



CS152

Human Computer Interaction

**AcademiX  
(All-in-one Student Platform)**

A Project  
Proposal By:  
FLUX Developers

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## **Chapter I**

### **Introduction**

#### **Background of the study**

Education has significantly evolved with the rise of online learning systems. These platforms offer easy access and flexibility, allowing students to learn from anywhere at any time. However, the shift to online learning has also introduced new challenges that impact students' learning experiences and outcomes. Identifying these challenges and finding solutions is crucial to improving online education.

#### **Statement of the problem**

1. **Organizational Challenges** Students often struggle to stay organized and manage their workload, including assignments and deadlines. This can lead to increased stress and reduced productivity.
2. **Fragmented Learning Experience** Current online learning systems often lack effective integration of tools and resources, leading to a fragmented learning experience. Students face difficulties navigating multiple platforms, which can hinder their overall educational experience.
3. **Isolation and Lack of Collaboration** Online learning can be isolating, making it difficult for students to collaborate and connect with peers. The absence of a social hub on these platforms further isolates students, reducing opportunities for meaningful relationships and support networks.
4. **Limited Access to Academic Support** Students often lack immediate access to personalized academic help. When they need assistance with course content or complex concepts, the current platforms do not provide easy access to tutors or teachers, leading to frustration and disengagement.

#### **Assumption of the study**

Our team proposes developing an all-in-one student platform to solve the organizational and pacing problems that students face in online learning environments. This platform will include comprehensive features like task tracking, deadline reminders, and collaborative study group facilitation, all intended to improve time management and lower academic stress. Gamified components like flashcards and quizzes will also be included to enhance study engagement and effectiveness. The application will also offer an on-demand tutoring tool to connect students with trained teachers for personalized online sessions. To guarantee that the platform satisfies the demands of its users, thorough surveys with 10-20 respondents will be undertaken to solicit feedback on desired features and usability preferences. Following data collection and analysis, the platform will be developed using a user-centric approach, with functions and design features targeted to improve students' online learning experiences.

### **Significance of the study**

- **Students:** Students will benefit the most from AcademiX. The platform helps them stay organized, access personalized academic support, and collaborate with peers, which can lead to better academic performance and reduced stress.
- **Teachers and Tutors:** Teachers and tutors will find AcademiX useful for providing personalized academic support and facilitating collaborative learning. The platform's features will help them engage more effectively with students.

## **Chapter II**

### **Research Design**

#### **Task Analysis**

Our task analysis for AcademiX involves breaking down key functionalities into manageable tasks to ensure a seamless user experience. Users begin by accessing the platform on their device and logging in with their credentials. They can manage assignments and deadlines by viewing lists, adding new tasks with due dates, setting reminders, and marking tasks as completed. For personalized academic support, users navigate to the tutoring section, request and schedule sessions, and join these sessions as needed. Collaboration is facilitated through tools that allow users to create or join study groups and participate in group discussions. Tracking academic progress involves monitoring completed assignments and reviewing past tutoring sessions and feedback. Each task is designed to be intuitive and straightforward, enhancing overall usability and efficiency for students.

- **Accessing AcademiX**
  - Open the platform on a device (smartphone)
  - Log in with user credentials
- **Managing Assignments and Deadlines**
  - View assignment list
  - Add new assignments with due dates
  - Set reminders for upcoming deadlines
  - Mark assignments as completed
- **Accessing Personalized Academic Support**
  - Navigate to the tutoring section
  - Request a tutoring session
  - Schedule a session time
  - Join the tutoring session

- **Collaborating with Peers**
  - Access the collaboration tools
  - Create or join study groups
  - Participate in group discussions and activities

- **Tracking Academic Progress**
  - Monitor completed assignments and upcoming deadlines
  - Review past tutoring sessions and feedback

## Requirements Gathering

### Methods Used

#### 1. Heuristic Evaluation

- **Rationale:** Heuristic evaluation involves the assessment of AcademiX by usability experts against established usability principles. This method identifies potential issues systematically and provides insights for enhancing user experience.
- **Task:** Our team evaluated AcademiX's interface and interactions using industry-standard heuristics, such as visibility of system status, match between system and the real world, and user control and freedom. Each aspect was scrutinized to identify usability issues.

#### 2. Task Analysis

- **Rationale:** Task analysis breaks down AcademiX's functionalities into manageable tasks, helping us understand user interactions and identify usability challenges. It provides a detailed view of user workflows.
- **Task:** We deconstructed AcademiX's functionalities into individual tasks, like logging in and interacting with peers. Each task was analyzed for complexity, frequency, and usability barriers, highlighting specific areas for improvement.

#### 3. Surveys

- **Rationale:** Surveys collect direct feedback from students, providing valuable insights into their perceptions of AcademiX's usability and effectiveness. Both face-to-face and online surveys offer comprehensive user experience data.
- **Task:** We designed a structured survey questionnaire to capture quantitative and qualitative feedback from students. The survey addressed various aspects of user experience, including navigation ease, clarity of instructions, and feature satisfaction. Face-to-face interviews supplemented survey data, offering deeper insights into students' interactions with AcademiX.

## Requirements Based on Different Perspectives

### 1. User Requirements

- **What are the needed requirements based on the users' point of view?**
  - Efficient organization of assignments and deadlines.
  - Easy access to personalized academic support.
  - Seamless collaboration with peers.

### 2. Functional Requirements

- **What functionality should any system provide to these users?**
  - Task tracking and deadline reminders.
  - On-demand tutoring sessions.
  - Tools for collaborative learning activities.

### 3. Data Requirements

- **What data is needed and how will it be managed?**
  - Student profiles, academic records, and task lists.
  - Secure storage and easy retrieval of user data.
  - Integration with existing online learning systems for data consistency.

### 4. Environmental Requirements

- **What are the environmental considerations for the system?**
  - Accessibility from smartphone
  - Compatibility with different operating systems.

## 5. Usability Requirements

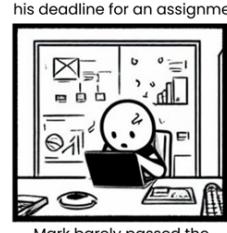
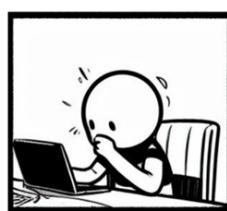
- **How user-friendly should the system be?**
  - Intuitive and simplified user interface.
  - Clear and concise instructions for all features.
  - Customizable settings to cater to individual user preferences.

## 6. Designers Requirements

- **What are the requirements from a design perspective?**
  - User-friendly interface design to combat disorganization and inefficiency.

## Storyboarding and Prototyping

- **Scenario 1:** Mark's heart jumped as a notification popped up - an upcoming deadline he'd completely forgotten about loomed. With a frantic rush, he barely scraped by finishing the assignment, only to be hit with another notification for a forgotten project. Talk about double trouble!



- **Scenario 2:** Sam stared at the confusing topic on his screen, brow furrowed. A desperate internet search only deepened the fog. Feeling lost with no one to turn to for help, Sam resigned himself to whatever fate awaited him on the quiz.



This is Sam, he is currently studying for a quiz



Sam is confused on a certain topic



Sam then researches the webs for an explanation



Sam then gets overloaded with information



Sam is now more confused than he was awhile ago



Sam is now just accepting his fate

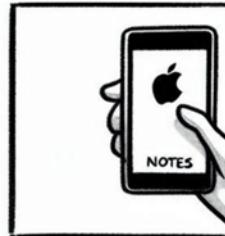
- **Scenario 3:** Cris while walking did a quick check for his schedule which quickly turned into a frustrating hunt for his flashcards app. Just as he found it, a notification for an unexpected online meeting popped up. Panic surged - the platform wasn't even installed on his phone!



This is Cris ; he is currently walking to class



While walking, Cris wanted to check his to-do list



Cris now opens his phone's notes application to look at his schedule



Cris, seeing his schedule, now needs to find the application for his flashcards to study for an upcoming test



Cris is getting a notification that he needs to attend an online meeting and unfortunately does not see the application

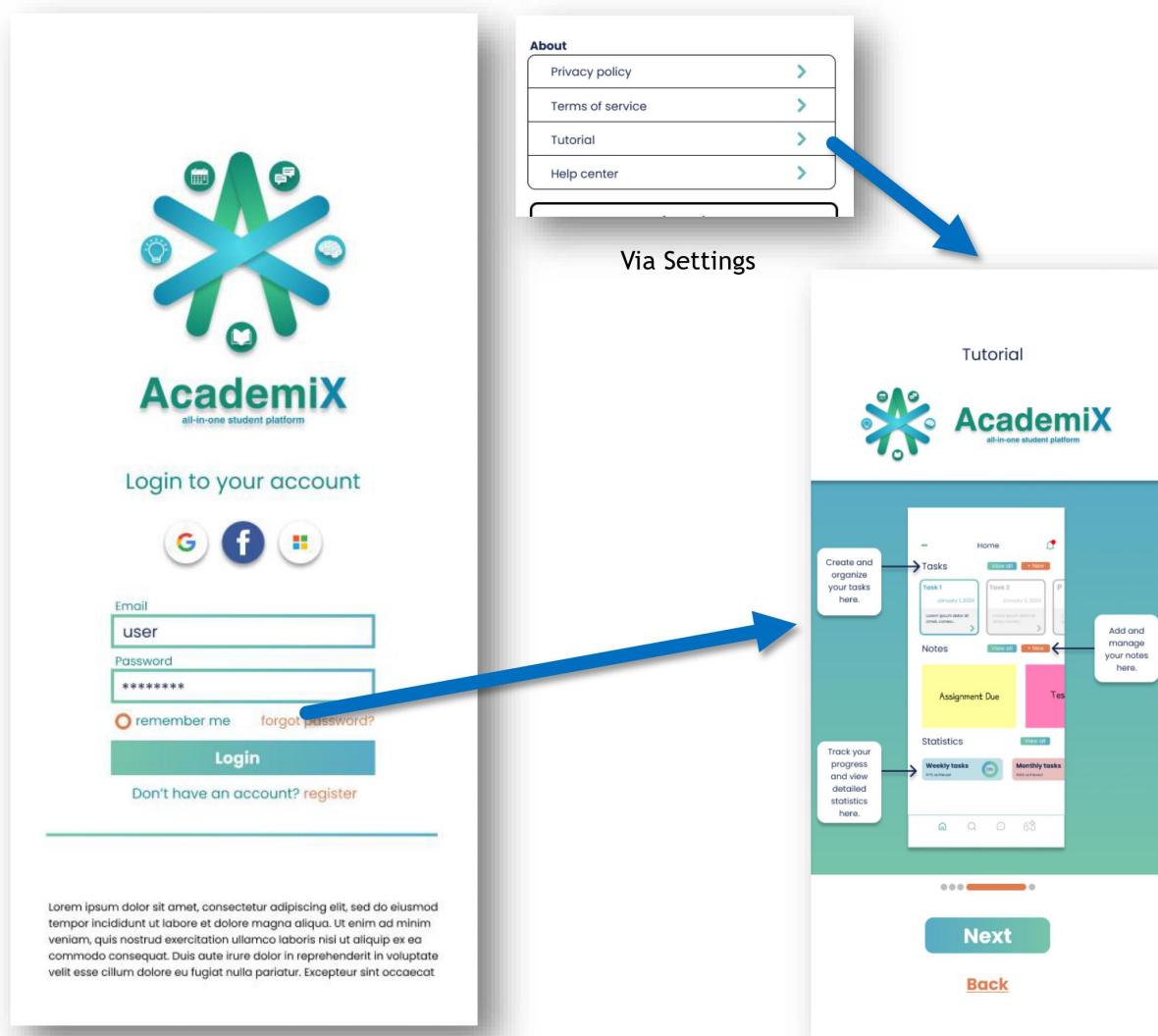


Cris is now frustrated that he needs to have multiple apps for his schoolwork

### Problem Statements:

- Students face organizational challenges and increased stress.
- Students lack instant access to personalized academic support
- Students face fragmented and ineffective learning experiences.

## Login & Tutorial



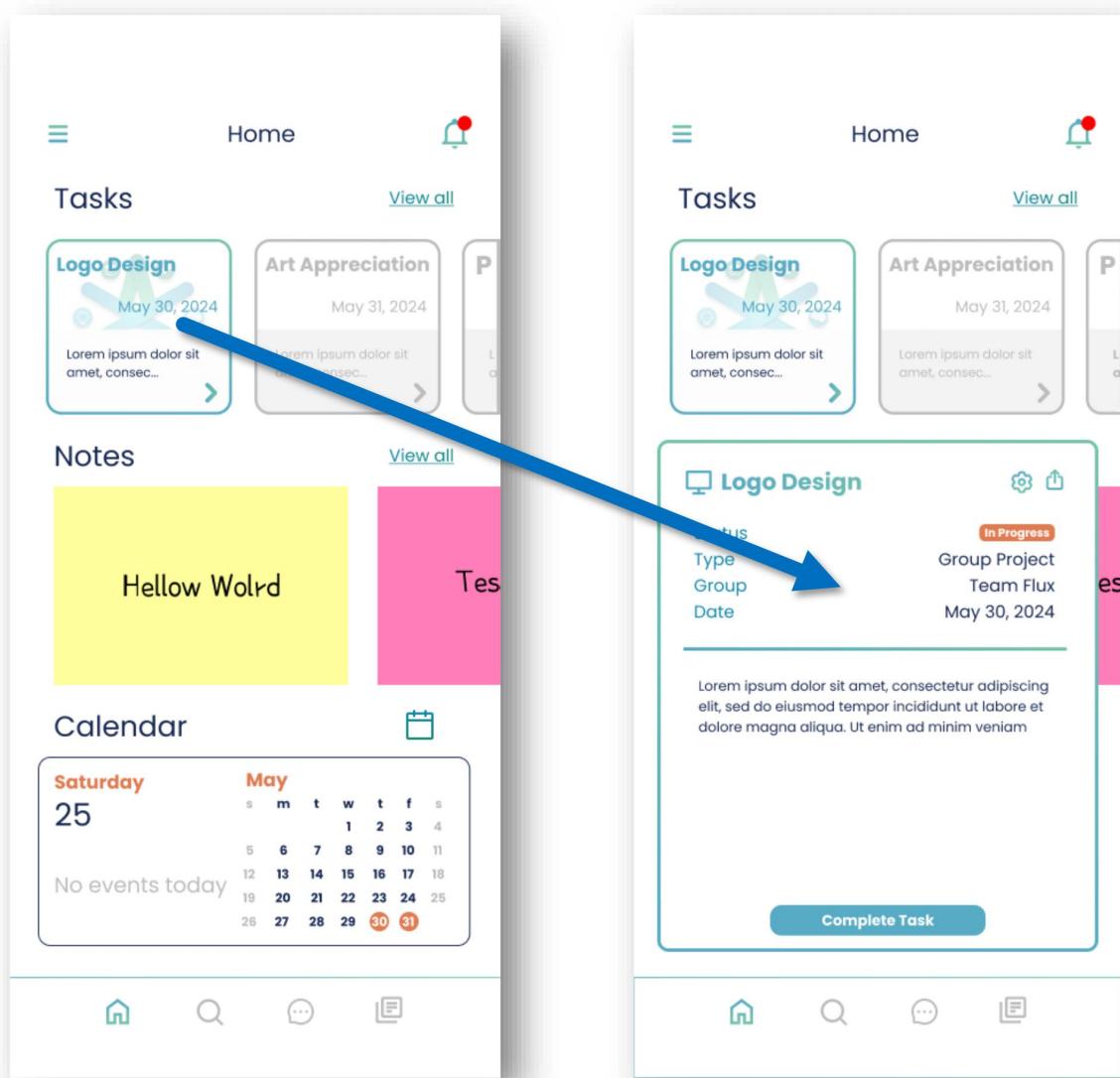
**Q: How do I log in to the app?**

A: You can log in using third-party emails (e.g., Google, Facebook) or your personal email.

**Q: What happens after I log in?**

A: After logging in, you will be greeted with a tutorial screen that guides you through the basic functionalities and navigation of the app.

## Home Screen



**Q: What can I do on the home screen?**

**A:** The home screen displays a dashboard where you can view information about your tasks, notes, and calendar events.

## Sidebar & Settings

The diagram illustrates the navigation between the home screen and the settings screen. On the left, the home screen displays a sidebar with 'Tasks' (Logo Design, Art Appreciation), 'Notes' (Hellow Wolrd, Test), and 'Calendar' (May 25). A blue arrow points from the sidebar icon on the home screen to the gear icon in the top right of the settings screen. Another blue arrow points from the notes section on the home screen to the notes section in the settings screen.

**Q: How do I access the settings and other options?**

A: Use the sidebar to access settings, view shortcuts, and groups. You can also customize the sidebar options according to your preferences.

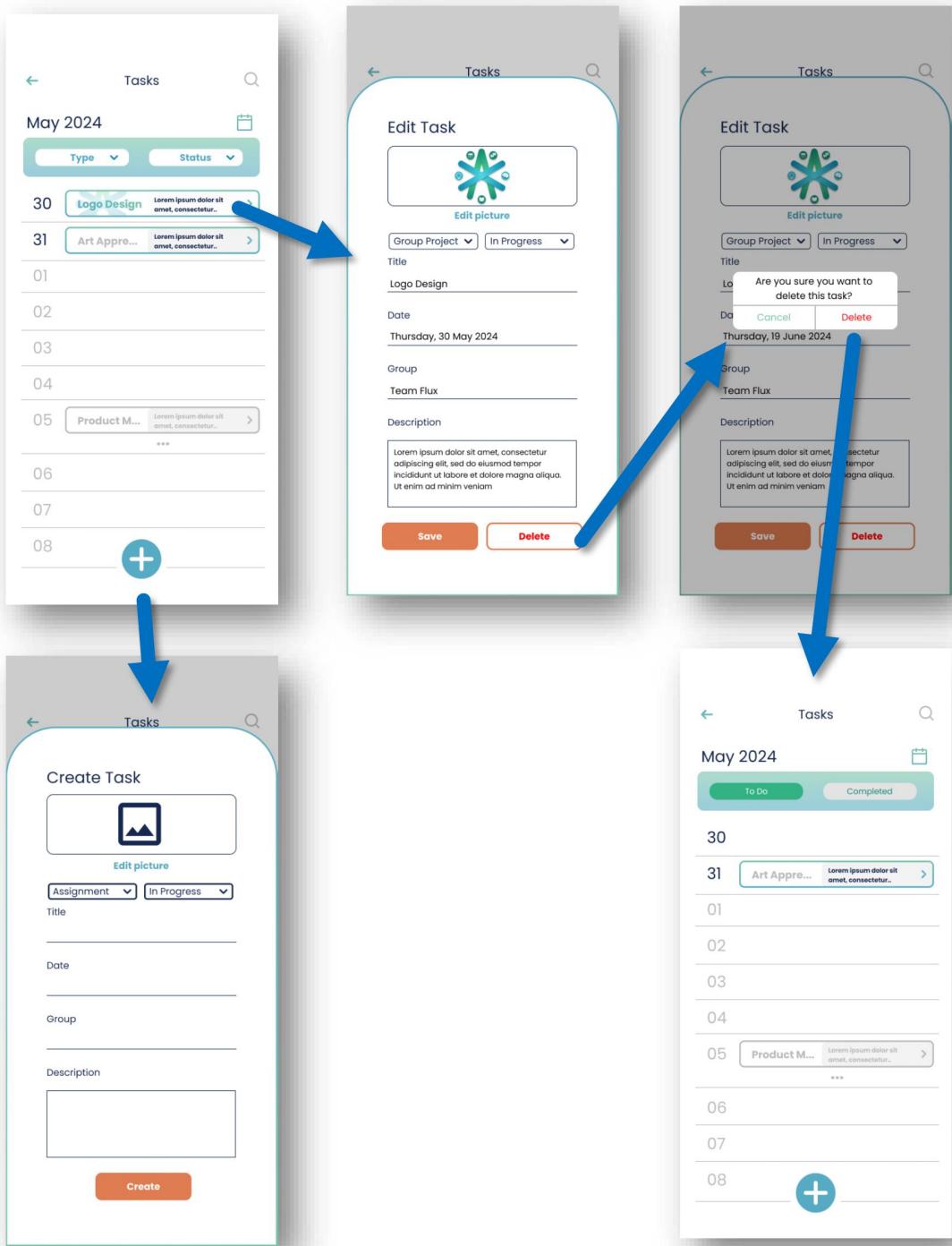
**Q: What can I do in the settings screen?**

A: In the settings screen, you can manage your personal information, set preferences, personalize the app, and access the about section where you can revisit the tutorial or log out.

The settings screen is divided into several sections:

- User:** Displays the user profile picture and name (User).
- Shortcuts:** Shows existing shortcuts (Jane Doe, Algebra Quiz) and an option to "Add Shortcuts".
- Groups:** Shows existing groups (The Research, Group #1, Group #2, Group #3) and an option to "Add Group".
- Personal info:** Includes fields for Username (user123), Email (user123@email.com), and Password (\*\*\*\*\*).
- Preferences:** Includes toggle switches for Push notifications and Email notifications.
- Personalization:** Includes options for Themes (Classic), Customize navigation bar, and Dark mode.
- About:** Includes links to Privacy policy, Terms of service, Tutorial, and Help center.
- Log out:** A button to log out of the account.
- Delete account:** A button to delete the account.

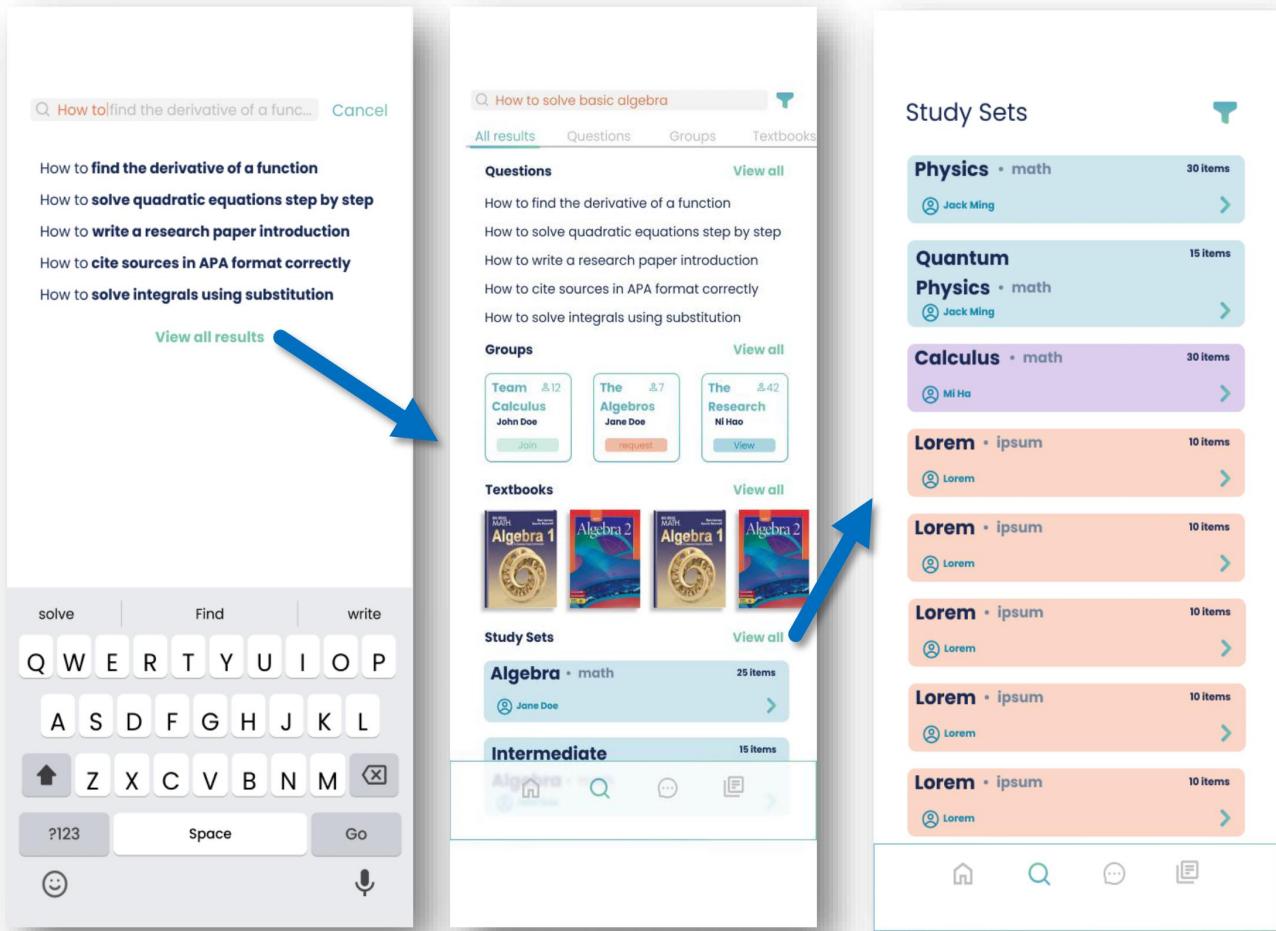
## Tasks2



**Q: How can I manage my tasks?**

**A:** On the home screen, you can view all your tasks, sort them, create new tasks, edit past tasks, and delete tasks.

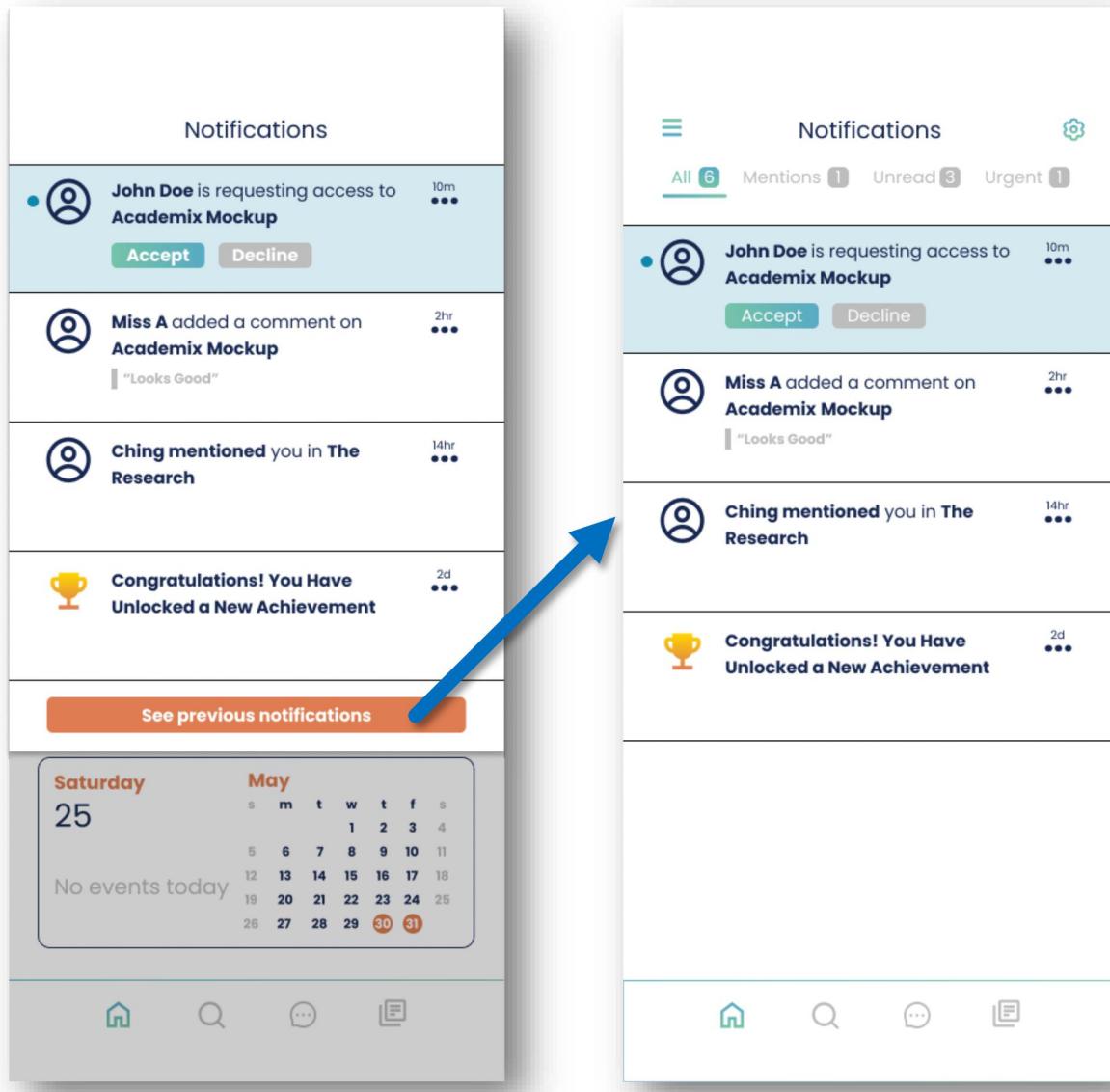
## Search Functionality



### Q: How do I use the search feature?

A: Use the search bar to find questions, groups, textbooks, etc. The search bar will predict and suggest queries as you type. Click "View All Results" to see categorized search results.

## Notifications



### Q: How do I manage notifications?

A: You can preview your latest notifications, check all notifications by clicking the "See previous notifications" button, and sort notifications to manage them efficiently.

## Viewing Study Sets

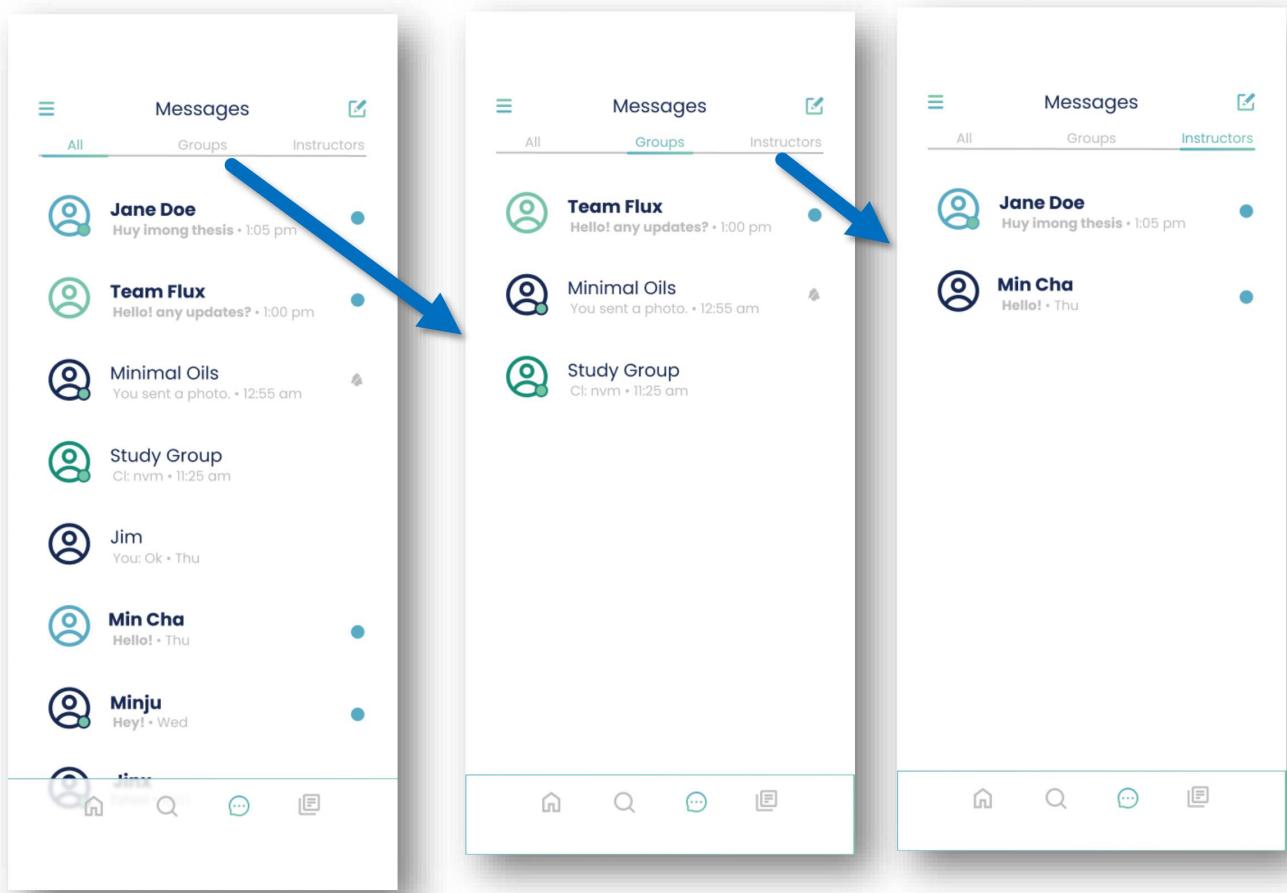
The diagram illustrates the workflow for viewing study sets:

- Via Library:** Shows the main library interface with categories like "Algebra" and "Biology". A blue arrow points from this screen to the next one.
- Flash Cards:** Shows a study set titled "Algebra + math" with three activity options: "Flash Cards", "Matching", and "Quiz". Below these are two card items:
  - Constant:** A term with no variables
  - binomial:** A two-term polynomialA blue arrow points from this screen to the next one.
- Card Detail View:** A close-up of the first card item, "Constant", which defines it as "A term with no variables". A large blue arrow points from this screen down to the final comparison screen.
- Comparison View:** A side-by-side comparison of the two card items. The left card shows "A term with no variables" and the right card shows "Constant". A blue arrow points from the previous screen to this comparison view.

**Q: How do I access and use study sets?**

**A:** View study sets that are relevant to your search queries. You can learn using flashcards, matching games, or quizzes, and display terms or correct answers from the definitions.

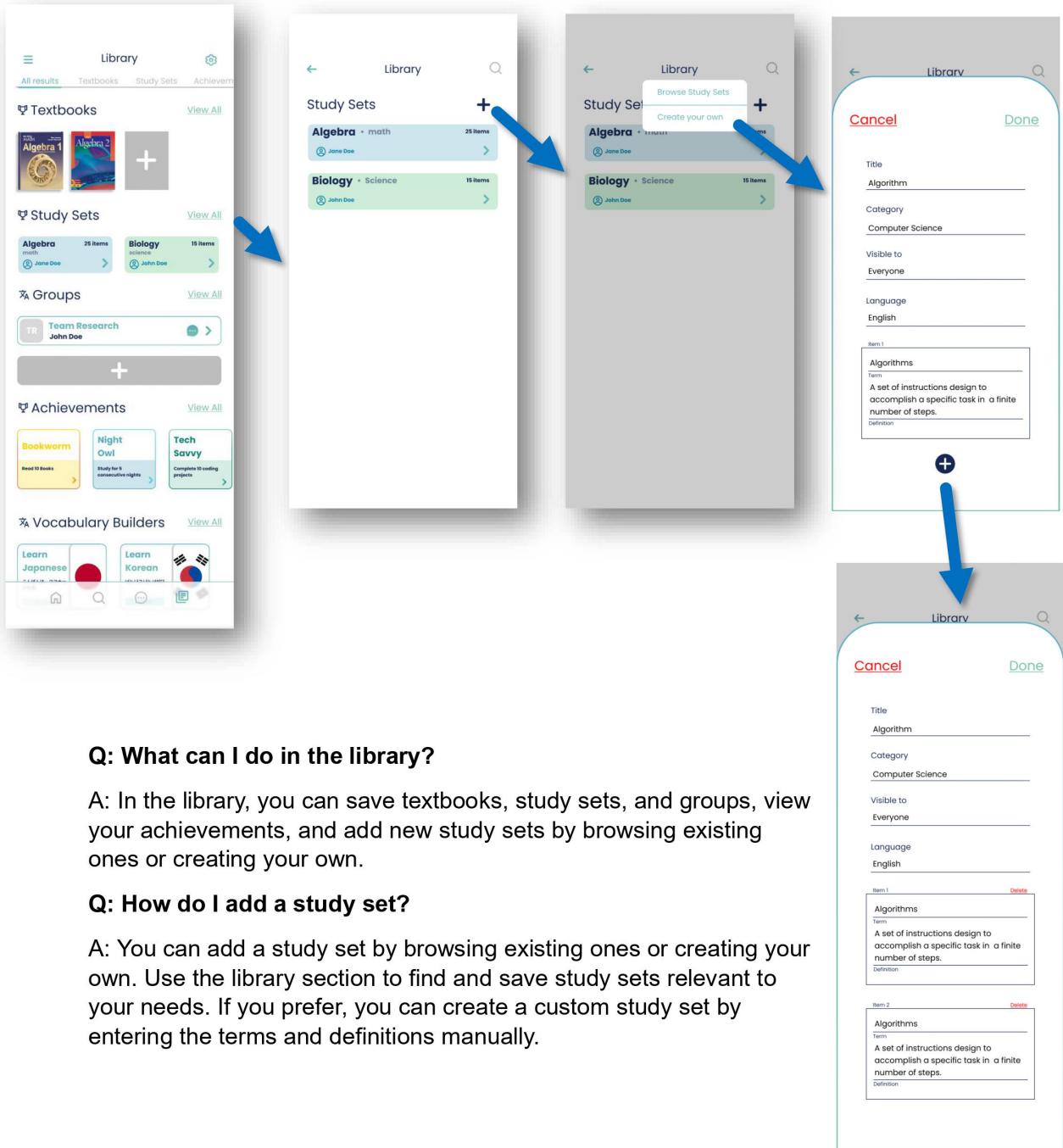
## Messages Screen



**Q: How do I use the messages feature?**

A: The messages screen allows you to communicate with all users, groups, and instructors.

## Library & Study Sets



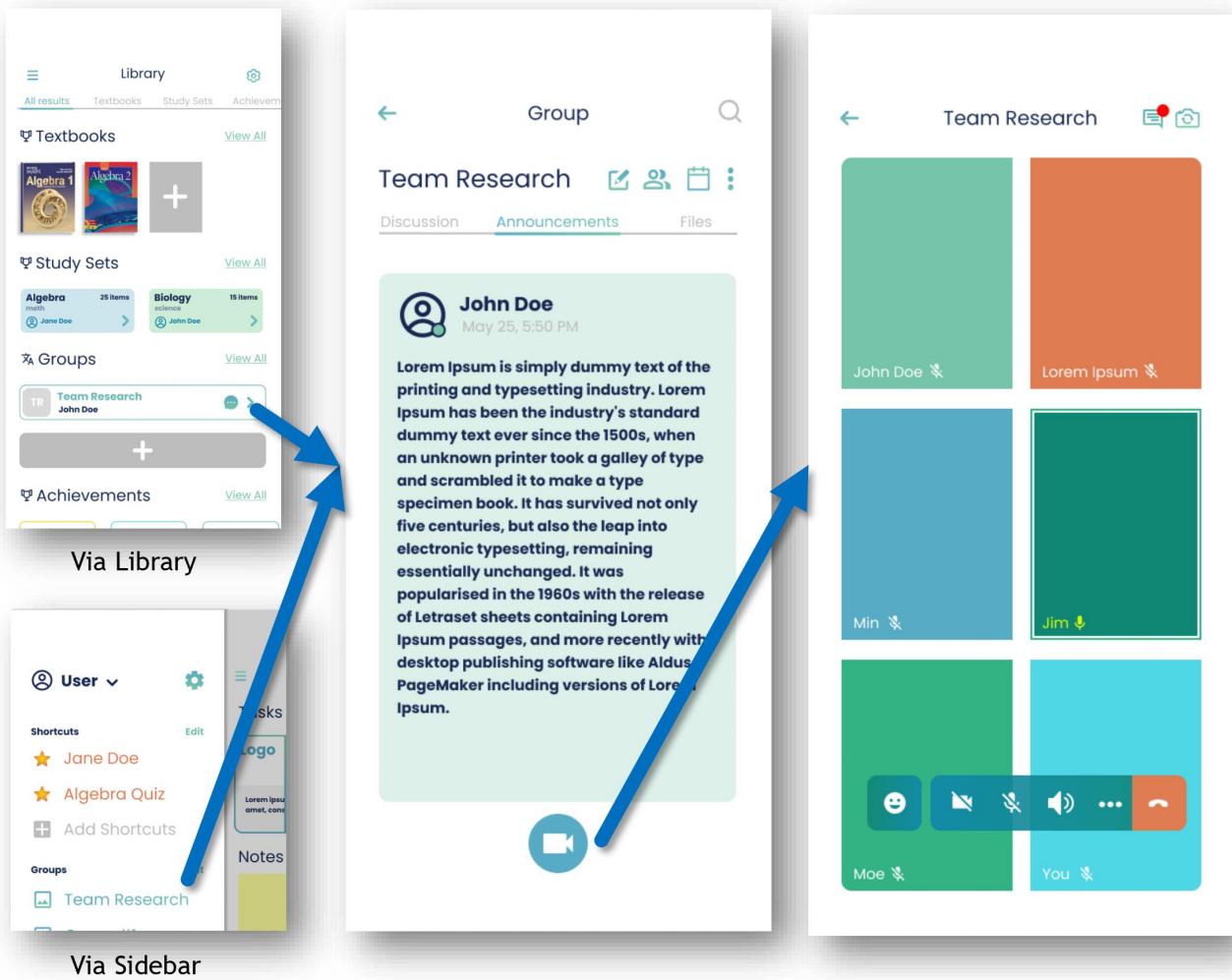
### Q: What can I do in the library?

A: In the library, you can save textbooks, study sets, and groups, view your achievements, and add new study sets by browsing existing ones or creating your own.

### Q: How do I add a study set?

A: You can add a study set by browsing existing ones or creating your own. Use the library section to find and save study sets relevant to your needs. If you prefer, you can create a custom study set by entering the terms and definitions manually.

## Groups & Video Calls



### Q: What functionalities are available in the groups section?

A: In the groups section, you can participate in discussions, read announcements, access files, create posts, view group members, and check the group calendar.

### Q: How do I initiate a video call?

A: Use the call button to initiate video calls for collaboration and idea sharing. During calls, you can check messages, send emoticons, and use additional call functionalities.

## Evaluation of prototype

Evaluation Criteria (Based on the 10 heuristics of design evaluation)

Area of Evaluation	5	4	3	2	1
<b>A. Visibility of System Status</b> - The system design provides appropriate feedback like message prompts in response to user actions. - The message prompts are clear, visible and understandable.					
<b>B. Match between the system and the real world</b> - Used words, phrases and concepts according to users' language rather than system oriented words and computer jargons.					
<b>C. User control and freedom</b> - The system design provides ways of allowing users to easily "get in" and "get out" if they find themselves in unfamiliar parts of the system.					
<b>D. Consistency and Standards</b> - The colors, text, labels, buttons and other elements in the design are uniform from start to finish. - Text and icons are not too small or too big. - Menus and other features of the system are arranged and positioned in a consistent way. (For ex. If your website has navigation buttons on the top under the page title on one page, the users will automatically look there for the same features on other pages.)					

<b>A. Error Prevention</b> <ul style="list-style-type: none"><li>- The system design provides an automatic detection of errors and preventing them to occur in the first place.</li><li>- Idiot proofing mechanisms are applied</li></ul>				
<b>F. Help users recognize, diagnose and recover from errors</b> <ul style="list-style-type: none"><li>- Error messages and the terms used are recognizable, familiar and understandable for the users.</li></ul>				
<b>G. Recognition rather than recall</b> <ul style="list-style-type: none"><li>- Objects, icons, actions and options are visible for the user.</li><li>- Objects are labeled well with text and icons that can immediately be spotted by the user and matched with what they want to do.</li></ul>				
<b>H. Flexibility and efficiency of use</b> <ul style="list-style-type: none"><li>- The system design provides easy to navigate menus.</li><li>- the system does not make wasteful time of system resources.</li></ul>				
<b>I. Aesthetic and minimalist design</b> <ul style="list-style-type: none"><li>-Graphics and animations used are not difficult to look at and does not clutter (mess) up the screen.</li><li>- Information provided is relevant and needed for the system design.</li></ul>				
<b>J. Help and Documentation</b> <ul style="list-style-type: none"><li>-the system design provides information that can be easily searched and provides help in a set of concrete steps that can easily be followed.</li></ul>				

## **Chapter III**

### **Conclusion and Recommendation**

#### **Conclusion**

The proposed design by Team Flux addresses substantial challenges in online education, including the absence of personalized academic support, fragmented learning experiences, and organizational difficulties. AcademiX aims to establish a comprehensive and user-friendly platform that improves student engagement and academic performance by incorporating task monitoring, deadline reminders, collaborative tools, gamified learning components, and on-demand tutoring. The system's functionality was synchronized with the requirements and preferences of students through the heuristic evaluation and task analysis, which ensured a user-centric approach. The team has gained a more profound comprehension of the principles of Human-Computer Interaction, with a particular emphasis on the significance of creating educational technologies that are intuitive, efficient, and supportive as a result of this project.

#### **Recommendation**

The insights learned underscore the potential of well-designed digital platforms to enhance the effectiveness and enjoyment of online learning. In the future, it is advised that additional research and user testing be conducted to enhance AcademiX, thereby guaranteeing that it corresponds to the changing requirements of educators and students. In addition, the platform's integration into existing online learning environments can be facilitated by collaboration with educational institutions, which can provide valuable feedback. Continuous updates and improvements informed by user feedback will be essential for the platform to remain practical and relevant. Lastly, AcademiX could optimize its influence on online education by establishing partnerships with technology companies, which provide the necessary resources and expertise to scale and sustain the operation.