Software Requirements Specification

Release Information

Project: Engrade Quizzes
Internal Release Number: 1.0
Attached worksheets: SRS > Use case suite
                         SRS > Feature set
Related Documents: Project proposal > User needs
                         Glossary

Introduction

The Engrade Quizzes project will be able to generate and manage a list of quizzes from its database to prepare for the lessons online by teacher, or taking exams for pupils and students. The quiz contains a list of multiple choice questions.

Use Cases

Details:

Actors are described in the user needs document.
The use case suite lists all use cases in an organized way.

Functional Requirements

The software will mostly provide the same set of use cases and features. The user shall be able to register to the site as a teacher or students, manage and preview questions, or generates a list of quizzes.

Details:

The feature set lists all features in an organized way.

Non-Functional Requirements

What are the usability requirements?

The system must ensure a user-friendly use case steps that will help users use the system easily. It will provide step by step procedures on each use case and feature.

The user interface should be as familiar as possible to users who have used other web applications and Windows desktop applications. E.g., we will follow the UI guidelines for naming menus, buttons, and dialog boxes whenever possible.

What are the reliability and up-time requirements?

The system should be able to host a small group of users (approx. 100) and a large bank of quizzes at a stable phase.

The site should have a 99.9% up-time with at most 45 minutes of down-time.

What are the safety requirements?

Stable technologies will be utilized to build the system. Minimum risk and hazard are expected from the system. Safety must also be managed during the operation and the maintenance of the system. The site will be deployed on clean operating systems with enough security to avoid risks and hazards.

Properly maintained and cooled hardware systems should be used to provide safe software life cycle to the system.

What are the security requirements?

Access will be controlled with usernames and passwords.

Only Administrators can configure the site, delete users. Users can edit their account information. Only teachers can edit and delete quizzes.

Various software exploits will be observed and avoided to ensure the reliability and security of the site.

Details:

What are the performance and scalability requirements?

The system should be able to perform well given the required hardware specification. Support of more users and a larger database are also constricted by the hardware hosting the system. The site will use standards to avoid performance and scalability issues on the software side.

What are the maintainability and upgradability requirements?

Maintainability is our ability to make changes to the product over time. We need strong maintainability in order to retain our early customers. We will address this by anticipating several types of change, and by carefully documenting our design and implementation.

The system is not planned for future releases. Should a future release requested, we must be able to deploy and upgrade with minimal downtime and service disruption.

Details:

What are the supportability and operability requirements?

The developers will be able to support the system throughout its life cycle through the team's mailing list. The user guide will include a troubleshooting guide and checklist of information to have at hand before contacting the developers.

We will not host the site. It will be remotely hosted from a dedicated machine that will guarantee hardware and up-time requirements. It must have key features and the ability to do backups, monitoring, and traffic analysis for documentation and statistical purposes.

What are the business life-cycle requirements?

The business life-cycle of a product includes everything that happens to that product over a period of several years, from the initial release, through important but infrequent use cases, until product retirement. Key life-cycle requirements are listed below.

Details:

The product should be stable. It will be designed to live until the technologies used are considered obsolete and an upgrade is critically needed.

Environmental Requirements

What are the system hardware requirements?

A web server should be used with safe and cooled hardware components to ensure reliability and safety. An upgradable minimum secondary storage of 20GB, a minimum of 512MB RAM and, a video card that can support the web server's interface is also needed.

What are the system software requirements?

The web server must have the following:

- Sqlite or any compatible database management system that can host a standard SQL database

What application program interfaces (APIs) must be provided?

Details:

What are the data import and export requirements?

The system will store all data in a standard SQL database, where it can be accessed by other programs.