

Web Programming – Spring 2022

Project Description

Open Date: May 13, 2022

Total Marks-300

Deadline: May 29, 2022 11.59pm

Group Size: Max 3

Project Overview

Create a web application for online Corporate Trainings using full stack Technology with a dynamic front end, with a document-oriented database, and REST API.

Objective

- Implement web front end using html, CSS and bootstrap using Angular/React
- Implement a system according to specifications that are provided by someone else.
- Learn to implement software analysis and design
- Learn to implement angular/React, Node.Js, Express and MongoDB
- Develop proper tier-based application

Instructions

1. This project is group task and you are allowed to work in group of maximum 3 students.
2. Cross section groups are allowed only for the sections of same instructor.
3. Each group is required to start this project using the agile principles
4. Each group will nominate a team lead and team lead will distribute the tasks to each member including himself/herself.
5. Team Lead will create a repository on GitHub for your project where each member would checkin/push the code for the allocated tasks. Your repository should be private so that no other group can access it.
6. Github Checkin history would be part of final evaluation and 20 marks are allocated for Github Checkins by each member.
7. Plagiarism is strongly forbidden and will be very strongly punished. If we find that you have copied from someone else or someone else has copied from you (with or without your knowledge) both of you will be punished. You will be awarded straight zero.
8. Each group can take help from internet resources but 70% of code should be written by the group and 30% code can be taken from online sources such as GitHub etc. If you are taking some code from online source, please mention it in your submission, otherwise it will be considered as Plagiarism and will be penalized.
9. You have to submit the project on slate.
10. Late submissions are not allowed; however, minor/cosmetic changes can be incorporated till comes on penalty of 20% deduction.

System Overview

“BrilliantPro” is the famous LMS which offers online platform for offering corporate trainings. It is considered as the smartest online training web application for any modern workforce and helps running the training program without a Mess. The objective of “BrilliantPro” is to automate the corporate trainings and facilitate the distance learning.

LMS users can be further separated into two distinct categories, Learners and Administrators:

- **Learners**

Learners are the end-users. These are the users for whom the training content is designed. They are the recipients of the training and access the LMS to view learning material and participate in the course work and assessments, all while tracking their own progress along the way.

- **Administrators**

Administrators are in charge for the management of the LMS, which includes multiple tasks ranging from course creation, to learner assignment, to monitoring learner progress.

Course and Content Management

The primary purpose of an LMS is to effectively create and manage e-Learning courses ,learning material and assessment. Therefore, administrators will construct and manage courses and content.

Learner Management

LMS facilitates effective user management, including managing learner registration and deactivation of learner accounts.

Non-Functional Requirements

1. You can choose any of UI design for your web application but it must be user friendly.
2. Landing page for Leaners and admins should contain modern and interactive dashboard features.

Functional Requirements – (from SRS/RSD)

A careful analysis and design will be required in order to meet the following functional requirements.

Requirement No	Description	Marks
R1- Admin Dashboard	<ul style="list-style-type: none">a) Admin would be able to see the count for enrolled Courses, Learners, Materials and certificates issued so far.b) Admin would be able to select a course and see the course updates in pie chart to see the<ul style="list-style-type: none">a. How many learners are enrolled in the course?b. How many learners started the course?c. How many learners are in the middle of course (achieved 50% progress)d. How many learned are passed and failed in the coursec) Dashboard must show the navigation to Courses, Materials, Assessments and Learners	30
R2	Admin shall manage (perform CRUD on) Learners, Courses, Material, Assessments.	
R3	<p>Admin can add learners to courses.</p> <p>Admin can associate material to courses. One course should have at least one material and can have multiple materials. Similarly, one material can be assigned to multiple courses.</p> <p>Admin can associate assessments to courses .One course should have at least one assessment and can have multiple assessments. Similarly, One Assessment can be assigned to multiple courses.</p>	
R4- Courses	<p>Admin would be able add a new course by giving course name, Course overview, course image, course deadline (start and End date) and Web Enrollment Link</p> <p>Web Enrollment Link can be created using a route <code>www.brilliantpro.pk/payment/courseid:23/amount:5000</code></p> <p>Admin would be able to see all courses in a grid using bootstrap Card with course name, course image and a button to View a course.</p>	20
R5	On viewing a course, Admin will be able to see 3 tabs :	40

	<p>Course Material and assessment: This tab will display all material and assessments added to course and provides a navigation to add/remove a material or assessment for this course</p> <p>Course Settings: This tab will display course details such as course name, Course overview, course image, course deadline (start and End date) and Web Enrollment Link with payment gateway. Course Setting can be updated.</p> <p>Users :Admin would be able see all enrolled learners for a course, can see the progress of each learner. Admin can enroll/un-enroll any learner from the course.</p>	
R6 -Material	<p>Admin can upload a new material in Pdf, pptx and mp4 videos</p> <p>Admin can create folders and can place material into folder as well.</p> <p>Admin can view/Edit/Delete all uploaded folders and materials.</p>	20
R7- Assessment	<p>Admin create a new assessment by giving name, time duration and minimum passing criteria</p> <p>Admin can add question(mcq type) statement, options and correct option</p> <p>Admin will be able view all assessments with mcqs and correct options.</p> <p>Admin can edit any question in a selected assessment</p>	30
R8- Learner Registration	<p>Learner will be able to register for a course after payment to Jazzcash/Easy Paisa from Web Enrollment Link</p> <p>Web Enrollment Link can be created using a route www.brilliantpro.pk/payment/courseid:23/amount:5000</p> <p>You need to use JazzCash/EasyPaisa sandboxes for payment gateway integration</p>	20
R9- Learner Dashboard	<ol style="list-style-type: none"> Learner would be able to see all his completed and unfinished courses on dashboard. Learner would be able to see the certificates of previous completed courses 	20

R10	<p>On selecting an unfinished course, learned would be able to see course material (pdfs, pptx and videos) along with a progress bar.</p> <p>Learner can download the material if allowed by the admin.</p> <p>On selecting a course material, learner would be able to view pdf, ppt, pptx and videos within the same page or displaying a new popup/modal</p> <p>Progress bar will be updated once a material is seen/downloaded by learner.</p>	40
R11	<p>On selecting an assessment/test, a test screen will be displayed with a timer, one question will be displayed to one screen along with navigation.</p> <p>System will save all the answers into DB and matches with already saved answers.</p> <p>On completion of assessment within allowed time, System will show post assessment feedback(Grade, PassStatus, Question Summary, number of Correct/incorrect answers.</p> <p>For passing a Course, Learner must be able to achieve the minimum score allocated to course.</p>	40
R12	<p>On passing a course, System will generate a certificate in pdf format and can be downloaded by the learner</p> <p>On Failing a course, Learner can attempt the assessments upto 3 times. After 3 attempts, learner would fail in the course and course is locked until course is registered again</p>	20
R13	Github Checkin history by all members	20

Just Code it and Be a Full stack Developer!

Happy Coding.