

COMP 1531 Requirements & Design for Future Work

Elicitation

Name: Vitorio Worang (User 1)		Email: vittorio.worang@gmail.com
QUESTION	ANSWERS	
What significant problems do you have with KAHOOT?	“I had no significant problems with KAHOOT but I did have some problems with connectivity issues and answers being wrong before.”	
What would you like to be added to KAHOOT?	“IDK if they have or not but i wish they added emotes and trading points to buy tools”	
How could KAHOOT be more user-friendly?	“Honestly KAHOOT is simple to use and there is not a lot of problems with being more user-friendly.”	
Have you ever experienced bot spam in KAHOOT?	“Yes in high school a lot of people used websites to spam bots into the KAHOOT session.”	

Name: Samuel Verrall (User 2)		Email: jounge1826@gmail.com
QUESTION	ANSWERS	
What significant problems do you have with KAHOOT?	“Performance is low, takes up too much RAM and made my computer laggy”	
What would you like to be added to KAHOOT?	“Sound board, give me a live avatar of each player”	
How could KAHOOT be more user-friendly?	“Better interface relative to user experience, and KAHOOT is too vibrant so there can be modes that changes themes and colours e.g. dark mode and things like that”	
Have you ever experienced bot spam in KAHOOT?	“Yes I have”	

Name: Kartik Kohli (User 3)		Email: Kartik.koh@gmail.com
QUESTION	ANSWERS	
What significant problems do you have with KAHOOT?	“It's such as good app that it does not have any problems and that is the problem”	
What would you like to be added to KAHOOT?	“I would like an interface where we could send emojis to each other and create team games where we can team up, customised emojis”	
How could KAHOOT be more user-friendly?	“Sign language...? Better user interface for individuals with disabilities , better review sessions”	
Have you ever experienced bot spam in KAHOOT?	“Yes I was the one doing it”	

Name: Leo Syrioha (User 4)		Email: leosriyoha@gmail.com
QUESTION	ANSWERS	
What significant problems do you have with KAHOOT?	“Sometimes accidentally pressed an answer but wanted to press another answer, so, have a system that confirms the answer. Also had a connectivity issue, but might have been the wifi”	
What would you like to be added to KAHOOT?	“Have a button that confirms the answer, there could be an option to toggle this interface. More customization such as more music choice can be boring as it is the same all the time”	
How could KAHOOT be more user-friendly?	“Option to customise the text size, as some people in the back of the class may not be able to see the question. Option for having dark mode and white mode (colour and theme).	
Have you ever experienced bot spam in KAHOOT?	“No, it never happened to me, but there has been a case where I entered a name and needed to change the name then joined again and the other name was still in the lobby, so there were 2 of me.	

Relative to KAHOOT (the biggest quiz website) some of the main problems consist of performance problems (taking up too much RAM), connectivity, and answer verification. Some features and interfaces that would improve users' experience consist of live avatar, changing the theme and the colour, and improved interface for users with disabilities. Everyone has stated that they have experienced KAHOOT bot spam before which could suggest that, in terms of security, it could be improved.

We can improve the usage of RAM from the users' side through the optimization of images and minimising HTTP requests, effective frameworks and libraries and monitoring memory usage. In terms of security, we can implement a human verification process to block out all the spam bots.

Analysis & Specification - Use Cases

Functional: User story 1: Improve connectivity and Accuracy

- This user wanted a quiz platform to have better connectivity and ensure accurate answers.
- Acceptance Criteria:
 - Connectivity issues are minimised, ensuring smooth participation in quizzes.
 - Ensure that correct answers are displayed accurately and promptly during quiz sessions.

Non-functional: User story 2: Enhance user engagement

- This user wanted the quiz platform to incorporate features like emotes and points exchange to enhance user engagement
- Acceptance Criteria:
 - Emotes are introduced as a feature, allowing users to express themselves during quizzes.
 - Implement a point system where users can earn and trade points for additional tools or features within the platform.

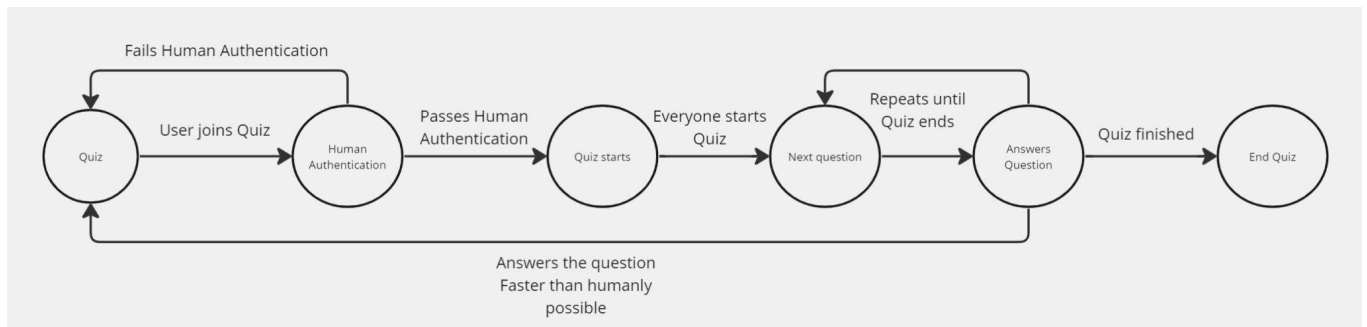
Non-functional: User story 3 : Improve performance and customization

- This user wants the quiz platform to improve performance, reduce RAM usage, and provide customization options.
- Acceptance Criteria:
 - Optimises the platform to reduce RAM usage and improve overall performance.
 - Implement customizable themes and colour schemes, including a dark mode option, such that users can choose preferences and improve usability (more user friendly).

Non-functional: User story 4: Combat bot spam

- This user wants to minimise bot spams during quiz sessions
- Acceptance Criteria:
 - Implement security measures to detect and prevent bot spamming activities within quiz sessions
 - Provide moderators or controls to manage and remove bots from sessions, ensuring a fair and enjoyable experience for all participants.

USE case: combat bot spam



Once the quiz starts, everyone needs to do a quick human verification that is packaged as a warm-up before the quiz, something like finding a turtle in the image. If the user fails human authentication, they get sent back to quiz enter. If they pass, the quiz starts. Another security measure is calculating the answer speed, one thing noticed from previous bots, they tend to answer at speeds not possible for humans. If they answer below the minimum time of answer speed, they will be kicked out of the quiz. This security measure is checked each round of the quiz until the quiz ends.

Validation (USE case: combat bot spam)

Vitorio Worang	"Yea I think that this would work as not only will the bots need to pass the first security process but also while the game is in progress"
Samuel Verrall	"Sound pretty solid, I don't think it would be possible for bots to get pass the human verification without there being a physical person to pass the human authentication process"
Kartik Kohli	"I feel like for the packaged human verification thing, it needs to be packaged very well to portray like a warm-up mini quiz before the quiz starts, so that the users will not feel like this is for human verification as this will lower the user experience"
Leo Syrioaha	"Someone might be able to modify the answering time such that it answers maybe after 5 sec, or something like that"

Interface Design

Start Human Verification

Method: GET

Endpoint:

```
/quizzes/{quizId}/verification/start
```

Description: Initiates the human verification process by retrieving an image with an object that needs to be identified.

Response:

```
200 – Returns an image and object details.  
401 – User not verified to start the quiz.
```

Submit Human Verification

Method: POST

Endpoint:

```
/quizzes/{quizId}/verification/submit
```

Description: Submits the results of the human verification.

Request Body:

```
{  
  "userId": "string",  
  "quizId": "string",  
  "objectIdentified": "boolean"  
}
```

Response:

```
200 – Verification successful, quiz starts.  
400 – Incorrect verification, returns to quiz entry.
```

Submit Answer Extension:

Method: POST

Endpoint:

```
/quizzes/{quizId}/answers/submit
```

Description: Submits an answer for a quiz question. Also performs a check to ensure answer speed is within human capabilities.

Request Body:

```
{
  "userId": "string",
  "quizId": "string",
  "answerId": "string",
  "timestamp": "datetime"
}
```

Response:

```
200 – Answer accepted.
429 – Answer submitted too quickly, user removed from the quiz.
```

Conceptual Modelling - State Diagrams

Quiz system state diagram

