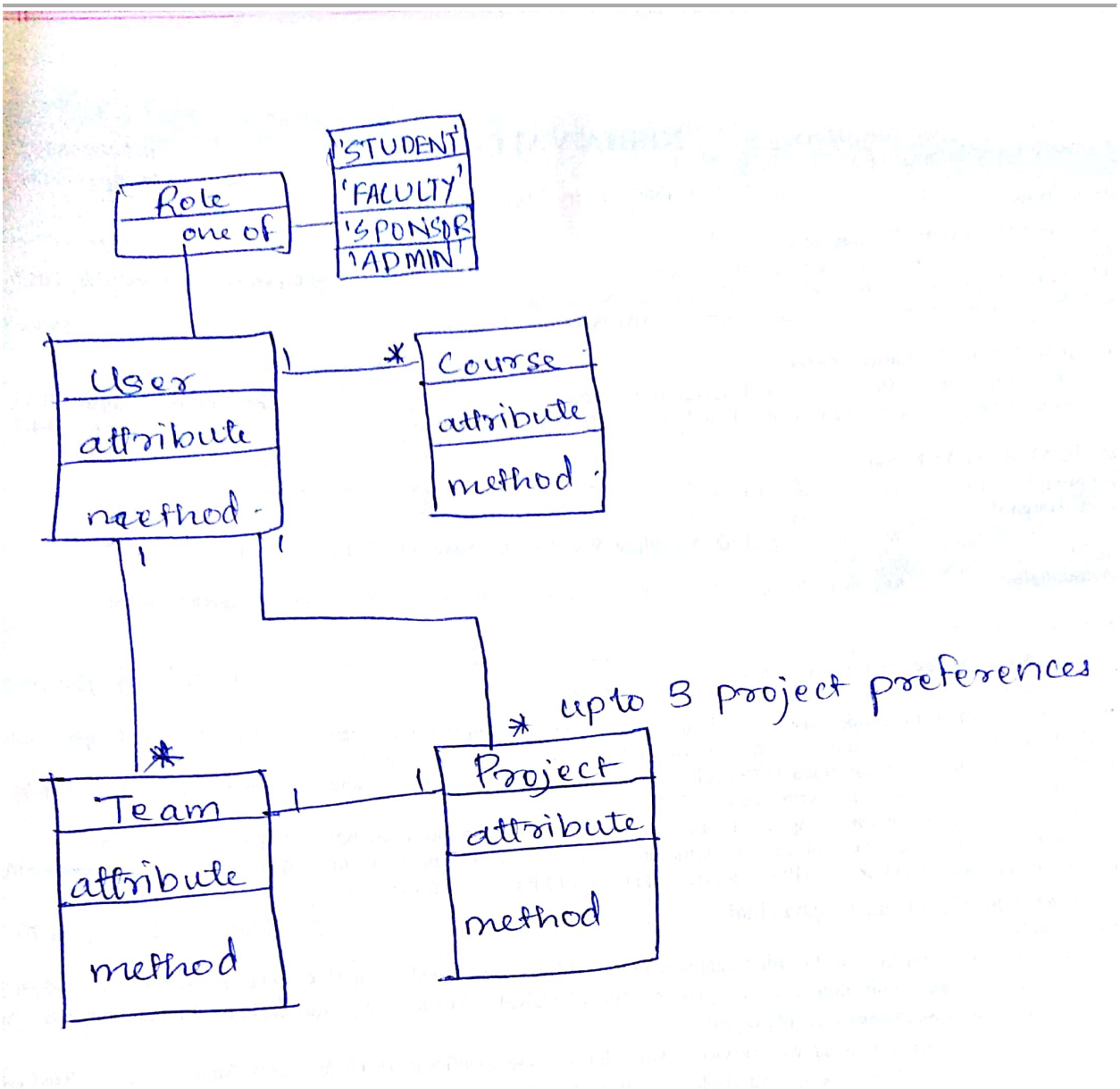
7) State should be maintained for a project
-- A project can have following states: PROPOSED, ACCEPTED/ACTIVE, IN-PROGRESS, COMPLETED

The state changes should be visible as part of the status of the project.

8) Team changes should be visible in project details
-- If a student drops a project or new team member is added then the change can be made by faculty and should be visible in project details

9) There should be an option to take backup of the stored data in Database. Could be a simple backup file that can be downloaded

Data model



Implementation

Technology stack

Software	Purpose	Reference
MongoDB	NoSql Database	[1]
ReactJS	Front End Web Development	[2]
Node.js	Server side scripting and MySQL Connectors	[3]

Redux	To maintain state of the application	[4]

Environment variables:
MONGODB_URI
SLACK_API_TOKEN
These variables need to be set to run the application.

Demonstration video link.

Conclusion

The software helps faculty, students, sponsors to collaborate and work on projects.