



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

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CERTIFICATE

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

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

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Table of Contents

1 Abstract.....	4
2 Introduction.....	5
2.1 Project Details: Brief Introduction	5
2.2 Technology and Tools Used	7
3 Software Requirement Specifications	8
3.1 Scope	8
3.2 Types Of Users.....	8
3.3 System Functional Requirements	8
4 Design.....	15
4.1 Use case Diagrams.....	15
4.2 Class Diagrams.....	16
4.3 Sequence Diagrams.....	16
4.4 Activity Diagrams.....	17
4.5 State Diagrams.....	18
4.6 E-R Diagram	19
4.7 Data Dictionary.....	19
5 Implementation Details	21
5.1 Modules	21
5.2 Functional prototypes	22
6 Testing	25
7 Screen-shots of the System	27
8 Conclusion	39
9 Limitations and Future Extensions of System	40
10 Bibliography	41

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:

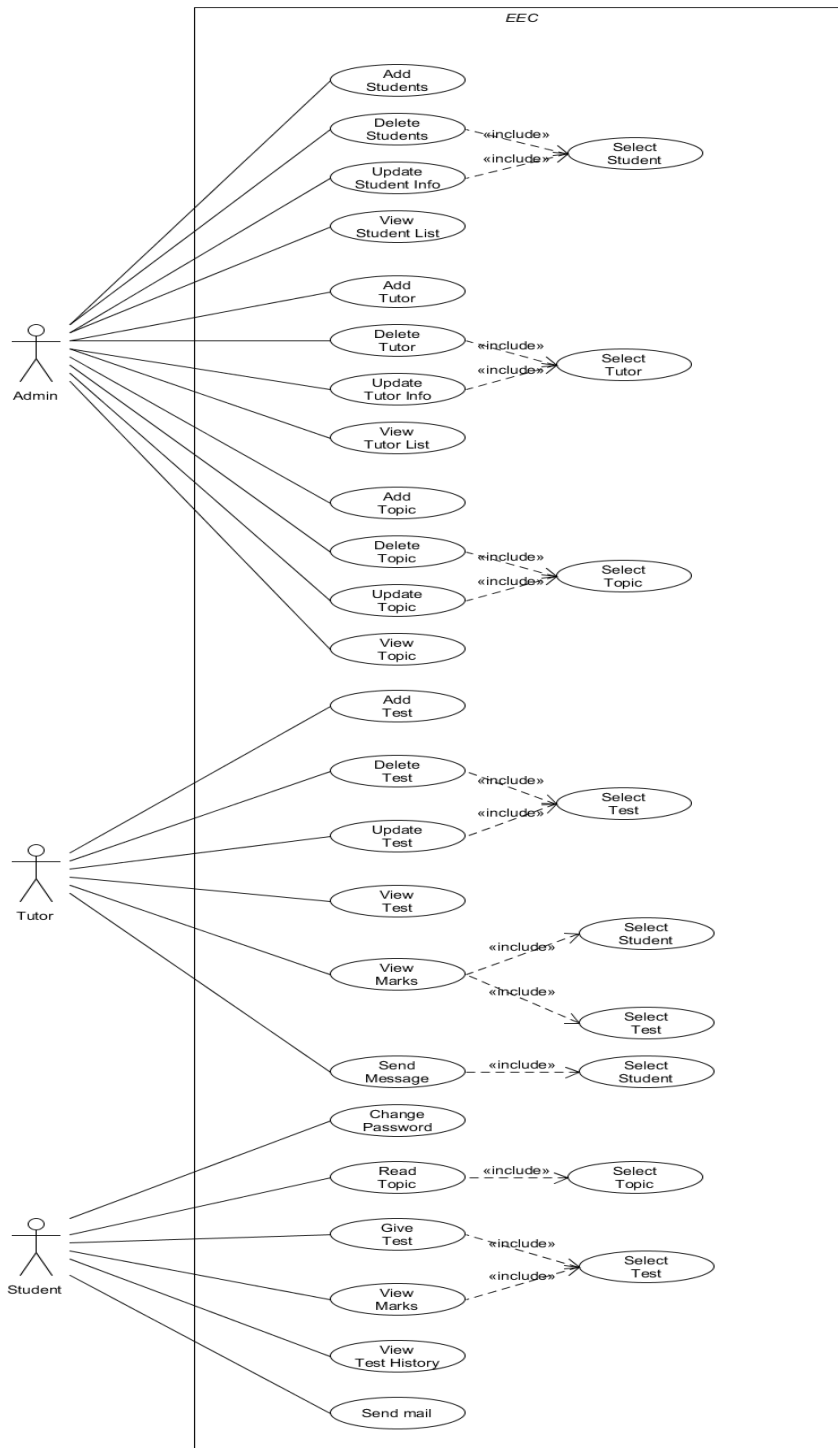
- Admin can add subjects, topics and it's information like E-Learning.

User:

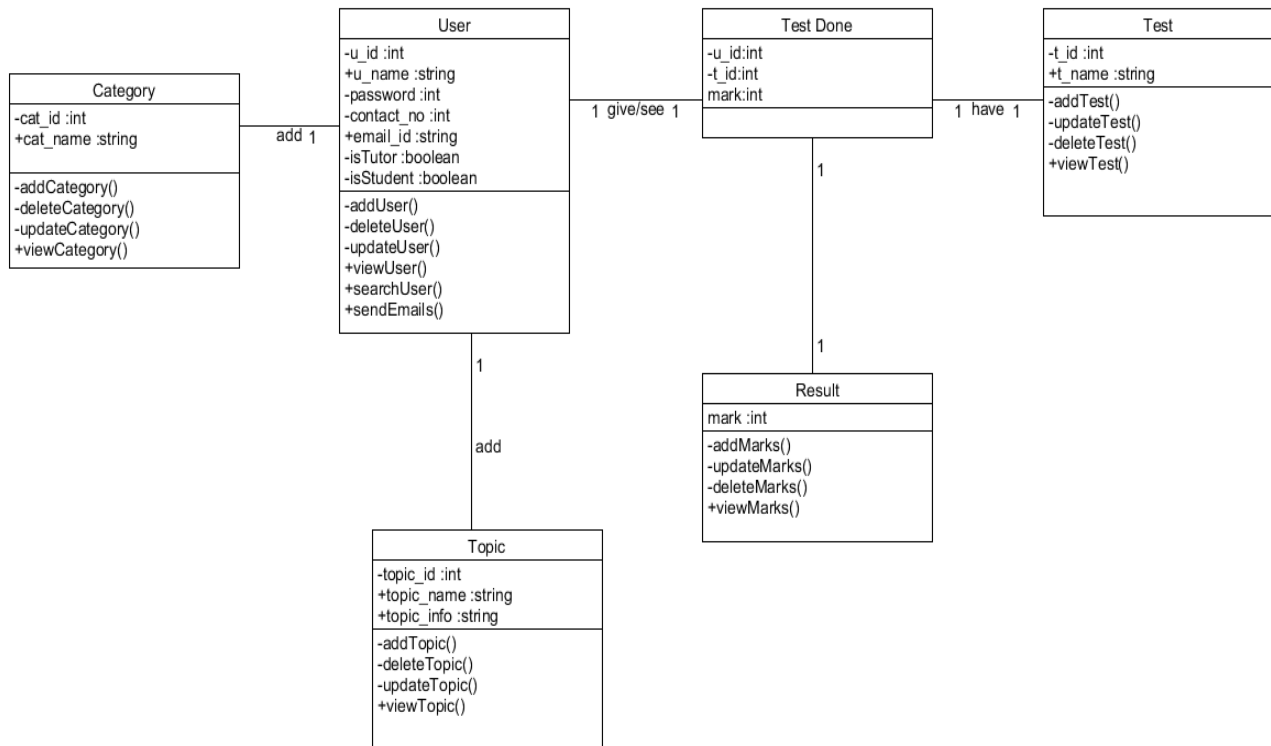
- User can read information about subjects and its topics.

4. Design

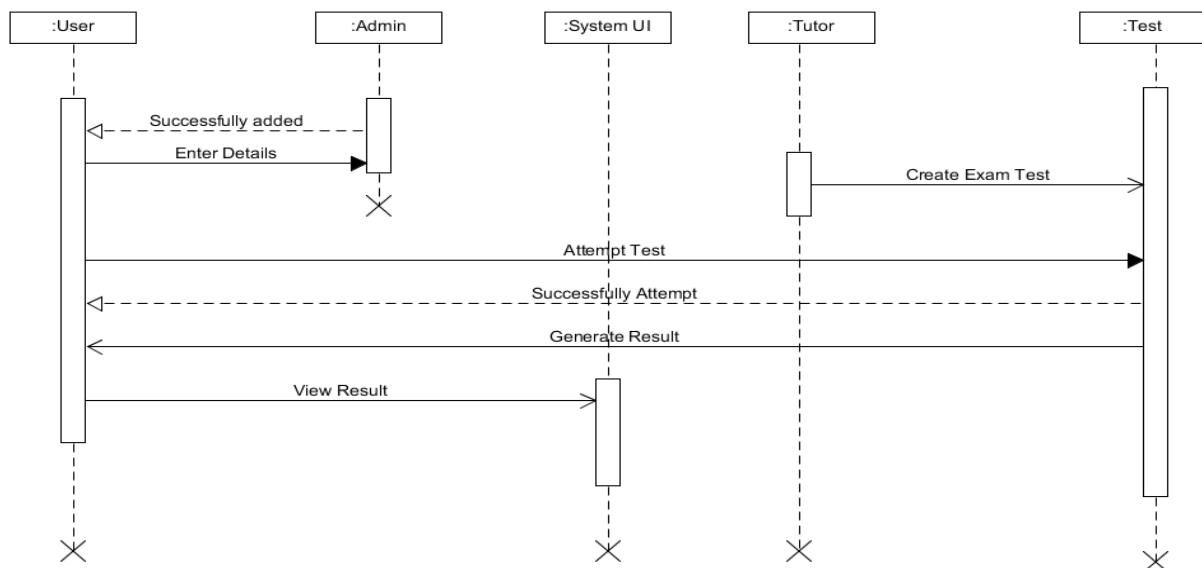
4.1 Use Case Diagram



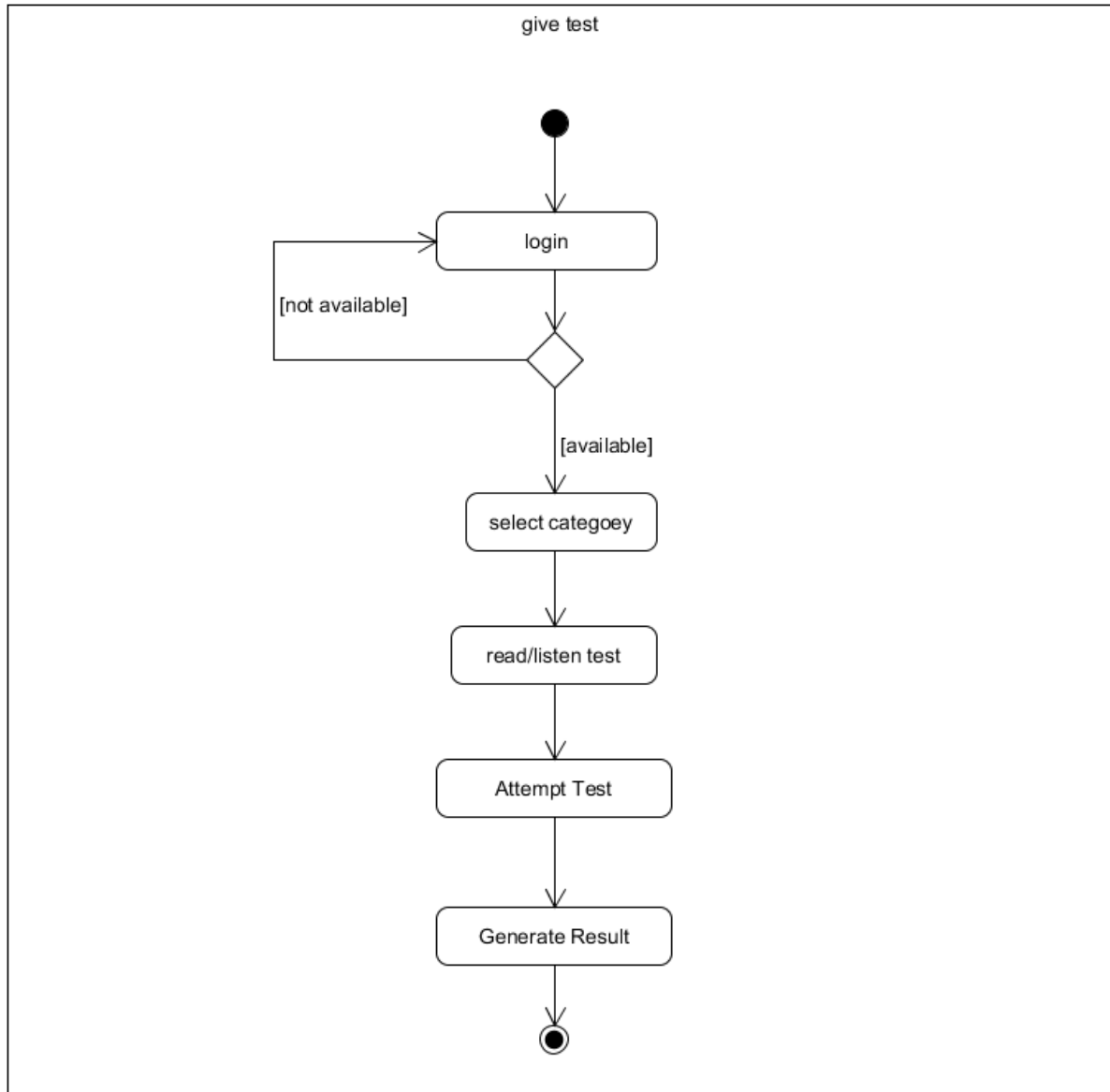
4.2 Class Diagram



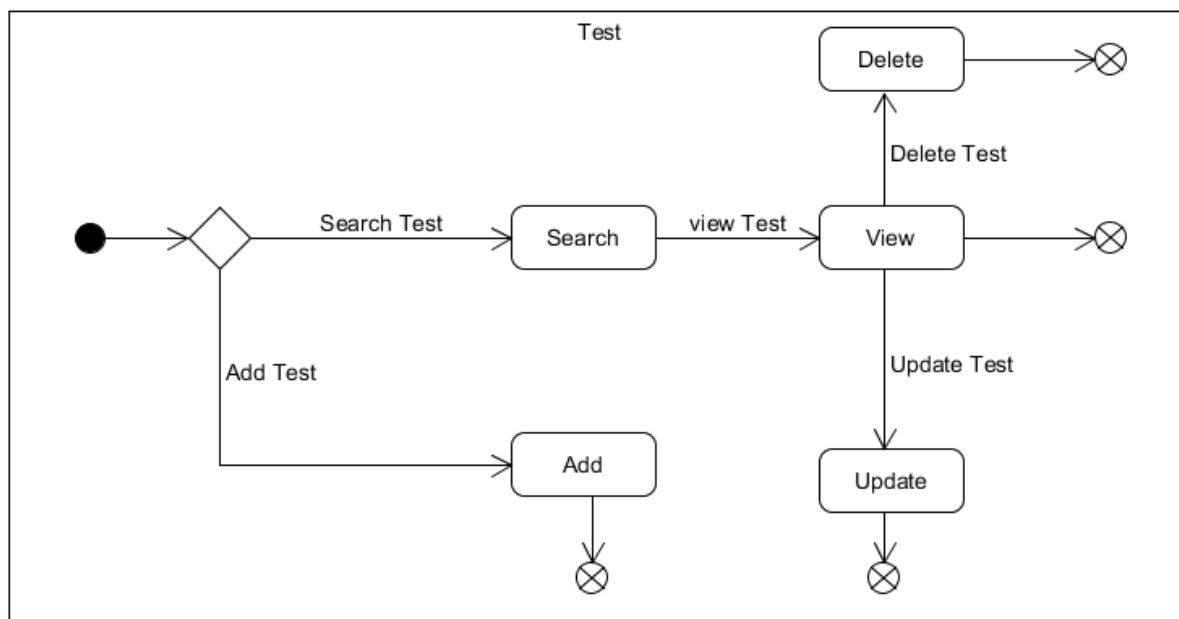
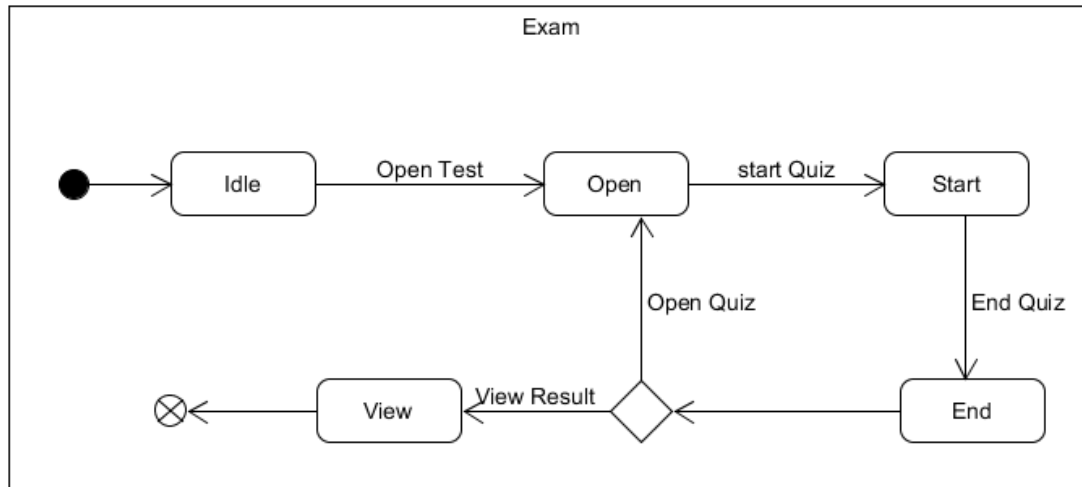
4.3 Sequence Diagrams



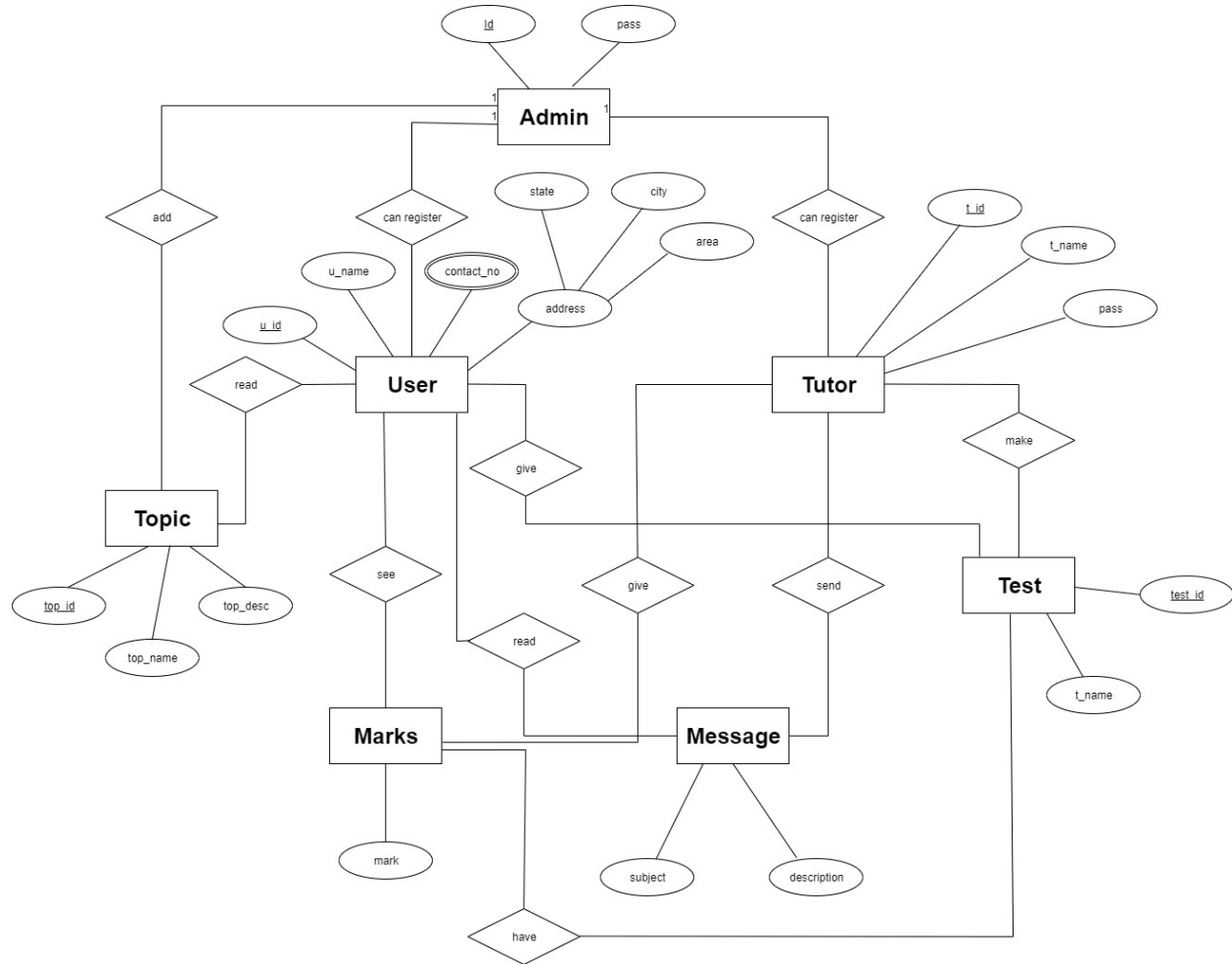
4.4 Activity Diagrams



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=head1>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';
$stmt = $dbhandler->prepare($sql);
```

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

```

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

<?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>
    </tr>
</foreach>

```

Student & Tutor:

```

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

```

```

$sql = 'SELECT * FROM user WHERE user_id=:id';
$stmt = $dbhandler->prepare($sql);
$stmt->execute([':id' => $id]);
$user = $stmt->fetch(PDO::FETCH_OBJ);
if (isset($_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=:email';
    $stmt = $dbhandler->prepare($sql);
}

```

Test:

```

$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";
$stmt = $dbhandler->prepare($sql);
$stmt->execute();
$people = $stmt->fetchAll(PDO::FETCH_OBJ);

```

Question:

```

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.

Login

Happy to see you again!

Username

Password

[Forgot password?](#)

submit

Invalid UserName or Password

Login

Happy to see you again!

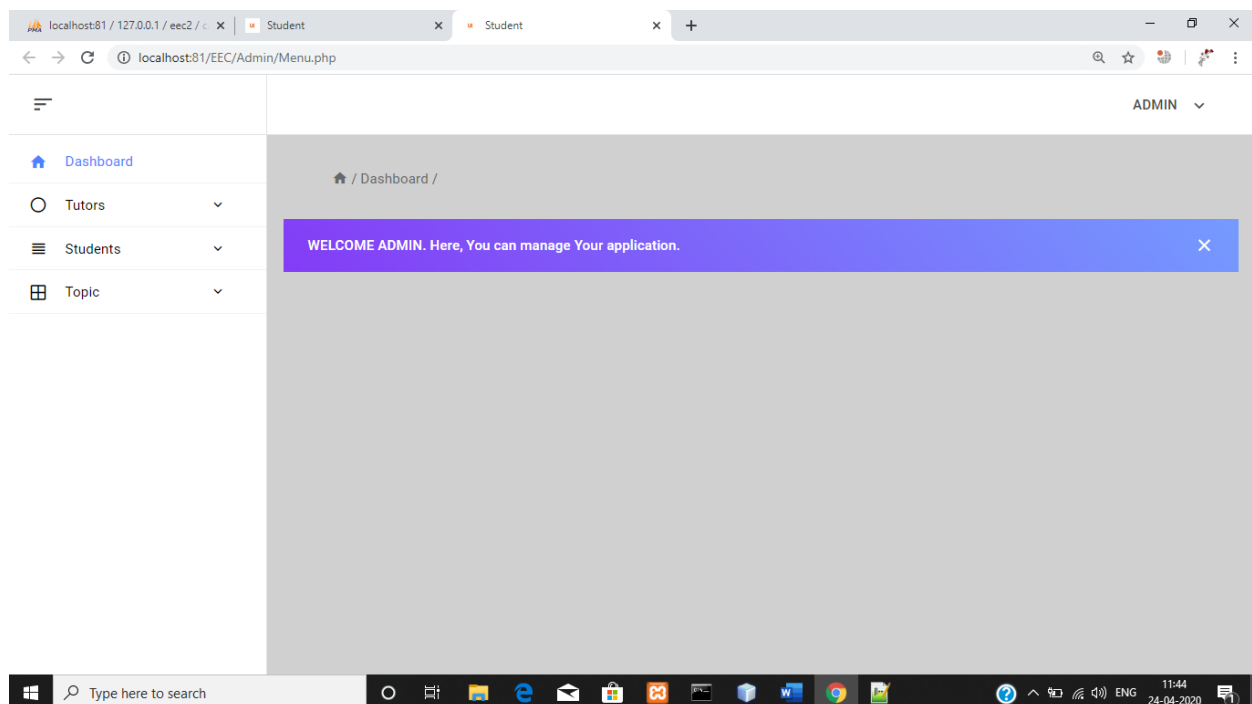
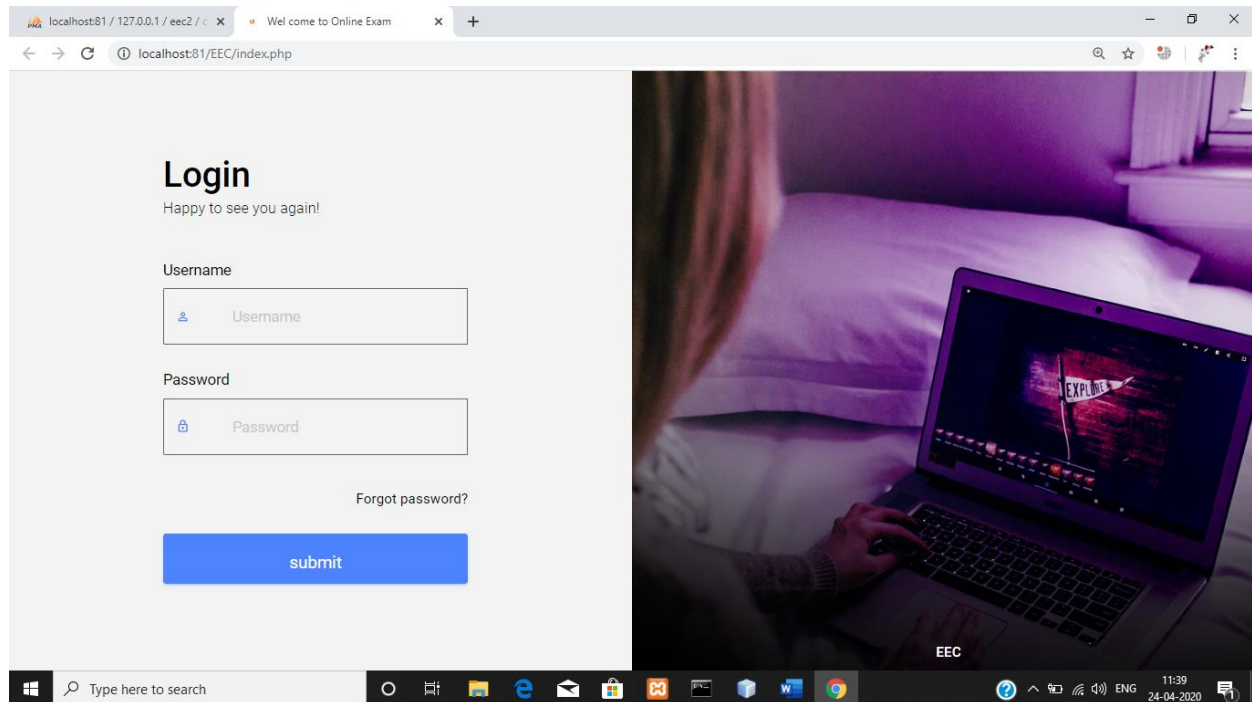
Username

Password

[Forgot password?](#)

submit

7. screen shots

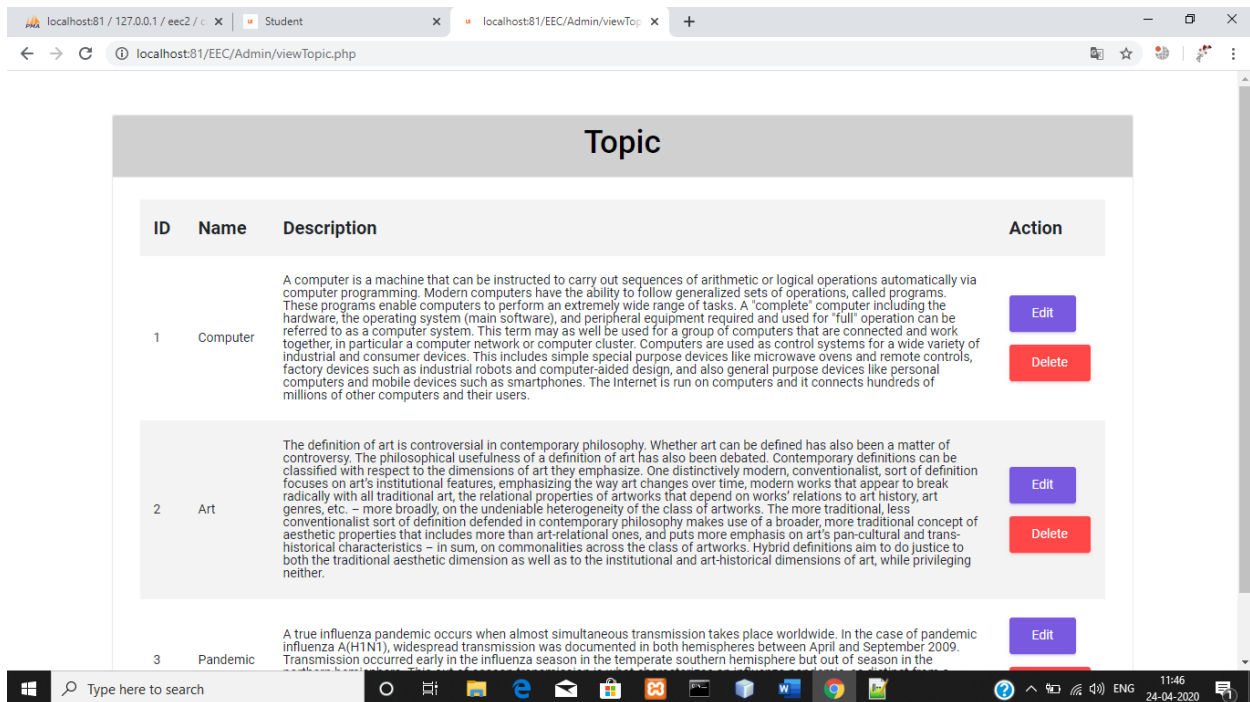
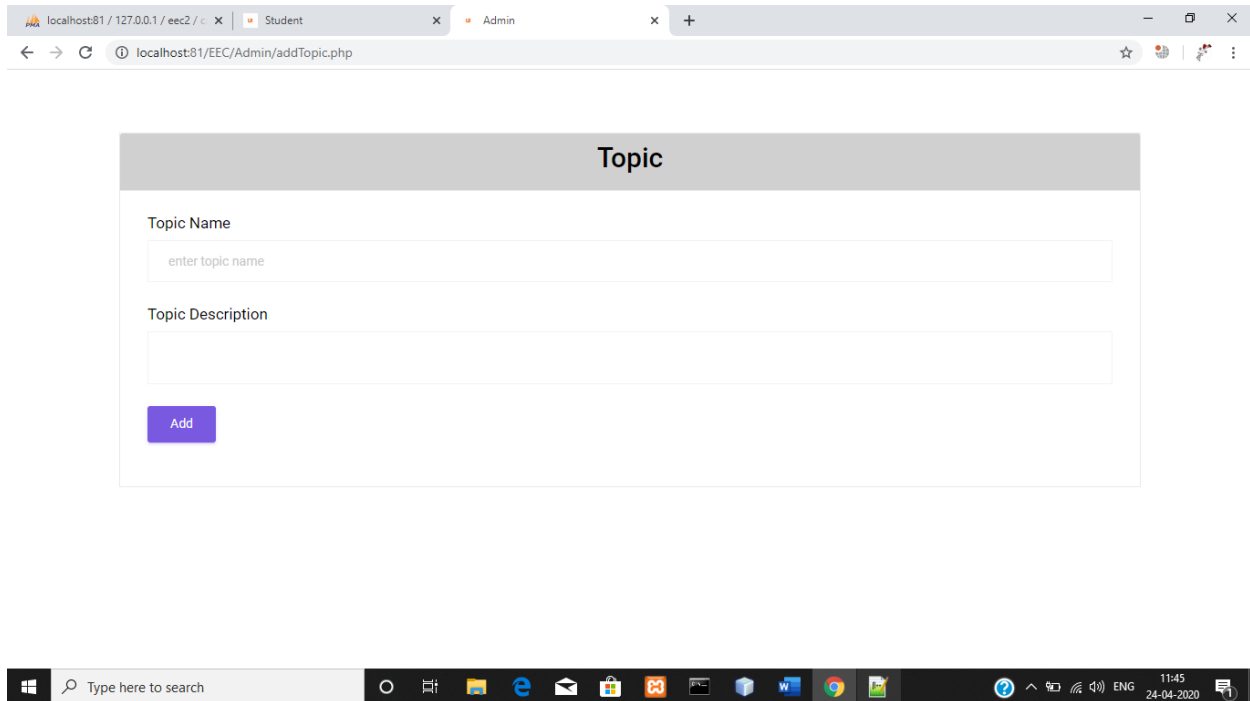


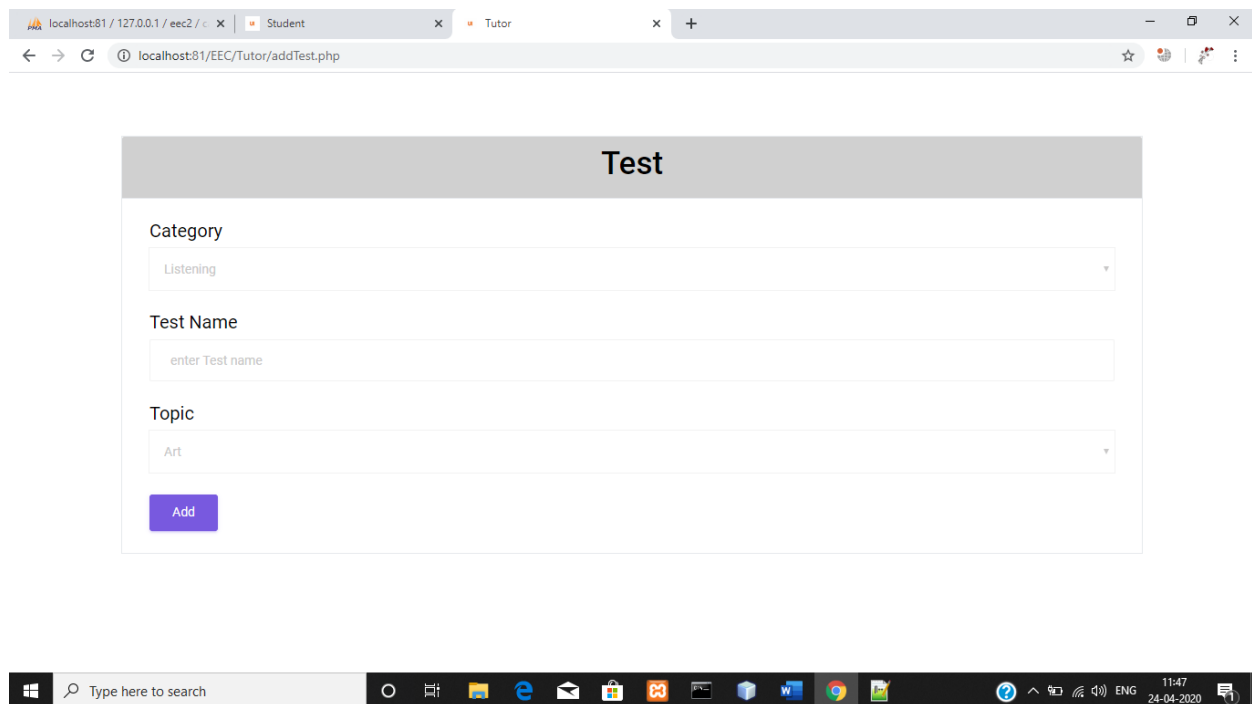
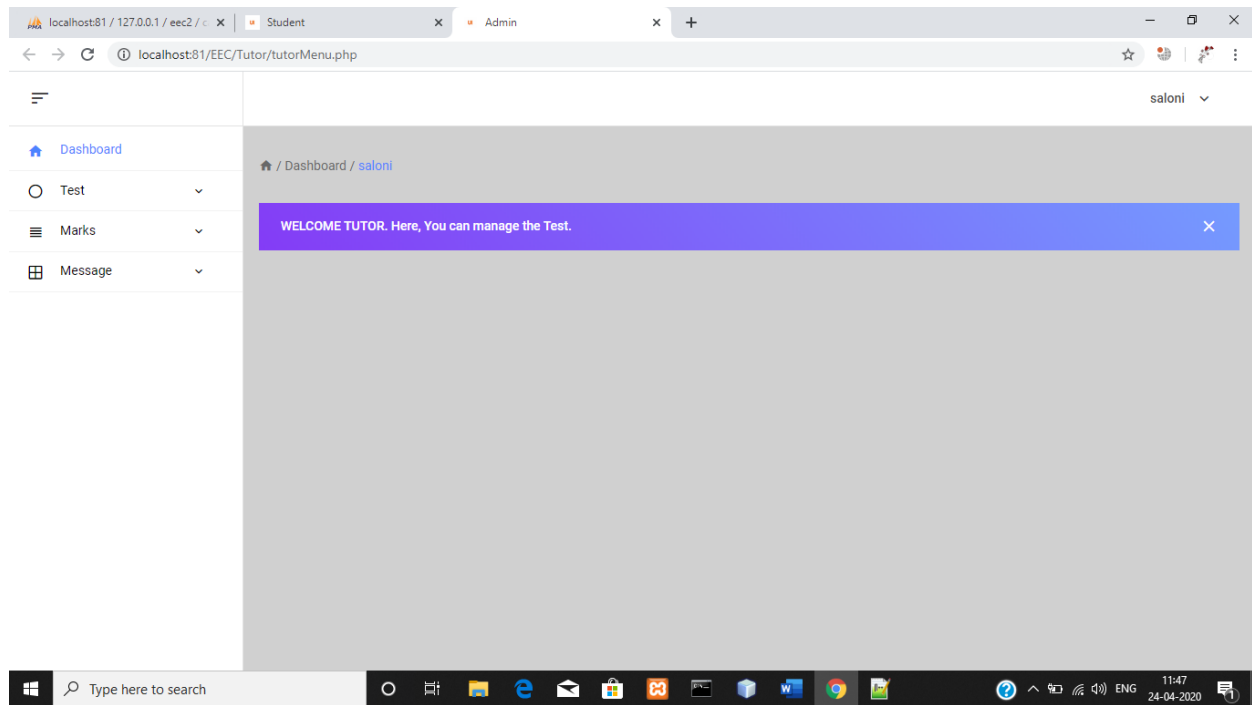
Register

Already have an account? [Login](#)

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

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





localhost:81 / 127.0.0.1 / eec2 / c x Student Tutor x +

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

11:48 24-04-2020

localhost:81 / 127.0.0.1 / eec2 / c x Student QUESTION ADD x +

localhost:81/EEC/Tutor/addQuestion.php?id=1&catid=1

Test

Enter Question

Enter True Answer

[Save](#)

Type here to search

11:48 24-04-2020

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) sequences of none	(a) sequences of arithmetic or logical operations	Edit Delete

Message

Send

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

kenny v

[Home](#) / [EEC](#) / [kenny](#)

Marks v

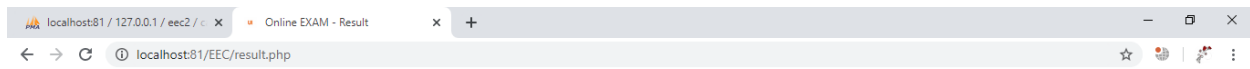
Message v

View Topic

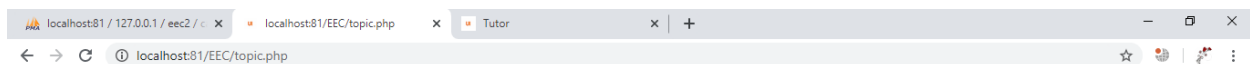
Test Listening

Test Reading

Test Writing

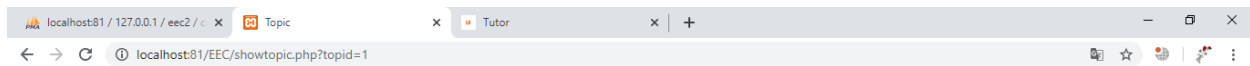


Test Modules	
Test Name	Score
Com-Test-1	1
Com-Test-1	1
Com-Test-1	2



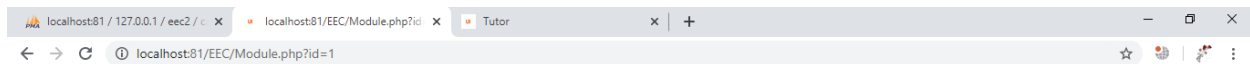
Select Topic
Computer
Art
Pandemic





Computer

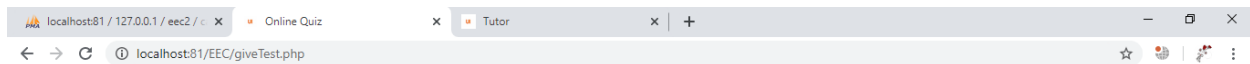
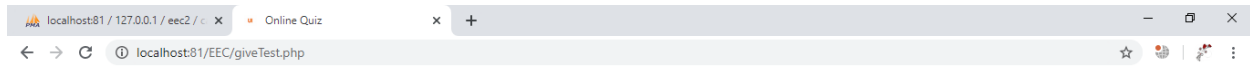
A computer is a machine that can be instructed to carry out sequences of arithmetic or logical operations automatically via computer programming. Modern computers have the ability to follow generalized sets of operations, called programs. These programs enable computers to perform an extremely wide range 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.

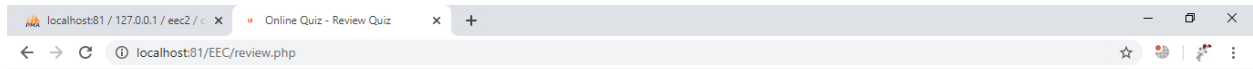


Test Modules

Sr Num	Test Name	Topic	Action
1	Com-Test-1	Computer	Give
2	Art-Test-1	Art	Give







Review

Que 2: what is carried out by computer instruction? (a) sequences of arithmetic or logical operations (b) sequences of none

Ans: (a) sequences of arithmetic or logical operations

Finish



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>