

Bachelor of Computer Application

online examination system

A Major Project Submitted for the degree of



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**Siliguri Institute of Technology**

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Certificate

This is to certify that the project report entitled Online Examination System submitted to Department of Computer Application, Siliguri Institute of Technology, affiliated to **Maulana Abul Kalam Azad University of Technology** (MAKAUT) for the Award of **Bachelor of Computer Application (BCA)**, is an original work carried out by

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The matter embodied in this report is genuine work done by the students and has not been submitted whether to this Institute/University or to any other Institute/ University for the fulfilment of the requirement of any course of study.

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# Introduction

## Project Overview

This project assesses students by conducting online objective tests. The tests would be highly customizable. This project will enable educational institutes to conduct test and have automated checking of answers based on the response by the candidates.

The project allows faculties to create their own tests. It would enable educational institutes to perform tests, quiz and create feedback forms. It asks faculty to create his/her set of questions. Faculty then creates groups and adds related students into the groups. Further the tests are associated with specific groups so that only associated students can appear for the test. The result of the response would be available to the faculty of the question set. This project would be helpful for creating practice tests, say for educational institutes and as a feedback form.

## Purpose

* Responses by the candidates will be checked automatically and instantly.
* Online examination will reduce the hectic job of assessing the answers given by the candidates.
* Being an integrated Online Examination System, it will reduce paper work.
* Can generate various reports almost instantly when and where required.

## Scope

This project would be very useful for educational institutes where regular evaluation of students’ is required. Further it can also be useful for anyone who requires feedback based on objective type responses.

## Definitions, Acronyms

The sub-section provides the definitions of all terms, acronyms, and abbreviations used in this document to understand the SRS properly.

| **Sr. No.** | **Terms/Acronyms** | **Description** |
| --- | --- | --- |
|  | Student | User mostly a student who will appear for the examination |
|  | Faculty | Another user mostly faculty member, lecturer or examiner who posts set of questions, the available options and correct answers. |
|  | Administrator | Super user, adds faculty and manages system. |

1. System Analysis
   1. Identification of Need:

We have created the project using combined method. In combined method, uses everyone in the organization along with the team members to come up with ideas for a project. So, we proceed with this method and we the team members were decided to develop this project, Online Examination System. During the implementation of our project, we assigned different team member to different parts of the project. By implementing a needs identification system, the organization helps to ensure the proper allocation of assets to different project within the organization.

* + 1. Identifying Problems:

Identifying potential problems before the start our project can save the organization significant amounts of time and money. Problem analysis is one of the most critical stages of our project planning because this stage helps to guide all subsequent analysis and decision making. If the project does not advance past this stage with solutions that the organization can implement, the project should not go forward in its current form.

* + 1. Observations:

The needs for our project are identified after the organization makes observations about the project. Observations are often subjective and therefore someone with expertise about the proposed project should help to make observations. If the observations take into consideration the project itself and outcome of the project, the observation should meet all of the needs of our project.

* + 1. Gathering Information:

Observation and gathering information represent two processes. Observations highlight what is needed. On the other hand, gathering information highlights the processes needed to execute our project. Both observation and the actual gathering of information should include comments from the complete project.

* + 1. Objectives and Opportunities:

Once our team has analyzed the needs and identified the objectives, then the team of the members needs to allocate funds to capitalize our project. Additionally, a business needs to consider the potential future cash flow of the project. This allows the business to analyze potential cost saving to minimize cost and maximize the efficiency of our project.

* 1. Preliminary Investigation:

As the name of the project “On-Line Examination” suggests, the system/application has to manage the examination for various department of an academy. So to keep the information correct and fast, it will manage the status/information of the examination of that examination so one can get the details of exam as per their program.

* **Reviewing the documents provided by the organization:**

They were quite effective in guiding us towards visualizing the features they were needed to be put together in the system and the requirement output which had to be generated once the system became functional. These specification provides to us by the organization showed how the new system should look like, it helps us in the understanding the basic structure of the application which we were supposed to develop.

* **On site Observation:**

Another technique utilized by us to gain information about our project was to visit the client site where the system had to be installed. Here a detailed system study was carried out, checking the existing system to replicate it with our system. We also observed the activities of the system directly. During on-site observation, we saw the office environment, work load of the system and users, method of work, and the facilities provided by the organization. This information helps us to understand how the system should operate. But after interviewing the persons, who is affected by the system, we got more details that future explain the project and shown whether assistance is merited economically, operationally and technically.

* **Conducting Interviews:**

This method of investigation conducted by us involved questioning the concerned personnel to get the user’s view about the system and the features they desired it to have.

Earlier it was a very time consuming and tedious process where both students as well as university used to perform all tasks manually be it student registration, setting question papers, setting schedule to finally declaring the result. It was cumbersome since these details were now generated, managed and kept in computers. It was still not that much simpler later the process became a lot easier when computer system was introduced and all for the students because they were still expected to come in person to register, appear for exam at exam center and for all those formalities. Now we are expected to develop a web application which converts all of these tasks automatic as well as web enabled.

* 1. Feasibility study

Feasibility is the analysis of risk, costs & benefits relating to economics, technology, & user operation.

There are several types of feasibility depending on the aspect they covers. Some important feasibilities are below:

* Technical Feasibility
* Time-scheduling Feasibility.
* Operational Feasibility.
* Economical Feasibility.
  + 1. **Technical Feasibility**

The technical feasibility assessment is focused on gaining an understanding of the present technical resources of the organization and their applicability to the expected needs of the proposed system. It is an evaluation of hardware and software.

* This project on Online Examination System will be perform independent since. It is being coded in PHP scripting language.
* HTML is used to create web pages.
* MySQL database will be used for storing data.
* Hardware requirements used are compatible with all O.S.
* Only authorized person would be able to use the website so it would be secure.
  + 1. **Time-schedule Feasibility:**

A project will fail if it takes too long to be completed before it is useful. Typically this means estimating how long the system will take to develop, and if it can be completed in a given time period using some methods like payback period. Schedule feasibility is a measure of how reasonable the project timetable is.you need to determine whether the deadlines are mandatory or desirable.

* + 1. **Operational feasibility:**

It is a measure of how well a proposed system solves the problem, and it takes advantage of the opportunities indentified during scope definition and how it satisfied the requirements.

The operational feasibility assessment focuses on the degree to which the proposed development projects fits in with the existing business environment and objectives with regard to development schedule, corporate culture, and existing business processes.

* + 1. **Economic Feasibility:**

The purpose of this feasibility assessment is to determine the positive economic benefits to the organization that the proposed system will provide. This assessment typically involves a cost/benefits analysis.

Economic analysis is the most frequently used evaluating the effectiveness of the proposed system, more commonly known as Benefit analysis. It used to determine benefits and savings which are expected from candidate system and compare them with the cost. If the benefits are more than the cost then decision is made to design and implement the system.

* 1. Project Planning

Before starting a software project, it is essential to determine the tasks to be performed and properly manage allocation of tasks among individuals involved in the software development. Hence, planning is important as it results in effective software development.

Once a project is found to be possible, computer code project managers undertake project designing. Project designing is undertaken and completed even before any development activity starts. Project designing consists of subsequent essential activities.

Subsequent attributes of the project:

* **Project size:**

What’s going to be downside quality in terms of the trouble and time needed to develop the product?

In our project, the time took around 6 months to complete the project.

* **Cost:**

Generally, the cost is made up of time and effort cost of software projects that are spent on the project. There are several components that make up a total cost. First of them are direct and indirect expenses.

* **Duration:**

Total duration to develop our project is around 6 months.

* **Effort:**

Here the effort means the team efforts to develop the project. We have differentiated the whole project into the following parts, and the team members are developing the project. Following phases are, UI design, Database Management, Testing, Security, Back-end etc.

The project plan is divided into the following sections.

**Introduction:**

The objectives of the project and provides information about the constraints that affect the software project.

**Project organization:**

The responsibilities assigned to the project management team members for completing the project.

**Risk analysis:**

The risks that can possibly arise during software development as well as explains how to assess and reduce the effect of risks.

**Resource requirements:**

The hardware and software required to carry out the software project. Cost estimation is done according to these resource requirements.

**Work breakdown:**

The activities into which the project is divided. It also describes the milestones and deliverables of the project activities.

**Project schedule:**

The dependencies of activities on each other. Based on this, the time required by the project management team members to complete the project activities is estimated.

* 1. Project Scheduling

Project Scheduling in a project refers to roadmap of all activities to be done with specified order and within time slot allotted to each activity. Project managers tend to define various tasks, and project milestones and arrange them keeping various factors in mind.

To schedule our project plan, we have followed this,

* Identify all the functions required to complete the project.
* Break down large functions into small activities.
* Estimate time frame required for each task.
* Divide time into work-units.
* Allocate resources to activities.
  + 1. **Gantt Chart**

A Gantt chart, commonly used in project management, is one of the most popular and useful ways of showing activities (tasks or events) displayed against time. On the left of the chart is a list of the activities and along the top is a suitable time scale.

(P.T.O)

|  |  |  |
| --- | --- | --- |
| Task | Start Date | Days to Complete |
| Preliminary Investigation | 2-Jan | 16 |
| Requirement Gathering & Analysis | 20-Jan | 7 |
| System Design | 28-Jan | 44 |
| Coding | 28-Mar | 60 |
| Testing | 19-Jun | 10 |
| Implementation | 3-Jul | 5 |
| User Training | 10-Jul | 1 |
| Maintenance | 10-Jul | 2 |

* 1. Software Requirements Specification:

A Software Requirement Specification (SRS) is a document that describes the nature of a project, software or application. In simple words, SRS document is a manual of a project provided it is prepared before kick start this project. A software document is primarily prepared for a project software or any kind of application.

Software Requirement Specification document describes the intended purpose, requirements and nature of the software to developed. It also includes the yield and cost of the software.

* + 1. **INTRODUCTION**

**Purpose:**

The purpose of this document is to build an online system to manage give exams and publish report to ease the examination procedure.

**Project Scope:**

The purpose of the online examination system is to ease online exam and to create a convenient and easy-to-use application for the students. The system is based on a relational database with its online exam and giving result functions.

* + 1. **OVERALL DESCRIPTION**

**PRODUCT PERSPECTIVE**

OES is an on-line examination system. It is accessible via the Internet, 24 hours a day, 7 day a week. The objective of this app is to reach and connect candidate and examiner in remote communities and conduct exams in a virtual environment online. This app will only allow the registered users to enter the test module. The various stages(admin/student) in the app are as follows, For **Administrator**:

* Login
* Dashboard
* Department
* Categories
* Subjects
* Students
* Examinations
* Questions
* Exam Results

**Login:**

The window offers the user two choices for logging into the system according to the preset privileges – Candidate login and Administrator login.

The candidate login will take the user to the user profile.

The administrator login will take the user to the administrator profile.

**Dashboard:**

After Log-in as an Administrator, this window is a 360’ overview of the system. This also gives an idea of Admin/faculty to how many students, questions, Departments, Subjects are available.

**Departments:**

This window can manage the departments, where admin can add new departments if needed, also can view the existing departments as well.

**Categories:**

This window offers the two choices, one can view the existing Categories that are available, another can also add category in respect to department. This category will be use as a semester.

**Subjects:**

Here Admin can add/delete subject along with Department and Category.

**Student:**

This window has details of total number of students. Only admin can register student when the particular student has desired to take exam. Prior to registration, Admin or faculty member will give them a Form to fill up the details, then admin can add them

**Examination:**

The window can only be accessed by the administrator. It allows the administrator to add and edit the exams.

**Exam Results:**

This window displays the result of the exams the candidate has just appeared. It also allows the administrator to re-activate the exam of a particular student.

For Student, the various stages are follows:

* Dashboard.
* Examinations.
* Exam Results.

**Dashboard:**

After Log-in as a student, this window offers a 360’ overview of the system. Where student can see their active examination, on which subject the exam is held, passed exam and failed exam.

**Examinations:**

This window contains all the exams candidate can give. All these exams are organized according to the category they fall in.

**Exam Results:**

This window offers the results of all the students in respect to their examination. Also, it displays the score along with status of each student.

**Product Functions:**

The functions are divided according to the user types such as,

* **Administrator:**

The function of the administrator is to add/edit exams in the test module.

* **Candidate:**

The function of the student is to update his/her profile and give various exams.

**User classes and characteristics:**

This app requires the user to have characteristics such as the user should be able to communicate and write in English and should have previous experience of giving an online exam. If not, the candidate should be instructed about the basic’s usage of the app by the authorized personnel.

**Operating environment:**

This app is internet based so it will run in the operating system with internet access through a web browser.

**Design and Implementation Constraints:**

The candidate is allowed to give the exams any number of times, until specified otherwise by the admin while building the test. While giving the exam the candidate is given only a set of amounts of time and the remaining time should be displayed, after which the exam should close and display the result.

**User Documentation:**

The product will include a user report.

**Assumption and Dependencies:**

Paper working of this app is dependent on the internet connectivity of the user’s computer. The following assumptions are as follows,

* It is assumed that the user has basic knowledge of the system as any action by the user is considered valid during an examination.
* It is assumed that the data entered by the user while registering is true.
* It is assumed that the candidate does not cheat during the exam as there are no supervisors around to monitor.

* + 1. System features:

**Functional requirements:**

Required software is for conducting on-line `***objective****’* type examination and providing immediate results. The system should satisfy the following requirements:

* **Faculty or Admin Aspect**
  1. Logging into the system.
  2. Sending invitations to specific student by mail or any other process.
  3. Accepting registrations of candidates.
  4. Adding the candidate.
  5. Create/Edit/Delete candidate.
  6. Creating an exam.
  7. Posting questions in the above exam.
  8. Posting multiple options to respective question.
  9. Marking correct answer within the given options.
  10. Time limit of the exam.
  11. No negative marks for wrong answers. For wrong answers it will count as zero.
* **Student Aspect:**
  1. Requesting registration. Admin will send a registration ID and password by mail once the student has been registered.
  2. Logging into the system.
  3. Can change password and also view his/her details.
  4. Selecting the test.
  5. Appearing for the examination.
* **Analysis**
  1. Authenticating users based on username and password.
  2. Keeping session track of user activity.
  3. Keeping history of test reports of all users.
     1. External Interface Requirements

### Hardware Interfaces

**Server-side hardware**

* + - * Hardware recommended by all the software needed.
      * Communication hardware to serve client requests

**Client-side hardware**

* + - * Hardware recommended by respective client’s operating system and web browser.
      * Communication hardware to communicate the server.

### Software Interface

**Server-side software**

* + - * Web server software like XAMPP, WAMPP.
      * Server-side scripting tools: PHP.
      * Database tools: phpMyAdmin MYSQL.
      * Compatible operating system: Windows

**Client-side software**

* + - * Web browser supporting JavaScript, refer Browser Compatibility Chrome, Firefox etc.

### Third Party Software Interfaces

None

* + 1. Nonfunctional Requirements
* System should be able handle multiple users
* Database updating should follow transaction processing to avoid data inconsistency.

### Browser Compatibility

The project being web based required compatibility with at least the popular web browsers. Microsoft Windows, Linux and Macintosh being the current popular operating system and Microsoft Internet Explorer, Mozilla Firefox, Opera, Safari and Google Chrome being the currently popular web browsers.

### Security

* + Administrator has the highest authority to edit/delete/create database.
  + Administrator have the authority to add/expel students.
  + Students can only view their assessment records.
  + Administrator can view all the test records of every student.
  + Critical information like passwords should be transferred in encrypted form
  + Passwords should be stored in encrypted form
  + Password will not be mailed to the user in case user forgets password, instead either temporary password or a password resets link will be sent.

### Reliability

Data validation and verification needs to be done at every stage of activity.

* Validating user input.

### Availability

The examination system being an online system should be available anytime.

* Creator may allow the specific test to be available only at certain time like scheduled examination.
* The assess may be time limited so the candidates appearing will have limited time to answer the test.

### Portability

* The web application will be built using PHP which has support to run on any platform provided the required compilers are available.
* For database MySQL would be used, that too has extensive support over many popular architectures and operating systems.

### Performance

The system would be used by multiple users at a time and may grow as time passes; the system would need to implement multithreading to achieve acceptable performance. Further a database connection pool may also be required for assigning faster database connection.

1. System Design
   1. **Modularization**

Modularization is a technique to divide a software system into multiple discrete and independent modules, which are expected to be capable of carrying out task(s) independently. These modules may work as basic constructs for the entire software. Designers tend to design modules such that they can be executed and/or compiled separately and independently.

Advantages of modularization:

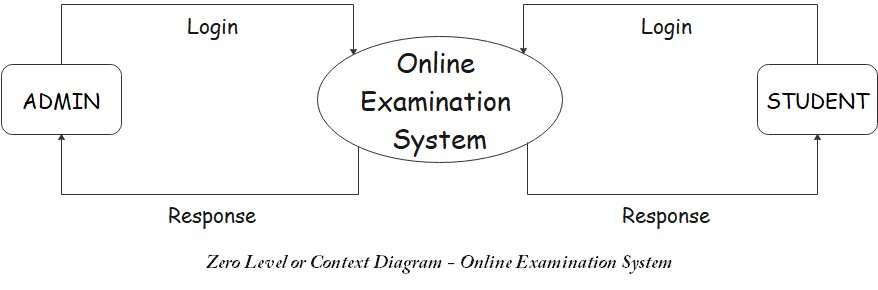
* Smaller components are easier to maintain.
* Program can be divided based on functional aspects.
* Concurrent execution can be made possible.

In our Online examination system has two modules.

* Log in Module.
* Password change module.
* Timer Module.
* Admin module.
* Student Module.
  1. Database Design
     1. Data Flow Diagram

**Level-0 DFD (Context Diagram):**

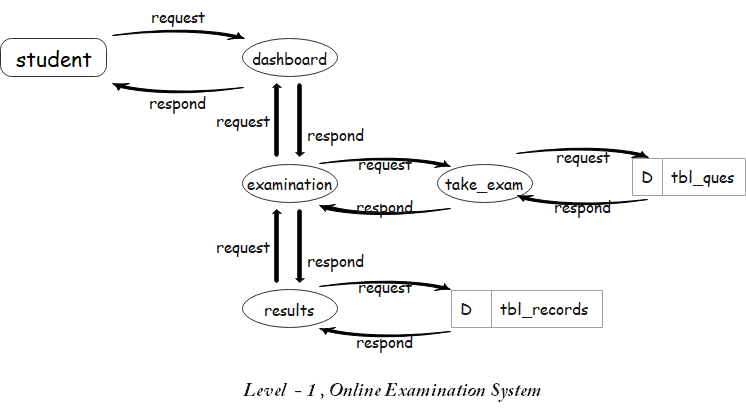
A level-0 DFD is also known as context diagram. It’s designed to be an abstraction view. It represents the entire system as a single process and shows its relationship with external entities. The entire system is represented as single bubble with input and output data indicated by incoming/outgoing arrows.



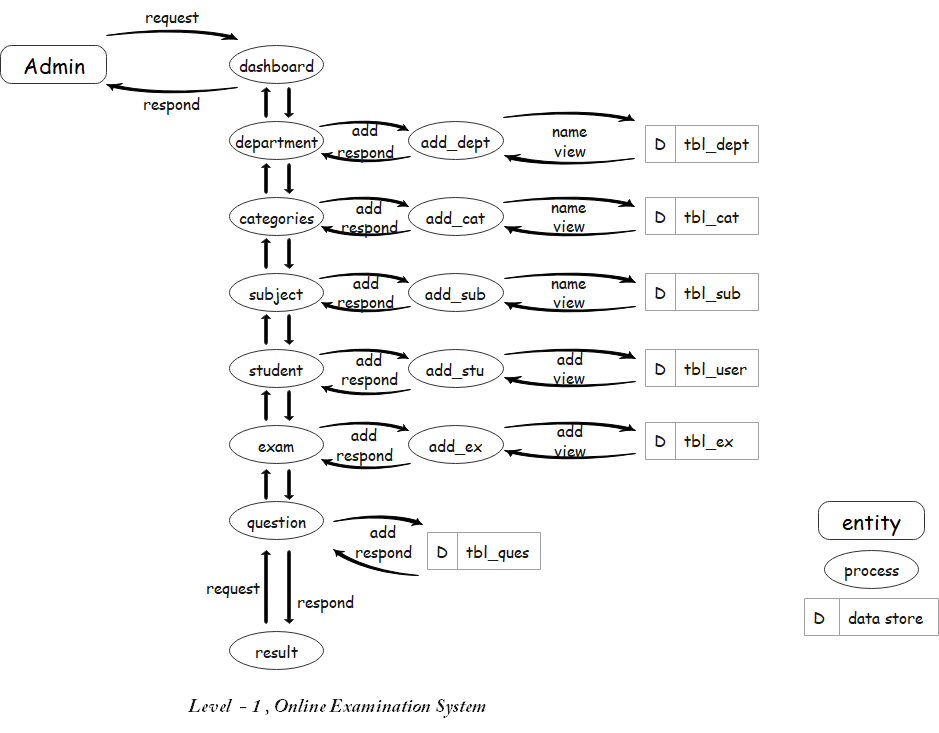
**Level-1 DFD:**

In level-1 DFD, context diagram is broken down into multiple processes. It is more detailed than level-0. In this level we highlight the main functions of the system and breakdown the high-level processes of level-0 DFD into subprocesses.

**Student:**



**Administrator:**



* + 1. **ER-Diagram (Entity-Relationship Diagram):**

An ER-Diagram describes the structure of a database. Basically, it is a blueprint of a database which represents real-world entities and the relationship between them.

An ER model helps to analyze data requirements systematically to produce a well-designed database. So, it is considered a best practice to complete ER modeling before implementing your database.

## Components used in ER Diagram:

This model is based on three basic concepts:

* **Entities**:

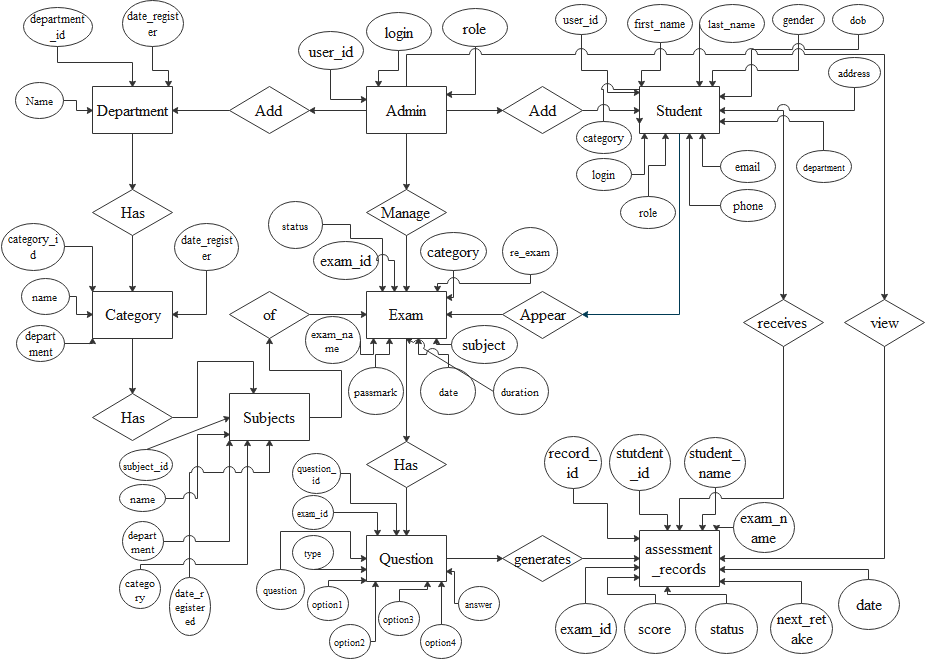
An entity can be place, person, object, event or a concept or anything in the enterprise to be stored in our database. E.g.: Department, Admin, Student, Exam, Subject.

* **Attributes:**

It defines the characteristics of an entity or a relationship**. E.g.,** user\_id, login, role are the attributes of admin entity.

* **Relationships:**

Relationship is nothing but an association among two or more entities. E.g., Admin adds a Student in department.



* + 1. Database Tables

**Table: Users**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints/Description** |
| user\_id | Varchar, NOT NULL | Primary Key |
| First\_name | Varchar, NOT NULL |  |
| Last\_name | Varchar, NOT NULL |  |
| Gender | Varchar, NOT NULL |  |
| Dob | Varchar, NOT NULL | Date of Birth |
| Address | Longtext, NOT NULL |  |
| Email | Varchar, NOT NULL |  |
| Phone | Varchar, NOT NULL |  |
| Department | Varchar, NOT NULL | Foreign: Departments.Name |
| Category | Varchar, NOT NULL | Foreign |
| Login | Varchar, NOT NULL | Stores the passwords |
| Role | Varchar, NOT NULL | Default: student |

**Table: Departments**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints/Description** |
| Department\_id | Varchar, NOT NULL | Primary Key |
| Name | Varchar, NOT NULL |  |
| Date\_registered | Varchar, NOT NULL |  |

**Table: Categories**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints/Description** |
| Category\_id | Varchar, NOT NULL | Primary Key |
| Name | Varchar, NOT NULL |  |
| Department | Varchar, NOT NULL | Foreign: Departments.Name |
| Date\_registered | Varchar, NOT NULL |  |

**Table: Subjects**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints/Description** |
| Subject\_id | Varchar, NOT NULL | Primary Key |
| Name | Varchar, NOT NULL |  |
| Department | Varchar, NOT NULL | Foreign: Departments.Name |
| Category | Varchar, NOT NULL | Foreign: Categories.Name |
| Date\_registered | Varchar, NOT NULL |  |

**Table: Examinations**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints/Description** |
| Exam\_id | Varchar, NOT NULL | Primary Key |
| Category | Varchar, NOT NULL | Foreign: Categories.Name |
| Subject | Varchar, NOT NULL | Foreign: Subjects.Name |
| Exam\_name | Varchar, NOT NULL |  |
| Date | Varchar, NOT NULL | Deadline of exam |
| Duration | INT, NOT NULL |  |
| Passmark | INT, NOT NULL | Overall Pass Mark in % |
| Re\_exam | INT, NOT NULL |  |
| Status | Varchar, NOT NULL | Default: Active |

**Table: Assessment Records**

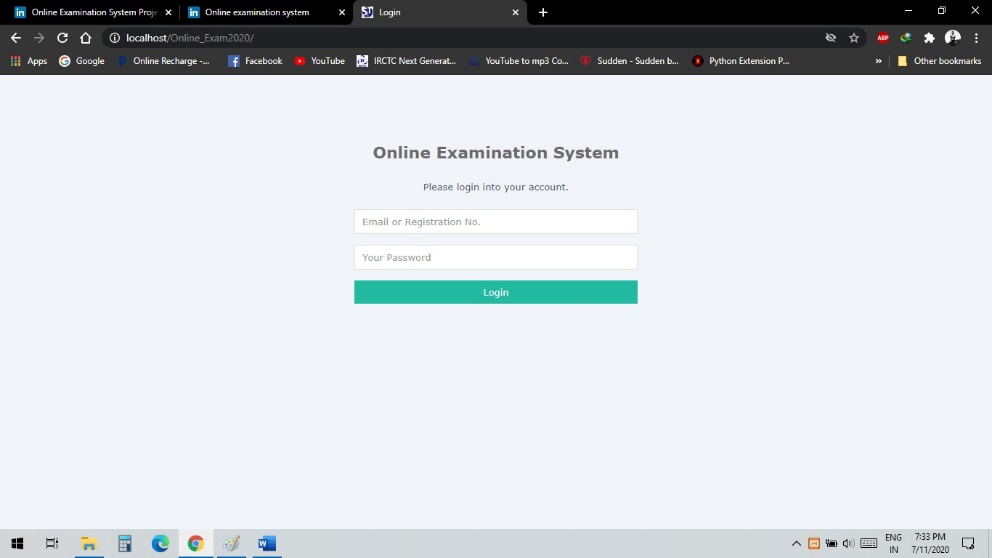
|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints/Description** |
| Record\_id | Varchar, NOT NULL | Primary Key |
| Student\_id | Varchar, NOT NULL |  |
| Student\_name | Varchar, NOT NULL | Foreign: Users.First\_name, Users.Last\_name |
| Exam\_name | Varchar, NOT NULL | Foreign: Examinations.Exam\_name |
| Exam\_id | Varchar, NOT NULL | Foreign: Examinations.Exam\_id |
| Score | Varchar, NOT NULL |  |
| Status | Varchar, NOT NULL | PASS/FAIL |
| Next\_retake | Varchar, NOT NULL |  |
| date | Varchar, NOT NULL |  |

Table: Questions

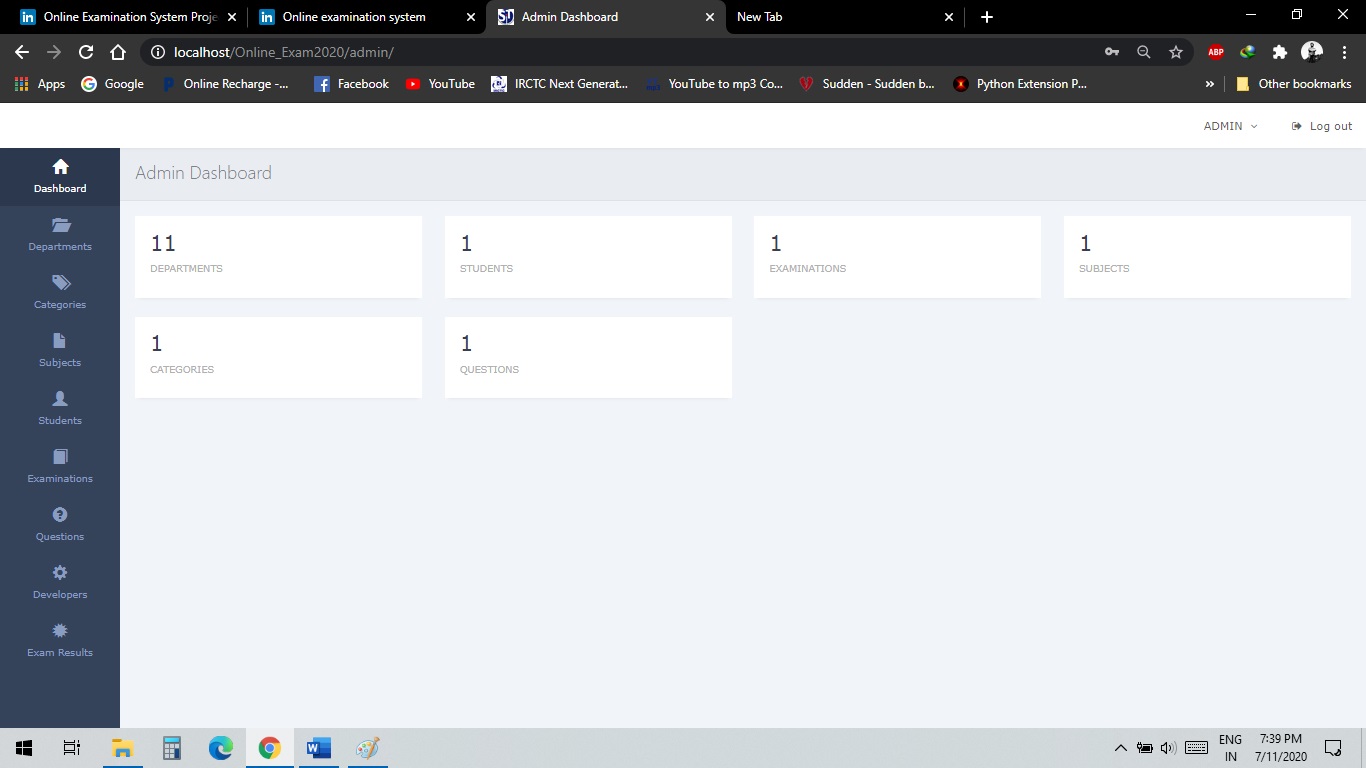
|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints/Description** |
| Question\_id | Varchar, NOT NULL | Primary Key |
| Exam\_id | Varchar, NOT NULL | Foreign: Examinations.Exam\_id |
| Type | Varchar, NOT NULL |  |
| Question | Longtext, NOT NULL |  |
| Option1 | Varchar, NOT NULL |  |
| Option2 | Varchar, NOT NULL |  |
| Option3 | Varchar, NOT NULL |  |
| Option4 | Varchar, NOT NULL |  |
| answer | Varchar, NOT NULL |  |

* + 1. User Interface Design

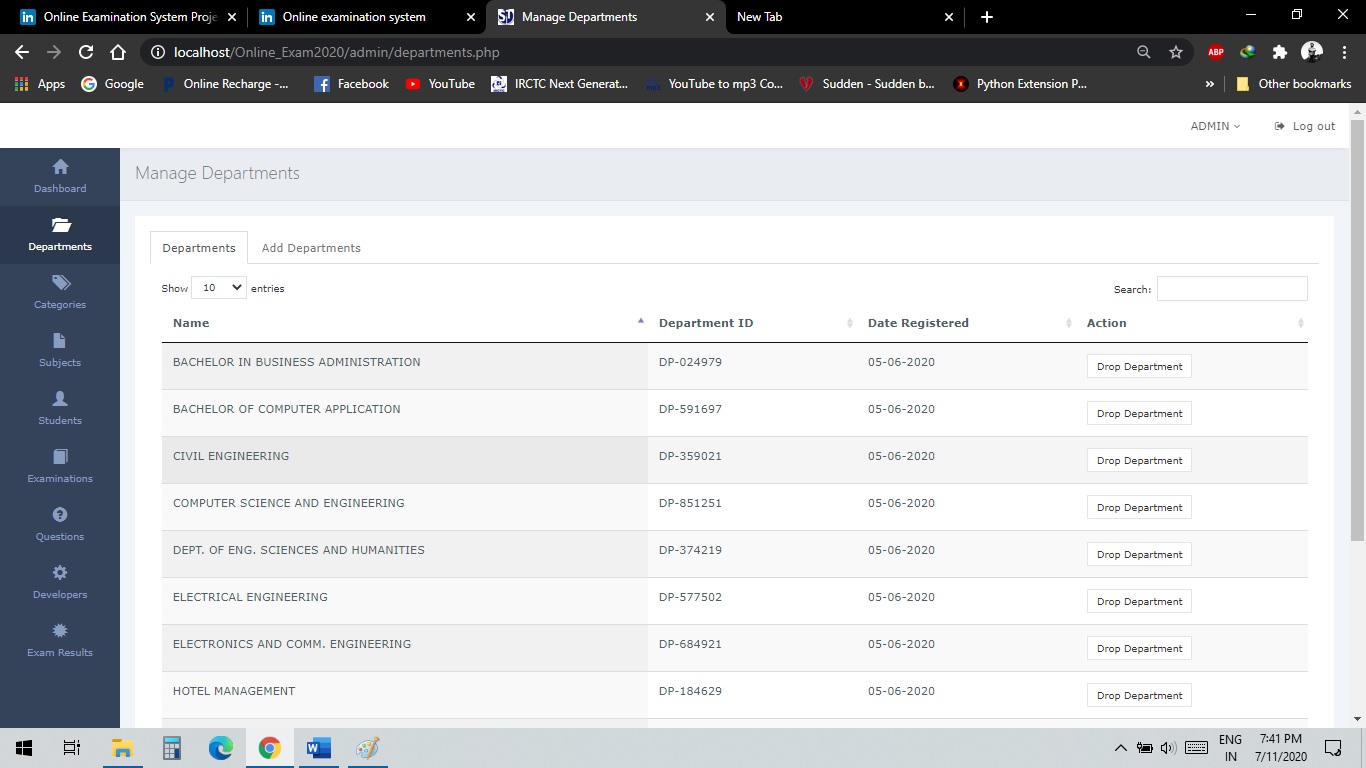
Login Page



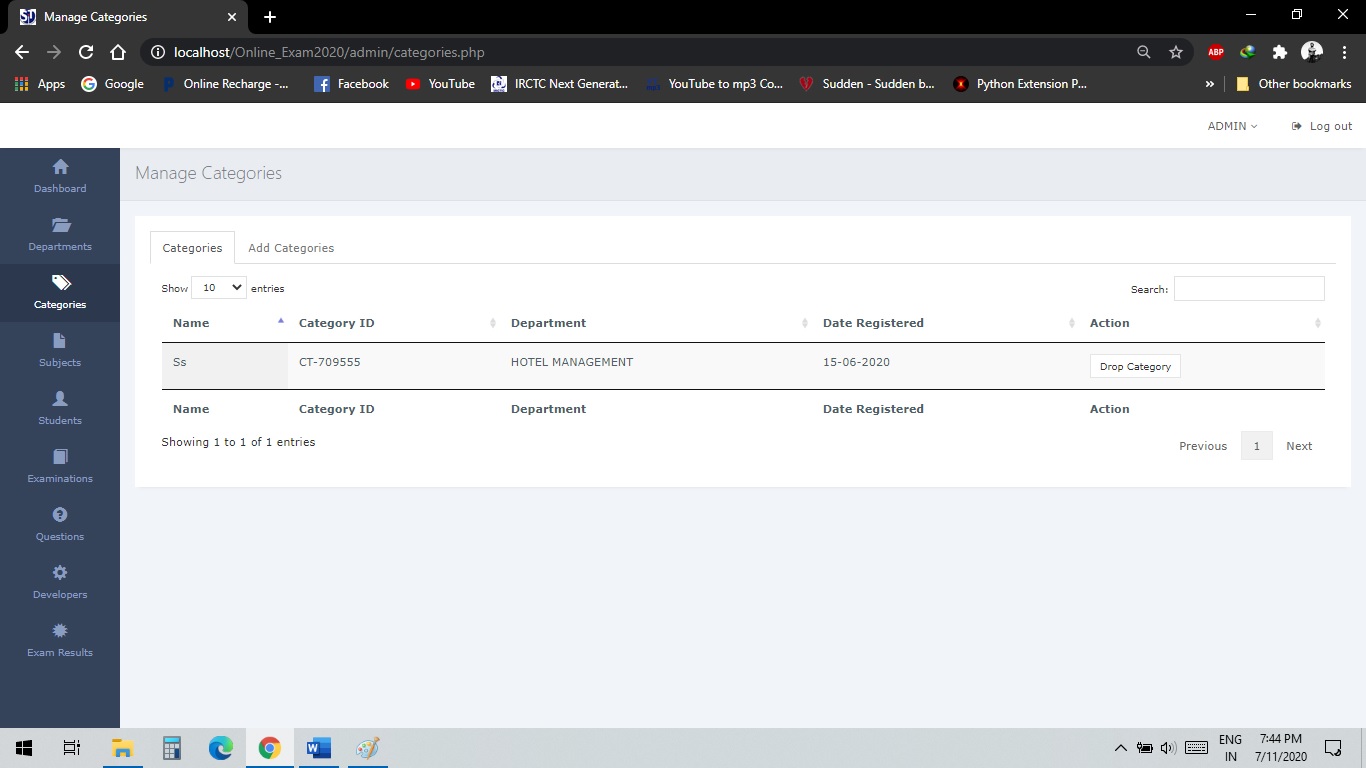
Admin Dashboard



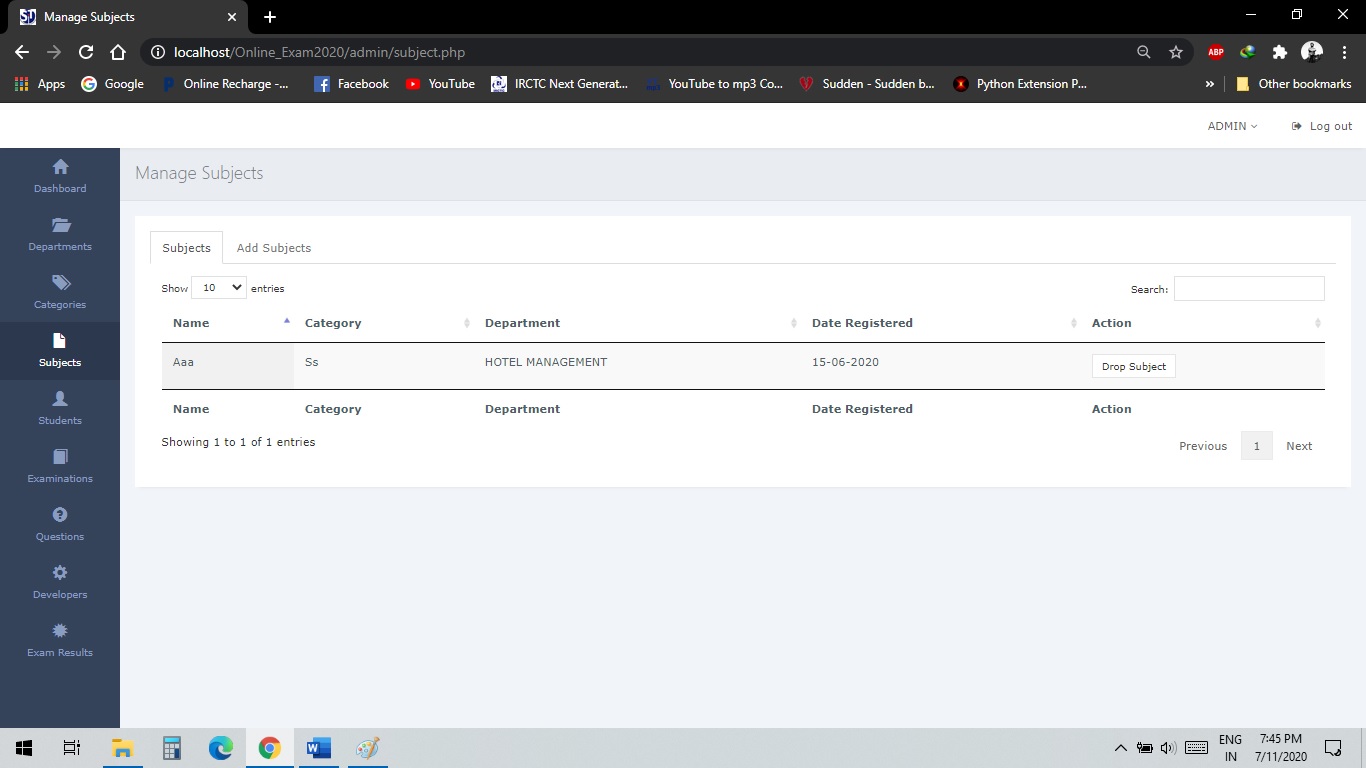
Department Page



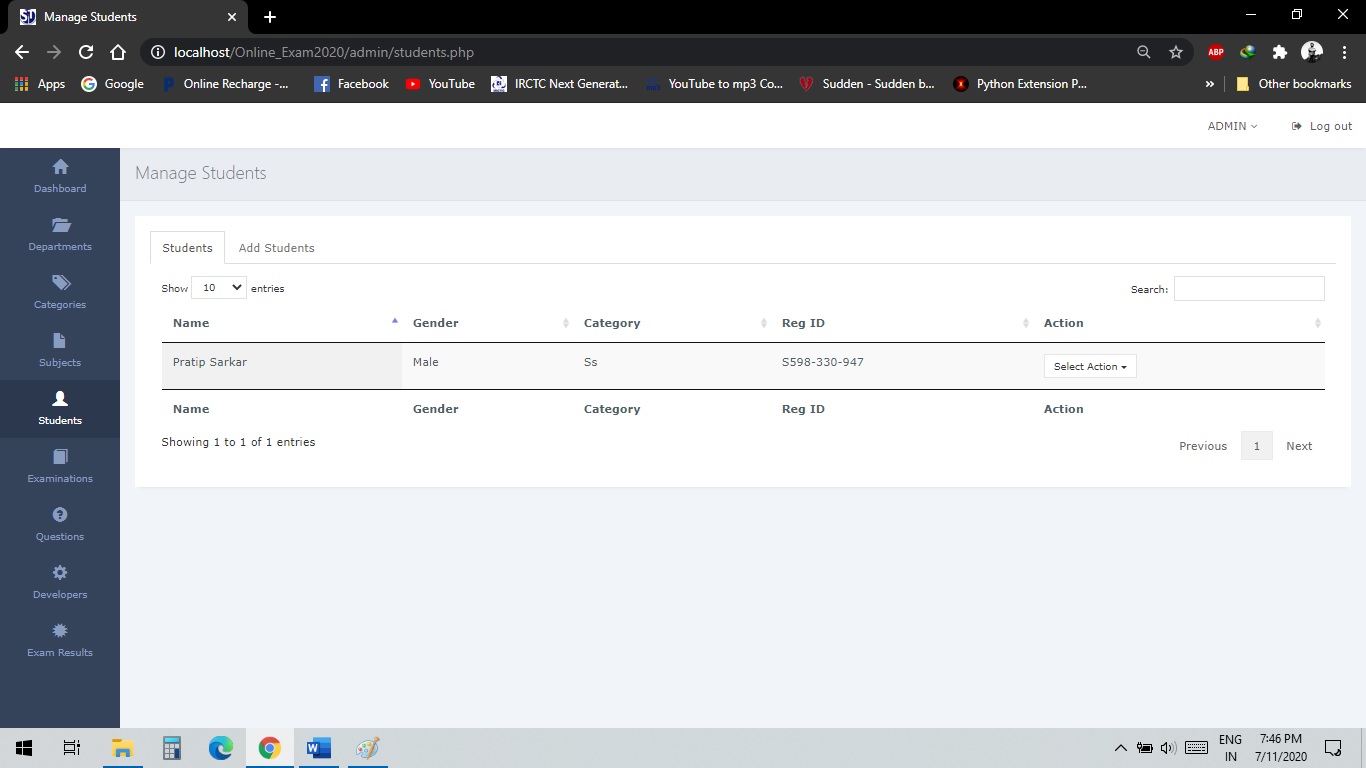
Categories Page



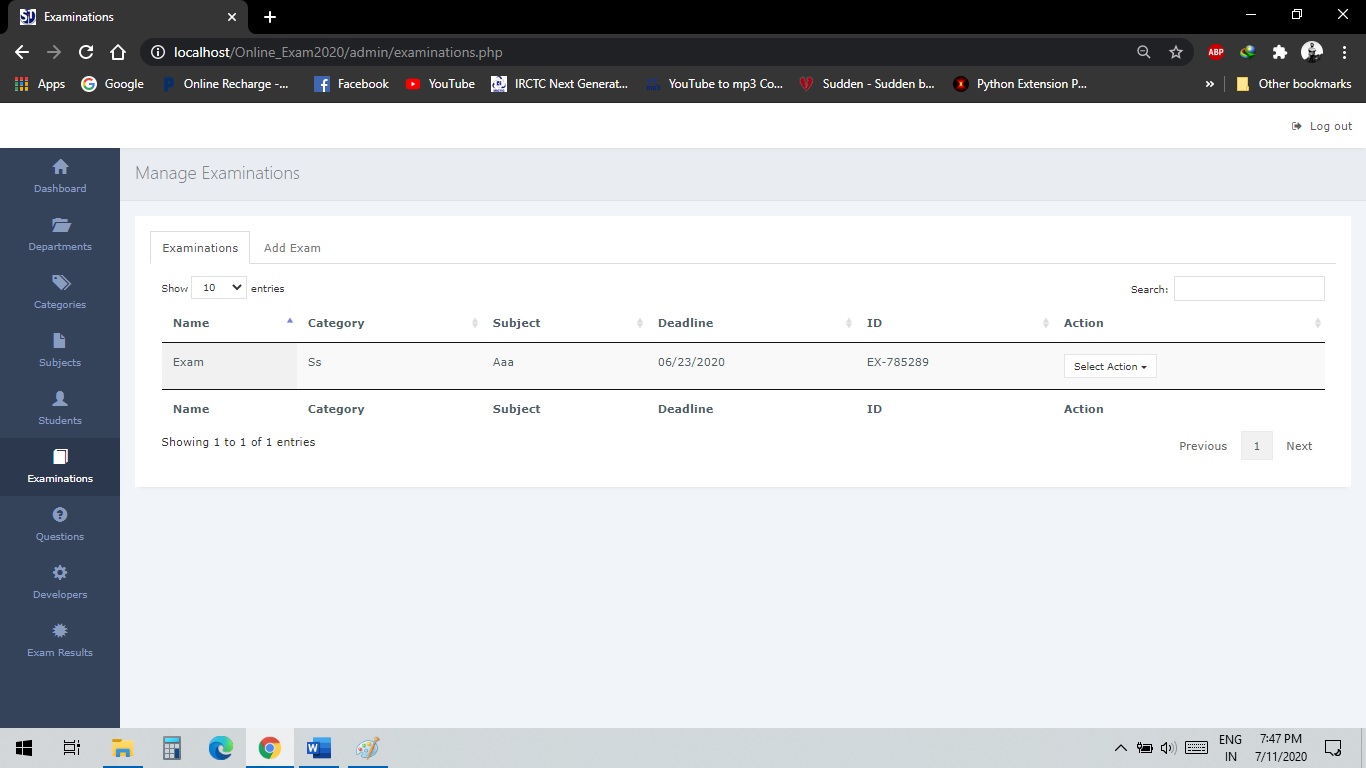
Subject Page



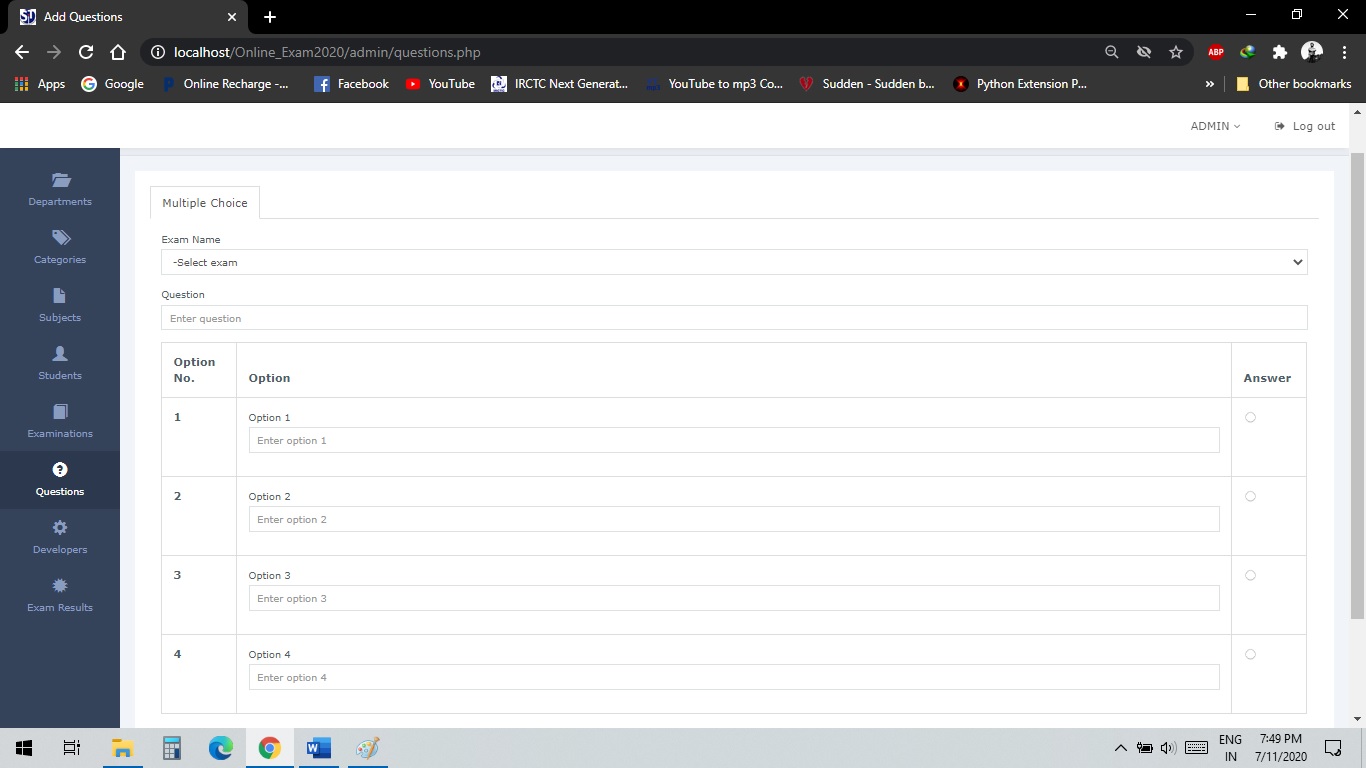
Manage Student Page



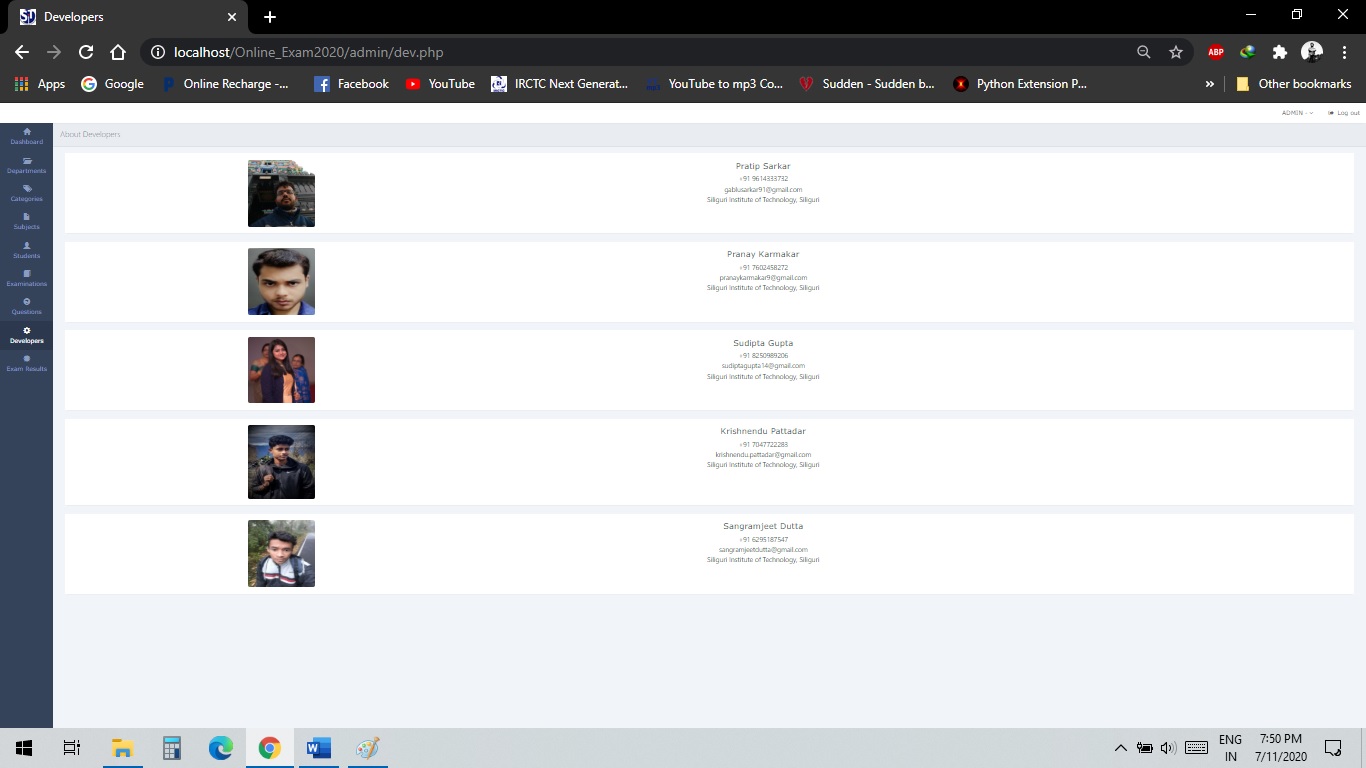
Manage Examination



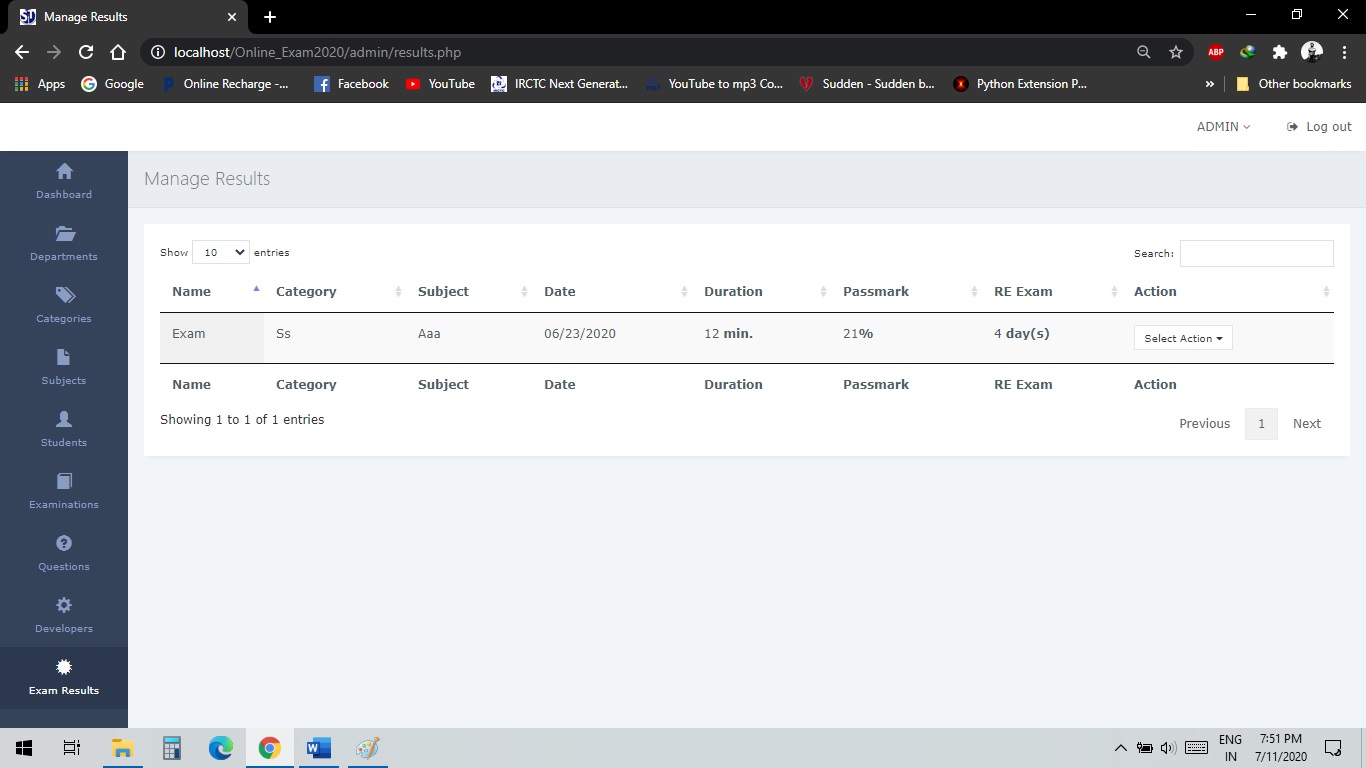
Add Question



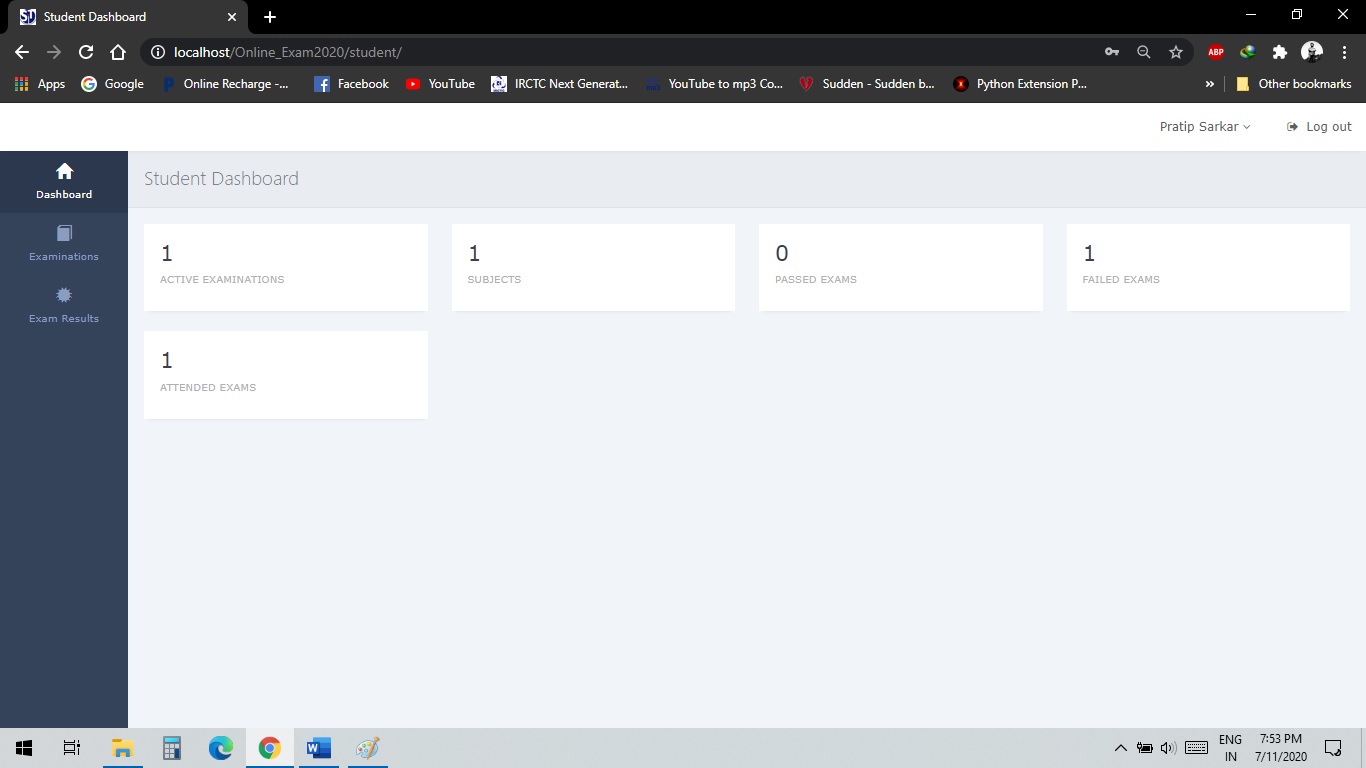
Developers Page



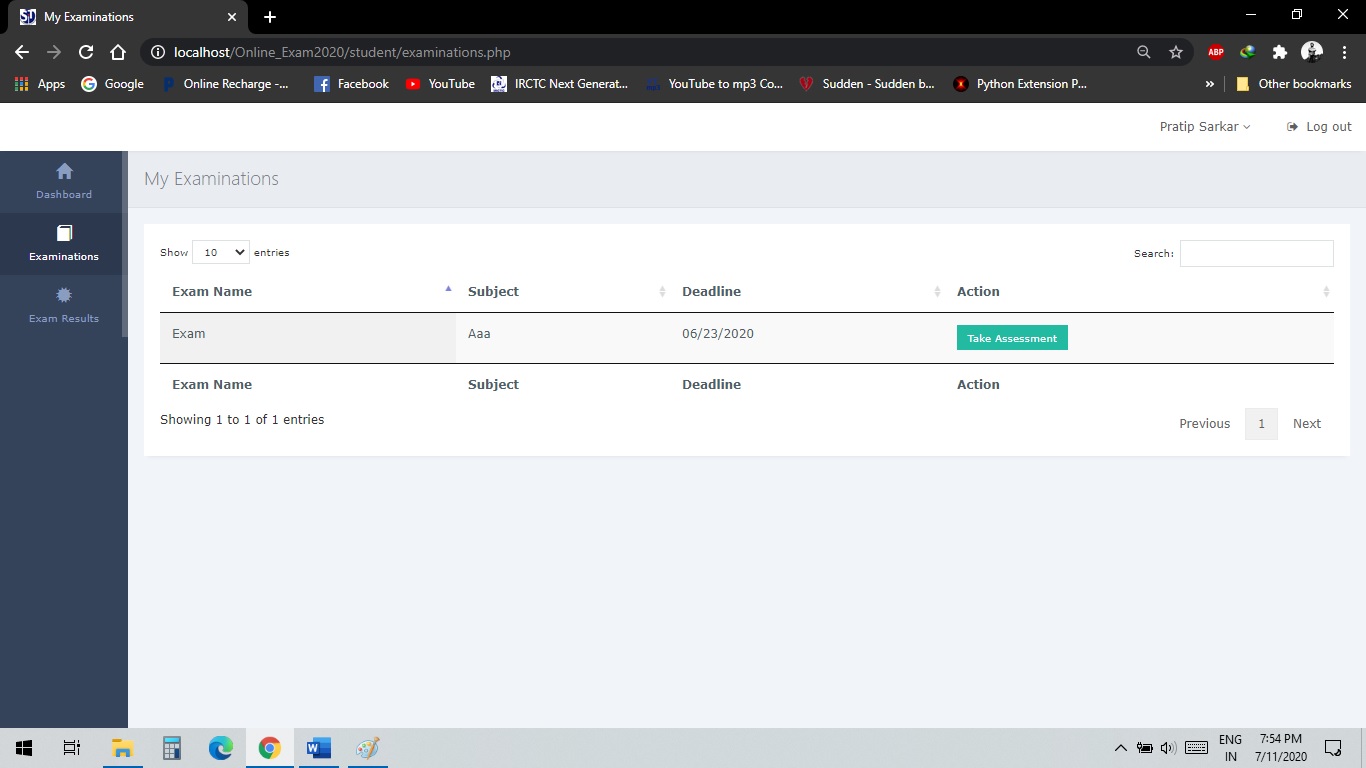
Manage Results



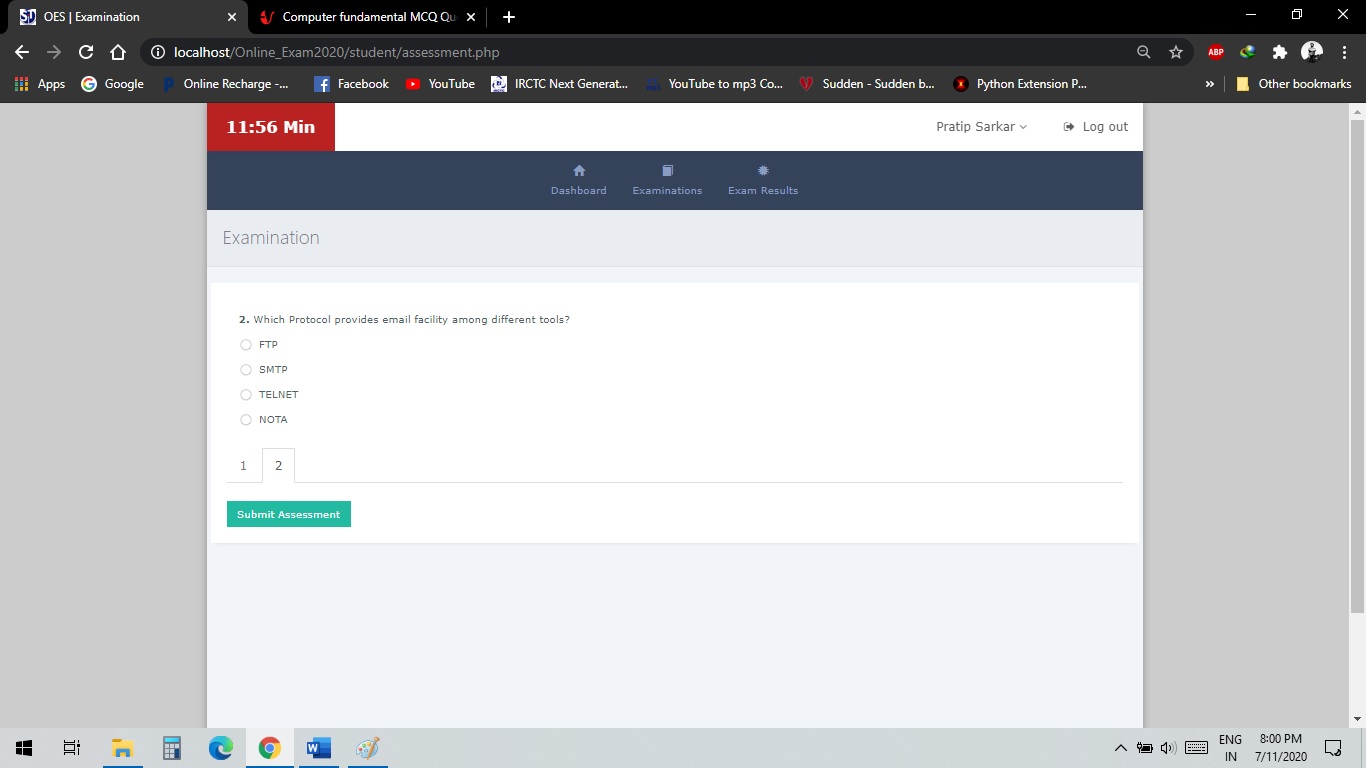
Student Dashboard



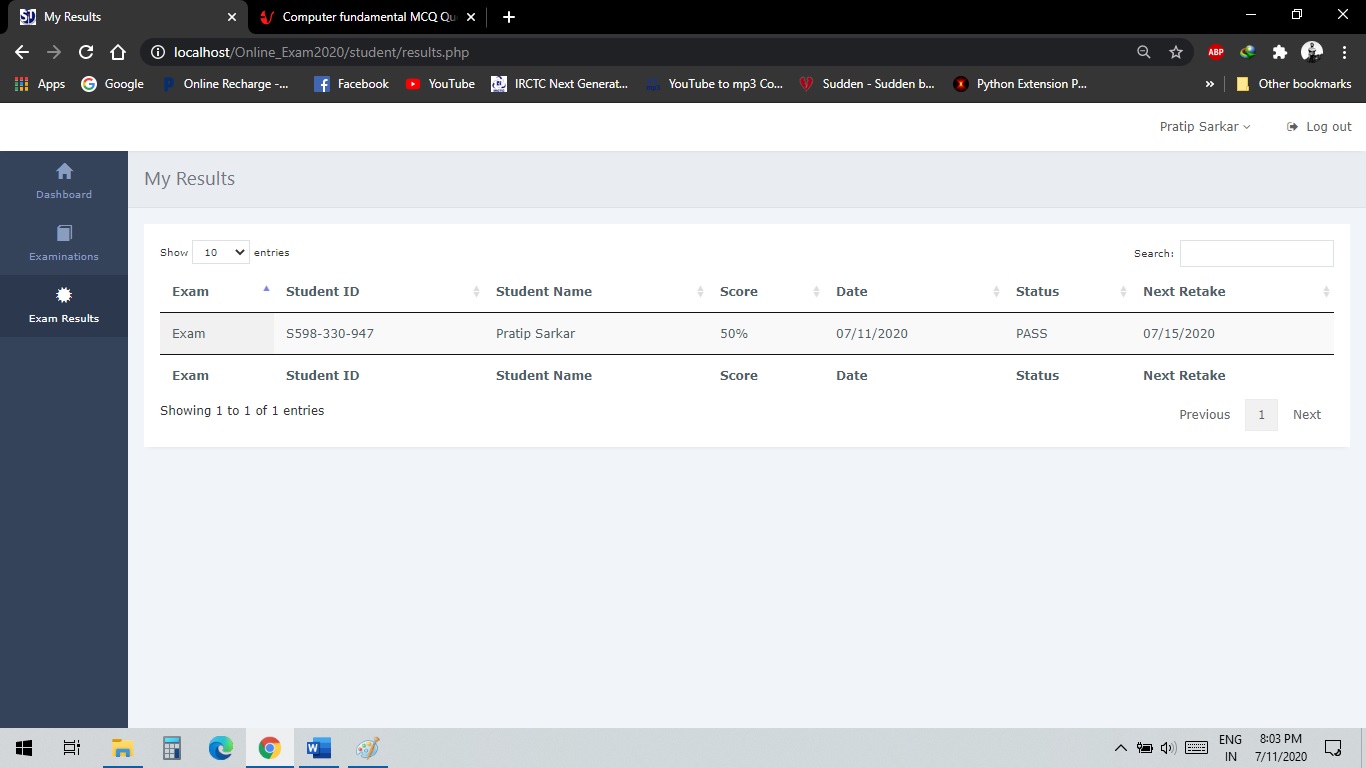
Student Examination



Examination Window



Exam Results



1. Coding
   1. **Complete Project Coding**

Login Page

<!--this is the login page-->

<!DOCTYPE html>

<html>

<head>

        <title>Login</title>

        <meta content="width=device-width, initial-scale=1" name="viewport"/>

        <meta charset="UTF-8">

        <link href='http://fonts.googleapis.com/css?family=Open+Sans:400,300,600' rel='stylesheet' type='text/css'>

        <link href="assets/plugins/pace-master/themes/blue/pace-theme-flash.css" rel="stylesheet"/>

        <link href="assets/plugins/uniform/css/uniform.default.min.css" rel="stylesheet"/>

        <link href="assets/plugins/bootstrap/css/bootstrap.min.css" rel="stylesheet" type="text/css"/>

        <link href="assets/plugins/fontawesome/css/font-awesome.css" rel="stylesheet" type="text/css"/>

        <link href="assets/plugins/line-icons/simple-line-icons.css" rel="stylesheet" type="text/css"/>

        <link href="assets/plugins/offcanvasmenueffects/css/menu\_cornerbox.css" rel="stylesheet" type="text/css"/>

        <link href="assets/plugins/waves/waves.min.css" rel="stylesheet" type="text/css"/>

        <link href="assets/plugins/switchery/switchery.min.css" rel="stylesheet" type="text/css"/>

        <link href="assets/plugins/3d-bold-navigation/css/style.css" rel="stylesheet" type="text/css"/>

        <link href="assets/images/icon.png" rel="icon">

        <link href="assets/css/modern.min.css" rel="stylesheet" type="text/css"/>

        <link href="assets/css/themes/green.css" class="theme-color" rel="stylesheet" type="text/css"/>

        <link href="assets/css/custom.css" rel="stylesheet" type="text/css"/>

         <link href="assets/css/snack.css" rel="stylesheet" type="text/css"/>

         <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">

        <script src="assets/plugins/3d-bold-navigation/js/modernizr.js"></script>

        <script src="assets/plugins/offcanvasmenueffects/js/snap.svg-min.js"></script>

    </head>

     <body class="page-login">

        <main class="page-content">

            <div class="page-inner">

            <img src="" alt="" height="100" width="250">

                <div id="main-wrapper">

                    <div class="row">

                        <div class="col-md-4 center">

                            <div class="login-box">

                                <a class="logo-name text-lg text-center">Online Examination System</a>

                                <p class="text-center m-t-md">Please login into your account.</p>

                                <form class="m-t-md" action="pages/authentication.php" method="POST">

                                    <div class="form-group">

                                        <input type="text" class="form-control" placeholder="Email or Registration No."  autocomplete="off" name="user" required>

                                    </div>

                                    <div class="form-group">

                                        <input type="password" class="form-control" placeholder="Your Password" name="login" required>

                                    </div>

                                    <button type="submit" class="btn btn-success btn-block">Login</button>

                                </form>

                            </div>

                        </div>

                    </div>

                </div>

            </div>

        </main>

        <script src="assets/plugins/jquery/jquery-2.1.4.min.js"></script>

        <script src="assets/plugins/jquery-ui/jquery-ui.min.js"></script>

        <script src="assets/plugins/pace-master/pace.min.js"></script>

        <script src="assets/plugins/jquery-blockui/jquery.blockui.js"></script>

        <script src="assets/plugins/bootstrap/js/bootstrap.min.js"></script>

        <script src="assets/plugins/jquery-slimscroll/jquery.slimscroll.min.js"></script>

        <script src="assets/plugins/switchery/switchery.min.js"></script>

        <script src="assets/plugins/uniform/jquery.uniform.min.js"></script>

        <script src="assets/plugins/offcanvasmenueffects/js/classie.js"></script>

        <script src="assets/plugins/waves/waves.min.js"></script>

        <script src="assets/js/modern.min.js"></script>

    </body>

</html>

Authentication.php page

<!--this page is responsible for login access, both student and admin section-->

<?php

include '../database/config.php';

$myusername = mysqli\_real\_escape\_string($conn, $\_POST['user']);

$mypassword = md5($\_POST['login']);

$sql = "SELECT \* FROM tbl\_users WHERE user\_id = '$myusername' AND login = '$mypassword' OR email = '$myusername' AND login = '$mypassword'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

    session\_start();

    $\_SESSION['login'] = true;

    $\_SESSION['first\_name'] = $row['first\_name'];

    $\_SESSION['last\_name'] = $row['last\_name'];

    $\_SESSION['gender'] = $row['gender'];

    $\_SESSION['dob'] = $row['dob'];

    $\_SESSION['address'] = $row['address'];

    $\_SESSION['email'] = $row['email'];

    $\_SESSION['phone'] = $row['phone'];

    $\_SESSION['department'] = $row['department'];

    $\_SESSION['role'] = $row['role'];

    $\_SESSION['myid'] = $row['user\_id'];

    $\_SESSION['mycategory'] = $row['category'];

    $accstat = $row['acc\_stat'];    // this means admin or student (default value will be 1)

    if ($accstat == "0") {  // if the value of accstat is 0 then this will execute

     header("location:../?rp=YOUR ACCOUNT HAS BEEN DISABLED!!");

    }else{  // otherwise redirect to the main page, if you are a student, or admin

        $location = strtolower($row['role']);

    header("location:../$location/");

    }

    }

} else {    // if the credential does not match then this will occur

    header("location:../?rp=WRONG USER ID AND PASSWORD!!");

}

$conn->close();

?>

**Database page**

SET SQL\_MODE = "NO\_AUTO\_VALUE\_ON\_ZERO";

SET time\_zone = "+00:00";

--

-- Database Name: `oes\_db`

--

-- --------------------------------------------------------

-- --------------------------------------------------------

--

-- Table structure for table `tbl\_assessment\_records`

--

CREATE TABLE IF NOT EXISTS `tbl\_assessment\_records` (

  `record\_id` varchar(255) NOT NULL,

  `student\_id` varchar(255) NOT NULL,

  `student\_name` varchar(255) NOT NULL,

  `exam\_name` varchar(255) NOT NULL,

  `exam\_id` varchar(255) NOT NULL,

  `score` varchar(255) NOT NULL,

  `status` varchar(255) NOT NULL,

  `next\_retake` varchar(255) NOT NULL,

  `date` varchar(255) NOT NULL,

  PRIMARY KEY (`record\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- --------------------------------------------------------

--

-- Table structure for table `tbl\_categories`

--

CREATE TABLE IF NOT EXISTS `tbl\_categories` (

  `category\_id` varchar(255) NOT NULL,

  `name` varchar(255) NOT NULL,

  `department` varchar(255) NOT NULL,

  `date\_registered` varchar(255) NOT NULL,

  PRIMARY KEY (`category\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- --------------------------------------------------------

--

-- Table structure for table `tbl\_departments`

--

CREATE TABLE IF NOT EXISTS `tbl\_departments` (

  `department\_id` varchar(255) NOT NULL,

  `name` varchar(255) NOT NULL,

  `date\_registered` varchar(255) NOT NULL,

  PRIMARY KEY (`department\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--

-- Dumping data for table `tbl\_departments`

--

INSERT INTO `tbl\_departments` (`department\_id`, `name`, `date\_registered`) VALUES

('DP-591697','BACHELOR OF COMPUTER APPLICATION','05-06-2020'),

('DP-024979', 'BACHELOR IN BUSINESS ADMINISTRATION', '05-06-2020'),

('DP-184629','HOTEL MANAGEMENT','05-06-2020'),

('DP-359021','CIVIL ENGINEERING','05-06-2020'),

('DP-374219','DEPT. OF ENG. SCIENCES AND HUMANITIES','05-06-2020'),

('DP-374416','MASTER IN COMPUTER APPLICATION','05-06-2020'),

('DP-379147','MASTER IN BUSINESS ADMINISTRATION','05-06-2020'),

('DP-566719','INFORMATION TECHNOLOGY','05-06-2020'),

('DP-577502','ELECTRICAL ENGINEERING','05-06-2020'),

('DP-684921','ELECTRONICS AND COMM. ENGINEERING','05-06-2020'),

('DP-851251','COMPUTER SCIENCE AND ENGINEERING','05-06-2020');

-- --------------------------------------------------------

--

-- Table structure for table `tbl\_examinations`

--

CREATE TABLE IF NOT EXISTS `tbl\_examinations` (

  `exam\_id` varchar(255) NOT NULL,

  `category` varchar(255) NOT NULL,

  `subject` varchar(255) NOT NULL,

  `exam\_name` varchar(255) NOT NULL,

  `date` varchar(255) NOT NULL,

  `duration` int(255) NOT NULL,

  `passmark` int(255) NOT NULL,

  `re\_exam` int(255) NOT NULL,

  `status` varchar(255) NOT NULL DEFAULT 'Active',

  PRIMARY KEY (`exam\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- --------------------------------------------------------

-- --------------------------------------------------------

--

-- Table structure for table `tbl\_questions`

--

CREATE TABLE IF NOT EXISTS `tbl\_questions` (

  `question\_id` varchar(255) NOT NULL,

  `exam\_id` varchar(255) NOT NULL,

  `type` varchar(255) NOT NULL,

  `question` longtext NOT NULL,

  `option1` varchar(255) NOT NULL DEFAULT '-',

  `option2` varchar(255) NOT NULL DEFAULT '-',

  `option3` varchar(255) NOT NULL DEFAULT '-',

  `option4` varchar(255) NOT NULL DEFAULT '-',

  `answer` varchar(255) NOT NULL,

  PRIMARY KEY (`question\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- --------------------------------------------------------

--

-- Table structure for table `tbl\_subjects`

--

CREATE TABLE IF NOT EXISTS `tbl\_subjects` (

  `subject\_id` varchar(255) NOT NULL,

  `name` varchar(255) NOT NULL,

  `department` varchar(255) NOT NULL,

  `category` varchar(255) NOT NULL,

  `date\_registered` varchar(255) NOT NULL,

  PRIMARY KEY (`subject\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- --------------------------------------------------------

--

-- Table structure for table `tbl\_users`

--

CREATE TABLE IF NOT EXISTS `tbl\_users` (

  `user\_id` varchar(255) NOT NULL,

  `first\_name` varchar(255) NOT NULL,

  `last\_name` varchar(255) NOT NULL,

  `gender` varchar(255) NOT NULL,

  `dob` varchar(255) NOT NULL,

  `address` longtext NOT NULL,

  `email` varchar(255) NOT NULL,

  `phone` varchar(255) NOT NULL,

  `department` varchar(255) NOT NULL DEFAULT '-',

  `category` varchar(255) NOT NULL DEFAULT '-',

  `login` varchar(255) NOT NULL DEFAULT 'e10adc3949ba59abbe56e057f20f883e',

  `role` varchar(255) NOT NULL DEFAULT 'student',

  `acc\_stat` varchar(255) NOT NULL DEFAULT '1',

  PRIMARY KEY (`user\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--

-- Dumping data for table `tbl\_users`

--

-- Only ADMIN DATA

INSERT INTO `tbl\_users` (`user\_id`, `first\_name`, `last\_name`, `gender`, `dob`, `address`, `email`, `phone`, `department`, `category`, `login`, `role`, `acc\_stat`) VALUES

('admin', 'ADMIN', '-', '-', '-', '-', '-', '-', '-', '-', 'dbfc95d5c71fda69e4e7dece33dbc3df', 'admin', '1');

**Database (config.php)**

<?php

error\_reporting(0);

$servername = "localhost";

$username = "root";

$password = "";

$dbname = "oes\_db";

$conn = new mysqli($servername, $username, $password, $dbname);

if ($conn->connect\_error) {

die("<h2>Database Connection Failure : " . $conn->connect\_error . "</h2><hr>");

}

?>

**Uniques.php**

<?php

// this is for random value used for IDs

function assign\_rand\_value($num) {

    switch($num) {

        case "1"  : $rand\_value = "a"; break;

        case "2"  : $rand\_value = "b"; break;

        case "3"  : $rand\_value = "c"; break;

        case "4"  : $rand\_value = "d"; break;

        case "5"  : $rand\_value = "e"; break;

        case "6"  : $rand\_value = "f"; break;

        case "7"  : $rand\_value = "g"; break;

        case "8"  : $rand\_value = "h"; break;

        case "9"  : $rand\_value = "i"; break;

        case "10" : $rand\_value = "j"; break;

        case "11" : $rand\_value = "k"; break;

        case "12" : $rand\_value = "l"; break;

        case "13" : $rand\_value = "m"; break;

        case "14" : $rand\_value = "n"; break;

        case "15" : $rand\_value = "o"; break;

        case "16" : $rand\_value = "p"; break;

        case "17" : $rand\_value = "q"; break;

        case "18" : $rand\_value = "r"; break;

        case "19" : $rand\_value = "s"; break;

        case "20" : $rand\_value = "t"; break;

        case "21" : $rand\_value = "u"; break;

        case "22" : $rand\_value = "v"; break;

        case "23" : $rand\_value = "w"; break;

        case "24" : $rand\_value = "x"; break;

        case "25" : $rand\_value = "y"; break;

        case "26" : $rand\_value = "z"; break;

        case "27" : $rand\_value = "0"; break;

        case "28" : $rand\_value = "1"; break;

        case "29" : $rand\_value = "2"; break;

        case "30" : $rand\_value = "3"; break;

        case "31" : $rand\_value = "4"; break;

        case "32" : $rand\_value = "5"; break;

        case "33" : $rand\_value = "6"; break;

        case "34" : $rand\_value = "7"; break;

        case "35" : $rand\_value = "8"; break;

        case "36" : $rand\_value = "9"; break;

    }

    return $rand\_value;

}

function get\_rand\_alphanumeric($length) {

    if ($length>0) {

        $rand\_id="";

        for ($i=1; $i<=$length; $i++) {

            mt\_srand((double)microtime() \* 1000000);

            $num = mt\_rand(1,36);

            $rand\_id .= assign\_rand\_value($num);

        }

    }

    return $rand\_id;

}

function get\_rand\_numbers($length) {    // this will create random nos

    if ($length>0) {

        $rand\_id="";

        for($i=1; $i<=$length; $i++) {

            mt\_srand((double)microtime() \* 1000000);

            $num = mt\_rand(27,36);

            $rand\_id .= assign\_rand\_value($num);

        }

    }

    return $rand\_id;

}

function get\_rand\_letters($length) {

    if ($length>0) {

        $rand\_id="";

        for($i=1; $i<=$length; $i++) {

            mt\_srand((double)microtime() \* 1000000);

            $num = mt\_rand(1,26);

            $rand\_id .= assign\_rand\_value($num);

        }

    }

    return $rand\_id;

}

?>

Student -> check\_user.php

<?php

// check whether the user is student or not.

session\_start();

if (isset($\_SESSION['login']) && $\_SESSION['login'] == true) {

    $myfname = $\_SESSION['first\_name'];

    $mylname = $\_SESSION['last\_name'];

    $mygender = $\_SESSION['gender'];

    $mydob = $\_SESSION['dob'];

    $myaddress = $\_SESSION['address'];

    $myemail = $\_SESSION['email'];

    $myphone = $\_SESSION['phone'];

    $mydepartment = $\_SESSION['department'];

    $myrole = $\_SESSION['role'];

    $myid = $\_SESSION['myid'];

    $mycategory = $\_SESSION['mycategory'];

    if ($myrole == "student") {

    }else{

    header("location:../?rp=YOU MUST BE A STUDENT TO ACCESS THE EXAMS");

    }

}else{

    header("location:../?rp=YOU MUST LOGIN FIRST");

}

?>

Student -> fetch\_records.php

<?php

// fetch all the records from database and display it on Dashboard (student)

include '../database/config.php';

$students\_in\_my\_class = 0;

$active\_examinations = 0;

$my\_subjects = 0;

$passed\_exam = 0;

$failed\_exam = 0;

$attended\_exams = 0;

$locked\_exams = 0;

$notice = 0;

// Dashboard (student)

$sql = "SELECT \* FROM tbl\_users WHERE category = '$mycategory'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $students\_in\_my\_class++;

    }

} else {

}

$sql = "SELECT \* FROM tbl\_examinations WHERE category = '$mycategory' AND status = 'Active'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $active\_examinations++;

    }

} else {

}

$sql = "SELECT \* FROM tbl\_subjects WHERE category = '$mycategory'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $my\_subjects++;

    }

} else {

}

$sql = "SELECT \* FROM tbl\_assessment\_records WHERE student\_id = '$myid' AND status = 'PASS'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $passed\_exam++;

    }

} else {

}

$sql = "SELECT \* FROM tbl\_assessment\_records WHERE student\_id = '$myid' AND status = 'FAIL'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $failed\_exam++;

    }

} else {

}

$sql = "SELECT \* FROM tbl\_assessment\_records WHERE student\_id = '$myid'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $attended\_exams++;

    }

} else {

}

$sql = "SELECT \* FROM tbl\_examinations WHERE category = '$mycategory' AND status = 'Inactive'";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $locked\_exams++;

    }

} else {

}

$sql = "SELECT \* FROM tbl\_notice";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     $notice++;

    }

} else {

}

$conn->close();

Student -> pages -> new\_pw.php

<!--Password Update-->

<?php

include '../includes/check\_user.php';   // student details

include '../../database/config.php';

$new\_password = md5($\_POST['pass1']);  // this password comes from the profile.php page

// converts this into hash code md5

$sql = "UPDATE tbl\_users SET login='$new\_password' WHERE user\_id='$myid'";

// store it into the database

if ($conn->query($sql) === TRUE) {

   header("location:../profile.php?rp=PASSWORD CHANGED!!!");

   // if the query execute successfully then this msg will occur in the url

} else {

   header("location:../profile.php?rp=COULD NOT APPLY SETTINGS!!!");

}

$conn->close();

?>

Student -> pages -> submit\_assessment.php

<!--ASSESSMENT page > SUBMIT\_ASSESSMENT page-->

<?php

error\_reporting(0);

$total\_questions = $\_POST['tq']; // this is comes from assessment page

$starting\_mark = 1;

$mytotal\_marks = 0;

$exam\_id = $\_POST['eid'];

$record = $\_POST['ri'];

while ($starting\_mark <= $total\_questions) { // lets say starting marks is 1 and total\_question is 3

if (strtoupper(base64\_decode($\_POST['ran'.$starting\_mark.''])) == strtoupper($\_POST['an'.$starting\_mark.''])) {

   // ran and an comes from the assessment page

   // 'ran' stands for right answer and 'an' stands for only answer. if this is matched then this execute

$mytotal\_marks = $mytotal\_marks + 1;   // if matched, then total\_marks incremented

}else{

}

$starting\_mark++; // incremented

}

$percent\_score = ($mytotal\_marks / $total\_questions) \* 100;

$percent\_score = floor($percent\_score);   // floor means omits the decimal numbers.

$passmark = $\_POST['pm'];  // (Given by the admin)you have to put the value, when the examination will create.

if ($percent\_score >= $passmark) {  // if the percent score is above than your passmark

$status = "PASS";

}else{

$status = "FAIL";

}

session\_start();

$\_SESSION['record\_id'] = $record;

include '../../database/config.php';

$sql = "UPDATE tbl\_assessment\_records SET score='$percent\_score', status='$status' WHERE record\_id='$record'";

// this

if ($conn->query($sql) === TRUE) {

   header("location:../assessment-info.php");

} else {

   header("location:../assessment-info.php");

}

$conn->close();

?>

Student -> index.php

<main class="page-content content-wrap">

            <div class="navbar">

                <div class="navbar-inner">

                <div class="sidebar-pusher">

                        <a href="javascript:void(0);" class="waves-effect waves-button waves-classic push-sidebar">

                            <i class="fa fa-bars"></i>

                        </a>

                </div>

                    <div class="topmenu-outer">

                        <div class="top-menu">

                            <ul class="nav navbar-nav navbar-right">

                                <li class="dropdown">

                                    <a href="#" class="dropdown-toggle waves-effect waves-button waves-classic" data-toggle="dropdown">

                                        <span class="user-name"><?php echo "$myfname"; ?> <?php echo "$mylname"; ?><i class="fa fa-angle-down"></i></span>

                                    </a>

                                    <ul class="dropdown-menu dropdown-list" role="menu">

                                        <li role="presentation"><a href="profile.php"><i class="fa fa-user"></i>Profile</a></li>

                                    </ul>

                                </li>

                                <li>

                                    <a href="logout.php" class="log-out waves-effect waves-button waves-classic">

                                        <span><i class="fa fa-sign-out m-r-xs"></i>Log out</span>

                                    </a>

                                </li>

                                <li>

                                </li>

                            </ul>

                        </div>

                    </div>

                </div>

            </div>

            <div class="page-sidebar sidebar">

                <div class="page-sidebar-inner slimscroll">

                    <ul class="menu accordion-menu">

                        <li class="active"><a href="./" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-home"></span><p>Dashboard</p></a></li>

                        <li><a href="examinations.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-book"></span><p>Examinations</p></a></li>

                        <li><a href="results.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-certificate"></span><p>Exam Results</p></a></li>

                    </ul>

                </div>

            </div>

            <div class="page-inner">

                <div class="page-title">

                    <h3>Student Dashboard</h3>

                </div>

                <div id="main-wrapper">

                    <div class="row">

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p><span class="counter"><?php echo number\_format($active\_examinations); ?></span></p>

                                        <span class="info-box-title">ACTIVE EXAMINATIONS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p class="counter"><?php echo number\_format($my\_subjects); ?></p>

                                        <span class="info-box-title">SUBJECTS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                                                <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p class="counter"><?php echo number\_format($passed\_exam); ?></p>

                                        <span class="info-box-title">PASSED EXAMS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p><span class="counter"><?php echo number\_format($failed\_exam); ?></span></p>

                                        <span class="info-box-title">FAILED EXAMS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                               <div class="panel-body">

                                <div class="info-box-stats">

                                 <p class="counter"><?php echo number\_format($attended\_exams); ?></p>

                                        <span class="info-box-title">ATTENDED EXAMS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                    </div>

   </div>

            </div>

        </main>

Student -> examination.php

<main class="page-content content-wrap">

            <div class="navbar">

                <div class="navbar-inner">

                    <div class="sidebar-pusher">

                        <a href="javascript:void(0);" class="waves-effect waves-button waves-classic push-sidebar">

                            <i class="fa fa-bars"></i>

                        </a>

                    </div>

                    <div class="topmenu-outer">

                        <div class="top-menu">

                            <ul class="nav navbar-nav navbar-right">

                                <li class="dropdown">

                                    <a href="#" class="dropdown-toggle waves-effect waves-button waves-classic" data-toggle="dropdown">

                                        <span class="user-name"><?php echo "$myfname"; ?> <?php echo "$mylname"; ?><i class="fa fa-angle-down"></i></span>

                                    </a>

                                    <ul class="dropdown-menu dropdown-list" role="menu">

                                        <li role="presentation"><a href="profile.php"><i class="fa fa-user"></i>Profile</a></li>

                                    </ul>

                                </li>

                                <li>

                                    <a href="logout.php" class="log-out waves-effect waves-button waves-classic">

                                        <span><i class="fa fa-sign-out m-r-xs"></i>Log out</span>

                                    </a>

                                </li>

                                <li>

                                </li>

                            </ul>

                        </div>

                    </div>

                </div>

            </div>

            <div class="page-sidebar sidebar">

                <div class="page-sidebar-inner slimscroll">

                    <ul class="menu accordion-menu">

                        <li><a href="./" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-home"></span><p>Dashboard</p></a></li>

                        <li class="active"><a href="examinations.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-book"></span><p>Examinations</p></a></li>

                        <li><a href="results.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-certificate"></span><p>Exam Results</p></a></li>

                    </ul>

                </div>

            </div>

            <div class="page-inner">

                <div class="page-title">

                    <h3>My Examinations</h3>

                </div>

                <div id="main-wrapper">

                    <div class="row">

                        <div class="col-md-12">

                        <div class="row">

                            <div class="col-md-12">

                                <div class="panel panel-white">

                                    <div class="panel-body">

                                           <div class="table-responsive">

                                           <?php

                                           include '../database/config.php';

                                           $sql = "SELECT \* FROM tbl\_examinations WHERE category = '$mycategory'";

                                           $result = $conn->query($sql);

                                           if ($result->num\_rows > 0) {

                                        print '

                                        <table id="example" class="display table" style="width: 100%; cellspacing: 0;">

                                        <thead>

                                            <tr>

                                                <th>Exam Name</th>

                                                <th>Subject</th>

                                                <th>Deadline</th>

                                                <th>Action</th>

                                            </tr>

                                        </thead>

                                        <tfoot>

                                            <tr>

                                                <th>Exam Name</th>

                                                <th>Subject</th>

                                                <th>Deadline</th>

                                                <th>Action</th>

                                            </tr>

                                        </tfoot>

                                        <tbody>';

                                           while($row = $result->fetch\_assoc()) {

                                               $status = $row['status'];

                                               if ($status == "Active") {

                                               $st = '<p class="text-success">ACTIVE</p>';

                                               $stl = '<a class="btn btn-success" href="take-assessment.php?id='.$row['exam\_id'].'">Take Assessment</a>';

                                               }else{

                                               $st = '<p class="text-danger">INACTIVE</p>';

                                               $stl = '<a class="btn btn-danger disabled" href="#">Take Assessment</a>';

                                               }

                                          print '

                                               <tr>

                                                <td>'.$row['exam\_name'].'</td>

                                                <td>'.$row['subject'].'</td>

                                                <td>'.$row['date'].'</td>

                                                <td>'.$stl.'</td>

                                            </tr>';

                                           }

                                           print '

                                       </tbody>

                                       </table>  ';

                                            } else {

                                            print '

                                                <div class="alert alert-info" role="alert">

                                        Nothing was found in database.

                                    </div>';

                                           }

                                           $conn->close();

                                           ?>

                                    </div>

                                    </div>

                                </div>

                            </div>

                        </div>

                        </div>

                    </div>

                </div>

            </div>

        </main>

**Timer (JS)**

<script type="text/javascript">

var max\_time = <?php echo "$duration" ?>;

var c\_seconds  = 0;

var total\_seconds =60\*max\_time;

max\_time = parseInt(total\_seconds/60);

c\_seconds = parseInt(total\_seconds%60);

document.getElementById("quiz-time-left").innerHTML='' + max\_time + ':' + c\_seconds + 'Min';

function init(){

document.getElementById("quiz-time-left").innerHTML='' + max\_time + ':' + c\_seconds + ' Min';

setTimeout("CheckTime()",999);

}

function CheckTime(){

document.getElementById("quiz-time-left").innerHTML='' + max\_time + ':' + c\_seconds + ' Min' ;

if(total\_seconds <=0){

setTimeout('document.quiz.submit()',1);

    } else

    {

total\_seconds = total\_seconds -1;

max\_time = parseInt(total\_seconds/60);

c\_seconds = parseInt(total\_seconds%60);

setTimeout("CheckTime()",999);

}

}

init();

</script>

**Student -> profile.php**

<main class="page-content content-wrap">

            <div class="navbar">

                <div class="navbar-inner">

                    <div class="sidebar-pusher">

                        <a href="javascript:void(0);" class="waves-effect waves-button waves-classic push-sidebar">

                            <i class="fa fa-bars"></i>

                        </a>

                    </div>

                    <div class="topmenu-outer">

                        <div class="top-menu">

                            <ul class="nav navbar-nav navbar-right">

                                <li class="dropdown">

                                    <a href="#" class="dropdown-toggle waves-effect waves-button waves-classic" data-toggle="dropdown">

                                        <span class="user-name"><?php echo "$myfname"; ?> <?php echo "$mylname"; ?><i class="fa fa-angle-down"></i></span>

                                    </a>

                                    <ul class="dropdown-menu dropdown-list" role="menu">

                                        <li role="presentation"><a href="profile.php"><i class="fa fa-user"></i>Profile</a></li>

                                    </ul>

                                </li>

                                <li>

                                    <a href="logout.php" class="log-out waves-effect waves-button waves-classic">

                                        <span><i class="fa fa-sign-out m-r-xs"></i>Log out</span>

                                    </a>

                                </li>

                                <li>

                                </li>

                            </ul>

                        </div>

                    </div>

                </div>

            </div>

            <div class="page-sidebar sidebar">

                <div class="page-sidebar-inner slimscroll">

                    <ul class="menu accordion-menu">

                        <li><a href="./" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-home"></span><p>Dashboard</p></a></li>

                        <li><a href="examinations.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-book"></span><p>Examinations</p></a></li>

                        <li><a href="results.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-certificate"></span><p>Exam Results</p></a></li>

                    </ul>

                </div>

            </div>

            <div class="page-inner">

                <div class="page-title">

                    <h3><b>Student Profile</b></h3>

                </div>

                <div id="main-wrapper">

                      <div class="row">

                        <div class="col-md-12">

                        <div class="row">

                            <div class="col-md-5">

                                <div class="panel panel-white">

                                    <table class="table">

                                        <tbody>

                                            <tr>

                                                <th scope="row">1</th>

                                                <td>Registration Number</td>

                                                <td><b><?php echo "$myid"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">2</th>

                                                <td>First Name</td>

                                                <td><b><?php echo "$myfname"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">3</th>

                                                <td>Last Name</td>

                                                <td><b><?php echo "$mylname"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">4</th>

                                                <td>Gender</td>

                                                <td><b><?php echo "$mygender"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">5</th>

                                                <td>Date of birth</td>

                                                <td><b><?php echo "$mydob"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">6</th>

                                                <td colspan="2">Address<br><i><?php echo "$myaddress"; ?></i></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">7</th>

                                                <td>Email Address</td>

                                                <td><b><?php echo "$myemail"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">8</th>

                                                <td>Phone Number</td>

                                                <td><b><?php echo "$myphone"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">9</th>

                                                <td>Department</td>

                                                <td><b><?php echo "$mydepartment"; ?></b></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">10</th>

                                                <td>Semester</td>

                                                <td><b><?php echo "$mycategory"; ?></b></td>

                                            </tr>

                                        </tbody>

                                    </table>

                                </div>

                            </div>

                                <div class="col-md-7">

                                <div class="panel panel-white">

                                    <div class="panel-body">

                                    <h3>Update login password</h3>

                                <form action="pages/new\_pw.php" method="POST">

                                <div class="form-group">

                                <label for="exampleInputEmail1">Enter new password</label>

                                <input type="password" id="password" class="form-control" name="pass1" required placeholder="Enter new password">

                                </div>

                                <div class="form-group">

                                <label for="exampleInputEmail1">Confirm new password</label>

                                <input type="password" id="confirm\_password" class="form-control" name="pass2" required placeholder="Confirm new password">

                                </div>

                                <button type="submit" class="btn btn-primary">Change Password</button>

                                <!--Script for confirm password-->

                                <script>

                                            var password = document.getElementById("password")

                                           , confirm\_password = document.getElementById("confirm\_password");

                                           function validatePassword(){

                                            if(password.value != confirm\_password.value) {

                                           confirm\_password.setCustomValidity("Passwords Don't Match");

                                           } else {

                                           confirm\_password.setCustomValidity('');

                                            }

                                               }

                                            password.onchange = validatePassword;

                                            confirm\_password.onkeyup = validatePassword;

                                 </script>

                                </form>

                             </div></div></div>

                        </div>

                        </div>

                    </div>

                </div>

            </div>

        </main>

Student -> results.php

<main class="page-content content-wrap">

            <div class="navbar">

                <div class="navbar-inner">

                    <div class="sidebar-pusher">

                        <a href="javascript:void(0);" class="waves-effect waves-button waves-classic push-sidebar">

                            <i class="fa fa-bars"></i>

                        </a>

                    </div>

                    <div class="topmenu-outer">

                        <div class="top-menu">

                            <ul class="nav navbar-nav navbar-right">

                                <li class="dropdown">

                                    <a href="#" class="dropdown-toggle waves-effect waves-button waves-classic" data-toggle="dropdown">

                                        <span class="user-name"><?php echo "$myfname"; ?> <?php echo "$mylname"; ?><i class="fa fa-angle-down"></i></span>

                                    </a>

                                    <ul class="dropdown-menu dropdown-list" role="menu">

                                        <li role="presentation"><a href="profile.php"><i class="fa fa-user"></i>Profile</a></li>

                                    </ul>

                                </li>

                                <li>

                                    <a href="logout.php" class="log-out waves-effect waves-button waves-classic">

                                        <span><i class="fa fa-sign-out m-r-xs"></i>Log out</span>

                                    </a>

                                </li>

                                <li>

                                </li>

                            </ul>

                        </div>

                    </div>

                </div>

            </div>

            <div class="page-sidebar sidebar">

                <div class="page-sidebar-inner slimscroll">

                    <ul class="menu accordion-menu">

                        <li><a href="./" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-home"></span><p>Dashboard</p></a></li>

                        <li><a href="examinations.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-book"></span><p>Examinations</p></a></li>

                        <li class="active"><a href="results.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-certificate"></span><p>Exam Results</p></a></li>

                    </ul>

                </div>

            </div>

            <div class="page-inner">

                <div class="page-title">

                    <h3><b>My Results</b></h3>

                </div>

                <div id="main-wrapper">

                    <div class="row">

                        <div class="col-md-12">

                        <div class="row">

                            <div class="col-md-12">

                                <div class="panel panel-white">

                                    <div class="panel-body">

                                           <div class="table-responsive">

                                           <?php

                                           include '../database/config.php';

                                           $sql = "SELECT \* FROM tbl\_assessment\_records WHERE student\_id = '$myid'";

                                           $result = $conn->query($sql);

                                           if ($result->num\_rows > 0) {

                                        print '

                                        <table id="example" class="display table" style="width: 100%; cellspacing: 0;">

                                        <thead>

                                            <tr>

                                                <th>Exam</th>

                                                <th>Student ID</th>

                                                <th>Student Name</th>

                                                <th>Score</th>

                                                <th>Date</th>

                                                <th>Status</th>

                                                <th>Next Retake</th>

                                            </tr>

                                        </thead>

                                        <tfoot>

                                            <tr>

                                                <th>Exam</th>

                                                <th>Student ID</th>

                                                <th>Student Name</th>

                                                <th>Score</th>

                                                <th>Date</th>

                                                <th>Status</th>

                                                <th>Next Retake</th>

                                            </tr>

                                        </tfoot>

                                        <tbody>';

                                           while($row = $result->fetch\_assoc()) {

                                          print '

                                               <tr>

                                                <td>'.$row['exam\_name'].'</td>

                                                <td>'.$row['student\_id'].'</td>

                                                <td>'.$row['student\_name'].'</td>

                                                <td>'.$row['score'].'%</td>

                                                <td>'.$row['date'].'</td>

                                                <td>'.$row['status'].'</td>

                                                <td>'.$row['next\_retake'].'</td>

                                            </tr>';

                                           }

                                           print '

                                       </tbody>

                                       </table>  ';

                                            } else {

                                            print '

                                                <div class="alert alert-info" role="alert">

                                        Nothing was found in database.

                                    </div>';

                                           }

                                           $conn->close();

                                           ?>

                                    </div>

                                    </div>

                                </div>

                            </div>

                        </div>

                        </div>

                    </div>

                </div>

            </div>

        </main>

Admin -> index.php

<main class="page-content content-wrap">

            <div class="navbar">

                <div class="navbar-inner">

                <div class="sidebar-pusher">   <!--side menu for mobile,tablet devices-->

                        <a href="javascript:void(0);" class="waves-effect waves-button waves-classic push-sidebar">

                            <i class="fa fa-bars"></i>

                        </a>

                </div>

                    <div class="topmenu-outer">

                        <div class="top-menu">

                            <ul class="nav navbar-nav navbar-right">

                                <li class="dropdown">

                                    <a href="#" class="dropdown-toggle waves-effect waves-button waves-classic" data-toggle="dropdown">

                                        <span class="user-name"><?php echo "$myfname"; ?> <i class="fa fa-angle-down"></i></span>

                                    </a>

                                    <ul class="dropdown-menu dropdown-list" role="menu">

                                        <li role="presentation"><a href="profile.php"><i class="fa fa-user"></i>Profile</a></li>

                                    </ul>

                                </li>

                                <li>

                                    <a href="logout.php" class="log-out waves-effect waves-button waves-classic">

                                        <span><i class="fa fa-sign-out m-r-xs"></i>Log out</span>

                                    </a>

                                </li>

                                <li>

                                </li>

                            </ul>

                        </div>

                    </div>

                </div>

            </div>

            <div class="page-sidebar sidebar">

                <div class="page-sidebar-inner slimscroll">

                    <ul class="menu accordion-menu">

                        <li class="active"><a href="./" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-home"></span><p>Dashboard</p></a></li>

                        <li><a href="departments.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-folder-open"></span><p>Departments</p></a></li>

                        <li><a href="categories.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon glyphicon-tags"></span><p>Categories</p></a></li>

                        <li><a href="subject.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon glyphicon-file"></span><p>Subjects</p></a></li>

                        <li><a href="students.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon glyphicon-user"></span><p>Students</p></a></li>

                        <li><a href="examinations.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-book"></span><p>Examinations</p></a></li>

                        <li><a href="questions.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-question-sign"></span><p>Questions</p></a></li>

                        <li><a href="dev.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-cog"></span><p>Developers</p></a></li>

                        <li><a href="results.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-certificate"></span><p>Exam Results</p></a></li>

                    </ul>

                </div>

            </div>

            <div class="page-inner">

                <div class="page-title">

                    <h3>Admin Dashboard</h3>

                </div>

                <div id="main-wrapper">

                    <div class="row">

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p class="counter"><?php echo number\_format($departments); ?></p>

                                                                <!-- // number\_format: it will round the value -->

                                        <span class="info-box-title">DEPARTMENTS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p class="counter"><?php echo number\_format($students); ?></p>

                                        <span class="info-box-title">STUDENTS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p><span class="counter"><?php echo number\_format($examination); ?></span></p>

                                        <span class="info-box-title">EXAMINATIONS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p class="counter"><?php echo number\_format($subjects); ?></p>

                                        <span class="info-box-title">SUBJECTS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                                                <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p class="counter"><?php echo number\_format($categories); ?></p>

                                        <span class="info-box-title">CATEGORIES <?php echo "$fp $pp"; ?></span>

                                    </div>

                                </div>

                            </div>

                        </div>

                        <div class="col-lg-3 col-md-6">

                            <div class="panel info-box panel-white">

                                <div class="panel-body">

                                    <div class="info-box-stats">

                                        <p><span class="counter"><?php echo number\_format($questions); ?></span></p>

                                        <span class="info-box-title">QUESTIONS</span>

                                    </div>

                                </div>

                            </div>

                        </div>

                    </div>

                    <div class="row">

                        <div class="col-lg-12 col-md-12">

                            <div class="panel panel-white">

                                <div class="row">

                                </div>

                            </div>

                        </div>

                    </div>

                </div>

            </div>

        </main>

Admin -> logout.php

<?php

session\_start();

$\_SESSION['login'] = false;

session\_destroy();

header("location:../"); // back to index page.

?>

Admin -> questions.php

<main class="page-content content-wrap">

            <div class="navbar">

                <div class="navbar-inner">

                <div class="sidebar-pusher">

                        <a href="javascript:void(0);" class="waves-effect waves-button waves-classic push-sidebar">

                            <i class="fa fa-bars"></i>

                        </a>

                </div>

                    <div class="topmenu-outer">

                        <div class="top-menu">

                            <ul class="nav navbar-nav navbar-right">

                                <li class="dropdown">

                                    <a href="#" class="dropdown-toggle waves-effect waves-button waves-classic" data-toggle="dropdown">

                                        <span class="user-name"><?php echo "$myfname"; ?><i class="fa fa-angle-down"></i></span>

                                    </a>

                                    <ul class="dropdown-menu dropdown-list" role="menu">

                                        <li role="presentation"><a href="profile.php"><i class="fa fa-user"></i>Profile</a></li>

                                    </ul>

                                </li>

                                <li>

                                    <a href="logout.php" class="log-out waves-effect waves-button waves-classic">

                                        <span><i class="fa fa-sign-out m-r-xs"></i>Log out</span>

                                    </a>

                                </li>

                                <li>

                                </li>

                            </ul>

                        </div>

                    </div>

                </div>

            </div>

            <div class="page-sidebar sidebar">

                <div class="page-sidebar-inner slimscroll">

                    <ul class="menu accordion-menu">

                        <li><a href="./" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-home"></span><p>Dashboard</p></a></li>

                        <li><a href="departments.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-folder-open"></span><p>Departments</p></a></li>

                        <li><a href="categories.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon glyphicon-tags"></span><p>Categories</p></a></li>

                        <li><a href="subject.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon glyphicon-file"></span><p>Subjects</p></a></li>

                        <li><a href="students.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon glyphicon-user"></span><p>Students</p></a></li>

                        <li><a href="examinations.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-book"></span><p>Examinations</p></a></li>

                        <li class="active"><a href="questions.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-question-sign"></span><p>Questions</p></a></li>

                        <li><a href="dev.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-cog"></span><p>Developers</p></a></li>

                        <li><a href="results.php" class="waves-effect waves-button"><span class="menu-icon glyphicon glyphicon-certificate"></span><p>Exam Results</p></a></li>

                    </ul>

                </div>

            </div>

            <div class="page-inner">

                <div class="page-title">

                    <h3>Add Questions</h3>

                </div>

                <div id="main-wrapper">

                    <div class="row">

                        <div class="col-md-12">

                        <div class="row">

                            <div class="col-md-12">

                                <div class="panel panel-white">

                                    <div class="panel-body">

    <div role="tabpanel">

      <ul class="nav nav-tabs" role="tablist">

        <li role="presentation" class="active"><a href="#tab5" role="tab" data-toggle="tab">Multiple Choice</a></li>

          </ul>

          <div class="tab-content">

        <div role="tabpanel" class="tabpane active fade in" id="tab5">

          <form action="pages/add\_question2.php?type=mc" method="POST">

                <div class="form-group">

                 <label for="exampleInputEmail1">Exam Name</label>

                 <select class="form-control" name="exam" required>

              <option value="" selected disabled>-Select exam</option>

            <?php

         include '../database/config.php';

      $sql = "SELECT \* FROM tbl\_examinations ORDER BY exam\_name";

       $result = $conn->query($sql);

    if ($result->num\_rows > 0) {

      while($row = $result->fetch\_assoc()) {

 print '<option value="'.$row['exam\_id'].'">'.$row['exam\_name'].'</option>';

      }

    } else {

     }

     $conn->close();

                                             ?>

      </select></div>

         <div class="form-group">

      <label for="exampleInputEmail1">Question</label>

       <input type="text" class="form-control" placeholder="Enter question" name="question" required autocomplete="off">

                                                </div>

                                      <table class="table table-bordered">

                                        <thead>

                                            <tr>

                                                <th width="100">Option No.</th>

                                                <th>Option</th>

                                                <th  width="100" >Answer</th>

                                            </tr>

                                        </thead>

                                        <tbody>

                                            <tr>

                                                <th scope="row" >1</th>

                                                <td>

                                                <div class="form-group">

                                                <label for="exampleInputEmail1">Option 1</label>

                                                <input type="text" class="form-control" placeholder="Enter option 1" name="opt1" required autocomplete="off">

                                                </div>

                                                </td>

                                                <td><input type="radio" name="answer" value="option1" required></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">2</th>

                                                <td>

                                                <div class="form-group">

                                                <label for="exampleInputEmail1">Option 2</label>

                                                <input type="text" class="form-control" placeholder="Enter option 2" name="opt2" required autocomplete="off">

                                                </div>

                                                </td>

                                                <td><input type="radio" name="answer" value="option2" required></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">3</th>

                                                <td>

                                                <div class="form-group">

                                                <label for="exampleInputEmail1">Option 3</label>

                                                <input type="text" class="form-control" placeholder="Enter option 3" name="opt3" required autocomplete="off">

                                                </div>

                                                </td>

                                                <td><input type="radio" name="answer" value="option3" required></td>

                                            </tr>

                                            <tr>

                                                <th scope="row">4</th>

                                                <td>

                                                <div class="form-group">

                                                <label for="exampleInputEmail1">Option 4</label>

                                                <input type="text" class="form-control" placeholder="Enter option 4" name="opt4" required autocomplete="off">

                                                </div>

                                                </td>

                                                <td><input type="radio" name="answer" value="option4" required></td>

                                            </tr>

                                        </tbody>

                                    </table>

                                     <button type="submit" class="btn btn-primary">Submit</button>

                                                </form>

                                                </div>

   <div role="tabpanel" class="tab-pane fade" id="tab6">

                                         <form action="pages/add\_question2.php?type=fib" method="POST">

                                            <div class="form-group">

                                            <label for="exampleInputEmail1">Exam Name</label>

                                            <select class="form-control" name="exam" required>

                                            <option value="" selected disabled>-Select exam</option>

                                            <?php

                                            include '../database/config.php';

                                            $sql = "SELECT \* FROM tbl\_examinations ORDER BY exam\_name";

                                            $result = $conn->query($sql);

                                            if ($result->num\_rows > 0) {

    while($row = $result->fetch\_assoc()) {

     print '<option value="'.$row['exam\_id'].'">'.$row['exam\_name'].'</option>';

                                            }

                                           } else {

                                            }

                                             $conn->close();

                                             ?>

                </select></div>

                <div class="form-group">

               <label for="exampleInputEmail1">Question</label>

             <input type="text" class="form-control" placeholder="Enter question" name="question" required autocomplete="off">

                </div>

      <div class="form-group">

         <label for="exampleInputEmail1">Answer</label>

                                                <input type="text" class="form-control" placeholder="Enter answer" name="answer" required autocomplete="off">

                                                </div>

                                        <button type="submit" class="btn btn-primary">Submit</button>

                                       </form>

                                                </div>

                                            </div>

                                        </div>

                                    </div>

                                </div>

                            </div>

                        </div>

                        </div>

                    </div>

                </div>

            </div>

        </main>

* 1. Standardization of Coding

Standardization has a positive impact on any business. In the Software Industry too, there are certain coding standards that are needed for successful software development. For most of the organizations, the seamless functioning of software programs is essential for their growth.

We have seen that the quality of the software and the coding procedure are not so easy as it seems. Also, it requires consistency and efforts to develop the software.

* + 1. Coding Standards

It tells us the series of procedures that can be defined for a particular programming language, writing style, methods or function etc. These are the aspects of the different programing language. One should remember that while coding there are some following norms or guideline followed by the developer.

Purpose of Having Coding Standards

* Coding formats gives us an appearance to the codes written by the different developers
* Improves the reusability and smoothness and also reduce the complexity.
* One should code in a way that helps to detect error easily.

Some of the Coding Standard that we used,

1. **Limited use of global:**

These rules tell about which types of data that can be declared global and the data that cannot be. In our project, we have some method that are declared as global and some methods that containing sensitive data, also to declared to global.

1. **Standard headers for different modules:**

For better understanding and maintenance of the code, the header of the different modules should follow some standard format and information. The header format must contain some of the various things as follows:

* Name of the module
* Date of the module creation
* Global variables accessed or modified by the module
* Different functions supported in the module along with their i/p parameters.

1. **Naming conventions for local variables, global variables, constants and functions:**

Some of the naming conventions are given below:

* Meaningful and understandable variables name anyone to understand the reason of using it.
* Local variables should be named using camel case lettering starting with small letter (e.g localData) whereas some global variables names should start with a capital letter (e.g. GlobalData). Constant names should be formed using capital letters only (e.g. CONSDATA)

1. **Indentation:**

Proper indentation is very important to increase the readability of the code. For making the code readable, programmers should use White spaces properly. Some of the spacing conventions are given below:

* There must be a space after giving a comma between two function arguments.
* Each nested block should be properly indented and spaced.
* Proper Indentation should be there at the beginning and at the end of each block in the program.
* All braces should start from a new line and the code following the end of braces also start from a new line.

1. **Avoid using a coding style that is too difficult to understand:**  
   Code should be easily understandable. The complex code makes maintenance and debugging difficult and expensive.
2. **Code should be well documented:**

Our code has proper commented for understanding easily. Some of the code or SQL query has been repeated for more than once, but we have properly commented. So the members can easily understand what it means.

1. **Proper organization of the files and folder**

It is possible to write the whole code in a single file but there could be problems related to its readability and maintenance. Therefore, we organize different folders in each folder there are several code related to that portion.

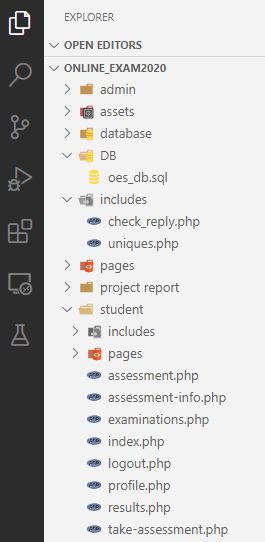


Fig: Organization of files and folders

1. **Open source code readability**

While working on open source projects, like Online Examination System, multiple developers give input in a single software. Therefore, it is good to maintain code readability. That’s why we will be using GitHub, for further maintenance of the code.

It is also advantageous for us to go through the source code of projects to get an idea what the developers are doing.

* 1. Code Efficiency

Code Efficiency term is defined the reliable, performance and speed of the programming technique for developing an application or website. It is directly link with the speed of runtime execution for software. The main aim of code efficiency is to reduce the redundancy, consumption and risk factors to the operating environment.

We have followed such techniques to maintain code efficiency, such as

* We removed some unnecessary code that goes to redundant processing.
* Maintained the memory and no extra storage in database.
* Followed the data integrity and consistency.
* We have used proper variable for proper usage, and a clear concept to implement the function in Back-end server.
  1. Error Handling

**Objective of Error Handling:**

* To check the system ability to handle errors.
* To check the system highest soak point.
* To make sure errors can be handles properly by the system in the future.
* To make system capable of exception handling also.
  1. Validation Checks

**Validation is determining** if the system complies with the requirements and performs functions for which it is intended and meets the organization’s goals and user needs.

* Validation is done at the end of the development process and takes place after verifications are completed.
* It answers the question like: **Am I building the right product?**
* Am I accessing the right data (in terms of the data required to satisfy the requirement)?
* It is a High-level activity.
* Performed after a work product is produced against established criteria ensuring that the product integrates correctly into the environment.
* Determination of correctness of the final software product by a development project with respect to the user needs and requirements.

**Advantages of Validation:**

1. During verification if some defects are missed then during validation process it can be caught as failures.
2. If during verification some specification is misunderstood and development had happened then during validation process while executing that functionality the difference between the actual result and expected result can be understood.
3. Validation is done during testing like feature testing, integration testing, system testing, load testing, compatibility testing, stress testing, etc.
4. Testing
   1. Testing strategies

* Testing is a set of activities which are decided in advance i.e before the start of development and organized systematically.
* In the literature of software engineering various testing strategies to implement the testing are defined.
* All the strategies give a testing template.

There are following some testing strategies as follows,

**Unit Testing**

* In module interface, ensures that information flows properly into and out of the module.

For example: In admin portion, we have created separate module located in “admin/pages” where all the modules are there.

* In Local data structures, ensures that data stored temporarily maintains its integrity during all steps in a code execution
* In boundary conditions, ensures that the module operates properly at boundary values established to limit or restrict processing.
* In error handling paths, ensures that the code respond correctly to specific error conditions.

**Integration testing**

* Defined as a systematic technique for constructing the software architecture.
* Objective is to take unit tested modules and build a program structure based on the prescribed design.
* One of the approaches are followed which is Incremental Integration Testing.

**Top-down Integration**

* Modules are integrated by moving downward through the control hierarchy, beginning with the main module.
* Subordinate modules are incorporated in two ways:

Depth-first: All modules on a major control path are integrated

Breadth-first: All modules directly subordinate at each level are integrated.

**Validation Testing**

* Validation testing follows integration testing

Criteria:

* Demonstrates conformity with requirements
* Designed to ensures that all functional requirements are satisfied, all behavioral characteristics are achieved, all performance requirements are attained.

**Alpha and beta testing:**

* Alpha testing conducted at the developer’s site by end users.
* Software is used in a natural setting with developers watching intently
* Testing is conducted in a controlled environment
* Beta testing conducted at end-user sites
* Developer is generally not present
* The end-user records all problems that are encountered and reports these to the developers at regular intervals
* After beta testing is complete, software engineers make software modifications and prepare for release of the software product to the entire customer base.

**System testing**

System testing is a series of different tests whose purpose is to fully exercise the computer-based system

* Recovery testing
* Tests for recovery from system faults
* Tests reinitialization check pointing mechanisms, data recovery, and restart for correctness
* Security testing
* Verifies that protection mechanisms built into a system will, in fact, protect it from improper access
* Performance testing
  + Tests the run-time performance of software within the context of an integrated system
  + Can uncover situations that lead to degradation and possible system failure
* Deployment testing
  + Also known as configuration testing
  + It examines all installations procedures that will be used by customers
* **Test reports and Test Cases**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SL no** | **Submitted**  **By** | **Description** | **Detected stage** | **Assigned to** | **Type of defect** | **Impact** | **priority** | **injected** | **result** |
| 1 | Sudipta Gupta | Login to system with wrong password | Unit testing |  | Logical error | Medium | high | coding | Fixed |
| 2 | Pranay Karmakar | When select randomized question from database | Unit testing |  | Logical error | Medium | high | Coding | Fixed |
| 3 | Sangramjeet Dutta | Contents of forms are not static | Unit testing |  | Logical error | Medium | High | Coding | Fixed |
| 4 | Krishnendu Pattadar | Result calculation | Unit testing |  | Logical error | Medium | High | Coding | Fixed |
| 5 | Krishnendu Pattadar | Question fetching | Unit testing |  | Logical error | high | Medium | Coding | Fixed |

1. Test Case for Log In:

**Project** - Online Examination System.

**Objective** - To check whether Username & Password valid or invalid.

**Prepared By** - Sudipta Gupta, Krishnendu Pattadar.

**Page** - Login Screen(admin,student).

**Test Data** - For Admin(Username: *admin*, Password: *oes4*).

For Student (Username: student’s *Registration ID,* Password: *123456*)

|  |  |  |  |
| --- | --- | --- | --- |
| **SL No** | **Steps** | **Expected Data** | **Status** |
| 1 | Enter Username & Password for Admin, press LOGIN button | Should navigate to admin’s page | Pass |
| 2 | Enter Username & Password for Student, press LOGIN button | Should navigate to student’s page | Pass |
| 3 | Enter only Username and press LOGIN button | Should display the msg ‘Please fill all the fields’ | Pass |
| 4 | Enter only Password, press LOGIN button | Should display the msg ‘Please fill all the fields’ | Pass |
| 5 | Enter wrong Username & Password | Display the msg in the URL ‘Wrong user id and password’ | Pass |

1. Test Case for others functionalities:

|  |  |  |  |
| --- | --- | --- | --- |
| **SL No** | **Steps** | **Expected Data** | **Status** |
| 1 | Take Assessment | Should display Questionnaire Available in a sequence | Pass |
| 2 | Timer | Should display and Countdown | Pass |
| 3 | Marks | Should display after the assessment | Pass |
| 4 | Password change for admin & student | Should display in the account hyperlink | Pass |

1. Test Case for Navigation:

**Project** - Online Examination System.

**Objective** - To check whether the different Navigations(buttons) are working

properly or not.

**Prepared By** - Sangramjeet Dutta, Krishnendu Pattadar.

**Page** - Home page (admin, student).

|  |  |  |  |
| --- | --- | --- | --- |
| **SL No** | **Steps** | **Expected Data** | **Status** |
|  | **After Admin Login** |  | |
| 1 | Click on dashboard button in the side menu bar | Should display total number of departments, students, subjects, exams etc. | Pass |
| 2 | Click on department button | Should display the details of departments. | Pass |
| 3 | Click on Subjects button | Should display Subjects details page | Pass |
| 4 | Click on Student button | Should display Students details page | Pass |
| 5 | Click on Examination button | Should display all the examinations available for students. | Pass |
| 6 | Click on Question button | Should add the questionnaire along with the answer | Pass |
| 7 | Click on Exam Result button | Should display all the exams that are attempted by the students. | Pass |
| **After Student Login** | | | |
| 1  Click on dashboard button | | Should display total number of active, passed, failed and attended exams | Pass |
| 2 | Click on Examination button | Should display all the exams, Desired students can sit for others dept too | Pass |
| 3 | Click on Results button | Should display the results according to the Student ID Log in | Pass |

**Conclusion:**

In this way we also complete the testing phase of the project and ensured that the system is ready to go live. Thus, we developed a system that provides a paperless examination.

1. System Security Measures
   1. **Data Security**

Database security encompasses a range of security controls designed to protect the Database Management System (DBMS). The types of database security measures your business should use include protecting the underlying infrastructure that houses the database such as the network and servers), securely configuring the DBMS, and the access to the data itself.

**Database security controls**

Database security encompasses multiple controls, including system hardening, access, DBMS configuration, and security monitoring. These different security controls help to manage the circumventing of security protocols.

**System hardening and monitoring**

The underlying architecture provides additional access to the DBMS. It is vital that all systems are patched consistently, hardened using known security configuration standards, and monitored for access, including insider threats.

**DBMS configuration**

It is critical that the DBMS be properly configured and hardened to take advantage of security features and limit privileged access that may cause a misconfiguration of expected security settings. Monitoring the DBMS configuration and ensuring proper change control processes helps ensure that the configuration stays consistent.

**Authentication**

Database security measures include authentication, the process of verifying if a user’s credentials match those stored in our database, and permitting only authenticated users’ access to our data and database.

**Access**

A primary outcome of database security is the effective limitation of access to our data. Access controls authenticate legitimate users and applications, limiting what they can access in your database. Access includes designing and granting appropriate user attributes and roles and limiting administrative privileges.

**Backups**

A data backup, as part of your database security protocol, makes a copy of your data and stores it on a separate system. This backup allows us to recover lost data that may result from hardware failures, data corruption, theft, hacking, or natural disasters.

**Encryption**

Database security can include the secure management of encryption keys, protection of the encryption system, management of a secure, off-site encryption backup, and access restriction protocols.

**Application security**

Database and application security framework measures can help protect against commonly known attacker exploits that can circumvent access controls, including SQL injection.

Database security can guard against these compromises of your database, which can lead to financial loss, reputation damage and non-compliance of government and industry regulation.

* Deployment failure.
* Excessive Privileges.
* Platform vulnerabilities.
* Backup data exposure.
* Database injection attacks.
  1. Access Rights

The management of permission and access rights is the most complicated element of our project because it really is a management of trust relationships. There is a dilemma between:

* **Access** : Students should have access to their information about exams to take the assessment.
* **Restriction** : Students should not have access to more information then necessary to do the job.

Each profile can be assigned different permissions according to their function. The permissions attached to each profile are set using the User profile admin screen. The classic case is of students forgetting or losing passwords in which case the system administrator is empowered to change and set their private data or profiles so that they can regain access.

1. Cost Estimation Model

Applies on 3 classes of software project.

* **Organic Projects**: small team, good experience, less rigid requirement.
* **Semi-detached**: medium team, mixed experience.
* **embedded projects**: embedded projects are organic or semi-detached combination.

**Stages of COCOMO Model:**

--Basic.

--Intermediate.

--Detailed.

I) **Basic COCOMO Model:**

Approximate cost estimate of project parameters.

Software development effort is estimated using LOC (Lines of Code)

Effort Applied: (in person-month).

Development Time: (in month).

Staff Size: (in person)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Class |  |  |  |  |
| Organic | 2.4 | 1.05 | 2.5 | 0.38 |
| Semi-detached | 3 | 1.12 | 2.5 | 0.35 |
| Embedded | 3.6 | 1.2 | 2.5 | 0.32 |

**Cost Estimation**

Our size of an Organic software has been estimated to be approx. 4000 lines of source code. We use COCOMO Model for cost estimation of project.

Project class: Organic

COCOMO Model Variant: Basic

Effort = person-month

= person-month

= 10.2890252403 person-month

Development time = months

=

1. Future Scope for further Enhancement

Present System carries some drawback & limitation as listed below,

1. Current system provides only text-based options, but the questions / answers need to be in graphics.
2. In case there is need to be added multiple answers, current system has no provision.
3. There is no scope for trail test or demo test, in case the student or anyone can take the trail test for better understanding how it works.
4. There are no solutions for particular exam, if a student wishes to check the solution of wrong answer.
5. No such Security has been implemented in the current system.

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