A white and black background with black and yellow lines

Description automatically generated

# Contents

[Contents 2](#_Toc174991869)

[Scope 3](#_Toc174991870)

[Introduction 4](#_Toc174991871)

[Overview 4](#_Toc174991872)

[Operating Environment 4](#_Toc174991873)

[User Roles 4](#_Toc174991874)

[Overview of Requirements 5](#_Toc174991875)

[Functional Requirements 5](#_Toc174991876)

[Data Requirements 5](#_Toc174991877)

[Product and Technical Requirements 6](#_Toc174991878)

[Constraints 6](#_Toc174991879)

[Assumptions 6](#_Toc174991880)

[Dependencies 7](#_Toc174991881)

[Guidelines 7](#_Toc174991882)

[User Documentation 7](#_Toc174991883)

# Scope

Based on the proposed scope of the Share2Teach extensions, the objective is to enhance its functionality and scope.

* Account Creation and Secure Sign-in
* File Uploading & Storage & Downloading
* File Moderation (Gatekeeping, reviewing, approving/denying of documents)
* File Reporting
* Pre-pending Watermark/License to files
* Allow tagging of Documents when uploading (metadata)
* Allow Searching of Documents
* Implement Analytics to monitor user engagement and behaviour
* Facilitate document ratings by Users.
* Create an FAQ page
* Announcements
* Timetables for students
* Gradebook
* Online tests
* Potential Mobile Application

# Introduction

## Overview

Siyafunda is designed to be an online centralised platform for educators and learners, aimed at facilitating resource sharing and enhancing accessibility. The project will be hosted online, enabling educators or institutions to register for the service. Once registered, students can access the specific functionalities provided by the platform, tailored to the needs of the educator or institution.

For instance, educators may use the platform for general purposes such as resource sharing, communication through announcements, grade feedback, online tests, and assignments. Additionally, users have the flexibility to utilize only selected portions of the service based on their requirements.

# Operating Environment

The system will be web-based and accessible through any web browser on both mobile and desktop platforms. Additionally, a lightweight version will potentially be available on mobile platforms, including Android and iOS.

## User Roles

* System Admin
  + This user has unrestricted access to all parts of the system, being able to access every institution’s functions. Additionally, it includes access to further business information functions if the system were to be monetised. The user can also maintain the general database of the system, being able to modify aspects of other users such as their roles.
* System Developer
  + Responsible for maintaining the functionality of the system and adding new functions.
* Moderator
  + The moderator of the assigned institute, typically a higher-level manager of the given institution. Responsible for:
    - Maintaining site users
    - Maintaining site access
    - Maintaining resources (e.g. file management)
* Educator
  + Has a reasonable level of administrative control over the specific portion of the site dedicated to their institution. Has access to the following:
    - Uploading of files
    - File moderation
    - Manual Grading
    - Test creation and moderation
    - Maintenance of their specific module/class
* Student
  + Has open access to the resources shared for their registered institution
  + Can partake in work assigned by their educator

# Overview of Requirements

## Functional Requirements

* Account Creation and Secure Sign-in
* File Uploading & Storage
* File Moderation (Gatekeeping, reviewing, approving/denying of documents)
* File Reporting
* Pre-pending Watermark/License to files
* Tagging of Documents when uploading (Metadata)
* Searching for Documents
* Analytics to monitor user engagement and behaviour
* Document Ratings
* FAQ page

## Data Requirements

* File Storage
* File Metadata
* File Ownership
* Moderation History
* User Data – Account Creation
* User Analytics

## Product and Technical Requirements

The technical requirements for the development of the application.

* **Data Storage:** The system needs to store different types of data:
  + Document Storage: Uploaded documents will be kept in a file storage system.
  + Document Metadata: Information like subject, grade, and keywords, along with document ratings and storage locations, will be stored in an SQL database.
  + User Data: User login details, roles, and activity logs for analytics and audits will be securely stored.
  + FAQ: Frequently asked questions and answers will be managed in a database.
* **Security:** This system will make use of HTTP-only cookies, JWTs and encrypted passwords to make sure that users are only able to access and modify the content that they are authorized to, and to ensure that user accounts are secured.
* **Back-End:** This system will have a server that is listening for requests from the application.   
  An API will be used to manage request behaviour and encapsulate complicated interactions between the application and data.
* **Architectural Requirements:** The application will be hosted using a 3rd party cloud hosting platform, namely Microsoft Azure.

## Constraints

* **Compatibility:** The application is intended to be mainly used as a web application.
* **Open-Source 3rd Party Libraries:** All technologies and libraries used for functional applications (such as architectural, framework, and library technologies) except the hosting costs will be fully free, and open-source.
* **Modularity, Extendibility, Expandability:** The primary aspect of the system’s functionality is modularity, intended to be able to be highly customizable and adaptable to every institution’s requirement. This thus also means that future expansion opportunities will also be prioritized.
* **Security:** Common data security standards will be implemented.
* **Time:** The current iteration of the project has one semester allocated for completion, which will conclude on the 16th of October 2024.
* **Version Control:** GitHub will primarily be used for version control and collaboration.

## Assumptions

* There will always, post-launch date, always be a stable version available that is fully functional to all users.
* The requirements outlined in this document dictate the scope of the project that will not undergo significant change.
* The entire web application is being built from the ground up.

## Dependencies

* **3rd party libraries**: This project will use a variety of 3rd party open-source libraries, APIs and services.
* **Hosting Platform**: Azure will be used to deploy and host the web application with Azure App Service.
* **Stakeholder Feedback**: Regular feedback is required from the review team done in the form of bi-weekly meetings.

## Guidelines

* **Coding Standards**: Code must follow language-specific conventions.
* **Commenting and Documentation**: Concise, descriptive comments are expected in the code. All functionalities must be documented thoroughly.
* **Version Control**: GitHub will be used to host the project source code. One branch will be named something like ‘stable’ that can be easily identified and will always be production ready.
* **Unit Testing**: Write unit tests for non-trivial source code.

## User Documentation

* **User Manuals**: The user will be provided with a detailed guide on how to use the application that covers all the previously discussed features.
* **FAQ**: The main site will contain an FAQ section that will provide users with access to frequently asked questions and their suggested answers.
* **Video Demonstration**: A general overview of the services will be available for all user roles, with additional guides being available for moderators and educators.