

# **DBMS MINI PROJECT REPORT**

## **ONLINE COURSE PORTAL**

**GROUP NO. 1**

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[Github link](#)

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## 1. Abstract:

- 1) This project aims at creating a Courses portal for a campus/organization. This allows registered users of the system to join a course available in the site and access the materials published for the course.
- 2) People can register themselves as students of a course or Faculty for a course. When a person registers himself as a Faculty, an approval mechanism should be triggered which sends an email to the Administrator for approving the person as a Faculty.
- 3) There will be an admin approval page where admin can approve the faculty members for the course. The course home page should contain the title of the course and a brief description.
- 4) There will be a discussion board for each course where students can interact, an announcement section, which contains the latest announcements, and a course content section which gives the links for the material available for the course.
- 5) For faculty members there will be an extra link for uploading the course content in a zip file format.
- 6) There should be a mechanism for the faculty members to create a test for the course specifying the test title and a set of multiple-choice questions and duration of time of the Test.

## 2. Technology Used:

### 1) Front-End Technologies :-

- i) **HTML** : HTML provides a framework to all our web pages allowing us to create web pages with ease in our project.
- ii) **CSS** : With the help of CSS ,we have added style to our html framework and with help of bootstrap libraries we have used standard and unique classes to add style all our web pages
- iii) **JavaScript** : JS helped us to add functionality in our pages like drop down menus ,timer in test page part and button's that tell which question is attempted.
- iv) **eJS** : Embedded JS provided us the framework to communicate between Frontend and backend via JSON.

## 2) Back-End Technologies :-

i) **Node JS** : With the help of node js ,we created our whole Backend server allowing us to host our server in a web browser and manipulate databases using the mongoose package ,we did our all calculations part using this technology . All posts and get requests are handled by node js.

ii) **MongoDB** : As the name suggests it is the database we have used which is fast, flexible and reliant when working with Node js. We can easily manipulate data . Unlike Mysql we don't need to create collections/Schema it will get automatically created, thus easy to handle.

## 3. AIM:

- 1) Our project aims at creating an Online course portal In which Teacher/Instructor Can create a course ,In which he can post description about the course ,He can post announcements related to the course, student can post query and doubts regarding the post.
- 2) Whenever a teacher registers for the course he has to get authenticated by the Administrator ,If the Administrator doesn't authenticate him,he cannot login as a Teacher.
- 3) Faculty can post exam (MCQ exam) which is given by the student who are enrolled to this course, After the Test ends they can see detailed analysis of their response of the that test like pie chart, percentage and teacher can see the responses of all the students who gave exam and evaluate on the basis of No. of correct Answer.
- 4) And to reduce cheating by adding functionality like Student cannot change tabs while giving tests.

## 4. Schema Table, Normalization and ER Diagram

### SCHEMA TABLE

#### 1) **ADMIN** :-

- i) Email (primary key) : String
- ii) Password : String

#### 2) **TEACHER** :-

- i) Email (primary key) : String
- ii) Password : String
- iii) First Name : String
- iv) Last Name : String
- v) Address : String
- vi) Zip code : String

#### 3) **STUDENT** :-

- i) Email (primary key) : String
- ii) Password : String
- iii) First Name : String
- iv) Last Name : String
- v) Address : String
- vi) Zip code : String

#### 4) **COURSE** :-

- i) Course\_id (primary key) : String
- ii) Name : String
- iii) Teacher\_id : String

**5) ANNOUNCEMENT :-**

- i) ID (primary key) : String
- ii) Course\_ID : String
- iii) Head : String
- iv) Body : String

**6) TEST :-**

- i) ID (primary key) : String
- ii) Course\_ID : String
- iii) Question\_set : String
- iv) Answer : String

**7) RESPONSE :-**

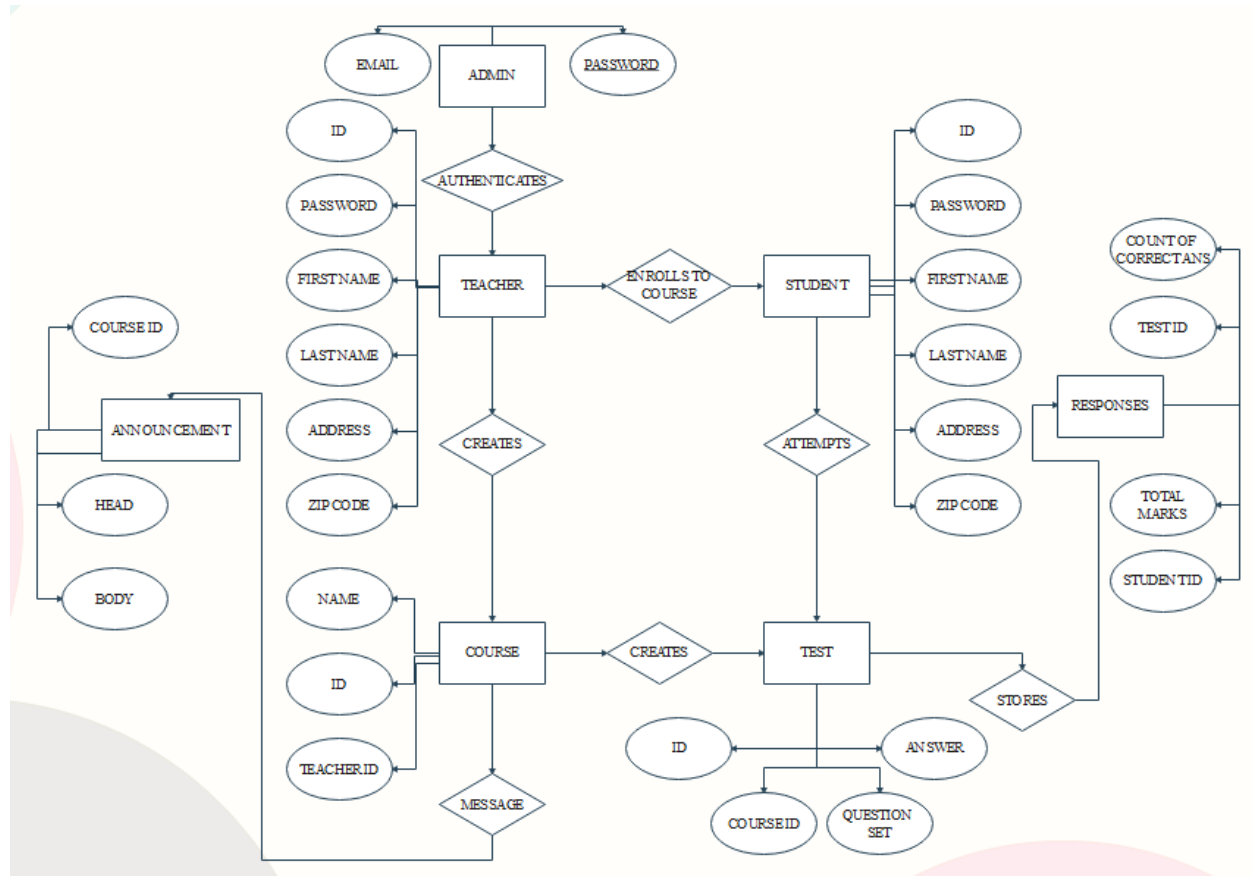
- i) Test\_id : String
  - ii) Student\_id : String
  - iii) Total Marks : Number
  - iv) Correct\_answers : Number
- (primary key is Test\_id, Student\_id)

**NORMALIZATION :-**

- 1) In our schema all attributes are single valued attributes which makes all the tables in 1NF.
- 2) As all the tables have single attributes as primary key which makes them in 2NF ,as their are partial dependencies not possible.
- 3) As all Tables have single attributes as primary key that rule out the situation of transitive dependencies ,thus making them 3NF.

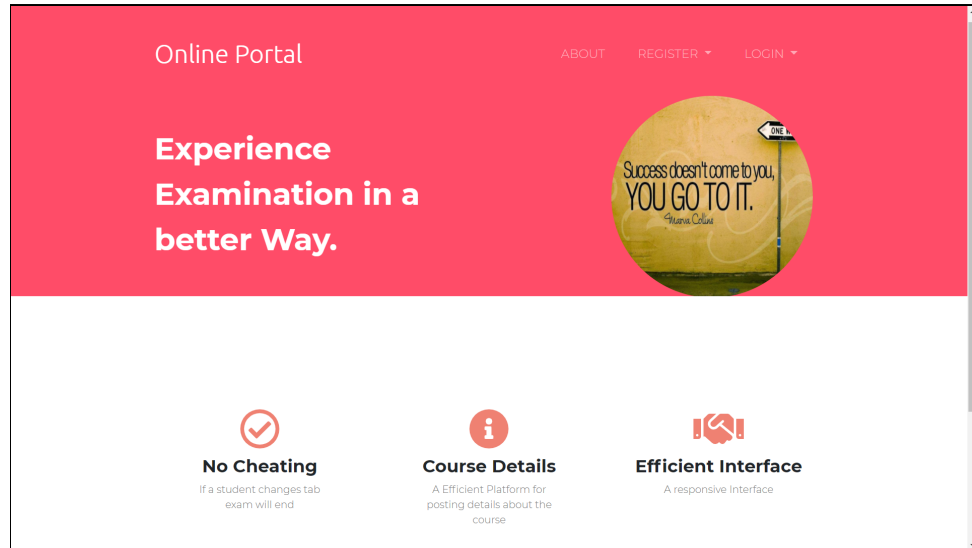
Thus all our tables are in 3NF.

## E-R DIAGRAM



## 5. Screens:


- 1) **Intro Page:** it is the first page of our server which tells the user whether he wants to register, login or see information about.



- 2) **Registration Page:** When we click on register, it shows us two options, to register as a student, or teacher. Let's take a look at each page.

### **Student registration Page:**





## Register as a Student

Please fill your registration form and be a part of our institution. We won't share our details.

### Credentials

First name

Last name

Email

Password

Address (Optional)

Country

Choose...

State


Choose...

Zip

☐ Save this information for next time

Continue to checkout

If we end an invalid email address or an already registered email, it displays us a message:



## Credentials

First name

Last name

Email

Please enter a valid email address

Password

Please enter your Password

Address (Optional)

Country

Sri Lanka

State

Mumbai

Zip

Zip code required.

☒ Save this information for next time

Continue to checkout

My files - OneDrive X SOE PPT.pptx X TestPlan-convi X WhatsApp X PDF to Word X DEADPOOL20 X Add and edit X Register as a T X How to Delete X

localhost:3000/stud\_reg

### Credentials

Email already registered

First name Last name

Email

you@example.com

Password

Address (Optional)

1234 Main S

Country State Zip

Choose... Choose...

☐ Save this information for next time

Continue to checkout

Type here to search

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If we enter valid data then our gets saved in student database.

## Teacher Registration Page:

### Register as a Teacher

Please fill your registration form and be a part of our institution.We won't share our details.

#### Credentials

First name Last name

Email

you@example.com

Password

Address (Optional)

1234 Main S

Country State Zip

Choose... Choose...

☐ Save this information for next time

Continue to checkout

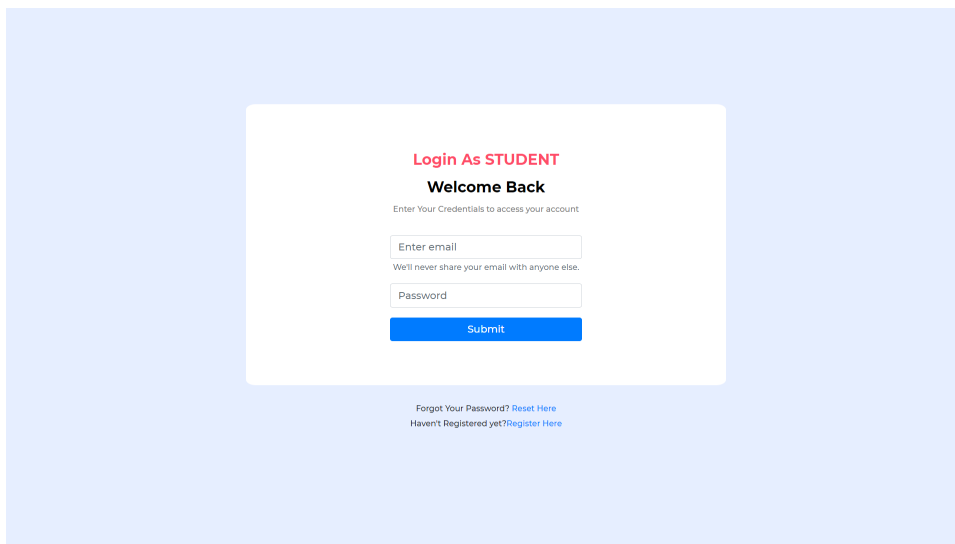
In case of incorrect or already registered email, it displays the message the same way it did in student registration. else if we enter valid data then data gets saved in the waiting list of the teacher schema.

### 3) Login Page:

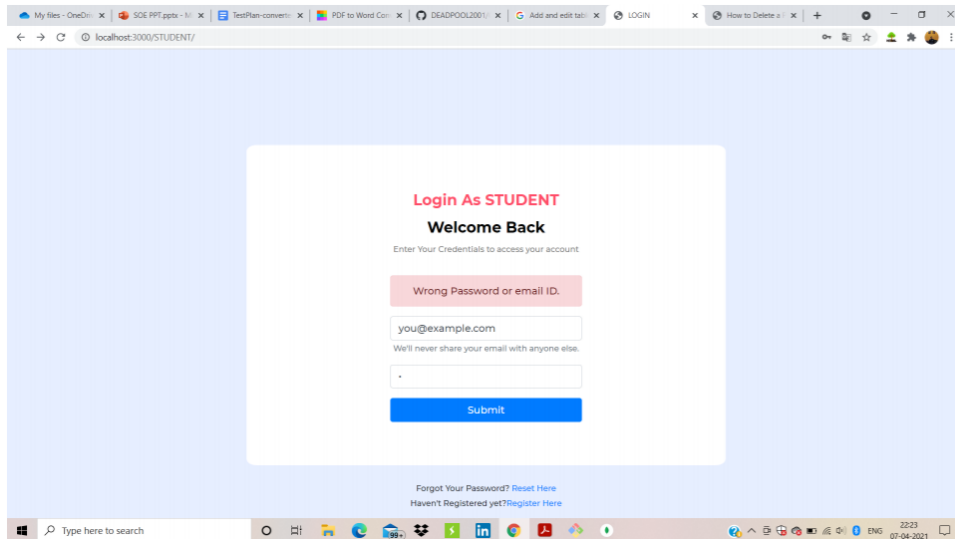
When we click on login in our welcome page, it shows us three options, to login as student, teacher or admin.

Let's take a look at each page.

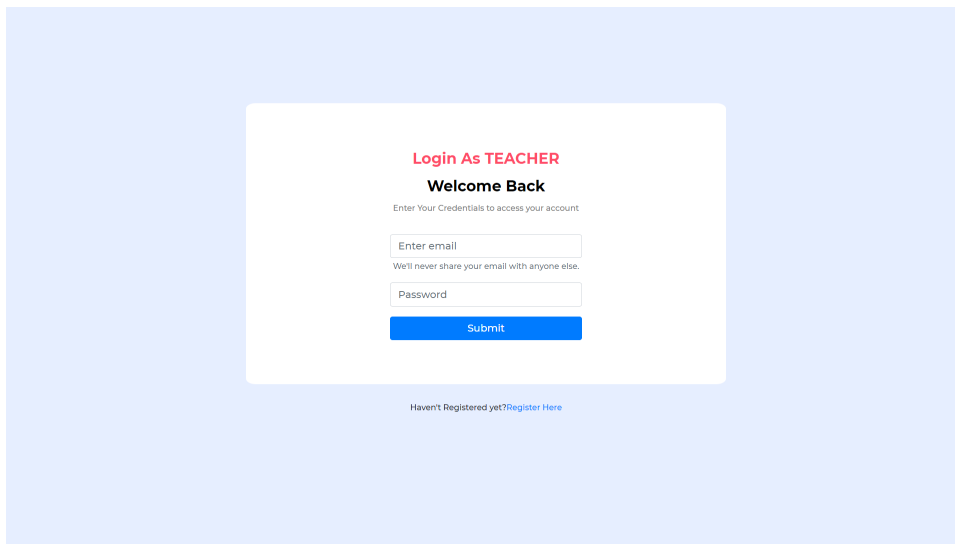
#### Student Login Page:

The image shows a web page for student login. It has a light blue background. In the center is a white rectangular box. Inside this box, the text "Login As STUDENT" is written in red, followed by "Welcome Back" in bold black. Below this is a smaller line of text: "Enter Your Credentials to access your account". There are two input fields: the first is labeled "Enter email" and the second is labeled "Password". Between these fields is a line of text: "We'll never share your email with anyone else.". Below the password field is a blue button labeled "Submit". At the bottom of the white box, there are two links: "Forgot Your Password? Reset Here" and "Haven't Registered yet? Register Here".

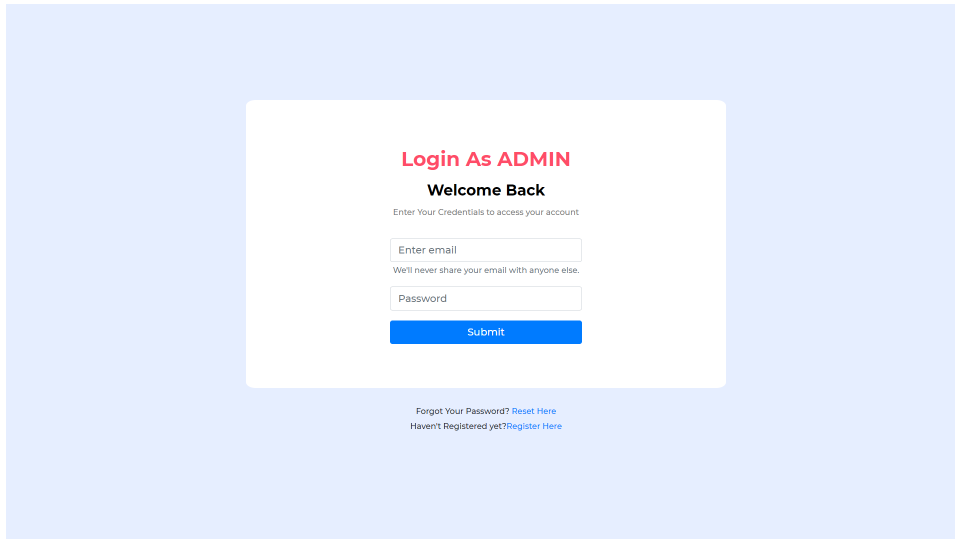
In case of incorrect email or password it informs us about it. (It does the same thing in other login tab)



## Teacher Login Page:



## Admin Login Page:



The image shows a login form titled "Login As ADMIN" with a subtitle "Welcome Back". Below the title, it says "Enter Your Credentials to access your account". There are two input fields: "Enter email" and "Password". Below the email field, it says "We'll never share your email with anyone else." Below the password field, there is a blue "Submit" button. At the bottom, there are two links: "Forgot Your Password? Reset Here" and "Haven't Registered yet? Register Here".

**Login As ADMIN**  
**Welcome Back**  
Enter Your Credentials to access your account

Enter email  
We'll never share your email with anyone else.

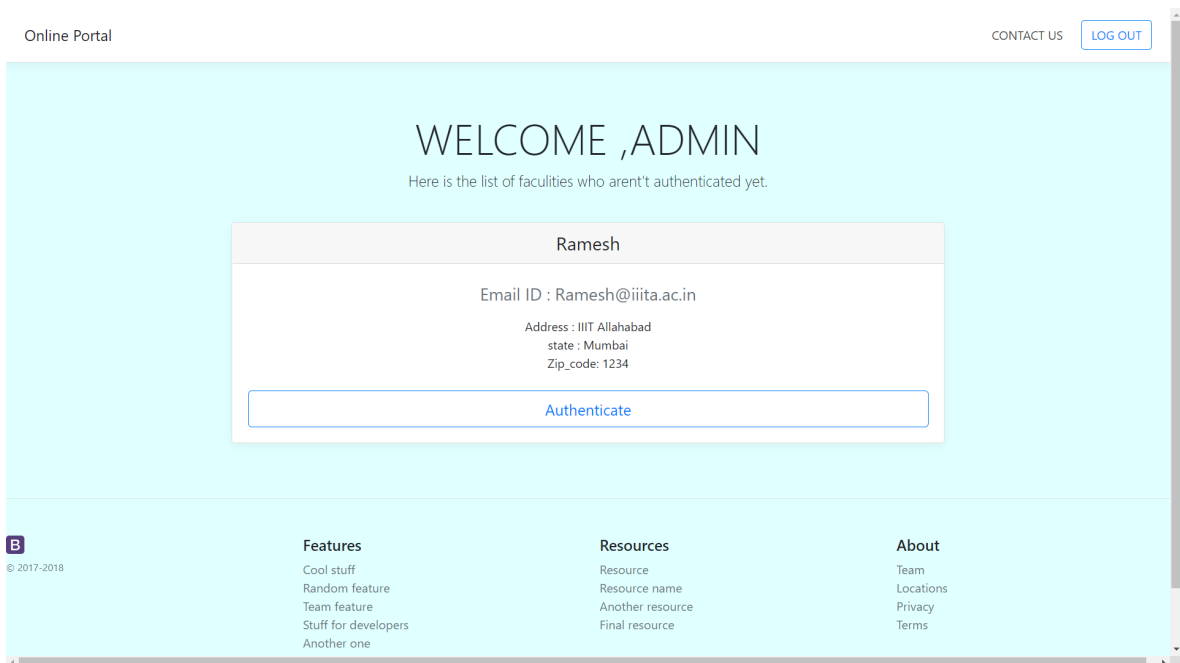
Password

Submit

Forgot Your Password? [Reset Here](#)  
Haven't Registered yet? [Register Here](#)

#### 4) Admin Authentication

When Someone register himself/herself as a teacher, then admin must authenticate it, whether he/she actually is a teacher or not, let's look at that page:



The image shows a web page titled "Online Portal" with a "CONTACT US" link and a "LOG OUT" button. The main content area has a light blue background and contains the text "WELCOME ,ADMIN" and "Here is the list of faculties who aren't authenticated yet." Below this, there is a box for "Ramesh" with the following details: "Email ID : Ramesh@iiita.ac.in", "Address : IIIT Allahabad", "state : Mumbai", and "Zip\_code: 1234". There is a blue "Authenticate" button below the details. The footer contains a logo, copyright information "© 2017-2018", and three columns of links: "Features" (Cool stuff, Random feature, Team feature, Stuff for developers, Another one), "Resources" (Resource, Resource name, Another resource, Final resource), and "About" (Team, Locations, Privacy, Terms).

Online Portal

CONTACT US

LOG OUT

**WELCOME ,ADMIN**  
Here is the list of faculties who aren't authenticated yet.

**Ramesh**

Email ID : Ramesh@iiita.ac.in

Address : IIIT Allahabad  
state : Mumbai  
Zip\_code: 1234

Authenticate

**Features**  
Cool stuff  
Random feature  
Team feature  
Stuff for developers  
Another one

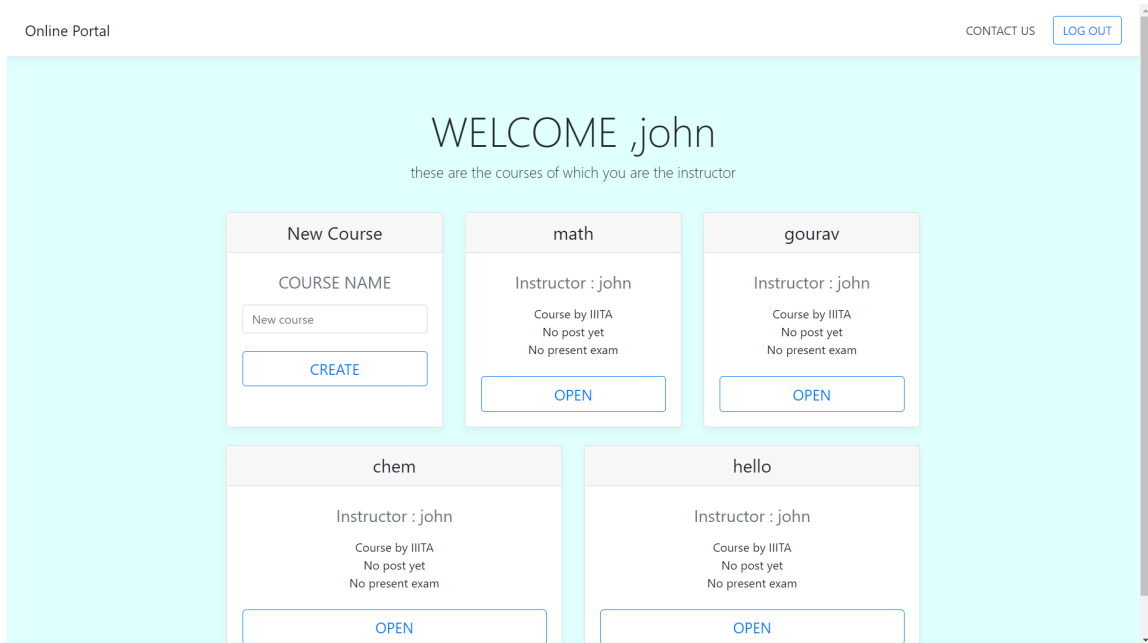
**Resources**  
Resource  
Resource name  
Another resource  
Final resource

**About**  
Team  
Locations  
Privacy  
Terms

© 2017-2018

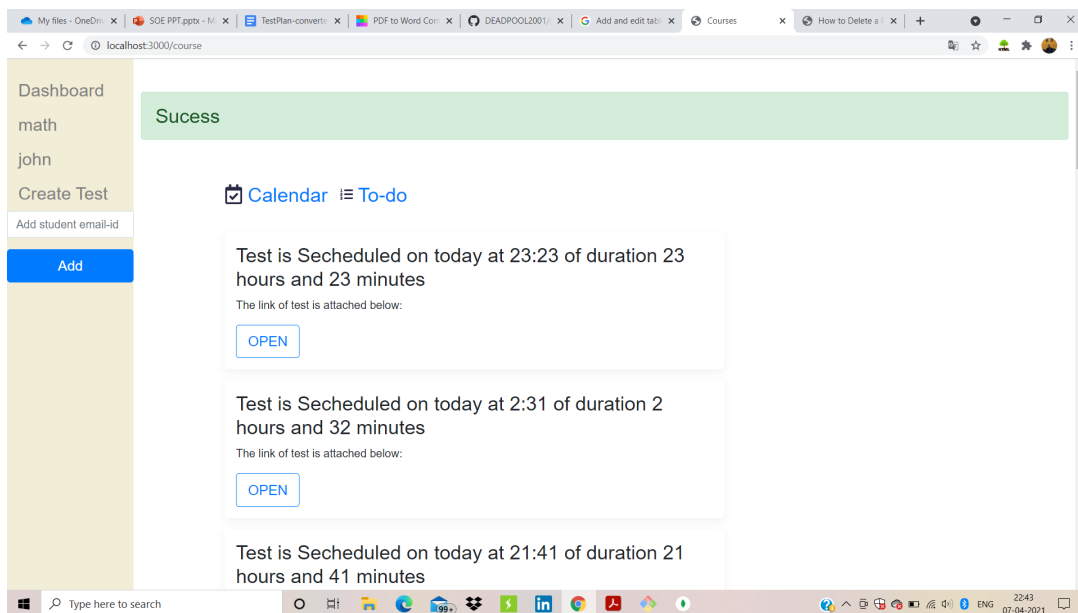
## 5) Creating Course

After successfully logging in as a Teacher can create a new course whenever they want.



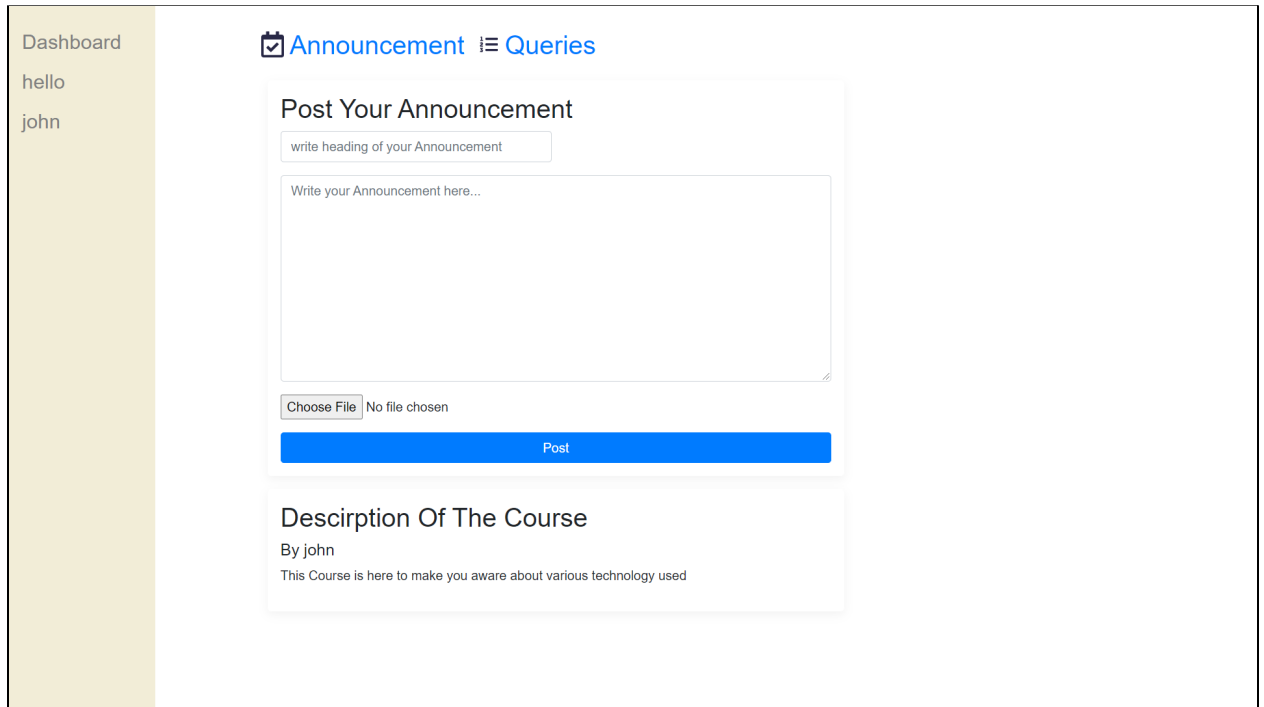
## 6) Adding student to course

a teacher can add students using their email ID , if it is present in the student database that particular student gets added to the course.



## 7) Adding Announcement in the course

Teachers can post announcements regarding the course like description, or any other announcement like about the google meet link and when there will be class.



The screenshot shows a web interface for posting an announcement. On the left is a vertical sidebar with a yellow background containing the text 'Dashboard', 'hello', and 'john'. The main content area has a header with a checkmark icon, the word 'Announcement' in blue, and a hamburger menu icon followed by 'Queries' in blue. Below this is a form titled 'Post Your Announcement'. The form contains a small text input field with the placeholder 'write heading of your Announcement', a larger text area with the placeholder 'Write your Announcement here...', a file upload section with a 'Choose File' button and the text 'No file chosen', and a prominent blue 'Post' button. Below the form is a section titled 'Descirption Of The Course' (note the typo) with the text 'By john' and 'This Course is here to make you aware about various technology used'.

## 8) Creating Test

Teacher can also create a test whenever they want:

If there are no tests, it will display : You have not created any test at present.

To Create a New Test, we can click on Create a new test at the left side of the screen.

Dashboard

hello

john

Create Test

Announce

Add student email-id

Add

You have not created any test at present

Calendar

To-do

© 2017-2018 Company Name

Privacy

Terms

Support

## Test Creation Page:

Create test

fill the test question here

Questions

QUESTION 1

ENTER QUESTION-1

Option-1

ENTER OPTION-1

Option-2

ENTER OPTION-2

Option-3

ENTER OPTION-3

Option-4

ENTER OPTION-4

correct answer

choose

Start Time

Time

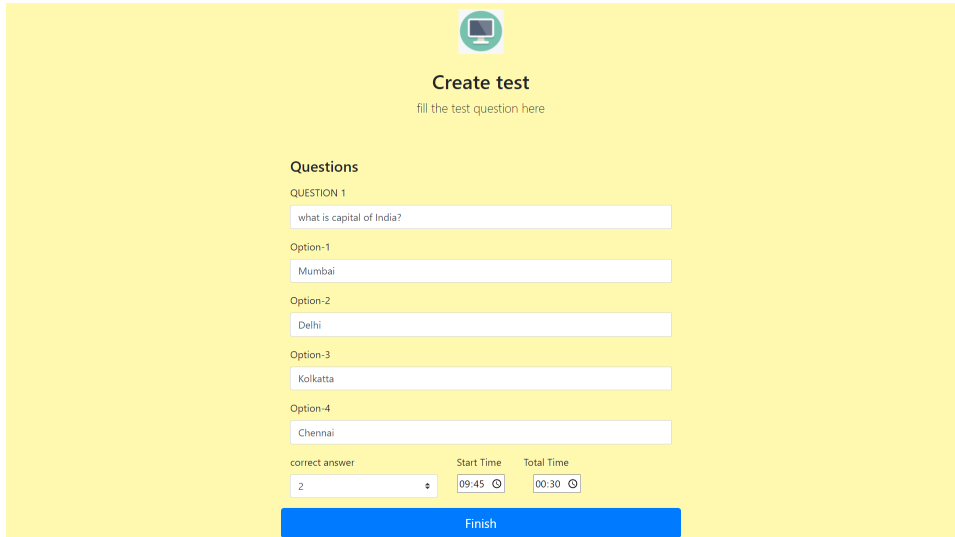
Total Time

Time

Finish

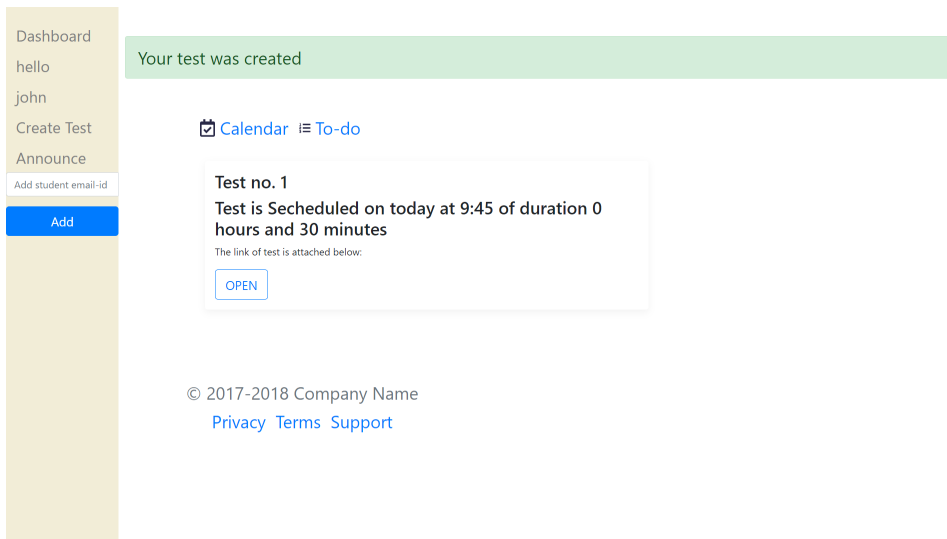


We can enter the details of the questions listed above, let's look at an example



The screenshot shows a 'Create test' interface with a yellow background. At the top, there is a laptop icon and the text 'Create test' followed by 'fill the test question here'. Below this, the 'Questions' section contains a single question: 'QUESTION 1' with the text 'what is capital of India?'. There are four options listed: 'Option-1' (Mumbai), 'Option-2' (Delhi), 'Option-3' (Kolkatta), and 'Option-4' (Chennai). At the bottom of the question section, there is a 'correct answer' dropdown set to '2', a 'Start Time' field set to '09:45', and a 'Total Time' field set to '00:30'. A blue 'Finish' button is located at the bottom of the form.

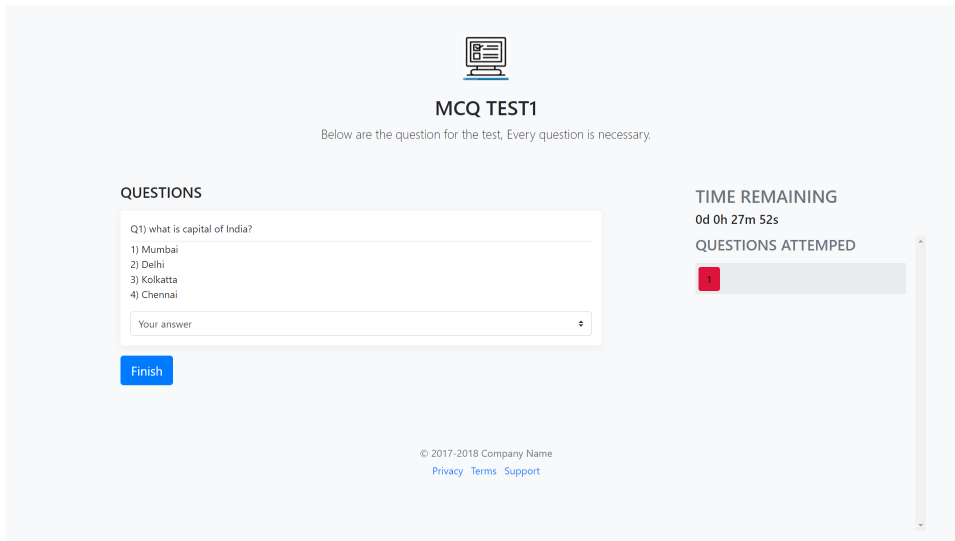
We can also add new questions to it, finally after creating the test, our screen would look like this:



The screenshot shows a dashboard with a left sidebar and a main content area. The sidebar contains links for 'Dashboard', 'hello', 'john', 'Create Test', 'Announce', and 'Add student email-id', with an 'Add' button at the bottom. The main content area features a green notification bar that says 'Your test was created'. Below this, there are tabs for 'Calendar' and 'To-do'. A card titled 'Test no. 1' displays the message 'Test is Secheduled on today at 9:45 of duration 0 hours and 30 minutes' (note the typo 'Secheduled'). It also states 'The link of test is attached below:' and includes an 'OPEN' button. At the bottom of the page, there is a copyright notice '© 2017-2018 Company Name' and links for 'Privacy', 'Terms', and 'Support'.

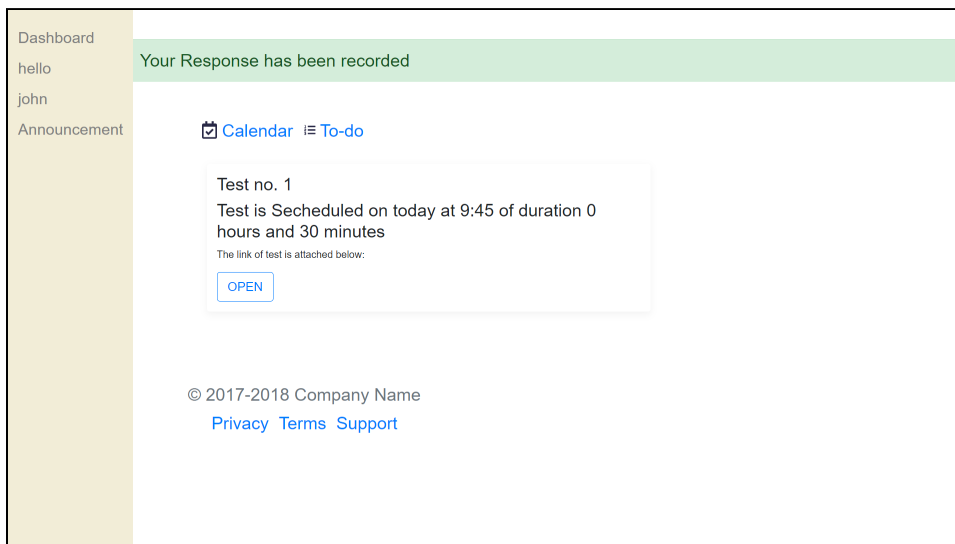
## 9) Attempting test

While attending the test, student's screen will look like:



The screenshot shows a web interface for an MCQ test. At the top center is a computer icon and the title "MCQ TEST1". Below the title is a note: "Below are the question for the test, Every question is necessary." The interface is divided into two main sections. On the left, under the heading "QUESTIONS", is a question box containing the text "Q1) what is capital of India?" and four multiple-choice options: "1) Mumbai", "2) Delhi", "3) Kolkatta", and "4) Chennai". Below the options is a text input field labeled "Your answer" with a dropdown arrow. A blue "Finish" button is positioned below the question box. On the right, under the heading "TIME REMAINING", the time is displayed as "0d 0h 27m 52s". Below this, under the heading "QUESTIONS ATTEMPTED", there is a red square icon with the number "1" and a horizontal progress bar. At the bottom center, there is a copyright notice "© 2017-2018 Company Name" and links for "Privacy", "Terms", and "Support".

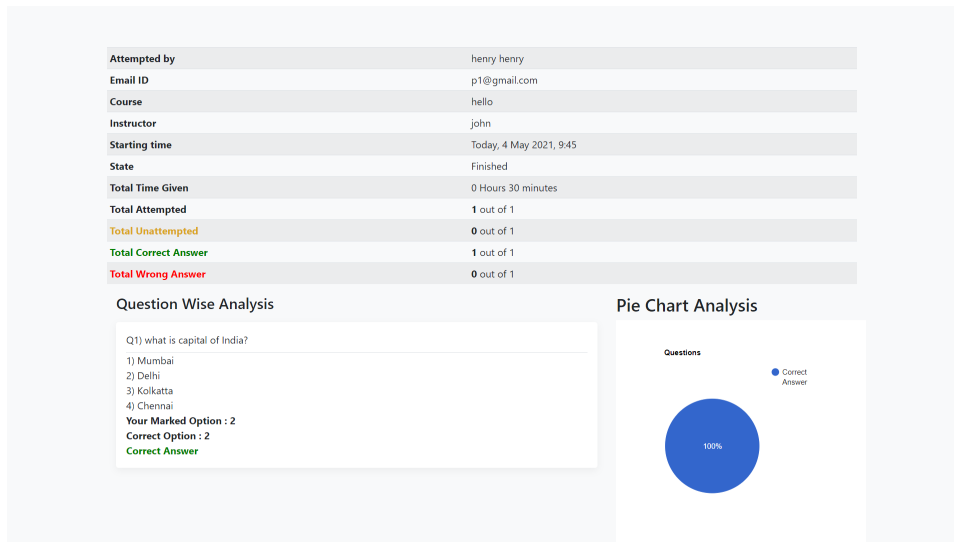
When a student finally submits the test (or opens a new tab), the response gets recorded.



The screenshot shows a user dashboard with a sidebar on the left and a main content area. The sidebar contains links for "Dashboard", "hello", "john", and "Announcement". The main content area has a green banner at the top that says "Your Response has been recorded". Below the banner, there are icons for "Calendar" and "To-do". A white box contains the text "Test no. 1", "Test is Secheduled on today at 9:45 of duration 0 hours and 30 minutes", and "The link of test is attached below:". Below this text is a blue button labeled "OPEN". At the bottom of the main content area, there is a copyright notice "© 2017-2018 Company Name" and links for "Privacy", "Terms", and "Support".

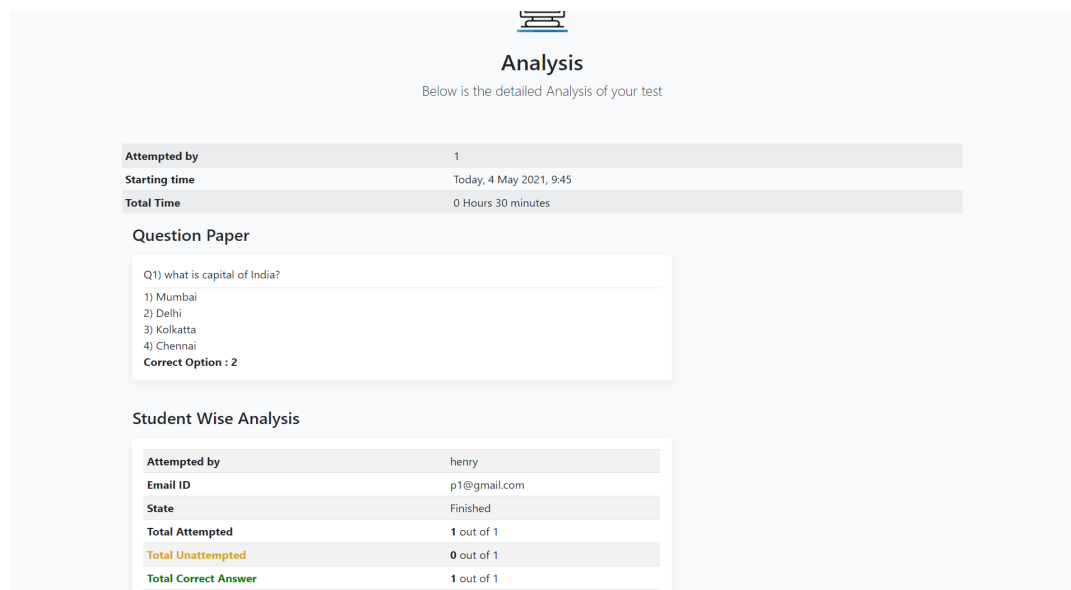
## 10) Result Analysis for student

Students can also see the analysis of the test ,after submitting the test they can see how many questions have been answered correctly and incorrectly and how many were unanswered , with pie chart analysis and also an editorial which shows which options were the correct answer.



## 11) Result Analysis for teacher



Teacher can see how many student attempted their paper and how many marks they have got checking done in the backend he don't have to check manually



## 12) Asking Queries in the course

Students can ask various questions about the course ,which he can post in our query system.

Dashboard  
hello  
john

 Announcement  Queries

Post Your Query

Doubt regarding Node JS

Sir why Node JS is much widely used than PHP?

Post

Descirption Of The Course

By john

This Course is here to make you aware about various technology used

----- THE END -----