

Online Exam

Project Name - Online Exam

Overview -

In this project user will attempt objective questions. User will get to see one question at a time. Once user submits answer of particular question, user can go to next question or previous question. User can reattempt question to change previously given answer. Once user end exam, score will be calculated and displayed. User will get to see all submitted question's correct answer and submitted answer at the end of exam. Score will be sent on user's email id.

Technical Details –

Backend - Java

Frontend - HTML, CSS, JavaScript, AJAX

Frameworks - Spring Boot, Spring MVC, Hibernate

Tag Library: - JSTL

Server - Tomcat

Database – MYSQL

Database Design

Schema: - onlineexam

Tables:-

Total 3 tables are required here. Below contains details of each table

1. Users table

Column name	Column data type	Constraints
Username	varchar	Primary key
mobileNumber	varchar	-
emailId	varchar	-
dateOfBirth	Date	-
Password	varchar	-

2. Score Table

Column name	Column data type	Constraints
Username	varchar	Foreign key referencing Users(username)
Subject	varchar	-
Marks	Int	-

3. Questions Table

Column name	Column data type	Constraints
Qno	Int	Primary key
Question	varchar	-
option1	varchar	-
option2	varchar	-
option3	varchar	-
option4	varchar	-
Answer	varchar	-
Subject	Varchar	-

Users of the Application

1. Admin

Admin user can perform below operations:-

1. add new questions according to subject
2. remove question
3. update question

2. Students

Student user can attempt exam. For this student needs to select subject for which he has to give exam.

While navigating questions students can perform below operations:-

- 1) visit next question by clicking on next button
- 2) visit previous question by clicking on previous button
- 3) submit answer by selecting any one option out of 4 options
- 4) Can reattempt any previously attempted question for updating answer.
System considers latest answer.

Modules of the System

1. Registration Module
2. Login Module
3. Questions Management
4. Questions Navigation
5. Score Calculations
6. Exam Duration
7. Result Review
8. Sending Score on user's email

1. Registration Module :-

User need to register by providing details like mobileNumber,emailId , desired username and password etc .

Data should be validated before storing it in database .

2. Login Module

User will enter into system by providing username and password . If user has provided correct credentials , user will be shown appropriate page .

If user is admin then questionsManagement page will be displayed where user can add/remove/edit questions .

If user is not admin , then questionsNavigation page will be displayed where user can attempt exam .

3. Questions Management Module

Admin user is responsible for question management . admin will add questions in a database through html forms . while adding question admin needs to specify subject for these questions . admin can later update/delete these questions .

4. Question Navigation Module

User Student will navigate questions using next and previous buttons when all questions are navigated , system will display message questions are over . then user can click on end exam button to finish exam .

5. Score Calculation Module

When user submit answer by selecting radio button , system will store this submitted answer in hashmap object , so that if user later changes answer , latest answer will be stored in hashmap . Then we user click on endexam button , system will retrieve all answers from hashmap , and calculate score . score will increase by 1 if answer is correct . If answer is false , score will remain unaffected .

6. Exam Duration Module

Exam duration will be 30 minutes . If duration gets over , user will be automatically redirected to score page .System will show remaining time on a web page where questions are displayed .

7. Result Review

Once user click on end exam button or if duration is over , then system will display score page where system will display score . along with score system will display result analysis (result review).

User will be shown a table having details like question , submitted answer , correct answer etc . This will be useful for user for self for study purpose .

8. Email Module :-

System will send email on user's registered email id having details about user's performance in a test . System is using Java Mail API for sending email .