

SOFTWARE ENGINEERING

PRODUCT DESIGN

PROJECT NAME – Student Resource Hub Web Application

TEAM NUMBER - 20

Revision History

Revision Number	Date	Summary of Changes	Authors
1.0	09-24-2023	Initial draft on class diagrams and its description	Ravali Salakala, Yaswanth Engandula, Shiva Kumar Ganji, Alekya Mullapudi, Siddhartha Goud Alwala, Sweety Pasupuleti
1.1	09-25-2023	Drawing ER diagrams	Ravali Salakala, Yaswanth Engandula, Shiva Kumar Ganji, Alekya Mullapudi, Siddhartha Goud Alwala, Sweety Pasupuleti
1.2	09-25-2023	Adding sequence diagrams for each web page of project	Ravali Salakala, Yaswanth Engandula, Shiva Kumar Ganji, Alekya Mullapudi, Siddhartha Goud Alwala, Sweety Pasupuleti
1.3	09-25-2023	Writing design rationale which describes the requirements and	Ravali Salakala, Yaswanth Engandula, Shiva Kumar Ganji,

		objectives of our project.	Alekya Mullapudi, Siddhartha Goud Alwala, Sweety Pasupuleti
1.4	09-26-2023	Creating an information architecture diagram	Ravali Salakala, Yaswanth Engandula, Shiva Kumar Ganji, Alekya Mullapudi, Siddhartha Goud Alwala, Sweety Pasupuleti
1.5	09-27-2023	Designing User-interface wireframe using FIGMA according to the project requirements	Ravali Salakala, Yaswanth Engandula, Shiva Kumar Ganji, Alekya Mullapudi, Siddhartha Goud Alwala, Sweety Pasupuleti

Class Diagram

1. **User:** The User class represents individuals within the system and holds their private data, including name, date of birth, email, and password. It gives users the fundamental tools they need to register, log in, access the dashboard, manage their courses, view academic resources, assignments, and grades, customize calendars, use communication tools, monitor their academic progress, participate in forums, schedule events, and access study guides.
2. **Dashboard:** The Dashboard class acts as the system's hub, providing access to a range of features geared for students. It keeps a list of available functionalities and provides a way to retrieve them, allowing users to effortlessly move across different features.
3. **Course:** The Course class is a representation of academic courses, and it includes information about the timetable, registered students, course ID, and name. It makes browsing course details, enrolling in courses, dropping courses, and scheduling courses easier for users.
4. **Academic Resource:** The Academic Resource class keeps track of study resources and links them to courses. It includes the resource ID, name, and content, as well as mechanisms for users to obtain study materials and take relevant assessments.
5. **Assignment:** The system's assignment management is handled by the Assignment class, which has properties including assignment ID, title, description, due date, and course relation. It allows users to examine assignment details.
6. **Calendar:** Users can add and remove events from their own academic calendars using the Calendar class. It is a useful tool for properly planning academic and personal occasions.
7. **Communication Tool:** This class serves as an example of a communication tool that encourages discussion among students in forums. The ability for users to join forums, submit messages, and read topic content encourages interaction and conversation.

8. Progress: This class keeps tabs on a student's academic development, including previously taken courses and the current course. Users can keep track of their academic progress with this tool.

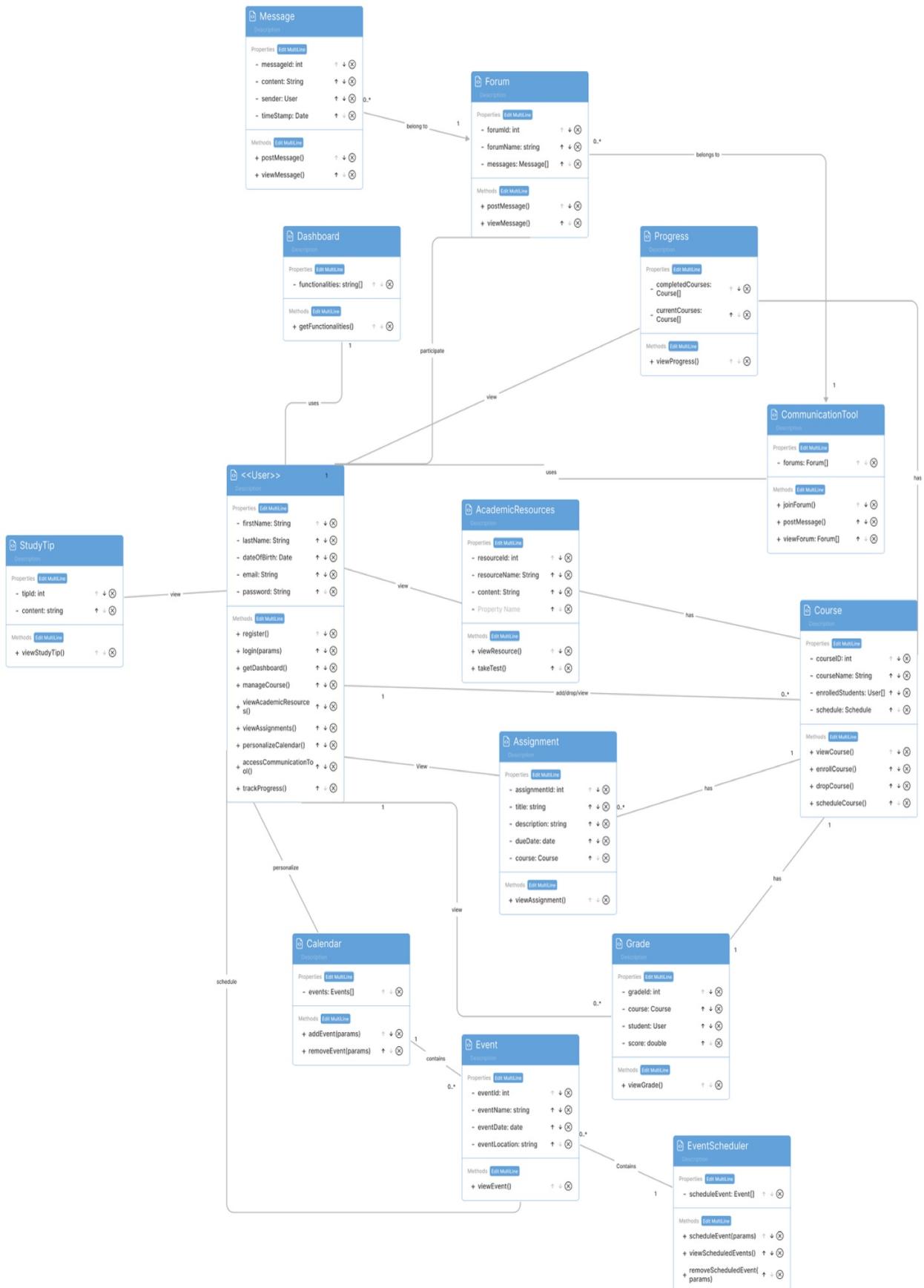
9. Schedule: This class helps students manage their course schedules by enabling them to add and withdraw courses as necessary, resulting in effective course planning.

10. Message: Individual messages are represented by the Message class, which also includes message ID, content, sender, and timestamp. It allows users to communicate one-on-one or in groups within the system.

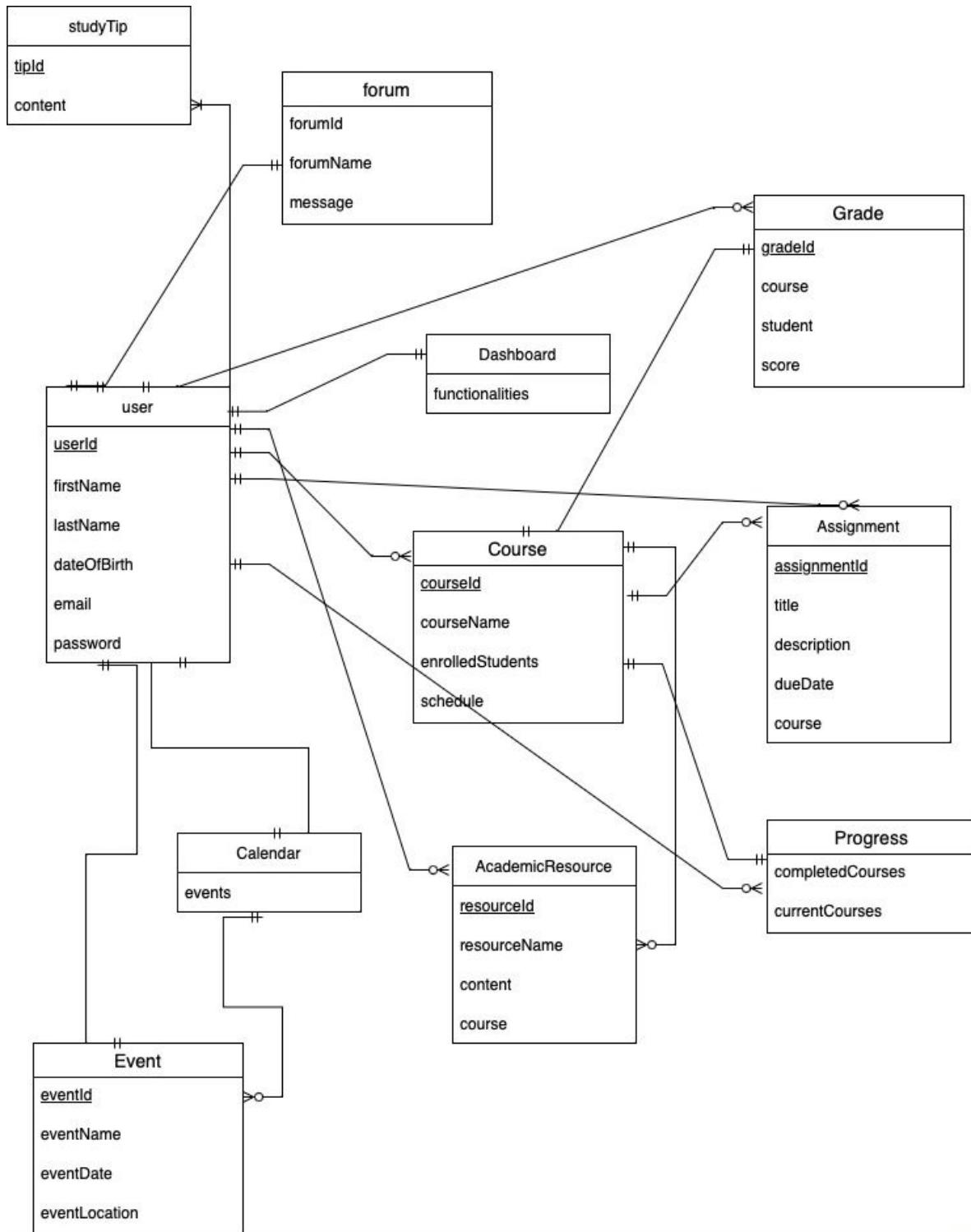
11. Event: The Event class handles events, including event ID, name, date, and location. Users can access event specifics using this class, ensuring they are kept up to date on crucial events.

12. Event Scheduler: This class controls scheduled events by allowing users to efficiently schedule, view, and remove events, providing effective event management.

13. Study Tip: The Study Tip class offers a new feature that offers users helpful study advice. Users can access study advice within the system to improve their learning experience.

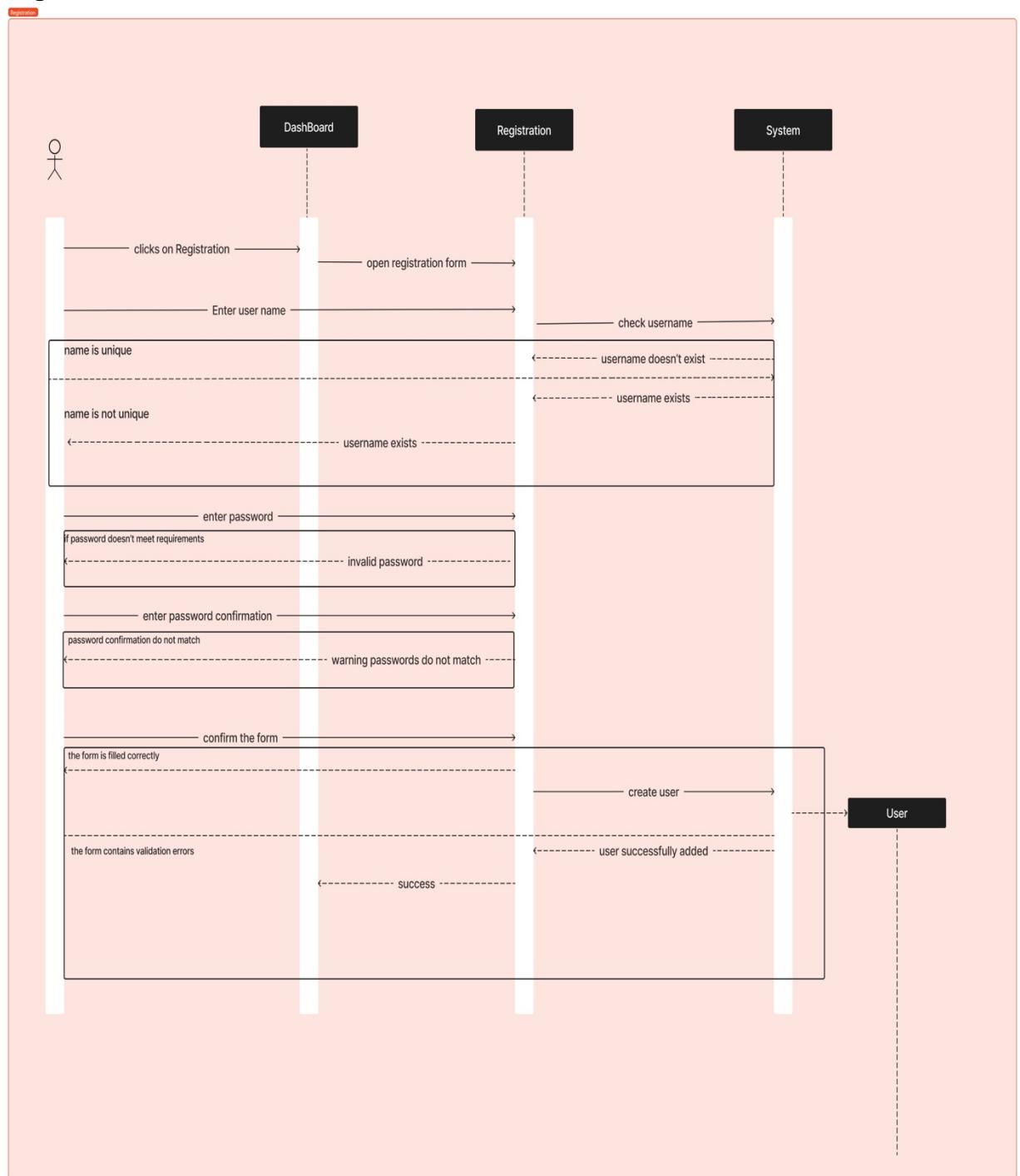


ER Diagram(s)

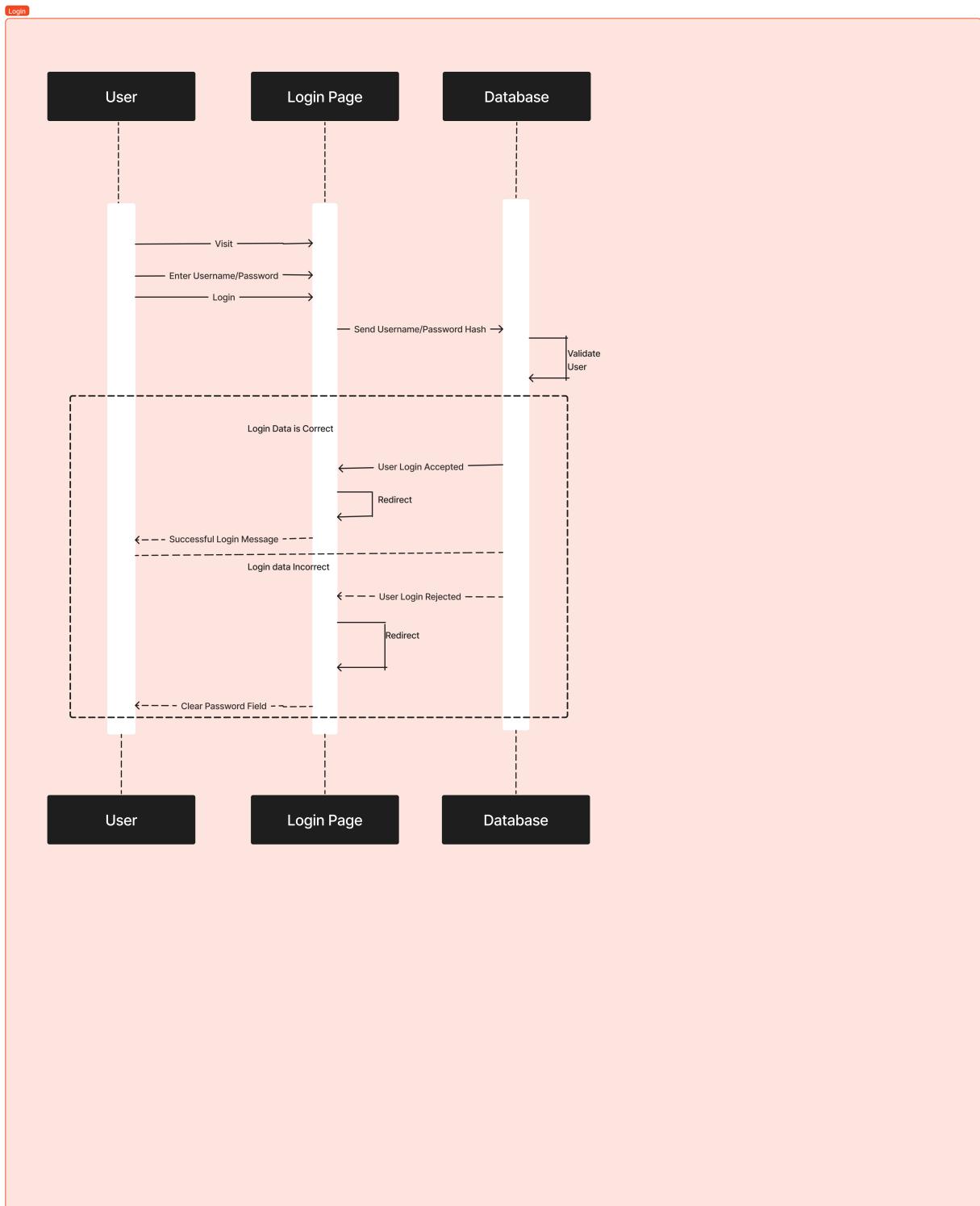


Sequence Diagram(s)

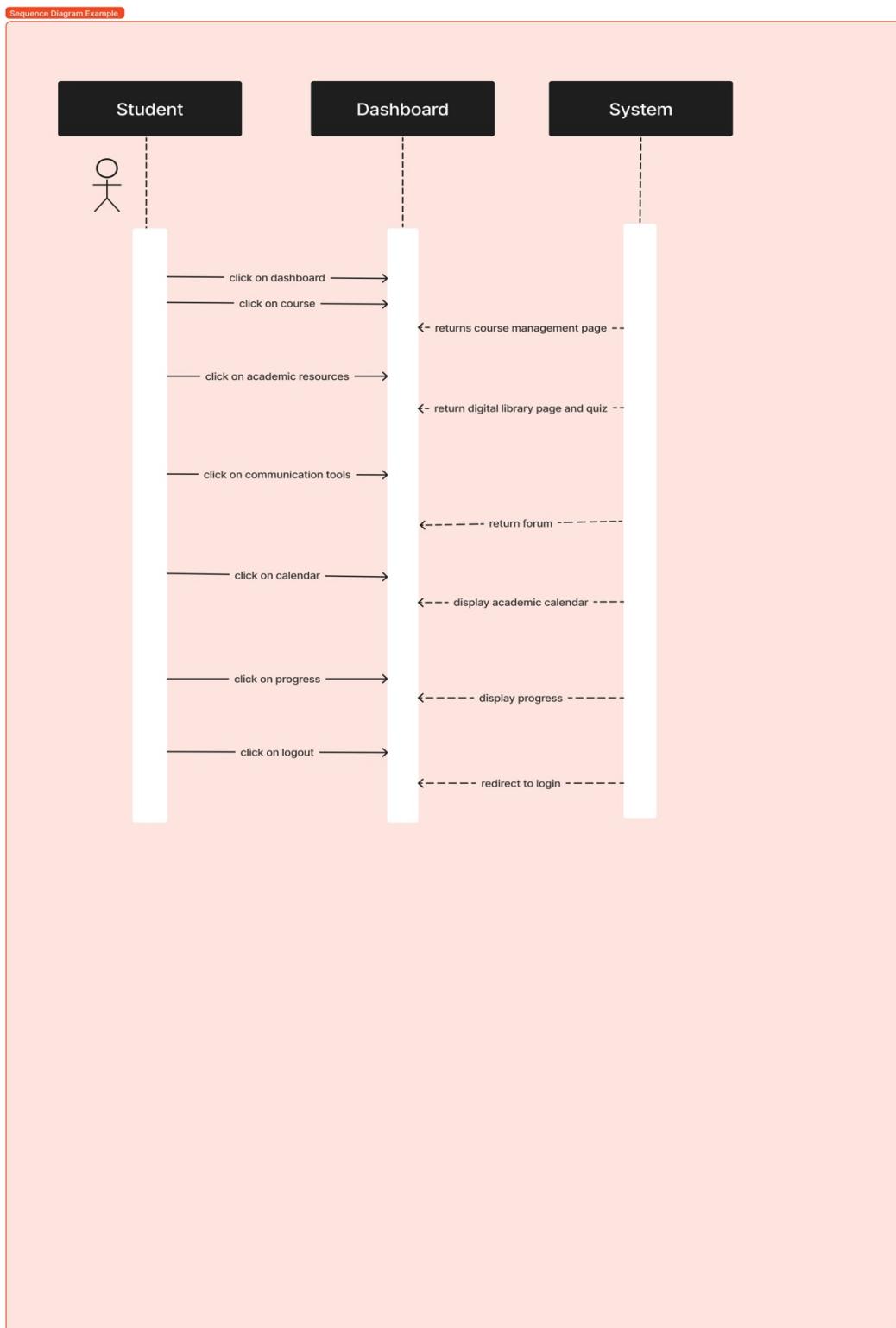
1. Registration



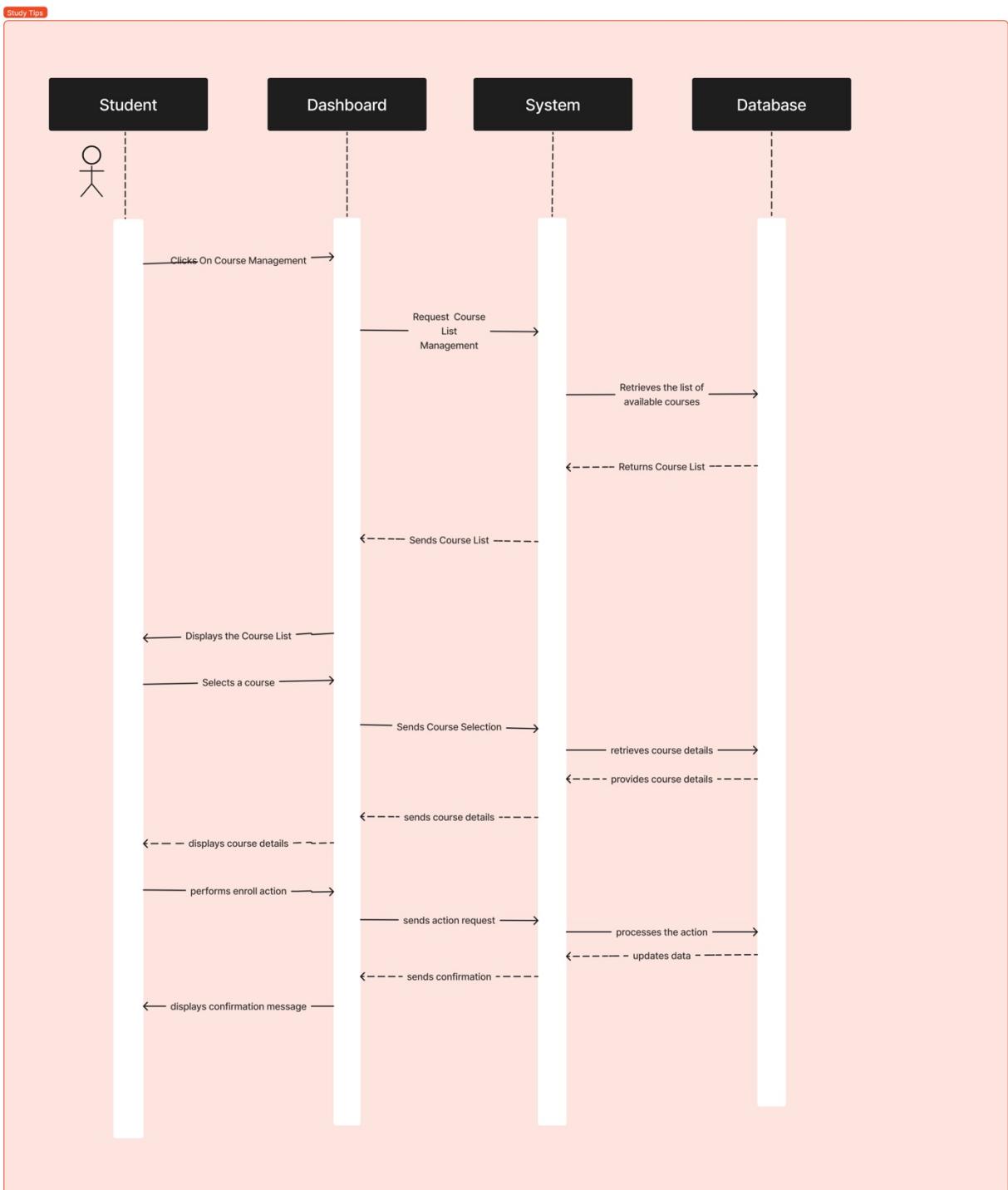
2. Login



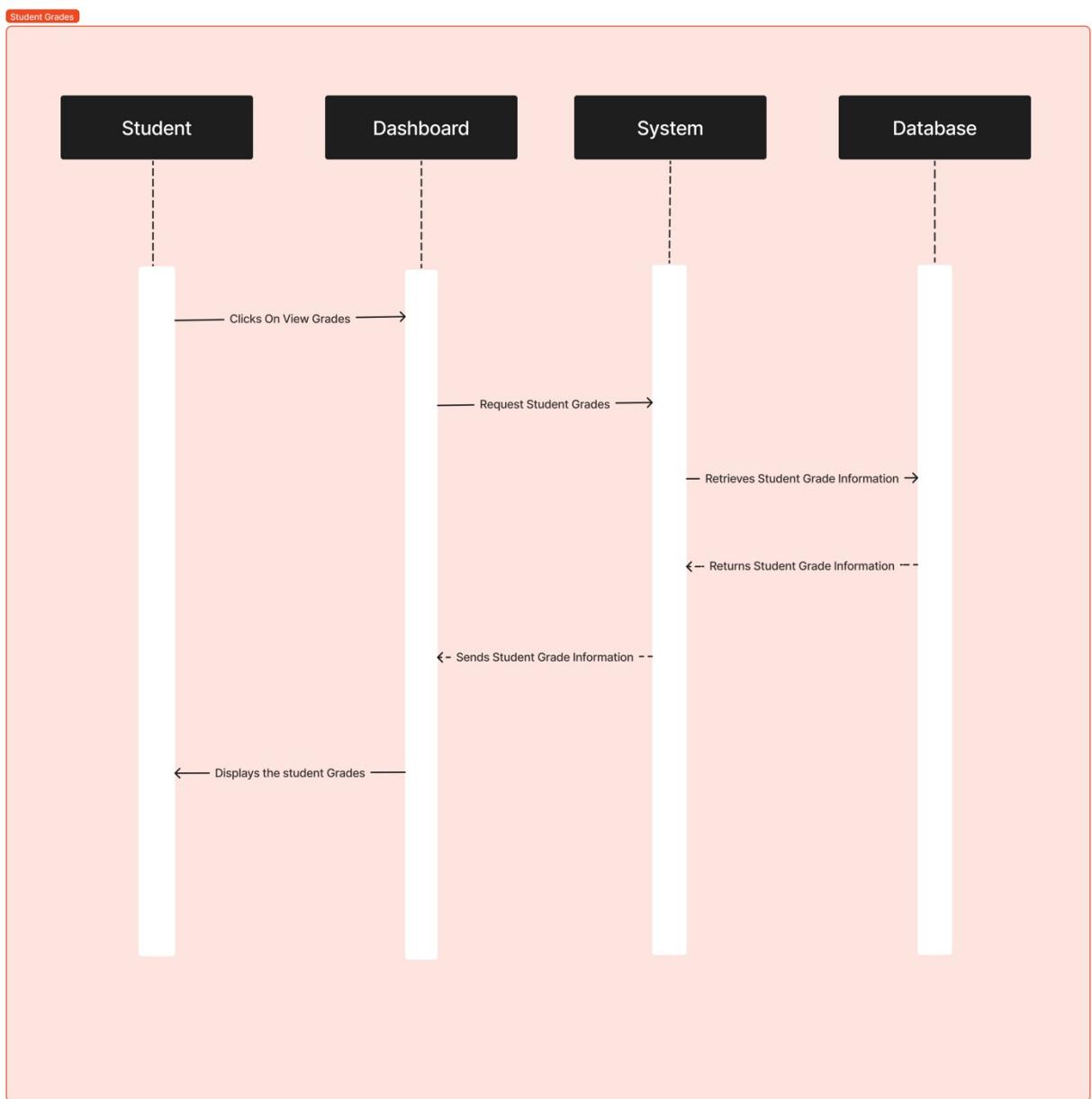
3. Dashboard



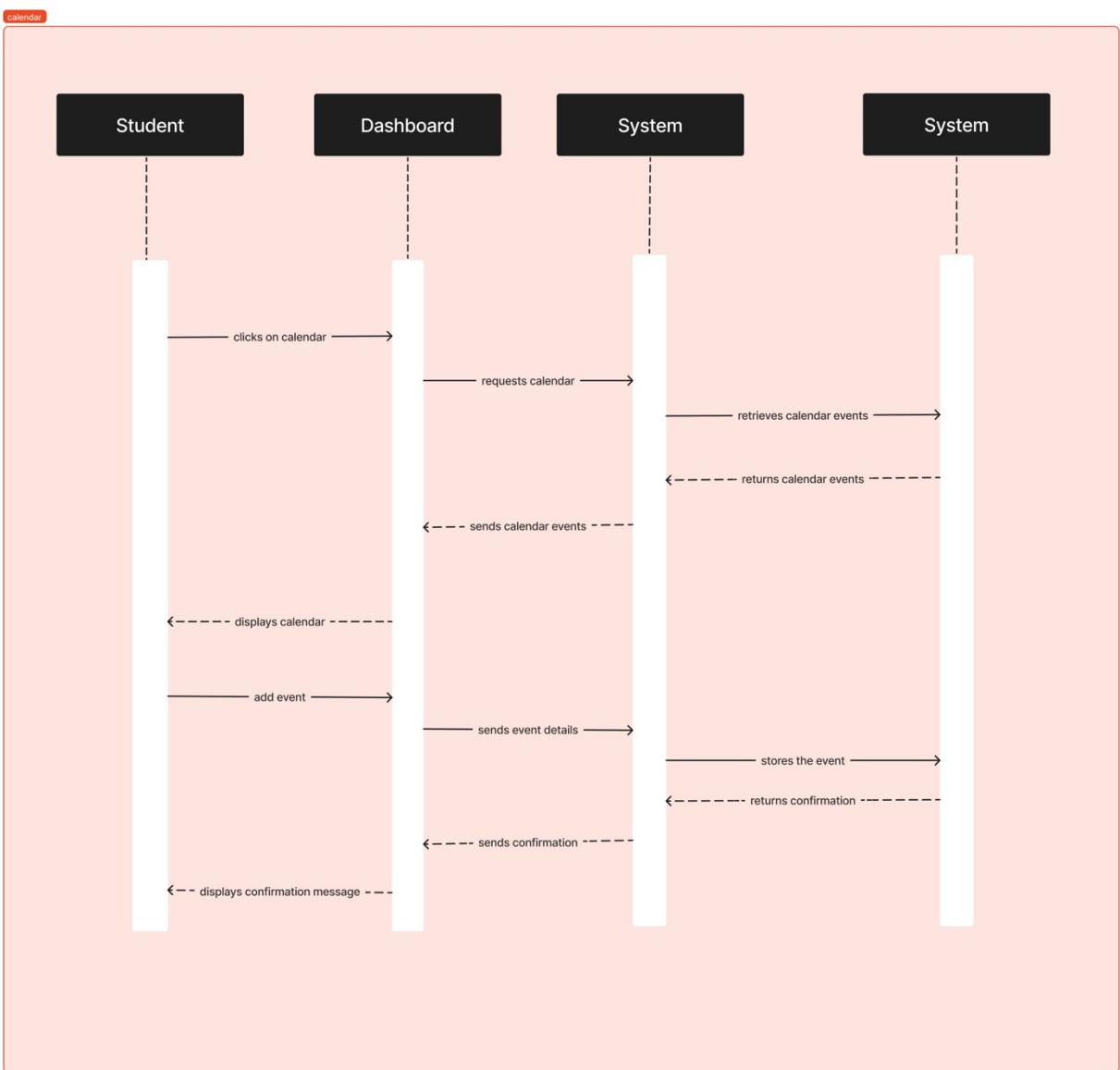
4. Course Management



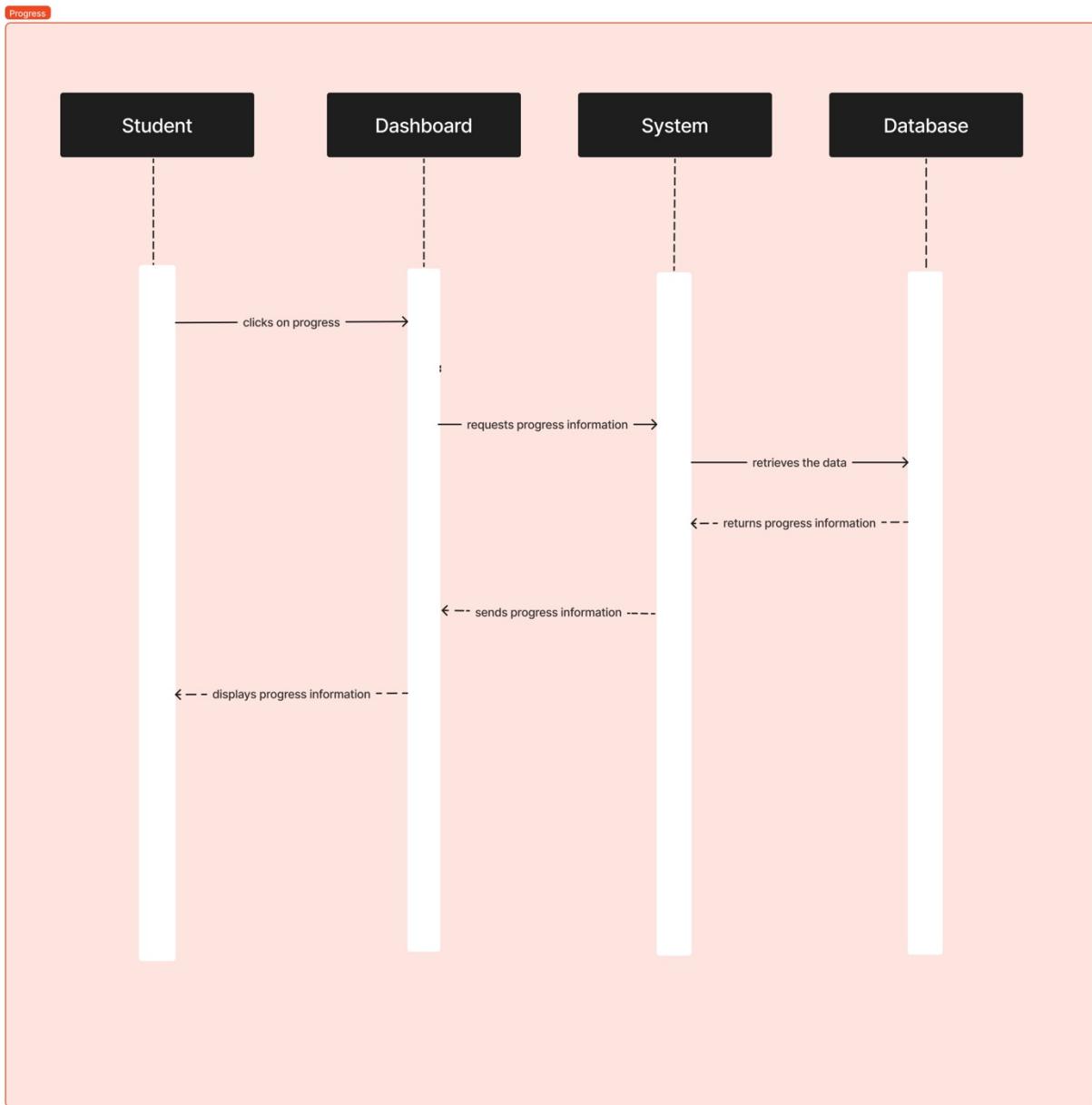
5. View Scores



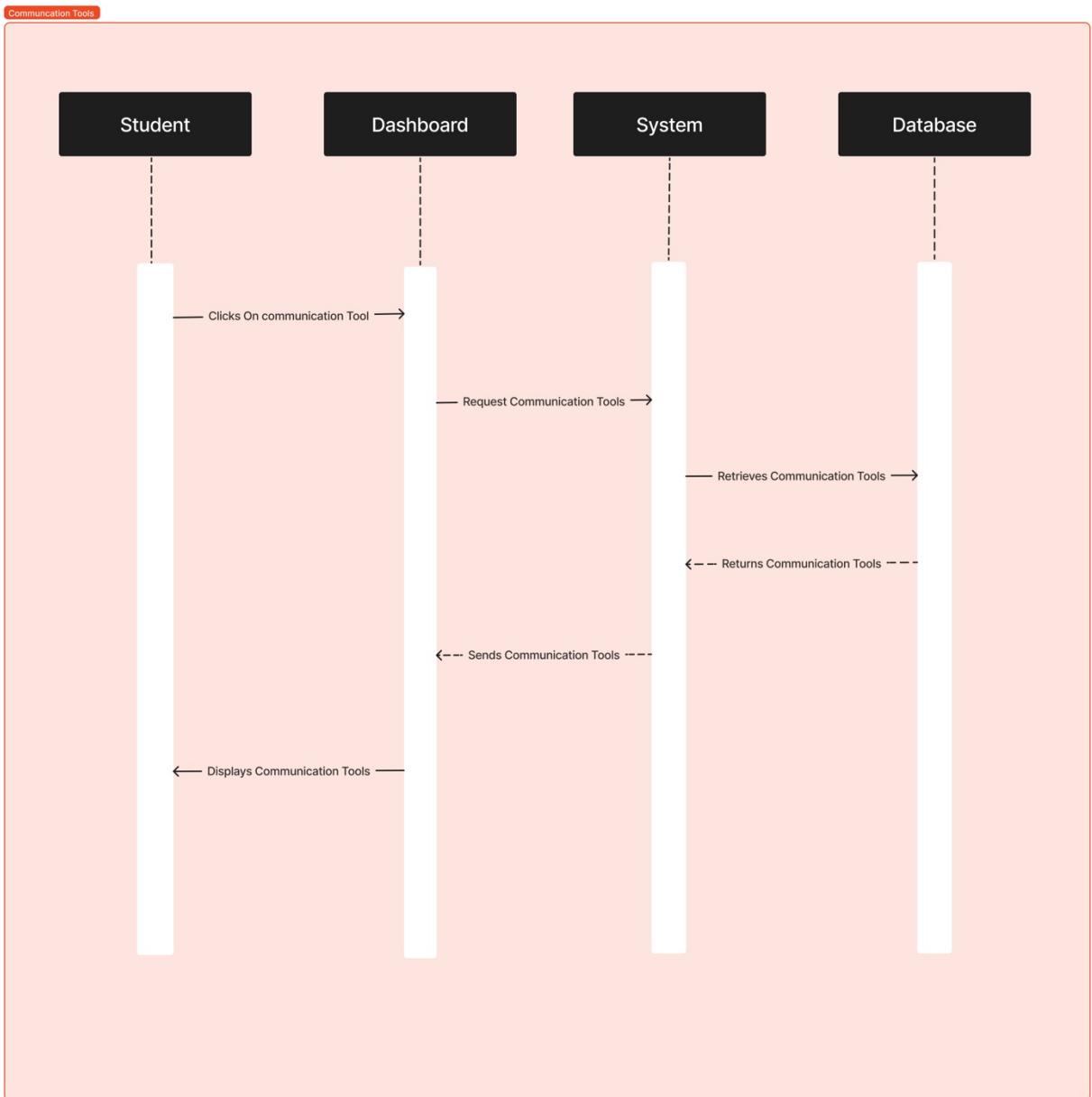
6. Calendar



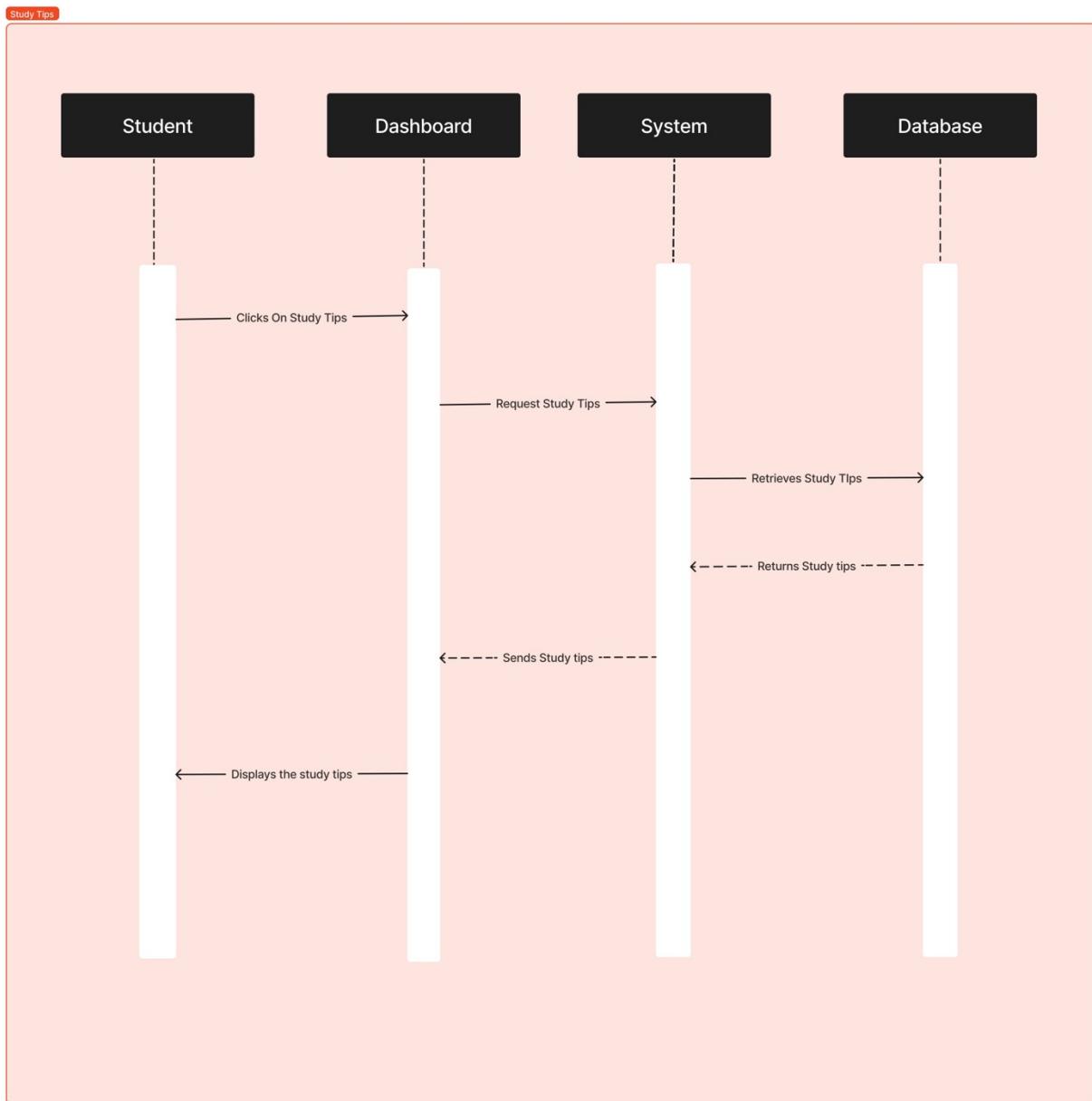
7. Progress Tracker



8. Communication Tools



9. Study Tips



Design Rationale

Our project's design for the student resource hub is focused on giving them an experience that is simple to use and intuitive. We started with the login and signup pages, making sure that these early interactions are simple and easy to use.

Registration and Login Pages

The login page is the key entrance point, giving users with a straightforward path to their accounts. The registration option is prominently presented for new users, urging them to register an account. We collect vital personal information during the registration process, such as first name, last name, date of birth, email, and password. This information enables us to uniquely identify users and customize their portal experiences.

Design Of the Dashboard

The dashboard is the center of the Student Portal, and its design strives for simplicity while also being functional. We recognize that students need quick access to important information, thus we choose to prominently display course cards on the dashboard. These cards provide brief overviews of registered courses, including course names and key dates.

Navigation Menu

To improve usability, we included a side navigation bar that is available from all pages inside the site. We chose to make the navigation simple by offering access to the dashboard, course pages, assignments, and attendance monitoring. The user's journey through the portal is simplified by this logical organization, which reduces the learning curve.

Student-Centered Approach

Our design is generally student-centric, with an emphasis on meeting students' needs and expectations. The design of the dashboard guarantees that students have quick access to important academic information such as course details and impending assignments. This strategy strives to streamline academic processes and allow students to effectively manage their schoolwork.

Progress Tracker

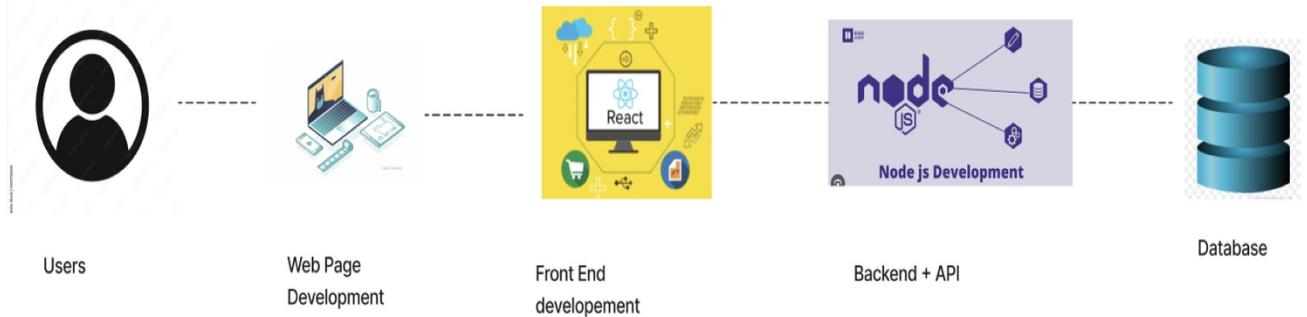
The Student Resource Hub is a user-centered web application designed to support students in their academic journeys. It caters to the needs of undergraduate and graduate students, as well as educators. The application focuses on providing efficient access to academic resources, which are categorized and easily searchable. Two pivotal features, the Progress Tracker, and Academic Activity Scheduler, have been integrated to help students plan and monitor their academic progress effectively. The Progress Tracker enables goal setting, progress visualization, and performance tracking, while the Academic Activity Scheduler integrates with calendars, allows task prioritization, sends reminders, and links to relevant resources. Additionally, a Communication Hub fosters interaction among users. The design principles emphasize simplicity, accessibility, scalability, security, and user feedback, ensuring a user-friendly and robust platform that empowers students to excel academically.

Stack of Technology

The project's aims determine the selection of technology, which includes JavaScript, React 17.0.2, Node.js, and MySQL. JavaScript is a versatile and widely supported programming language but react is a strong framework for creating dynamic user interfaces. Node.js simplifies the server-side activities required to execute the React application, resulting in smooth performance. MySQL is the database solution, securely storing and managing user data.

Finally, the design reasoning for the Student Resource Hub project is around building an accessible, efficient, and student-centric platform. Our decisions in login and dashboard design, navigation, and technological stack all aim to simplify academic activities, promote effective communication, and provide students with an optimal learning experience.

Information Architecture Diagram



User Interface Wireframe(s)/Screenshots

- **Stylesheet**

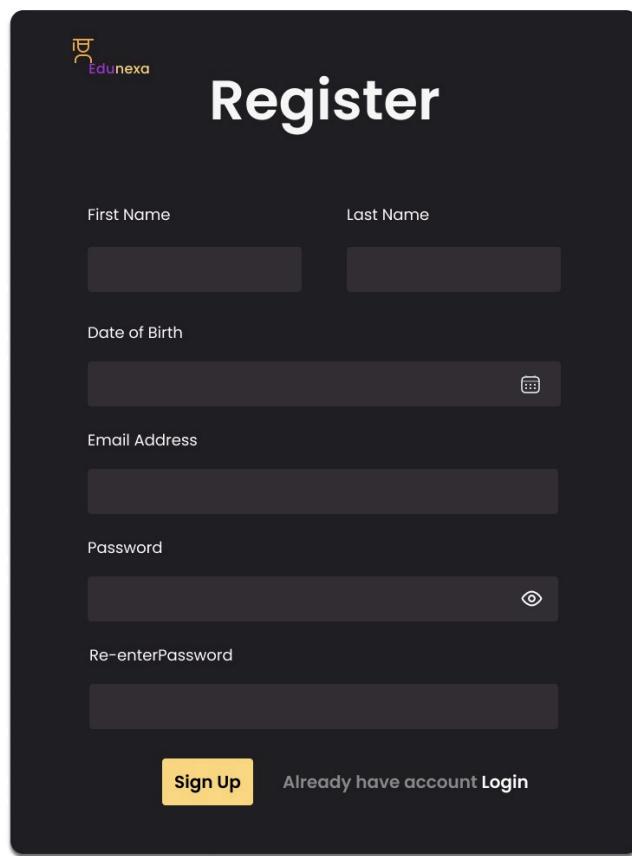
We are going to use libraries like Bootstrap, Material-UI, Semantic-UI React to style the user interfaces.

- **LOGO**



- **Registration Page**

This page helps the students to register to our website.



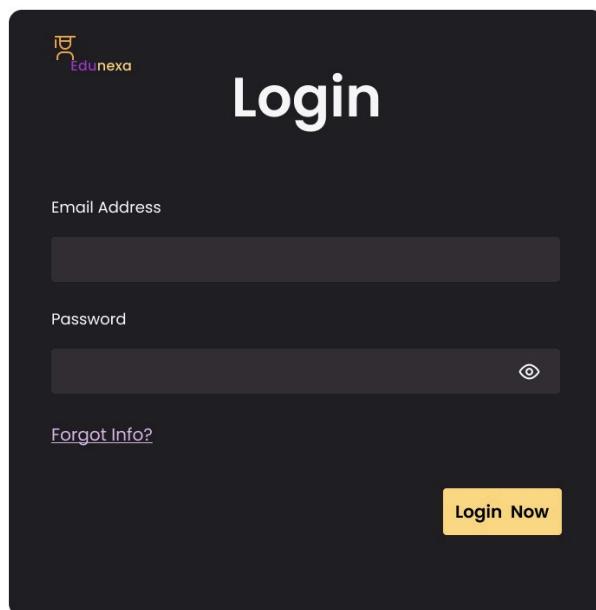
The image shows a registration form titled "Register" from the Edunexa platform. The form is set against a dark background and contains the following fields:

- First Name: A text input field.
- Last Name: A text input field.
- Date of Birth: A text input field with a calendar icon.
- Email Address: A text input field.
- Password: A text input field with an eye icon for visibility.
- Re-enter Password: A text input field.

At the bottom of the form are two buttons: "Sign Up" (highlighted in yellow) and "Already have account Login".

- **Login Page**

User can access the dashboard by entering their credentials (email and password).



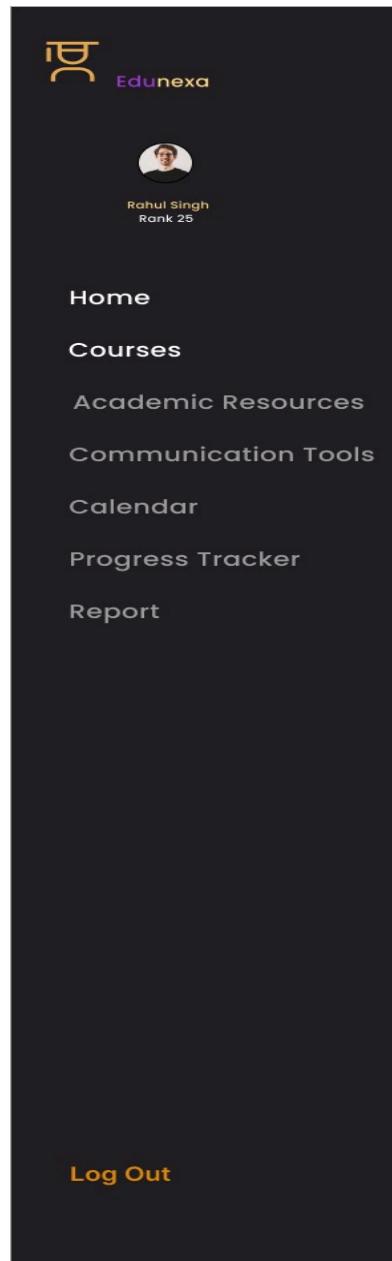
- **Dashboard – Student**

After a successful login of the students, the page redirects directly to the dashboard where user can access different functionalities and activities.

The screenshot displays the Student Dashboard interface. On the left, a dark sidebar contains a user profile (Rahul Singh, Rank 25), a navigation menu with links like Home, Courses, Academic Resources, Communication Tools, Calendar, Progress Tracker, and Report, and a Log Out button at the bottom. The main content area features a search bar at the top. Below it is a section titled "Design Thinking Seminar" (3 hours) with a "Watch now" button, accompanied by a photograph of hands sketching user interface prototypes. The "Learnings" section follows, showing cards for "Assignments" (Graphic Design), "Quizzes" (Graphic Design), and a "Workshop" (UI/UX). A "See All" link is located below this section. The "New Courses" section is shown next, featuring cards for "Adobe Photoshop" (Graphic Design), "UX Fundamentals" (UX), and "Advanced Photoshop" (Graphic Design). A "See All" link is also present here. The footer of the dashboard is visible at the bottom of the main content area.

- **Side navbar – Hover**

This feature which is a part of dashboard will allow the students to quickly switch between pages easily.



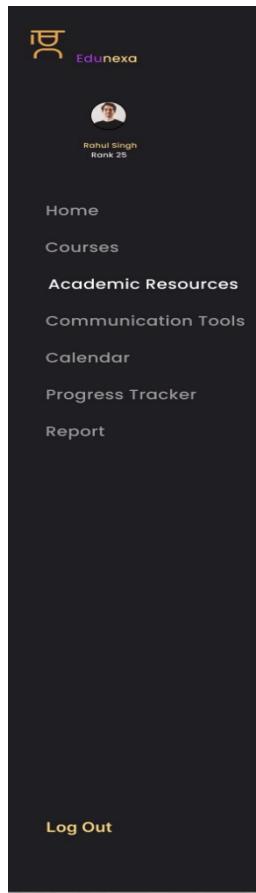
- Courses – class page

This page allows the student to access the courses available. The students can search the courses that they are interested in using the search bar and also scroll down to explore more courses.

The screenshot displays the Edunexa mobile application interface. On the left, a dark sidebar menu includes 'Home', 'Courses' (selected), 'Academic Resources', 'Communication Tools', 'Calendar', 'Progress Tracker', and 'Report'. At the bottom of the sidebar is a 'Log Out' button. The main content area features a search bar at the top with the placeholder 'Search courses, type a keyword'. Below the search bar is a large image of a person's hands sketching wireframes on paper, with the text 'Design Thinking Seminar' and '3 hours' above it, and a 'Watch now →' button. The main content area is divided into two sections: 'Short Courses' and 'New Courses'. Each section contains three course cards with titles, icons, and brief descriptions. In the 'Short Courses' section, the first card is 'Premiere Pro ADVANCED' (Graphic Design), the second is 'Adobe Illustrator 101' (Graphic Design), and the third is 'Figma UI UX Design Essentials' (UI/UX). In the 'New Courses' section, the first card is 'Java' (Graphic Design), the second is 'UX Fundamentals' (UX), and the third is 'PHOTOSHOP ADVANCED' (Graphic Design). Each course card includes a 'See All' button at the bottom right. The overall design is clean and modern, with a focus on education and professional development.

- Academic Resources

This page allows the user to access the study materials (e-books, study guides, etc.,) available with respect to their registered courses.



The screenshot shows the Edunexa website's Academic Resources section. At the top is a search bar with the placeholder "Search courses, type a keyword". Below it is a "Study Guide" section with three cards: "JAVA tutorials" (Graphic Design, Java), "ORACLE" (Graphic Design, Oracle), and "Figma UI UX Design Essentials" (UI/UX, Figma). A "See All" button is located at the bottom right of this section. Below is an "E Books" section with three cards: "ANGULAR" (Graphic Design, Angular), "React" (UX, React), and "Vue.js" (Graphic Design, Vue). A "See All" button is also located at the bottom right of this section. Each card includes a brief description: "Sed ut perspiciatis unde omnis iste natus error sit voluptatem accu suntium dolor emique laudantium...".

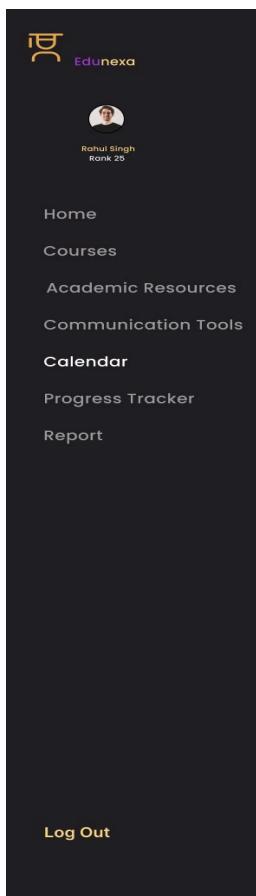
- **Communication Tools**

Students can create and join communities/groups to interact with each other.

The image is a composite of several screenshots illustrating communication tools for students. On the left, a vertical dark-themed interface shows a user profile for 'Rahul Singh' (Rank 25) with a search bar at the top. Below the profile are links for Home, Courses, Academic Resources, Communication Tools (which is the active tab), Calendar, Progress Tracker, and Report. At the bottom is a 'Log Out' button. To the right, there's a 'Community' section with a search bar and three cards: 'Community' (showing a dashboard with various metrics like 8, 25%, 60, etc.), 'Challanges & Solutions' (featuring a cartoon eye and smartphone icon), and a tablet screen showing a complex dashboard with graphs and data. Below these are two more cards: one showing a user profile for 'Ben White' with activity and device usage data, and another for 'Figma' with a cartoon character and a 'Duplicate' button. At the bottom right is a messaging interface with a speech bubble icon.

- **Calendar**

The students can personalize and schedule their daily events. It helps the students to organize their academic activities.



Saturday Daily Challenge



February						
Mo	Tu	We	Th	Fr	Sa	Su
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

TEST OVERVIEW

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More Challenge



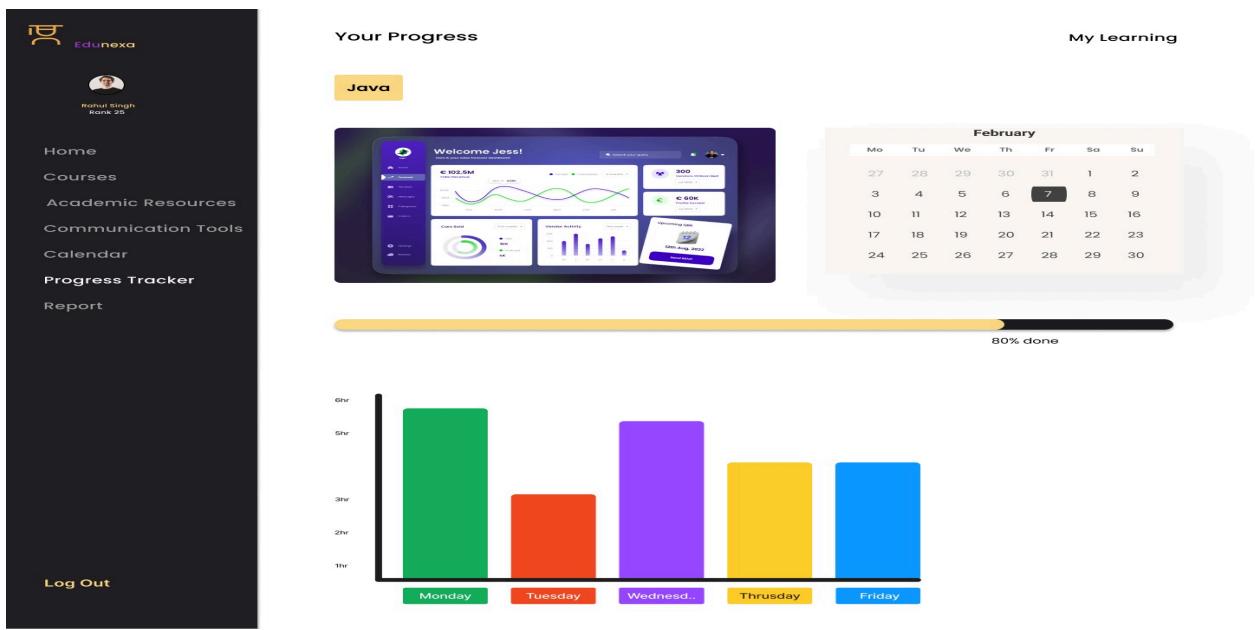
- **Progress Tracker (1) –**

Students can view their progress for the registered courses. It also gives the alert messages according to the course deadline.

The screenshot displays the Edunexa user interface. On the left, a dark sidebar menu includes Home, Courses, Academic Resources, Communication Tools, Calendar, Progress Tracker (which is highlighted in yellow), and Report. The main area is titled "Your Progress" and shows three tabs: Java, UX Fundamentals, and Software Fundamentals. The Software Fundamentals tab is active, displaying a dashboard with a welcome message, course progress (C 102.8M), and various metrics like 300 hours completed and 4 Ebooks downloaded. Below the dashboard is a calendar for February, with the 7th highlighted in black. A progress bar at the bottom indicates "80% done". At the bottom of the main area are buttons for "Notification" and "Message.....". The top right corner of the main area has a "My Learning" button.

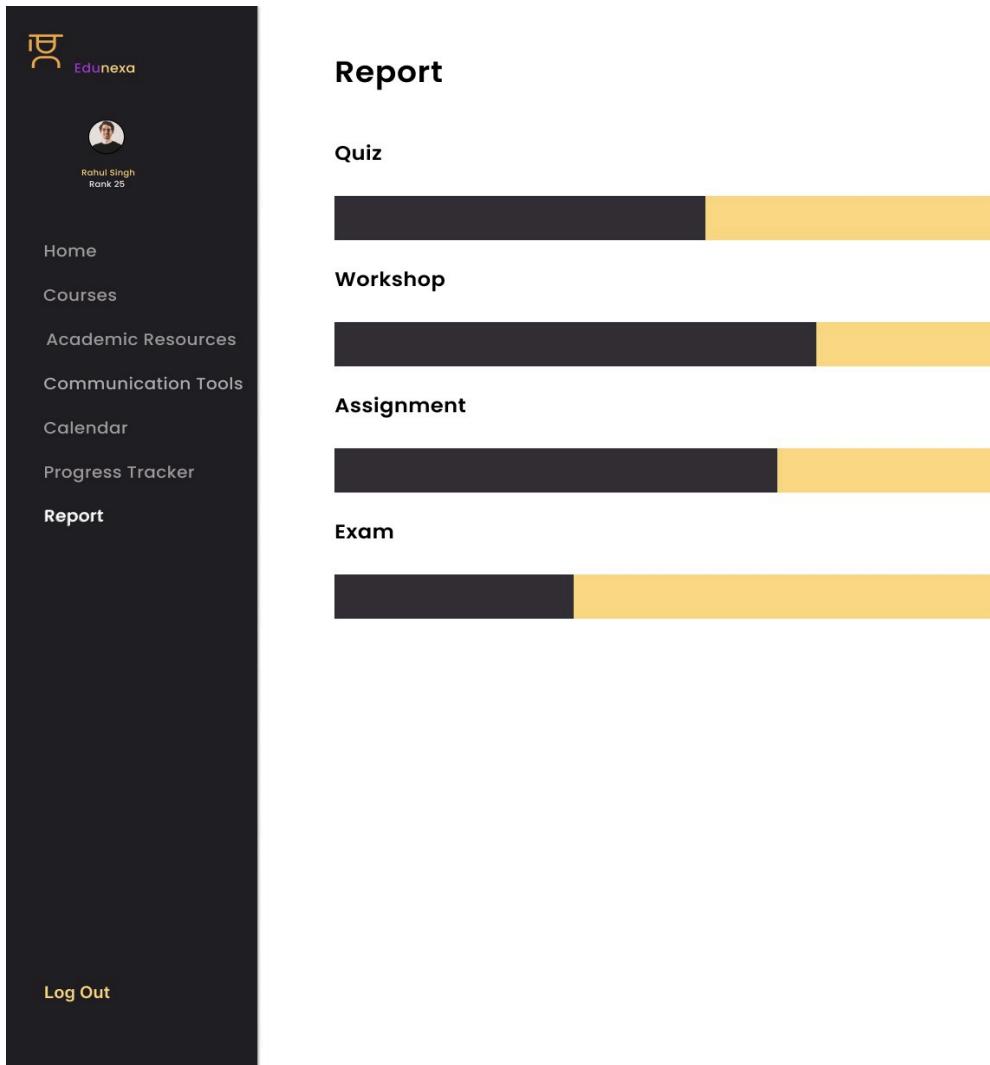
Progress Tracker (2) –

The students can visualize the hours spent on a specific course per day.



- **Report**

This page allows the students to track their performance through quizzes, workshops & assignments.



- **Profile**

The students can edit their details in this page.

The screenshot shows the Edunexa student profile interface. On the left, there's a sidebar with a dark background and white text. It features the Edunexa logo at the top, followed by a user profile picture and the name "Rahul Singh" with a rank of "Rank 25". Below this are links for "Home", "Courses", "Academic Resources", "Communication Tools", "Calendar", "Progress Tracker" (which is bolded), and "Report". At the bottom of the sidebar is a "Log Out" link. The main content area on the right has a large circular profile picture of a smiling man with glasses. Below it is the text "Score 25". There are four input fields for personal information: "First Name" containing "Rahul", "Last Name" containing "Rahul", "Date of Birth" containing "1- August-2000", and "Email" containing "siddhartha1197@gmail.com". A yellow "Edit Profile" button is located at the bottom right of these fields.

Individual Contribution

DATE	AUTHOR	CONTRIBUTION	ID
09-25-2023	RAVALI SALAKALA	Class Diagram	11727465
09-25-2023	YASWANTH ENGANDULA,	ER (Entity Relationship) Diagram	11563179
09-25-2023	SHIVA KUMAR GANJI	Sequence Diagram	11721056
09-25-2023	ALEKYA MULLAPUDI	Design Rationale	11660468
09-26-2023	SWEETY PASUPULETI	Information Architecture Diagram	11723266
09-26-2023	SIDDHARTHA GOUD ALWALA	User interface design Wire frames	11661116
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