# ONLINE EXAMINATION SYSTEM

Mini Project Report

submitted in partial fulfillment of

the award of the degree

of

**Bachelor of Technology**

in

**Computer Science and Engineering**

of

**Cochin University of Science and Technology**

by

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**Certificate**

This is to certify that the mini project report entitled

**ONLINE EXAMINATION SYSTEM**

Submitted by

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is a bonafide record of the work done by them.

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# ACKNOWLEDGEMENT

I am greatly indebted to God Almighty for being the guiding light throughout with His abundant grace and blessings that strengthened me to do this endeavor with confidence.

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Last but not the least, we extend our heartfelt gratitude to our parents and friends for their support and assistance.

# ABSTRACT

As the name of the project Online Examination suggests, the system or application has to manage the examination for a department of any college. Earlier it was a very time consuming and tedious process where both students as well as university used to perform all tasks manually such as Student registration, setting question papers, declaring the result. To avoid all such tedious works we here introduced the online examination system.

Student register for the exam before entering into the exam and when they submit the registration they get a message that as username their admission number needed to be given when they wish to enter into their page so that they needed to be use admission number as username. Admin who has the provision to add the faculty. The faculty may be HOD or staff and the admin add the subject for exam; then only the HOD can add the exam and staff can submits question patterns for the exam. HOD add the exam. Staff prepares question patterns and submit it to the HOD and staff has the provision to active or inactive the students by checking whether the student belongs to the same semester or belongs to the corresponding department, college or not. The main functionality of HOD is to view, accept or reject the question submit by the staff. Student can attend the exam by entering the exam id that given by the staff in the lab and there is a 15 minutes timer is provided. Here to avoid the tendency for malpractice we provided a shuffled question paper so that no two students that may sit near cannot get the same pattern question and the result is also published when they complete the exam.

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# 1 INTRODUCTION

The system will facilitate online examination and view results. The system can conduct various examinations for various subjects for the same department. All one needs to do change the database accordingly. Project deals with registration or enrollment of students, they register with their username and password and if needed they can change password after registration. This application has Login module we need the user name and password facility of login for each modules like student, admin and faculty(staff,HOD).

The staff module prepare questions; with the question the correct answer also given by the staff to HOD which then view by the HOD and the HOD has the provision to accept or reject the question pattern. The application will facilitate objective answers, module will be checked automatically by the system from the database. This application has answersheet table when the student starts the exam the timer will start automatically and show the student how much time is left. This application has answersheet table to display the result of each student based on the scores they obtained.

Evaluation and printing of students result will be supported like any other software application project we need to use good software development practices when faced with working on a web application. Otherwise, the project would not remain in control and we would face problems with timeliness, budgets and quality.

# 2 SYSTEM STUDY AND ANALYSIS

## 2.1 EXISTING SYSTEM

Up to now the existing system is a system in which everything is used to maintain manually by institution. The existing system consist of four modules; HOD,Admin,Staff and Student. The main demerits of existing system are time consuming and the tedious work for calculating the students results. Drawbacks of existing system

- Time consuming
- Result generation is slow
- More overhead

## 2.2 PROPOSED SYSTEM

The proposed system is fully computerized which removes all the drawbacks of existing system. Proposed system is an online application that can be accessed throughout the organization and outside as well as with proper login provided.

Advantage of this system

- Fast computation of result
- Simple, secure
- User friendly
- Less overhead

# 3 SOFTWARE REQUIREMENT SPECIFICATION

## 3.1 INTRODUCTION

### 3.1.1 Purpose

The Software Requirement Specification (SRS) specifies the requirements of the Online Examination. Online Examination is a web based application which facilitate to conduct online examination and generate results. The system can conduct various examinations for various subjects. The objective of this project is to make evaluation and conduction of examination massive but simple cost effective and faster. In this system students can attend exam in online with a specified interval of time. When student start the exam there will be a timer and it will start running automatically and show the student how much time is left. The questions will be displayed randomly from the selected question bank. Each student will be provided shuffled questions in order to avoid getting same questions for two or more students at a time. This document specifies the hardware as well as software specifications of the Online Examination.

### 3.1.2 Product Scope

This document covers the requirement of SRS. This software will provide a graphical environment that will help to perform various operations like storing, manipulating and retrieving student information. The online examination system will allow the faculty to conduct an exam through online and student to attend the exam. The system will provide staff to maintain the details of students and exams. Furthermore, the program provides different modes to edit and update and insert etc, view results, and a timer is provided in the exam. The questions approved by the HOD is are shuffled hence no two students sitting close to each other will not get same questions such facilities are provided in our system. The main goal of our system is to reduce the overhead faced by the faculties. The system made by us for a particular department. In future the system can be modified to work for all department and also can use subjective type questions.

## 3.2 GENERAL DESCRIPTION

### 3.2.1 Project Perspective

The product online examination system is an independent process and does not depend on any other product or system. The Online Examination System is intended to replace the of-

fline examination system. The students can attend exam through online and view their result immediately.

### 3.2.2 Product Functions

Functional requirements state the various functionalities expected from the system by the user. The following list of function descriptions explains the major features of the project.

1. **Appearing for online exam:** By providing their personal details students can register the exam. Student get a message during the registration that; use their admission number as user name. The password that enter during registration can use for login. This offer convenience that the user only has to enter their information only once then it is stored in the database. It is stored in the student table.

2. **Provide login interface:** The 4 modules enter into the login page by entering their correct username and password. For faculty, they obtained username from the mail when admin adds them and which is a random number generated by the code. Validation is provided hence unauthorized users cannot enter into the login page. When if incorrect password is typed then an error message will appear. The login information is stored in the login table.

3. **Edit the status of students:** The staff has right to edit the status of the students. The status can be active or inactive. Only the active students can attend the exam. Hence the system is secure. The information related to the status can be viewed by the staff,HOD,Admin.

4. **Enable faculty to send set of questions:** The staff will prepare a set of question patterns and this set of question patterns are presented in front of the HOD and he/she will check whether the questions are valid or not. He/she has the provision to view,accept or reject the question patterns. Hence only the approved question patterns are allocated for exam. The information related to questions are stored in the question table.

5. **Provides questions to the students randomly:** The programme is coded to provides shuffled question patterns. Hence no two students sitting together will not get same set of question papers. Hence we can reduce the malpractice done by students.

6. **Timer facility:** When the student attend exam; a timer starts running. When the timer get stopped the exam get completed, that is no further changes can be made. In this

project 15 minutes timer is provided. Here 15 minutes is defaultly given.

7. **Declare results:** After attending the exam the result is declared immediately, by calculating the result automatically. This can be viewed by the all modules. Hence we can reduce the anxiety of students about the result.

### 3.2.3 User classes and Characteristics

There are four user classes- Admin, HOD, Staff, Student

Functions of the Admin:

- He can add subject and staff.
- He can view student and faculty details and examination results.

Functions of the HOD:

- HOD has the responsibility to approve the questions that prepared by the staff modules and monitors the students.
- Has the provision to add exam.
- He has the provision for viewing the results and students.

Functions of the Staff:

- Staff will prepare a set of question patterns.
- Staff can enter, delete, view and edit those questions for getting approval from HOD.
- Staff can view the result of each student and their details and has the provision to active or inactive the student.
- Staff can also has the right to change his/her password.

Functions of the Student:

- Register for exam.
- Students can attend the examination and view their results.

## 3.3 SPECIFIC REQUIREMENTS

### 3.3.1 Software Requirements

- Front End : PHP,HTML,CSS,javascript
- Back End : MySQL
- Platform : Dream weaver
- Operating system : Windows XP or later

# 4 DESIGN

## 4.1 DATA FLOW DIAGRAM

The data flow diagram (DFD) is used for classifying system requirements to major transformation that will become programs in system design. This is starting point of the design phase that functionally decomposes the required specifications down to the lower level of details. It consists of a series of bubbles joint together by lines. Bubbles: Represent the data transformations. Lines: Represent the logic flow of data. Data can trigger events and can be processed to useful information. Systems analysis recognizes the central goal of data in organizations. This dataflow analysis tells a great deal about how organization objectives are accomplished.

**LEVEL 0 DFD**

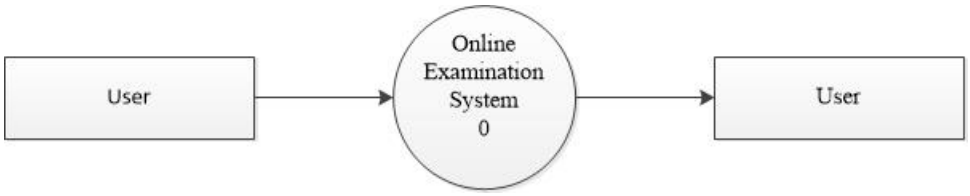


Figure 4.1: LEVEL 0 DFD

**Description:**

Admin,HOD,Staff,Student login to the system using their respective username and password, after which they can access their own respective pages and they request for various functionality and they gets the corresponding response.

**LEVEL 1 DFD**

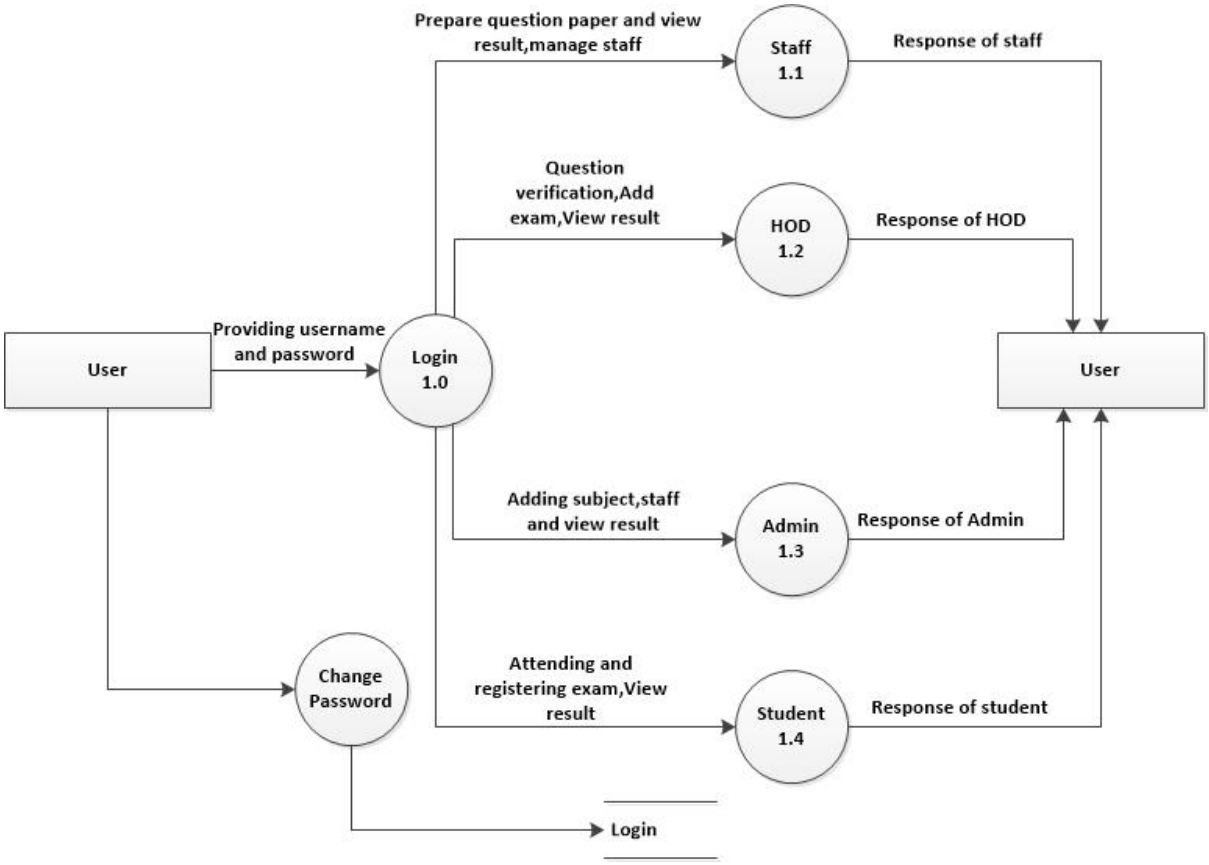


Figure 4.2: LEVEL 1.0 DFD

**Description:**

All the modules login to their corresponding page using their unique username and password. After entering into respective pages they will perform their own functionalities for the system such as the admin will manage subject,staff etc,. HOD will manage questions,staff etc,. staff will manage the students, prepare questions and the last module named student register before exam and will attend the exam.

**LEVEL 2 DFD**

**STAFF**

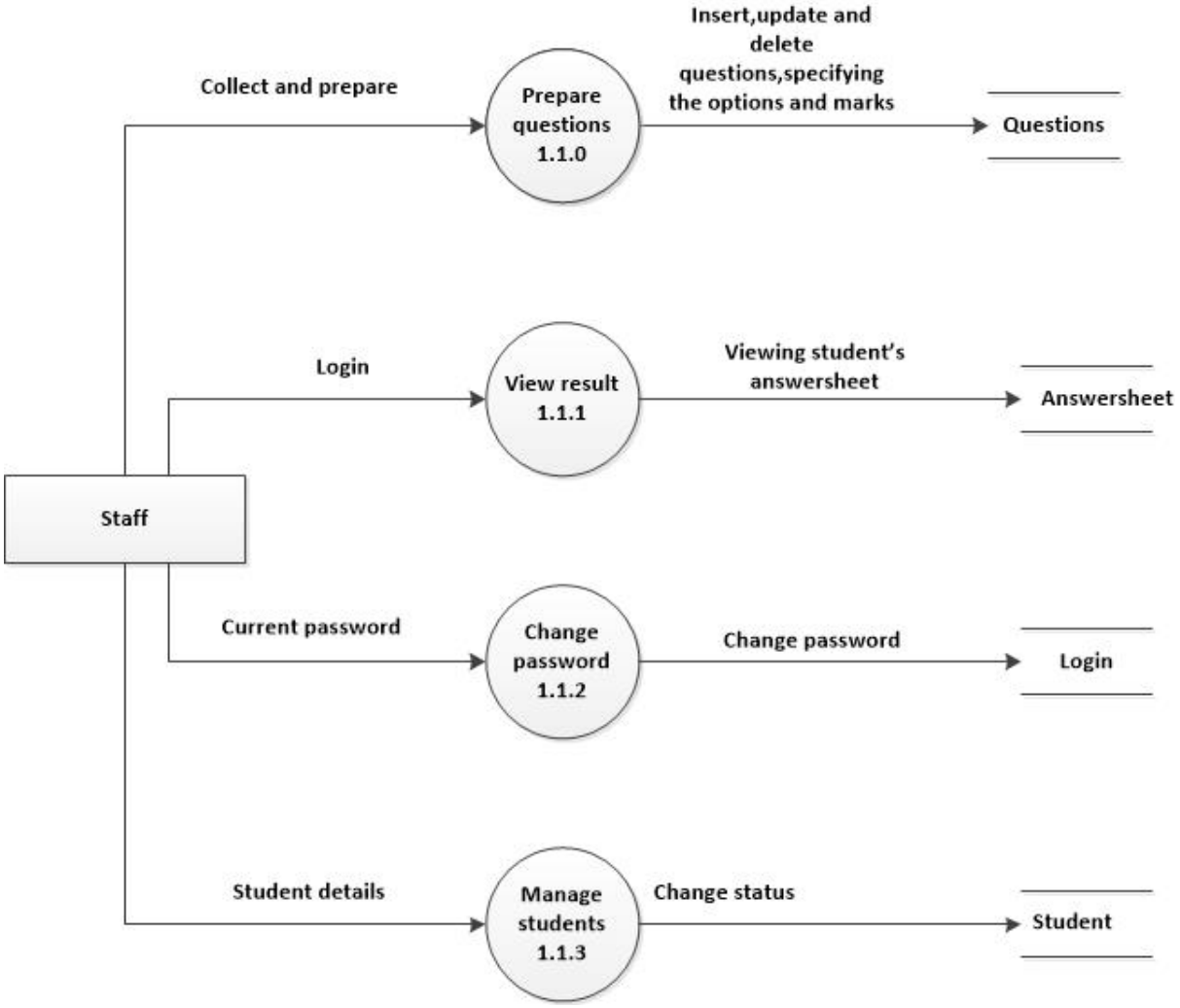


Figure 4.3: LEVEL 2.0 DFD

**Description:**

The main functionality of staff is to prepare a set of question papers,view result, and change the current password if needed. The staff enters into their corresponding page by using the username obtained from mail and their password. The staff prepares a set of question patterns and stored in question table and this set of question papers are presented in front of HOD. There is also provision for viewing the results of students which is stored in the answersheet table.

**HOD**

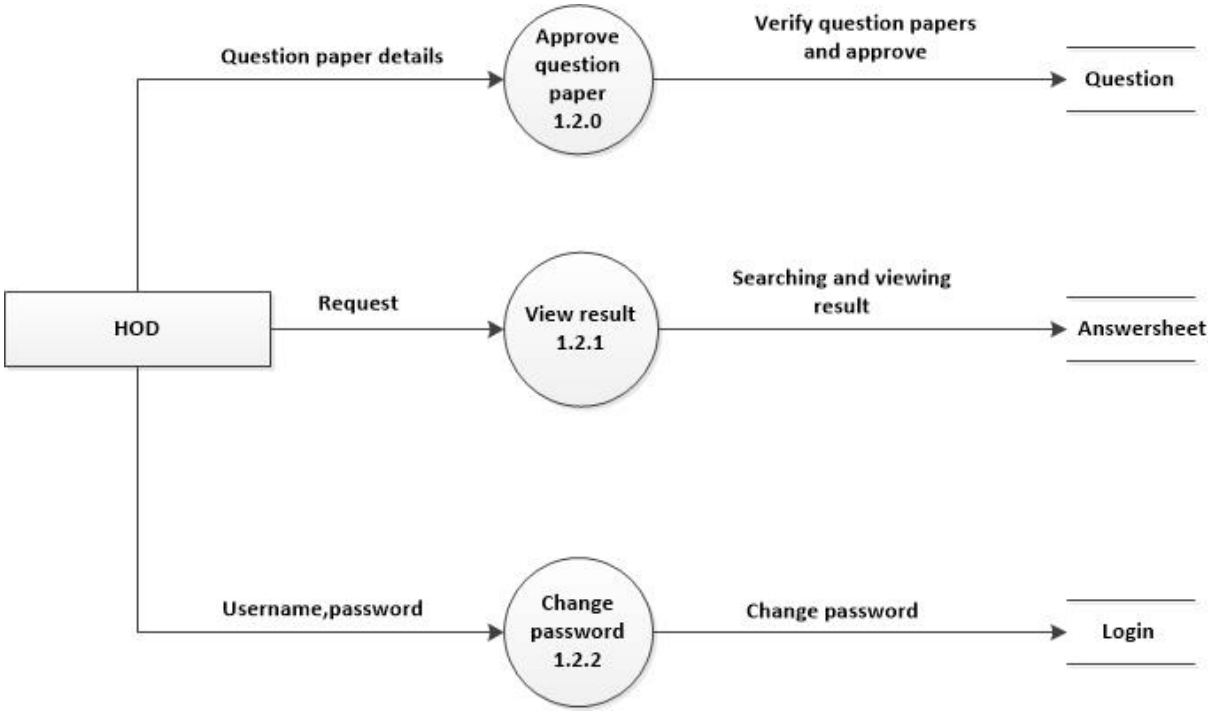


Figure 4.4: LEVEL 2.1 DFD

**Description:**

The HOD provides exam notification and they also manage the questions. The questions prepared by staff is analyzed by HOD and HOD has the right to view, either reject or accept the questions. This question are stored in the question table with status either accepted or rejected and they also have the provision to view the result.

**STUDENT**

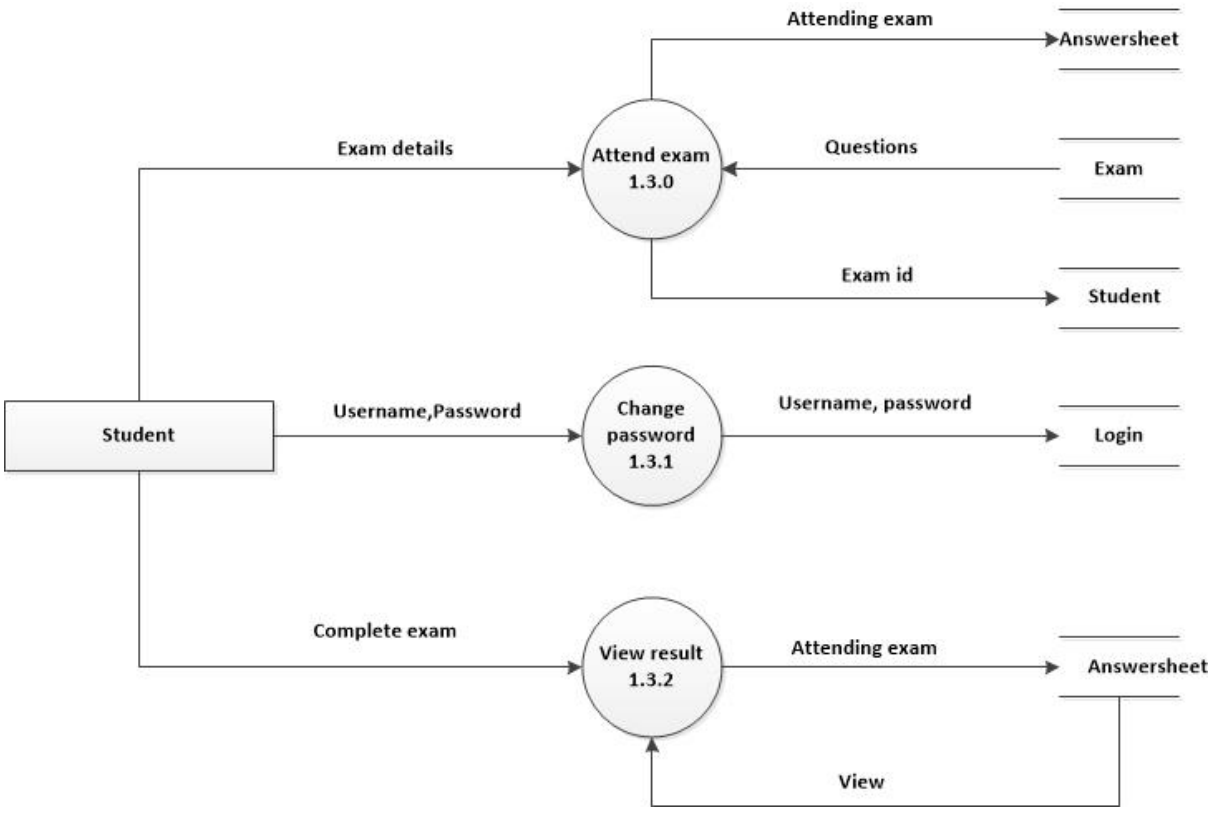


Figure 4.5: LEVEL 2.2 DFD

**Description:**

The main functionality of student is to attend exam. The student entering their corresponding page by admission number as username and password that they entered during registration and also need to enter the exam id that given by the respective staff, to attend the exam. A timer is provided in exam, after attending the exam the student can view their result by selecting the link view result. The result is stored in table answersheet.

**ADMIN**

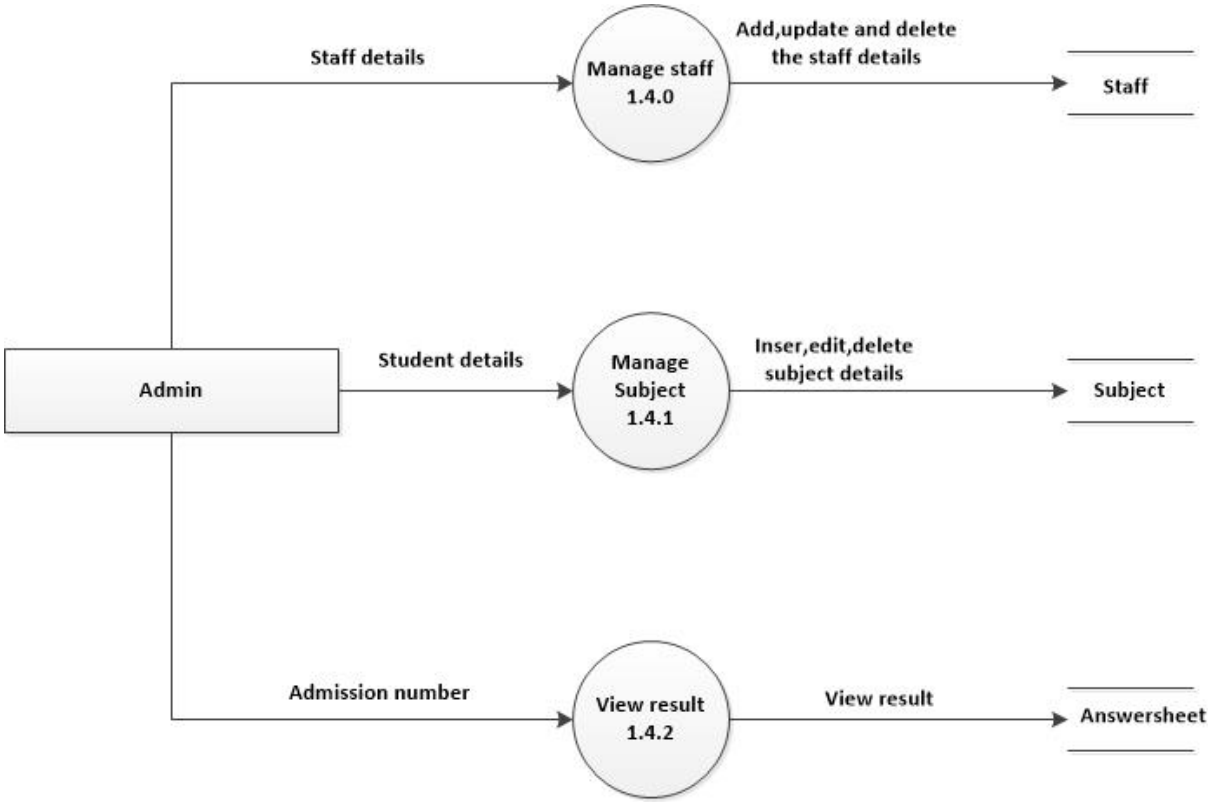


Figure 4.6: LEVEL 2.3 DFD

**Description:**

The main functionality of admin is to add subjects and add faculty. The admin add the subject needed for exam and also the staff and hod were also added by admin. The details of the staff were stored in the Database.

## 4.2 ER DIAGRAM

Entity relationship model defines the conceptual view of database. It works around real world entity and association among them. At view level, ER model is considered well for designing databases. An entity is a real-world thing either animates or inanimate that can be easily identifiable and distinguishable. All entities have some attributes or properties that give them their identity. Entities are represented by means of their properties, called attributes. All attributes have values.

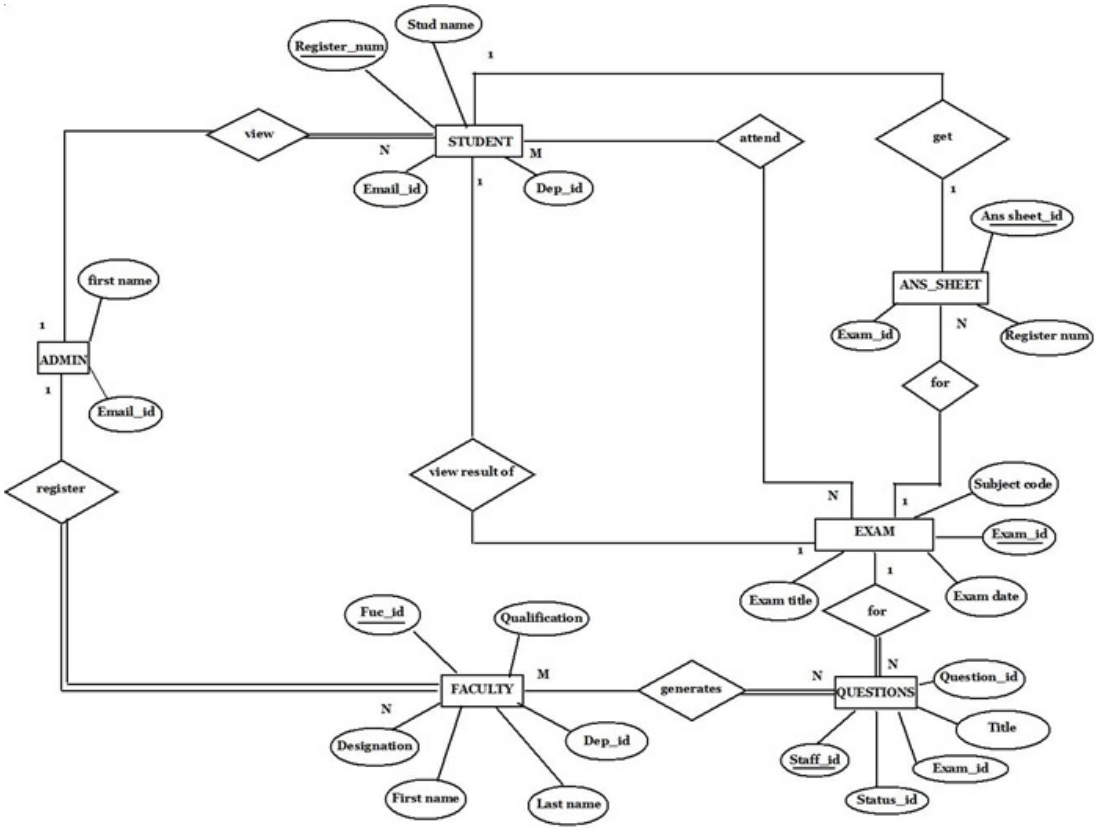


Figure 4.7: ER DIAGRAM

**Description:**

There are six entities in the ER diagram. The entities and their corresponding attributes are:

- Student- stud name, email id, register num,dep id; Primary key- register num
- Admin- first name,email id
- Ans sheet- ans sheet id,register num,exam id; Primary key- ans sheet id
- Exam- subject code,exam date,exam id; Primary key- exam id

- Questions- student id,question id; Primary key- question id
- Faculty- fuc id,last name,first name; Primary key- fuc id

The first relation is ADMIN REGISTER FACULTY. This binary relationship type has a cardinality ratio 1:N, meaning that the any number of faculty can be registered by admin but there is only one admin who can register the faculty details.

The second relation is ADMIN VIEW STUDENT. This binary relationship type has a cardinality ratio 1:N, meaning that the any number of students can be viewed by admin but there is only one admin who views the students.

The third relation is FACULTY GENERATES QUESTIONS. This binary relationship type has a cardinality ratio M:N, meaning that the any number of questions can be generated by faculty and any number of faculties can generate the questions.

The fourth relation is STUDENT ATTEND EXAM. This binary relationship type has a cardinality ratio 1:N. Any number of exams can be attended by a student but the exam can be attended once by a student.

The fth relation is STUDENT GET ANSWER SHEET. This binary relationship type has a cardinality ratio 1:1, meaning that one student get one answer sheet for an exam.

The sixth relation is STUDENT VIEW RESULT OF EXAM. This binary relationship type has a cardinality ratio M:N, meaning that any student can view the result of any number of exam.

The seventh relation is QUESTIONS FOR EXAM. This binary relationship type has a cardinality ratio N:1, meaning that there are any number of questions for one exam.

## 4.3 DATABASE TABLES

| Field Name | Data type | Constraints |
|---|---|---|
| Email id | Varchar | Primary key |
| password | Varchar | |
| usertype | Varchar | |

Table 4.1: LOGIN TABLE

| Field Name | Data type | Constraints |
|---|---|---|
| Sub id | Varchar | Primary key |
| Sub name | Varchar | |
| Semester | Varchar | |

Table 4.2: SUBJECT TABLE

| Field Name | Data type | Constraints |
|---|---|---|
| Staff id | char | Primarykey |
| Qualification | char | |
| Designation | Varchar | |
| F name | char | |
| L name | char | |
| Date joining | Int | |
| Address | char | |
| usertype | char | |
| Email id | Varchar | Foreign key |

Table 4.3: FACULTY TABLE

| Field Name | Data type | Constraints |
|---|---|---|
| Exam id | Varchar | Primary key |
| Exam date | Int | |
| Exam title | Varchar | |
| Subject code | Varchar | Foreign key |
| Staff id | Varchar | Foreign key |
| Duration | Int | |

Table 4.4: EXAM TABLE

| Field Name | Data type | Constraints |
|---|---|---|
| Exam id | Varchar | Foreign key |
| Question id | Varchar | Primary key |
| Title | Varchar | |
| Correct ans | Varchar | |
| Staff id | Varchar | Primary key |
| Option 1 | Varchar | |
| Option 2 | Varchar | |
| Option 3 | Varchar | |
| Option 4 | Varchar | |

Table 4.5: QUESTION TABLE

| Field Name | Data type | Constraints |
|---|---|---|
| Stud name | char | |
| Semester | Varchar | |
| Roll num | int | |
| Admin num | int | |
| Gender | Varchar | Primary key |
| Batch | Varchar | |
| Email id 2 | Varchar | Foreign key |

Table 4.6: STUDENT TABLE

| Field Name | Data type | Constraints |
|---|---|---|
| Ans sheet id | Varchar | Pimary key |
| Reg num | int | |
| Exam id | int | Foreign key |
| Mark obtained | int | |

Table 4.7: ANSWERSHEET TABLE

# 5 IMPLEMENTATION DETAILS

## 5.1 LANGUAGES AND TOOLS

### 5.1.1 Front End Languages

#### PHP (PHP Hypertext Preprocessor)

PHP is a server scripting language and a powerful tool for making dynamic and interactive web pages. PHP is a widely used, free and efficient alternative to competitors such as Microsoft, ASP. PHP is an acronym for PHP: Hypertext Preprocessor. PHP is widely used open source scripting language. PHP scripts are executed on the server. PHP is free to download and use. PHP files can contain text, HTML, CSS, PHP, JavaScript code. PHP codes are executed on server and result is returned to browser as plain HTML. PHP files have extension php. PHP can generate dynamic page content. PHP can create, open, read, write, delete and close files on server. PHP can add, delete, and modify data in the database. PHP can be used to control user access. PHP can encrypt data.

#### HTML (Hyper Text Markup Language)

HTML or Hypertext Markup Language is the main markup language for creating web pages and other information that can be displayed in a web browser. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like ¡html¿), within the web page content. The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, further tags, comments and other types of text-based content. HTML elements form the building blocks of all websites.

#### CSS (Cascading Style Sheets)

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications. CSS makes it possible to separate presentation instructions

from the HTML content in a separate file or style section of the HTML file.

#### Javascript

Javascript is a dynamic computer programming language. It is most commonly used as part of Web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also used in server-side network programming with runtime environments such as Node.js, game development and the creation of desktop and mobile applications. With the rise of the single-page Web app and JavaScript-heavy sites, it is increasingly being used as a compile target for source-to-source compilers from both dynamic languages and static languages

### 5.1.2 Back End Languages

#### MySQL

MySQL is an open-source relational database management system (RDBMS). In July 2013, it was the world's second most widely used RDBMS, and the most widely used open-source clientserver model RDBMS. It is named after Michael Widenius' (who is a co-founder of MySQL) daughter, My while "SQL" stands as the abbreviation for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation. For proprietary use, several paid editions are available, and offer additional functionality. On all platforms except Windows, MySQL ships with no GUI tools to administer MySQL databases or manage data contained within the databases. Users may use the included command line tools, or install MySQL Workbench via a separate download. Many third party GUI tools are also available

## 5.2 MODULES

Based upon the levels of the product, the project had been divided to 3 modules which are mentioned a follows.

- ADMIN MODULE

- HOD MODULE
- STAFF MODULE
- STUDENT MODULE

### 5.2.1 ADMIN MODULE

Admin module login using his unique user-id and password. He has options for: Add staff and view their details, Add subject for exam, View the exam results and student details, The admin access the database such as login table,staff table,student table,subject table and exam table.

### 5.2.2 HOD MODULE

The HOD will login the system with user id and password which is randomly created and obtained through email. HOD has the responsibility to approve the questions that prepared by the staff modules,then it is stored in database question. HOD also monitors the students. He has the right to provide notification and declaration for examination. He has the provision for viewing the result stored in the database exam and students.

### 5.2.3 STAFF MODULE

The staff will login using his user-id and password which is randomly created and obtained through email. Staff can prepare a set of question papers and can enter, delete, view and edit those questions for getting approval from HOD. The details of this question papers are stored in database. They have the provision for viewing the result of each student. They also can change their password and the new password is stored in database.

### 5.2.4 STUDENT MODULE

For attending exam the student should first register. The staff will either make active or inactive. The students who are active can enter into exam by login using unique username and password. When student start the exam there will be a timer and it will start running automatically and show the student how much time is left. After attending the exam the result is automatically generated.

# 6 SCREENSHOTS

## Home page

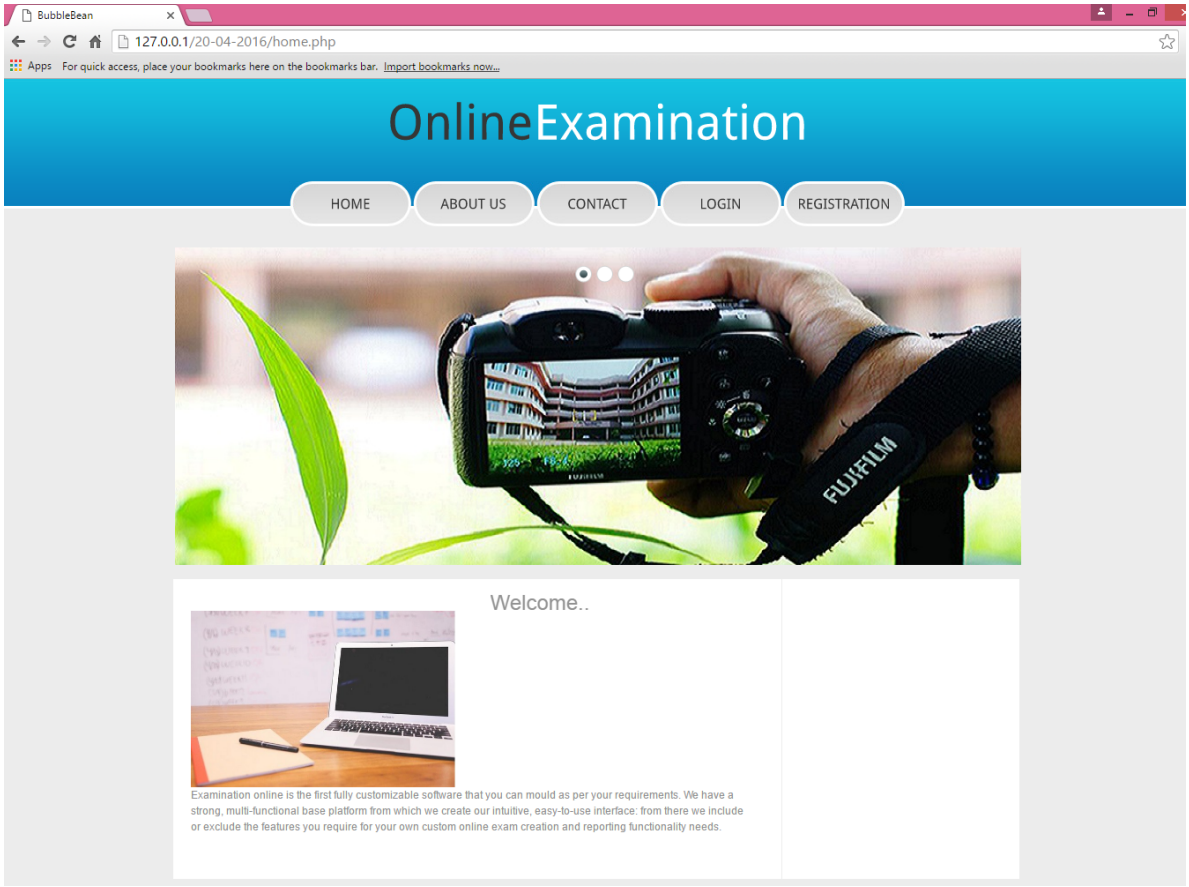


Figure 6.1: HOME PAGE

**Login page**

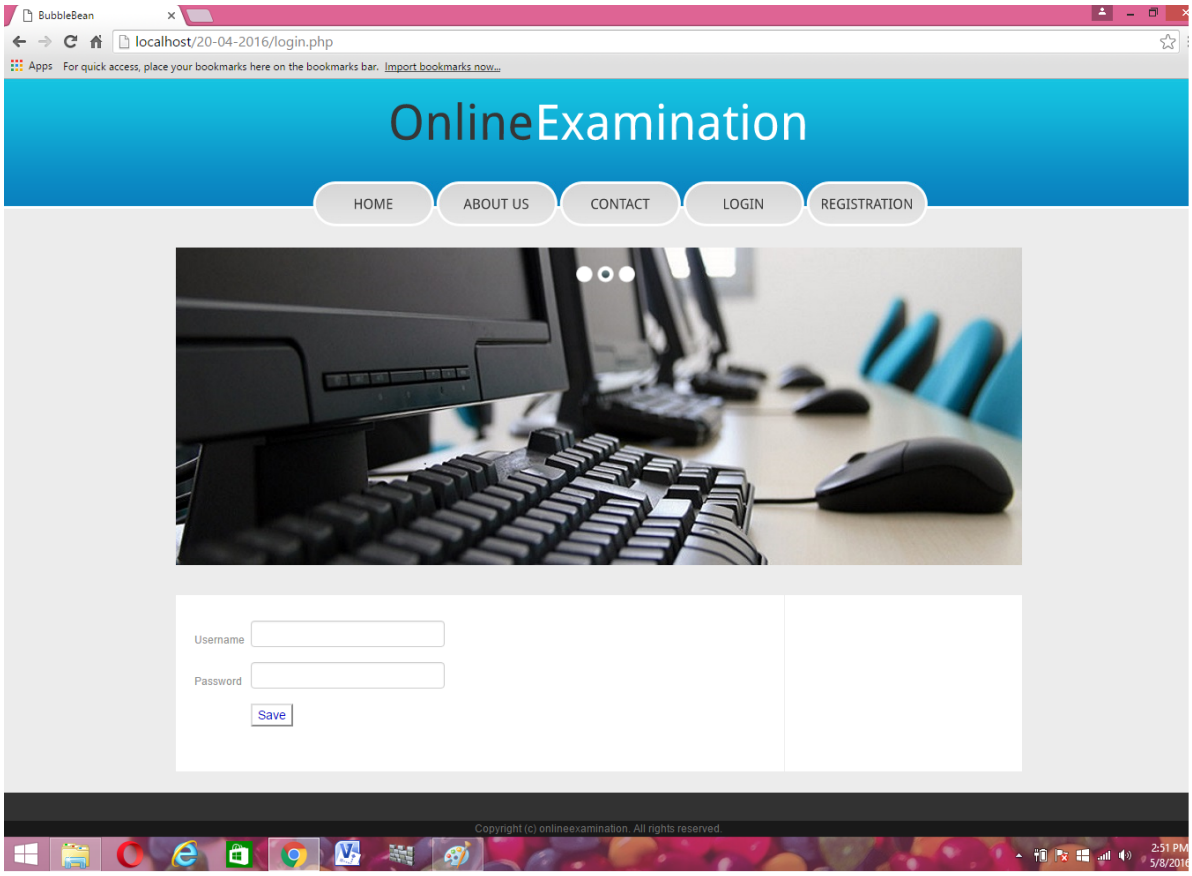


Figure 6.2: LOGIN PAGE

**Student registration**

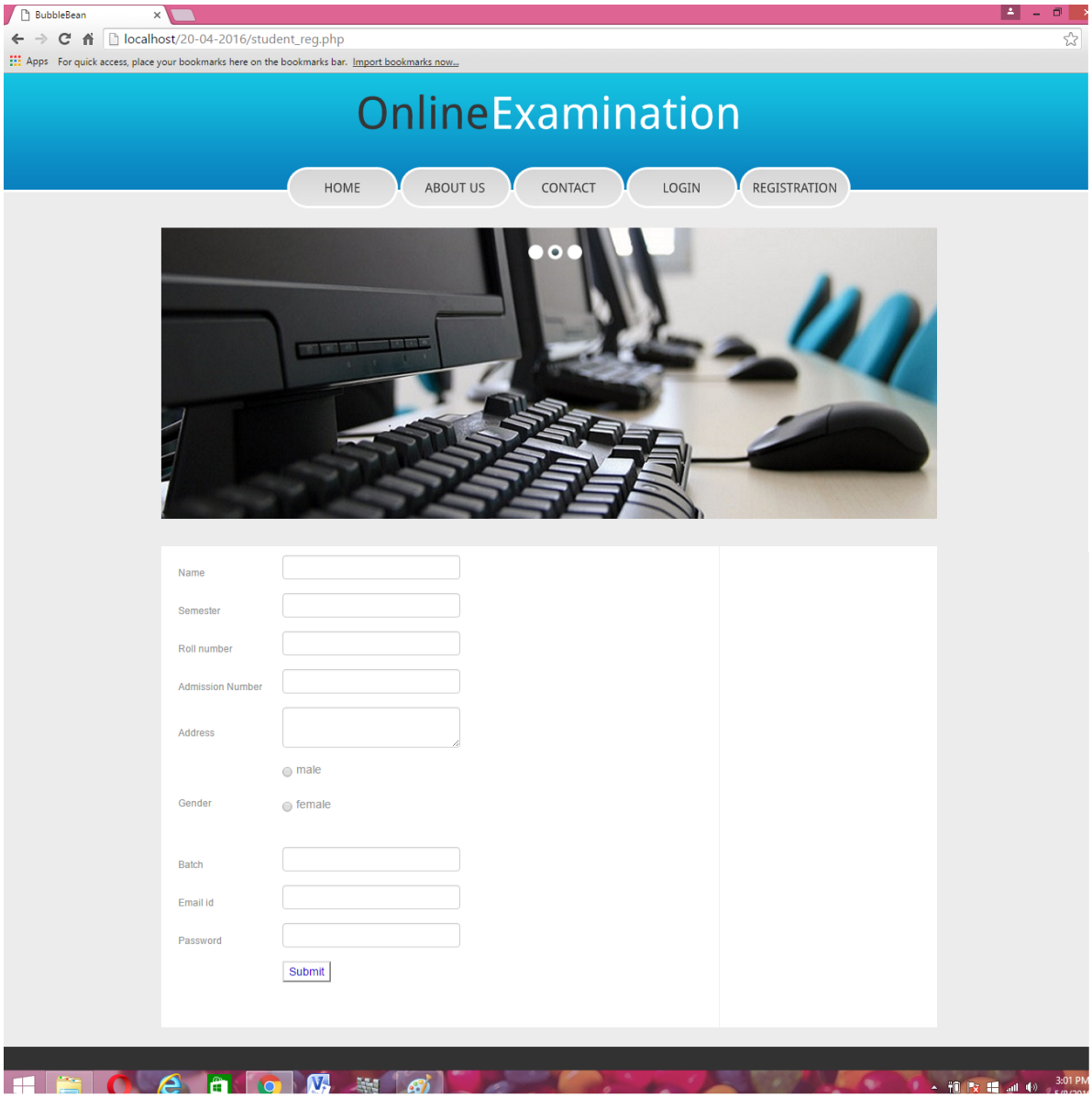


Figure 6.3: STUDENT REGISTRATION

**Admin add staff**

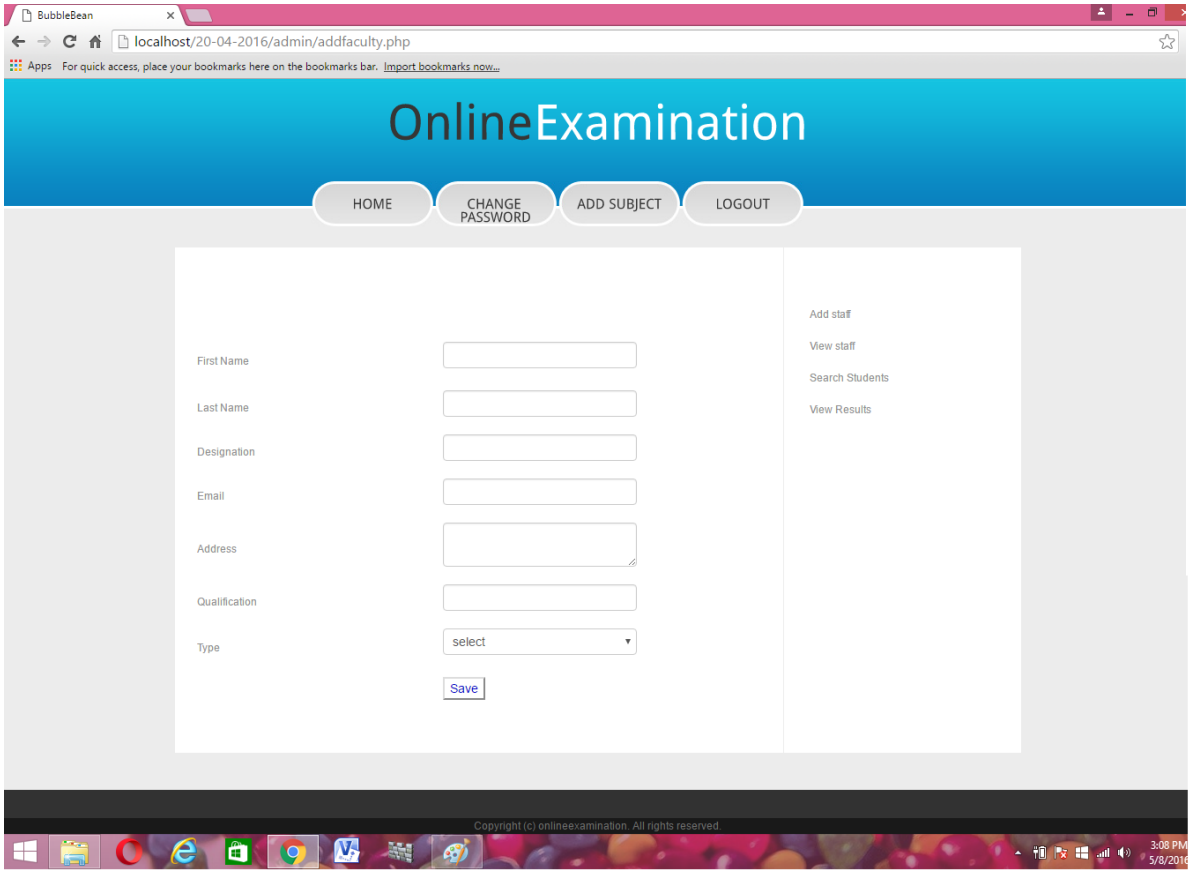


Figure 6.4: ADMIN ADD STAFF

**Staff preparing question**

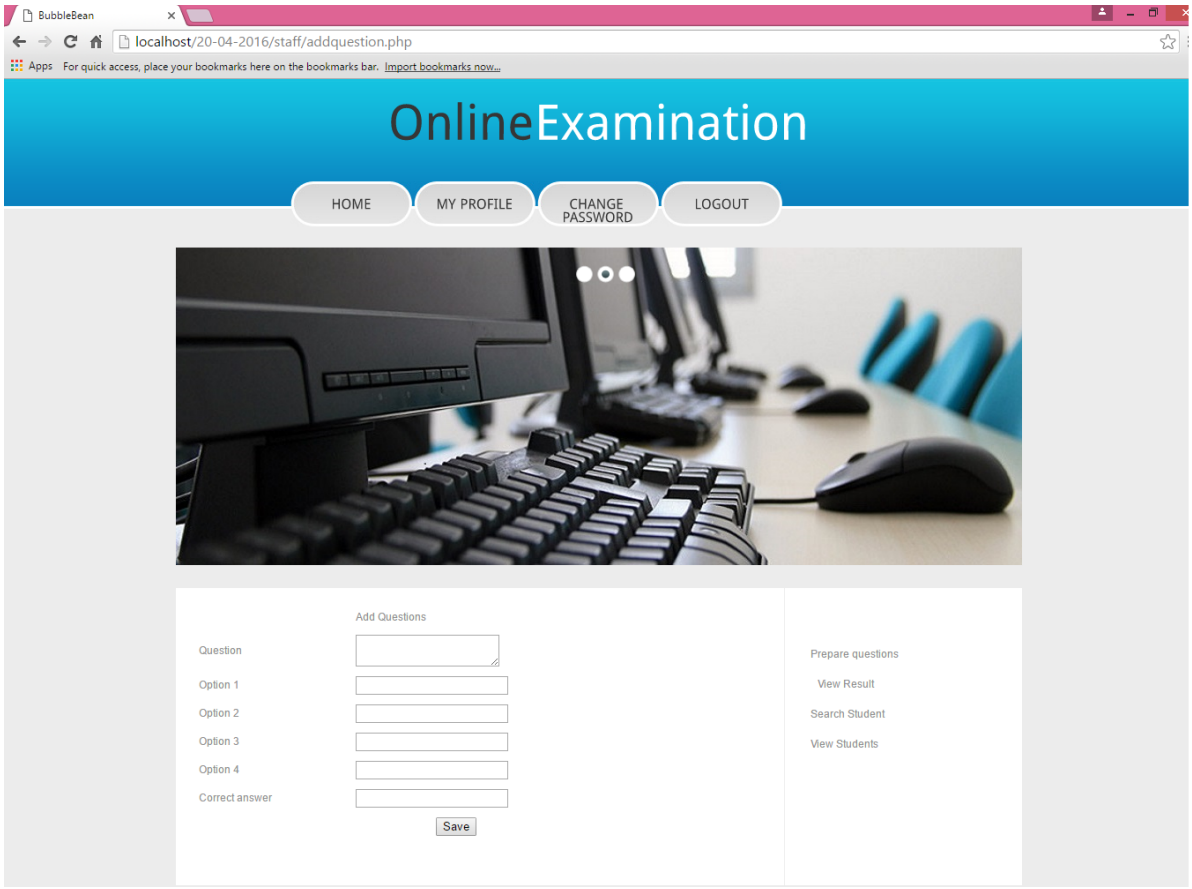


Figure 6.5: STAFF PREPARING QUESTION

**HOD approve question**

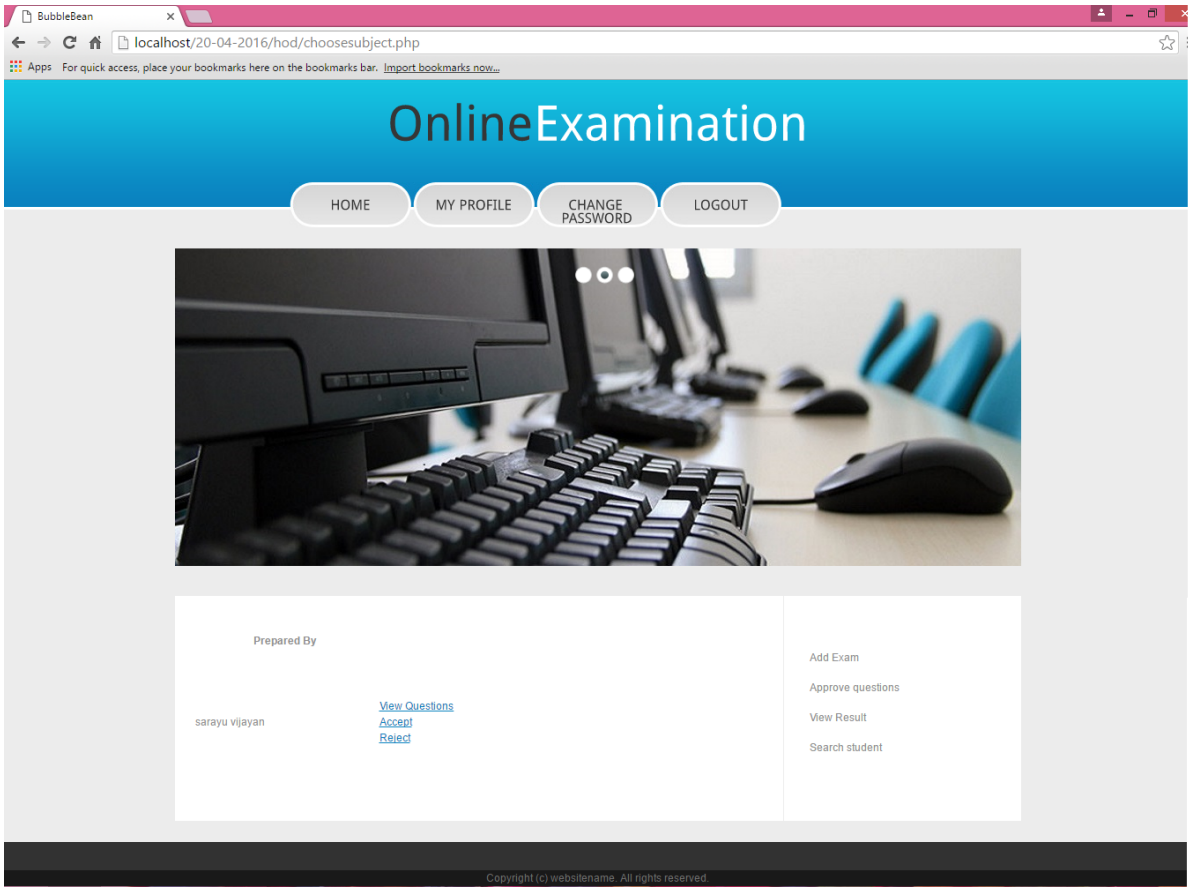


Figure 6.6: HOD APPROVE QUESTION

**Student attend exam**

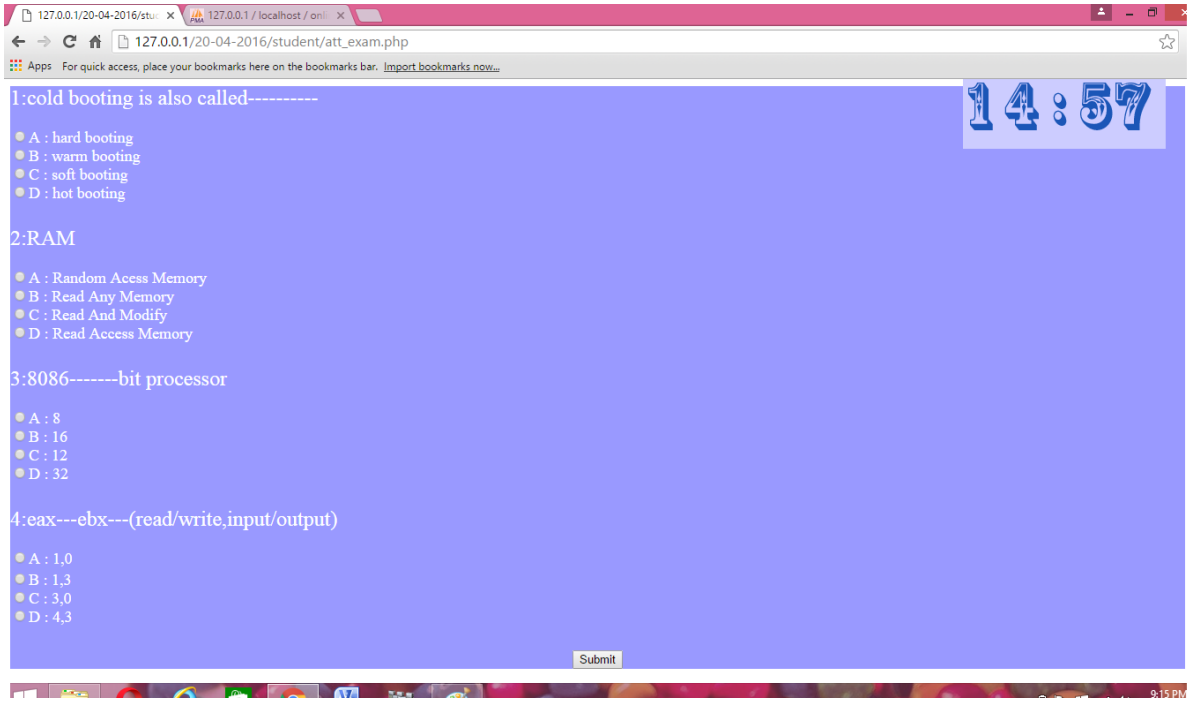


Figure 6.7: STUDENT ATTEND EXAM

**Student view result**

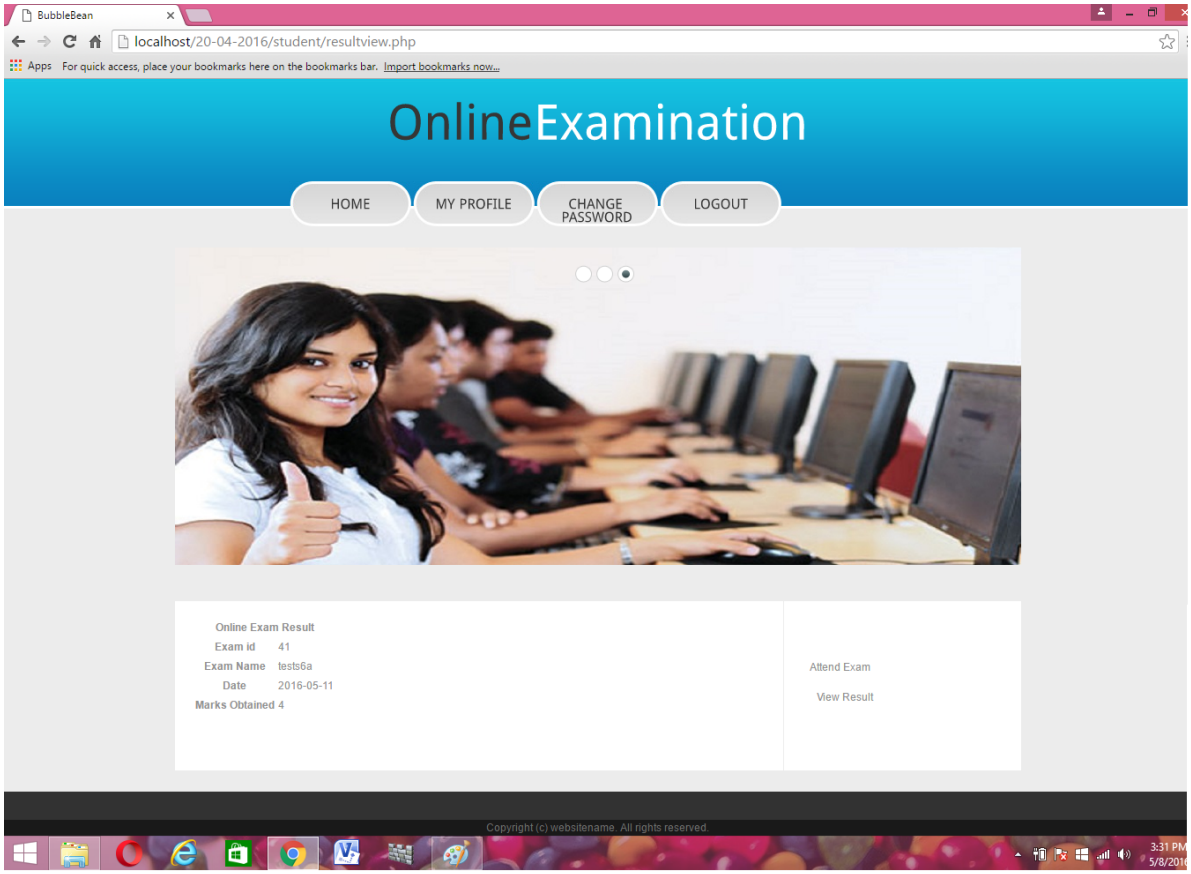


Figure 6.8: STUDENT VIEW RESULT

# 7 CONCLUSION AND FUTURE SCOPE

Currently, there are several exam are done through both offline as well as online, but each with its own advantages and limitations. In the present world situation, examination system is much time consuming and also expensive.

In overall, this project is able to implement all the requirements as mentioned in the requirement specifications and that have validated all functionalities. The objective of the project Online Examination is to make evaluation and conduction of examination massive but simple, cost effective and faster. The developers have tried to maximum to make this software user friendly and as simple as possible. It is made so easy to use such that user can understand what it means at the first glance.

The advantages of online examination system are:

- Simple, secure.
- Timer is provided.
- Less overhead.
- Less expensive.
- Reduce the malpractice done by students.

The Future enhancements of this project include the following:

The application is very simple and can add many things to this, such as it can extend the application to other levels. The system can be further modified for implementing in a university. The system can be modified by providing answer key to the students after the examination process. Subjective questions can also be included.

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