

# UX Report

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| Date      | Oct 8, 2024  |
| Responses | 12   |
| Goals     | To evaluate the ease of use, effectiveness, and user satisfaction with the Parsons problem generation system and identify areas for improvement. |

## Methodology [↗](#)

### 1. Introduction to the Test Environment [↗](#)

Participants engaged in testing the web app on a PC. Each user was introduced to the core functionality of the application, including generating and solving Parsons problems based on chosen topics and contexts.

### 2. Task Execution [↗](#)

Participants were tasked with selecting topics and contexts, generating Parsons problems, solving them, and receiving feedback. No additional guidance was provided, allowing users to explore the app intuitively.

### 3. Post-Test Questionnaire [↗](#)

After the test, users completed a questionnaire assessing various aspects of the app, including the interface, feedback system, ease of use, and any encountered technical issues.

## Questionnaires [↗](#)

[Questionnaires](#)

## Result Analysis [↗](#)

- **Age Range:** 20-25, median 23
- **Prior Domain Knowledge:** Over half of the participants had no knowledge of Data Analytics.
- **Device Familiarity:** All participants were proficient with PC use.

### 1. Interface Rating (Style, Icons, Colour) [↗](#)

#### Majority Feedback:

- **Visual Design:** 100% of users rated the visual design of the web app as "Good" or "Excellent."
- **Ease of Use:** Over 90% of users found the Question Generator page "Easy" or "Very Easy" to navigate.
- **Insights:** While the design and layout were widely appreciated, some users indicated the need for a simpler layout for the Question Generator page.

### 2. Instructions Clarity [↗](#)

#### Feedback:

- Half of the participants found the topic and context selection process "somewhat straightforward, but could be improved."

- Users noted that some descriptions of topics and contexts were unclear.
- **Insights:** Adding clearer descriptions, examples, or tooltips during the topic and context selection process would improve the experience for users.

3. Problem Generation and Feedback

- Users noted that the accuracy of problem generation needs improvement.
- Several users mentioned that the questions generated were not always aligned with the code blocks.
- **Insights:** While the feedback system was praised, the accuracy of problem generation needs to be improved to ensure questions are relevant to the selected topics. Additionally, questions need to be more aligned with the code structure to significantly improve user satisfaction.

4. Solving Problems

Feedback:

- Some users mentioned that the problem generation process was slow. In a few cases, the generator page failed to load, which impacted their experience.
- **Insights:** The speed and reliability of the problem generation process need to be improved.

5. Admin Profile Experience

Monitoring User Performance:

- Some users suggested that advanced user analytics and customisable reports should be added to the admin profile.
- **Insights:** While the admin profile is functional, adding features like customisable reports and deeper analytics would significantly enhance its value for administrators.

Overall Insights

**Strength:** The web app is praised for its clean design, ease of use, and immediate feedback system. Users particularly appreciated the visual design and the detailed feedback given after solving problems.

Areas for Improvement:

- **Problem Generation:** The generated questions should better align with the code blocks, and the accuracy of the AI-generated questions needs to be improved.
- **Speed and Performance:** The page failure rate needs to be minimised, and the speed of the question generation process should be optimised.
- **Topic Selection:** Adding clearer descriptions and examples for topics and contexts would help users, especially beginners, to make better selections.
- **Admin Profile:** Advanced user analytics and customizable reports would enhance the value of the admin profile for tracking and analyzing user performance

Observation

| Observation                                      | Problem  | Takeaway   | Opportunities                            |
|--|--|--|--|
| 100% of users rated the visual design of the web | There is no major problem with the visual design. Users find the | The positive feedback on the web app’s visual design confirms that the | Add more interactive elements to further |

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| app as "Good" or "Excellent."  | current design simple and intuitive.  | current design works well for users.  | enhance the user experience.  |
| Some users experienced slow page loading times or occasional failures when generating problems.  | Page performance issues impacted the user experience.   | Reliable performance and faster response times are essential for maintaining a smooth user experience.                      | Optimise the problem generation process.  |
| Feedback system was well-received.   | Users didn't report significant issues, but some mentioned the need for more detailed feedback for incorrect answers. | Detailed feedback would provide users with more insights into their mistakes and help them learn better.                    | Provide more detailed feedback for incorrect solutions, such as hints or explanations.                      |
| Users suggested advanced analytics and customisable reports for the admin profile.   | The current admin profile lacks deeper analytics and reporting features.  | Users see the value in the admin profile but want more customisation options to track performance.                          | Add more advanced features.   |
| Some users encountered issues with questions not aligning with code blocks.  | Misalignment between generated questions and code blocks caused confusion for users.                                  | Ensuring that the generated questions align with the correct code blocks is crucial.  | Enhance the problem generation algorithm to ensure that the questions and code blocks are properly aligned. |
| After clicking "try again," the problem refreshes, but the timer does not.   | The timer does not reset when retrying the problem  | Making sure both the problem and timer refresh together enhances the consistency of the user experience.                    | Ensure the timer refreshes along with the problem when "try again" is clicked                               |
| When "regenerate" is clicked, the problem does not refresh, but the timer does.  | Users are expecting the problem to change, but only the timer resets, which can be misleading.                        | Clear feedback on regeneration behavior helps avoid confusion.  | Ensure the problem is also refreshed when "regenerate" is clicked.  |
| Users have recommended adding a level selection option on the homepage, allowing them to generate questions of corresponding difficulty. | Users do not have control over problem difficulty.  | A level selection option could increase user satisfaction by allowing them to choose the difficulty that suits their needs. | Implement a level selection feature to allow users to choose questions of varying difficulty.               |
| Some users appreciate that the length of the problems was appropriate.   | No significant issues with problem length were reported.  | The current length of problems is well-received.  | Maintain the problem length while focusing on improving other aspects of user experience.                   |