Dharmsinh Desai University, Nadiad

Faculty of Technology, Department of Computer Engineering

B.Tech. CE Semester – VI

Subject: **System Design Practice**

Project Title:

Online Exam Preparation System

By:

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Guided By:

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Dharmsinh Desai University, Nadiad

Faculty of Technology, Department of Computer Engineering

CERTIFICATE

This is to certify that **System Design Practice** project entitled "**Online Exam preparation System**" is the bonafied report of work carried out by

1) Saloni Patel (17CEUOS040)

Of Department of Computer Engineering, **Semester VI**, academic year 2019-20, under our supervision and guidance.

Guide	HOD
Prof. Ankit Vaishnav Assistant Professor of Department of Computer Engineering, Dharmsinh Desai University, Nadiad.	**Dr. C. K. Bhensdadia** Head of the Department of Department of Computer Engineering, Dharmsinh Desai University, Nadiad.

Table of Contents

1. Abstract

Online Exam Preparation System is a website which provides the online studies of Exams like IELTS, GRE. The Students who wants to give this exam and do Preparation for this exam, first they need to go at nearer Centers which prepares for these exams.

We have admin side.

With that admin adds those Student's information.

Student can login to the home page. And after that on that page, he/she can select test Category.

Then, Student can give Test and get the result.

2. Introduction

2.1 Brief Introduction

Online Exam Preparation System is conducted on web-enabled devices like laptops and desktop computers. These exams or tests help to accurately assess a student's knowledge in a wide range of subjects for IELTS, GRE etc.

The main advantage of this examination system is that it can be used to administer paper-less tests and also get instant test results.

Online Exam Preparation System is a website which provides the online studies of

Exams like IELTS, GRE. The Students who wants to give this exam and do

Preparation for this exam, first they need to go at nearer Centers which prepares

For these exams.

We have admin side.

With that admin adds those Student's information.

Admin can do crud operation on Tutor, student and topic.

When admin adds students or tutor, the mail of username and password will be received by student or tutor.

We have Tutor side also here.

Tutor can do crud operation on Test.

Tutor can also do crud operation with questions. Thus, Tutor can make the complete Question Paper.

Tutor can view the marks of the students also.

Tutor can send mail to the students about their progress.

At User Side,

Student can login to the home page. And after that on that page, he/she can select test category & select Test.

And Student can give Test.

Then, he/she can get the result after giving the test.

Student can see the review of all questions also.

Students can send mails to the tutor about their doubts also.

Benefits:

-Engage Students in a unique and fun way

-Connect students to our learning material

-Keeps data secure

-Easy to use, update and maintain

-Large numbers of students

2.2 Tools/Technologies Used

Technologies:

HTML 5

CSS 3

Bootstrap 4

JavaScript

PHP

Tools

NetBeans

Xampp

Platforms

http://localhost:81/EEC/index.php

3. Software Requirement Specifications

3.1 Product Scope

This system is designed to enable Students to Prepare for exams from anywhere anytime. It provides mailing system for admin & tutor to send mail to user.

3.2 Types of User

1. Admin
2. Tutor
3. Student

3.3 System Functional Requirements

Admin:

R.1 Manage Students

R.1.1 Add(register) Students

Input: Enter Student Info

Output: Successfully Added Message & mail

R.1.2 Delete Students

Input: Select Student

Output: Successfully deleted message & mail

R.1.3 Update Student Info

Input: Select Student and Modify Info

Output: Successfully Updated Message

R.1.4 View Student List

Input: Select Student

Output: display student list

R.2 Manage Tutor

R.2.1 Add(register) Tutors

Input: Enter Tutor Info

Output: Successfully Added Message

R.2.2 Delete Tutors

Input: Select Tutor

Output: Successfully deleted message

R.2.3 Update Tutor Info

Input: Select Tutor and Modify Info

Output: Successfully Updated Message

R.2.4 View Tutor List

Input: Select Tutor

Output: display tutor list

R.3 Manage topic and its information

R.3.1 Add topic and its information

Input: enter topic

Output: Successfully Done Message

R.3.2 Delete topic

Input: select topic

Output: Successfully Deleted Message

R.3.3 Update topic

Input: select topic And Edit

Output: Successfully Updated Message

R.3.4 View topic

Input: select topic

Output: Information about topic

Tutor:

R.4 Manage Test Modules

R.4.1 Add tests by Category

Input: enter tests

Output: Successfully Done Message

R.4.2 Delete Test

Input: select tests

Output: Successfully Deleted Message

R.4.3 Update Test

Input: select test And Edit

Output: Successfully Updated Message

R.4.4 View Test

Input: select test

Output: display test module

R.5 View marks with students and related test

Input: Select student

Output: marks with test modules

R.6 Send Message

Tutor can send Message to the Students.

Input: Select Student & Enter Message

Output: Successfully Sent

Students:

R.7 Login

Input: Enter Username & Password

Output: Message

Process: If Username and Password is correct then go to the next page

otherwise redirect to login page again at R.7 and enter Username and password.

R.8 Change Password

Student can change the password of his/her Account.

Input: Enter Old Password and New Password

Output: Message

Process: If Old password is correct then "the password is changed successfully" message is displayed else "Enter correct Password" Message is displayed.

R.9 Read Topic and its Information

Input: Select Topic

Output: Information about topic

R.10 Give Tests

Students Need to give the tests

Input: write test

Output: Successfully Submitted Message

R.11 View Marks

Students can see marks instantly after giving the test.

Input: Select Submit after test

Output: marks

R.12 View Test History

Students can see given tests by him/her

Input: select test

Output: marks page

R.13 Send messages

Student can send Message to the Tutor.

Input: Enter Message

Output: Successfully Sent

Additional Functionality:

Admin:

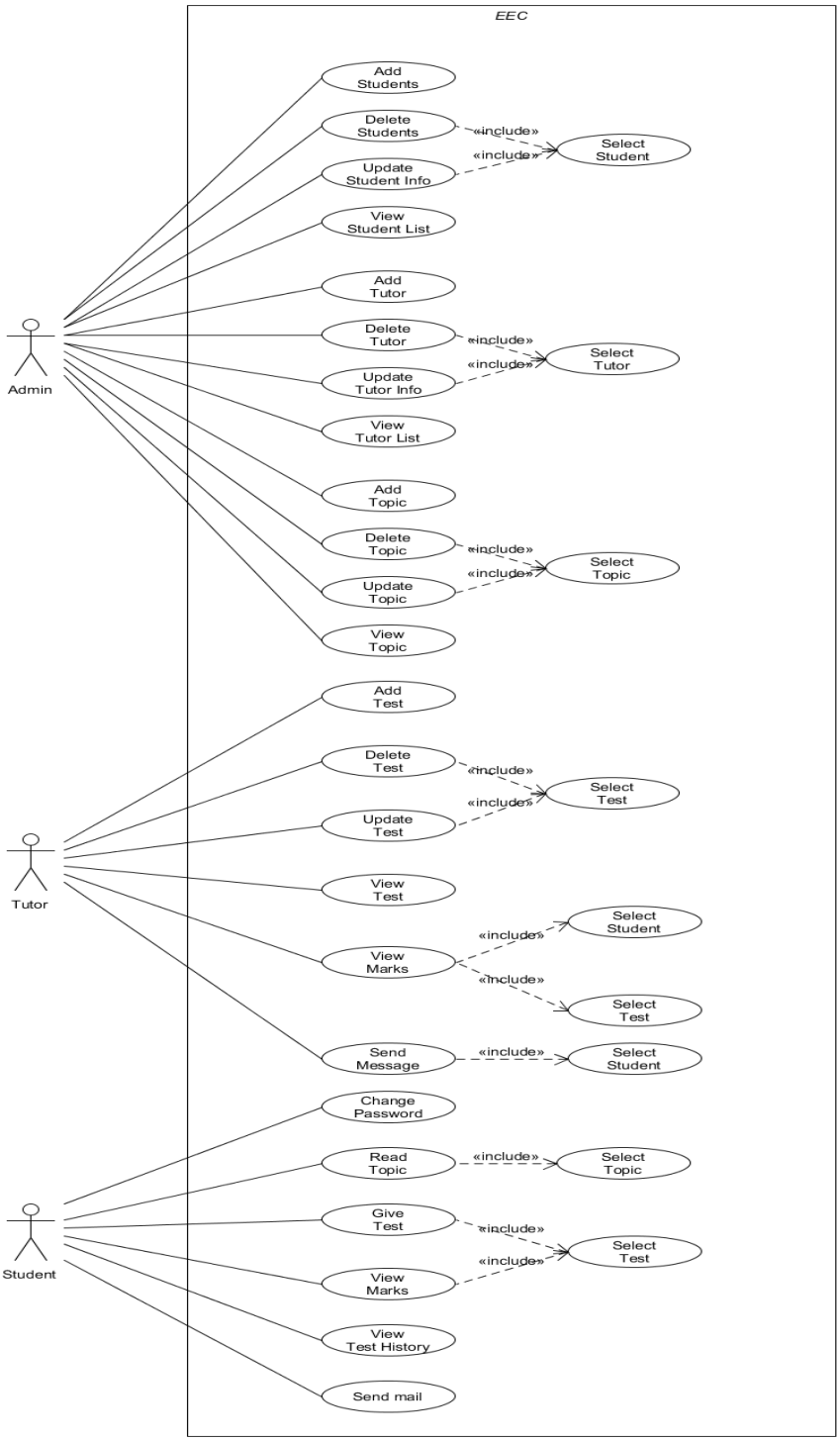
-Admin can add subjects, topics and it's information like E-Learning.

User:

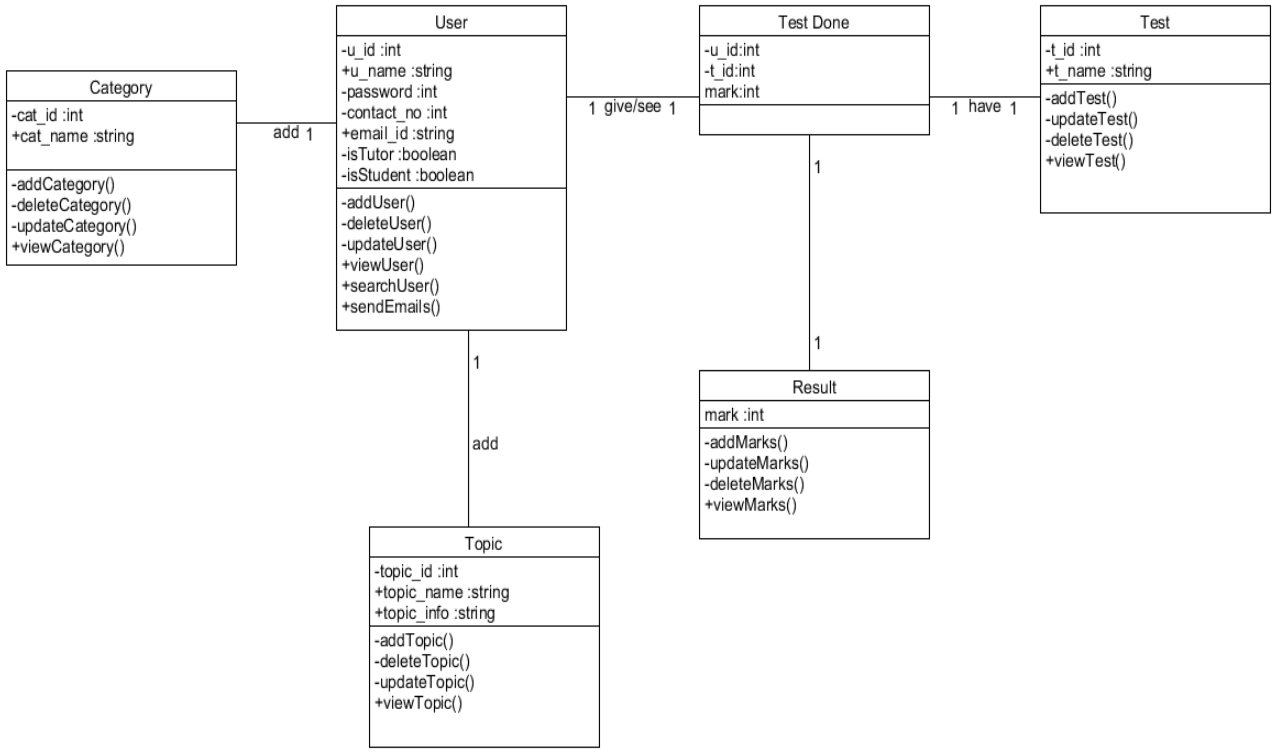
-User can read information about subjects and its topics.

4. Design

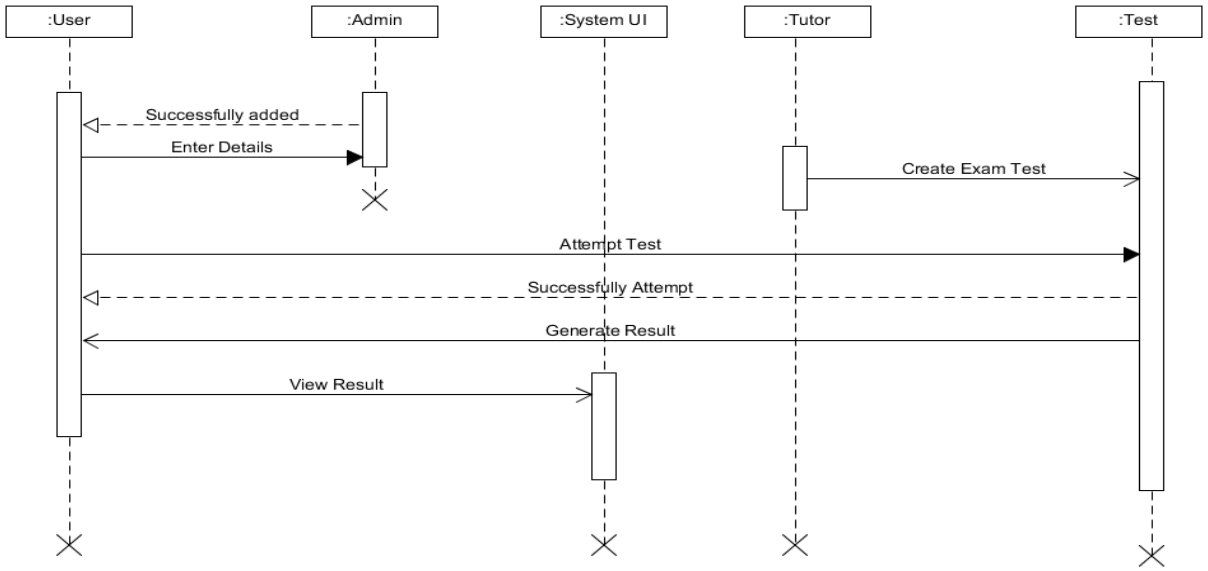
4.1 Use Case Diagram



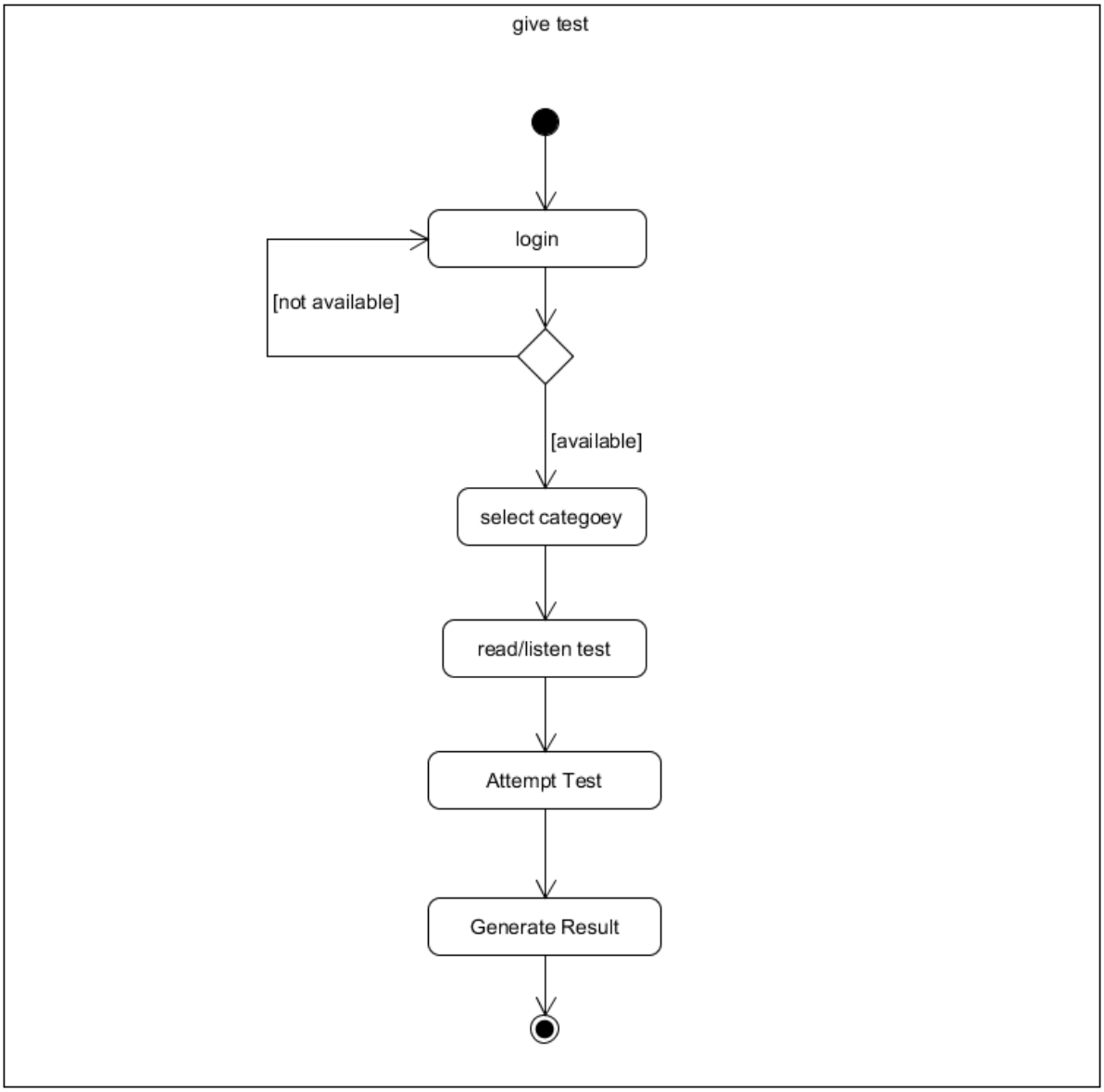
4.2 Class Diagram



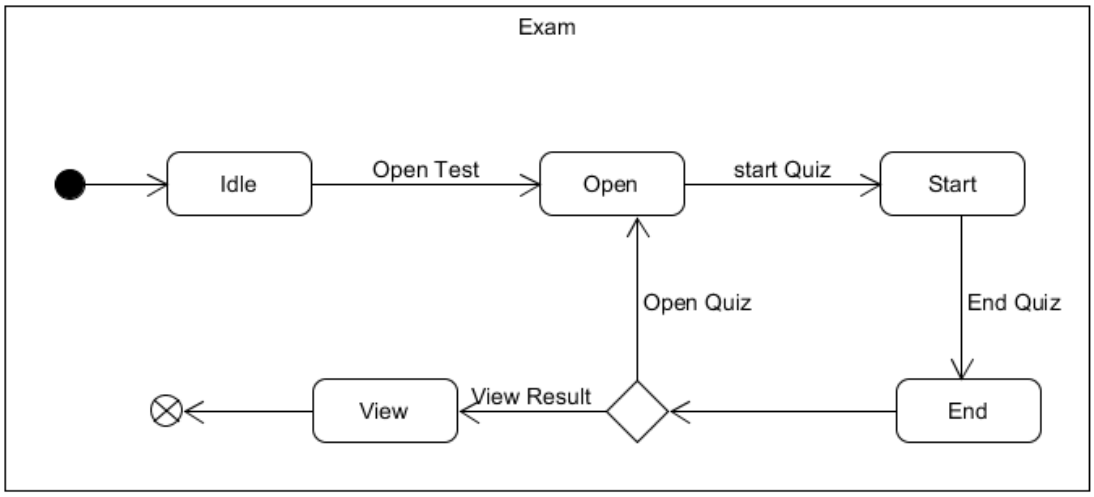
4.3 Sequence Diagrams

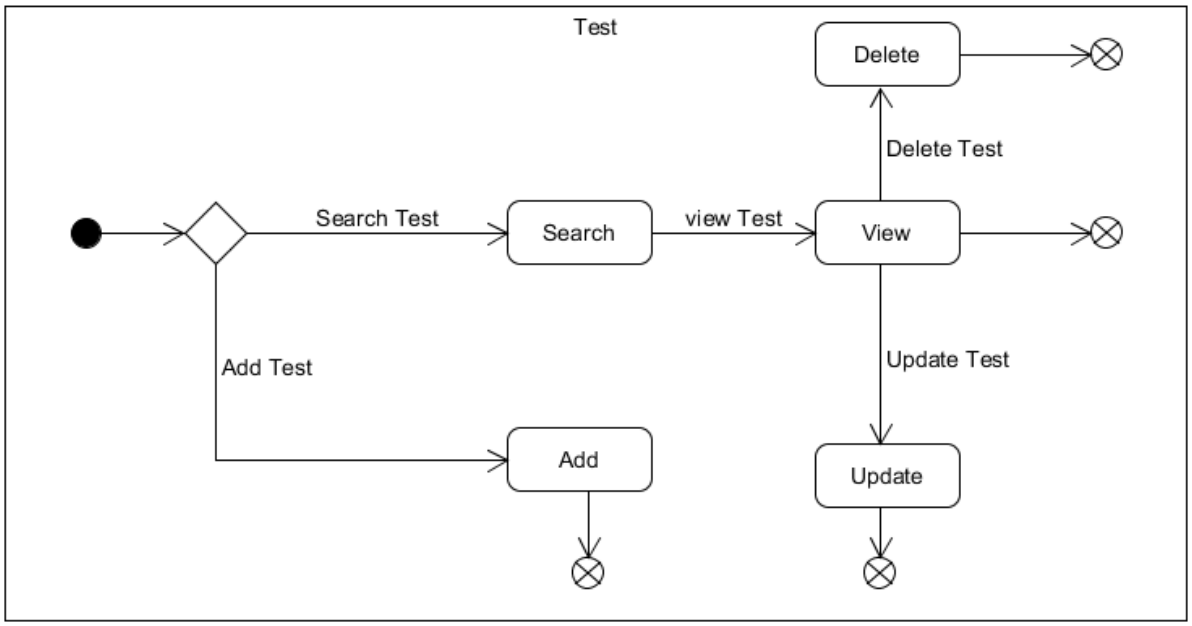


4.4 Activity Diagrams

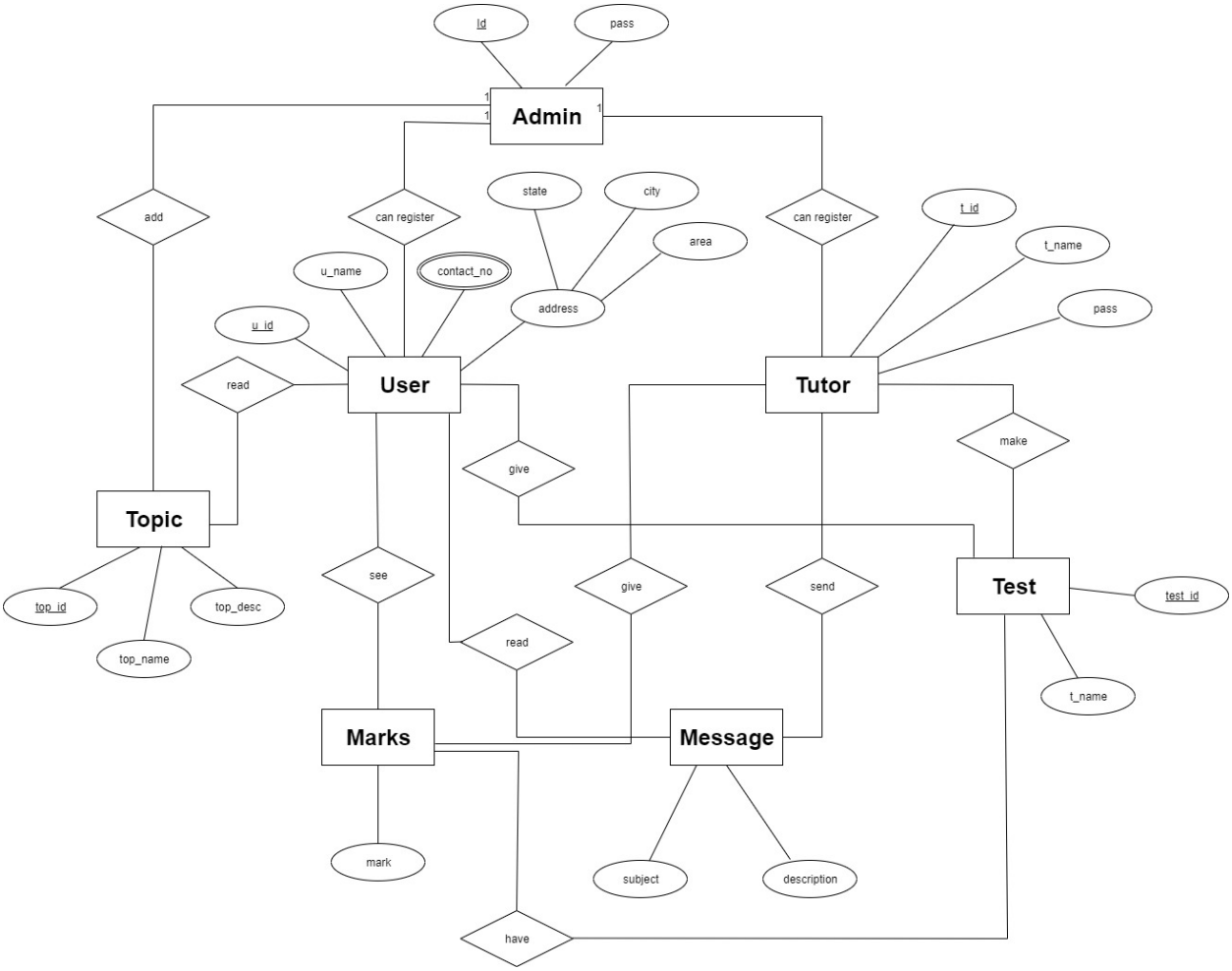


4.5 State Diagrams





4.6 E-R Diagram



4.7 Data Dictionary

User						
SR.NO	Field Name	Data type	width	Required	Unique	PK/FK
1	u_id	Number	10	Yes	Yes	PK
2	u_name	Varchar2	10	Yes	No	
3	Password	Varchar2	15	Yes	No	
4	Address	Varchar2	50	Yes	No	
5	Contect_no	Number	10	Yes	No	
6	Email_Id	Varchar2	20	No	No	
7	IsStudent	Number	1	Yes	No	
8	IsTutor	Number	1	Yes	No	

Test							
SR.NO	Field Name	Data type	width	Required	Unique	PK/FK	Reference Table
1	t_id	Number	10	Yes	Yes	PK	
2	t_name	Varchar2	10	Yes	No		
3	top_id	Number	10	Yes		FK	Topic
3	cat_id	Number	10	Yes		FK	Category

Question							
SR.NO	Field Name	Data type	width	Required	Unique	PK/FK	Reference Table
1	Q_id	Number	10	Yes	Yes	PK	
2	Test_id	Number	10	Yes	No	FK	Test
4	Que_desc	Varchar2	20	No	No		
5	True_ans	Varchar2	20	No	No		

Topic						
SR.NO	Field Name	Data type	width	Required	Unique	PK/FK
1	top_id	Number	10	Yes	Yes	PK
2	top_name	Varchar2	10	Yes	No	
3	top_desc	Varchar2	20000	Yes	No	

Result							
SR.NO	Field Name	Data type	width	Required	Unique	PK/FK	Reference Table
1	login	Varchar2	20	Yes	No	FK	User
2	t_id	Number	10	Yes	Yes	FK	Test
3	score	Number	10	Yes	Yes		

5. Implementation Details

5.1 Modules

- Registration Module:

  This module is used to store user's data to the database and enables the user to login to the system. Admin registers the information of the students.

  Input: Student's information
  Output: Student registered
  Process: Store student's data to the database

- Login Module:

  This is the Login form, from where Student can login into the system.
  This module takes users credentials and then verifies it with registered users, if user is not registered then the invalid credentials is shown, else if they match with database then user is logged in.

  Input: User credentials
  Output: Logging user
  Process: Verifying user credentials with the database

- Student Home Module:

  This module is only accessed by authenticated students. It is user home page.
  Students can see the list of all Categories.
  It provides students to select a category. User can logout too.

  Input: User selection
  Output: Corresponding Response

- Test Module:

  This module is only accessed by authenticated users.
  Students can see the list of all tests based on the category selection.

It provides users to select a test.

Input: User selection
Output: Corresponding Response

- Question Module

This module shows all Questions of the test which is selected. User writes answer of the questions and this is how he/she attempt the test. With Submit, Result will be displayed.

Input: Write answer and then submit
Output: Result of test

5.2 Function prototypes

Topic:

```
if($submit=='submit' || strlen($topname)>0 )
{
$rs=$dbhandler->query("select * from topic where top_name='$topname'");
$count=$rs->rowCount();
if ($count>0)
{
        echo "<br><br><br><div class=headl>Topic is Already Exists</div>";
        exit;
}
$dbhandler->query("insert into topic(top_name,top_desc) values ('$topname','$topdesc')") or die();
echo "<p align=center>Topic  <b> \"$topname \"</b> Added Successfully.</p>";
```

```
$id = $_GET['id'];
$sql = 'DELETE FROM topic WHERE top_id=:id';
$statement = $dbhandler->prepare($sql);
```

```
$sql = 'SELECT * FROM topic WHERE top_id=:id';
$statement = $dbhandler->prepare($sql);
$statement->execute([':id' => $id ]);
$person = $statement->fetch(PDO::FETCH_OBJ);
if (isset ($_POST['top_name'])  && isset($_POST['top_desc']) ) {
  $top_name = $_POST['top_name'];
  $top_desc = $_POST['top_desc'];
  $sql = 'UPDATE topic SET top_name=:top_name, top_desc=:top_desc WHERE top_id=:id';
  $statement = $dbhandler->prepare($sql);
  if ($statement->execute([':top_name' => $top_name, ':top_desc' => $top_desc, ':id' => $id])) {
    header("Location: viewTopic.php");
```

```php
$sql = 'SELECT * FROM topic';
$statement = $dbhandler->prepare($sql);
$statement->execute();
$people = $statement->fetchAll(PDO::FETCH_OBJ);
?>
```

```php
<?php foreach($people as $person): ?>
  <tr>
    <td><?= $person->top_id; ?></td>
    <td><?= $person->top_name; ?></td>
    <td><?= $person->top_desc; ?></td>
    <td>
      <a href="edit.php?id=<?= $person->top_id ?>" class="btn btn-info">Edit</a>
      <br><br> <a onclick="return confirm('Are you sure you want to delete this entry?')" href="delete.ph
    </td>
```

Student & Tutor:

```php
$id = $_GET['id'];
$sql = 'DELETE FROM user WHERE user_id=:id';
$statement = $dbhandler->prepare($sql);
```

```php
$sql = 'SELECT * FROM user WHERE user_id=:id';
$statement = $dbhandler->prepare($sql);
$statement->execute([':id' => $id ]);
$person = $statement->fetch(PDO::FETCH_OBJ);
if (isset ($_POST['login'])  && isset($_POST['username']) && isset ($_POST['address'])  && isset($_POST['city'])
  $login = $_POST['login'];
  $username = $_POST['username'];
  $address = $_POST['address'];
  $city = $_POST['city'];
  $phone = $_POST['phone'];
  $email = $_POST['email'];

  $sql = 'UPDATE user SET login=:login, username=:username, address=:address, city=:city, phone=:phone, email=:er
  $statement = $dbhandler->prepare($sql);
```

Test:

```php
$id = $_GET['id'];
require 'database.php';
$sql = "SELECT * FROM test as t,topic as c where t.cat_id='$id' and t.top_id=c.top_id";
$statement = $dbhandler->prepare($sql);
$statement->execute();
$people = $statement->fetchAll(PDO::FETCH_OBJ);
```

Question:

```php
if($_POST[submit]=='Save' )
{
extract($_POST);
$dbhandler->query("insert into question(test_id,que_desc,true_ans) values ('$id','$addque','$anstrue')") or die()
echo "<p align=center>Question Added Successfully.</p>";
unset($_POST);
```

Result:

```
$rs=$dbhandler->query("select t.test_name,r.score from test t, result r where
t.test_id=r.test_id and r.login='$login'");

$count = $rs->rowcount();

while($r=$rs->fetch(PDO::FETCH_BOTH))
{
echo "<tr><td>$r[0] <td> $r[1]";
}
```

6. Testing

1. Unit Testing

At First stage all the form applications are separately tested. If there are any problems in code or logic, it is solved by using particular form's unit testing.

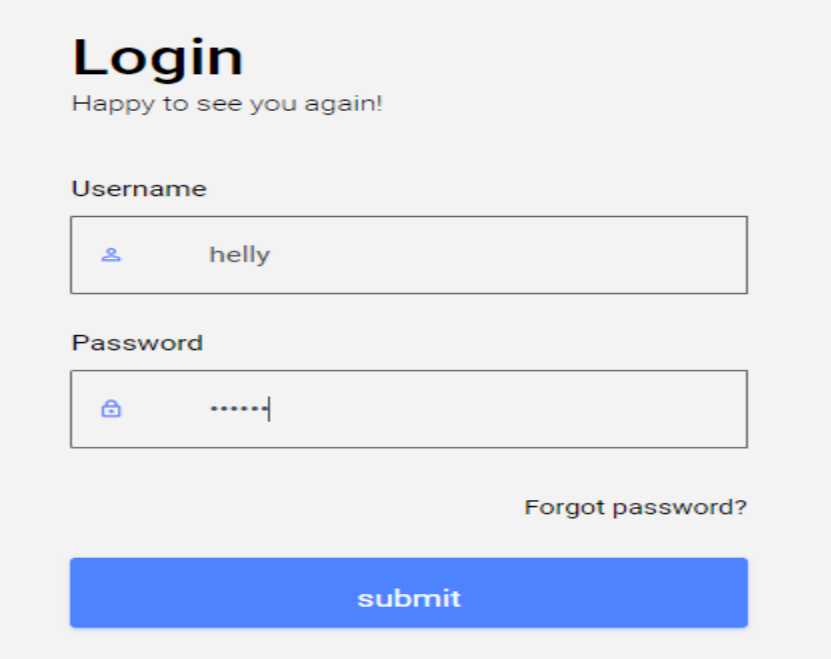
2. Validation Testing

In Validation, we check that the user who wants to use our application is already registered or not. If he/she is not registered already, then it shows invalid credentials. So, any anonymous person can't access our application.

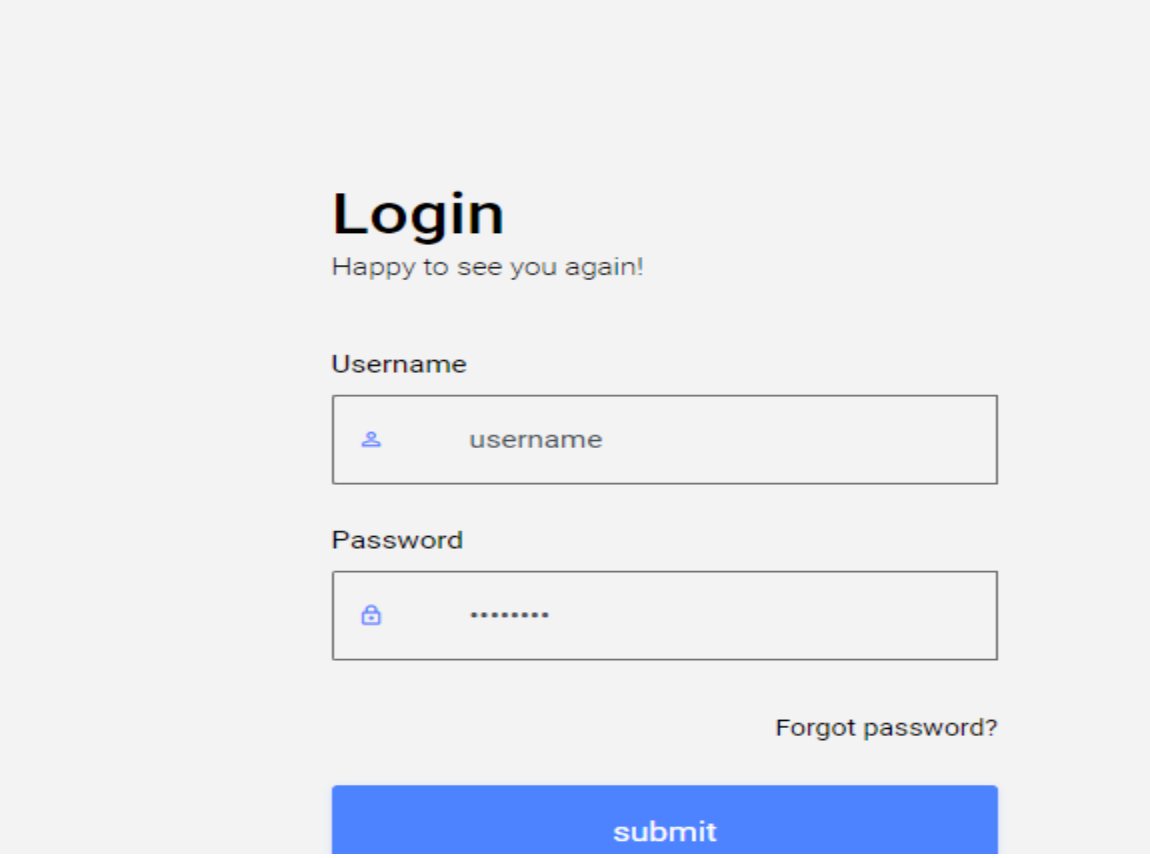
3. Integration Testing

At Last, Complete windows application has to be build. If there are errors then particular module would be checked to find error and it would be corrected. For all scenarios, Application needs to be run completely fine. So, it is the last step of testing to be performed.

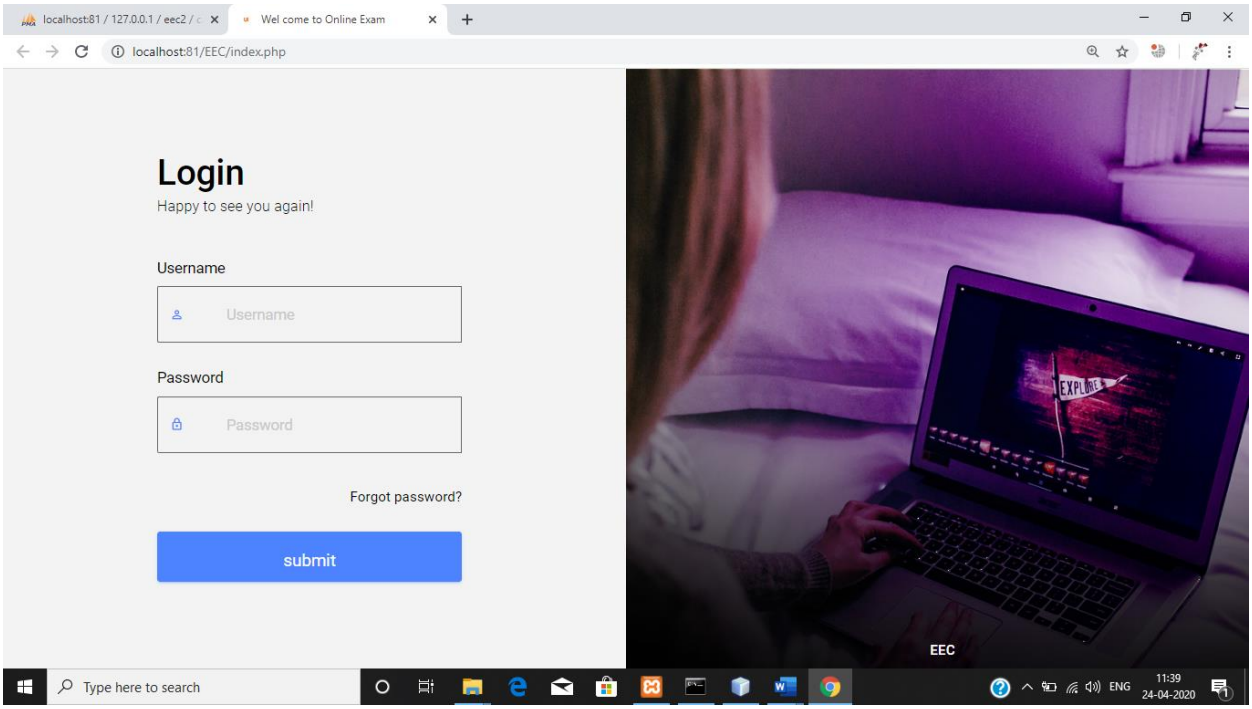
Here, Screenshots of Validation Testing are shown below.

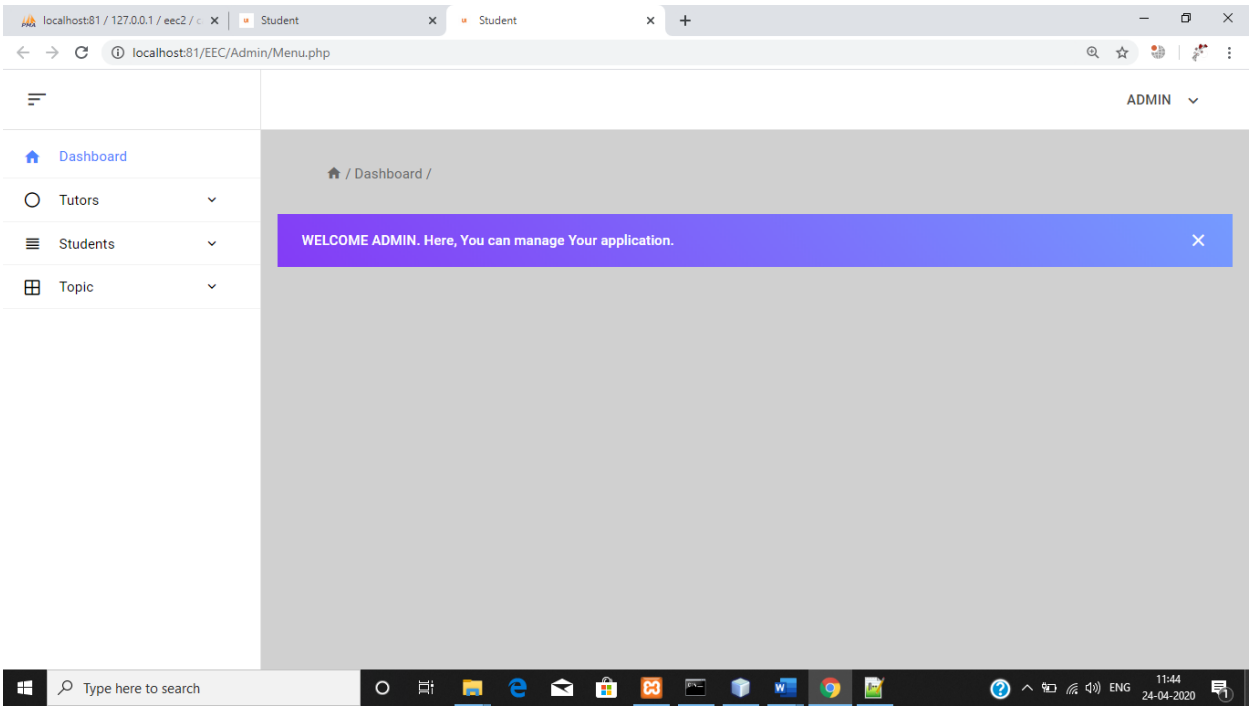


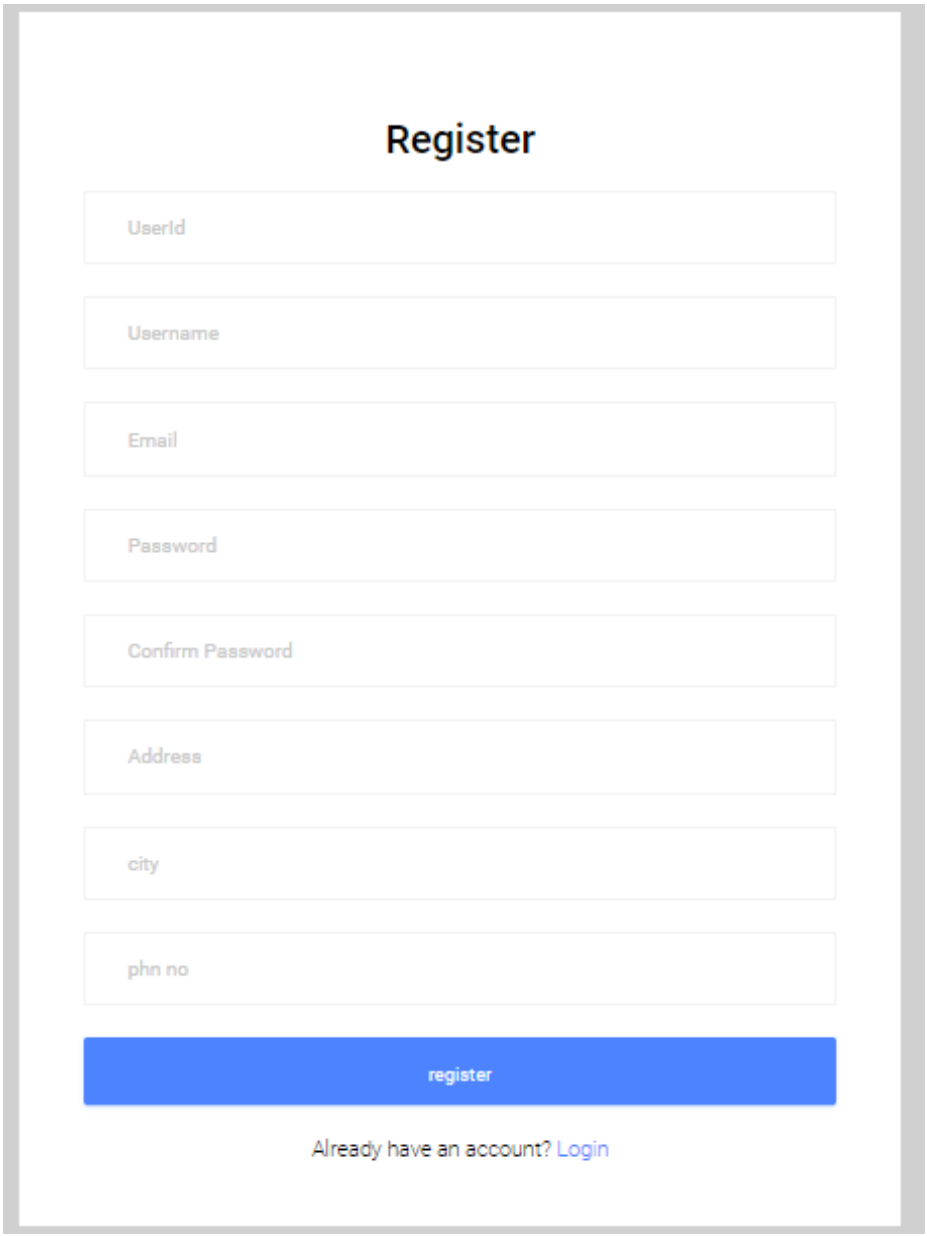
Invalid UserName or Password

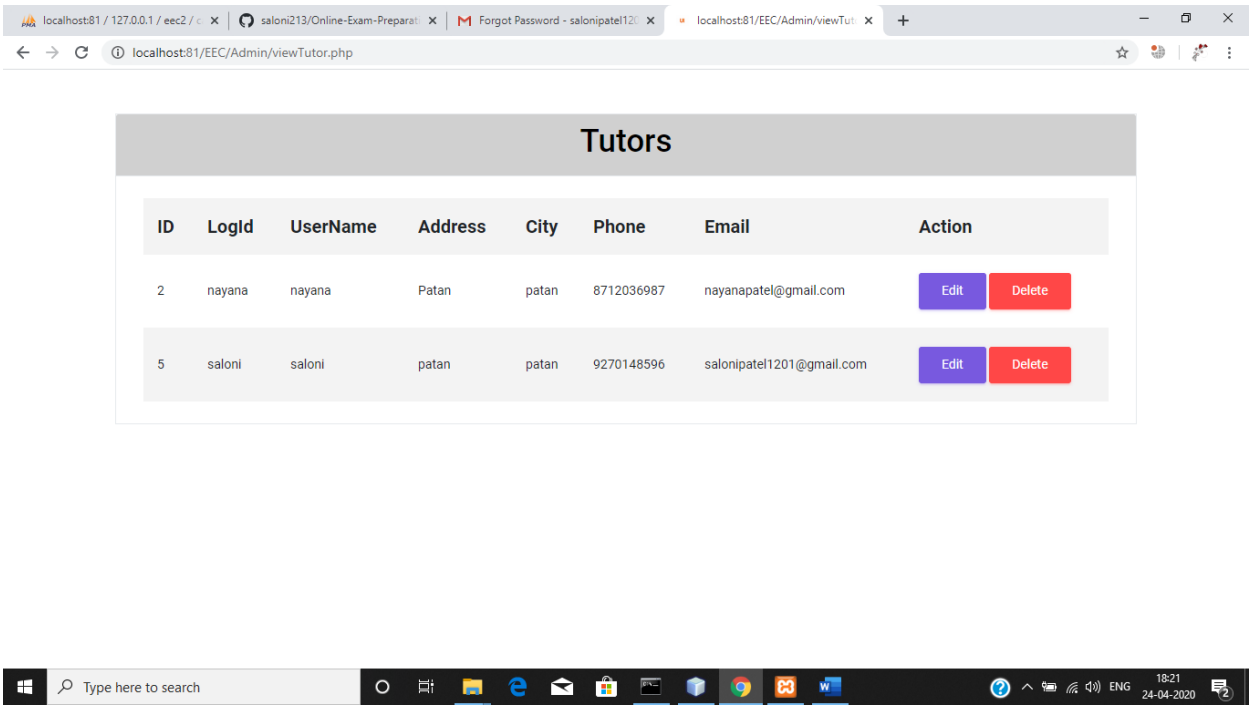


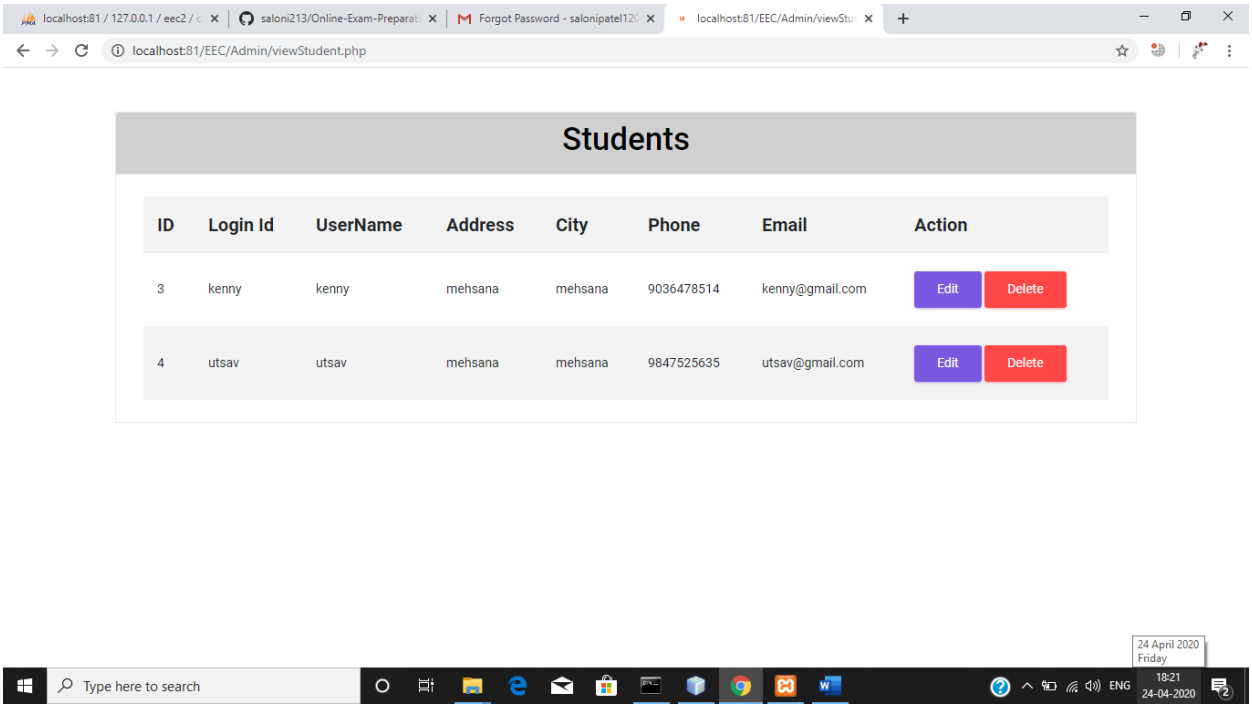
7. screen shots

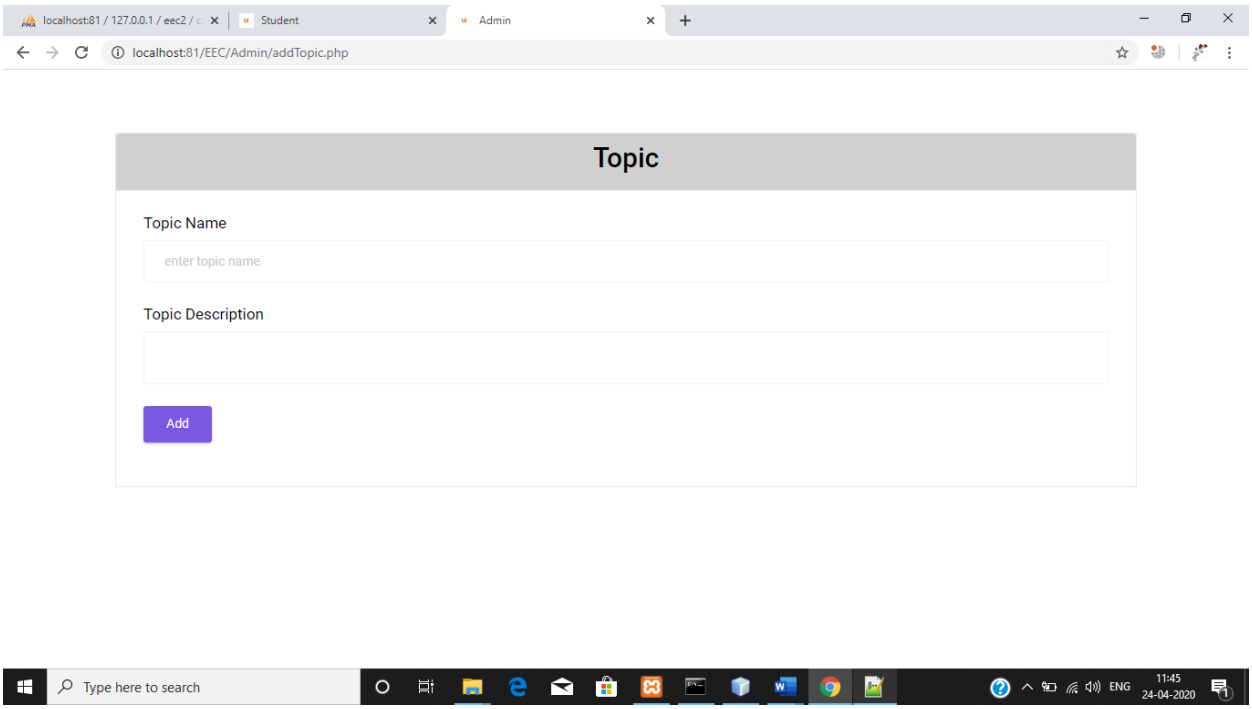


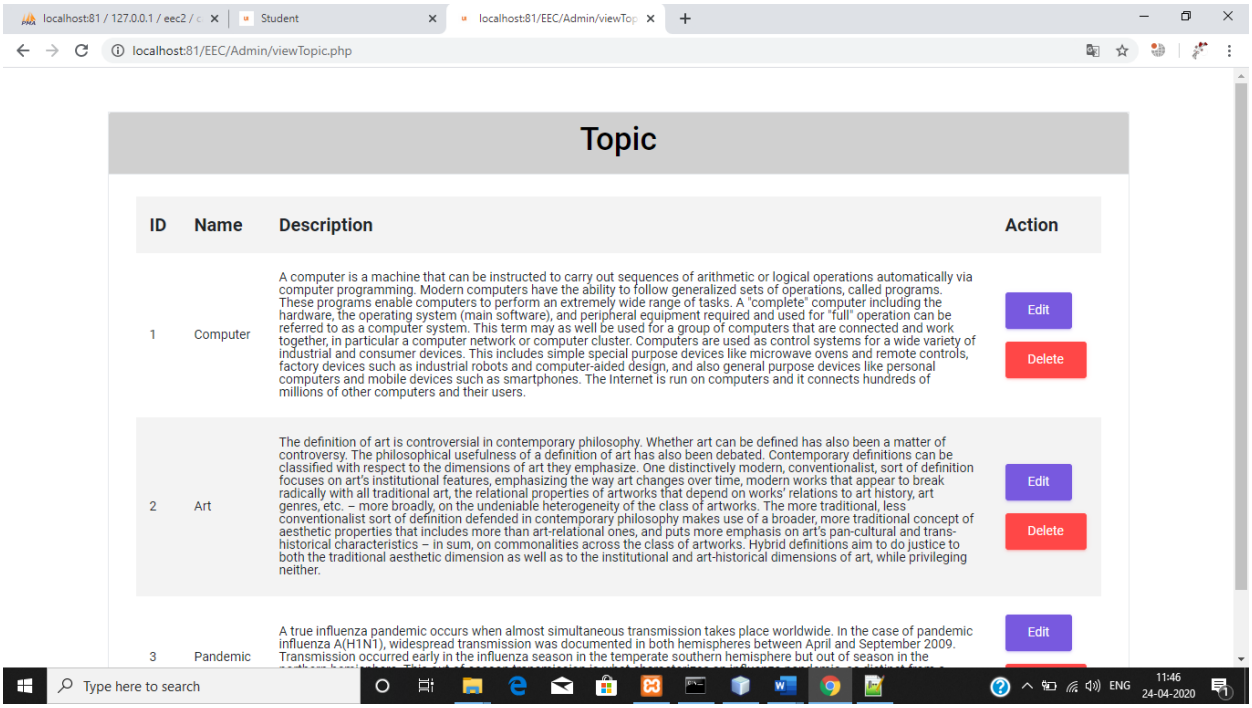


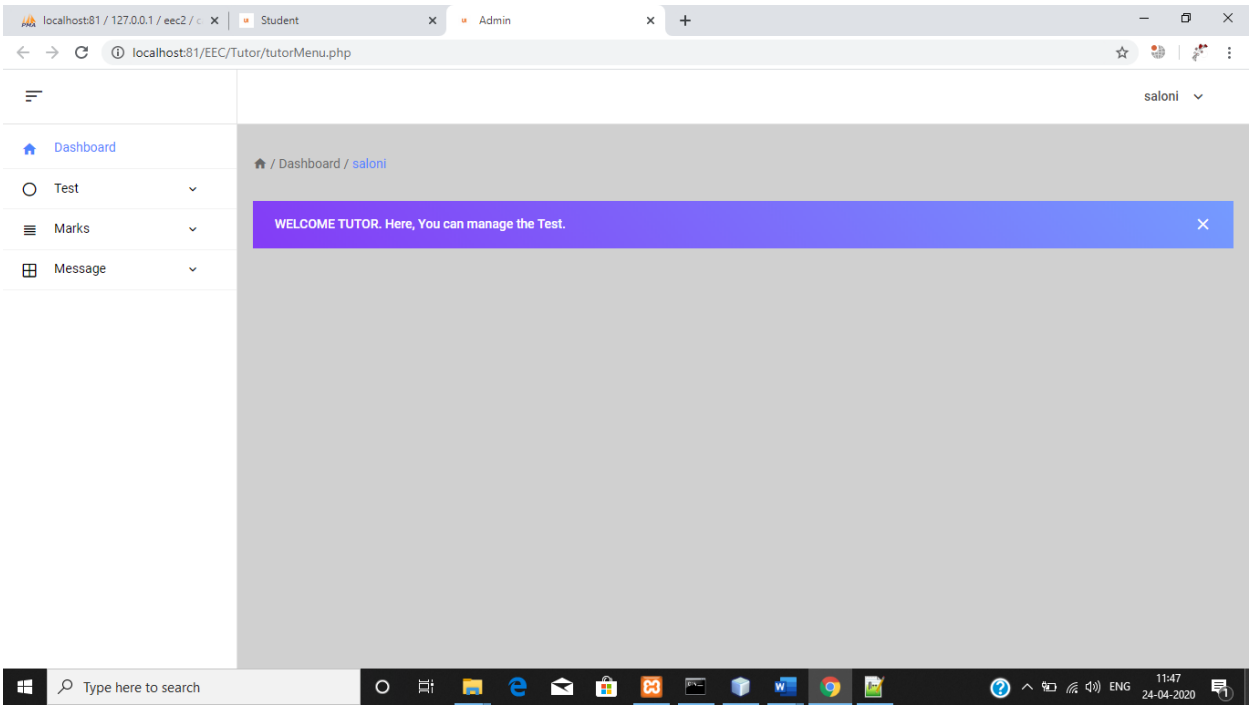

Register
UserId
Username
Email
Password
Confirm Password
Address
city
phn no
register
Already have an account? Login

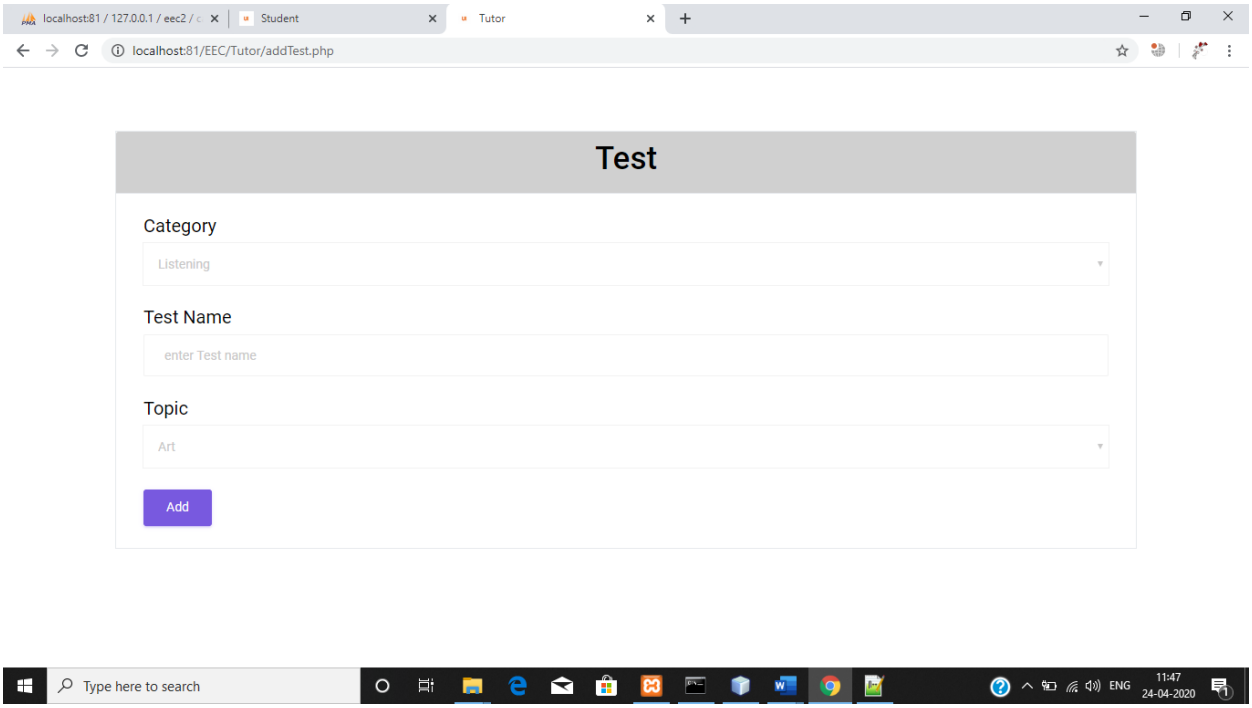

localhost:81/EEC/Admin/viewTutor.php
Tutors
ID LogId UserName Address City Phone Email Action
2 nayana nayana Patan patan 8712036987 nayanapatel@gmail.com Edit Delete
5 saloni saloni patan patan 9270148596 salonipatel1201@gmail.com Edit Delete
Type here to search
ENG
18:21
24-04-2020

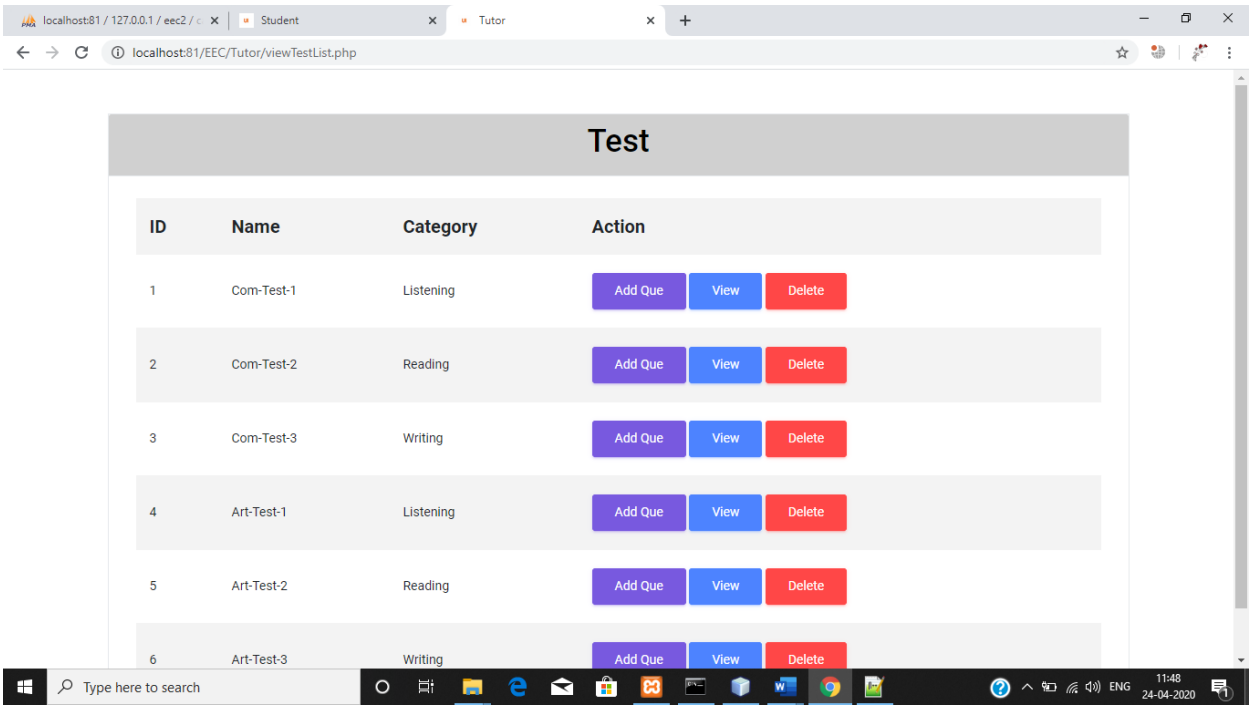

localhost:81/EEC/Admin/viewStudent.php
Students
ID Login Id UserName Address City Phone Email Action
3 kenny kenny mehsana mehsana 9036478514 kenny@gmail.com Edit Delete
4 utsav utsav mehsana mehsana 9847525635 utsav@gmail.com Edit Delete
Type here to search
ENG
24 April 2020
Friday
18:21
24-04-2020

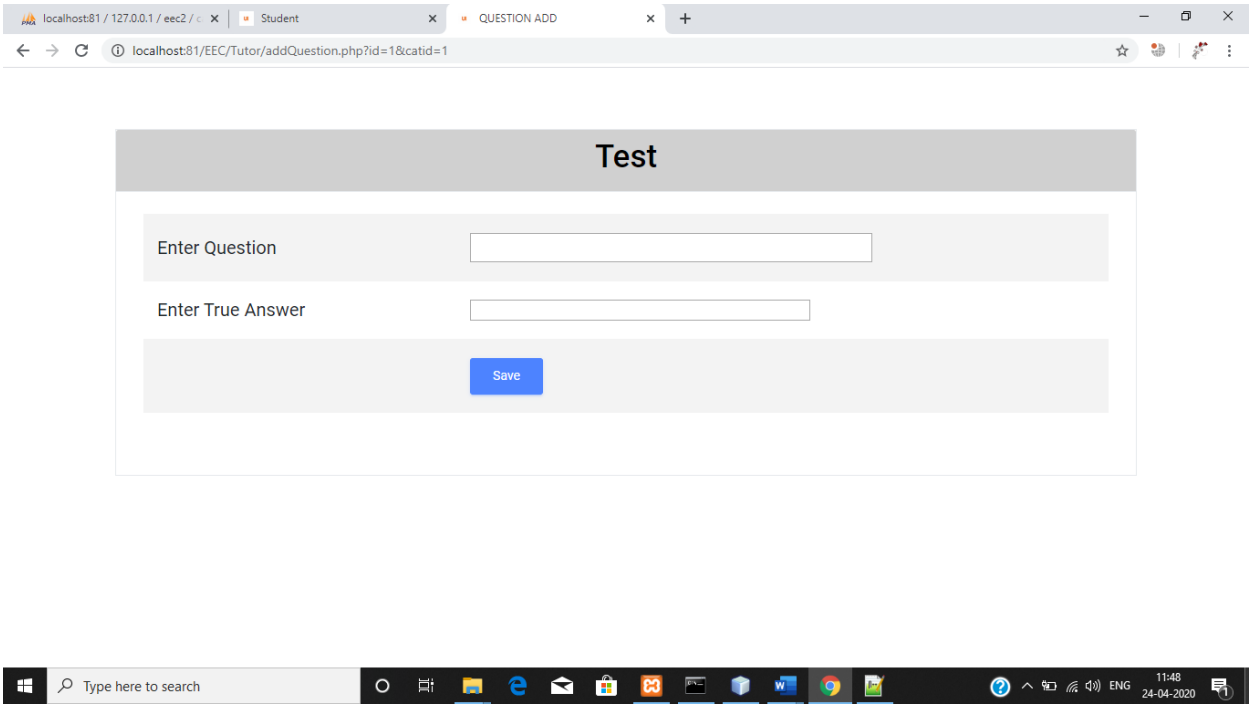

localhost:81 / 127.0.0.1 / eec2 /
Student
Admin
localhost:81/EEC/Admin/addTopic.php
Topic
Topic Name
enter topic name
Topic Description
Add
Type here to search
ENG
11:45
24-04-2020

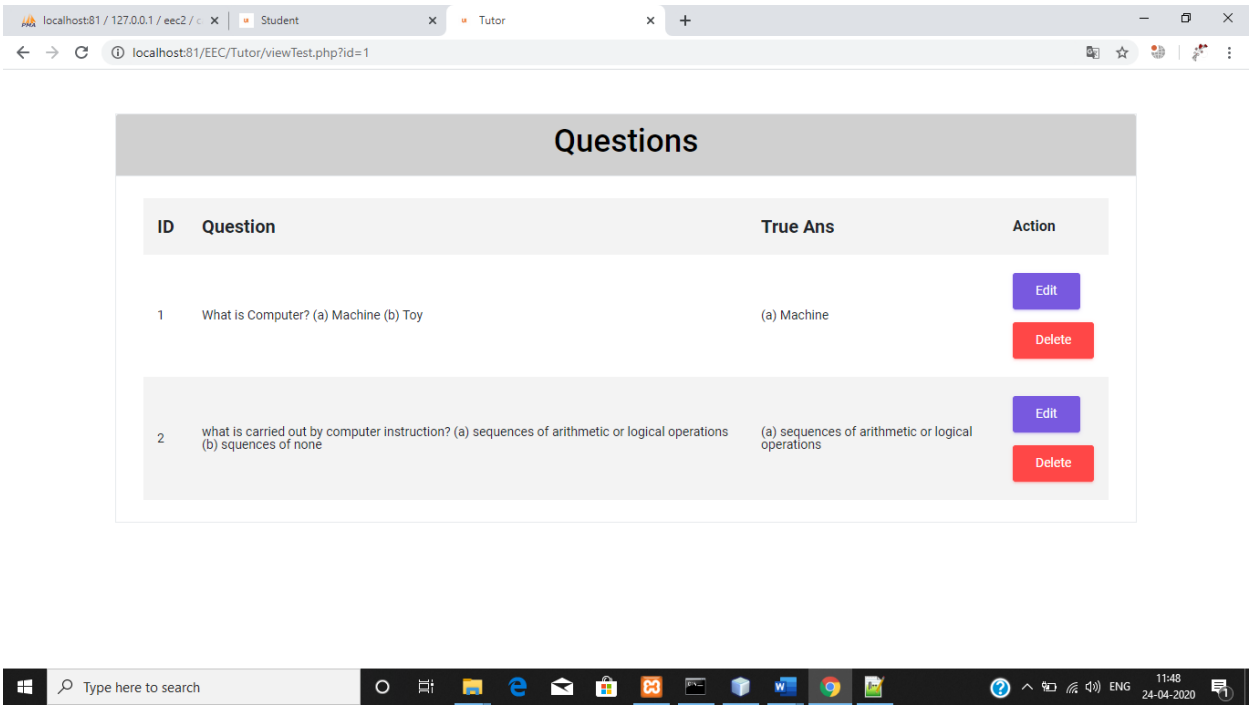

localhost:81 / 127.0.0.1 / eec2 /
Student
localhost:81/EEC/Admin/viewTo
localhost:81/EEC/Admin/viewTopic.php
Topic
ID
Name
Description
Action
1
Computer
A computer is a machine that can be instructed to carry out sequences of arithmetic or logical operations automatically via computer programming. Modern computers have the ability to follow generalized sets of operations, called programs. These programs enable computers to perform an extremely wide range of tasks. A "complete" computer including the hardware, the operating system (main software), and peripheral equipment required and used for "full" operation can be referred to as a computer system. This term may as well be used for a group of computers that are connected and work together, in particular a computer network or computer cluster. Computers are used as control systems for a wide variety of industrial and consumer devices. This includes simple special purpose devices like microwave ovens and remote controls, factory devices such as industrial robots and computer-aided design, and also general purpose devices like personal computers and mobile devices such as smartphones. The Internet is run on computers and it connects hundreds of millions of other computers and their users.
Edit
Delete
2
Art
The definition of art is controversial in contemporary philosophy. Whether art can be defined has also been a matter of controversy. The philosophical usefulness of a definition of art has also been debated. Contemporary definitions can be classified with respect to the dimensions of art they emphasize. One distinctively modern, conventionalist, sort of definition focuses on art's institutional features, emphasizing the way art changes over time, modern works that appear to break radically with all traditional art, the relational properties of artworks that depend on works' relations to art history, art genres, etc. – more broadly, on the undeniable heterogeneity of the class of artworks. The more traditional, less conventionalist sort of definition defended in contemporary philosophy makes use of a broader, more traditional concept of aesthetic properties that includes more than art-relational ones, and puts more emphasis on art's pan-cultural and trans-historical characteristics – in sum, on commonalities across the class of artworks. Hybrid definitions aim to do justice to both the traditional aesthetic dimension as well as to the institutional and art-historical dimensions of art, while privileging neither.
Edit
Delete
3
Pandemic
A true influenza pandemic occurs when almost simultaneous transmission takes place worldwide. In the case of pandemic influenza A(H1N1), widespread transmission was documented in both hemispheres between April and September 2009. Transmission occurred early in the influenza season in the temperate southern hemisphere but out of season in the
Edit
Type here to search
ENG
11:46
24-04-2020

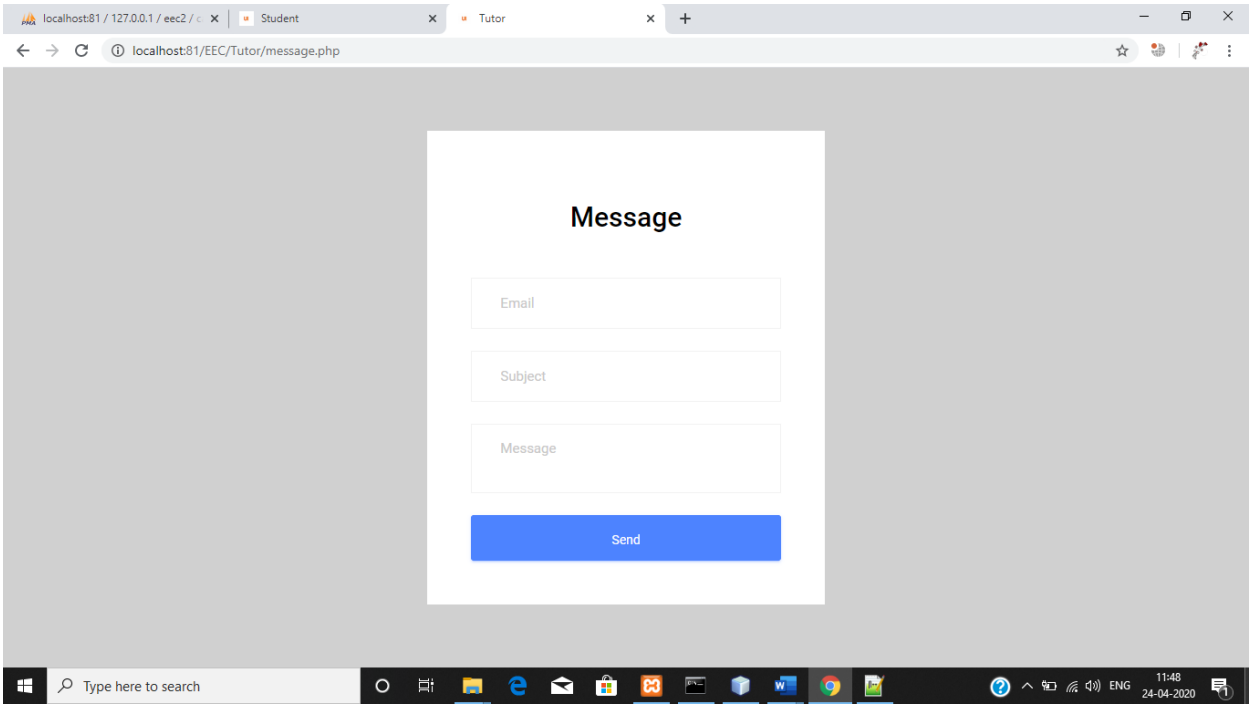

localhost:81 / 127.0.0.1 / eec2 /
Student
Admin
localhost:81/EEC/Tutor/tutorMenu.php
saloni
Dashboard
Test
Marks
Message
/ Dashboard / saloni
WELCOME TUTOR. Here, You can manage the Test.
Type here to search
ENG
11:47
24-04-2020

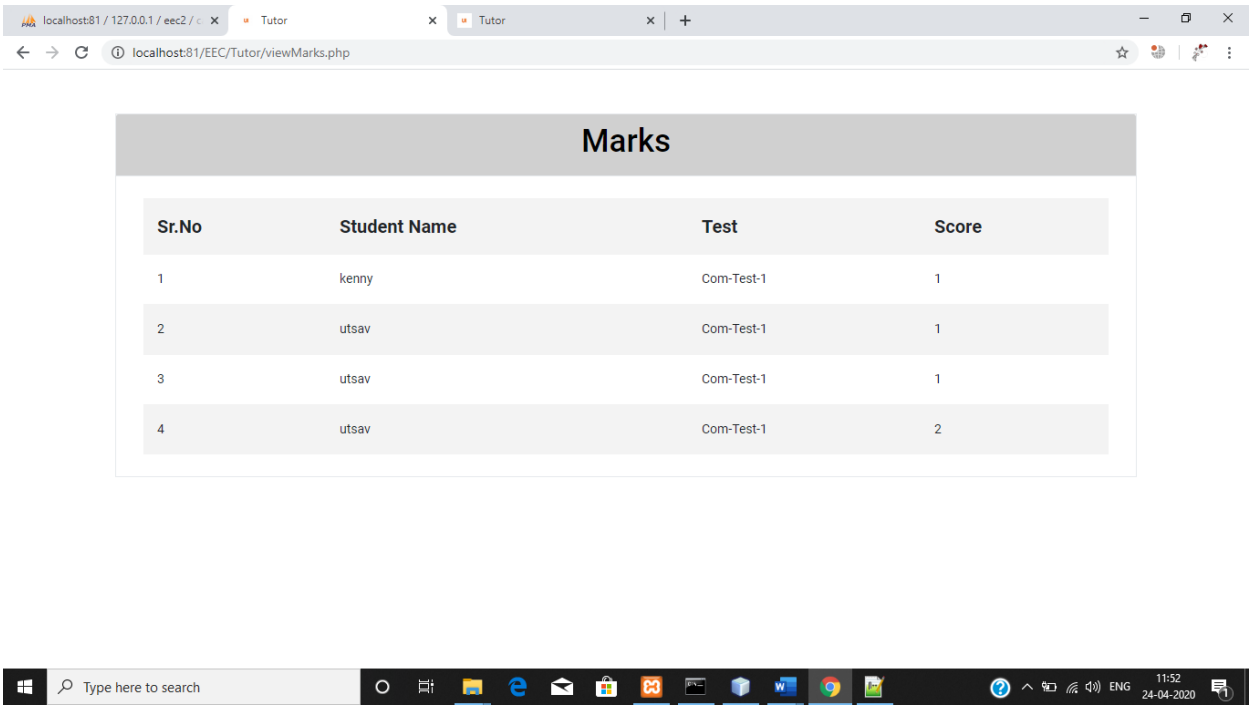

localhost:81 / 127.0.0.1 / eec2 /
Student
Tutor
localhost:81/EEC/Tutor/addTest.php
Test
Category
Listening
Test Name
enter Test name
Topic
Art
Add
Type here to search
ENG
11:47
24-04-2020

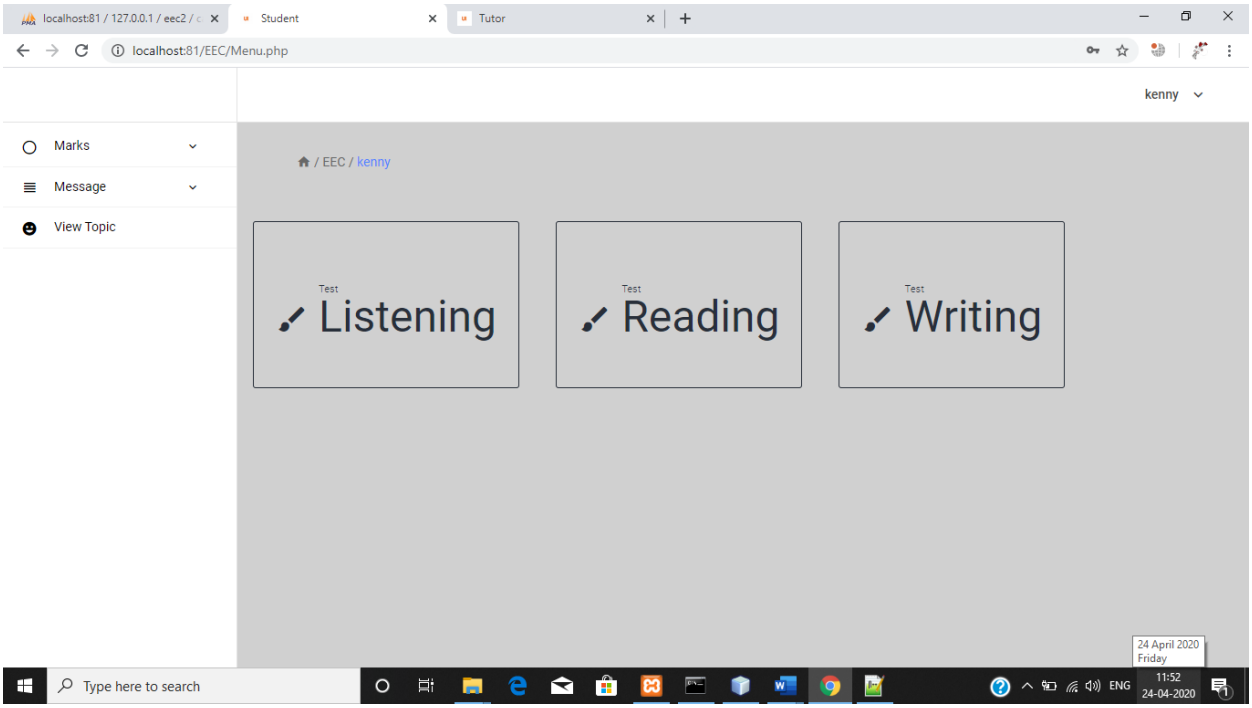

localhost:81 / 127.0.0.1 / eec2 /
Student
Tutor
localhost:81/EEC/Tutor/viewTestList.php
Test
ID
Name
Category
Action
1
Com-Test-1
Listening
Add Que
View
Delete
2
Com-Test-2
Reading
Add Que
View
Delete
3
Com-Test-3
Writing
Add Que
View
Delete
4
Art-Test-1
Listening
Add Que
View
Delete
5
Art-Test-2
Reading
Add Que
View
Delete
6
Art-Test-3
Writing
Add Que
View
Delete
Type here to search
ENG
11:48
24-04-2020

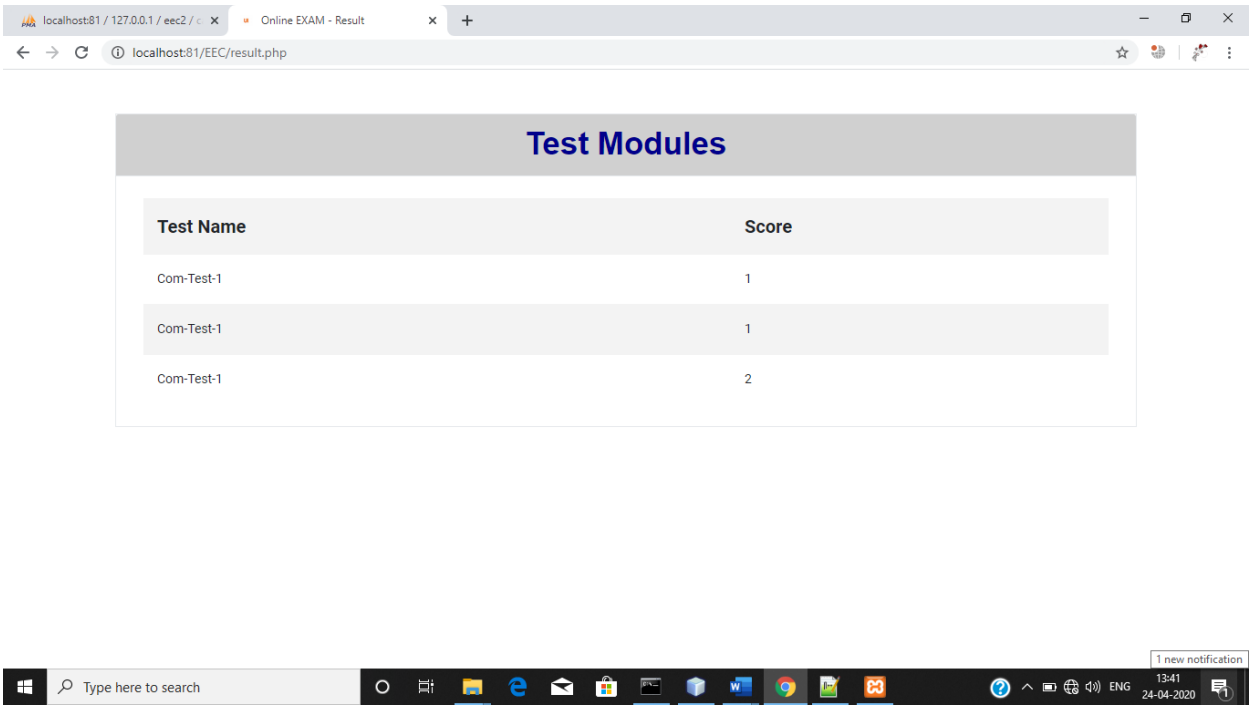

localhost:81 / 127.0.0.1 / eec2 /
Student
QUESTION ADD
localhost:81/EEC/Tutor/addQuestion.php?id=1&catid=1
Test
Enter Question
Enter True Answer
Save
Type here to search
ENG
11:48
24-04-2020

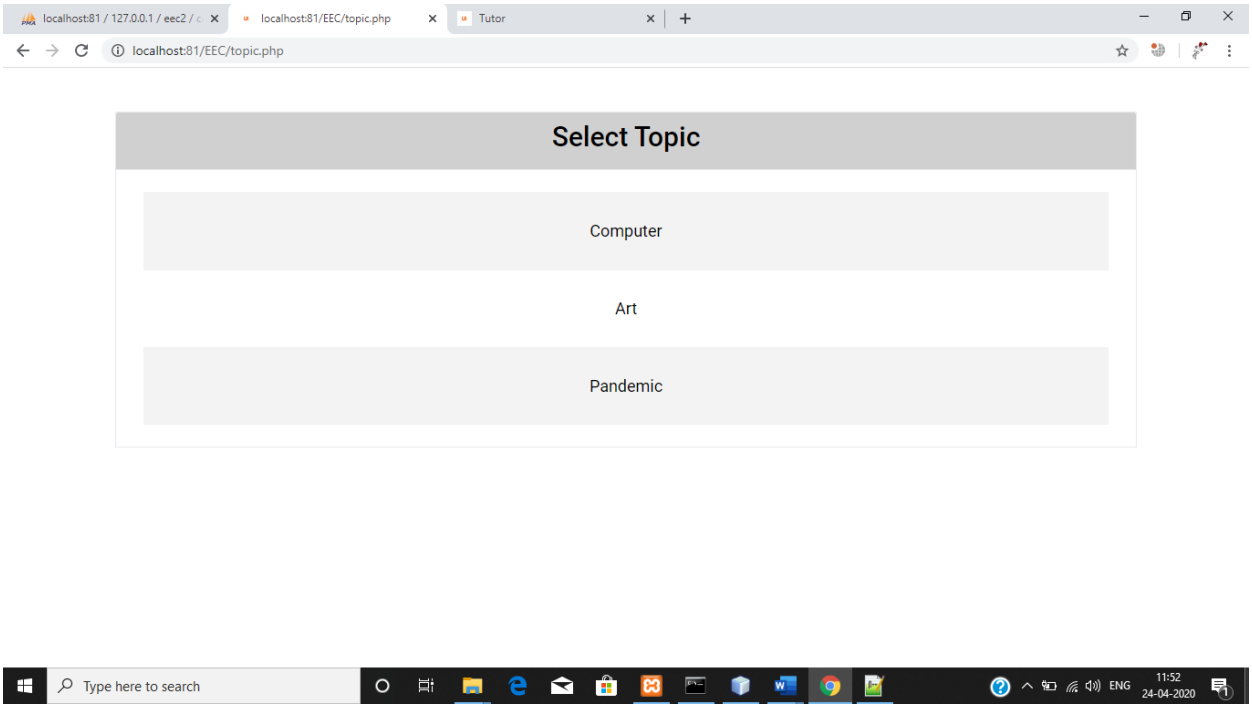

localhost:81 / 127.0.0.1 / eec2 /
Student
Tutor
localhost:81/EEC/Tutor/viewTest.php?id=1
Questions
ID
Question
True Ans
Action
1
What is Computer? (a) Machine (b) Toy
(a) Machine
Edit
Delete
2
what is carried out by computer instruction? (a) sequences of arithmetic or logical operations (b) squences of none
(a) sequences of arithmetic or logical operations
Edit
Delete
Type here to search
ENG
11:48
24-04-2020

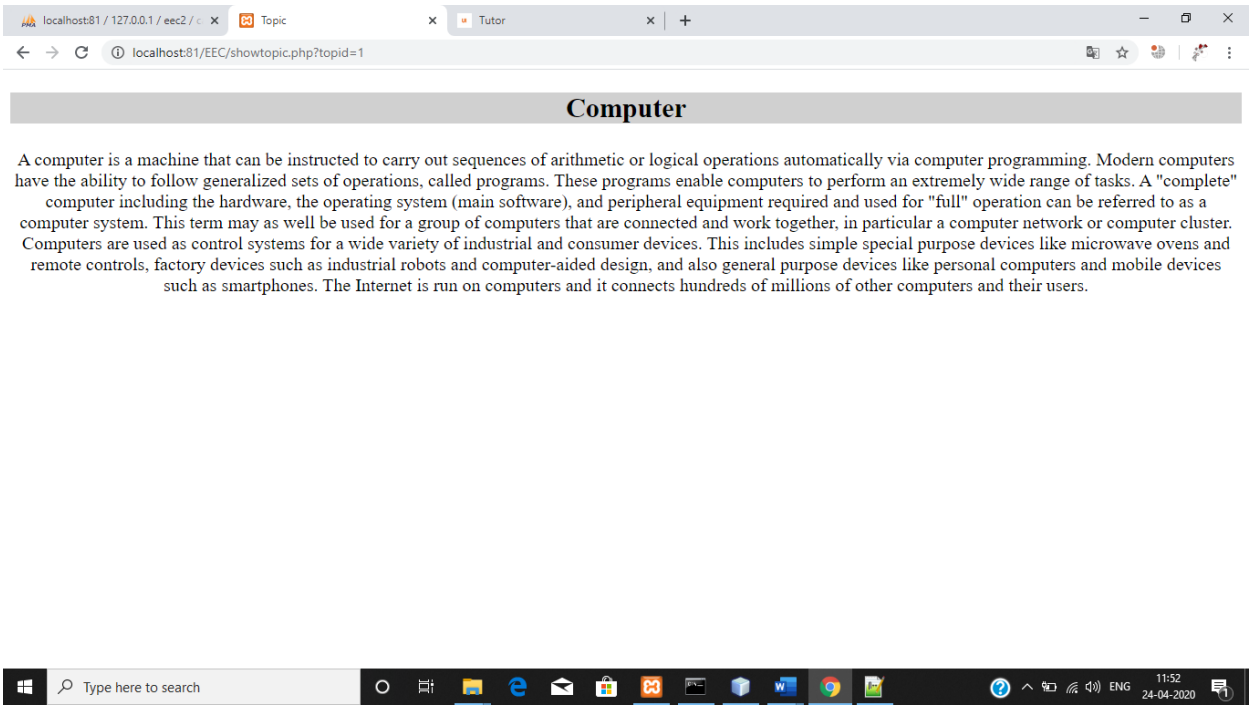

localhost:81 / 127.0.0.1 / eec2 /
Student
Tutor
localhost:81/EEC/Tutor/message.php
Message
Email
Subject
Message
Send
Type here to search
ENG
11:48
24-04-2020

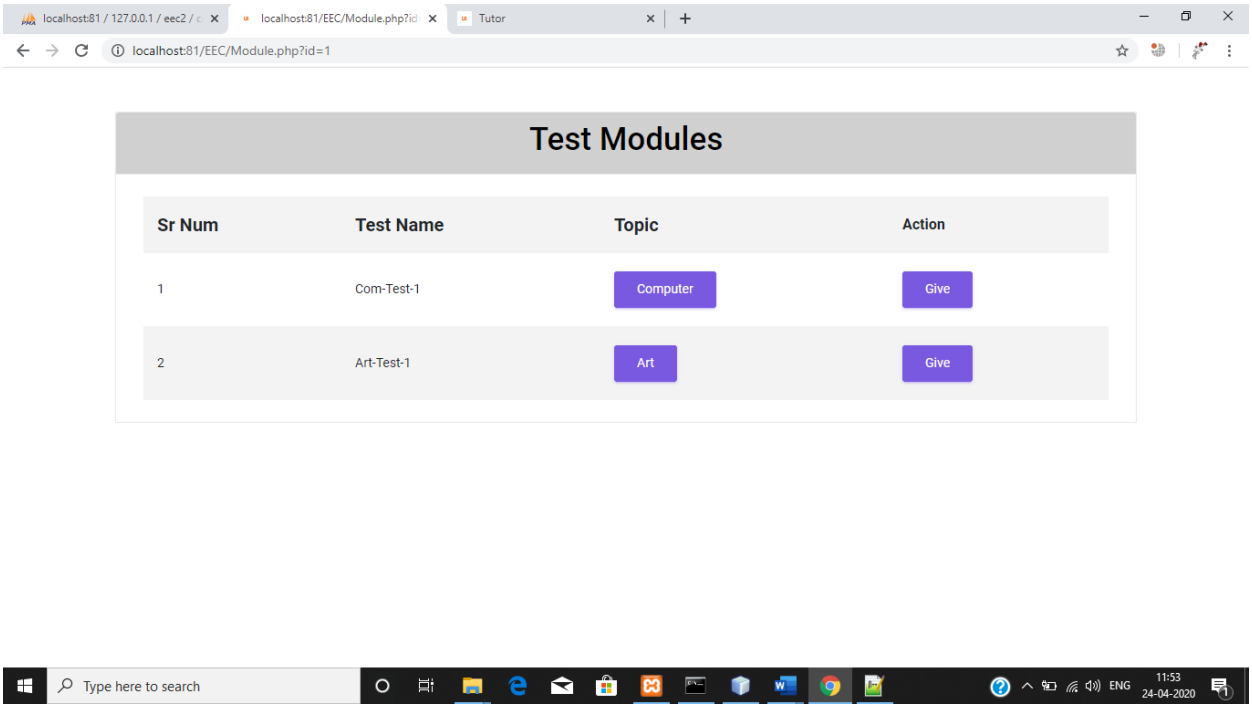

localhost:81 / 127.0.0.1 / eec2 /
Tutor
Tutor
localhost:81/EEC/Tutor/viewMarks.php
Marks
Sr.No
Student Name
Test
Score
1
kenny
Com-Test-1
1
2
utsav
Com-Test-1
1
3
utsav
Com-Test-1
1
4
utsav
Com-Test-1
2
Type here to search
ENG
11:52
24-04-2020

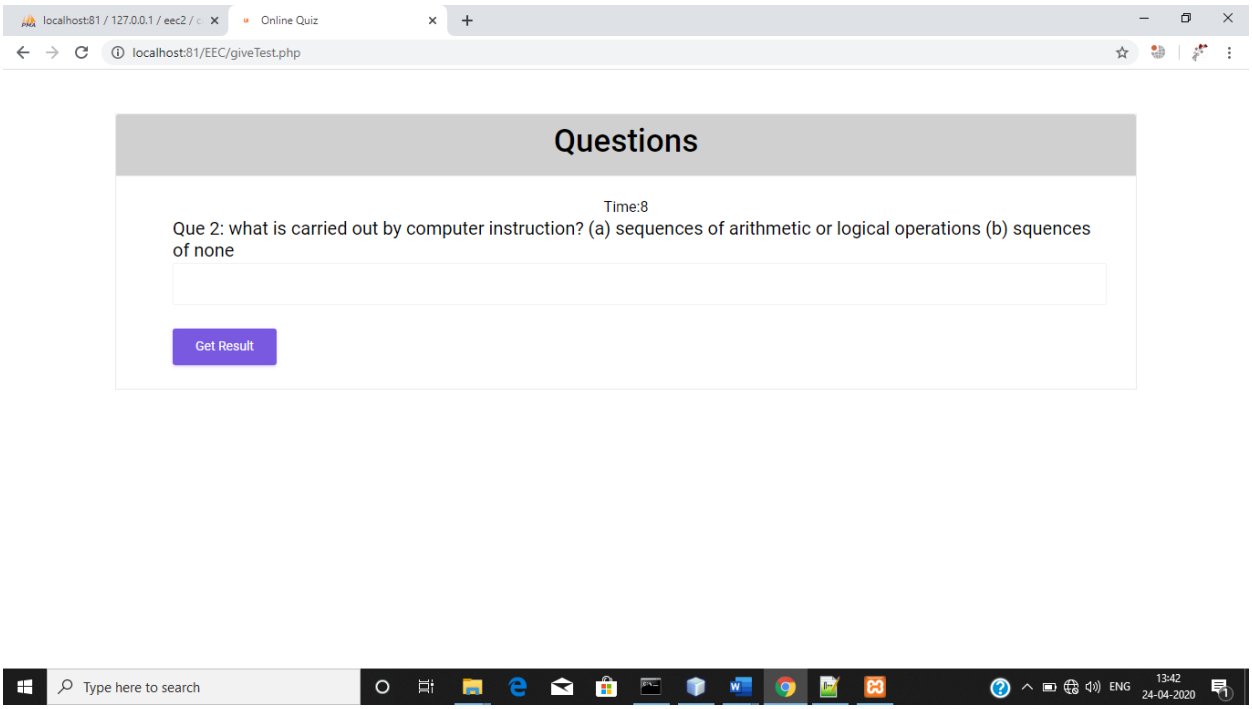

localhost:81 / 127.0.0.1 / eec2 /
Student
Tutor
localhost:81/EEC/Menu.php
kenny
Marks
Message
View Topic
/ EEC / kenny
Test
Listening
Test
Reading
Test
Writing
24 April 2020
Friday
Type here to search
ENG
11:52
24-04-2020

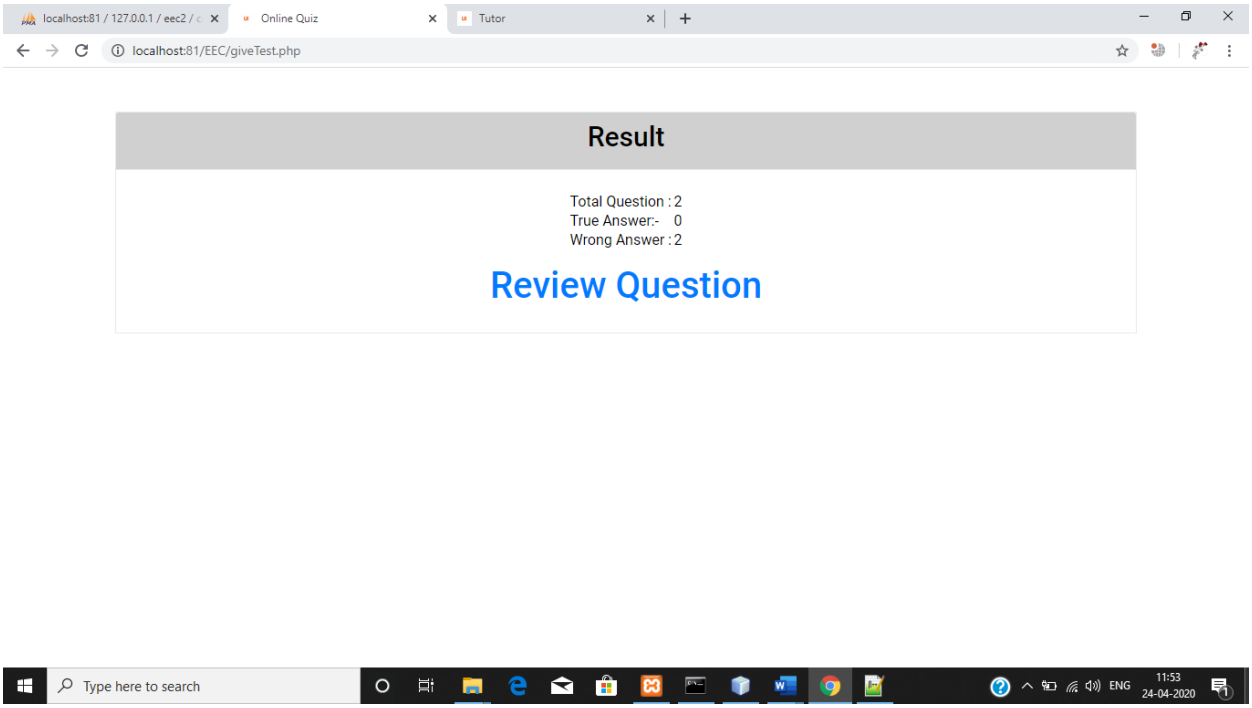

localhost:81 / 127.0.0.1 / eec2 /
Online EXAM - Result
localhost:81/EEC/result.php
Test Modules
Test Name
Score
Com-Test-1
1
Com-Test-1
1
Com-Test-1
2
Type here to search
1 new notification
ENG
13:41
24-04-2020

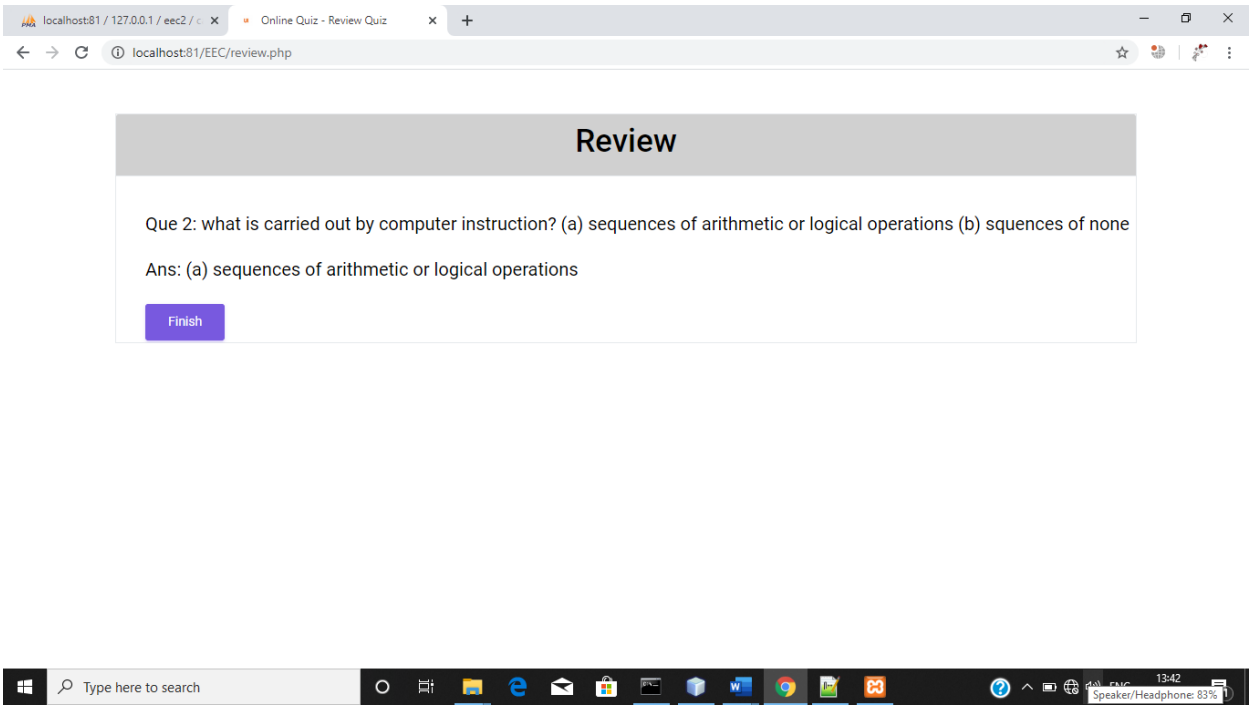

localhost:81 / 127.0.0.1 / eec2 /
localhost:81/EEC/topic.php
Tutor
localhost:81/EEC/topic.php
Select Topic
Computer
Art
Pandemic
Type here to search
ENG
11:52
24-04-2020


localhost:81 / 127.0.0.1 / eec2 /
Topic
Tutor
localhost:81/EEC/showtopic.php?topid=1
Computer
A computer is a machine that can be instructed to carry out sequences of arithmetic or logical operations automatically via computer programming. Modern computers have the ability to follow generalized sets of operations, called programs. These programs enable computers to perform an extremely wide range of tasks. A "complete" computer including the hardware, the operating system (main software), and peripheral equipment required and used for "full" operation can be referred to as a computer system. This term may as well be used for a group of computers that are connected and work together, in particular a computer network or computer cluster. Computers are used as control systems for a wide variety of industrial and consumer devices. This includes simple special purpose devices like microwave ovens and remote controls, factory devices such as industrial robots and computer-aided design, and also general purpose devices like personal computers and mobile devices such as smartphones. The Internet is run on computers and it connects hundreds of millions of other computers and their users.
Type here to search
ENG
11:52
24-04-2020


localhost:81 / 127.0.0.1 / eec2 /
localhost:81/EEC/Module.php?id
Tutor
localhost:81/EEC/Module.php?id=1
Test Modules
Sr Num
Test Name
Topic
Action
1
Com-Test-1
Computer
Give
2
Art-Test-1
Art
Give
Type here to search
ENG
11:53
24-04-2020


localhost:81 / 127.0.0.1 / eec2 /
Online Quiz
localhost:81/EEC/giveTest.php
Questions
Time:8
Que 2: what is carried out by computer instruction? (a) sequences of arithmetic or logical operations (b) squences of none
Get Result
Type here to search
ENG
13:42
24-04-2020


localhost:81 / 127.0.0.1 / eec2 /
Online Quiz
Tutor
localhost:81/EEC/giveTest.php
Result
Total Question : 2
True Answer:- 0
Wrong Answer : 2
Review Question
Type here to search
ENG
11:53
24-04-2020


localhost:81 / 127.0.0.1 / eec2 /
Online Quiz - Review Quiz
localhost:81/EEC/review.php
Review
Que 2: what is carried out by computer instruction? (a) sequences of arithmetic or logical operations (b) squences of none
Ans: (a) sequences of arithmetic or logical operations
Finish
Type here to search
13:42
Speaker/Headphone: 83%

8. conclusion

The functionalities implemented in system after understanding all the system modules according to the requirements. Functionalities That are successfully implemented in the system are:

- Student & Tutor registration
- Login
- user authentication
- Authorization
- logout
- view Test
- attempt Test
- Timer for Test
- Result Management
- Review Management
- Admin side management
- Tutor side management
- Dynamic content on pages from database

After the implementation and coding of system comprehensive testing was performed on the system to determine the errors and possible flaws in the system.

9. Limitations and Future Enhancements

Limitation:

- ➔ Data Security
- ➔ Reliability

Future Enhancement:

The System has adequate scope for modification in future if it is necessary.

Development and launching of Web based application and refining existing services and adding more service, System security, data security and reliability are the main feature.

More security will be provided.

10. Reference / Bibliography

Following links and websites were referred during the development of this project.

http://www.stackoverflow.com

https://www.w3schools.com

https://www.php.net

https://www.tutorialspoint.com