Understanding User Requirements and Developing Requirements to Improve Quiz Platforms

COMP1531 F15A_AVOCET

1. Introduction

Quiz platforms like Kahoot play a crucial role in interactive learning. However, they also present challenges that hinder their effectiveness. This report outlines the planning phase for improving quiz platforms by gathering user feedback, identifying issues, proposing solutions, and validating their feasibility.

2. User Stories

Interviews were conducted with 3 students who frequently use these quiz platforms. From these interviews, we obtained a user story from each:

Emily Johnson (Email: emily.johnson@gmail.com)

- User Story: As a student who struggles with memory, I want to review past quizzes so I can learn from my mistakes and reinforce my understanding.

Rahul Mehta (Email: rahul.mehta@gmail.com)

- User Story: As a multilingual student, I want quiz platforms to support multiple languages so that I can take quizzes in my preferred language

Alex Carter (Email: alex.carter@gmail.com)

- User Story: As a student who does not have consistent access to the Internet, I want an offline mode so that I can attempt quizzes without a connection.

3. Identified Problems

From the user feedback, the following key issues were identified:

- Bot manipulation: easy to exploit systems allowing fake users, reducing fairness and engagement
- Flawed scoring system: too much emphasis on speed over accuracy which might be detrimental to the learning process
- Limited learning depth: platforms may feel more like games rather than effective study and review tools
- Lack of review features: users cannot revisit pass quizzes for reinforcement
- Language barriers: many platforms lack multilingual support

4. Use Cases & Proposed Enhancements

Use Case: Reviewing Past Quizzes

- Goal in Context: allow students to revisit past quizzes for review and learning
- Scope: Quiz platform
- Primary Actor: Student
- Trigger: User selects the "Review Past Quizzes" option
- Preconditions: the user has completed at least one quiz, and the quiz data is stored in the system
- Main Flow:
  1. The user navigates to the quiz dashboard
  2. The user clicks on "Review Past Quizzes" button
  3. The system displays a list of completed quizzes
  4. The user selects a quiz to review
  5. The system shows past answers alongside correct responses and explanations
- Failure Handling: If the user loses Internet connection, a retry option appears If no quizzes are found, the system displays a message: "No past quizzes available for review"

Use Case: Multilingual Support

- Goal in Context: Allows students to take quizzes in their preferred language
- Scope: Quiz platform
- Primary Actor: Student
- Trigger: User selects a language option from settings
- Preconditions: The system must have available language translations. The user has previously set a preferred language
- Main Flow:
  1. The user navigates to settings
  2. The user selects a preferred language
  3. The system updates the interface and quiz content to reflect the chosen language
  4. The user starts a quiz, and all text is displayed in the selected language
- Failure handling: If the selected language is not available, then the system displays an error message. If translation ata fails to load, the default language is used instead

Use Case: Offline Mode

- Goal in Context: enable students to take quizzes without Internet connection
- Scope: Quiz platform
- Primary Actor: Student
- Trigger: User selects the “Download Quiz for Offline Use” option
- Preconditions: The suer is currently online to download the quiz, and the system has the permission to store data offline
- Main Flow:
  1. The user selects a quiz and chooses the “Download for Offline Use” option
  2. The system stores the quiz data on the user’s device
  3. The user opens the quiz in offline mode
  4. The user completes the quiz and submits answers
  5. When the device reconnects to the Internet, the system syncs the results to the server

- Failure handling: If there is no storage space available, the system notifies the user. If a connection is lost before download completes, the system prompts the user to retry.

5. User Acceptance Criteria

1. Review Past Quizzes

User Story: As a student who struggle with memory, I want to review past quizzes so I can learn from my mistakes and reinforce my understanding.

Acceptance Criteria:

- Users must be able to access past quizzes from a “Review” tab
- Users must be able to see their previous answers alongside correct answers
- Users must not be able to edit answers after submission
- Explanations for correct answers must be provided if available

2. Multilingual Support

User Story: As a multilingual student, I want quiz platforms to support multiple languages so that I can take quizzes in my preferred language

Acceptance Criteria:

- Users must be able to switch languages from a settings menu
- Quiz content (excluding translation quizzes) must be translated based on user preference
- Language selection must persist across sessions

3. Offline Mode

User Story: As a student who does not have consistent access to the Internet, I want an offline mode so that I can attempt quizzes without a connection.

Acceptance Criteria:

- Users must be able to download quizzes for offline use
- Users must be able to attempt quizzes without an Internet connection
- Completed quizzes must sync with the server when the Internet connection is restored.

6. Validation & Feasibility Analysis

The use cases match all the interviewees' expectations well. Upon further analysis, we found that each proposed solution has its potential advantages and drawbacks:

Feature	Advantages	Drawbacks
Review Mode Improvement	Helps reinforce learning instead of doing so only during quiz	Requires more data storage
Multilingual Support	Increases the accessibility of the quizzes	More effort needed for translation and localization
Offline Mode	Improves the accessibility of quizzes	Synchronization could affect online systems

7. Conclusion and Next Steps

This planning report lays out key problem areas and potential enhancements for quiz platforms. The next steps involve conducting further research, gathering user feedback on proposed solutions, and assessing the feasibility of implementing these changes. A prototype or demo version of these features could help validate their effectiveness before full integration.