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Feasibility Study

Quiz Manager

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Background

This Document aims to break down the Feasibility Study for this project into the appropriate sub-categories in order to best explore the expected risks, constraints and deliverables for this project. The background for this project is that WebbiSkools Ltd has requested a website to manage multiple choice quizzes with a multi-level permissions structure, providing certain users with more access rights than others. This site will be built so that Users may create new Quizzes, Review existing Quizzes and Take the Quizzes depending on their level of access.

Objectives

The objectives of the project are the goals that the project should meet and maintain throughout its lifetime. These goals are what the functionality of the system should result in within the estimated first year after ‘Go Live’.

1. Engage more consumers by making Quizzes more available online
2. Reduce costs of Paper-based quizzes by converting existing educational resources to an online format
3. Increase company profits by introducing a member-based system where users sign up to gain access to quizzes (Educational Tools)
4. Improve time efficiency when creating new quizzes
5. Reduce the costs and time needed to market new quizzes as deliverables

Scope

The Scopes are the features and functions that characterise this product, these are what the team will work from, we aim to build an application based on these attributes.

6. Create a Database Driven website.
7. Create a Multi-level permission structure.
8. Allow Edit Users to Create new Quizzes with multiple choice answers.
9. Allow View Users to View the Questions and Answers for each Quiz.

10. Allow Restricted Users to View only the Questions when taking a Quiz.
11. Create a quiz maker system, accessible only by Edit Users
12. Allow all users to Take a Quiz and see their pass/fail mark
13. Pre-configure User accounts

After reviewing the scope it appears that there should be a minimum of 3 sections to the site. The first being a homepage where the user may choose which quiz to take. Another being the Take Quiz area, where the user actually takes a quiz and receives a pass/fail mark. And finally, a Create/Manage Quiz area where quizzes can be added or edited by edit users.

Constraints

Time - The biggest constraint on this project is Time, we have only 1 week to develop the application so we will have to make use of development tools which will improve the speed of the development phase, rather than create entirely custom components.

Using both the MVC Authentication and Razor Pages should make the development time much faster since the multi-level authentication could be the most time-consuming section of development. By using Razor-Pages, the standard design framework (including bootstrap.cs) will be implemented which will make the creation of a user interface much quicker to build.

By making use of the MVC Register code, I will be able to upload the users from a CSV file and then register them to the DB.

It would also make the development much faster if a DB first approach was implemented in this scenario, this is because once the DB is set up the structure used to format that data can then be very quickly translated into code, meaning that connection between the code functionality and the DB will be running in a stable fashion at the beginning of the project rather than further into development. This will also result in the DB becoming a foundation of the system.

Assumptions

For this project, I am making the assumption that the quizzes will be multiple choice instead of having a checkbox to validate answers. This is because it will be quicker to implement a true/false answer than to check a text-based answer due to the time constraints. To improve the functionality, however, I will be implementing explanations for the answers which would provide a more extensive explanation for the user. This change will make the quiz manager more closely represent the need for these quizzes to be educational tools.

Risks

Spelling mistakes in initial Quiz Creation - there is a risk that the user could make a spelling mistake in the initial quiz creation which would then be displayed to users. The solution here is to implement the Edit functionality, this way the Admin users can go back in and re-write any words with spelling mistakes. To help with formatting and catching spelling and punctuation errors before adding the questions/answers to the Quiz, it will be recommended to the users to install spell checker software such as Grammarly. This will not be a requirement, however, it will be a suggestion noted in the User Guide.

Quiz becoming too old/redundant - In the case where a Quiz has become outdated and will not be used anymore, it will become imperative that the quiz is removed. In the first release of the website, this functionality will not be included as it will not be immediately necessary and we need to ensure the core functionality is created before adding new requirements. This project is time sensitive so this issue has been labelled as a low priority right now. However, the solution that will allow Admin users to delete Quizzes will be noted as part of future development, possibly added to the next phase of development.

User changing roles and needing a different level of access - should a User of the system change job roles and require a change in the level of access granted to them, it will become imperative that their account can be amended. This cannot be done by themselves but this will be another function the Admin Users will be able to accomplish. This will be added to the backlog but is a low-level requirement, this is because it is unlikely to change in the near future but is still a possibility. If the manage users section of the site is not ready by the deadline, this will be moved to the next phase of development and set as a high priority task.

Deliverables

Flow Diagrams - I will be creating a Flow diagram to show the process of user interaction > website > DB to map out the user journey. This will help us during the planning phase and also act as a diagram which can be referenced during the development and deployment phases and additionally on a smaller scale in the user guide.

User Stories - From this document, I will create the User Stories which will be used to plan, manage and validate the tasks required to meet the project Objectives.

Multi-level Access Structure - this project requires multiple levels of access to distinguish which permissions users have.

Quiz Management System - A DB first system designed to create, edit and take Quizzes.

Quiz Management DB - A SQL DB to store information about Quizzes and System Users.

Unit Test Project - Required to Test code. The project will be built in a Test Driven Development Style (TDD).

Release Notes and User Guide - Documentation necessary for the handoff of this project before ‘Go Live’.