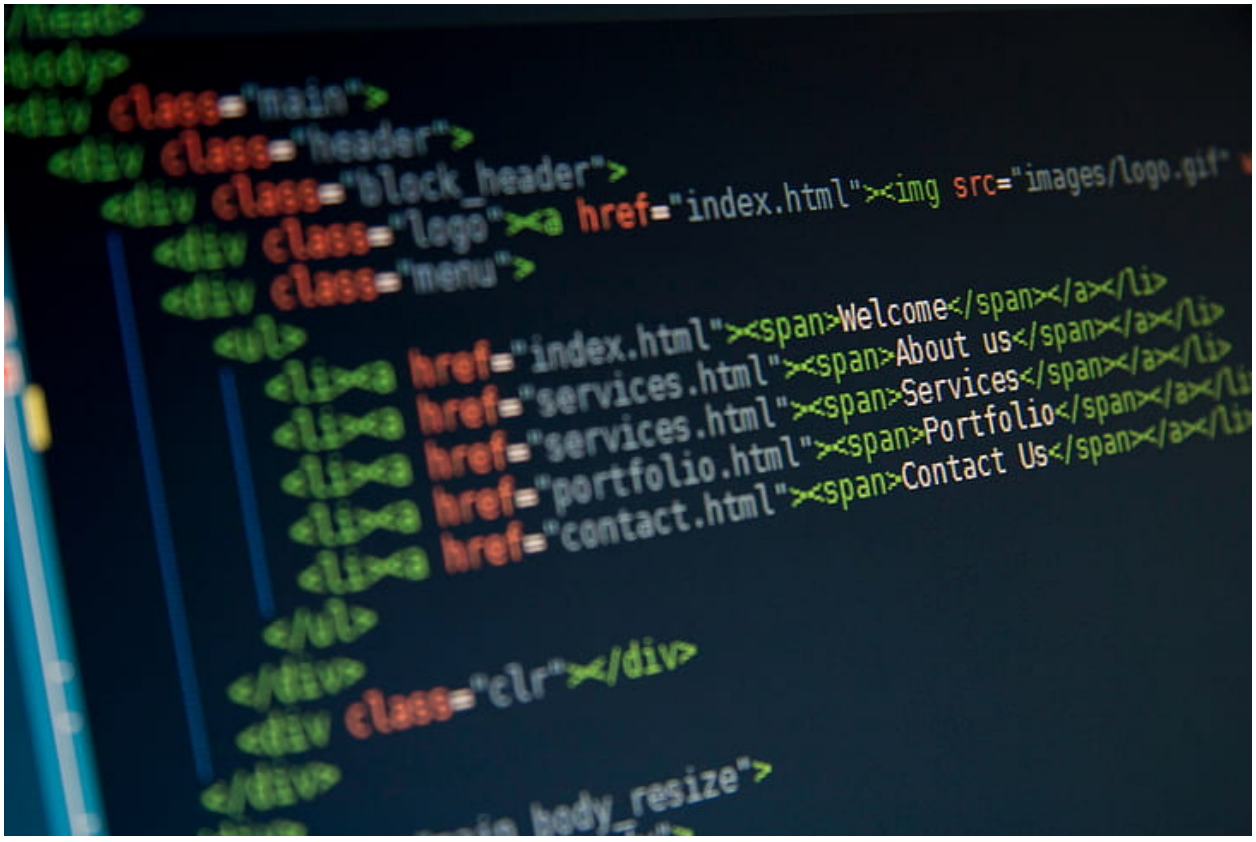

Online Assignment Submission and Evaluation System

10.04.2021

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CSB18012

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Abstract

This project is aimed at downloading and uploading online assignments for teachers and students. With each assignment having information about the instructions, description, deadline, and submission details.

The main goal of this project is to design and implement online assignment submission and provide an interface used for uploading assignments by instructors, who would be able to evaluate assignments automatically. The system provides an interface for assigning assignments to the students and setting deadlines for each.. The most obvious advantage offered by online assignment submission is that it offers faster transmission of assignments than using the traditional way by using an online system. The interface is used to invoke marks to the students by teachers, so as to save the time and cost of paper by assigning results digitally so as to put up a fast response for students as well as increasing the quality of the feedback provided to students.

1. Introduction

1.1 Purpose

The purpose of this document is to build a web based application for students so that they can upload their assignments in a portal and teachers and evaluate and assign marks to them.

The objective of this process is as follows:

1) To develop a full stack website for teachers to assign assignments for the students and for students to submit their assignments.
2) Also enhance the feature for teachers to evaluate the assignments submitted and mark them.
3) The project should be very easy to use enabling even a novice person to use it.

1.2 Document Conventions

No document conventions are being used at this time.

1.3 Intended Audience and Reading Suggestions

This app is intended for students and teachers to share assignments online. The teacher assigns any task to the students and in response to that they would share their submissions to it.

This document is to be read by the development team and all other stakeholders of this web-app.

1.4 Project Scope

The name of the application is Online Assignment Submission and Evaluation System. The application will allow teachers to assign assignments to students based on the subject. The students in response need to upload the solution of the assignment within the due date given.

After the student uploads the assignment the teacher can access the assignment and grade marks to it depending on the solution given. After that the teacher shares the marks and students can check their marks on the platform. Each student can login to their account and access their marksheet. I intend to include some extra features such as public and private communication between students and teacher as my future prospects after the completion of the essential features if time permits. Also with this I will have to incorporate the file selection feature which can help to share important materials so that it can stay on the server for a long period of time.

2. Overall Description

2.1 Product Perspective

This application would be created with the motivation to simplify the task for students and teachers to interact and keep the educational track for the students moving in this time of pandemic. Through this application the students can keep moving in their educational sectors attempting exams and solving assignments as directed by the teachers. The teachers can also keep track of their students and keep checking their progress in the particular field. Overall this application helps both teachers and students in the time of such pandemic.

2.2 Product Features

These are the features of our application :

- Upload files easily
- Assign tasks easily
- Checking the submitted files
- Evaluate the assignments by downloading the files
- Grade the assignments
- Check individual marksheets
- Login features

Initially I am working on these following features. If time permits then we will focus on the following features such as public and private communication between students and teacher and also some required features according to the need of the future.

2.3 Target Audience

This app is intended for students and teachers to share assignments online. The teacher assigns any task to the students and in response to that they would share their submissions to it. Also student groups who want to keep track of their project works can also use this application by creating target assignments and clearing them so as to complete projects on time. But essentially it is for institute students and teachers.

2.4 Addressing the problem

The purpose of this document is to build a web based application for students so that they can upload their assignments in a portal and teachers and evaluate and assign marks to them. The problem has been for the teachers and students to keep moving with their academic works in this time of pandemic. Using this teacher can keep track of their students progress and students can also keep their studies moving. The teachers can share assignments as well as take online exams in a single platform.

2.5 Deliverables

The end product will be a full stack web page with all the essential features that can be accommodated in it. The application will allow teachers to assign assignments to students based on the subject. The students in response need to upload the solution of the assignment within the due date given. After the student uploads the assignment the teacher can access the assignment and grade marks to it depending on the solution given. After that the teacher shares the marks and students can check their marks on the platform. Each student can login to their account and access their marksheet. The teacher assigns any task to the students and in response to that they would share their submissions to it. Initially I am working on these following features. If time permits then we will focus on the following features such as public and private communication between students and teacher and also some required features according to the need of the future.

2.6 Timeline

SRS Document preparation: (05-10) April.

- Revision of SRS Preparation of SE
- SRS Document creation

Database designing: (10-20) April.

- Revision of DB designing.
- Database design and diagrams design.

Design Document: (20-30) April.

- Design document preparation.

Frontend Coding: (1- 15) May

- Front end designing.
- Front end Coding
- Front end testing.

Backend Coding: (10-31) May

- Backend designing.
- Backend coding
- Connecting with the front end.

Testing and Submission: (1-10) June

- Testing
- Preparing for submission
- Submission.

2.7 Operating Environment

The web-app operates on any system irrelevant of the underlying operating system. The only requirement is a web-browser and internet connectivity.

2.8 Constraints

The system must be connected to the internet. Users must have a valid email id and an internet browser.

2.9 Project Model

The project will be carried out by using an iterative waterfall model. The iterative waterfall model provides feedback paths from every phase to its preceding phases The iterative waterfall model is a particular implementation of a software development life cycle (SDLC) that focuses on an initial, simplified implementation, which then progressively gains more complexity and a broader feature set until the final system is complete.

3. Tech Stack Requirements

I plan to use the following technologies in my project :

3.1 HTML/CSS/JS

The HyperText Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser.Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. JavaScript, often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions. I intend to use it for the frontend purpose.

3.2 Bootstrap

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. User Interface interacts with the smart contracts through bootstrap.

3.3 SQL

SQL stands for Structured Query Language. It is designed for managing data in a relational database management system (RDBMS). It is pronounced as S-Q-L or sometimes See-Qwell. SQL is a database language, it is used for database creation, deletion, fetching rows, and modifying rows, etc. Details and other files

would be stored in the database.

3.4 PHP

PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP. PHP 7 is the latest stable release. I intend to use PHP for my API calls.

4. Functional Requirements

4.1 Creating Teacher Account

This Feature will enable the teacher to create their own account so as to create the class. The teacher will have to sign up with their valid email id and a valid as per format password.

4.2 Creating the Class

This Feature will enable the teacher to create their own class after they have logged in using valid email and password. After creation of the class students will be added.

4.3 Creating Student Account

This Feature will enable the students to create their accounts so that they can join the required classes. The students will have to sign up with their valid email id and a valid as per format password.

4.4 Joining a class

This Feature will enable the students to join their required classes after they have

logged in successfully using links or unique ids generated by the teacher.

4.5 Creating Assignments

This Feature will enable the teachers to create and share new assignments for the students enrolled in the classroom under him/her. The teacher will assign the assignments to the students with a due date in hand.

4.6 Submitting Assignments

This Feature will enable the students to upload assignments assigned to them within the due date given. If submitted in time then the assignment will show turned in time else will display turned in late.

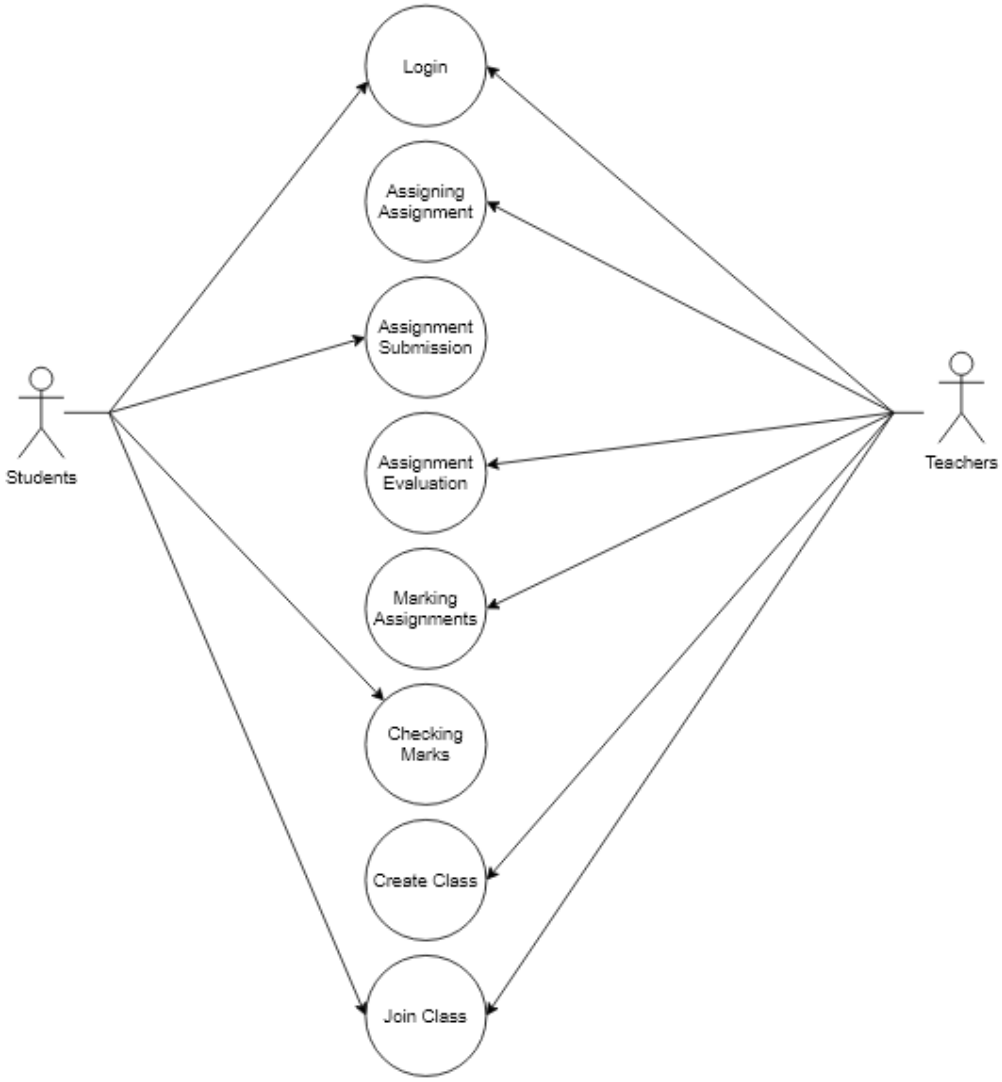
4.7 Evaluating Assignments

This Feature will enable the teacher to download the assignments and evaluate the assignments and grade them.

4.8 Viewing Grade

This Feature will enable students to check their assignment grades in the form of marksheets. This will keep track of the students results.

4.8 Overall view



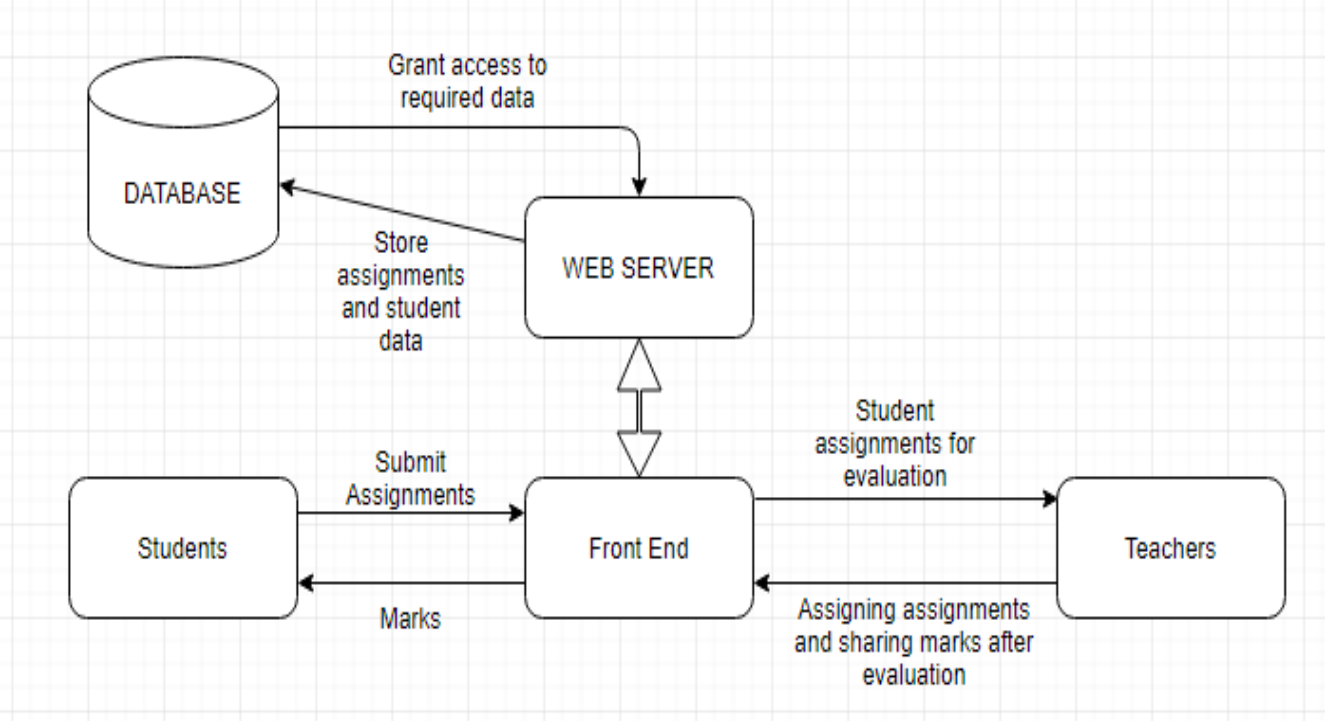
5. Non-Functional Requirements

5.1 Performance Requirements

The steps involved to perform the implementation of the application is listed below :

5.1.1 Logical Structure of the application

Below is the diagrammatic representation of the working of the software. The implementation of the software should follow a similar structure, the tech stack that shall be used in each module is listed in the *tech stack requirement* section.



5.1.2 Normalization of Database

The basic objective of normalization is to reduce redundancy which means that information is to be stored only once. Storing information several times leads to wastage of storage space and increase in the total size of the data stored. If a database is not properly designed, it can give rise to modification anomalies. Modification anomalies arise when data is added to, changed, or deleted from a database table. Similarly, in traditional databases as well as improperly designed relational databases, data redundancy can be a problem. These can be eliminated by normalizing a database.Normalization is the process of breaking down a table into smaller tables. So that each table deals with a single theme. There are three different kinds of modifications of anomalies and formulated the first, second and third normal forms (3NF) is considered sufficient for most practical purposes. It should be considered only after a thorough analysis and complete understanding of its implications.

5.1.3 Performance and Robustness

The performance of the application will depend on the fact of uploading files by multiple clients at a time. This is tackled using the concepts of multi-threading in the application.

5.1.4 Privacy and Security

- The data flow in the structure should be secure and less prone to attacks.
- Developers are advised to use end to end encryption between server side and client side.
- Inter App communication should be secure, other apps shouldn't be able to access the private data of the software.
- Data abstraction should be implemented.
- The developers may write the codes in an object-oriented manner as far as possible. However, the developers are free to write the code in whatsoever manner as per their choice and convenience.
- The software must not send data and information to any third party.
- Monthly security patches of the software should be provided by the developing organisation.

6. Goals of Implementation

- Improving end user productivity
- Implementing document management procedures and tools
- Providing a unanimous for the innovators to better share information
- Providing distributed environment for better integrity and immutability
- Providing accounting services to teachers to create, delete and manage user accounts and maintain the data effectively
- Providing secure and reliable authentication services
- Manage all details of the author/user who have registered and send appropriate details about the intellectual property to the others.
- Providing services to control visibility of posts.

7. External Interface Requirements

7.1 Hardware Interfaces

Operating System : Windows, Mac, Ubuntu

Browser : By default, the generated project supports all modern browsers. Support for Internet Explorer 9, 10, and 11 requires polyfills.

Internet Connectivity : Yes

7.2 Communication Interfaces

This project supports all types of web browsers. We are simply creating an interface where teachers can assign assignments to students based on the subject. The students in response need to upload the solution of the assignment within the due date given. After the student uploads the assignment the teacher can access the assignment and grade marks to it depending on the solution given. After that the teacher shares the marks and students can check their marks on the platform. Each student can login to their account and access their marksheet.