Heuristic Evaluation

Structure of the individual report

Part I: Your Name

Roshanak Jabbari, S328582.

Part II: Project Description

The project being evaluated is an educational AI platform designed to assist students with Specific Learning Disorders (SLD). The platform includes personalized study groups, topic suggestions, challenges, and progress tracking, with the goal of improving the study experience for students with SLD by offering tools for collaboration, engagement, and performance monitoring.

Part III: Evaluation Execution

I conducted the heuristic evaluation by reviewing the prototypes based on the three tasks. The session involved analyzing the user interface across different sections, such as group creation, challenges, and progress tracking. I used the provided prototypes, recorded voice and took notes during the presentation for context. The evaluation was carried out individually during the lab and identifying usability issues based on Nielsen's heuristics.

Part IV: List of Violations

1. **H1 Visibility of System Status**

Where: "Create Group" page

What: After a user submits the group creation form (including group name, level, and number of participants), there is no feedback indicating whether the group creation was successful or if there was an error. The app does not provide a confirmation message or any system status update.

Why: Clear feedback should be provided immediately after submitting the form, so the user knows what to expect next.

Severity: 3

2. **H1 Visibility of System Status**

Where: "Join Group" page

What: When a user joins an existing group, there is no visible indication of the success or failure of the action. For instance, after selecting a group and clicking "Join," there is no feedback (such as a confirmation message or visual change) to show that the group has been successfully joined.

Why: Immediate feedback would help users feel confident about their action and understand the current system status.

Severity: 3

3. **H2 Match Between the System and the Real World**

Where: "Home" page

What: The "Recent Notifications" section includes terms like "NEW CHALLENGE AVAILABLE," which is functional but not aligned with real-world expectations for notifications. The use of capital letters makes the information feel abrupt or overly formal.

Why: notifications in real-world applications typically use simple and friendly language (e.g., "You have a new challenge!"), and the tone should match users' expectations of how digital communication usually appears.

Severity: 2

4. **H3 User Control and Freedom**

Where: "Join Group" page

What: After a user clicks "Join" to participate in a group, there is no way to back out of the action. Once they select a group, it's unclear whether they can easily leave the process or change their mind.

Why: Users need to feel they can backtrack and not be forced into a commitment. here should be an option to easily cancel the action or return to the previous page without taking any irreversible steps.

Severity: 2

5. **H3 User Control and Freedom**

Where: "Machine Learning" page

What: Once a user selects a topic (e.g., "Machine Learning"), there's no clear way to go back to the previous screen or change the selected topic without navigating through the app's menu or performing an extra step.

Why: Users should be able to easily switch topics or return to the previous page without feeling lost or needing extra navigation steps.

Severity: 2

6. **H4 Consistency and Standards**

Where: "Home" page

What: The use of icons and labels in the bottom navigation bar (e.g., "Home," "Search," "Profile") follows standard mobile app conventions. However, the "Home" icon is represented by a house icon, while the "Profile" icon is a person's silhouette. While these are not inherently inconsistent, they deviate slightly from common mobile app conventions where "Home" is often represented by in center or a dashboard.

Why: This app is not following the more commonly recognized icons for certain leading users to question where each icon is.

Severity: 2

7. **H5 Error Prevention**

Where: "Create Group" page

What: The app allows users to proceed with the group creation process even if some mandatory fields are left empty (e.g., "Group Name" or "Max Number of Participants"). There is no prompt or warning to let users know that they have missed essential information before moving forward.

Why: This is a mistake-based error, as users may not realize they missed fields until after they have attempted to submit the form. Error prevention could be implemented by providing inline validation (e.g., red text or icons) indicating that a field is required.

Severity: 3

8. **H5 Error Prevention**

Where: "Machine Learning" section (Challenge creation)

What: When users create a new challenge, there is no validation on the input fields (e.g., number of participants or topic selection), allowing users to submit incorrect or incomplete challenge details. For instance, if a user accidentally selects an invalid number of participants, the system proceeds without warning or validation.

Why: This is a mistake-based error, as the user may not realize the data, they entered is incorrect. Preventing errors in the first place, such as by validating inputs or providing default values, would help users avoid making mistakes.

Severity: 3

9. **H6 Recognition Rather than Recall**

Where: "Machine Learning" section (Challenge creation)

What: In the challenge creation section, users must remember specific values they want to assign to fields such as the number of participants or the topic. If users forget or don't know what the expected input is, they must navigate away from the page to gather the information. There are no visual cues or pre-filled options to guide users through the process.

Why: This is a recall-based error because users must remember details to correctly complete the form. Making more information available and visible, such as pre-populated fields or suggestions, would minimize the cognitive effort required from users.

Severity: 3

10. **H7 Flexibility and Efficiency of Use**

Where: "Search" page

What: The search functionality does not include any shortcuts or filters that would allow experienced users to quickly narrow down search results (e.g., filtering by group size, topic, or level). Users have to manually search and scroll through all the available options.

Why: This violates the heuristic because experienced users might prefer to quickly access specific types of groups, but they are forced to go through a more laborious process. Implementing filters or advanced search options would cater to both novice and experienced users.

Severity: 3

11. **H9 Help Users Recognize, Diagnose, and Recover from Errors**

Where: "Search" page

What: If a user submits a form with missing required fields (e.g., no "Group Name" or "Max Number of Participants"), there is no error message or prompt informing the user of the missing information. The user is not provided with any clear feedback on what went wrong or how to resolve it.

Why: Users are not informed about the specific problem or how to fix it. Instead of showing a vague error or no feedback at all, the app should indicate what field(s) need attention and how to correct the issue.

Severity: 3

12. **H9 Help Users Recognize, Diagnose, and Recover from Errors**

Where: "Join Group" page

What: If a user attempts to join a group with missing or incorrect details (e.g., wrong group selection), there is no clear error message or recovery option. The app simply takes them to the next page without any indication that there was an issue with their action.

Why: The user is not notified about the error, nor do they receive guidance on how to fix it. A clear message should alert the user to the problem, explaining the issue and how to resolve it.

Severity: 3

13. **H10 Help and Documentation**

Where: Throughout the app

What: The app does not provide any accessible help or documentation features. There is no FAQ, tutorial, or guidance available to help users understand how to use the app or complete tasks. If users are confused, there is no easy way to access support or instructions.

Why: This violates the heuristic because there is no clear help or guidance available for users who need assistance. Even though the app may be intuitive for some users, a certain level of

documentation should be available for users unfamiliar with the app or for more complex tasks like group creation or challenge participation.

Severity: 4

Part V: Summary and Recommendations

Report in the table below the total number of identified violations.

Heuristic	**# violations**
H1: Visibility of system status	2
H2: Match between system and the real world	1
H3: User control and freedom	2
H4: Consistency and standards	1
H5: Error prevention	2
H6: Recognition rather than recall	1
H7: Flexibility and efficiency of use	1
H8: Aesthetic and minimalist design	0
H9: Help users recognize, diagnose, and recover from errors	2
H10: Help and documentation	1
HN: Non-heuristic issue	0

The prototype of the educational AI platform demonstrates strong potential in helping students with Specific Learning Disorders (SLD) by offering tools for collaboration, engagement, and performance monitoring. However, several usability issues were identified during the evaluation, particularly in areas like error prevention, feedback mechanisms, and overall design. Many of the violations were related to a lack of immediate system feedback after user actions, such as creating a group or joining a group, which leaves users uncertain about the outcome of their interactions. Additionally, the

absence of validation for critical fields, such as the number of participants or group name, can lead to users submitting incomplete or incorrect data without any warning, making the platform less reliable and user-friendly.

To enhance the user experience, I recommend implementing real-time feedback and validation mechanisms across the app. For example, providing clear error messages when users leave fields incomplete or enter incorrect values will help them recover easily and avoid mistakes. The interface could also benefit from improved navigation flexibility, such as adding a "cancel" or "back" option on the "Join Group" page, allowing users to change their decisions without feeling locked into an action. Simplifying the design, especially the "Search" and "Home" pages, by reducing clutter and removing unnecessary information will help users focus on their primary goals, such as joining or creating study groups. Additionally, incorporating accessible help sections, such as FAQs or tooltips, would guide users through complex tasks and make the platform more intuitive, especially for those unfamiliar with the interface.

By addressing these issues, the app can become more efficient, user-friendly, and accessible, ensuring a better experience for all users, particularly those with SLD. Providing a more streamlined design, clearer feedback, and comprehensive help documentation will make it easier for users to navigate and engage with the platform, ultimately improving their learning experience.