Requirements

Functional:

1. Must:

1.1. Questions

Requirement: Feedback after each question

Acceptance criteria:

- The system will display whether the student chose the correct answer or not.
- The message will automatically disappear in less than 2 seconds

1.2. Starting

Requirement: Quiz should take no longer than 5 seconds to start

Acceptance criteria:

- At the moment the user presses the start button the quiz should start in 5 or less seconds.

1.3. Maintainability

Requirement: Able to cope with 1 or more questions being answered

Acceptance criteria:

- The system will accept all answers to questions, independent of whether there is multiple answers.

1.4. Summary

Requirement: Present a summary of performance at the end

Acceptance criteria:

- The system will display how well the student answered the questions after the last question of the quiz.
- This must be kept simple as young children will be seeing this screen.
- This summary must also display only relevant information to the student, not any backend statistics.

1.5. Engagement team

1.5.1. Setting Up

Requirement: Setup the game (Engagement team)

Acceptance criteria:

- Engagement team is able to edit information on the Schools and Year groups attending the event.
- The system will collect pre-entered questions from a saved file.

1.5.2. Add questions

Requirement: Engagement team must be able to add new questions

Acceptance Criteria

- When the engagement team wants they should be able to add new questions on the topics they desire.

1.5.3. Delete questions

Requirement : Engagement team must be able to delete questions.

Acceptance Criteria

- When the engagement team wants they should be able to delete questions. Taking them of the bank of questions that appear in the quiz

1.5.4. Amend current questions

Requirement : Engagement team must be able to amend questions

Acceptance Criteria

- When the engagement team wants they should be able to amend questions making them either easier,harder or more understandable.

2. Should

2.1. Collecting Data

Requirement : After each question is used data should be collected

Acceptance criteria:

- The system should collect data on how well each question was answered.
- The system should also collect data on what answer was submitted so common mistakes can be identified.
- The system must make sure this data is anonymous to avoid any data protection acts.

2.2. Functional Abilities

Requirement : User should be able to quit or restart

Acceptance criteria:

- The system should be able to restart at the beginning of the quiz either after a certain length of inactivity or when an option is selected.
- The system should also be able to quit the current quiz and return to a menu.

3. Could:

3.1. Colourblind integration

Requirement: User able to switch on colourblind mode.

Acceptance criteria:

- The system could be made to accommodate to colour blind users by having a “Colourblind” mode which uses colour blind friendly colours.
- This must be in compliance with standard colour blind colour schemes.

4. Wont:

4.1. Backtracking

Requirement: User shouldn't able to go back to previous questions

Acceptance Criteria

- There is no way for the user to back to previous questions after their answered has been submitted

4.2. Sound effects

Requirement: User cannot switch on sound effects for the quiz

Acceptance Criteria

- The user is unable to switch on the sound effects in the settings window.

Non - Functional:

5. Must:

5.1. Multiple Choice

Requirement: The student must have a multiple choice when answering questions.

Acceptance criteria:

- The system will display a minimum of 2 tick boxes for each questions.
- The system must display to the student a hint of how many boxes to tick for each question such that there is no ambiguity.

5.2. Interface Simplicity

Requirement: The user interface must be simple enough so that its self explanatory to use.

Acceptance criteria:

- The buttons in the system must be clearly labeled to denote their function. Where appropriate icons will be used inside the buttons to provide a better visual experience.
- The text must be large enough and at the same time the look of the text should convey its importance, such that the headings should be in bold and content should be normal font.
- The layout must have a standard structure such that there is a flow/chronology to the content that is displayed.

5.3. Security

Requirement: The control panel must be accessible to the engagement only.

Acceptance criteria:

- The system must prompt the member of the engagement team to enter a password if they wish to access the control panel.
- If the password mathes the member will be granted access.
- If the password doesn't match then the access will be denied.
- Once the changes are performed the system will allow these to be saved by clicking a save button.
- If the member doesn't want to save the changes then a cancel button will discard them.

5.4. Reliability

Requirement: The system must display up to 10 questions

Acceptance criteria:

- The system will allow the engagement team to select from list of question to display.
- The system will limit the number of questions to a maximum of 10.

6. Should:

6.1. Factual Questions

Requirement: The questions will be factual based on set themes.

Acceptance criteria:

- The questions that appear should be factual and based on the theme of the event.
- Solutions of the questions should be found on the posters found in the event.

6.2. Restricted Internet access

Requirement: The system should run on a standalone machine as access to internet is restricted.

Acceptance criteria:

- No need for internet access or additional components should be needed for the system to work properly.

6.3. Presentation

Requirement: The questions should be composed of pictures and/or written text.

Acceptance criteria:

- The presentation of the questions and the multiple answer choices should use text and/or pictures.

6.4. Themes

Requirement: General or specific themes

Acceptance criteria:

- The quiz can be based on the theme of the event or just general.

6.5. Questions Database

Requirement: The engagement team should be able to choose from a bank of questions.

Acceptance criteria:

- The system should display a list of questions with a corresponding tick box which allows it to be selected.
- The engagement team will be able to save or cancel their selection.
- The system should then display a confirmation message relating to their selection.

7. Could:

7.1. Randomness

Requirement: The system could present the questions in random order.

Acceptance criteria:

- Every time a quiz is started the order of the questions could be mixed up.

8. Wont:

8.1. Time Limit

Requirement: There won't be a time limit for the questions

Acceptance criteria:

- No time limit is restricting the user from answering the questions and moving on with the quiz.

Use Case Diagrams

Actors

Student

The student must be able to:

- Read and understand the questions.
- Input an answer to each question from multiple choice.
- Receive immediate feedback on the answer submitted.

Engagement Team

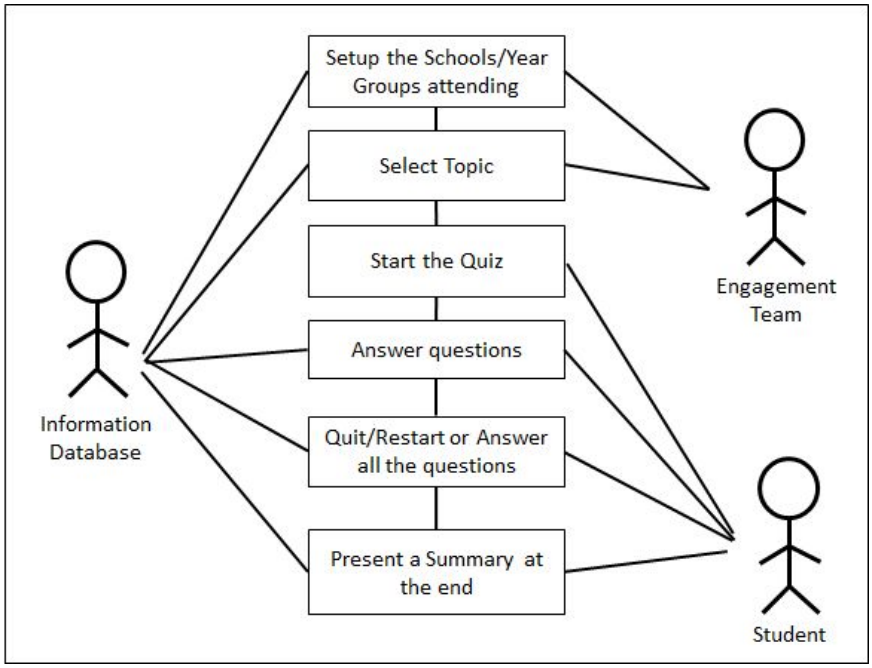
The engagement team must be able to:

- Set up the game at the event.
- Edit and create new questions and themes.
- View statistics about the questions.

Information Database

The database must be able to:

- Store data on the questions used in the quiz.
- Store average time and percentage of correctness.



Use Case No: 1	Use Case Name: Setup Year Groups			Rating: Must
Purpose: Allows for statistics to be gathered accurately				
Main Actor: Engagement Team	Secondary Actors: Information Database			
Pre Conditions: Engagement team knows what year group is going to use the system				
Trigger: Use case starts when engagement team knows which year group is using the system				
Description: The engagement team select which year group will be using the system The database records this year group and stores it in a database.				
Extensions:				
Related Use Cases:				
Post-conditions: At the end of this use case the database knows which year group is going to be using the system				
Author:	Date:	Approved:	Date:	Version:

Use Case No: 2	Use Case Name: Select Topic			Rating: Must
Purpose: Sets the topic of questions for students to answer				
Main Actor: Engagement Team	Secondary Actors: Information Database			
Pre Conditions: Engagement team knows which topic will be used on the day				
Trigger: Use case starts when the engagement knows which topic will be used				
Description: The engagement team select which topic will be used in the questions The database provides the questions which will be answered				
Extensions:				
Related Use Cases:				
Post-conditions: At the end of this use case the database knows which questions to use from				
Author:	Date:	Approved:	Date:	Version:

Use Case No: 3	Use Case Name: Start the quiz			Rating: Must
Purpose: Students begin the quiz				
Main Actor: Students		Secondary Actors:		
Pre Conditions: Students have been given the laptop by the engagement team				
Trigger: Use case starts when the students press the start button				
Description: The students select the start button				
Extensions:				
Related Use Cases:				
Post-conditions: At the end of this use case the students can start answering questions				
Author:	Date:	Approved:	Date:	Version:

Use Case No: 4	Use Case Name: Answer Questions			Rating: Must
Purpose: Students answer the questions shown				
Main Actor: Students		Secondary Actors: Information Database		
Pre Conditions: Quiz has been already started				
Trigger: Use case starts when the students answers the questions.				
Description: The students answers the questions presented using the 4 multiple choices given.				
Extensions:				
Related Use Cases:				
Post-conditions: At the end of this use case the system will present the student a summary of their performance				
Author:	Date:	Approved:	Date:	Version:

Use Case No: 5	Use Case Name: Quit/Restart			Rating: Must
Purpose: Gives the user different options.				
Main Actor: Students		Secondary Actors: Information Database		
Pre Conditions: Quiz has been started and questions are being answered				
Trigger: Use case starts while the user is answering questions.				
Description: The student is able to press a quit/restart button while the quiz is still not over.				
Extensions:				
Related Use Cases:				
Post-conditions: At the end of this use case the students is able to try again for a new set of questions.				
Author:	Date:	Approved:	Date:	Version:

Use Case No: 6	Use Case Name: Summary			Rating: Must
Purpose: A summary of performance is given to the students so that they understand where they went wrong				
Main Actor: Students		Secondary Actors: Information Database		
Pre Conditions: Quiz has finished				
Trigger: Use case starts when the students answers the last question in the quiz				
Description: The student finishes answering the last question. The database gives the student a summary of all the questions they answered wrong and right				
Extensions:				
Related Use Cases:				
Post-conditions: At the end of this use case the students know which questions they answered incorrectly				
Author:	Date:	Approved:	Date:	Version: