

# **Software Engineering Group Project 02**

## **User Interface Specification**

Author: Oliver Hoad [olh20], Tom Clark [toc27]  
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# 1. INTRODUCTION

## 1.1 Purpose of this Document

The purpose of this document is to define and document the use cases for the Web Quiz project.

## 1.2 Scope

This document describes the Typical users as well as the use cases of the Quiz maintainer, Quiz master and Quiz Participant, as well as the error conditions.

Before reading any this document any further it should be noted that this document is to be read and used by members of group 02. It will be assumed that the reader is already familiar with the overview of the project outlined in the **Group Project Overview** [1]. All functional requirements referenced within section 3.1 are located within the **WebQuiz Requirements Specification** [2].

## 1.3 Objectives

The objective of this document is to clarify that each user is handled appropriately as well as recognise any errors that may occur from each user's perspective.

# 2. TYPICAL USERS

## 2.1 Quiz Maintainer

The quiz maintainer wants to create Quizzes for a quiz master to run in any kind of environment, be it in an educational setting or for a pub quiz. They create quizzes that have questions that vary from Multiple choice to True or False that their participants can answer when they send the link out publicly. They want to have the ability to create, edit and update, delete, import, and export quizzes.

## 2.2 Quiz Master

The quiz master has access to these quizzes and must be able to generate a link to send to the quiz participants. They'd like to give them access to the quiz before starting it. They also want to be able to turn on or off timing and step through each question if the timer is off. Finally, if the quiz needed to be cut short, they should be able to stop the quiz even if all the questions haven't been answered.

## 2.3 Quiz Participant

The quiz participant is the user type that will be taking the quizzes and needs to be able to access a link to a quiz that is started by the quiz master and should be able to answer each question from a shared screen. Once the quiz is complete, the participant should receive a mark indicating how well they did in the quiz.

### 3. USE CASES

#### 3.1 Use case table

<i>Use case ref.</i>	<i>Title</i>	<i>Description</i>
UC1.0	Quiz Maintainer account creation	To create an account the user must first click the register button located at the top of the screen. From here, a valid email address and a password must be entered. The password must be entered again for validation. If the user misses any data or enters any invalid information, then an error message will display and the user cannot continue. When the form has been filled in correctly, the user will be returned to the welcome screen.
UC1.1	Quiz Maintainer login	To login, an account must first be created [see use case 1.0]. The user can login to an existing account by clicking the “login” button located on the screen, or alternatively by clicking the login button on the navigation. The user must enter the account details in the corresponding boxes and click the login button to finalize.
UC1.2	Quiz Maintainer create quiz	<p>If a quiz maintainer wants to create a quiz then they must first login [see use case 1.1]. Once logged in, click the create quiz button. This will take the user to the quiz creation form. Here, a quiz title and description must be entered. The default question timer can also be altered here. Click next when ready to continue. [FR1]</p> <p>The question type can be changed using the dropdown menu. The rest of the form will be altered to accommodate the question type. A question and mark must be entered, as well as at least 2 answers for a multiple-choice question, and 1 correct answer. An accompanying image can be uploaded if needed. To move on to the next question, click next. When finished, click the save button to move on to the preview screen. [FR2][FR3][FR4]</p>
UC1.3	Quiz Maintainer preview quiz	When a quiz maintainer has created at quiz [see use case 1.2] the user will be greeted with a preview of the quiz. From here the user can use the numbers and arrows along the screen to change which page question is being previewed. To edit a question, click the edit button.[FR5] When a user clicks the edit button they will be taken to the corresponding question where they can edit the details of that question. A question can be deleted with the delete button. [FR5][FR6] The plus can be used to add a question, and the floppy disk next to it can be clicked to save the quiz.
UC1.4	Quiz Maintainer view quizzes	To view saved quizzes as a quiz maintainer, the user must first be logged in as a quiz maintainer [see use case 1.1]. Once logged in, the user can click the quizzes button located on the navigation bar to view a list of saved quizzes. From here, the user can change the sort criteria of the list by using the dropdown menu. The share icon next to the name of each quiz allows the user to create a link to the quiz. The export button allows the user to export a saved quiz, [FR19] clicking the pencil icon will take the user to the edit screen, and the bin icon will delete the quiz. [FR7][FR8] A quiz can be imported using the button located at the bottom. [FR20]
UC1.5	Quiz Maintainer edit quiz	To edit a quiz, the user must first be logged in [see use case 1.1] and at least 1 quiz must have been created already [see use case 1.2]. Go to the quiz list [see use case 1.4] and click the pencil icon that corresponds to the quiz you want to edit. This will open the selected quiz in the quiz creation form seen in UC1.2 where the user can make alteration to the quiz. When the desired changes have been made, the user can click the save button to be taken to the preview screen [see use case 1.3] to finalize the changes.
UC1.6	Quiz Maintainer delete quiz	To edit a quiz, the user must first be logged in [see use case 1.1] and at least 1 quiz must have been created already [see use case 1.2]. Go to the quiz list [see use case 1.4] and click the dustbin icon that corresponds to the quiz you wish to delete. The user will be presented with a dialogue that asks you to confirm the deletion. Click yes to continue to delete the quiz.
UC1.7	Quiz Maintainer start quiz	To start a quiz, the user must be logged in [see use case 1.1] and at least 1 quiz must have been created already [see use case 1.2] Click the start quiz button on the navigation bar. The user will be presented with a list of created quizzes. The dropdown menu can be used to change the sort order. Click the share to copy the

<b>Use case ref.</b>	<b>Title</b>	<b>Description</b>
		<p>link to the quiz. A quiz can be imported by clicking the import button at the bottom of the screen. [FR20] To start the quiz, click the start button next to the intended quiz.</p> <p>You will then be presented with the quiz lobby screen. The total amount of users connected will be displayed here with a social icon. The timer can be toggled on or off using the appropriate switch. The code to the quiz will be displayed alongside the quiz title and description, as well as a link for the quiz participants to use. When all users have connected, click the start button to begin the quiz.</p> <p>When the quiz has started, you can use the arrow to manually move on to the next question, skipping the timer. You can also end the quiz prematurely with the end quiz button. At the end of the quiz the participants will be given their scores independently.</p>
UC2.0	Quiz Master account creation	To create an account the user must first click the register button. From here, a valid email address and a password must be entered. The password must be entered again for validation. If the user misses any data or enters any invalid information, then an error message will display and the user cannot continue. When the form has been filled in correctly, the user will be returned to the welcome screen.
UC2.1	Quiz Master login	To login, an account must first be created [see use case 2.0]. The user can login to an existing account by clicking the login button, or alternatively by clicking the login button on the navigation bar. The user must enter the account details in the corresponding boxes and click the login button to finalize.
UC2.2	Quiz Master view quizzes	To view saved quizzes as a quiz master, the user must first be logged in as a quiz master [see use case 2.1]. Once logged in, the user can click the quizzes button located on the navigation bar to view a list of saved quizzes. From here, the user can change the sort criteria of the list by using the dropdown. The share icon next to the name of each quiz allows the user to create a link to the quiz. [FR9] The export button allows the user to export a saved quiz. [FR19] A quiz can be imported using the button located at the bottom. [FR20]
UC2.3	Quiz Master start quiz	<p>To start a quiz, the user must be logged in [see use case 2.1] and at least 1 quiz must have been created already [see use case 2.2] Click the start quiz button on the navigation bar. The user will be presented with a list of created quizzes. The dropdown menu can be used to change the sort order. Click the share icon next to the quiz title to copy the link to the quiz. A quiz can be imported by clicking the import button. [FR20] To start the quiz, click the start button next to correct quiz.</p> <p>You will then be presented with the quiz lobby screen. The total amount of users connected will be displayed with a social icon. The timer can be toggled on or off using the appropriate switch. [FR12] The code to the quiz will be displayed alongside the quiz title and description, as well as a link for the quiz participants to use. [FR10] When all users have connected, click the start button to begin the quiz. [FR13]</p> <p>When the quiz has started, there will be a shared screen that displays the question, image, and possible answers. [FR11] You can use the arrow to manually move on to the next question, [FR14] skipping the timer. You can also end the quiz prematurely with the end quiz button. [FR15] At the end of the quiz the participants will be given their scores independently.</p>
UC3.0	Quiz Participant join quiz	The user must use the link generated by the quiz maintainer when the quiz is created [see use case 1.2] to join the quiz. [FR17] When the participant has joined, they will be greeted with a splash screen containing the title and description of the quiz along with message to wait for the quiz master to start the quiz.
UC3.1	Quiz Participant taking quiz	The participant must first have joined the session [see use case 3.0] and the quiz master must have started the quiz [see use case 2.3] before the participant will be moved to the questions. When the quiz has started, the user will be greeted with the question displayed along the top of the dialogue, along with the image uploaded during creation.

Use case ref.	Title	Description
		<p>The user can select one answer during a multiple-choice question, likewise for the true or false question.</p> <p>The view toggle button can be used to switch display modes, question view shows the answers and the accompanying image, whereas answer view shows only the answers. [FR18]</p> <p>Once all questions have been answered the participant will be taken to a page where their score will have been calculated for them. [FR16]</p>

### 3.2 UML Use case diagram

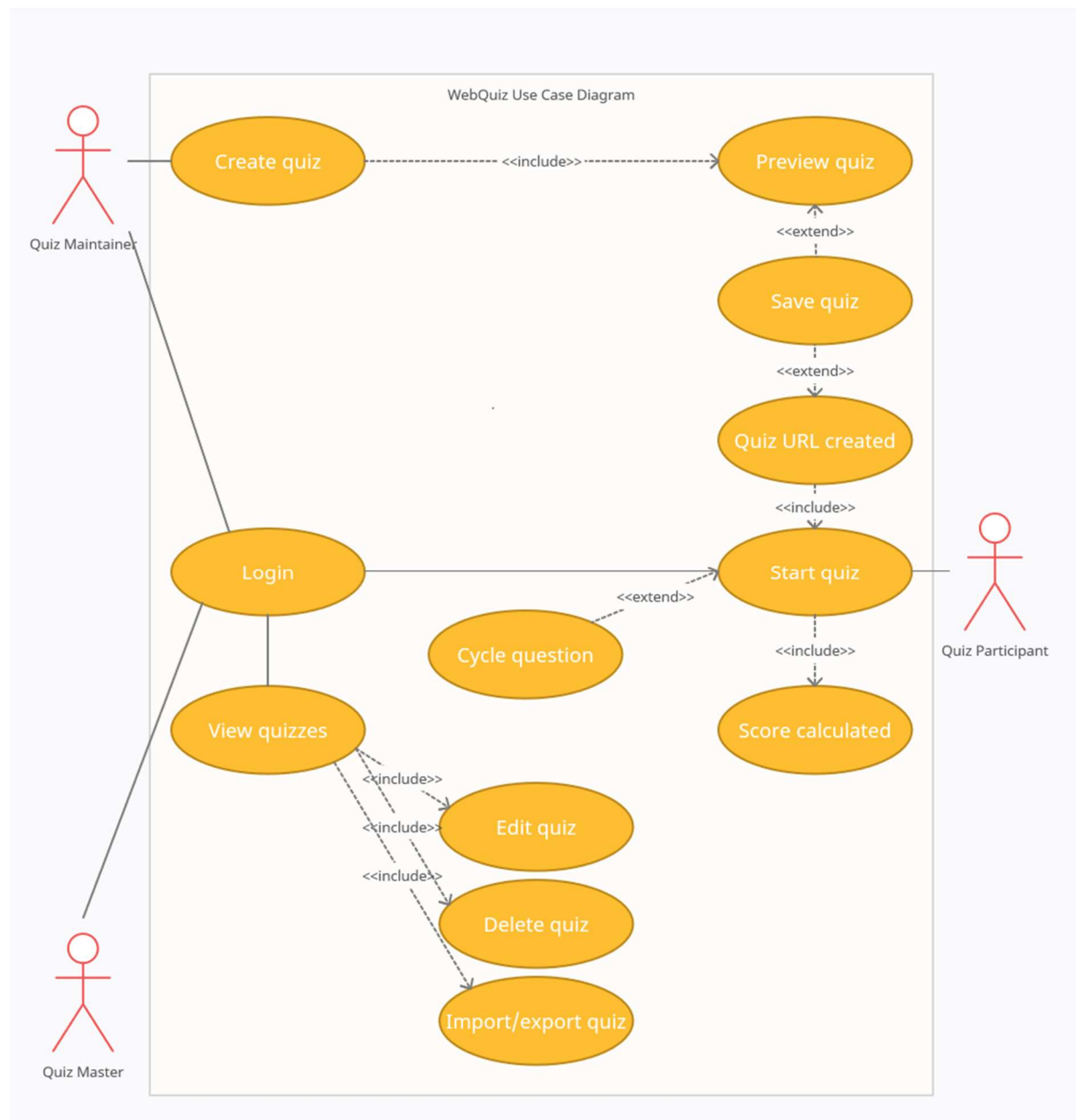


Figure 1: Use case diagram

## 4. ERROR CONDITIONS

### 4.1 Error conditions table

<b>Error case ref.</b>	<b>Title</b>	<b>Description</b>
EC1.0	Quiz Maintainer registration error: no details	When creating an account, if the quiz maintainer leaves either the email address, password or confirm password box empty then they will trigger an error asking them to fill in all of the boxes to continue.
EC1.1	Quiz Maintainer registration error: invalid details	When creating an account, similarly to EC1.0 if the quiz enters either an incorrect or invalid email address then they will trigger an error asking them to enter a valid email address.
EC1.2	Quiz Maintainer login error: no details	When logging into an account, if the quiz maintainer leaves either the email address or password box empty then they will trigger an error asking them to fill in both boxes to continue.
EC1.3	Quiz Maintainer login error: invalid details	When logging into an account, similarly to EC1.2 if the quiz enters either an incorrect or invalid email address then they will trigger an error asking them to enter a valid email address.
EC1.4	Quiz Maintainer quiz creation: blank	Once a quiz maintainer has logged in and navigated to the quiz creation section [see UC1.2] if the quiz maintainer then leaves any details on the initializer page blank, such as a quiz title or description then the system will return an error condition asking the user to fill in both boxes before attempting to continue.
EC1.5	Quiz Maintainer quiz creation: multiple choice	When the quiz maintainer has progressed the to page where the questions can be created [see UC1.2], if the multiple-choice question has been selected from the dropdown menu then the user is required to enter a question, at least two possible answers, at least one correct answer to the question, a mark for the question and a time for the question. If the user fails to provide any of these then an error message will be returned prompting the user for any missed information.
EC1.6	Quiz Maintainer quiz creation: multiple choice	When the quiz maintainer has progressed the to page where the questions can be created [see UC1.2], if the true or false question has been selected from the dropdown menu then the user is required to enter a question, a mark for the question and time for the question, and to specify whether the answer is true or false. If the user fails to provide any of these then an error message will be returned prompting the user for any missed information.

## **REFERENCES**

- [1] Software Engineering Group Projects: Group Project Introduction and Guidelines C.W. Loftus. 2021 - 2022 Release
- [2] Software Engineering Group Projects: WebQuiz Requirements Specification C.W. Loftus. SE.QA.RS-CS22220. 1.0 Release



## DOCUMENT HISTORY

<i>Version</i>	<i>Issue No.</i>	<i>Date</i>	<i>Changes made to document</i>	<i>Changed by</i>
0.1	N/A	21/02/2022	N/A - original version	Olh20
0.2	N/A	24/02/2022	UML use case diagram added	Toc27
0.3	N/A	25/02/2022	Use case table added	Toc27
0.4	N/A	25/02/2022	Touching up	Olh20
1.0	#2	07/03/2022	Actioned some of the notes from Chris' feedback: (formatted table to address excess blank space; refactored Use case table numbering scheme; loosened the context of the typical users brief to allow more flexibility; Tweaked the specificity in the use cases so as not to commit to a design verbally just yet)	Toc27
1.1	#2	14/03/2022	Finished actioning Chris' feedback: (Added an error case table with it's own reference ID system; Finished referencing document; Edits to layout and pacing of the document)	Toc27