



Question Paper Generation

Technical Design Document

	Prepared By / Last Updated By	Reviewed By	Approved By
Name	Akshay Jori, Akshat Ruhela, Deepak Singh, Divya Chhangani, Vaibhav Thorat	Syed Moosa	
Role	Team Members	Trainer	
Signature			
Date			

Table of Content

1.	Introduction	3
1.1.	Purpose of this document.....	3
1.2.	Project overview.....	3
2.	Solution Summary	3
2.1.	Scope.....	3
2.2.	Assumptions and Dependencies	3
2.3.	Software Requirements	3
2.4.	Hardware Components.....	4
2.5.	Intended Audience	4
3.	Schematic Diagram.....	4
4.	System Design	5
4.1.	Proposed design	5
4.2.	Component inventory ^(OBJ)	15
5.	Database Design	15
5.1.	Data Model	15
5.2.	Tables Structure	15
6.	Appendices.....	16
6.1.	Glossary	16
7.	Terms & Conditions.....	17
8.	Change Log	17

1. Introduction

1.1. Purpose of this document

The purpose of this document is to document the technical design, component details and Database design of the project. This will also capture the scope, assumptions, risk, dependencies of the project Question Paper Generation.

1.2. Project overview

In this project we present a smart question paper generating system. In our system we allow administrator to input a set of questions and respective answers for option ticking. After this the questions are stored in database along with their marks, competency level and subject. The user can register and then login into the system to appear for an exam of his choice. On selection of assessment by user, the system selects questions randomly from the database. After submitting the assessment, user can view his score and download the completion certificate.

2. Solution Summary

2.1. Scope

This software can be widely used in educational institutes etc. It is a web-based application so user location doesn't matter. Admin can access this software anywhere anytime. This system also evaluates the candidate's capability and skills efficiently. It is fully automated system which fast results. In this system there is no need of transporting paper through police/security vans to all colleges. This system provides unbiased result. The usage of this system reduces human effort and save time and resources to an extent.

2.2. Assumptions and Dependencies

The system has been developed considering the following assumptions and dependencies:

- All courses provide a well-defined course content which would be taught or left for self-study.
- Each course has its specific code.
- All questions belonging to a particular course lie in some question type/category.
- The institute can have any number of courses and streams.

2.3. Software Requirements

- Windows 7, Windows 8, Windows 10
- Visual studio 2021
- Sql 2019

2.4. Hardware Components

- Processor – i3
- Hard Disk – 512 GB
- Memory – 2GB RAM

2.5. Intended Audience

The intended audience for this document are:

- Developers, testers, other associates in the project
- Scrum Master, Technical Lead
- Product Owner

3. Schematic Diagram

A schematic, or schematic diagram, is a representation of the elements of a system using abstract, graphic symbols rather than realistic pictures. It gives an overview of overall system.



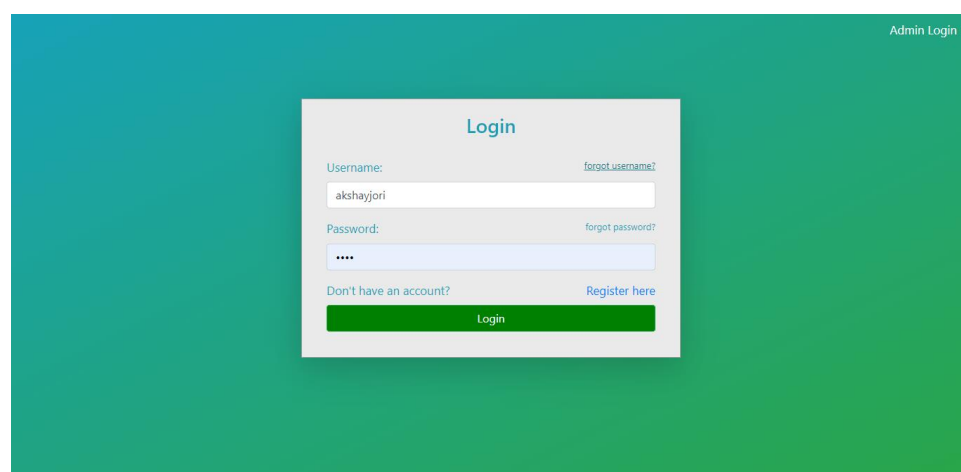
4. System Design

Steps Involved in Question paper generation system are as follows:

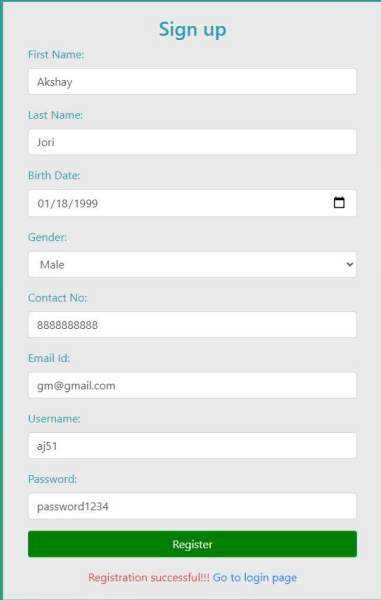
1. **Admin Login:** Admin will be provided with the login ID and password, after registering to the system. After the successful login admin can enter the question in database according to unique key such as paper code and subject name this question will be stored in the database in the form of question bank.
2. **Question Insertion:** Admin can insert as many questions as he can according the syllabus requirement. The questions will be classified according to marks allocated, level of difficulty i.e., priority.
3. **Subject and exam type selection.**
4. **Difficulty Choosing:** Admin will decide the level of difficulty i.e., Easy, Moderate, Difficult.
5. **Random Paper Generation:** Questions are selected according to the level of difficulty.

4.1. Proposed design

- LOGIN PAGE

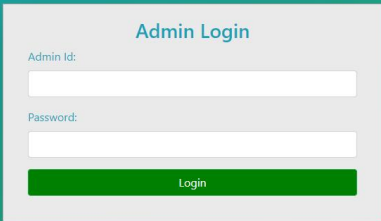


- REGISTRATION PAGE



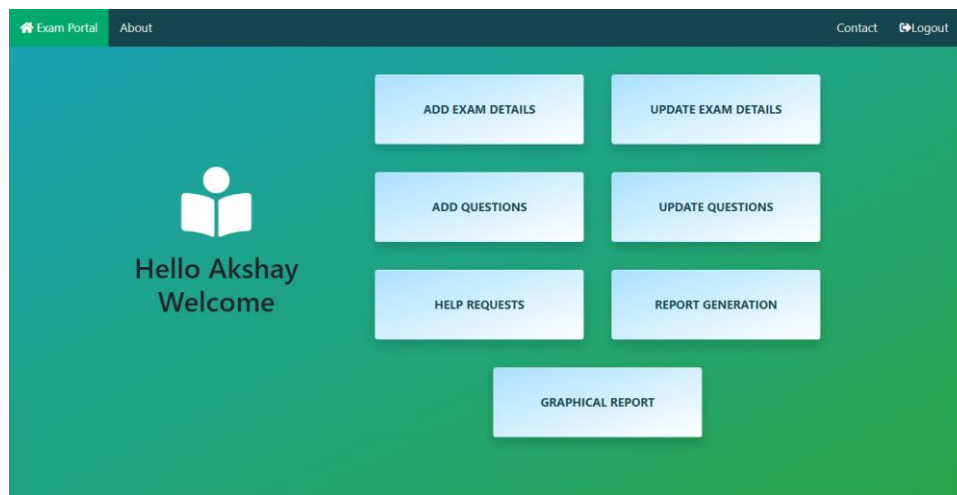
The image shows a 'Sign up' form centered on a teal-to-green gradient background. The form is a light gray rectangle with the title 'Sign up' in blue at the top. It contains several input fields: 'First Name' (filled with 'Akshay'), 'Last Name' (filled with 'Jori'), 'Birth Date' (filled with '01/18/1999' and a calendar icon), 'Gender' (a dropdown menu with 'Male' selected), 'Contact No.' (filled with '8888888888'), 'Email Id.' (filled with 'gm@gmail.com'), 'Username' (filled with 'aj51'), and 'Password' (filled with 'password1234'). Below these fields is a green 'Register' button. At the bottom of the form, a red message reads 'Registration successful!!!' followed by a blue link 'Go to login page'.

- ADMIN LOGIN PAGE

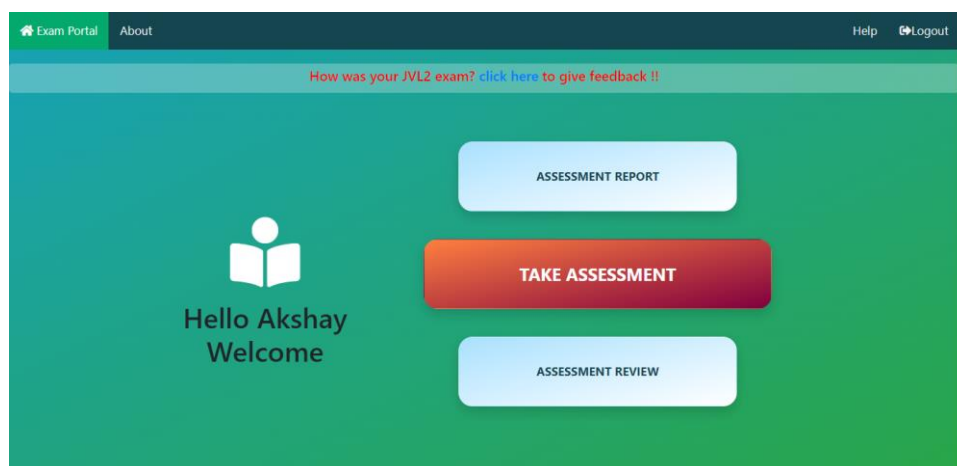


The image shows an 'Admin Login' form centered on the same teal-to-green gradient background. The form is a light gray rectangle with the title 'Admin Login' in blue at the top. It contains two input fields: 'Admin Id:' and 'Password:'. Below these fields is a green 'Login' button.

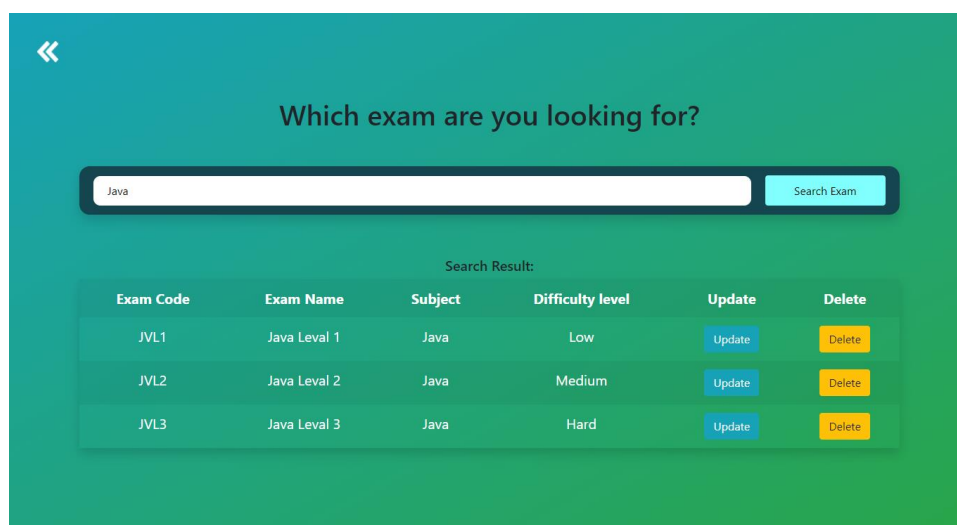
- ADMIN HOME PAGE



- USER HOME PAGE



- EXAM SEARCH PAGE



- EXAMINATION PAGE

JVL2-EXAM

Total Questions: 10

1:25

Q1) This is Java question14 of competency Medium and ans C?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q2) This is Java question13 of competency Medium and ans A?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q3) This is Java question7 of competency Medium and ans B?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q4) This is Java question10 of competency Medium and ans C?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q5) This is Java question12 of competency Medium and ans C?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q6) This is Java question9 of competency Medium and ans D?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q7) This is Java question8 of competency Medium and ans C?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q8) This is Java question11 of competency Medium and ans B?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q9) This is Java question3 of competency Medium and ans D?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Q10) This is Java question2 of competency Medium and ans C?

☐ A. option A

☐ B. option B

☐ C. option C

☐ D. option D

Submit Test

SEARCH QUESTIONS PAGE

«

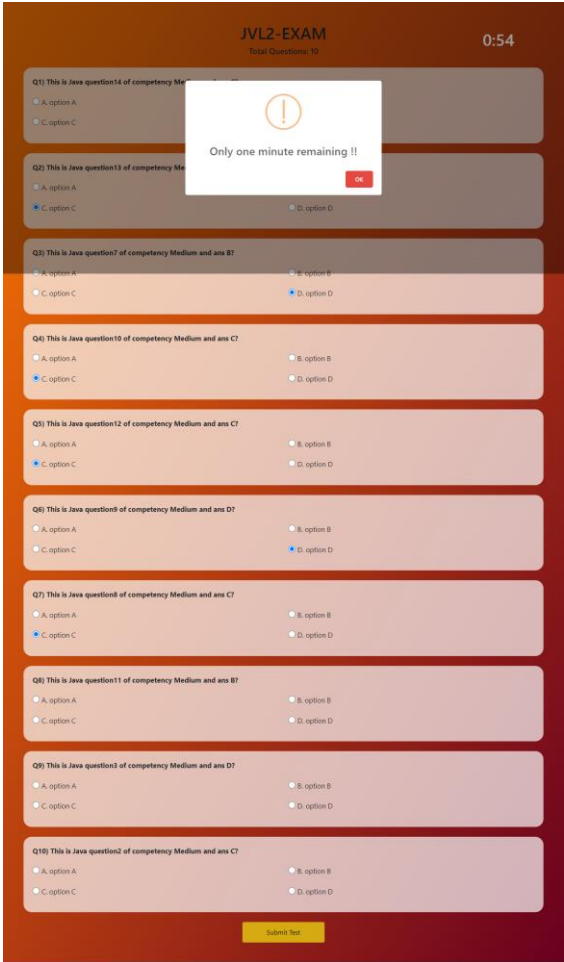
Select Subject: C++

See Questions

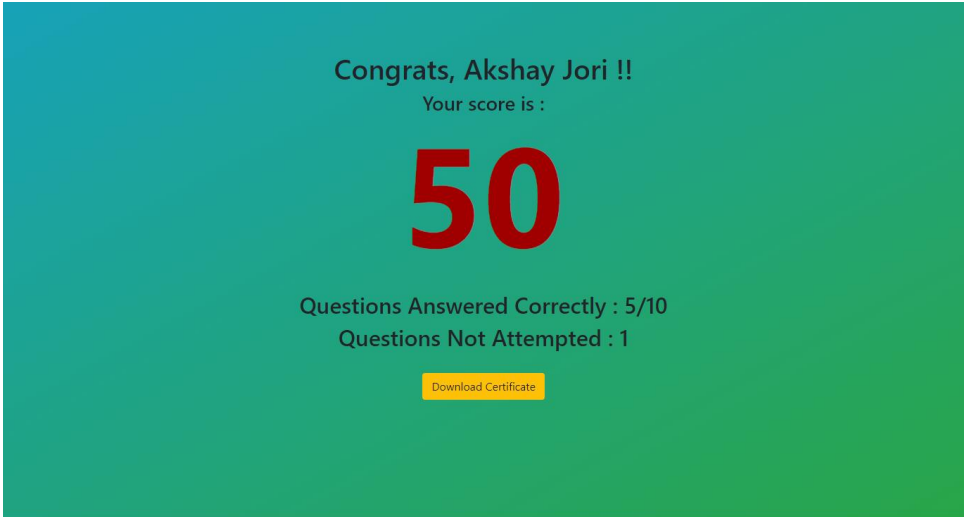
Search Results:

Subject	Question	Update	Delete
C++	This is C++ question1 of competency Hard and ans B?	Update	Delete
C++	This is C++ question2 of competency Low and ans C?	Update	Delete
C++	This is C++ question3 of competency Hard and ans B?	Update	Delete
C++	This is C++ question4 of competency Medium and ans A?	Update	Delete
C++	This is C++ question5 of competency Hard and ans D?	Update	Delete
C++	Demo Question 2	Update	Delete
C++	Demo question 1	Update	Delete

TIME WARNING



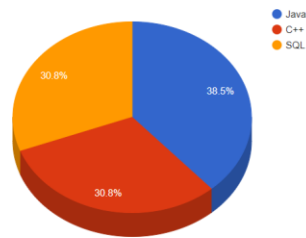
• EXAM REPORT



• GRAPHICAL REPORT



Exam attempts so far !!



Exam Name	Knowledge Required
Java Level 1	Basic knowledge of java is needed. e.g. loops, oops concepts, datatypes, etc.
Java Level 2	In addition to the knowledge required upto level 1, you should also be familiar with java collection, java STL.
Java Level 3	You should be proficient in all the java core concepts and advanced java concepts

Exam Name	Knowledge Required
C++ Level 1	Basic knowledge of C++ is needed. e.g. loops, oops concepts, datatypes, etc.
C++ Level 2	In addition to the knowledge required upto level 1, you should also be familiar with C++ collection, C++ STL.
C++ Level 3	You should be proficient in all the C++ core concepts and advanced C++ concepts

Exam Name	Knowledge Required
SQL Level 1	Basic knowledge is needed to write simple queries.
SQL Level 3	You should have the knowledge of SQL procedure, views, cursors and triggers

- CERTIFICATE



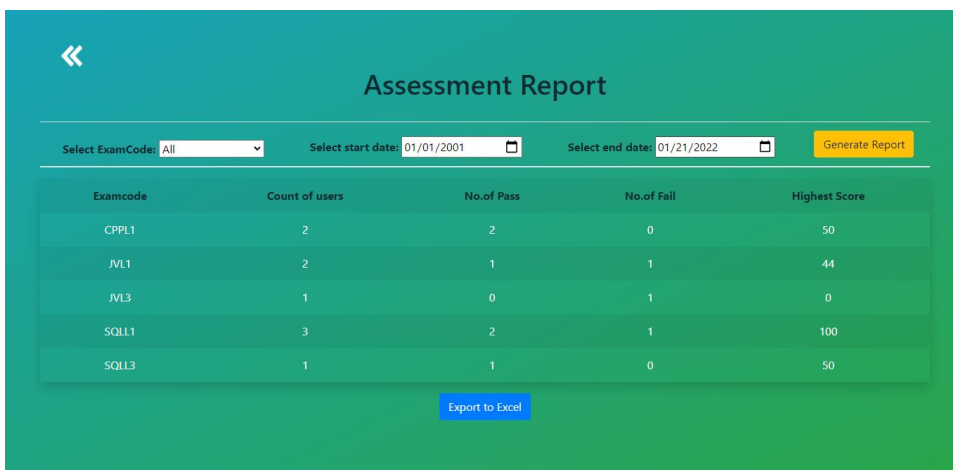
- COMPLETED ASSESSMENTS LIST



The screenshot shows a web interface with a teal header and a green gradient background. A back arrow is in the top left. The title 'Completed Assessments' is centered. Below it is a table with 6 columns: Attempt Id, Exam Name, Exam Code, Score, Attempt Date, and Get Your Certificate. There are 4 rows of data. Each row has a 'Download Certificate' button.

Attempt Id	Exam Name	Exam Code	Score	Attempt Date	Get Your Certificate
0	Java Leval 2	JVL2	80	2022-01-19	Download Certificate
1	C++ Leval 1	CPPL1	50	2022-01-19	Download Certificate
2	C++ Leval 1	CPPL1	50	2022-01-19	Download Certificate
3	Exam 1	Ex001	100	2022-01-19	Download Certificate

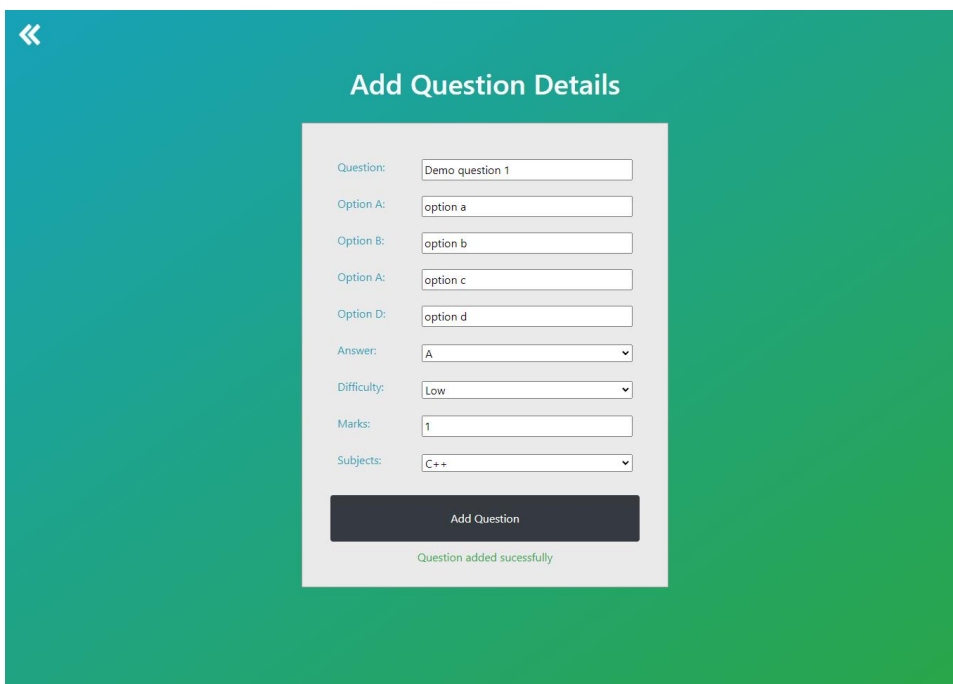
- REPORT GENERATION PAGE



The screenshot shows a web interface with a teal header and a green gradient background. A back arrow is in the top left. The title 'Assessment Report' is centered. Below it are three filters: 'Select ExamCode: All', 'Select start date: 01/01/2001', and 'Select end date: 01/21/2022'. A 'Generate Report' button is on the right. Below the filters is a table with 5 columns: Examcode, Count of users, No.of Pass, No.of Fail, and Highest Score. There are 5 rows of data. An 'Export to Excel' button is at the bottom center.

Examcode	Count of users	No.of Pass	No.of Fail	Highest Score
CPPL1	2	2	0	50
JVL1	2	1	1	44
JVL3	1	0	1	0
SQL11	3	2	1	100
SQL13	1	1	0	50

- ADD QUESTIONS PAGE



The screenshot shows a web interface with a teal header and a green gradient background. A back arrow is in the top left. The title 'Add Question Details' is centered. Below it is a form with the following fields: Question (text input), Option A (text input), Option B (text input), Option A (text input), Option D (text input), Answer (dropdown menu), Difficulty (dropdown menu), Marks (text input), and Subjects (dropdown menu). An 'Add Question' button is at the bottom. A green message 'Question added sucessfully' is displayed below the button.

Question: Demo question 1

Option A: option a

Option B: option b

Option A: option c

Option D: option d

Answer: A

Difficulty: Low

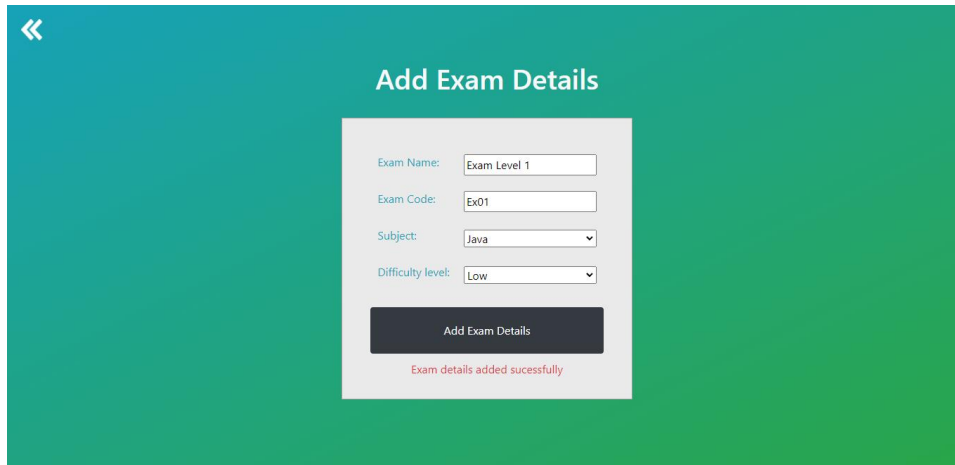
Marks: 1

Subjects: C++

Add Question

Question added sucessfully

- ADD EXAMS PAGE



The screenshot shows a web interface for adding exam details. It features a teal header with a back arrow icon. The main content area has a green gradient background. A white form titled "Add Exam Details" is centered. The form contains four input fields: "Exam Name" (text), "Exam Code" (text), "Subject" (dropdown menu), and "Difficulty level" (dropdown menu). Below the fields is a dark blue button labeled "Add Exam Details". A red message "Exam details added sucessfully" is displayed at the bottom of the form.

«

Add Exam Details

Exam Name:

Exam Code:

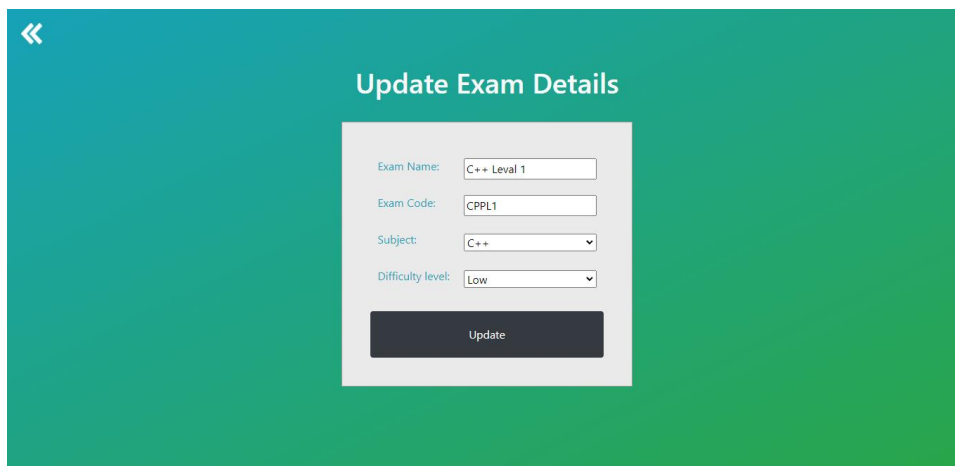
Subject:

Difficulty level:

Add Exam Details

Exam details added sucessfully

- UPDATE EXAMS PAGE



The screenshot shows a web interface for updating exam details. It features a teal header with a back arrow icon. The main content area has a green gradient background. A white form titled "Update Exam Details" is centered. The form contains four input fields: "Exam Name" (text), "Exam Code" (text), "Subject" (dropdown menu), and "Difficulty level" (dropdown menu). Below the fields is a dark blue button labeled "Update".

«

Update Exam Details

Exam Name:

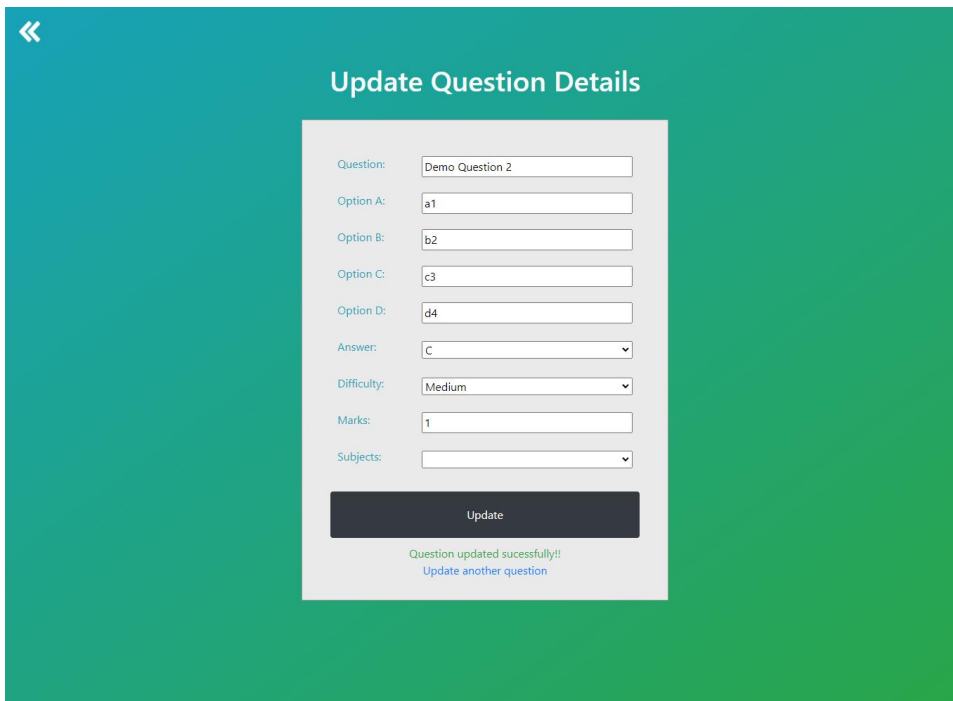
Exam Code:

Subject:

Difficulty level:

Update

- UPDATE QUESTIONS PAGE



The image shows a web form titled "Update Question Details" on a teal background. The form is a light gray box with a white border. It contains several input fields and dropdown menus. At the top left of the form is a back arrow icon. The fields are labeled "Question:", "Option A:", "Option B:", "Option C:", "Option D:", "Answer:", "Difficulty:", "Marks:", and "Subjects:". The "Answer:", "Difficulty:", and "Subjects:" fields are dropdown menus. Below the fields is a dark gray "Update" button. At the bottom of the form, there is a green success message and a link to "Update another question".

«

Update Question Details

Question:

Option A:

Option B:

Option C:

Option D:

Answer:

Difficulty:

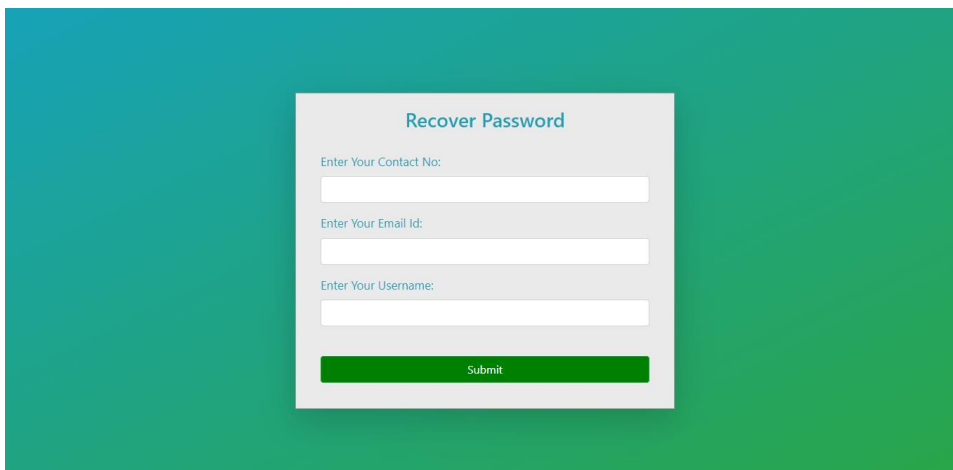
Marks:

Subjects:

Update

Question updated sucessfully!!
[Update another question](#)

- FORGOT PASSWORD PAGE



The image shows a web form titled "Recover Password" on a teal background. The form is a light gray box with a white border. It contains three input fields and a submit button. The fields are labeled "Enter Your Contact No:", "Enter Your Email Id:", and "Enter Your Username:". Below the fields is a green "Submit" button.

Recover Password

Enter Your Contact No:

Enter Your Email Id:

Enter Your Username:

Submit

- RAISE TICKET PAGE

The screenshot shows a 'Raise Ticket' form on a teal background. At the top left is a back arrow. The title 'Raise Ticket' is centered. Below it, there's a dropdown menu for 'Select Issue Related To:' with 'Internet Connectivity' selected. A text area for 'Describe Your Issue:' is below that, with the placeholder text 'Write your issue here'. A yellow 'Raise New Ticket' button is centered below the text area. Below the button is a table with 6 columns: Ticket ID, Date Of Ticket, Issue Related To, Description, Status, and Admin Response.

Ticket ID	Date Of Ticket	Issue Related To	Description	Status	Admin Response
4	2022-01-21	Assesment	Assessment Score is not displayed correctly	NOT RESOLVED	NO RESPONSE
5	2022-01-21	Other	Nothing...	RESOLVED	ohhkk...
6	2022-01-21	The Platform	platform is a bit slow	NOT RESOLVED	NO RESPONSE

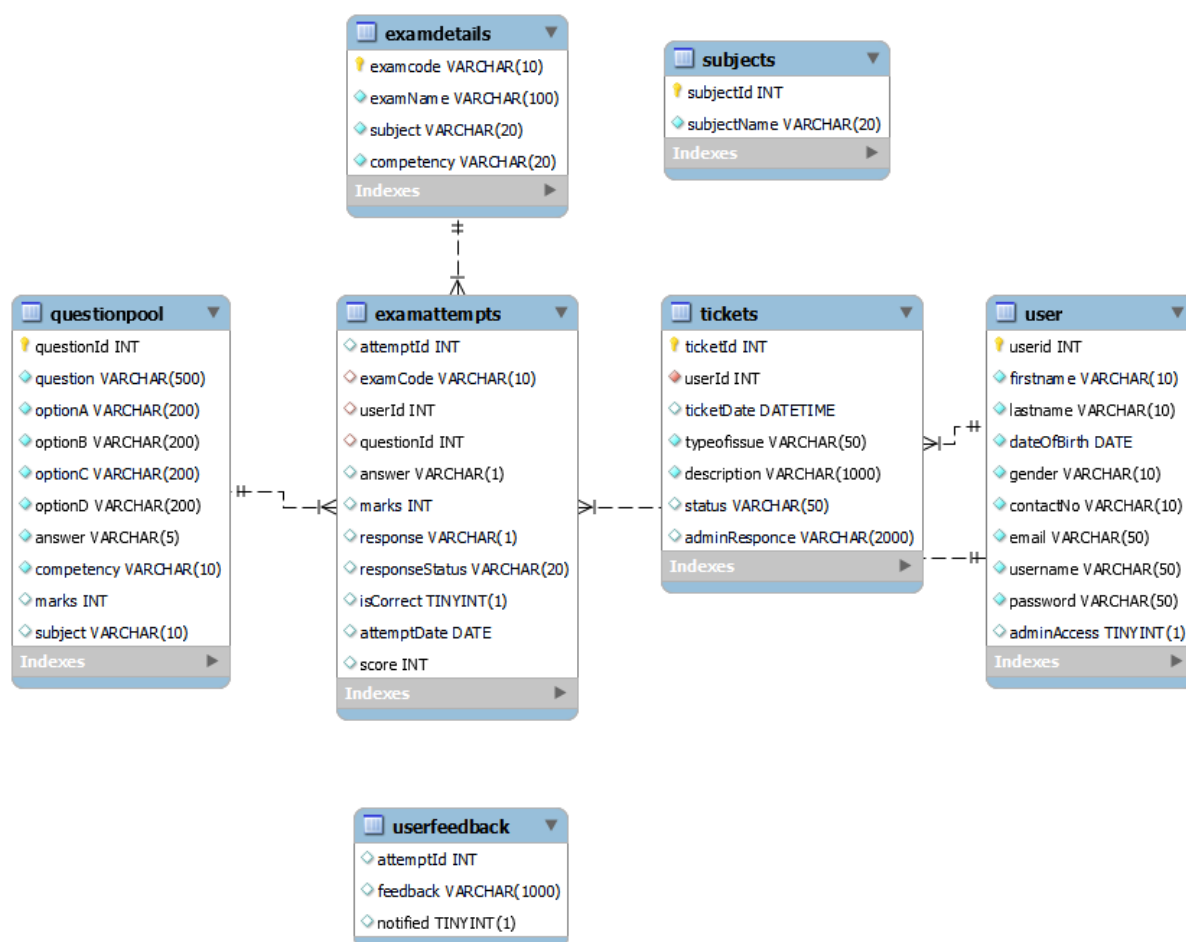
- RECOVER USERNAME PAGE

The screenshot shows a 'Recover Username' form on a teal background. The title 'Recover Username' is centered at the top of the form. Below it, there are two input fields: 'What's your contact no?' and 'What's your Email Id?'. A green 'Submit' button is at the bottom of the form.

4.2. Component inventory

5. Database Design

5.1. Data Model



5.2. Tables Structure

- Registration

Column Name	Data Type	Length
First Name	varchar	20
Last Name	varchar	20
Birth Date	date	-

Gender	varchar	10
Contact Number	int	20
Email Id	varchar	20
Username	varchar	20
Password	varchar	20

- **Question Bank**

Column Name	Data Type	Length
Question	varchar	100
Option A	varchar	20
Option B	varchar	20
Option C	varchar	20
Option D	varchar	20
Answer	varchar	10
Competency	varchar	10
Marks	int	1
Subject	varchar	10

6. Appendices

6.1. Glossary

Multiple Choice Question Paper Generator:

Question paper (MCQ) generator software is provided only for objective type question paper or OMR based examination paper. (MCQ) Generator also is most popular software.

Acronyms	Definitions
MCQ	Multiple Choice Question
QB	Question Bank
RS	Random Selection
SQL	Structured Query Language

7. Terms & Conditions

Disclaimer: Please do not circulate or distribute this document outside of Cognizant Network, we have

a Zero Tolerance Policy. Kindly adhere to 100% Compliance at all times.

8. Change Log

Please note that this table needs to be maintained even if a Configuration Management tool is used.

Version Number	Changes made			
V<n.n>	<If the change details are not explicitly documented in the table below, reference should be provided here>			
	Page no	Changed by	Effective date	Changes effected