

Elicitation

User 1

Name: Celine Hu

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Q1: Do you have previous experience with a quiz platform like Kahoot? If so, what do you use it for?

A1: I have experience with Kahoot. I use it for class activity and a fun way to memorise course concepts.

Q2: Throughout your experiences, did you find any issues or difficulties using the quiz platform that affected the people for whom you were making quizzes?

A2: There are certainly some difficulties, especially in class, for Kahoot involving a large number there isn't technically a team collab option where people join in as different members but within the same group, rather than joining the game individually.

Q3: What are some difficulties you experienced while using the quiz platform?

A3: I think the quiz is usually for multiple students, I want one that can be single-player, with the game style remaining similar to Kahoot.

Q4: What are your prospects for the quiz platform based on the difficulties that you raised in Q3?

I think offline quizzes would be great for individual users who want to practice quizzes by themselves. The analytics would be great for tracking processes and identifying revision points/ which question type the user needs to work on. It would also be good that besides the normal format of Kahoot, adding more modes with different mini-games will make me want to use it for longer.

User 2

Name: Kinuli Premnath

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Q1: Do you have previous experience with a quiz platform like Kahoot? If so, what do you use it for?

A1: Yes, I have used Kahoot and Quizlet for school quizzes and games at parties. I have also made some quizzes on a quiz platform for my university assignments.

Q2: Throughout your experiences, did you find any issues or difficulties using the quiz platform that affected the people for whom you were making quizzes?

A2: Yes, because of the set timer and how you have to change it individually for each question in Kahoot, it makes it difficult to make quizzes that have enough time for each question. Also, with some platforms you can't share quizzes with other people to make them.

Q3: What are some of the difficulties that you experienced while using the quiz platform?

A3: It is difficult to manage playing the quiz in groups and teams of people like with friends because the game sometimes drops team members out of the game halfway through and there is no way to keep track of their progress in the game.

Q4: What are your prospects to be a user of the quiz platform based on the difficulties that you raised in Q3?

A4: I think because these quiz platforms are fun I would still use them even with these issues. But, it would be nice to have a system for a quiz that keeps your progress even if you accidentally exit halfway through due to bad wifi or something.

Also would be good if there could be like more options to play on multiple devices for team player modes.

User 3

Name: Harry Lan

Email: harry.lan25801@outlook.com

Q1: What quiz platform(s) do you currently use or have used in the past?

A1: I've used Kahoot, quizizz and Crowd Party.

Q2: What purpose have you used this quiz game for?

A2: I usually use quiz games at school but also have played with friends.

Q3: Do you regularly use the platform to create quizzes or participate in quizzes?

A3: I usually participate in quizzes as a player.

Q4: What might games like Kahoot be lacking in terms of delivering a more engaging and fun experience?

A4: I think including better team-based gameplay mechanics would allow for more team collaboration. I would be more engaged if team player modes allowed each member to have a chance at answering a question in the quiz, rather than the mode making all team members play on only one device.

Possible Solutions

Eventually from the interviews, we can summarise some possible problems that will be experienced by the user and create corresponding problem statements as a starting point, this will allow us to further develop the user story and use case to allow the software development life cycle to continue.

Problem 1: Lack of Team Collaboration Features

Who will be affected: Teachers, students and casual users trying to play in a team/ collaborative setting.

Why is it a problem: Platforms such as Kahoot lack an actual team-based gameplay mechanism within the process, users must participate individually or else they have to play as a team with a shared screen which makes it inefficient and less fun as an activity. This can potentially reduce their engagement with the platform and impact their user experience.

Problem 2: Poor Experience for Single-Player mode

Who will be affected: Individual learners who want to use these platforms to self-study and track their overall progress.

Why is it a problem: Quiz platforms like Kahoot are mainly designed for multiplayer use. There's little to no support for the user who wants to practice quizzes offline at their favour and pace.

Problem 3: Limited Flexibility in Quiz Creation

Who will be affected: Educators and creators who create quizzes for assignments or groups.

Why is it a problem: Changing timers manually for each question is time-consuming and rather difficult for creators who need to create quizzes with large question bases and variations in the time required for the questions.

Problem 4: Technical Limitations (like disconnection and progress loss)

Who will be affected: All users of the quiz platform.

Why is it a problem: Players will eventually lose their place within the game once disconnection happens due to poor internet/ technical issues, there are no settings that allow auto-save or progress tracking to reduce this problem occurring. Once a player is disconnected from the game, they restart the game on 0 points and face significant disadvantages.

Problem 5: Lack of Variety in Mini Game and Replayability

Who will be affected: Casual and educational users who want long-term engagement while also a variety during the learning process.

Why is it a problem: The main logic of the quiz platform can become repetitive, which discourages user's long-term interest, more interactive and diverse game modes should be provided to increase engagement and improve retention.

Analysis and Specification

User Story 1:

As a student or a teacher, I want my peers or students to be able to join a team as individual members on the technology so that we can compete and collaborate while also having a more enjoyable experience and building on teamwork skills.

Use Case 1 → Team Mode Implementation:

1. Four or more players join the main lobby, while the system allows the host to select a mode: individual/team.
2. When team mode is selected, the system asks the number of teams wanted (a number of 2-4 is given to choose), the host enters a number, and players are required to choose a team to join.
3. The system ensures teams are balanced with a team having at least 1 player before the game is prompted to start.
4. Team members can collaborate to answer the question, one member may be assigned to submit answers by the system.
5. The system records the team score, the team with the highest score wins.

Exceptions:

- A player leaves before the quiz starts: The system updates team count options and prompts the host to reselect.
- A player rejoins: The system then recounts the players to include them within the team mode.
- Three or more players leave: The system disables team mode and resets the host's selection.
- All players join the same team: The system displays an error message: "Each team must have at least one player".

Acceptance Criteria 1:

- In the scenario where a host is choosing a game mode,
- Given the quiz host has successfully logged in and has a valid quiz created,
- When the players enter into the lobby, the quiz host can choose between individual or team mode before the game starts,
- Given that the players also are valid users.
- When team mode is selected, the system will prompt the host to enter a number between 2-4 teams.
- Then, the player can choose their teams before the game begins.

- But, the system will stop the game if a team has zero players.
- During the quiz, only the assigned team member can answer the question, while the others may not.
- Then, the team with the highest total score wins the game.

Validation 1:

I think adding team features will make quiz games more engaging, especially because it would allow me to interact and collaborate with my friends and peers. The team aspect would also be great during group study sessions, allowing everyone to share their ideas and thoughts. I think this feature is also good to allow quieter students to participate within the group setting, it would also be good if there were additional roles within the team such as one answering, one strategizing, etc.

User Story 2:

As a student, I want to play quizzes offline where only one player is in the game, such that I can review and practice without needing a host.

Use Case 2 → Single-Player Mode:

1. A player selects a quiz from the library, the system allows the player to enter and prompts the player into the lobby.
2. The system allows the player to enter the game as a player answering the question.
3. The user selects an answer within time, the system displays to the user the right or the wrong answer.
4. The user finishes with the system and is provided with their score and analytics (like the percentage of work that is correct, and the topic that got the most mistakes).

Exceptions:

- User is detected to be offline: The system displays an offline banner and saves the results locally.
- User exits during the quiz: The system prompts to resume later.
- Quiz mode is only available for live hosting: The system blocks and shows a message: "The quiz is only available in live mode".

Acceptance Criteria 2:

- For example, where a player wants to play as a single player,
- Quizzes should have the same function regardless of whether the player is offline or online.

- But, the system needs to store the quiz results and sync the results once the user profile becomes online if they were offline.
- When the quizzes finish, the system needs to display the overall score points of the user while also providing some analytical results like their speed and accuracy for the question, as well as the common topic to get their questions incorrect.

Validation 2:

As a student, I would find this very helpful because it will allow me to practice my quizzes at my own pace and style, especially if I need revision or staying alone. I think this feature will allow me to work in my area without the need to have a group or live sessions, the offline mode also allows me to do more if I happen to be having a bad internet or on public transport I can still be able to do my quizzes. It would be good if the platform could also give me feedback or suggestions after the quizzes based on my questions which have the most wrong answers.

User Story 3:

As a quiz creator, I want to set a timer such that I can bulk edit the time requirement for a set of questions within the quizzes, such that I don't waste my time manually setting the time for each one.

Use Case 3 → Bulk/Global Timer Setting:

1. A new quiz is created by the user or the user opens up an existing quiz. The system displays a time-setting option for each question.
2. The system displays the global timer within the time setting options, the user selects the global timer.
3. The user enters a time, the system applies the timer to all questions automatically.
4. The user can manually choose a specific range of questions to apply a global timer to and the system receives the change and saves the changes.

Exceptions:

- Invalid time input (e.g. letters, time = 0 second): The system displays error message: "Please re-enter a valid number as time" and disables saving function.
- Bulk edit fails for some questions: The system displays an error message: "Time setting for questions[Q~ to Q~] failed to update".
- User did not save and quit the saving page: The system prompts an error message before exiting the setting: "You have unsaved changes".

Acceptance Criteria 3:

- The quiz time setting must have a global timer setting such that it will allow the global timer to apply to all.

- The bulk edit of timers should allow the time setting to be changed for smaller ranges of questions within the final quiz.
- Any manual changes to individual timers within the questions should override the global/default setting without destroying the global timer, for example, if Q1-5 is changed to 10 seconds, changing Q3 to 5 seconds should still let other questions remain with a timer of 10 seconds.
- Timer settings must persist when saving or continuing to edit the quiz.

Validation 3:

As a quiz creator or a teacher, the global timer or the bulk editing timer would save time when I am designing quizzes. The current feature of setting the timer for questions independently is so tedious and repetitive. This global timer setting would eventually allow my workflow to become cleaner and reduce the possible errors due to boring repetitive work. I think in the future it would be good to have smart suggestion tools that check the question difficulty or the length of the question and provide a possible time for the question.

User Story 4:

As a player, I want the quiz platform to automatically save my progress so if I resume I can still have my progress if I lose connection or close the app.

Use Case 4 → Auto-Save Progress:

1. The user is actively playing the quiz, and the system auto-saves the progress of the user currently like the question number with the answer selected as well as the current points, every 20 seconds or after each new question is completed.
2. The user closes the app or loses connection due to poor internet, the system stores all the auto-save data and detects if the user is back online.
3. When the user reopens or reconnects, the system detects the unfinished quiz progresses and prompts the user with a yes or no button and a question: would you like to continue to your last quiz?
4. The user selects yes, the system resumes the quiz where the user left off while also keeping all previous progress.

Exceptions:

- Quiz has expired or been deleted: The system displays a message: "The quiz is not available to be resumed".
- The user enters live multiplayer mode: The system disabled resume mode, user needs to rejoin a session.
- Connection failure continues to occur: The system saves the progress and score locally and allows syncing to occur when detected to become online again.

- Corrupted or incomplete file saved: The system prompts the user to restart while also a message: "Error occurred while saving, file failed to be retrieved".

Acceptance Criteria 4:

- The system must save progress every 20 seconds or after each question is completed.
- If a user loses connection or closes the quiz, when they reopen the system should prompt them to resume the quiz.
- The resume function should restore all the data, including timer countdown, total score and progress before the user leaves.
- A warning message will appear to the user if a quiz expires or cannot be resumed because the system cannot find the data.

Validation 4:

As a player, if my quiz progress is automatically saved it would be beneficial for me, especially if I lose connection or close the app. It is very frustrating to start all over again, this function will enhance my experience as I don't have to start all the way. It will also be good if there is a pause option so that I can come back if I need a quick break or if I get interrupted during the quizzes.

User Story 5:

As a casual user, I want more game modes and mini-games so that I can keep my game experience fresh and fun.

Use Case 5 → Additional Game Modes:

1. The user opens the application and logs in, the system displays all the available quiz modes with names.
2. The user selects a mode, and the system then prompts with an explanation of the rules to the user with a practice question.
3. The user starts the game and completes the quiz under the rules, the system tracks and displays the score of the user as they progress.
4. In the end, the system may, according to the game mode, provide them with basic analytics (like accuracy and speed) as well as a result dedicated to that mode, for example, if the game mode is an action of planting trees to get points, the system then displays the number of trees successfully planted.

Exception:

- The selected mode is unavailable (example can be for offline): The system displays a message: "The mode is currently unavailable".

- Quiz incompatible with the selected mode (certain questions may not be suitable for the mode): The system will stop the user from continuing and display a message: "Please select a different quiz or game mode".
- Users may not fully understand the rules: After the first demonstration, the system displays an option: "Replay the game rules demonstration".

Acceptance Criteria 5:

- The platform needs to have at least 3 distinct game modes with different focuses besides the classic quiz mode.
- The user must be able to have a preview and select the game mode before starting a quiz.
- Each mode needs to be special, especially in the rules for the user's gameplay.
- The rules of the game mode need to be clearly explained before the game starts.

Validation 5:

As a student, the introduction of varied game modes and question types would make the quizzes eventually more interesting to participate in and encourage me to continue using the app and practice my knowledge. I believe it would help me to consolidate my knowledge better by applying the quizzes in different contexts, like solving a puzzle or using a scenario to find an answer. It would also be good that besides the varied question types, the game mode could include more multimedia like videos or audio to make the quizzes more immersive, it will eventually be more attractive for me to continue my use.