

# Final Report

## Elicitation

### Questions

1. How would you describe yourself in a role in relation to Toohak? (eg. Player, Creator...)
2. What is your main reason for using Toohak?
3. Which functionalities would you like to see added to Toohak?
4. What are your reasons for listing those functionalities?

### Kelly Chen - [kellyfirstname@gmail.com](mailto:kellyfirstname@gmail.com)

1. Quiz Creator.
2. I use Toohak as a tool during my tutoring lessons, as the quizzes help keep my students engaged.
3. An option to show an explanation for each question after the question results have been shown.
4. If a question is being failed by a significant number of my students, it would be useful to quickly show an explanation to the question on Toohak. Right now I have to switch to another application to show the explanations.

### William Yang - [Geazymvp@gmail.com](mailto:Geazymvp@gmail.com)

1. Player.
2. I participate in Toohak quizzes because my teacher uses it in classes.
3. A button at the end of a quiz to show me which questions I failed, and the contents of those questions.
4. It would assist me in my learning as I can pinpoint my mistakes and gaps in knowledge to know where to focus my studies on.

### Jackson Wang - [kahowang3659@gmail.com](mailto:kahowang3659@gmail.com)

1. Quiz Host.
2. I run Toohak quizzes as an assistant teacher to teach my students mathematics.
3. A way to disable the chat function during a quiz
4. My students can get distracted easily with the chat, and may even type vulgar words. An option to disable the chat would be very useful in keeping my students focused.

# Analysis & Specification - Use Cases

## **User story 1:**

As a tutor, if a question is being failed by a significant number of students, I want it to quickly show an explanation to the question on Toohak so that I don't have to switch to another application to show the explanation.

## **Acceptance Criteria 1:**

- Explanation is automatically displayed when a significant number of students provide incorrect answers to the question.
- System has a mechanism to identify when a question is being failed by a significant number of students.
- The explanation is clearly visible to both the tutor and the students.
- The explanation is positioned below the corresponding question for easy reference.
- The explanation is shown promptly, minimising any delays in providing clarifications.

## **User Story 2:**

As a student, at the end of a quiz, I want Toohak to show me which questions I failed, the answer that I chose, and the contents of the question so that I can pinpoint my mistakes and focus on areas for improvement in my studies.

## **Acceptance Criteria 2:**

- Toohak displays a summary page indicating questions that were answered incorrectly.
- Summary includes details for each failed question: the content of the question, the answer the student chose, and the correct answer.
- Students can access the quiz summary multiple times for ongoing review and learning from mistakes.
- The summary helps students identify specific topics or question types where they need to focus on in their studies.
- Information about failed questions is presented in a clear and organised manner, enhancing the learning experience.

## **User Story 3:**

As a teacher, I want to be able to disable the chat function during a quiz so that my students do not get distracted easily with the chat during the quiz.

### Acceptance Criteria 3:

- Teachers have the ability to disable the chat function for a specific quiz.
- The option to disable the chat function is configurable within the quiz settings or during quiz creation.
- Changes to the chat functionality take effect immediately upon quiz initiation.
- Students receive a notification or indication that the chat function has been disabled for the duration of the quiz.
- Teachers have the flexibility to enable or disable the chat function based on the nature of the quiz or specific instructional needs.
- Clear documentation or tooltips are provided to guide teachers on how to disable and enable the chat function.
- Teachers have the ability to delete a single chat message

### Use Case: Quiz Review and Chat Control



Student completes quiz. Student navigates to the quiz summary page. Student reviews failed questions and notes areas for improvement.



- Teacher logs into Toohak.
- Teacher accesses quiz creation/editing interface.
- Teacher configures quiz settings, disabling the chat function.
- Teacher initiates the quiz.



Students receive a notification about the disabled chat function. Chat function is disabled for the duration of the quiz.



Students review their quiz performance using the summary page. Teachers can access logs and reports, including instances of chat function disablement.

# Validation

**Kelly Chen** - It sounds like it would fit perfectly with my needs. I especially like that it can be automated if a certain number of my students fail, and having it positioned below the question would make it easier to refer back to the question.

**William Yang** - This describes my problem exactly, the summary includes what i need to iron out any flaws in my knowledge.

**Jackson Wang** - This is perfect, all I needed was a way to disable and enable the chat and it looks like it does just that.

# Design

## User Story Interface 1 and 2

**Problem:** Find out which questions users got wrong and what areas students need the most work in

Name and Description	HTTP Method	Data Types
<code>/player/:playerId/question/:questionPosition/feedback/</code>  Display the total percentage incorrect with a list of player names who got a particular question wrong.	GET	<b>Query parameters</b> { playerId: <b>number</b> , questionPosition: <b>number</b> , }  <b>Return Object</b> { percentageIncorrect: <b>number</b> playersIncorrect: [], }

<p>/player/:playerId/question/:questionPosition/feedback/explanation/</p> <p>Display the explanation for a particular question in a session.</p>	GET	<p><b>Query parameters</b></p> <pre>{   playerId: number,   questionPosition: number,   Explanation: string, }</pre> <p><b>Return Object</b></p> <pre>{   questionId: number,   question: string,   answer: string,   Explanation: string, }</pre>
<p>/player/:playerId/question/:questionPosition/feedback/satisfactoryLevel</p> <p>Determine if a particular question's percentage correct value is above a minimum satisfactory level (50%)</p>	POST	<p><b>Query parameters</b></p> <pre>{   playerId: number,   questionPosition: number, }</pre> <p><b>Return Object</b></p> <pre>{   aboveSatisfactory level: boolean }</pre>
<p>/player/:playerId/question/:questionPosition/feedback/answerFeedback</p> <p>Display an array showing all the answers for a particular question and the number of people that selected each answer</p>	GET	<p><b>Query parameters</b></p> <pre>{   playerId: number,   questionPosition: number, }</pre> <p><b>Return Object</b></p> <pre>{   question: string   answers: [     Answer1: number,     Answer2: number,     ...   ] }</pre>

### User Story Interface 3

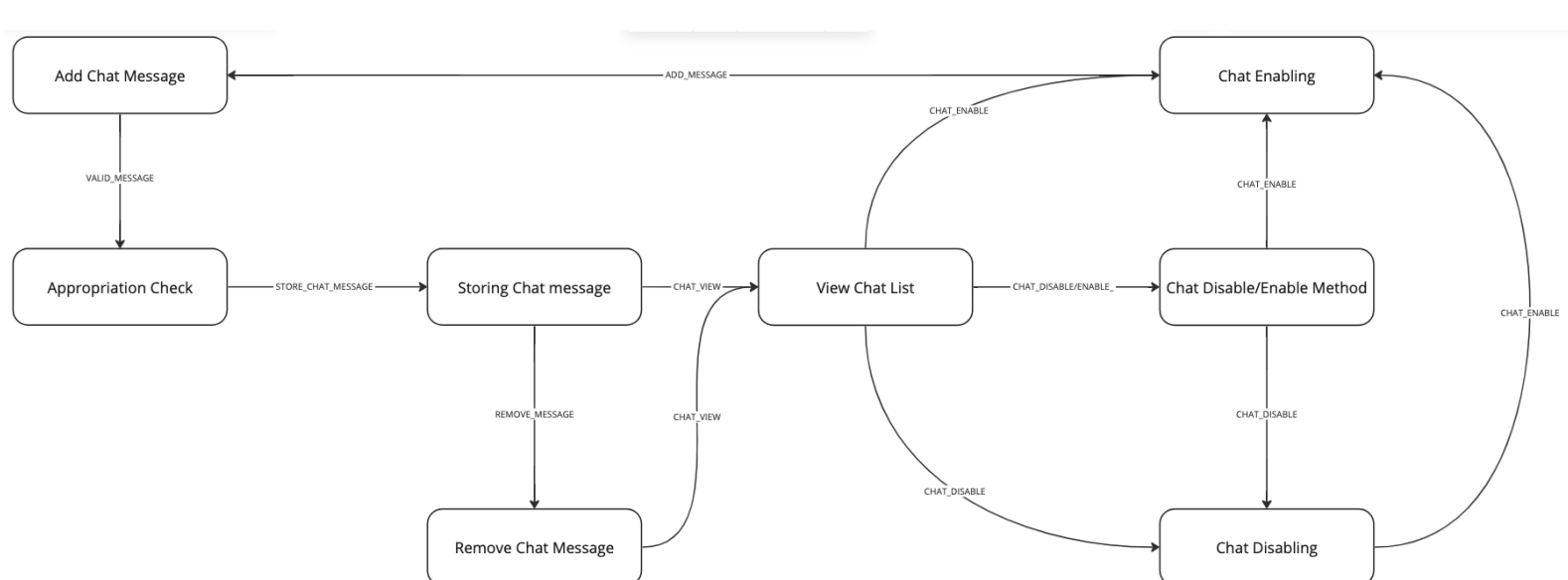
**Problem:** The chat feature is disturbing and affecting the participation of users

Name and Description	HTTP Method	Data types
<b>/session/:sessionId/chat/disable</b>  Disable the whole chat feature for a specific session	DELETE	<b>Query parameters</b> { sessionId: <b>number</b> , }  <b>Return Object</b> { }
<b>/session/:sessionId/chat/viewList</b>  View a list of all messages in a session containing the message and the corresponding player's name for the teacher's use	GET	<b>Query parameters</b> { sessionId: <b>number</b> , }  <b>Return Object</b> { messages: [ playerName: <b>string</b> , messages: <b>string</b> ] }
<b>/session/:sessionId/chat/playerName/message/remove</b>  Given a specific session and a player name who has posted a message on a chat, remove the message from the chat	DELETE	<b>Query parameters</b> { sessionId: <b>number</b> , playerName: <b>string</b> }  <b>Return Object</b> { }
<b>/session/:sessionId/chat/:ownerId/method</b>  Display the method of how to remove a chat message or disable the whole chat feature for a specific session	POST	<b>Query parameters</b> { sessionId: <b>number</b> , ownerId: <b>string</b> }  <b>Return Object</b> { method: <b>string</b> }

<p><b>/session/:sessionId/chat/enable</b></p> <p>Given a specific session enable the chat feature</p>	PUT	<p><b>Query parameters</b></p> <pre>{   sessionId: number, }</pre> <p><b>Return Object</b></p> <pre>{ }</pre>
<p><b>/session/:sessionId/chat/message/appropriation</b></p> <p>Given a chat message in a specific session, determine whether the message is valid or not</p>	GET	<p><b>Query parameters</b></p> <pre>{   sessionId: number,   chatMessage: {     playerName: string,     message: string   } }</pre> <p><b>Return Object</b></p> <pre>{   appropriate: boolean }</pre>

## State Diagram

### Player chat messaging system



### Miro Board link:

[https://miro.com/app/board/uXjVNNorF0o=/?share\\_link\\_id=433851185283](https://miro.com/app/board/uXjVNNorF0o=/?share_link_id=433851185283)