



# Planning Report

COMP1531

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# Elicitation

## Interview Questions

1. Which quiz tools have you explored or used recently? Could you name a few? (Give examples)
2. How often do you find yourself using quiz tools like Kahoot, Quizizz, or Toohak? Is it daily, weekly, monthly, or less frequently?
3. In your interactions with these quiz apps, do you primarily create quizzes, participate in them, or both? Please share your typical use case.
4. What motivates you to use quiz apps? Is it for educational purposes, entertainment, training, or something else?
5. On a scale of 1 to 5, how effective do you find these quiz apps in fulfilling your needs? Could you share why?
6. How user-friendly do you find these quiz tools when creating or participating in quizzes? Any specific features or functionalities that you think could be improved?
7. What features do you think are missing in current quiz tools that could make your experience more engaging or enjoyable?
8. Are there any customisation options you wish were available in these quiz tools, such as themes, question formats, or feedback options?
9. Have you encountered any accessibility issues while using these quiz tools, especially when it comes to inclusivity for users with different abilities?

## Target User 1:

Name: Jimmy Chen

Email: [jimmyjchen@gmail.com](mailto:jimmyjchen@gmail.com)

1. I've used Kahoot and Quizizz for when I tutor primary students and for when I'm learning at university.
2. Probably weekly during the semester.
3. Mostly participate, but I've created a few quizzes for my students
4. Mainly for studying and review sessions.
5. They're pretty good but can be a bit generic at times.
6. Creating quizzes can be cumbersome. A more intuitive design would help.
7. Real-time feedback on questions for creators would be great.
8. More themes and better ways to incorporate images.
9. No issues for me, but I wonder if they're fully accessible for those with visual impairments.

## Target User 2:

Name: Eddie Zhan

Email: [mangolicker45@gmail.com](mailto:mangolicker45@gmail.com)

1. Kahoot, mostly for casual get-togethers.
2. Once a month or so.
3. Participate. I've never made one.
4. Entertainment with friends.
5. 3. Fun, but the novelty wears off quickly.
6. They're easy to use but could be more interactive.

7. Maybe integrating music or video more seamlessly.
8. Would love to customise the timing per question.
9. Haven't noticed, but wouldn't know what to look for.

## Target User 3:

Name: Brent Mei

Email: [z5361039@ad.unsw.edu.au](mailto:z5361039@ad.unsw.edu.au)

1. Kahoot and Google Forms for class feedback.
2. Almost daily for quick assessments.
3. Create. It's part of my teaching.
4. Teaching and immediate student feedback.
5. Great for quick checks but lacks depth for more comprehensive assessments.
6. Some features are buried in menus. Streamlining would help.
7. Adaptive learning features, where the quiz adjusts based on the learner's responses.
8. Better analytics on student performance over time.
9. Some students with dyslexia struggle with the time pressure. More accessibility options would be beneficial.

## Proposed Solution

To address the identified gaps and enhance the user experience for a quiz tool like Toohak, a comprehensive solution would focus on four key areas:

1. User Experience
2. Engagement
3. Customisation
4. Accessibility

This solution combines insights from the feedback to propose a robust platform that meets the diverse needs of its users.

## Overview:

### Create an Intuitive User Experience:

- Implement an easy-to-use interface for quiz creation, leveraging drag-and-drop functionality for adding multimedia elements and questions, streamlining the process for both experienced educators and casual users.
- Design a clean, intuitive UI that allows users to find and do what they need quickly, reducing the learning curve and enhancing user satisfaction.

### Dynamic Engagement Features:

- Integrate live polls, interactive questions (e.g., drag and arrange, match, and fill-in-the-blanks), and multimedia questions that include videos and music clips to make the quizzes more engaging.
- Offer tools for quiz creators to receive immediate feedback from participants, allowing for dynamic adjustments and fostering a more interactive learning and entertainment environment.

## Advanced Customisation Options:

- Enable users to customise themes, backgrounds, and question layouts, allowing for a more personalised quiz experience that can reflect the creator's style or the content's mood.

## Enhanced Accessibility

- Ensure the platform is accessible, with options like text-to-speech for questions and answers, adjustable timer settings to accommodate different reading speeds, and high-contrast modes for users with visual impairments.
- Regularly collect user feedback specifically focused on accessibility to continually enhance the platform's inclusivity.

# Analysis & Specification - Use Cases

## User Stories

1. As a tutor or lecturer creating quizzes, I want the ability to add optional explanations to each question and its answers, so that I can provide immediate, contextual learning support during the quiz.  
**Acceptance Criteria:**
  - The question creation interface must allow the addition of an optional explanation field within each question object.
  - Each answer option must include a field for the tutor to input explanations regarding why the answer is correct or incorrect.
  - These explanations should be visible to students after they select their answers to facilitate immediate understanding.
2. As a tutor or lecturer, I want to be able to categorise questions under specific labels, so that I can analyse student performance across different categories within the same quiz.  
**Acceptance Criteria:**
  - The question creation tool must provide an option to assign labels to questions, allowing them to be grouped by type or subject.
  - The quiz results interface should display student scores categorised by these labels, enabling detailed performance analysis per category.
3. As a tutor or lecturer, I want to incorporate multimedia elements like music or videos into quiz questions, so that I can create more engaging and contextually rich questions.  
**Acceptance Criteria:**
  - The quiz creation interface must support embedding multimedia content, such as music or video files, directly into questions.
  - The app should ensure smooth playback of these media files before the corresponding question is presented to the student.
  - This feature should allow quizzes to include questions that directly relate to the played media, enhancing interactive learning.

## Preconditions

- The user must have an account with Toohak and be logged in.
- For creators, they must be prepared with quiz content, including questions, correct answers, optional detailed explanations, multimedia files, and categories for questions.
- For participants, they must have a device compatible with Toohak and be enrolled or invited to participate in the quiz.

## Success End Condition

- Creators have successfully created a quiz incorporating explanations for questions and answers, categorised questions, and multimedia elements. The quiz is published and accessible to participants.
- Participants complete the quiz, interact with the multimedia content, and receive immediate and detailed feedback based on their answers, thereby enhancing their understanding and retention of the material.
- After the quiz, creators can review student performance categorised by the labelled question types, allowing for detailed analysis and targeted improvements in future quizzes.

## Failed End Condition

- Creators are unable to create or publish the quiz due to technical issues or improper setup of the question explanations, categorization, or multimedia embedding.
- Participants experience technical difficulties in accessing or interacting with multimedia content, or do not receive the added explanations, diminishing the intended educational benefits.

## Trigger

The quiz creator selects the option to create a new quiz and utilises features like explanations for each question and answer, question categorization, and multimedia integration to enhance the learning experience.

## Scope

Toohak Quiz Application

### Primary Actor

Quiz Creator (Tutor/Lecturer)

### Secondary Actor

Quiz Participant (Student)

## Validation

Jimmy Chen

I think these changes definitely do a good job at adding variety so that it doesn't feel as generic. The added explanations would help make it more informative and conducive to the learning experience. The analysis on categories of questions could be an interesting way to illustrate progress and shortcomings. Maybe the multimedia changes could help further the accessibility for those with visual impairments?

Eddie Zhan

The added options of integrating music or video is a good change that might make it more entertaining. It would be super interesting seeing how the labels and categories of questions translate into someone's improvement on specific trivia.

Brent Mei

This is a big step to allowing better assessments of students and their performance over time, analysing what areas you are weak at would help target and improve specific subjects. Adding music and video files should be a cool feature and adding an explanation after questions would be amazing in immediate student feedback and helping them while the content is still fresh in their mind!

## Interface Design

Route	CRUD	Input	Return	Description
/v3/admin/quiz/{quizid}/question	POST	quizid, token, questionbody	{ quizId: 1 }	<p>When this route is called, and a question is created, the timeLastEdited is set as the same as the created time, and the colours of all answers of that question are randomly generated.</p> <p>It should also include setting labels for specific categories as well as any multimedia that can be played.</p>

/v3/admin/quiz/{quizid}/question/{questionid}	PUT	quizid, questionid, token, questionbody	{ }	<p>When this route is called, and a question is updated, the timeLastEdited is set as the same as the created time, and the colours of all answers of that question are randomly generated.</p> <p>It should also include setting labels for specific categories as well as any multimedia that can be played.</p>
/v1/admin/quiz/{quizid}/session/{sessionid}/results/csv	GET	quizid, sessionid, token	{ "url": "http://google.com/some/image/path.csv" }	<p>Get the a link to the final results (in CSV format) for all players for a completed quiz session, should be ordered by categories</p>

Iteration 4 (Modified)		Iteration 4 routes are a modification of iteration 1 and iteration 2 routes and iteration 3 routes	
POST	/v3/admin/quiz/{quizid}/question	Create quiz question	
PUT	/v3/admin/quiz/{quizid}/question/{questionid}	Update quiz question	
GET	/v2/admin/quiz/{quizid}/session/{sessionid}/results/csv	Get quiz session final results in CSV format	

## Conceptual Modelling - State Diagram

The diagram below is a state diagram representative of the outlined user stories.

