

**A PROJECT REPORT
ON
ONLINE EXAMINATION SYSTEM**

**Submitted to
Dr. B. C. Roy Polytechnic**

In Partial Fulfilment of the Requirement for the Award of

**DIPLOMA IN
COMPUTER SCIENCE AND TECHNOLOGY**

BY

Sumon Chakrabarty	1723001
Subham Chowdhury	1723030
Nilotpall Banerjee	1723027
Sharmistha Roy	1723045

**UNDER THE GUIDANCE OF
Mr. Pijush Kanti Ghosh**

**DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY
DR. B. C. Roy Polytechnic, Durgapur
West Bengal- 713206, India
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CERTIFICATE

This is certify that the project entitled

Online Examination System

submitted by

Sumon Chakraqbarty	1723001
Subham Chowdhury	1723030
Nilotpal Banerjee	1723027
Sharmistha Roy	1723045

is a record of bonafide work carried out by them, in the partial fulfilment of the requirement for the award of Diploma in Computer Science and Technology at Dr. B. C. Roy Polytechnic, Durgapur under the West Bengal State Council of Technical & Vocational Education and Skill Development. This work is done during year 2019-2020, under our guidance.

Date:23/05/2020

(Mr. Pijush Kanti Ghosh)
Project Guide

(Mr. Arnab Banerjee/Mr. Santu Kundu)
Project Coordinator

(Mr. Soham Bandyopadhyay)
Departmental Coordinator
CST Department

(Dr. Arindam Chakraborty)
Principal

External Examiner

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Sumon Chakrabarty
Subham Chowdhury
Nilotpall Banerjee
Sharmistha Roy

ABSTRACT

Online Examination is a platform for everyone to test their own skill sets . The main goal of this online examination system is to effectively evaluate the student thoroughly through a totally automated system on programming subjects like Java, C, PHP, Python and more. Online examination system helps students to offer a quick and easy way to appear for the test. It also provides the results immediately after the examination.

This examination contains multiple choice questions and appropriate number of options. There are no limitations on number of options and it can be randomized so same set of question will not appear to all student so it prevent manipulation. Only one option can be correct and the user can select more than one option too if required. Our application also helps the students to write the exam from far distance and which can provide security and simplicity and other beneficial features to the user. Once you are registered with us, you can have enormous number of test papers. User registration is completely free and you can register anytime and appear for the test.

Keywords: Web Server, Database Server, Navigation Diagram, Entity-Relationship Diagram, Cross-Platform.

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Chapter 1

Introduction

The purpose of online test simulator is to take online test in an efficient manner and no time wasting for checking the paper. The main objective of online testing system is to efficiently evaluate the candidate thoroughly through a fully automated system that not only saves lot of time but also gives fast results. The project mainly intends to provide the insight of the functionality and behavior of the Online Examination System. This project integrates computer and Internet technologies for the purpose of student assessment .It provides the options of the examinations available on the system according to the user privilege. For candidates they can choose papers according to their convenience and time and there is no need of using extra thing like paper, pen etc. Scope of this project is very broad in terms of other manually taking exams. This can be used in educational institutions. Can be used anywhere any time as it is a web based application(user location doesn't matter). No restriction that examiner has to be present when the candidate takes the test. Time is set for the test. Test should be completed within that time period. If he does not complete the test within the given time the test will be lost automatically. Thus, our online testing system has the following features:

1. **Secure:** Security is maintained for the system, there is a User Name and Password for an authorized person only that person can access the data in the system.
2. **Easy to Use:** Interface is very helpful for the users who is visiting it for the first time, and can easily navigate through the different steps for appearing for the exam and get the result.
3. **Reliable and Accurate:** The application generates genuine exam results without any flaw, and equally judges all the appearing candidates.
4. **No need of Examiner:** There is no need for the examiner with a pen and paper system to evaluate the results.

The effective use of "Online Testing System" is that any Educational Institute or

training centers can use it to develop their strategy for conducting exams, and for getting better results in less time. Online Examination is being launched because a need for a destination that is beneficial for both Institutes and students. With this site, institutes can host online exams. Students can take exams and view their results. The project will enable educational institutes to conduct test and have automated checking of answers based on the response by the candidates. Many institutions use various paper materials and pens to process the manual examination. But in this system, it provides the student information, questionnaires, and answers and automatically computes the scores. It is conducted through the website which improves accessibility for remote candidates. The advantage is that it can be conducted for remote candidates and evaluation of answers can be fully automated for multiple choice. Questions can be evaluated manually or through automated system, depending on the nature of the questions and the requirements. It helps also lecturers to upload the questions and answers in the database.

The online test created for taking online test has following stages:

1. Login
2. Test
3. Result

- Login: There is a quality login window because this is more secure than other login forms as in a normal login window there are multiple logins available so that more than one person can access to test with their individual login. But in this project there is only one login id i.e. administrator id and password by which a person enters the site. Hence it is more secure and reliable.
- Test: Test page is the most creative and important page in this project. This gives user to choose the desired subject he wants to appear for and start the exam. The list of the available subjects on which he/she can appear are C, Python, Java and PHP.
- Result: Finally after completing the exam the user can submit the exam and see his result that is the total marks obtained in the exam. Each question carries 1 mark each.

Thus the best use of this system in Scholastic Institute and training centres because it helps in managing the exams and get the results in easy and an efficient manner.

Chapter 2

Literature Survey

2.1 EXISTING SYSTEM

The whole process of assigning test and evaluating their scores after the test, was done manually till date. Processing the test paper i.e. checking and distributing respective scores used to take time when the software was not installed.

**** Disadvantages of current system:**

- a. The current system is very time consuming.
- b. To take exam of more candidates more invigilators are required but no need of invigilator in case of online examination.
- c. The chances of paper leakage are more in current system as compared to proposed system.
- d. Result processing takes more time as it is done manually.

2.2 PROPOSED SYSTEM

The online examination system created for taking online test has following features.

- a. In comparison to the present system the proposed system will be less time consuming and is more efficient.
- b. Result will be very precise and accurate and will be declared in very short span of time because calculation and evaluations are done by the simulator itself.
- c. The proposed system is very secure as no chances of leakage of question paper as it is dependent on the administrator only.

Chapter 3

Problem Statement and Method Overview

Self-evaluation of our skillset is needful in various phases of life. Whether we are preparing for any entrance exam or just want to check our knowledge. To fulfil this requirement of self-assessment we want to develop an online testing application.

Application facilitates a user to register himself, manage account, attempting test papers and evaluating scores. The design should be simple and easy to use.

3.0.1 User

Application has three kinds of users:

1. Unregistered User
2. Registered User
3. Admin

3.0.2 Functionalities

- Unregistered User–

1. He can view index page containing introduction and purpose elements of the application.(Static Page).
2. He can register himself by giving small piece of information.

- Registered User–

1. He can view index page (static Page....same as above)
2. He can login to explore site features.
3. He can manage his account.

4. He can view available list of test papers.
5. He can attempt a test paper.
6. He can view his score after attempting the test paper.
7. He can logout from the site.

- Admin–

1. Admin can login.
2. Admin can manage test papers.
3. Admin can manage questions.
4. Admin can logout.

Chapter 4

Dataset Description/Requirement Analysis

4.1 SELECTION

Requirement Analysis.

4.2 Requirement Specification

On the basis of system study performed about all the functions that deals with Online testing following requirements are specified.

4.2.1 The Functional Requirements of the project are as follows:

1. To provide the functionality to students to appear for the exam online.
2. To provide login interface through which only authorized user can pass by.
3. To provide functionality to user to register him in the portal.
4. To provide functionality to user to manage his/her account(change the password).
5. To provide functionality to user to view the list of available test papers on the available subjects.
6. To provide functionality to user to appear for the exam he want.
7. The web application provide question to the student randomly.
8. To functionally enable Exam Dept Admin to manage Question Bank.
9. To functionally enable Exam Dept Admin to create Question Bank.
10. To functionally enable Exam Dept Admin to manage test papers.

11. To functionally enable Exam Dept Admin to create test papers.

4.2.2 The non-functional requirements of the project are as follows:

1. The system should be reliable and robust.
2. The system should be User friendly.
3. The system should be completely Consistent and Secure.

4.2.3 The interface requirements of the project are as follows:

1. Interface should be easy to follow.
2. Interface should not have very much graphics.
3. Interface should not have hidden buttons.
4. Interface should produce relevant error message.

4.2.4 The System requirements of the project are as follows:

- Hardware Requirements:

1. Processor: Intel Pentium 3.0 GHz or Higher.
2. RAM: 1GB(Recommended).
3. Hard disk Space: 10GB(Recommended).

- Software Requirements:

1. Operating System like Windows, Mac-OS or Linux.
2. Web Server: XAMPP or WAMPP or LAMPP.
3. Database Server: MySql.
4. Any text editor like Sublime Text 3, Notepad++, Atom etc.
5. Any web browser like Google Chrome, Mozilla Firefox, Internet Explorer, Opera etc.

Chapter 5

System Design and Database Design

1.System Design:

Online examination system is completely divided into several modules. System has three kinds of user admin, unregistered user, and registered user. On the top of every user several modules have been designed that works in close association to each other illustrating the overall navigation flow of the system. Several sub-modules have been designed under the three independent modules in the system, that is admin, unregistered user and registered user. Our application purely follows the rules of 'divide and conquer' problem-solving strategy thus raising the modularization of the system.

The list of the modules under the different kinds of users of the application are as follows:

- Unregistered User:
 - i. index.html
 - ii. registration.php
 - iii. doRegistration.php
 - iv. userlogin.php
- Registered User:
 - i. index.html
 - ii. userlogin.php
 - iii. uservalidation.php
 - iv. home.php

- v. myaccount.php
- vi. updateaccount.php
- vii. testlist.php
- viii. testpaper.php
- ix. testresult.php
- x. logout.php

● Admin:

- i. adminlogin.php
- ii. adminvalidation.php
- iii. adminhome.php
- iv. managetests.php
- v. viewtestpapers.php
- vi. createtestpaper.php
- vii. doCreatetestpaper.php
- viii. managequestions.php
- ix. viewquestion.php
- x. createquestion.php
- xi. doCreatequestion.php

Following figures describe the overall navigation flow among the different modules in the application:

a. Unregistered User:

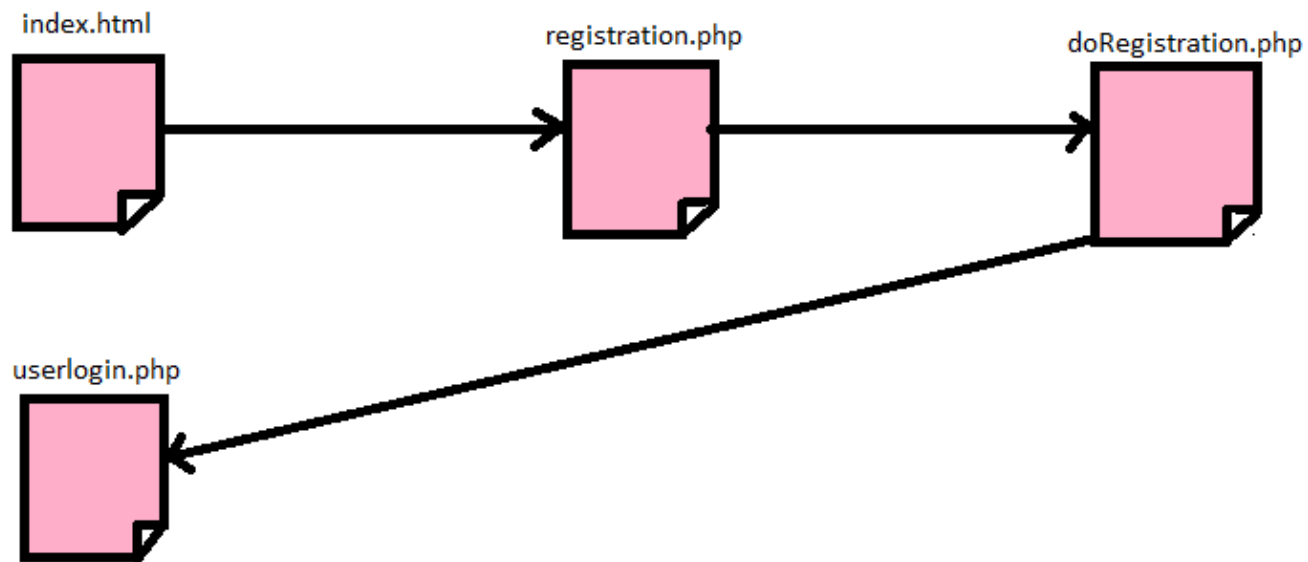


Figure 5.1: Unregistered User

b. Registered User:

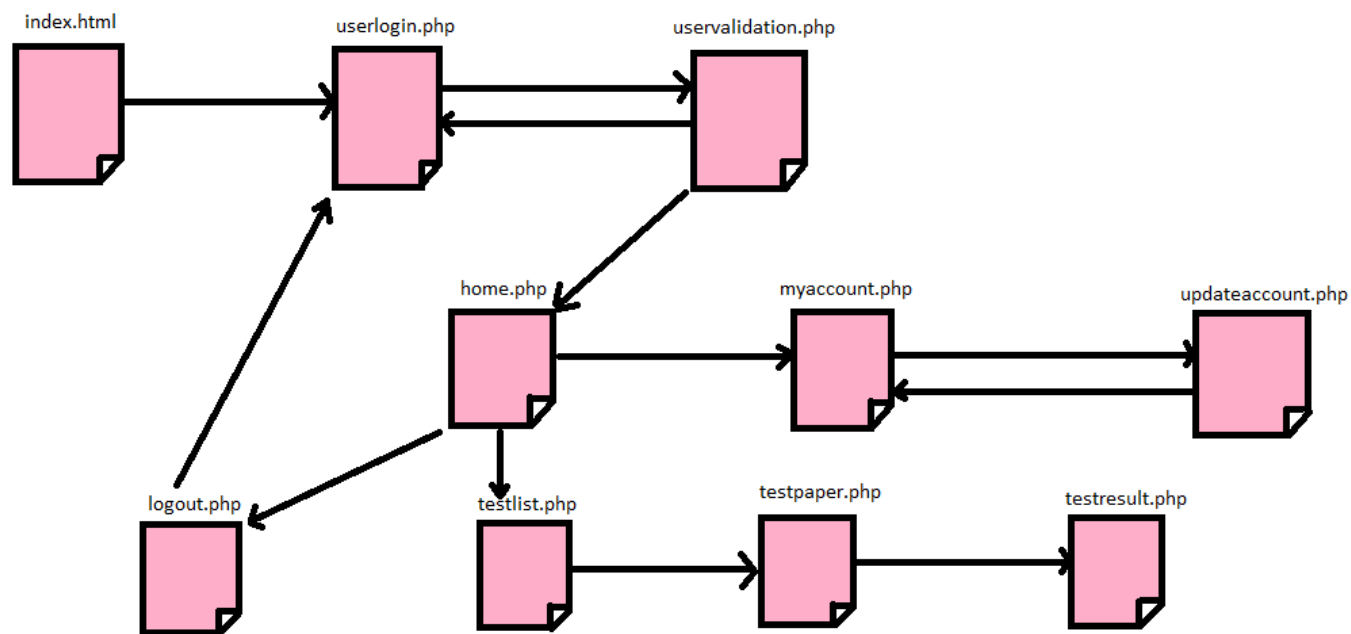


Figure 5.2: Resgitered User

c. Admin :

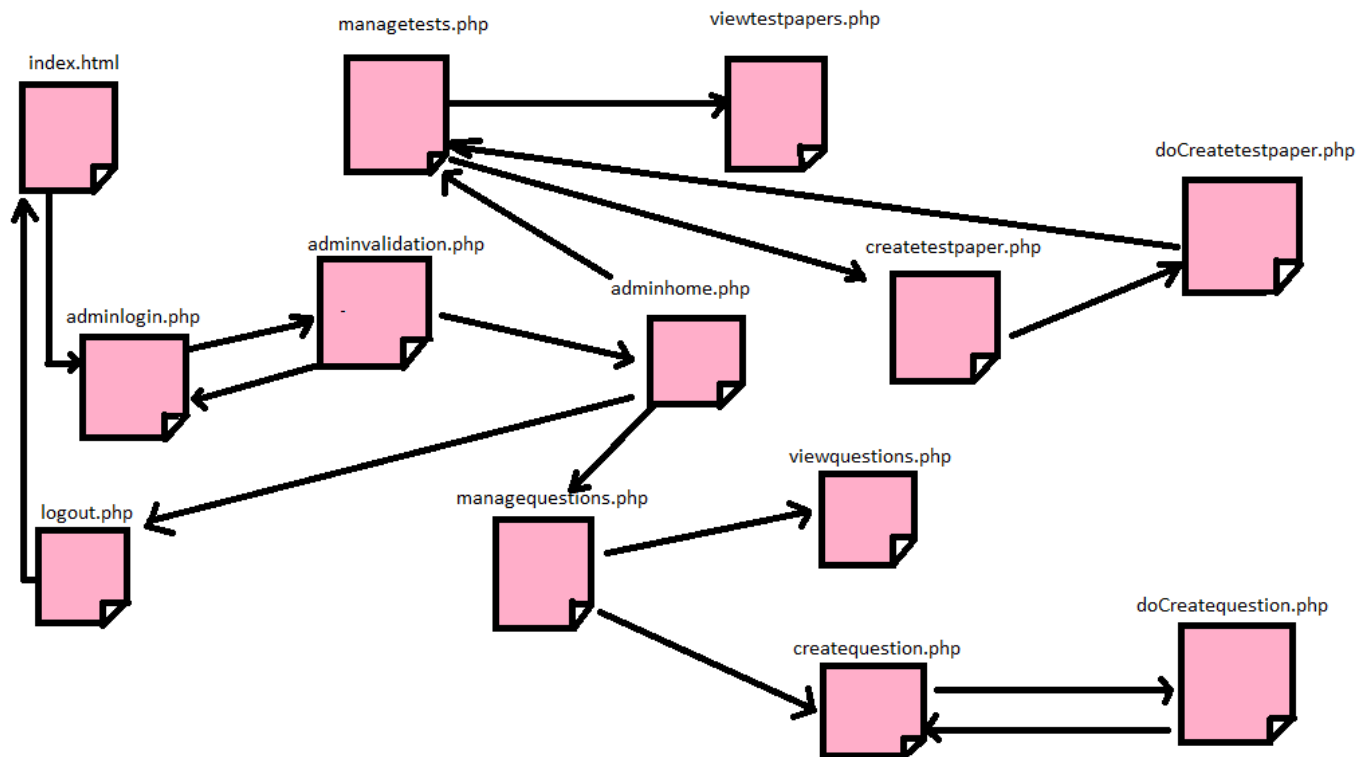


Figure 5.3: Admin

2.Database Design

Database of our system is designed so that it can manage all the user informations, questions, test paper, test results etc. The name of our database is 'onlinetestdb'. It consists of four tables and their structure is as shown:

- user:


Name	Type	Collation	Attributes	Null	Default
username 	varchar(20)	latin1_swedish_ci		No	None
password	varchar(20)	latin1_swedish_ci		No	None

Figure 5.4: usertable

- test:


Name	Type	Collation	Attributes	Null	Default	Comments	Extra
testid 	int(5)			No	None		AUTO_INCREMENT
subject	varchar(40)	latin1_swedish_ci		No	None		

Figure 5.5: testtable

- question:


Name	Type	Collation	Attributes	Null	Default	Comments	Extra
queid 	int(5)			No	None		AUTO_INCREMENT
que	varchar(255)	latin1_swedish_ci		No	None		
optiona	varchar(100)	latin1_swedish_ci		Yes	NULL		
optionb	varchar(100)	latin1_swedish_ci		Yes	NULL		
optionc	varchar(100)	latin1_swedish_ci		Yes	NULL		
optiond	varchar(100)	latin1_swedish_ci		Yes	NULL		
ans	enum('a', 'b', 'c', 'd')	latin1_swedish_ci		Yes	NULL		
subject	varchar(40)	latin1_swedish_ci		No	None		

Figure 5.6: questiontable

- testquestion



Name	Type	Collation	Attributes	Null	Default
testid 	int(5)			Yes	NULL
queid 	int(5)			Yes	NULL

Figure 5.7: testquestiontable

2.1 ER Diagram of the overall database :

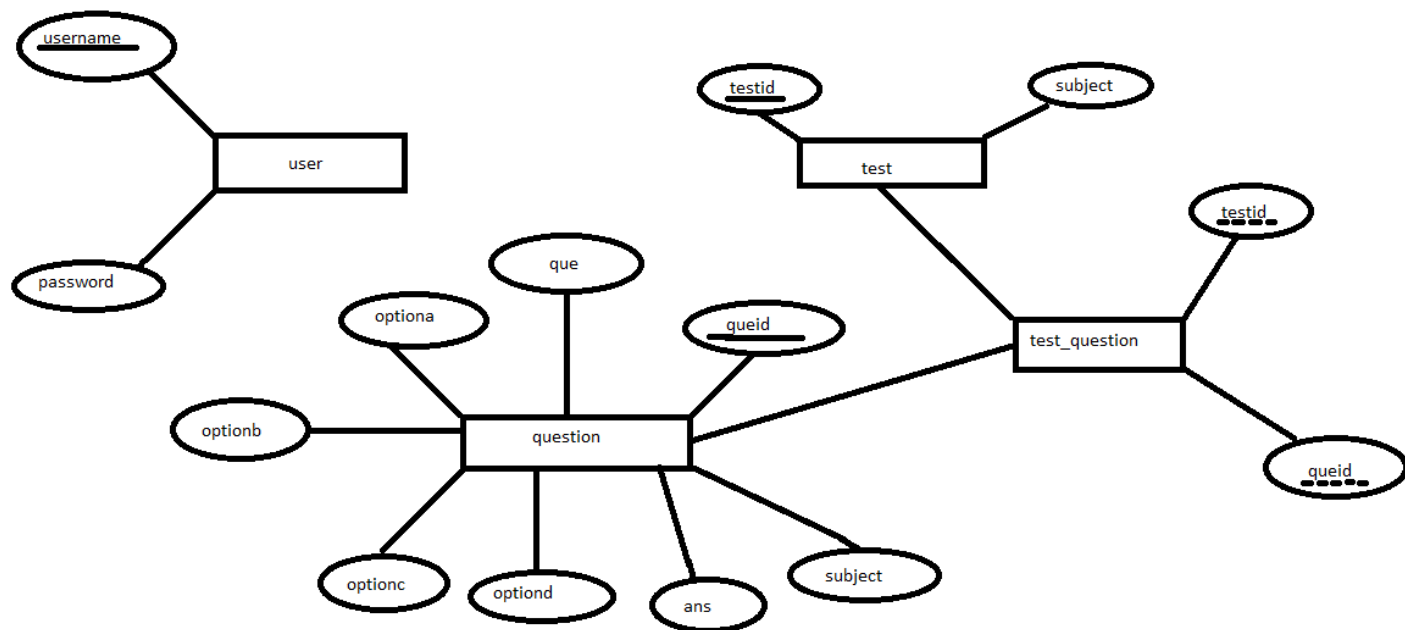


Figure 5.8: ER Diagram

Chapter 6

System Testing and Result

Testing the application as a user who can give the examination on any of the available subjects with a specified time limit and as the time limit expires the answers get submitted automatically, also the user can submit it manually before the time as per his/her convenience and finally he gets his result with the correct answers, incorrect answers selected and total score obtained by him. Thus, the system testing tests the appropriate navigation of the user from login page to final examination submission, and the result describes his appropriate generated test report.

Following set of diagrams from the next page shows the appropriate navigation of the user from his login page to the examination portal, thus finally getting his requirements satisfied successfully:

a. Website Visit by user using appropriate url:

When the user visits the site he gets an appropriate interface as shown to navigate to various pages of the application:

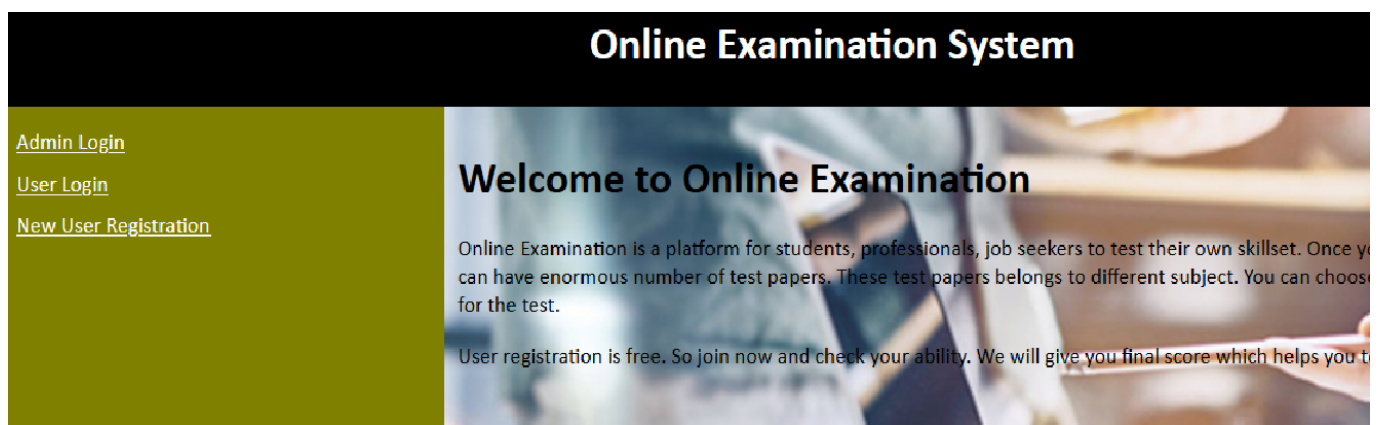


Figure 6.1: User Visit

b.Login Page:

When the user attempts to login into the application by visiting the 'userlogin' link in the previous figure he gets the interface as shown:

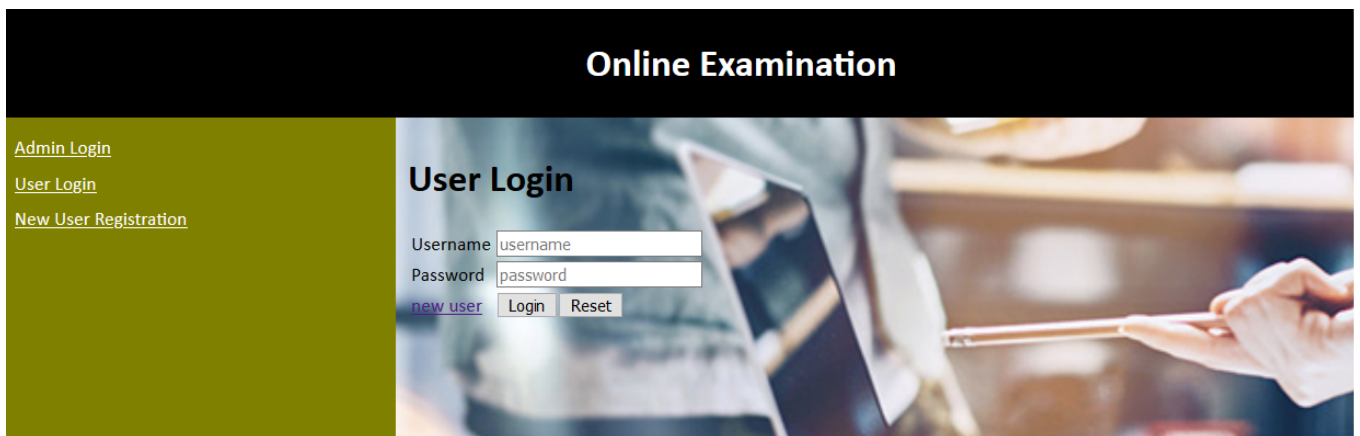


Figure 6.2: Login Page

c.User Home Page:

As the user is successfully logged in he is redirected to his home page as shown:

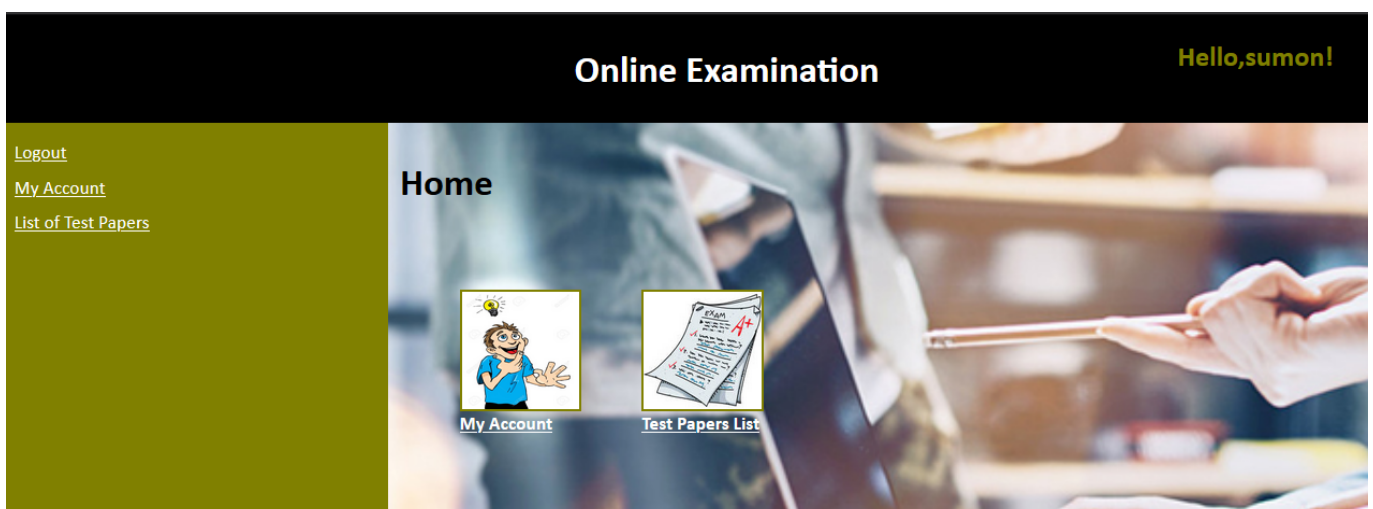


Figure 6.3: Home Page

d. Available test papers list:

Once the user selects Test Papers List in his home page as shown in the previous figure he is redirected to the page containing available test papers list:

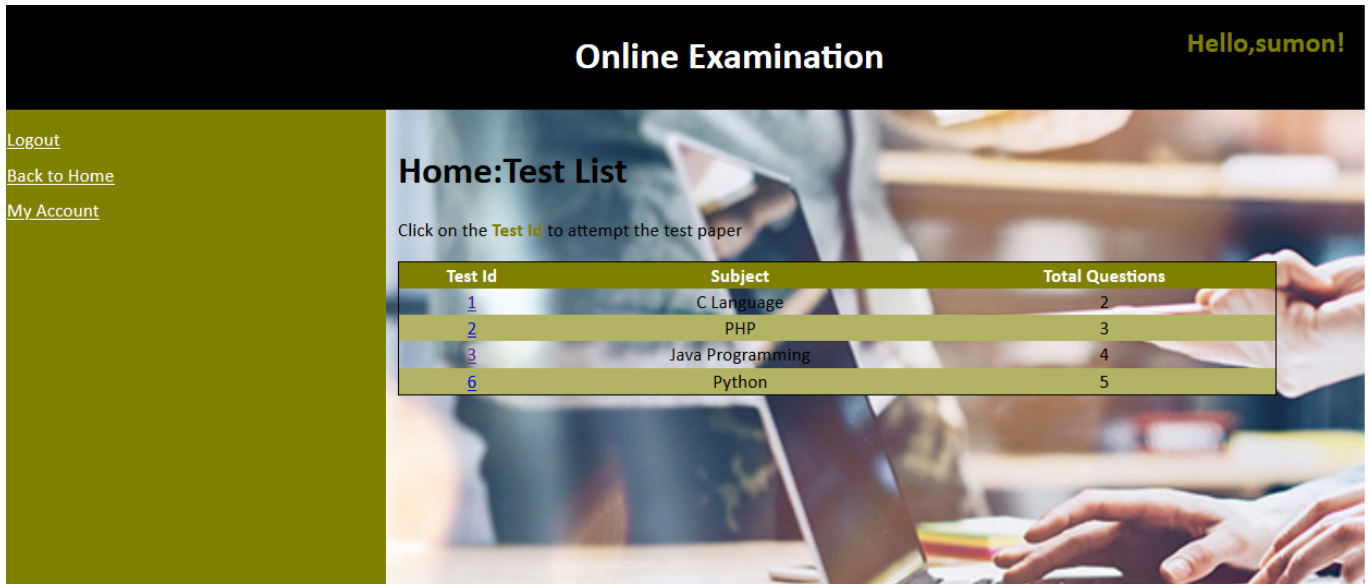


Figure 6.4: Test Papers List

e. Appearing for a particular test from the list of available subjects:

When the user selects any subject from the list of test id's as in the previous figure say test id 4, the particular test paper is opened and a count down time starts for the user to submit all the answers within that particular time as shown:

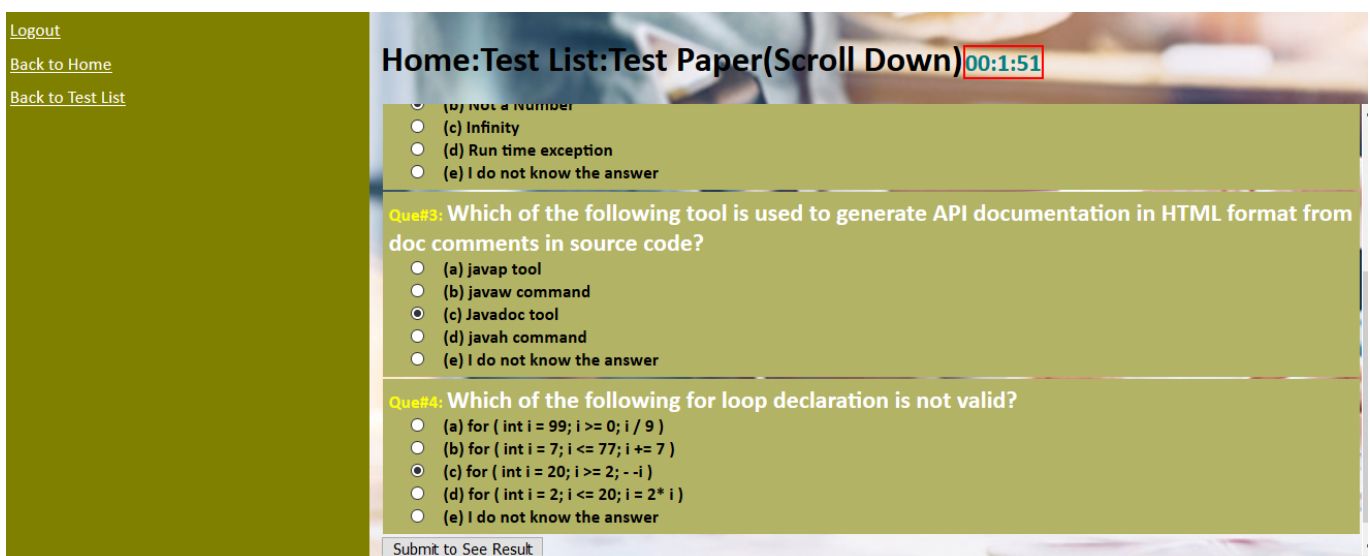


Figure 6.5: Test Paper

f. **Getting the test result:** Finally on submission of answers the user obtains his test result based on his performance as shown:

[Logout](#)
[Back to Home](#)
[Back to Test List](#)

Home:Test List:Test Paper: Test Result(Scroll Down)

(d) Run time exception

Que#3: Which of the following tool is used to generate API documentation in HTML format from doc comments in source code?

(a) javap tool
(b) javaw command
(c) Javadoc tool
(d) javah command

Que#4: Which of the following for loop declaration is not valid?

(a) for (int i = 99; i >= 0; i / 9)
(b) for (int i = 7; i <= 77; i += 7)
(c) for (int i = 20; i >= 2; - -i)
(d) for (int i = 2; i <= 20; i = 2 * i)

Attempted	4
Not Attempted	0
Right	2
Wrong	2

Figure 6.6: Test Result

Chapter 7

Conclusion and Future Scope

7.1 Conclusion

The “Online Examination System” has been successfully completed. The goal of the system is achieved and problems are solved. Final reports are generated as per the specification of the client. The package is developed in a manner that it is user friendly and required help is provided at different levels.

By keeping all the features and advantages of 'Online Test' in mind it is concluded that this project is very helpful for both the students and administrator.

7.2 Future Scope

Scope of this project is very broad in terms of other manually taking exams. Few of them are:-

- This can be used anywhere anytime as it is a desktop based application(use LOCATION doesn't matter).
- No restriction that the examiner has to be present when the candidate take the test.
- We can even add the photos of the users in this to confirm the user Identity, which is not done in our project, but it can be done to make it more secure.
- To modify the Online Examination System project to .Net platform to take the advantage of geographical remote area. By shifting the project to the Dot Net platform the project can be made into a Mobile Accessible Application by which the restrictions of the software hardware requirements can be scaled down.

- Thus by applying these steps we can make sure that the user itself is writing the exam not the others.

Chapter 8

References

Following web documents available at the respective websites helped us in developing through various phases of our project.

- www.php.net
- www.w3schools.com
- www.developer.mozilla.org.