

VISION : *Resolution to design and deliver intelligent IT industry oriented education.*

ABSTRACT

This Web Application provides facility to conduct online examination. It saves time as it allows number of students to give the exam at a time and displays the results as the test gets over, so no need to wait for the result. It is automatically generated by the server. Administrator has a privilege to create, modify and delete the test papers and its particular questions. User can register, login and give the test with his specific id, and can see the results as well.

This system allows the student to give their exams at any time and access the tests from any place where they are comfortable with a definite username and password. No student can login with their wrong username and password. This is for the security purposes. Student will not have to wait for their results. The results will be displayed after the completion of the exam. Results are accessed fast.

CHAPTER-1

INTRODUCTION

1.1 Purpose

This web application provides the facility to conduct the online examinations. It saves time as it allows multiple students to give their examinations at the same time and they do not need to wait for the results as the result is generated at that time only after the exam gets over. It also has the timer facility that means that the timer for the test is set. The student will have to complete the test in the given time interval only. Administrator has the facility to update create or delete the test questions or the test papers provided to the students during their tests. Users or students can login give their tests with his specific id and check their results also.

1.2 Scope

The application is best suited to person who is interested in learning new technologies. It is thus helpful to people who are already in this field but find it hard to cope-up with its ever increasing demands. The scope of the project is the system on which the server is installed, i.e. the project is developed as a desktop application, and it will work for a particular institute.

But later on the project can be modified to operate it online.

Scope of this document are –

1. This document describes about the various phases of the project.
2. This document also contains the screenshots of various parts of the project such as its front end, database and support.
3. It also gives a brief description about the various tools and technologies used in the completion of the project.

1.3 Definitions, Acronyms And Abbreviations

Various technical terms are used in this document.

Some are:

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Notepad++

Notepad++ is a text editor and source code editor for use with Microsoft Windows. Unlike Notepad, the built-in Windows text editor, it supports tabbed editing, which allows working with multiple open files in a single window. The project's name comes from the C increment operator. Notepad++ is distributed as free software. At first the project was hosted on SourceForge.net, from where it has been downloaded over 28 million times, and twice won the SourceForge Community Choice Award for Best Developer Tool. The project has been hosted on TuxFamily since June 2010. Notepad++ uses the Scintilla editor component.

SQL Yog Enterprise

It is an interface to connect to the database of the project Online Test System.

Tomcat Server

It is server which provides managing server side aspects of the application like the databases and its connectivity.

1.4 Technologies used

Front End

➤ **JAVA**

All the functionality in the application is provided through java code and is the main source of all the modules of the application.

➤ **HTML**

The designing of different modules is achieved through html. It is used to define the graphical layout of every activity in the application.

➤ **MYSQL**

It is used to store all the data related to the application. It is preferred over Parse Cloud because it helps to create a centralized database, so that changes are available to every user and also it will save the size of the application's APK file.

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Development tool – RAD

IBM Rational Application Developer for Web Sphere Software (RAD) is an integrated development environment (IDE), made by IBM's Rational Software division, for visually designing, constructing, testing, and deploying Web services, portals, and Java (J2EE) applications.

Database platform – MySQL

MySQL is the database management system that delivers a flexible and cost effective database platform to build robust on demand business applications and supports the end web services standards.

Designing Tool – RSA

RSA is rational software architecture. It is designing tool in rational family of software. It provides all solution regarding design. It is also helpful to design the UML diagram.

CHAPTER-2

OVERALL DESCRIPTION

2.1 Product features

The application is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the graphical user interface is provided in the application, which provides user to deal with the application very easily. Reports can be easily generated in the proposed system so user can generate the report as per the requirement or in the middle of the session. The proposed system requires very less paper work. All the data is fetched into the computer immediately and reports can be generated through computers. Moreover work become very easy because there is no need to keep data on papers. Computer operator control will be there so no chance of errors. Moreover storing and retrieving of information is easy. So work can be done speedily and in time.

2.2 Operating Environment:

Operating system provides a platform to connect the user with the hardware. For the connectivity of the user with the hardware, this desktop application is designed to work on Windows operating system.

2.3 Design And Implementation Constraints

- The software shall be tested using Tomcat Server.
- The system shall be developed using Eclipse, HTML, My SQL.

2.3.1 Xml

The designing of different modules is achieved through html. It is used to define graphical layout of every activity in the application.

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2.3.2 Eclipse

It is an IDE (Integrated Development Environment) which provides different plugins and workspace to manage the project and writing the code.

2.3.3 Tomcat Server

It is server which provides managing server side aspects of the application like the databases and its connectivity.

2.3.4 Java(Servlet)

A Java servlet is a Java programming language program that extends the capabilities of a servlet. Although servlets can respond to any types of requests, they most commonly implement applications hosted on Web servers. Such Web servlets are the Java counterpart to other dynamic Web content technologies such as PHP and ASP.NET.

CHAPTER-3

FUNCTIONAL REQUIREMENTS

3.1 Administrator Module

Administrator manages all information and has access rights to add, delete, edit and view the data related to questions and answers of the tests.

3.2 Student Module

Student registers himself with an account and login and access the tests.

3.3 Language Module

Language module, contains the languages for which the tests are available for the students.

3.4 Test Module

Test module displays the multiple choice answer questions sequentially with respective to their language. It also provides the facility to go to skip the question and go to previous one.

CHAPTER-4

EXTERNAL INTERFACE REQUIREMENTS

4.1 User Interfaces

It comprises of graphical representation of paper module of the question paper.

4.2 Hardware Interfaces

There must have a computer to link to Online Quiz System.

4.3 Software Interfaces

We would use Tomcat server to be able to run and show subjective questions. Giving answers for each question and then result is calculated. This application will give calculated report to the candidate.

4.3.1 Economically Feasibility:

The system being developed is economic with respect to Online test conducting organisation. It is cost effective in the sense that has eliminated the paper work completely. The system is also time effective because the calculations are automated which are made at the end of the month or as per the user requirement. The result obtained contains minimum errors and are highly accurate as the data is required.

4.3.2 Technical feasibility:

The technical requirement for the system is economic and it does not use any other additional Hardware and software.

4.3.3 Behavioral Feasibility:

The system working is quite easy to use and learn due to its simple but attractive interface. User requires no special training for operating the system.

CHAPTER-5

NON-FUNCTIONAL REQUIREMENTS

5.1 Performance Requirements

The data is fetched from internet, so a good internet connection is needed for better response. The database can handle a large number of queries at a given time.

5.2 Safety Requirements

Consistency: Checking the fact that all information must be attached to one server, so there is an appropriate control of the information.

5.3 Security Requirements

The files generated are only accessible by the admin and application should store these files in MySQL database and must not share them. The policy framework should be accessible only by teachers.

5.4 Other Requirements

For giving test the app uses tomcat server, thus need to agree with their terms and conditions. The registered students is also a part of this application, so we need to abide with their terms and conditions also.

CHAPTER-6

UML DESIGN

6.1 Class Diagram:

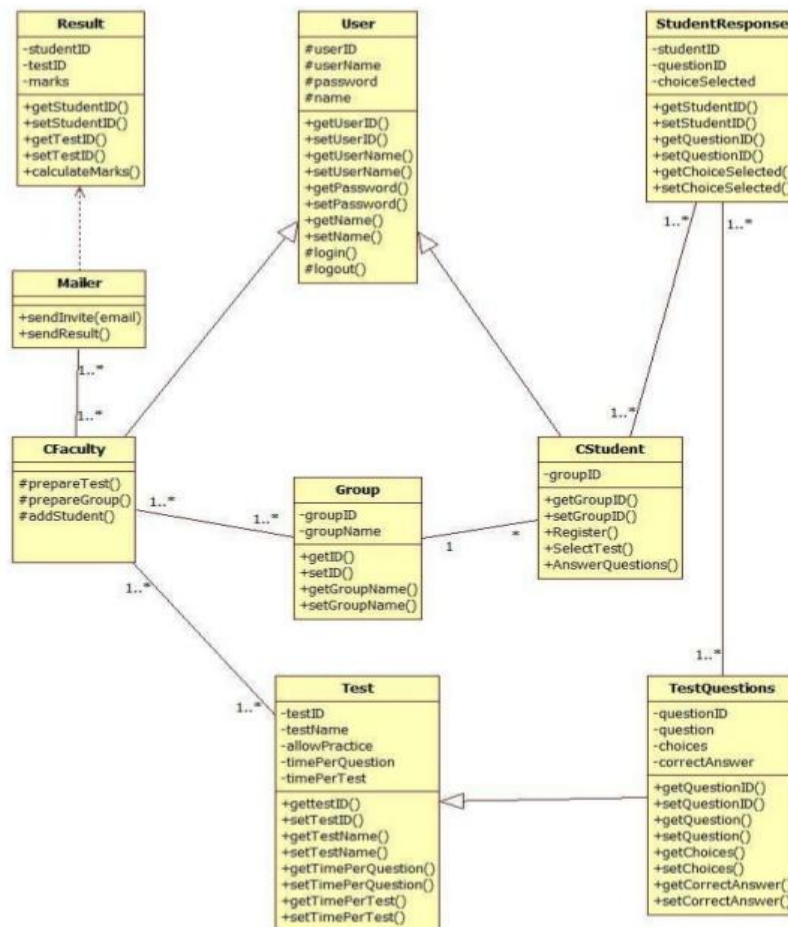


Figure-1: Class diagram

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6.2 E-R Diagram

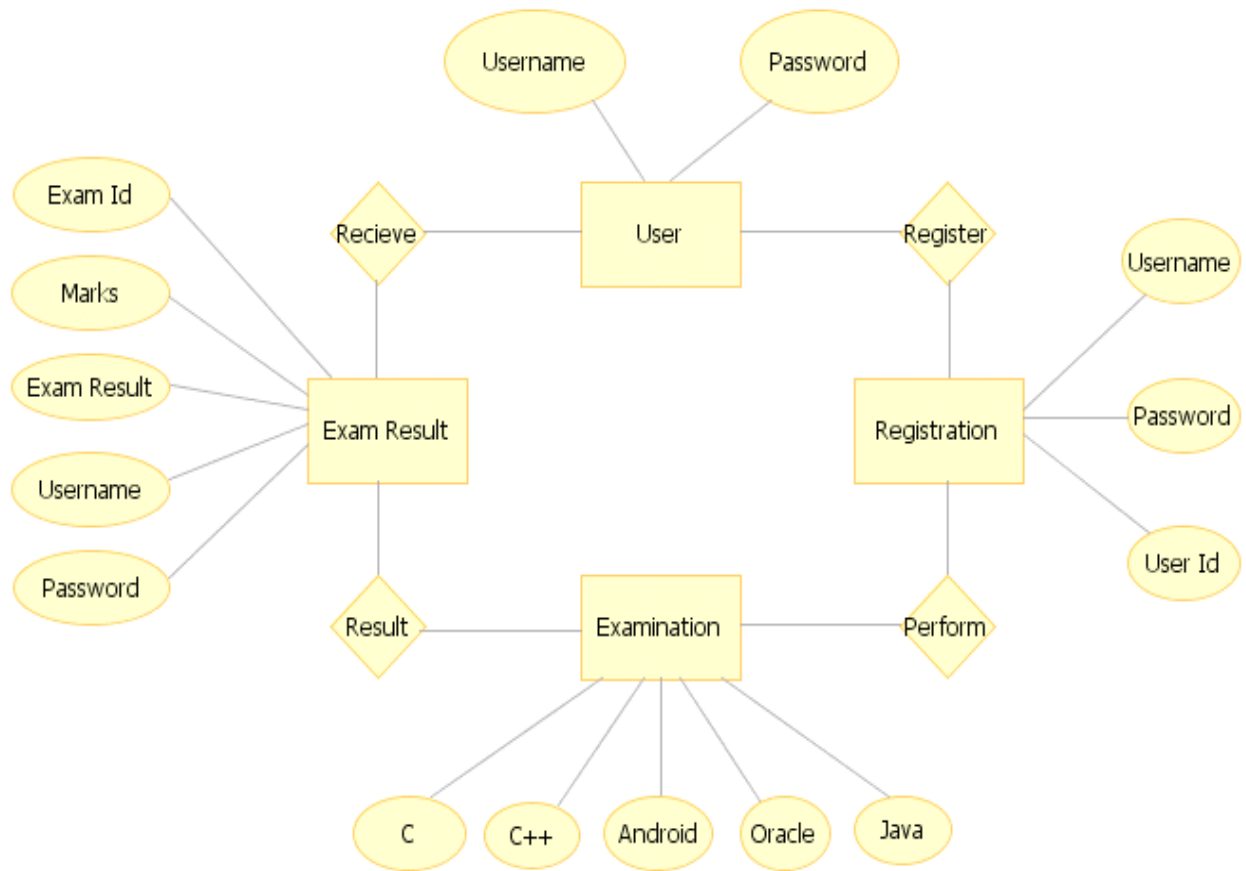


Figure-2: E-R diagram

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6.3 Use Case Diagram

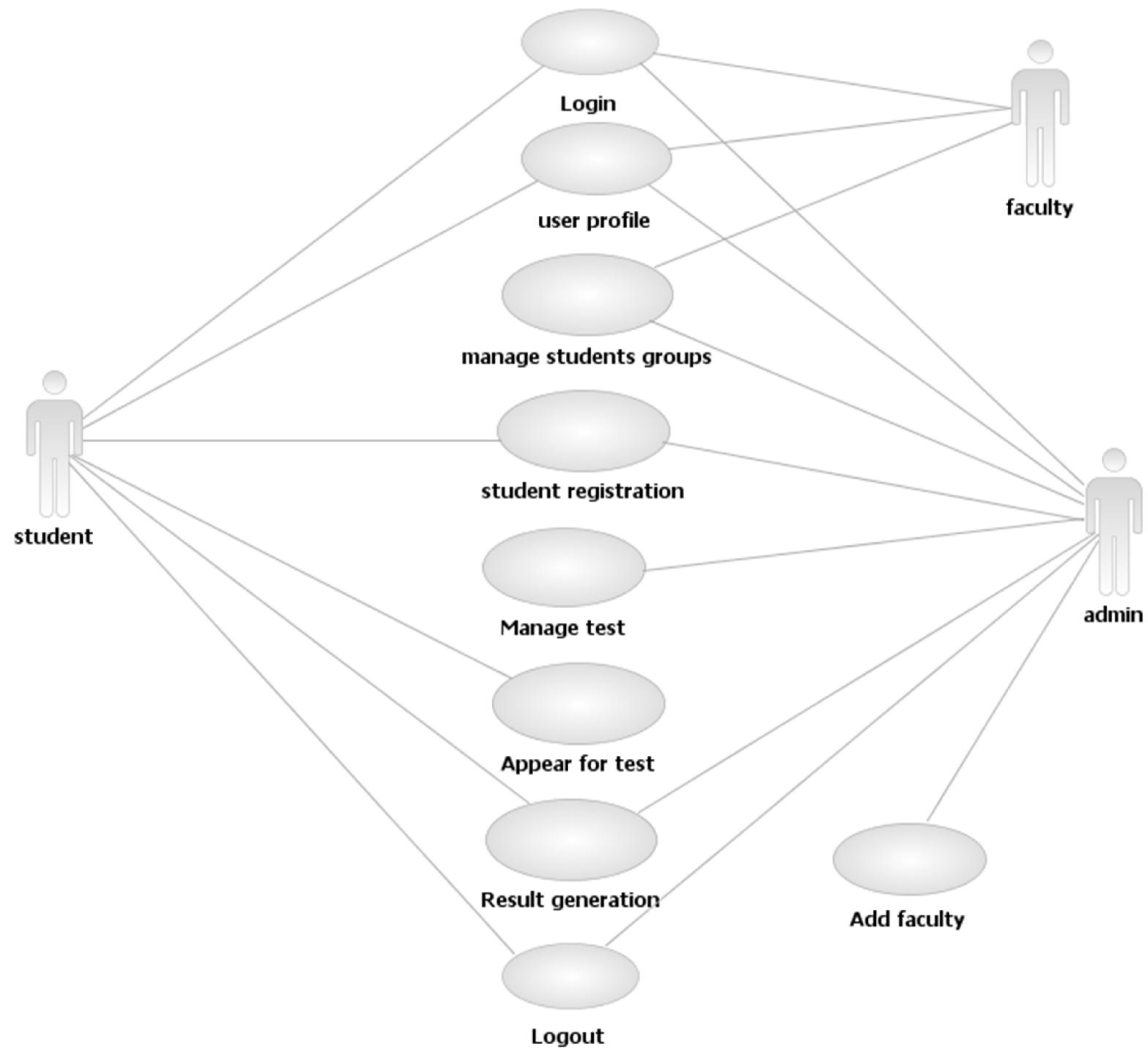


Figure-3: Use Case diagram

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6.4 DFD Diagram:

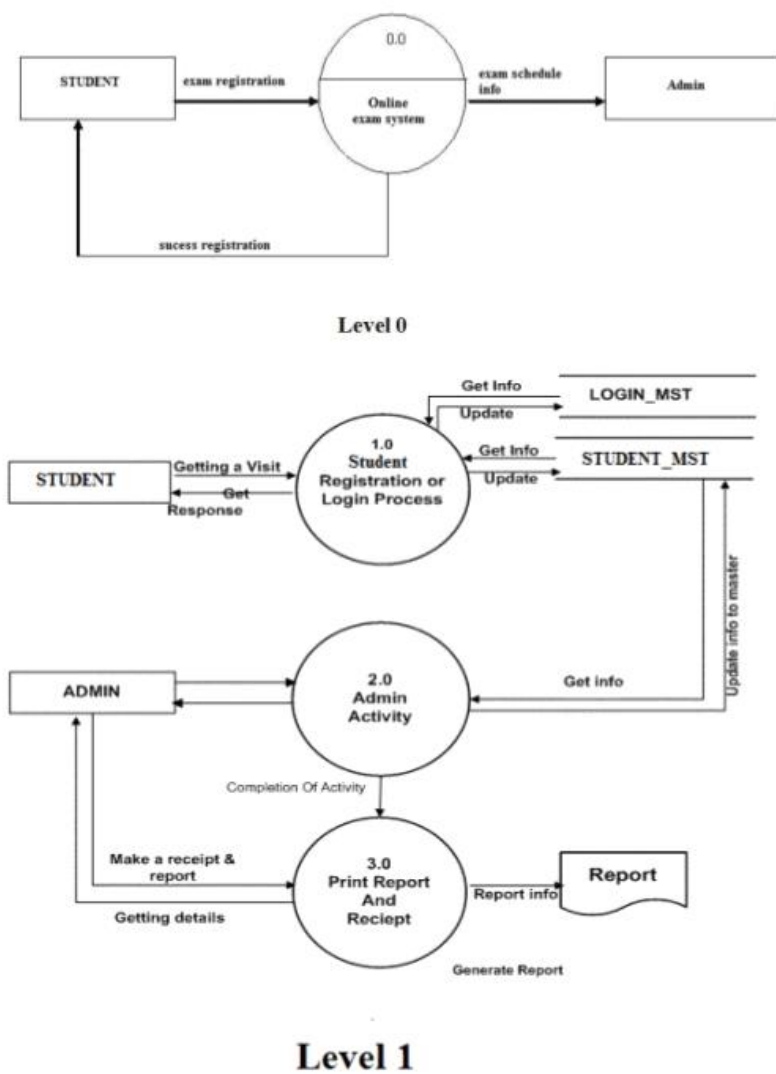


Figure-4: DFD diagram

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6.5 Activity Diagram:

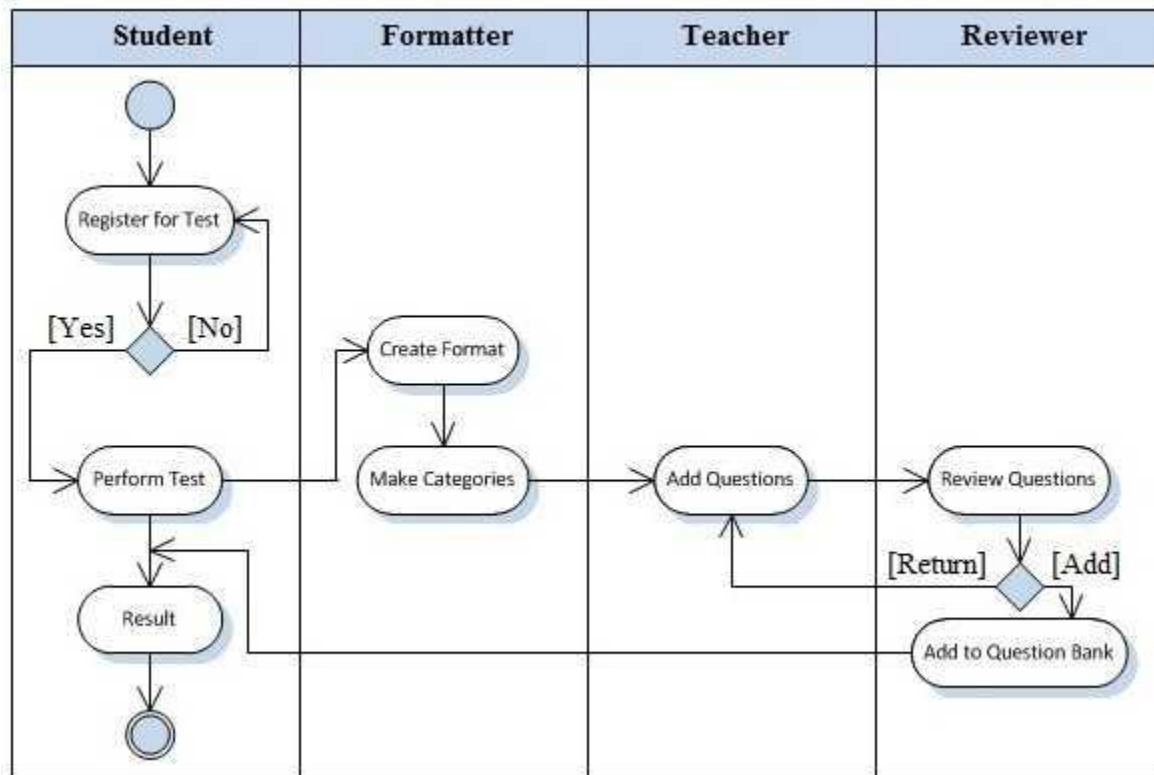


Figure-5: Activity diagram

6.6 Sequence Diagram:

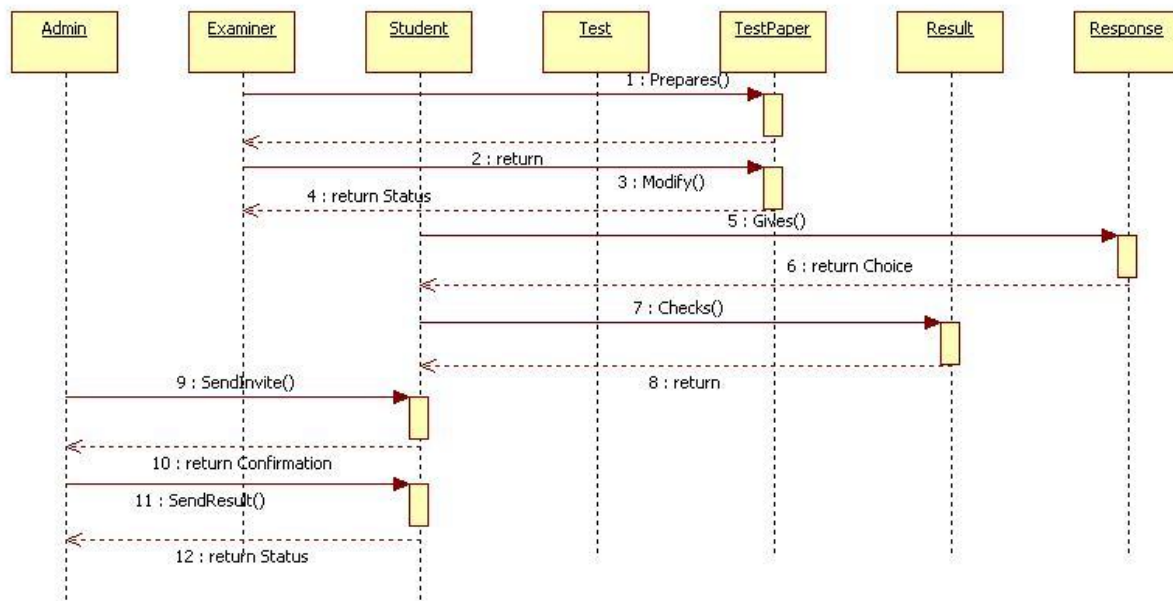


Figure-6: Sequence diagram

CHAPTER-7

DATABASE DESIGN

Tables:

7.1 Registration

| Field Name | Data Type | Len | PK? |
|---------------|-----------|-----|-----|
| First Name | varchar | 20 | |
| Last Name | varchar | 20 | |
| Father's Name | varchar | 20 | |
| Address | varchar | 50 | |
| Gender | varchar | 10 | |
| DOB | varchar | 10 | |
| Contact No | varchar | 10 | |
| Sem | varchar | 10 | |
| Country | varchar | 50 | |
| Language | varchar | 20 | |
| College | varchar | 20 | |
| 10% | varchar | 20 | |
| BoardOf10 | varchar | 20 | |
| 12% | varchar | 30 | |
| BoardOf12 | varchar | 20 | |
| Email | varchar | 20 | Yes |
| Password | varchar | 20 | |
| User Type | varchar | 20 | |

Figure 7.1: Registration table

7.2 Courses

| Field Name | Data Type | Len |
|-------------|-----------|-----|
| Q_No | Varchar | 30 |
| Question | Varchar | 60 |
| Option1 | Varchar | 30 |
| Option2 | Varchar | 30 |
| Option3 | Varchar | 30 |
| Option4 | Varchar | 30 |
| Correct_ans | Varchar | 30 |

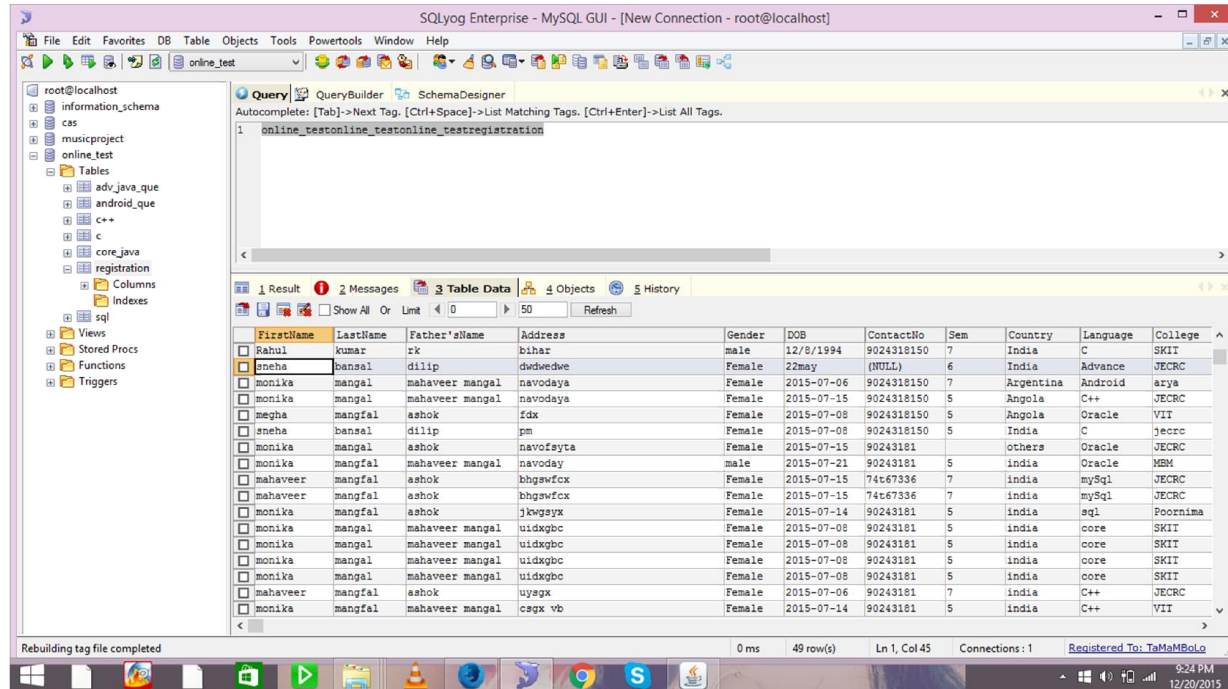
Figure 7.2 : core_java

| Field Name | Data Type | Len |
|-------------|-----------|-----|
| Q_No | Varchar | 30 |
| Question | Varchar | 60 |
| Option1 | Varchar | 30 |
| Option2 | Varchar | 30 |
| Option3 | Varchar | 30 |
| Option4 | Varchar | 30 |
| Correct_ans | Varchar | 30 |

Figure 7.3 : advance_java

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Registration Table:



The screenshot shows the SQLyog Enterprise MySQL GUI. The left sidebar displays the database structure for 'root@localhost', including 'information_schema', 'cas', 'musicproject', 'online_test', and 'registration'. The 'registration' table is selected, and its data is displayed in the main window. The table has 11 columns: FirstName, LastName, Father'sName, Address, Gender, DOB, ContactNo, Sem, Country, Language, and College. The data is sorted by DOB in descending order. The status bar at the bottom indicates 'Rebuilding tag file completed', '0 ms', '49 row(s)', 'Ln 1, Col 45', 'Connections: 1', and 'Registered To: TaMaMBolo'.

| FirstName | LastName | Father'sName | Address | Gender | DOB | ContactNo | Sem | Country | Language | College |
|-----------|----------|-----------------|-----------|--------|------------|------------|-----|-----------|----------|----------|
| Rahul | kumar | rk | bihar | male | 12/8/1994 | 9024318150 | 7 | India | C | SKIT |
| Sneha | bansal | dilip | dwdedwe | Female | 22may | (NULL) | 6 | India | Advance | JECRC |
| monika | mangal | mahaveer mangal | navodaya | Female | 2015-07-06 | 9024318150 | 7 | Argentina | Android | arya |
| monika | mangal | mahaveer mangal | navodaya | Female | 2015-07-15 | 9024318150 | 5 | Angola | C++ | JECRC |
| megha | mangfal | ashok | fdx | Female | 2015-07-08 | 9024318150 | 5 | Angola | Oracle | VIT |
| sneha | bansal | dilip | gm | Female | 2015-07-08 | 9024318150 | 5 | India | C | jecrc |
| monika | mangal | ashok | navofsyta | Female | 2015-07-15 | 90243181 | | others | Oracle | JECRC |
| monika | mangfal | mahaveer mangal | navoday | male | 2015-07-21 | 90243181 | 5 | india | Oracle | MBM |
| mahaveer | mangfal | ashok | bhgsfwcx | Female | 2015-07-15 | 7467336 | 7 | india | mysql | JECRC |
| mahaveer | mangfal | ashok | bhgsfwcx | Female | 2015-07-15 | 7467336 | 7 | india | mysql | JECRC |
| monika | mangfal | ashok | jkvgayx | Female | 2015-07-14 | 90243181 | 5 | india | sql | Poornima |
| monika | mangal | mahaveer mangal | uidxgbc | Female | 2015-07-08 | 90243181 | 5 | india | core | SKIT |
| monika | mangal | mahaveer mangal | uidxgbc | Female | 2015-07-08 | 90243181 | 5 | india | core | SKIT |
| monika | mangal | mahaveer mangal | uidxgbc | Female | 2015-07-08 | 90243181 | 5 | india | core | SKIT |
| monika | mangal | mahaveer mangal | uidxgbc | Female | 2015-07-08 | 90243181 | 5 | india | core | SKIT |
| mahaveer | mangfal | ashok | uyegx | Female | 2015-07-06 | 90243181 | 7 | india | C++ | JECRC |
| monika | mangfal | mahaveer mangal | cagx Yb | Female | 2015-07-14 | 90243181 | 5 | india | C++ | VIT |

Figure 7.4: Registration Table

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Courses Table:

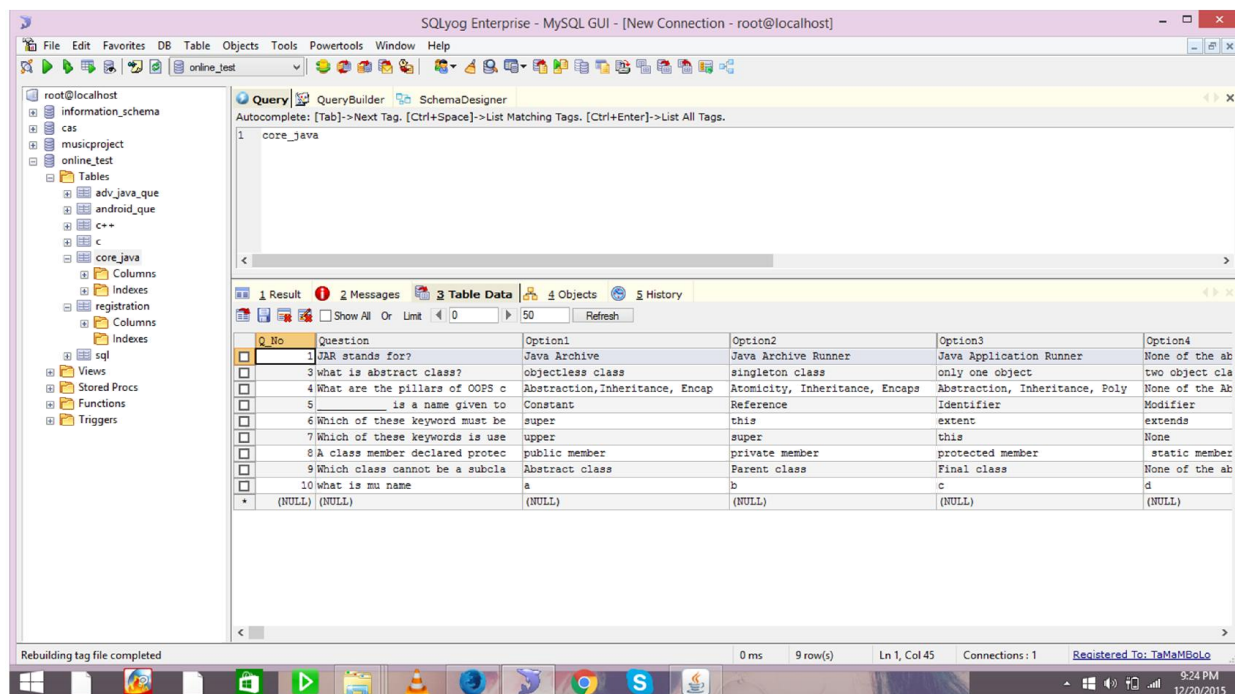


Figure 7.5: Core_java

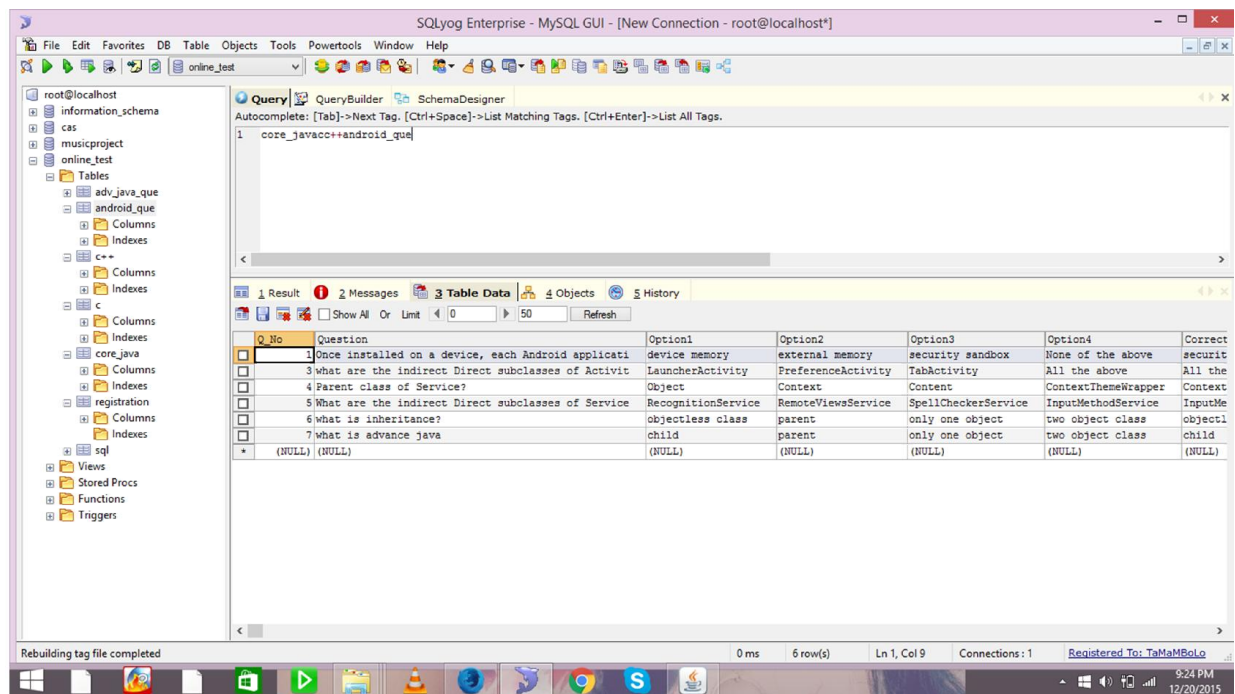
Above figure represents the questions of the language core java:

It contains the following details:

1. Question no
2. Questions
3. Options
4. Correct answer

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Advance_java:



The screenshot shows the SQLyog Enterprise MySQL GUI. The left sidebar displays a database tree with 'core_java' and 'android_que' selected. The main query window shows the query 'core_java+android_que'. The results pane displays a table with 7 rows and 7 columns. The first row is highlighted. The table contains the following data:

| Q.No | Question | Option1 | Option2 | Option3 | Option4 | Correct |
|------|--|--------------------|--------------------|---------------------|---------------------|---------|
| 1 | Once installed on a device, each Android applicati | device memory | external memory | security sandbox | None of the above | securit |
| 3 | what are the indirect Direct subclasses of Activit | LauncherActivity | PreferenceActivity | TabActivity | All the above | All the |
| 4 | Parent class of Service? | Object | Context | Content | ContextThemeWrapper | Context |
| 5 | What are the indirect Direct subclasses of Service | RecognitionService | RemoteViewsService | SpellCheckerService | InputMethodService | InputMe |
| 6 | what is inheritance? | objectless class | parent | only one object | two object class | object1 |
| 7 | what is advance java | child | parent | only one object | two object class | child |
| * | (NULL) | (NULL) | (NULL) | (NULL) | (NULL) | (NULL) |

Figure7.6: Advance_java

Above figure represents the questions of the language advance java:

It contains the following details:

- 1.Question no
- 2.Questions
- 3.Options
- 4.Correct answer

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C++:

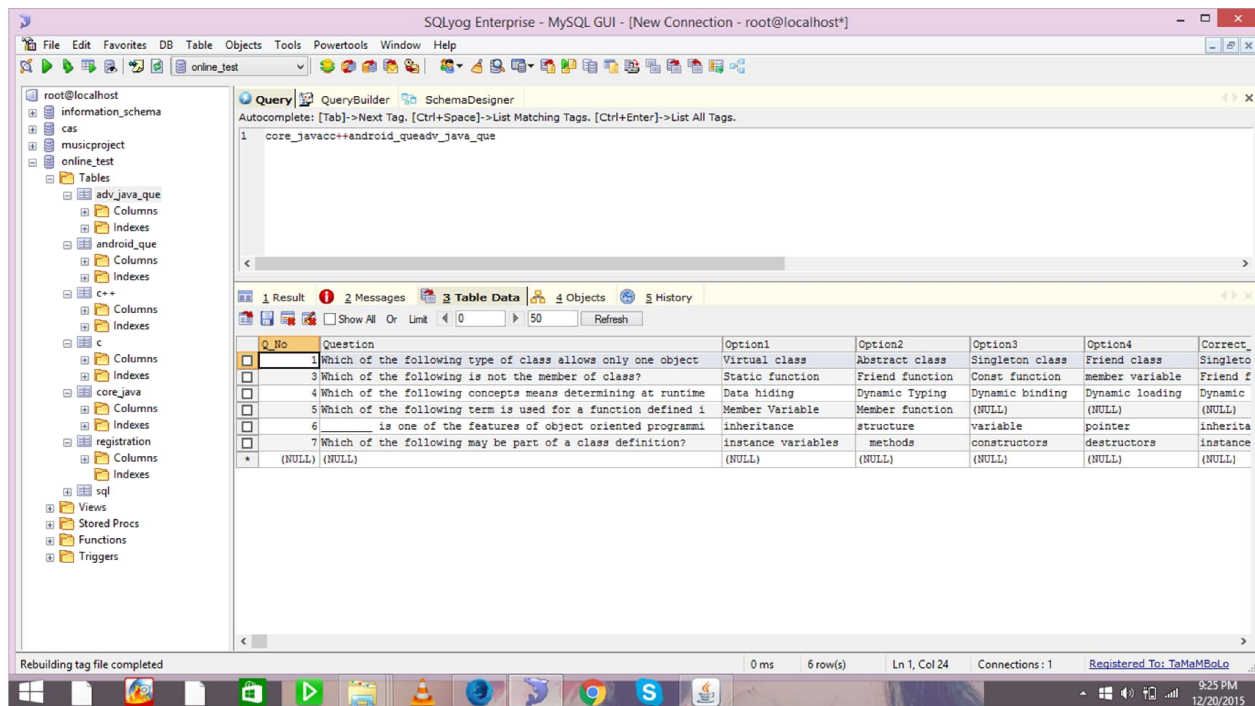


Figure7.7: c++

Above figure represents the questions of the language C++:

It contains the following details:

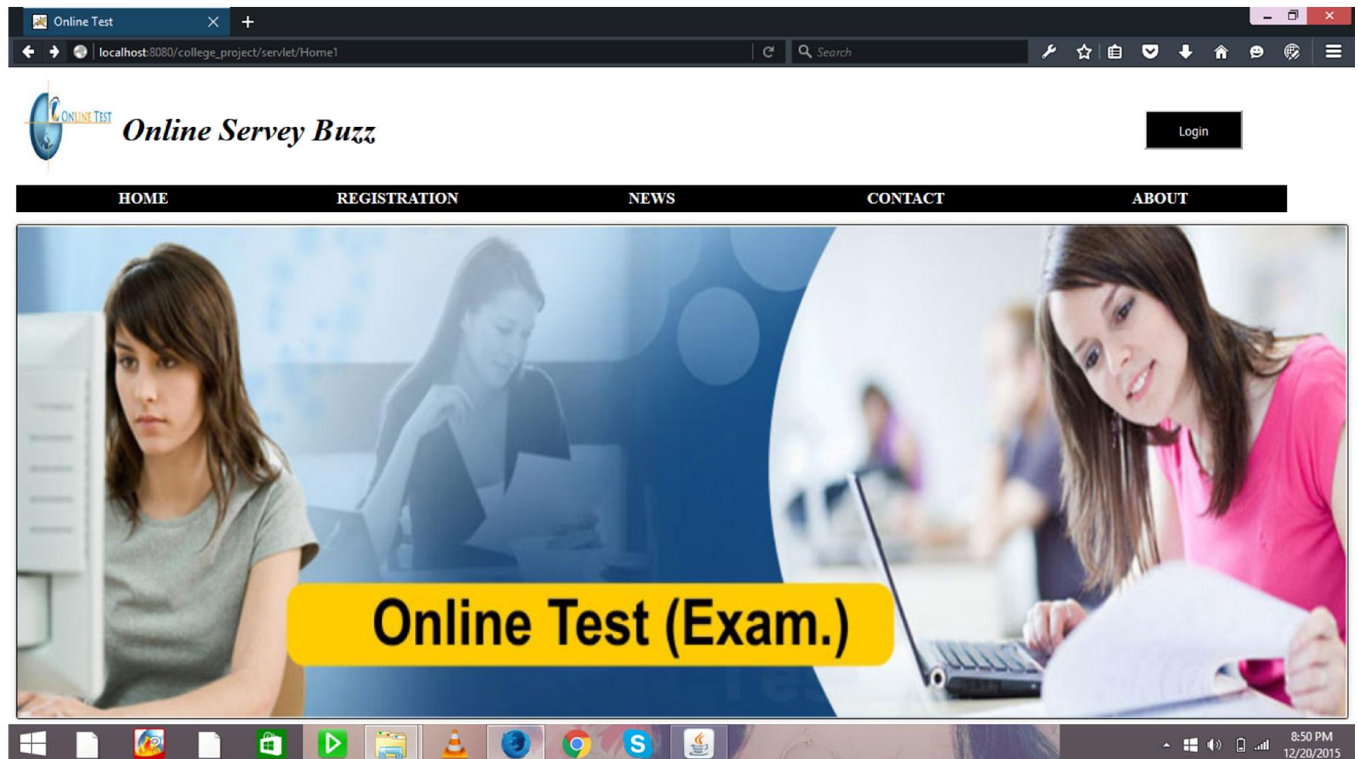
- 1.Question no
- 2.Questions
- 3.Options
- 4.Correct answer

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CHAPTER-8

UI DESIGN COMPONENT

8.1 Home Page:



Home Page (1)

This is the home screen where the student can go to either login page or registration page.

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8.2 Registration Page:

Registration form

First name* Last name*

Father's name

Address

Gender ☐ male ☐ Female DateOfBirth

Contact No Sem

Select your country

Select your language

College JECRC

10th % Board

12th % Board

Email-ID xyz@gmail.com

Password

Re-enter password

Home Page (2)

Here the student needs to register himself to give test.

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8.3 Login Page:

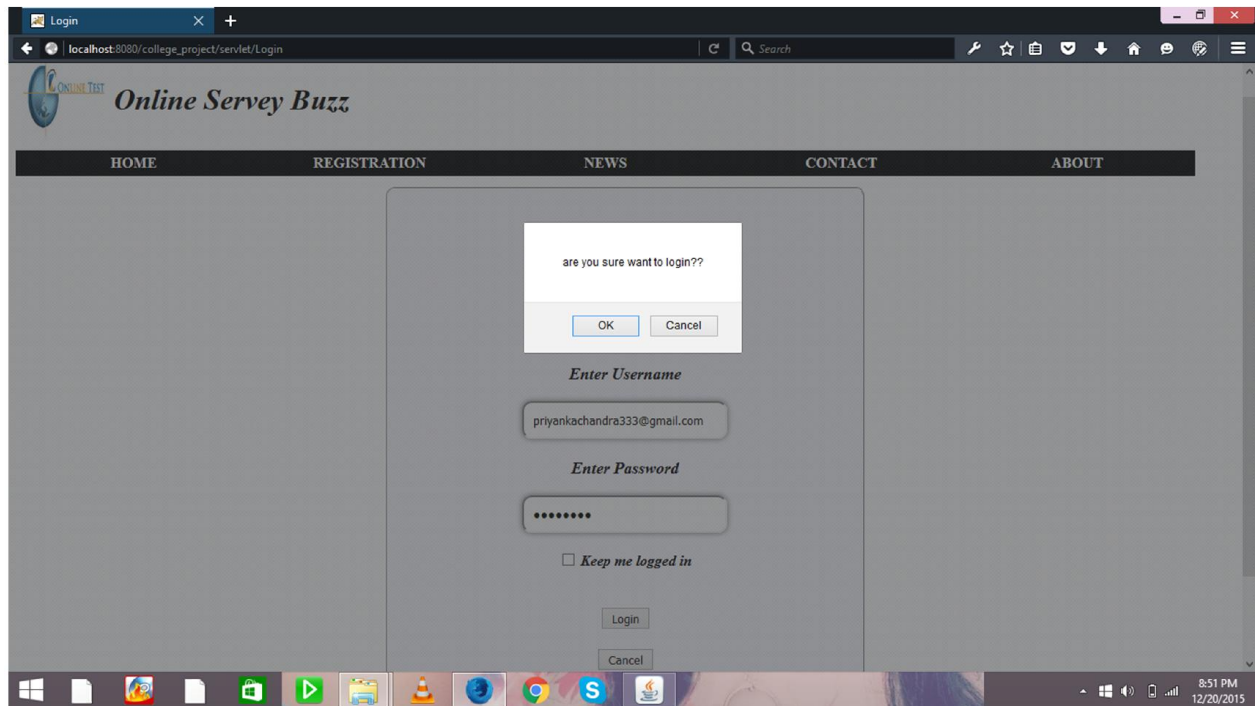
The screenshot displays a web browser window with the title 'Login'. The address bar shows the URL 'localhost:8080/college_project/servlet/Login'. The page header features the 'Online Servey Buzz' logo and a navigation menu with links: HOME, REGISTRATION, NEWS, CONTACT, and ABOUT. The main content area is a light blue box titled 'Login' which contains a user icon, a text input field labeled 'Enter Username', another text input field labeled 'Enter Password', a checkbox labeled 'Keep me logged in', and two buttons: 'Login' and 'Cancel'. The Windows taskbar at the bottom shows various application icons and the system clock indicating 8:51 PM on 12/20/2015.

Home Page (3)

In this page the student can login in to his account.

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8.4 Confirmation:

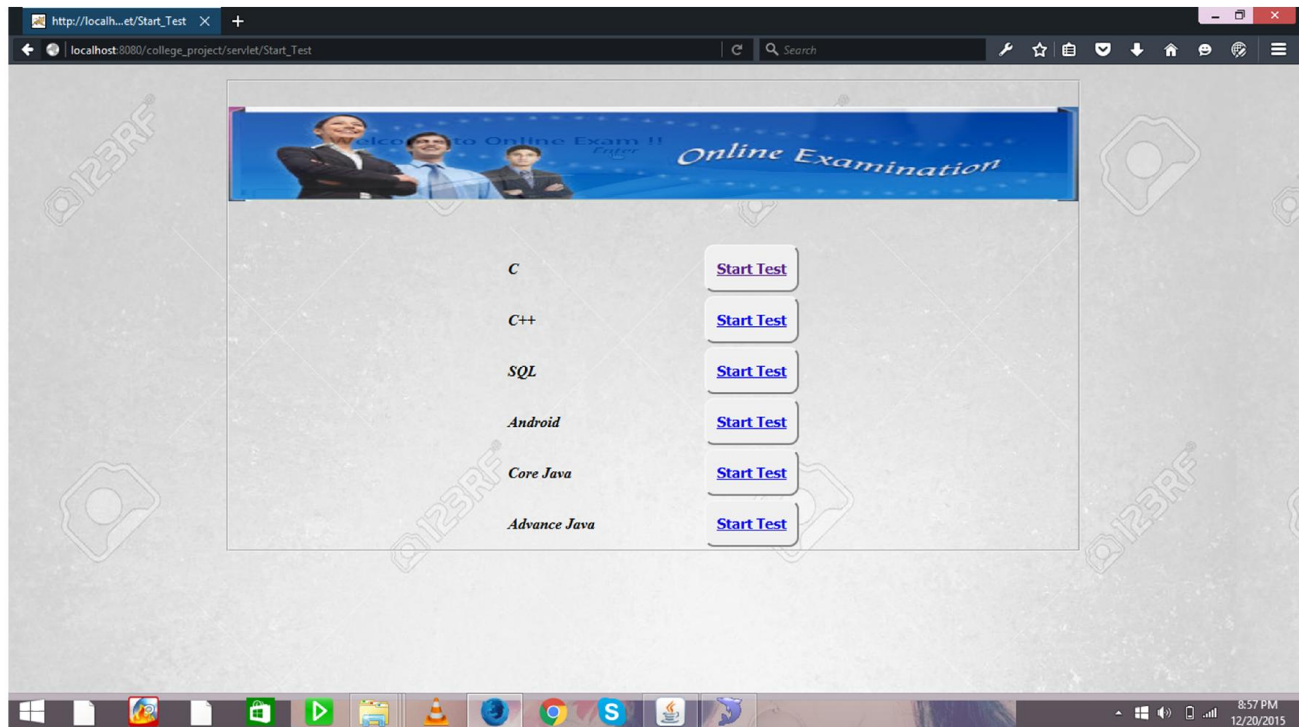


Home Page (4)

In this page confirmation will be given which ensure your registration has been done successfully.

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8.5 Start Test:

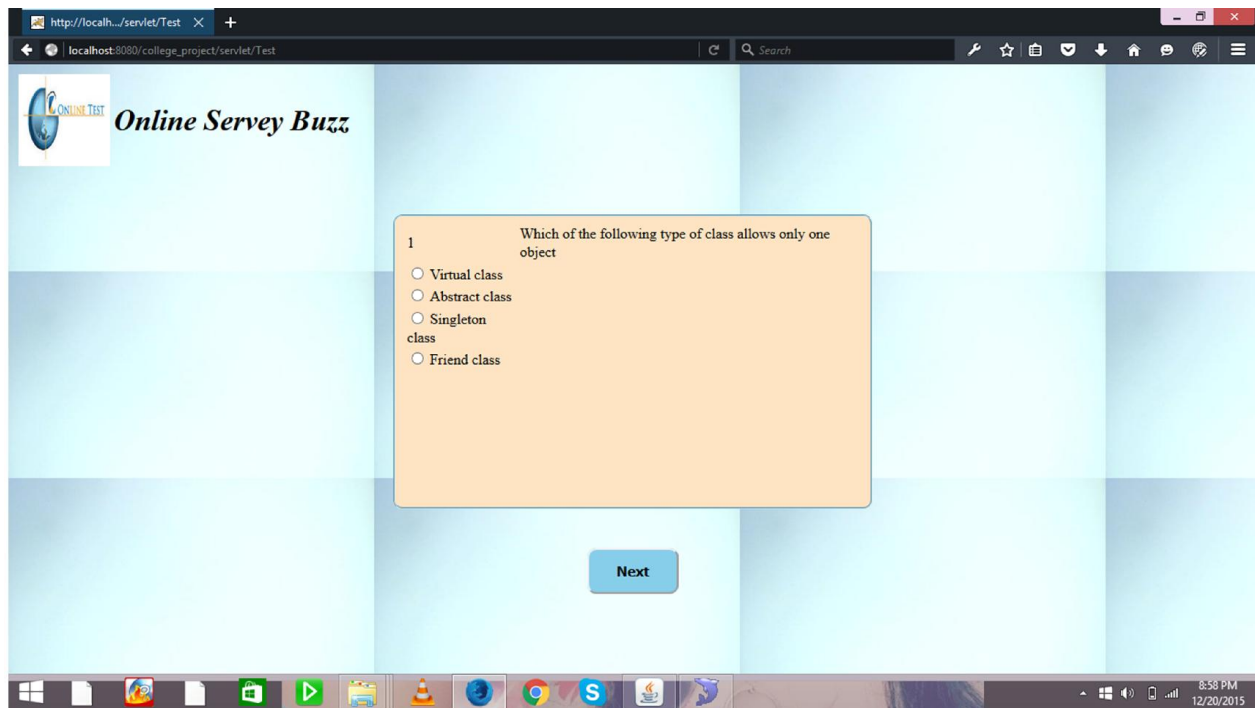


Home Page (5)

In this page student chooses one of the languages and start to give test.

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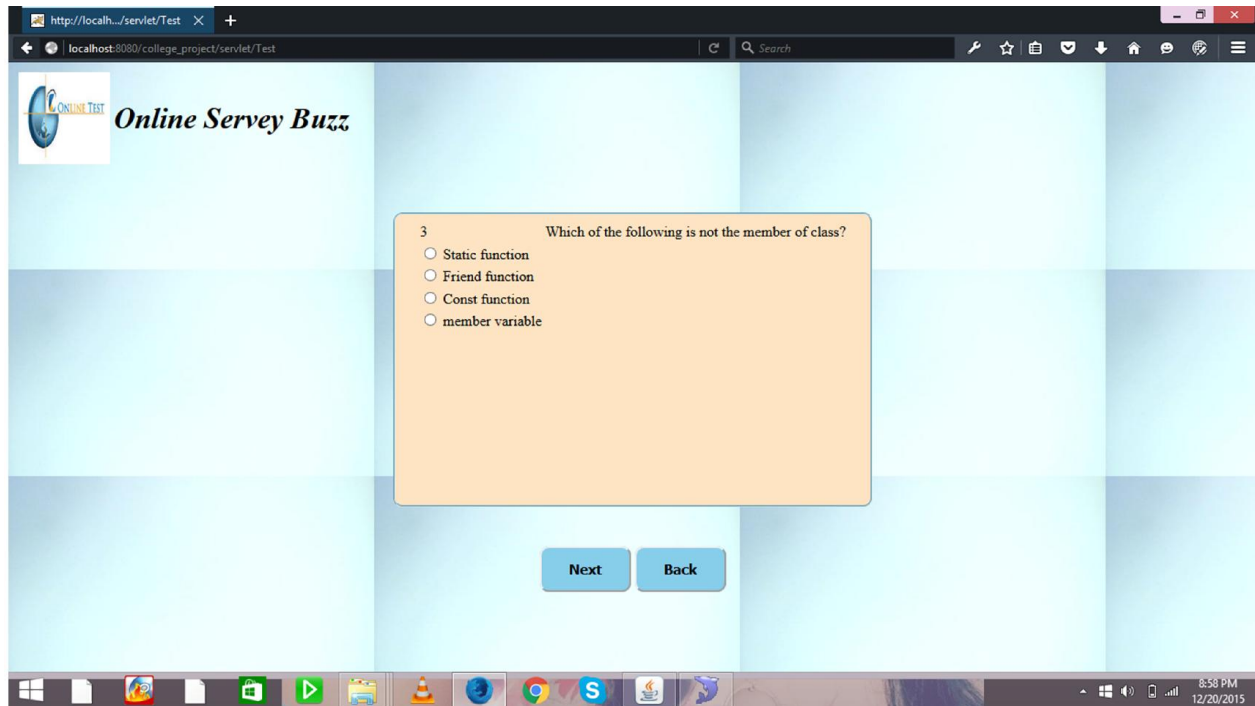
8.6 Courses questions:



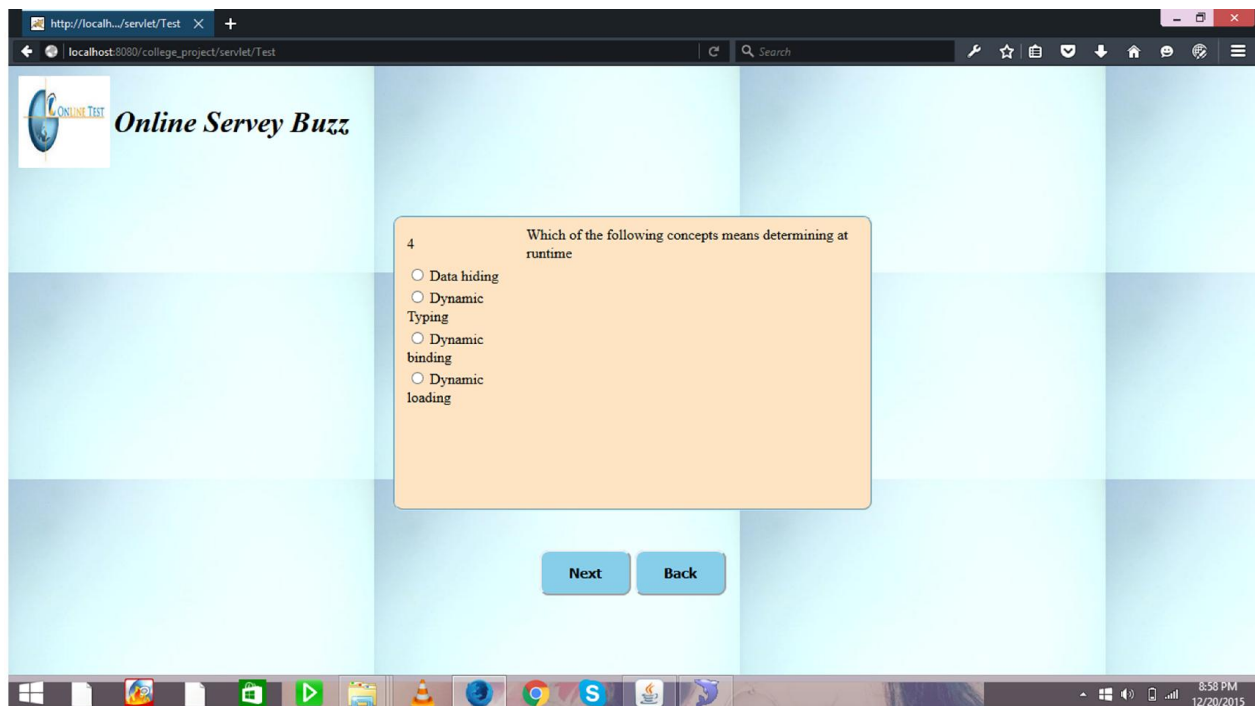
Home Page (6.1)

This page can be used to view all the available multiple choice answers and select one.

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Home Page (6.2)

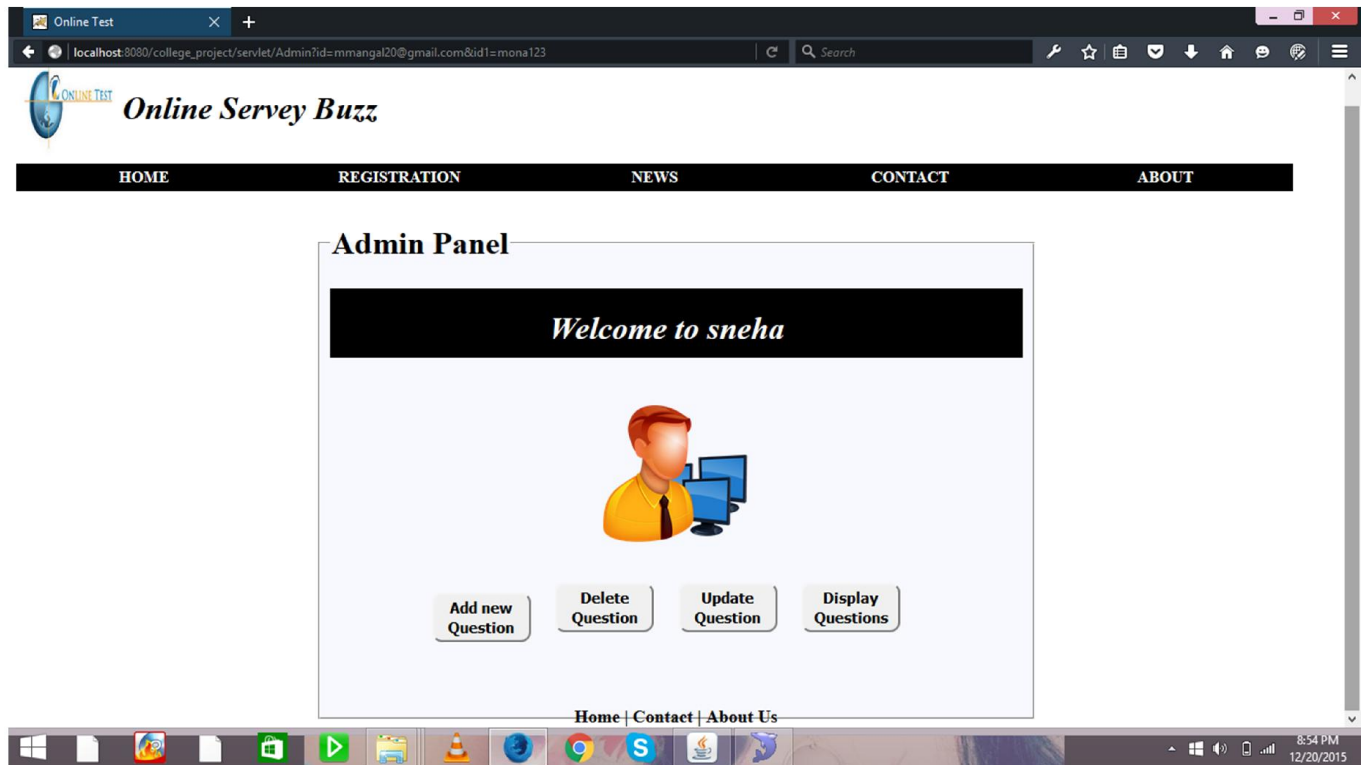


Home Page (6.3)

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8.7 Admin Panel:



Home page(7)

This is the admin page which is used to add questions ,delete questions ,update questions ,display questions.

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8.8 Add New Questions:

Online Test

localhost:8080/college_project/servlet/AddQ

Online Survey Buzz

HOME REGISTRATION NEWS CONTACT ABOUT

Add Question

Enter the language in which u want to add question

Enter new Question

Enter option1

Enter option2

Enter option3

Enter option4

Enter correct answer

add

Home Page (8)

This page is used to add new questions.

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8.9 Added Questions:

The screenshot shows a web browser window with the address bar displaying 'localhost:8080/college_project/servlet/AddQ'. The page title is 'Online Servey Buzz'. The navigation bar includes links for HOME, REGISTRATION, NEWS, CONTACT, and ABOUT. The main content area is titled 'Add Question' and contains the following form fields:

- Enter the language in which u want to add question:
- Enter new Question:
- Enter option1:
- Enter option2:
- Enter option3:
- Enter option4:
- Enter correct answer:

An 'add' button is located at the bottom right of the form.

Home Page (9)

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8.10 Question Added:



1 Question added



Home Page (10)

This page displays Question is added.

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8.11 Delete Question:

Online Test

localhost:8080/college_project/servlet/DeleteQue

Online Servey Buzz

HOME REGISTRATION NEWS CONTACT ABOUT

Delete Question

Enter the language from which u want to delete question

Enter Question no to be deleted

Delete

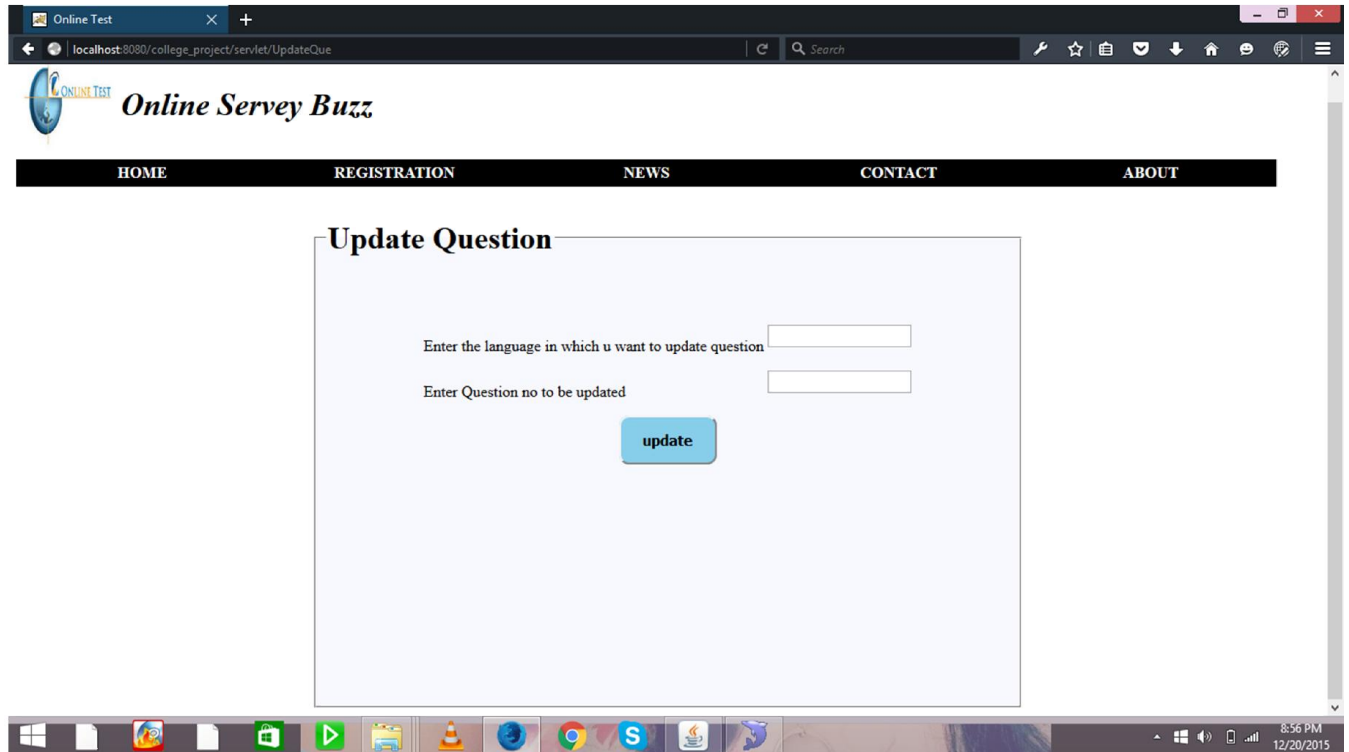
8:56 PM 12/20/2015

Home Page (11)

This page displays question has been deleted.

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8.12 Update Questions:



The screenshot shows a web browser window with the title 'Online Test'. The address bar displays 'localhost:8080/college_project/servlet/UpdateQue'. The page features a logo on the left and the text 'Online Servey Buzz' (note the typo). A navigation bar contains links: HOME, REGISTRATION, NEWS, CONTACT, and ABOUT. The main content area is titled 'Update Question' and contains two input fields: 'Enter the language in which u want to update question' and 'Enter Question no to be updated'. Below these fields is a blue 'update' button. The browser's taskbar at the bottom shows various application icons and the system clock indicating 8:56 PM on 12/20/2015.

Home Page (12)

This page displays update questions.

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8.13 Display questions:

The screenshot shows a web browser window with the following content:

core_java

| Q_No | Question | Option1 | Option2 | Option3 | Option4 | Correct_answer |
|------|-------------------------|------------------|-----------------|-----------------|------------------|------------------|
| 1 | what is a | a | b | c | d | a |
| 3 | what is abstract class? | objectless class | singleton class | only one object | two object class | objectless class |
| 4 | what is abstract class? | a | b | c | two object class | a |
| 5 | what is inheritance? | a | b | c | d | a |
| 6 | what is inheritance? | a | b | only one object | two object class | objectless class |
| 7 | what is abstract class? | objectless class | parent | only one object | two object class | objectless class |
| 8 | who is monika | m | o | n | i | i |
| 9 | many of the students | | | | | |
| 10 | what is mu name | a | b | c | d | a |
| 11 | what is a core | a | b | c | d | c |
| 12 | what is inheritance? | web technolgy | parent | existing system | new system | child |
| 13 | What is an object? | entity | pointer | imaginary | variable | entity |

Home Page (13)

This page displays all the questions according to their subjects.

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CHAPTER-9

FUTURE SCOPE

The main aim of our project is to create the good interaction between the students and the teachers. We are trying to do the project at best level to satisfy all the end users that are students and faculty. In our future we are decided to provide more security to our website which may not be had. And we give the choice to add their name under the faculty who they wish and get advice for their betterment. It will be more empowering.

CONCLUSION

This desktop application was developed successfully in windows operating system and it give good results as per expectations. App can be implemented for online quiz anywhere using a computer. The system has reached a steady state where all bugs have been eliminated. The system is operated at a high level of efficiency and all the candidates and user associated with the system understands its advantage. The system solves the problem. It was intended to solve as requirement specification.

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List of References

There are many references which are used in development of this document and proposed system. Some of them are as follows-

1. Silverschatz, Korth, Sudarshan - *Database System Concepts*, (2002).
2. www.w3schools.com
3. www.stackoverflow.com