# VIRTUAL ACADEMY

## ONLINE TEACHER APPOINTMENT SYSTEM

A PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF REQUIREMENT
FOR THE AWARD OF THE DEGREE

**MASTER OF COMPUTER APPLICATIONS (MCA)**

**OF**

**MAHATMA GANDHI UNIVERSITY, KOTTAYAM**

**By**


**ANITTA GEORGE**
**Reg No: 21PMC166**


MARIAN COLLEGE
KUTTIKKANAM
(AUTONOMOUS)

MAKING COMPLETE


**Marian College Kuttikanam (Autonomous)**

**Peermade, Kerala – 685 531**


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**Under the guidance of**
**Mr. ROBINS A KATTOOR**
**Assistant Professor**
PG Department of Computer Applications
Marian College Kuttikkanam (Autonomous)



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**2021**

**PG DEPARTMENT OF COMPUTER APPLICATIONS**

# Marian College Kuttikanam (Autonomous)

**[MAHATMA GANDHI UNIVERSITY, KOTTAYAM]**

**KUTTIKKANAM – 685 531, KERALA.**

# CERTIFICATE

This is to certify that the project work entitled

## "VIRTUAL ACADEMY"

is a bonafide record of work done by

**ANITTA GEORGE**

**Reg. No: - 21PMC166**

In partial fulfillment of the requirements for the award of Degree of

## MASTER OF COMPUTER APPLICATIONS [MCA]

During the academic year 2021 - 2023.


**Mr. ROBINS A KATTOOR**

**Assistant Professor**

PG Department of Computer Applications
Marian College Kuttikkanam (Autonomous)

**Mr. Win Mathew John**

**Head of the Department**

**PG** Department of Computer Application
Marian College Kuttikkanam (Autonomous)


Examiner's Signature

# ACKNOWLEDGEMENT

First of all, I thank the “God Almighty” for his immense grace and blessings in my life and ateach stage of my project work

I express my sincere gratitude to Rev. Fr. Roy Abraham P, Principal, Marian College Kuttikkanam (Autonomous), Dr. Mendus Jacob, Director, PG Department of Computer Applications for the support given throughout the project work

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I express my deep sense of gratitude to my project guide, MR. ROBINS A KATTOOR, Associate Professor/Assistant Professor, PG Department of Computer Applications, for his profound guidance for the successful completion of this project work.

With great enthusiasm, I express my gratitude to all the faculty members of the PG Departmentof Computer Applications for their timely help and support.

Finally, I express my deep appreciation to all my friends and family members for the moral support and encouragement they have given to complete this project work successfully.

**ANITTA GEORGE**

# ABSTRACT

Over the years, there have always been various definitions to define what eLearning really is, or how eLearning is conducted effectively as it always focusses on the specific needs of an individual or an organization. eLearning is a learning process with the combination of content that is both delivered digitally and through face-to-face learning. eLearning contributes to the shifts from traditional face-to-face learning to the use of web technological tools which enhances collaborative learning and presents an entirely new learning platform for students.

The Project titled **"**Virtual Academy" is a web-based application done using Php as the front-end and MySQL as the back-end. It's an online learning portal for students ran by qualified live tutor's online perfect for your children to enhance their education online. Online tutoring is an easy way to teach kids and to let them have fun while learning. The reason behind this online learning platform is the limitations or problems faced by the classroom learning methodology. Some of the limitations include Students become overly dependent on the teacher, Classroom Size, Student Attitudes and Behaviors, difficulty in managing students etc. Your child's most valuable tool is his/her education and online tutoring is a great tool enhancer. By using Virtual Academy services, you can create a fun online tutoring environment for your child. No more driving to a tutor or waiting for your tutor to come to you; by using online learning, you simply get online tutors waiting and ready to help you. Virtual Academy's certified online tutors help kids with their homework, studying, research and other aspects of learning, schooling and education.

Online learning is the use of the Internet for tutoring activities, or we can say, It is the process by which a student learns via the Internet with the help of a subject expert or a tutor. This provides great flexibility for students as Students have the freedom to juggle their careers and school because they aren't tied down to a fixed schedule and it also reduces costs, Online education can cost less due to a variety of reasons. Due to all these an online learning platform will be of great use in this scenario. In this project there are three modules student, teacher and admin. A student who is interested in online learning can register in this website and select one of the courses offered by this site and the next time when he/she login on this site he will be prompted to pay the fee based on the course chosen by him. In this learning portal we created several departments under this there are several courses and under the end of the tree there

comes the subjects. Admin holds the responsibility of adding and maintaining all these. Admin is responsible for adding teachers to this portal. Teacher can upload notes and video tutorials of his/her subject which will be available for corresponding students. Teacher is also responsible for generating the question papers of her subject. This question paper will be used for the online examination of the students with corresponding subject.

## OBJECTIVE AND SCOPE

The main objective of developing virtual Academy is provide a user-friendly environment to provide knowledge and give everyone a chance to learn. There are many objectives of Virtual Academy

- Its cost effective and saves time - By reducing the time taken away from office removing travel cost and doing away with printed materials, online learning helps you to save money and increase workplace productivity. It also means that your staffs will be happier and focussed
- Learning 24/7, anywhere
- The ability to provide distance learning
- A blended learning/teaching approach
- The use of technology to support a wide range of educational activity

## PROBLEM STATEMENT

The concept of traditional education has changed radically within the last couple of years. Being physically present in a classroom is not only learning option anymore not with the rise of the internet and new technologies, at least. Nowadays, you have access to a quality education whenever and wherever you want, as long as you have access to a computer. We are now entering a new era the revolution of online education. The purpose of e-learning is to allow people to learn for personal accomplishment or to earn a professional degree, without physically attending a traditional university or academic setting. This mode of education is more convenient, affordable, and effective. Online learning helps to eliminate borders and barriers, both social and physical.

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# 1. INTRODUCTION

## 1.1 OVERVIEW OF THE PROJECT

The Project titled **"Virtual Academy"** is a web-based application done using Php as the front-end and MySQL as the back-end. It's an online learning portal for students ran by qualified live tutor's online perfect for your children to enhance their education online. Online tutoring is an easy way to teach kids and to let them have fun while learning. The reason behind this online learning platform is the limitations or problems faced by the classroom learning methodology.

In this project there are three modules student, teacher and admin. A student who is interested in online learning can register in this website and select one of the courses offered by this site and the next time when he/she login on this site he will be prompted to pay the fee based on the course chosen by him. In this learning portal we created several departments under this there are several courses and under the end of the tree there comes the subjects. Admin holds the responsibility of adding and maintaining all these. Admin is responsible for adding teachers to this portal. Teacher can upload notes and video tutorials of his/her subject which will be available for corresponding students. Teacher is also responsible for generating the question papers of her subject. This question paper will be used for the online examination of the students with corresponding subject.

## 1.2 ORGANIZATIONAL PROFILE

Virtual Academy's certified online tutors help kids with their homework, studying, research and other aspects of learning, schooling and education. Online learning is the use of the Internet for tutoring activities, or we can say, It is the process by which a student learns via the Internet with the help of a subject expert or a tutor. This provides great flexibility for students as Students have the freedom to juggle their careers and school because they aren't tied down to a fixed schedule and it also reduces costs, Online education can cost less due to a variety of reasons. Due to all these an online learning platform will be of great use in this scenario.

# 2. SYSTEM STUDY

## 2.1 BACKGROUND ANALYSIS

The Internet has been developing for three decades eventually during the mid-nineties, the commercial use of the internet triggered high expectations in both executives and investors. Bike rental system is most relevant system in these days. And it can be very useful for the society these days.

## 2.2 EXISTING SYSTEM

The development of our project needed the study of the existing systems if any. The existing system for teaching needs more record keeping. Students are forced to sit in front of teacher in the classroom. The infra structure needed for this is also high. It is very difficult for a person to produce the report. There are chances for changing the reports and do malpractice. This system involves a lot of manual entries with the applications to perform the desired task.

## 2.3 DRAWBACKS OF EXISTING SYSTEM

- Travel time and cost.
- Usage of papers in the payment of fees process leads to less efficiency, less accuracy and less productivity.
- Attendance times can be restrictive or inconvenient.
- Shy students may have trouble approaching the instructor with questions.
- You usually have to sit through each lecture even if you already know most of the material.
- You may be required to buy compulsory textbooks.
- The cost is high for the infrastructure of classroom

## 2.4 PROPOSED SYSTEM

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The system provides proper security and reduces manual work.

## 2.5 ADVANTAGES OF PROPOSED SYSTEM

**Flexibility -** Students have the freedom to juggle their careers and school because they aren't tied down to a fixed schedule. In a traditional classroom setting, class meeting times are set, and the student has no power over this, forcing them to work their schedules around these dates. Most people who choose online learning tend to have other commitments, and prefer this mode of learning as it gives them power over how they will delegate their time towards their different projects.

**Reduced Costs** - The proposed system can cost less due to a variety of reasons. For example, there is no cost for commuting. Assorted costs that are related to transport, such as fuel, parking, car maintenance, and public transportation costs don't affect the online student.

**Networking Opportunities** - The proposed system of education also provides students with the chance to network with peers across nations or even different continents. This often leads to other opportunities in terms of collaboration with other individuals in the implementation of a project. At the same time, it makes them culturally sensitive and able to fit into other environments easily given their exposure to other cultures.

**Documentation** - All the information that you will need will be safely stored in an online database. This includes things like live discussion documents, training materials and emails. This means that if there's ever anything that needs to be clarified, the student will be able to access these documents fast, saving valuable time. This is especially useful for individuals that need to carry out research for a project and submit their findings to a panel.

**Increased Instructor - Student Time -** Students in traditional classrooms may not get the personalized attention they need to have concepts clarified. Although class sizes are small at CCA, most

colleges have classes of students that number in the hundreds. This is not a problem for our proposed system of education because online guided discussions and personal talk time with their professors and lecturers is a hallmark of online classes. This increases the chances of a student performing well due to the time their instructors give them. This also enhances their problem-solving and communication skills, as well as knowing how to defend their arguments to superiors if needed.

**Access to Expertise** - The proposed system of education might give students access to specialized degree courses that may not be available in an easily accessible or local institution of learning. For example, at CCA you can pursue a degree in Marketing or a certificate in C++ Programming without having to live near the institution. Online classes allow the sharing of expertise that helps more people have access to education that is not readily available in certain geographic locations. This type of education has grown over the last few years and has experienced mainstream acceptance. With an online class, you get to control your learning environment, which ultimately helps you develop a deeper understanding of your degree course. New models of learning are always springing up in the market, providing students with varied opportunities to fashion their education into something that fits them, not the other way around. It also provides individuals an opportunity to finish a degree they might have started and were unable to continue with for one reason or another. The future of online degree education looks promising, and opens up education to a larger section of the population than ever before.

## 2.6 TECHNIQUES FOR SYSTEM STUDY

- The technologies used to develop this system are:
- Front end: HTML, JavaScript
- Development tool: PHP
- Database: My SQL
- Web server: WAMP Server Operating System
- Operating System: Windows
- Development platform: Visual Studio code

**PHP:**

PHP is a server-side scripting language. that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, which earlier stood for

Personal Home Pages. PHP scripts can only be interpreted on a server that has PHP installed. The client computers accessing the PHP scripts require a web browser only.

## MySQL:

MySQL is a database management system. A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

### HTML

Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript, ASP and PHP.

## CSS

Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

## WAMB

WAMP Server is a Windows web development environment. It allows you to create web applications with Apache2, PHP and a MySQL database. Alongside, PhpMyAdmin allows you to manage easily your databases. WAMP Server refers to a software stack for the Microsoft Windows operating system, created by Romain Bourdon and consisting of the Apache web server, MySQL database and PHP programming language.

# 3. SYSTEM ANALYSIS

## 3.1 FEASIBLITY STUDY

Feasibility study is made to see if the project on completion will serve the purpose of the organization for the amount of work, effort and the time that spend on it. Feasibility study lets the developer foresee the future of the project and the usefulness. A feasibility study of a system proposal is according to its workability, which is the impact on the organization, ability to meet their user needs and effective use of resources. Thus, when a new application is proposed it normally goes through a feasibility study before it is approved for development.

The document provides the feasibility of the project that is being designed and lists various areas that were considered very carefully during the feasibility study of this project such as Technical, Economic and Operational feasibilities.

### ECONOMIC FEASIBILITY

Economic feasibility is a method for evaluating the effectiveness of a candidate system. It is more commonly known as cost/benefit analysis, the procedure is to determine the benefit and savings that are expected from a candidate system and compare them with costs.

The assessment of this feasibility is done with the top managerial levels with the help of information gathering tools such as survey direct interview etc. Compared with the existing system the proposed one is economically feasible. The new software is economically feasible as the savings and benefits to software are more when compared to cost. The cost benefit ratio is very small and hence the proposed system is feasible.

### TECHNICAL FEASIBILITY

The system must be evaluated from technical viewpoint first. The assessment of this feasibility must be based on the outline design of the system requirements in the terms of inputs, outputs program procedure and staffs. This project is said to be technically feasible.

Technical feasibility center on the existing computer systems and extend to which it can support the proposed system. This involves financial considerations to accommodate technical enhancements. This is concerned with the availability of software and hardware required for development of the system. We conduct a survey with the management and there is no need for further software or hardware. So, the proposed system is technically feasible.

## OPERATIONAL FEASIBILITY

Operational feasibility is a measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. The hierarchy of the new system is very easier than the existing system. The new system is very much easier and user friendly. Operational cost is bearable. The operation with the system is very easy. Using command buttons throughout the application programs enhances the operational feasibility. The use of a computer-based format makes the operations simpler and quite easier. The graphical user interface also makes the operations simpler. Also, when an error occurred, it will be informed by messages to the users because of this the system can be considered as operationally feasible. The maintenance and modification of the new system needs very less human effort. The use of a computer-based format makes the operations simpler and quite easier. Because of this the system can be considered as operationally feasible.

## 3.2 REQUIREMENT DEFINITION

Requirements Analysis is the process of defining the expectations of the users for an application that is to be built or modified. It involves all the tasks that are conducted to identify the needs of different stakeholders.

**ADMIN**

- login using username=admin & password=admin.

ACTIVITIES: -

- ❖ Delete student
- ❖ Add, delete, & edit department
- ❖ Add, delete, & edit course
- ❖ Add, delete, & edit subject
- ❖ Add & delete teacher
- ❖ Assign class to students
- ❖ Declare exam

**TEACHER**

For registration, mail the CV to email

Then admin will give username & password

- Login using valid username & password

ACTIVITIES: -

- ❖ View, subject
- ❖ Upload & delete files(notes & videos)
- ❖ View students
- ❖ Upload questions
- ❖ Upload notes and videos

**STUDENT**

New user can register

- Existing user can login using valid username and password
- Solution for Forget password is available

ACTIVITIES: -

- ❖ Can view exam notification
- ❖ View availability of classes
- ❖ Download and view notes and videos

# 4. SYSTEM DESIGN

## 4.1 MODULE SPECIFICATION

LOGIN AND SIGNUP MODULE

CLASS DETAILS MODULES

EDIT DETAILS MODULES

**LOGIN AND SIGNUP -** All users will be able to sign up by providing essential credentials and then sign in to avail services. The customers are supposed to provide details like Name, Age, Phone number etc. The Service providers are supposed to provide the details about various services they provide.

**CLASS DETAILS MODULES** - In this module, the users can see the details of the classes. And they can view the materials provided in the website

**EDIT DETAILS MODULES** - In this module admin can edit details of classes, teachers and students. And also, teacher can edit the details of files they uploaded.

## 4.2 INPUT DESIGN

The user interface design is very important for any application. The interface design describes how the software communicates with itself, to system that interpreted with it and with humans who use it. The input design is the process of converting the user- oriented inputs into computer-based formats. The data's feed in to the system using simple interactive forms. The forms have been supplied with messages so that user can enter data without facing difficulties. The data is validated wherever it requires in the project. This ensures that only the correct data have been incorporated into the system. The goal of designing input data is to make the automation as easy and free from errors as possible. For providing a good input design for the

application easy data input and selection features are adopted. The input requirements such as user friendliness, consistent format and interactive dialogue for write messages are also considered for the development of the project.

The following are the main input forms in the portal:

- Registration form-student module is responsible for filling this form. Student enter his details through this form and it is then stored in database and used further.
- Login form- Form used for login and it is used by student, teacher and admin.
- Uploading form- used by teacher module for uploading notes and videos
- Questionnaire form-used by teacher to add questions for online exam
- Department adding form-used by admin for adding new departments
- Course adding form-used by admin for adding new courses
- Subject adding form-used by admin for adding new subjects
- Teacher adding form-used by admin for adding new Teachers
- Class assigning form-used by admin for assigning teachers to students
- Exam assigning form- used by admin for assigning exam for students

## 4.3 OUTPUT DESIGN

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system the result of the processing is communicated to the user and to the other system through output. In the output design it is determined how the information is to be displayed for immediate need, it is most important and direct source information to the user. Efficient and intelligent output design improves the system relationship with the user and helps in decision making. The objective of the output design is to convey the information of all past activities, current status and to emphasis the important events.

The following are the main output forms in the portal:

- View notes/videos-Used by students to view notes and videos uploaded by teachers
- Students form-used by admin to view list of students
- Department form-used by admin to view list of departments
- Subject form- used by admin to view list of subjects
- Teacher form-used by admin to view list of teachers

## 4.4 DATABASE DESIGN

After designing the input, next step is to concentrate on the design of how data should be organized around user requirements. How data are organized depends on the data and response requirements that determine hardware configuration. File organization may be sequential, common data are available and used by several users. Instead of each program managing its own data, authorized users share data across application with the database software managing the data as an entity.

The general theme behind a database is to handle information as an integrated whole. It is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make information access easy, quick, inexpensive and flexible for the user. It is the most widely used relational database. It offers various features and provides users with many niceties.

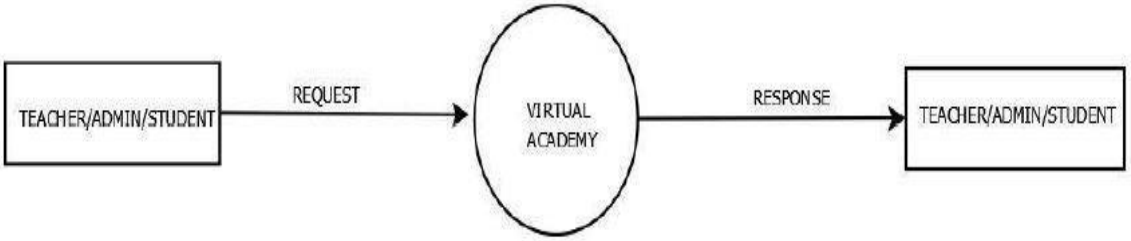
Computer databases can store data in different forms from simple lines of text to complex data structure that includes pictures, sounds or video images. Data management involves creating, modifying, deleting and adding data in files and using this data to generate reports. The software that allows performing this function is known as a database management system.

# 4.5 DATA FLOW DIAGRAM

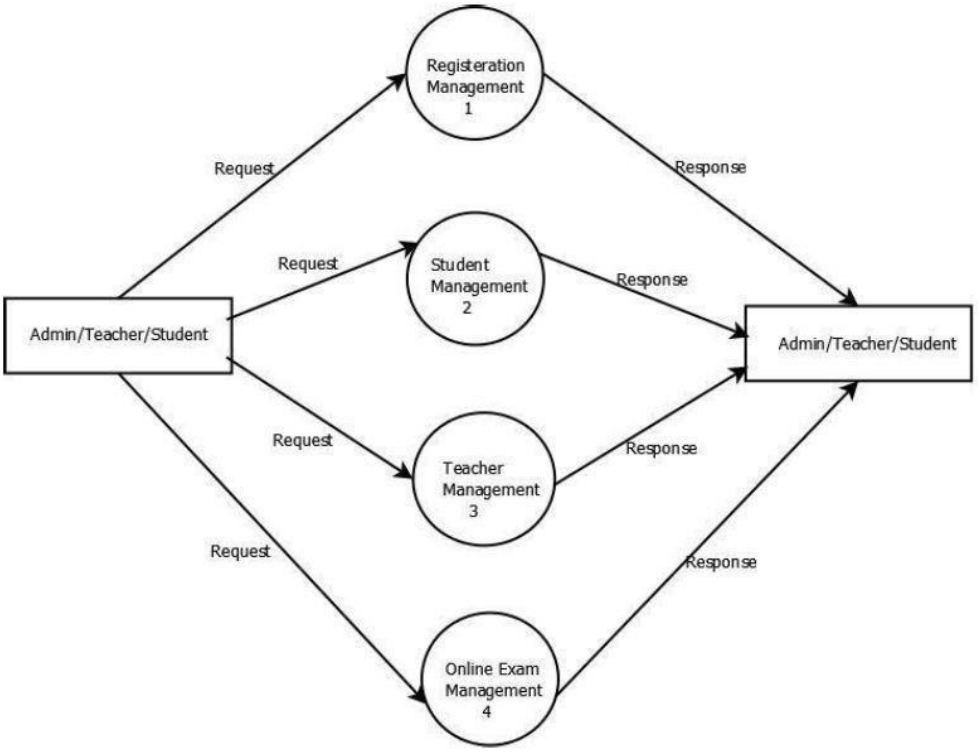
A Data Flow Diagram (DFD) is a diagram that describes the flow of data and the processes that change data throughout a system. It's a structured analysis and design tool that can be used for flowcharting in place of or in association with information.

Throughout the project, the context flow diagrams, data flow diagrams and flow charts have been extensively used to achieve the successful design of the system.

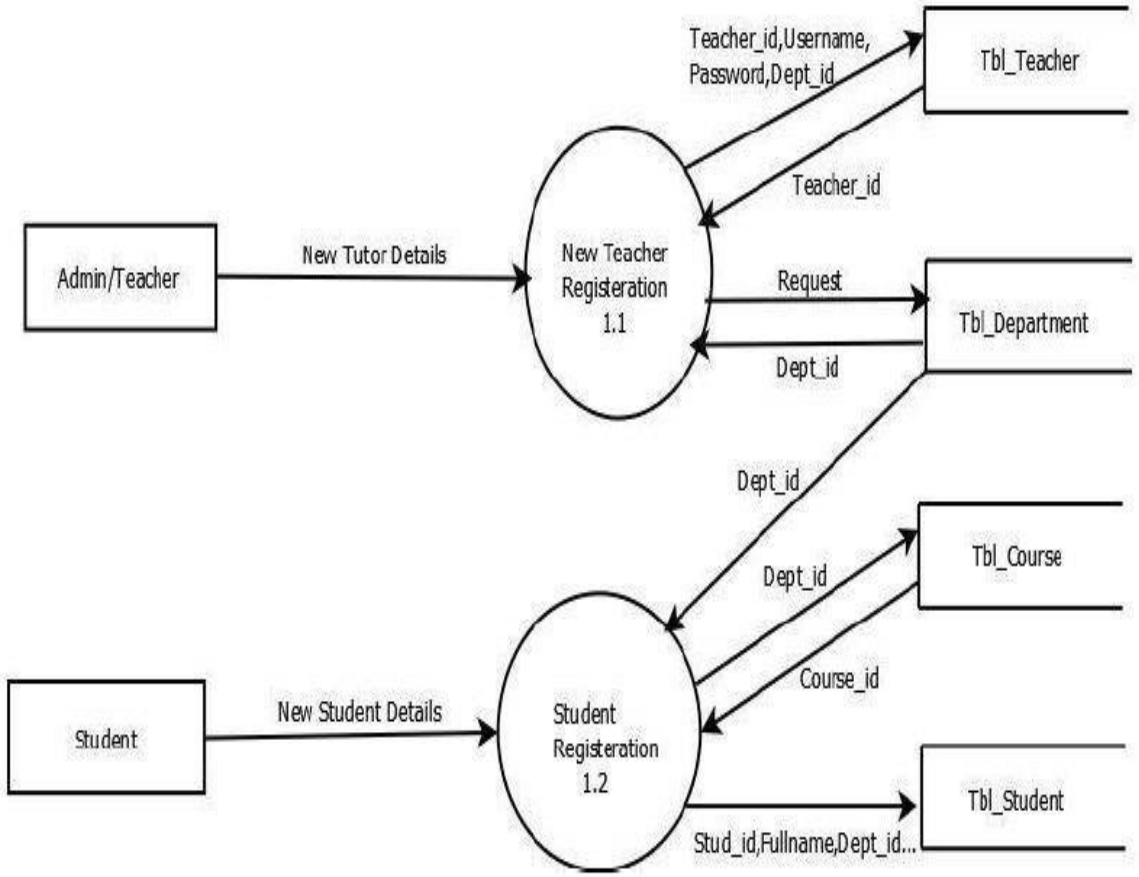
**DFD LEVEL 0 (CONTEXT DIAGRAM)**



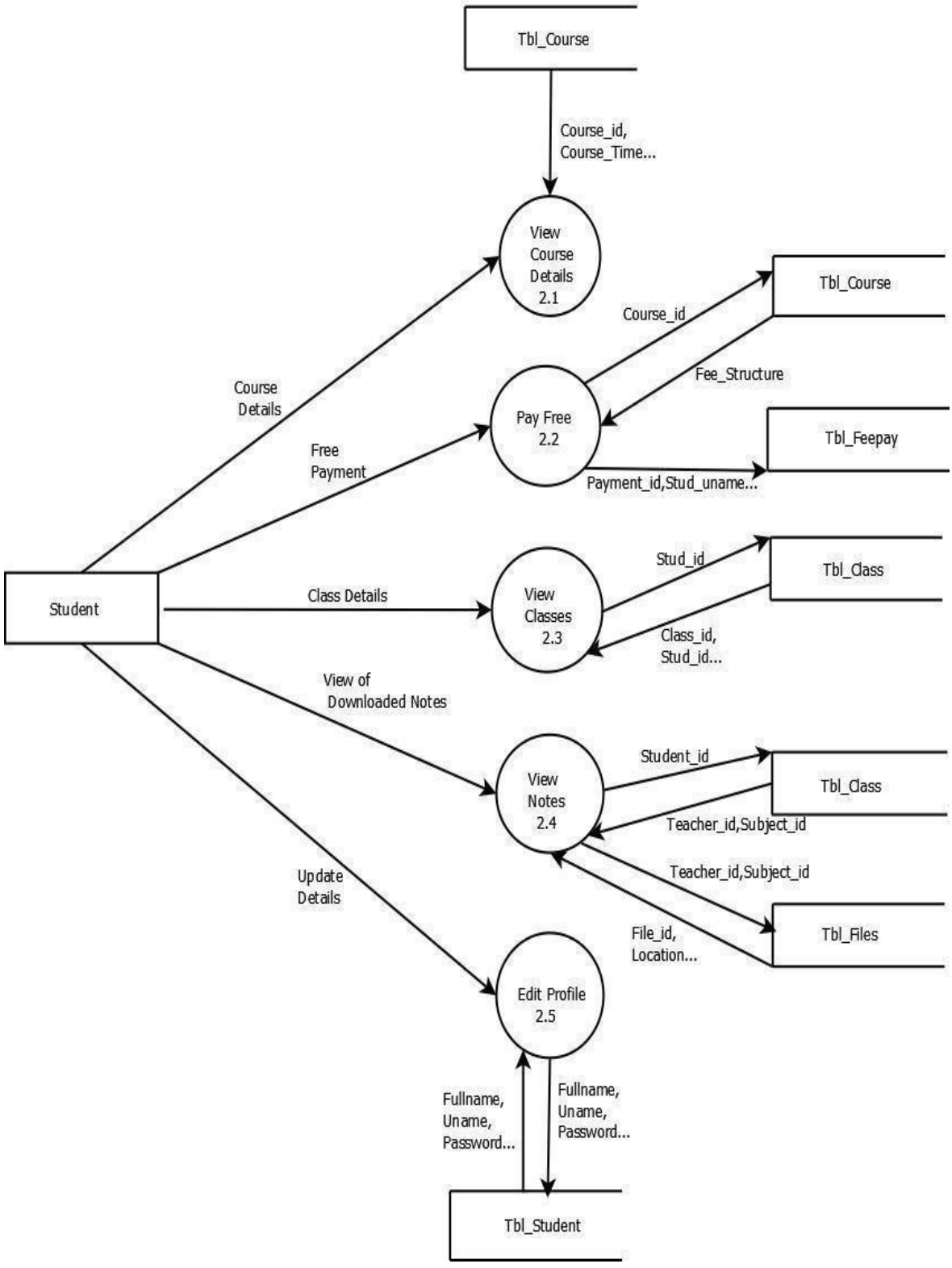

**LEVEL 1:**



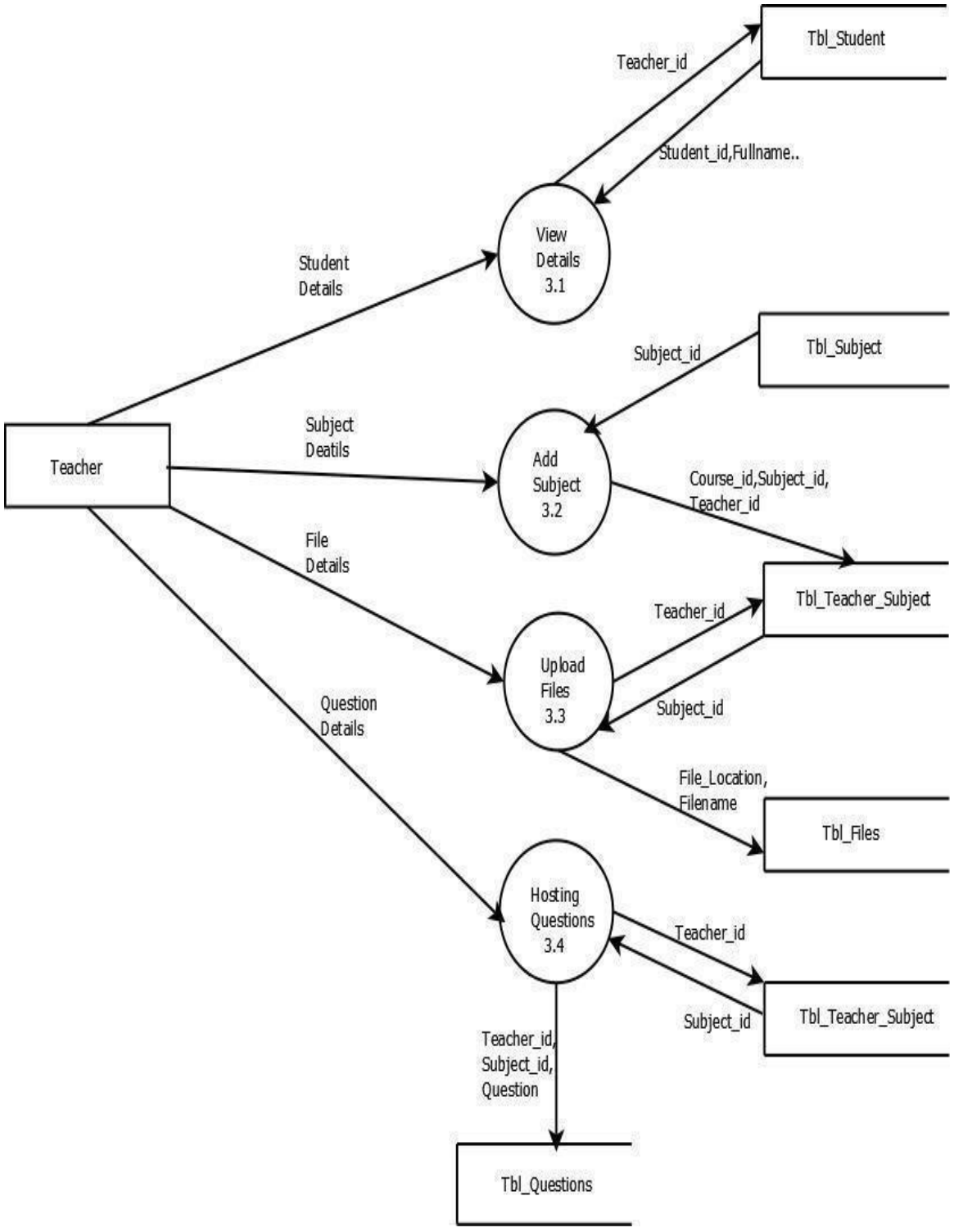
**LEVEL 1.1: REGISTRATION**



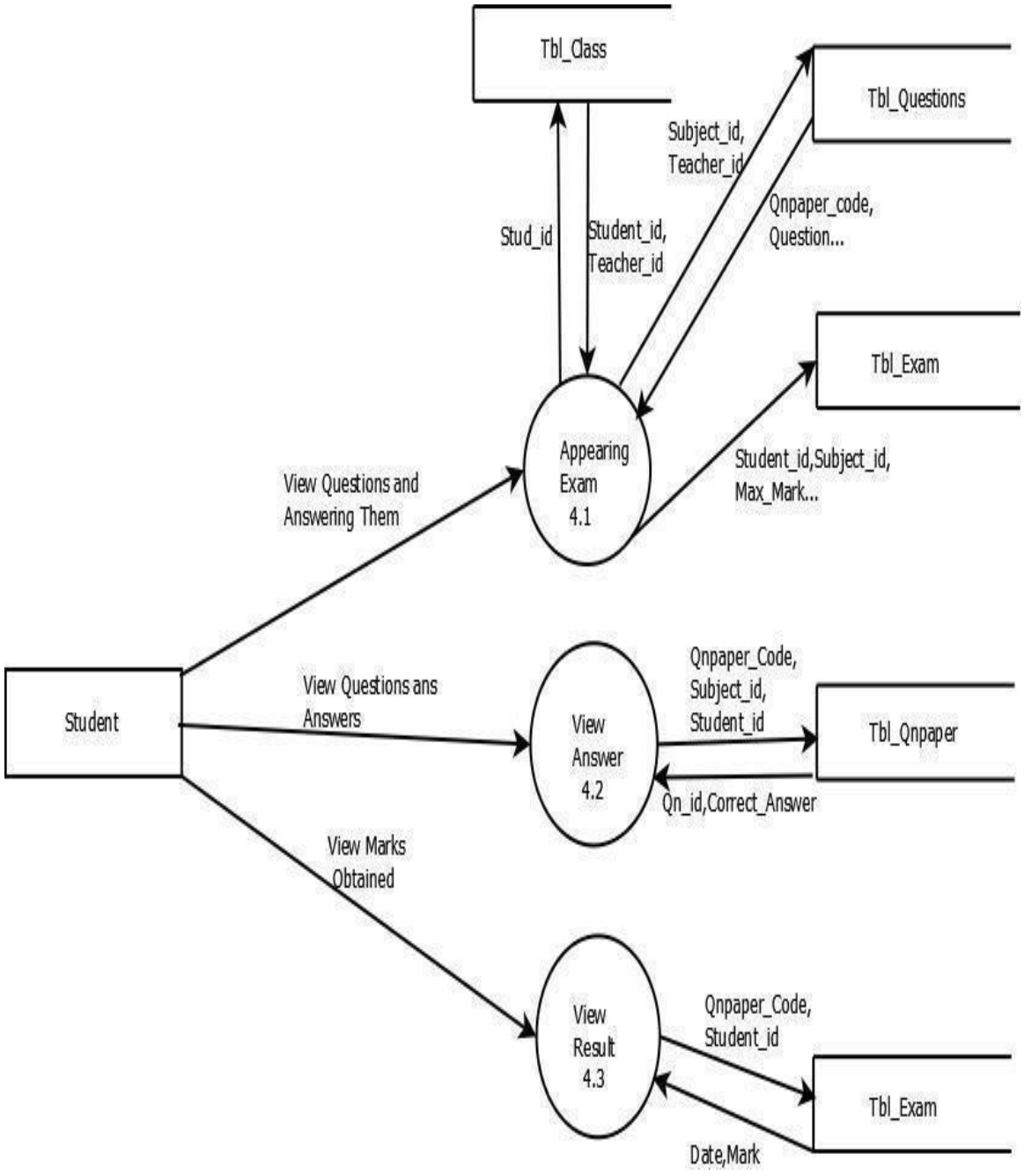
**LEVEL 1.2: STUDENT**



**LEVEL 1.3: TEACHER**



**LEVEL 1.4: ONLINE EXAM**



## 4.6 TABLE DESIGN

TABLE 1: TBL_ADMIN

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| USER_ID | INT | USER_ID, PRIMARY KEY, AUTO INCREMENT |
| USERNAME | VARCHAR (10) | USERNAME |
| PASSWORD | VARCHAR (10) | PASSWORD |
| FIRST NAME | VARCHAR (10) | FIRSTNAME |
| LAST NAME | VARCHAR (10) | LAST NAME |

TABLE 2: TBL_DEPARTMENT

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| DEPT_ID | INT | DEPARTMENT ID, PRIMARY KEY, AUTO INCREMENT |
| INCHARGE | VARCHAR (10) | INCHARGE |
| TITLE | VARCHAR (10) | TITLE |
| DEPARTMENT | VARCHAR (10) | DEPARTMENT NAME |

TABLE 3: TBL_COURSE

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| COURSE_ID | VARCHAR (20) | COURSE ID, PRIMARY KEY |
| COURSE_TITLE | VARCHAR (10) | COURSE TITLE |
| DEPARTMENT_ID | INT | DEPARTMENT ID, FOREIGN KEY |
| FEE STRUCTURE | VARCHAR (10) | FEE STRUCTURE |
| COURSE DURATION | VARCHAR (10) | COURSE DURATION |

TABLE 4: TBL_SUBJECT

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| SUBJECT_ID | INT | SUBJECT ID, PRIMARY KEY, AUTO INCREMENT |
| COURSE_ID | INT | COURSE ID, FOREIGN KEY |
| SUBJECT_CODE | VARCHAR (10) | SUBJECT CODE |
| SUBJECT_TITLE | VARCHAR (10) | SUBJECT TITLE |

TABLE 5: TBL_TEACHER

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| TEACHER_ID | INT | TEACHER ID, PRIMARY KEY, AUTO INCREMENT |
| USERNAME | VARCHAR (10) | USERNAME |
| PASSWORD | VARCHAR (10) | PASSWORD |
| EMAIL | VARCHAR (10) | EMAIL |
| FIRSTNAME | VARCHAR (10) | FIRST NAME |
| LAST NAME | VARCHAR (10) | LAST NAME |
| MIDDLE_NAME | VARCHAR (10) | MIDDLE NAME |
| DEPT_ID | INT | DEPARTMENT ID, FOREIGN KEY |
| IMAGE | VARCHAR (10) | IMAGE |

TABLE 6: TBL_CLASS

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| CLASS_ID | INT | CLASS ID, PRIMARY KEY, AUTO INCREMENT |
| STUD_ID | INT | STUDENT ID, FOREIGN KEY |
| COURSE_ID | VARCHAR (20) | COURSE ID, FOREIGN KEY |
| SUBJECT_ID | INT | SUBJECT ID, FOREIGN KEY |
| TEACHER_ID | INT | TEACHER ID, FOREIGN KEY |

TABLE 7: TBL_STUDENT

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| STUD_ID | INT | STUDENT ID, PRIMARY KEY, AUTO INCREMENT |
| FULLNAME | VARCHAR (10) | FULLNAME |
| DEPARTMENT_ID | INT | DEPARTMENT ID, FOREIGN KEY |
| COURSE_ID | INT | COURSE ID, FOREIGN KEY |
| USERNAME | VARCHAR (10) | USERNAME |

| | | |
|---|---|---|
| PASSWORD | VARCHAR(10) | PASSWORD |
| IMAGE | VARCHAR(10) | IMAGE |
| GENDER | VARCHAR(10) | GENDER |
| EMAIL | VARCHAR(10) | EMAIL |
| CONTACT_NO | INT(10) | CONTACT NO |
| CITY | VARCHAR(20) | CITY |
| DUE | VARCHAR(20) | DUE |

TABLE 8: TBL_TEACHER_SUBJECT

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| | | |
| TEACHER_ID | INT | TEACHER ID, FOREIGN KEY |
| | | |
| SUBJECT_ID | INT | SUBJECT ID, FOREIGN KEY |

TABLE 9: TBL_FILE

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| FILE_ID | INT | FILE ID, PRIMARY KEY, AUTO INCREMENT |
| LOCATION | VARCHAR (10) | LOCATION |
| FDATEIN | VARCHAR (10) | FILE UPLOADED DATE |
| FDESCRIPTION | VARCHAR (100) | FILE DESCRIPTION |
| TEACHER_ID | INT | TEACHER ID, FOREIGN KEY |
| FNAME | VARCHAR (10) | FILE NAME |

TABLE 10: TBL_QUESTION

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| QNID | INT, PK, AI | QUESTION ID |
| QN_PAPER_CODE | INT, FK | STUDENT ID |
| COURSE_ID | VARCHAR (20) | COURSE ID, FOREIGN KEY |
| STUDENT_ID | INT | STUDENT ID, FOREIGN KEY |

| | | |
|---|---|---|
| TEACHER_ID | INT | TEACHER ID, FOREIGN KEY |
| SUBJECT_ID | INT | SUBJECT ID, FOREIGN KEY |
| QNS | VARCHAR(10) | QUESTION |
| OPTION1 | VARCHAR(10) | OPTION 1 |
| OPTION2 | VARCHAR(10) | OPTION 2 |
| OPTION3 | VARCHAR(10) | OPTION 3 |
| OPTION4 | VARCHAR(10) | OPTION 4 |
| CORRECT_ANS | VARCHAR(10) | CORRECT ANSWER |

TABLE 11: TBL_EXAM

| FIELD | TYPE | DESCRIPTION |
|---|---|---|
| | | |
| STUDENT_ID | INT | STUDENT ID |
| | | |
| EXAM_DATE | INT | STUDENT ID, FOREIGN KEY |

| | | |
|---|---|---|
| MAX_MARK | FLOAT | MAXIMUM MARK |
| MARK_OBTAINED | FLOAT | MARK OBTAINED |

# 5. SYSTEM DEVELOPMENT

## 5.1 SOFTWARE ENVIRONMENT

Software requirements for the installation and smooth functioning of this project could be configured based on the requirements needed by the component of the operating environment that works as front-end system here we suggest minimum configuration for the both hardware and software components. Working off with this software is requirements concrete on system environments.

HARDWARE SPECIFICATION

This describes the logical and physical characteristics of each interface between the software product and hardware components of the system.

| | |
|---|---|
| Processor | : Dual Core or more. |
| RAM | : 1 GB or more |
| Hard Disk Capacity | : 320 GB |
| CD-ROM Drive | : 52 X |
| Mouse | : Any Compactable one |
| Modem | : Any Mode |
| Keyboard | : Any Compactable one |

SOFTWARE SPECIFICATION

This describes the software used.

| | |
|---|---|
| Front End | : PHP |
| Back End | : My SQL |
| Operating System | : Windows 7,8,10 |
| Language | : PHP |
| Browser | : Google chrome, Mozilla Firefox |

## 5.2 SOFTWARE STACK

A software stack is a collection of independent components that work together to support the execution of an application. The components, which may include an operating system, architectural layers, protocols, run-time environments, databases and function calls, are stacked one on top of each other in a hierarchy. Typically, the lower-level components in the hierarchy interact with hardware, while the higher-level components in the hierarchy perform specific tasks for the end user. Components communicate directly with the application through a series of complex instructions that traverse the stack**.**

**HTML** - It is a revision of the Hypertext Markup Language (HTML), the standard programming language for describing the contents and appearance of Web page.

**CSS** - This definition explains the meaning of CSS (cascading style sheets) and how using them with HTML pages is a user interface (UI) development best practice that complies with the separation of concerns design pattern.

**JAVASCRIPT -** JavaScript, often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object orientation, and first-class functions

**PHP -** PHP is a general-purpose scripting language geared towards web development. It was originally created by Danish-Canadian programmer Rasmus Lerdorf in 1994.The PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page,but it now stands for the recursive initialism PHP: Hypertext Preprocessor.

**MySQL -** MySQL is a viable open-source database implementation for Python web applications.

# 6. SYSTEM TESTING

# 6.1 TESTING

## BLACK BOX TESTING

Black box testing, also called behavioral testing, focuses on the functional requirements of software. This testing approach enables the software engineer to derive the input conditions that will fully exercise all requirements for a program. Black box testing attempts to find the errors like

- Incorrect or missing functions
- Interface errors
- Errors in data structures or external database access
- Behaviour or performance errors
- Initialization and termination errors

In Black box testing software is exercised over a full range of inputs and outputs are observed for correctness.

## WHITE BOX TESTING

White box testing is also called Glass box testing is a test case design control; structure of the procedural design to derive test cases using White box testing method, the software engineer can derive the test cases that guarantee that all independent paths within the module have been exercised at least once. Exercise all logic decisions on their true or false sides. Execute all loops at their boundaries and within their operational bounds. Exercise internal data structure to ensure their validity. The first level of test is unit testing. The purpose of unit testing is to ensure that each program is fully tested.

## UNIT TESTING

In the unit test case will be testing the separate modules of the software. We will carry out black box testing where each module or component of software is tested individually. We will test the component by passing data through it and we will be monitoring data to find the errors. We will make sure that the component work without any troubles. The test primarily is carried out

by the programmer who designed and implemented the module. Lead tester is carried out by the programmer who test the modules to finalize the testing.

## INTEGRATION TESTING

In the Integration testing we will combine the different tested modules and we will test the bundle of module. This is to ensure that the entire modules are working correctly in conjunction with the other modules. Data can be lost across any interface; one module can have adverse effect on another. Sub function when combined, may not produce the desired major function. Integration testing is a systematic testing for conducting test to uncover errors associated within the interface. The objective is to take unit tested modules and build a program structure. All the modules are combined and tested as a whole. Here correction is difficult because vast expense of the entire program complicates the isolation of causes.

## USER ACCEPTANCE TESTING

System validation checks for equality of the software in both simulated and live environments. First, the software goes through a phase, in which errors and failures based on simulated user requirements are verified and studies. This is called alpha testing.

# 7. SYSTEM IMPLEMENTATION

# 7.1 INTRODUCTION

Implementation is the stage of the project where the theoretical design is turned into a working system. At this stage the main workload, the greatest upheaval and the major impact on the existing system shifts to the user department. If the implementation is not carefully planned and controlled it can cause chaos and confusion.

Implementation includes all those activities that take place to convert from the old system to new system. The new system may be totally new, replacing an existing manual or automated system or it may be a major modification to an existing system. Proper implementation is essential to provide a reliable system to meet the organization requirements. Successful implementation may not guarantee improvement in the organization using the new system, but improper installation will prevent it.

The implementation stage involves the following tasks:

- Careful planning
- Investigation of system and constrains
- Design of methods to achieve the changeover phase
- Training of staffs in the changeover phase
- Evaluation of the changeover method

The method of implementation and the time scale to be adopted are found out initially. Next the system is tested properly and the same time users are trained in the new procedures.

# 7.2 IMPLEMENTATION PROCEDURES

Implementation of software refers to the final installation of the package in its real environment, to the satisfaction of the intended users and the operation of the system, people who are not sure that the software is meant to make their job easier. In the initial stage, they doubt about the software but we have to ensure that the resistance does not build up as one has to make sure that

- The active user must be aware of the benefits of using the system.
- Their confidence in the software is built up.
- Proper guidance is imparted to the user so that he is comfortable in using the application.

Before going ahead and viewing the system, the user must know that for viewing the result, the server program should be running in the server. If the server object is not up running on the server the actual processes won't take place.

## 7.3 IMPLEMENTATION LOGIC

Implementation includes all those activities that take place to convert from the old system to the new one. The new system may be totally new, replacing an existing manual o automated system. Proper implementation is essential to provide a reliable system to meet customer requirements.

The process of putting developed system in actual use is called system implementation. This includes all those activities that take place to convert from the old system to the new system. The system can be implemented only after thorough testing is done and if it is found to be working according to the specifications. The system personally checks the feasibility of the system.

The implementation stage involves following tasks:

- Investigation of system and constrains.
- Design of methods to achieve the changeover.
- Evaluation of the changeover method.

The newly proposed system is implemented after the successful testing of the system. The final step of the system approach recognizes that an implemented solution should be monitored and evaluated. This is called post implementation review process, Since the success of a solution is reviewed after it is implemented. The focus on this stepwise to determine if the implementation solution has indeed helped the institution and the organizers of the event, meet their system objectives.

## 7.4 CODING

Coding is the phase of a software development project where developer's actually in put the source code into a computer that will be compiled into the final software program. Source code is the high-level language like C#, java, python etc. that is typed into an IDE

(Interactive Development Environment) and stored in the text file on the computer. This text file is compiled into machine code, which are the instructions actually understood by the computer.

## 7.5 CODING VALIDATION AND OPTIMIZATION

It is verified whether the data entered in each form is added to the corresponding fields of the table. On the press of ADD button, controls will appear on the form and on the press of SAVE button, the entered data is saved.

The lower keys letters entered are detected and changed to upper case. Also, numbers are not allowed to be entered in the text boxes.

- Validation is the status of the project when the theoretical designs turned into a working system.
- It is used to reduce the no. of loops in the programme.
- Optimization is the last part of the system development life cycle.
- If the no of loops increases no. of executions also increases. Then there may be a chance for the programme to get stuck.

# 8. SCOPE FOR FURTHER DEVELOPMENT

Developing country like India requires extensive of education and training at higher level. Only opening of new schools, colleges and universities will not solve the problem. In spite of affirmative steps taken by the government in the form of National Programme on Technology Enhanced Learning, National Mission on Education, National Knowledge Network, the gap between demand and supply in higher education is still high. To bridge the increasing gap, new information and communication technology is need to be integrated with the existing infrastructure. Application of technology will help to sort out the issues related to resource crisis. UGC guidelines suggests that the teacher-student ratio should be 1:10 at PG and UG level but present scenario in higher institution is far from the UGC directive. In some cases, it is alarming with above than 1:80 ratio. Conventional and Distance Education Universities can't cope with the rising demand in higher education either for professional development or for lifelong learning until or unless it adopts IT emerging technologies. E-learning is highly cost effective and its use will have a far-reaching positive impact on higher education in India.

# 9. CONCLUSION

Over the years, there have always been various definitions to define what eLearning really is, or how eLearning is conducted effectively as it always focusses on the specific needs of an individual or an organization. eLearning is a learning process with the combination of content that is both delivered digitally and through face-to-face learning. eLearning contributes to the shifts from traditional face-to-face learning to the use of web technological tools which enhances collaborative learning and presents an entirely new learning platform for students. The reason behind this online learning platform called Virtual Academy is the limitations or problems faced by the classroom learning methodology. Some of the limitations include Students become overly dependent on the teacher, Classroom Size, Student Attitudes and Behaviors, difficulty in managing students etc. Your child's most valuable tool is his/her education and online tutoring is a great tool enhancer. By using Virtual Academy services, you can create a fun online tutoring environment for your child. No more driving to a tutor or waiting for your tutor to come to you; by using online learning, you simply get online tutors waiting and ready to help you. Virtual Academy’s certified online tutors help kids with their homework, studying, research and other aspects of learning, schooling and education. This provides great flexibility for students as Students have the freedom to juggle their careers and school because they aren't tied down to a fixed schedule and it also reduces costs, Online education can cost less due to a variety of reasons. Due to all these an online learning platform will be of great use in the future

# 10. BIBLIOGRAPHY

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# APPENDIX - A

## Home.php

```
<?php include('header.php'); ?>
<?php include('session.php'); ?>
<body>
  <div class="row-fluid">
    <div class="span12">

      <?php include 'navbar.php'; ?>
      <div class="container">
        <div class="row-fluid">
          <div class="span12">
            <!--slider-->
            <div class="slider-wrapper theme-default">

              <div id="slider" class="nivoSlider">
                <img src="images/1.png" data-thumb="images/1.jpg" alt="" />
                <img src="images/2.png" data-thumb="images/toystory.jpg" alt="" />
                <img src="images/3.jpg" data-thumb="images/wineries.jpg" alt="" t />
                 <img src="images/5.png" data-thumb="images/5.jpg" alt="" />
              <img src="images/6.jpg" data-thumb="images/6.jpg" alt="" />
                <img src="images/4.jpg"  alt="" data-transition="slideInLeft" />

              </div>

            </div>
            <!-- end slider -->
```

```
            </div>
          </div>
          <?php include('footer.php'); ?>
        </div>

      </div>
    </div>
</body>
</html>
```

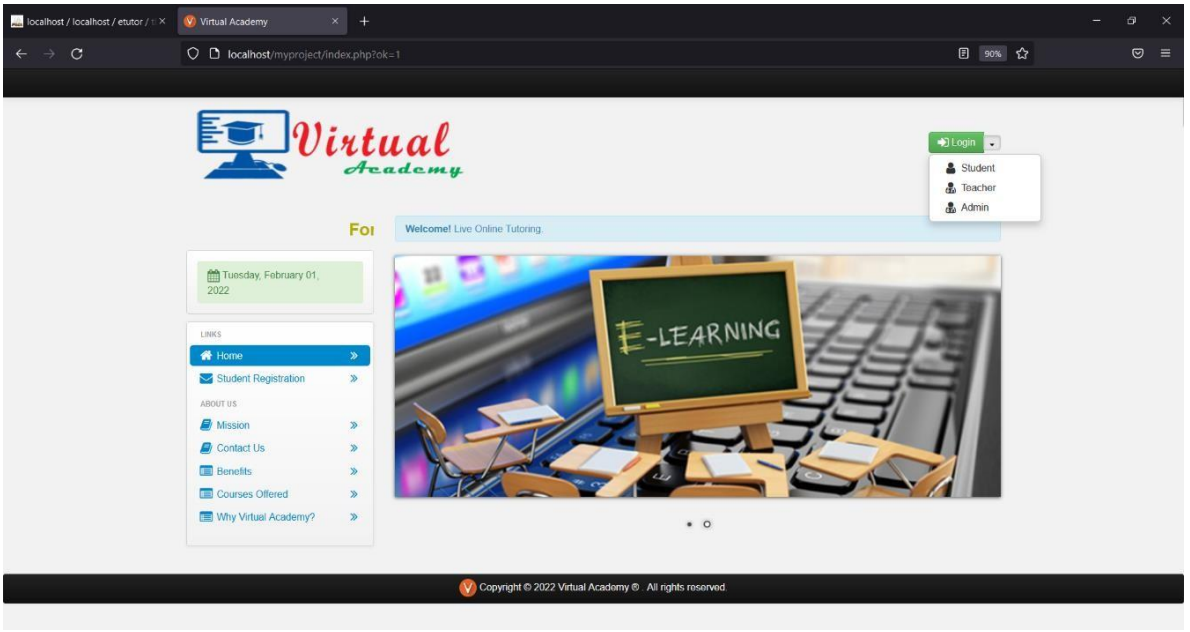
## Header.php

```
<!DOCTYPE html>
<html lang="en">
  <head>

    <title>Online Tutoring Management</title>
    <link href="img/chmsc.png" rel="icon" type="image">
    <link href="css/bootstrap.css" rel="stylesheet" type="text/css" media="screen">
    <link href="css/bootstrap-responsive.css" rel="stylesheet" type="text/css" media="screen">
    <link href="css/font-awesome.min.css" rel="stylesheet" type="text/css" media="screen">
    <link rel="stylesheet" type="text/css" href="css/DT_bootstrap.css">
    <?php include('connect.php'); ?>
  </head>
  <script src="js/jquery.js" type="text/javascript"></script>
```

```
<script src="js/bootstrap.js" type="text/javascript"></script>


<script type="text/javascript" charset="utf-8" language="javascript" src="js/jquery.dataTables.js"></script>

<script type="text/javascript" charset="utf-8" language="javascript" src="js/DT_bootstrap.js"></script>

<script type='text/javascript' language='javascript' src='js/ndhui.js'></script>



<!--slider -->

<link rel="stylesheet" href="themes/default/default.css" type="text/css" media="screen" />

<link rel="stylesheet" href="themes/light/light.css" type="text/css" media="screen" />

<link rel="stylesheet" href="themes/dark/dark.css" type="text/css" media="screen" />

<link rel="stylesheet" href="themes/bar/bar.css" type="text/css" media="screen" />

<link rel="stylesheet" href="css/nivo-slider.css" type="text/css" media="screen" />


<script type="text/javascript" src="js/jquery.nivo.slider.js"></script>

<script type="text/javascript">

    jQuery(document).ready(function() {

        $(window).load(function() {

            $('#slider').nivoSlider();

        });

    });

</script>

<!--end slider -->
```

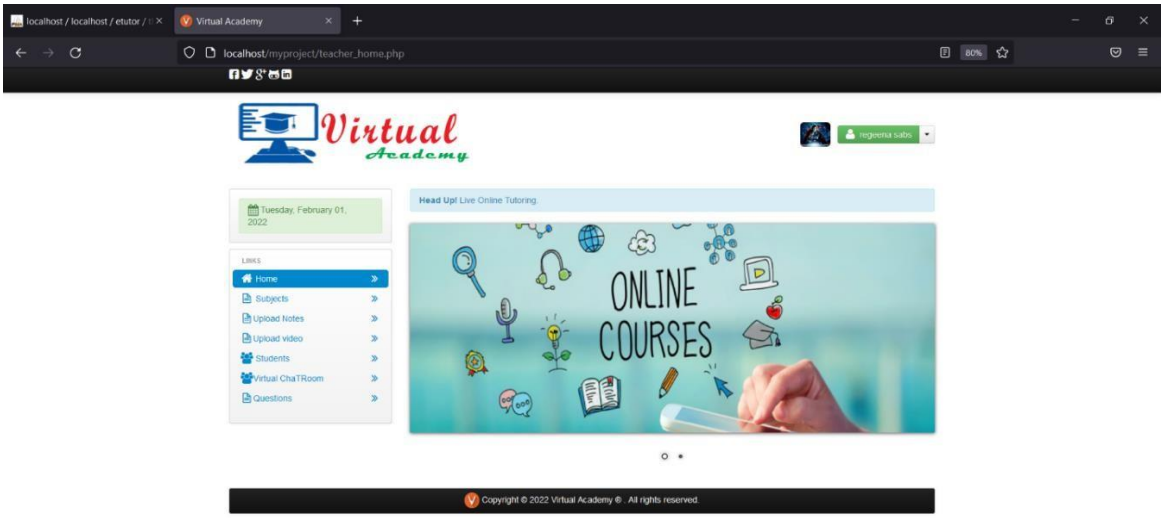
# SCREENSHOTS

## ❖ HOME PAGE

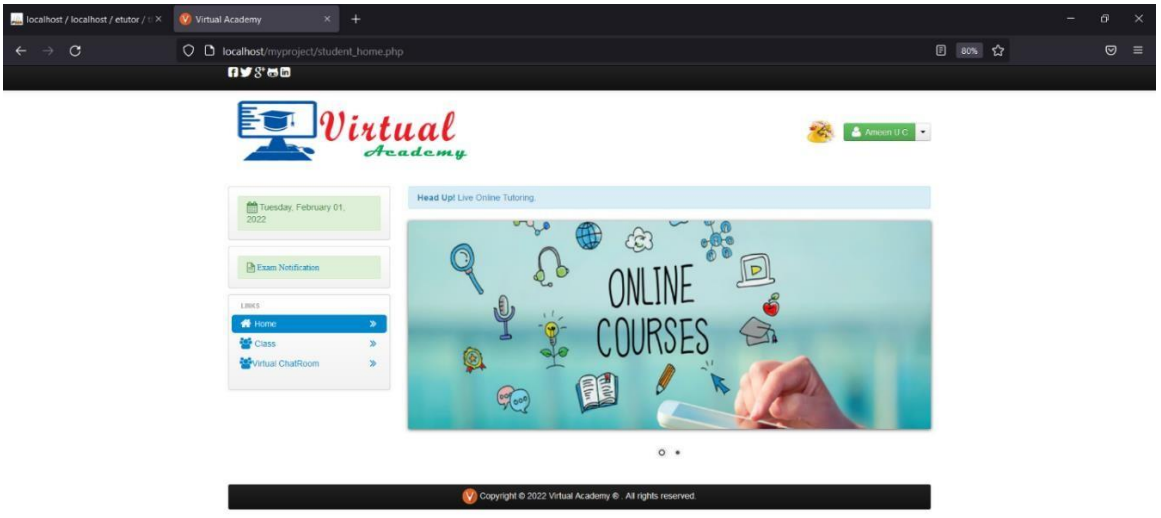



## ❖ ADMIN HOME

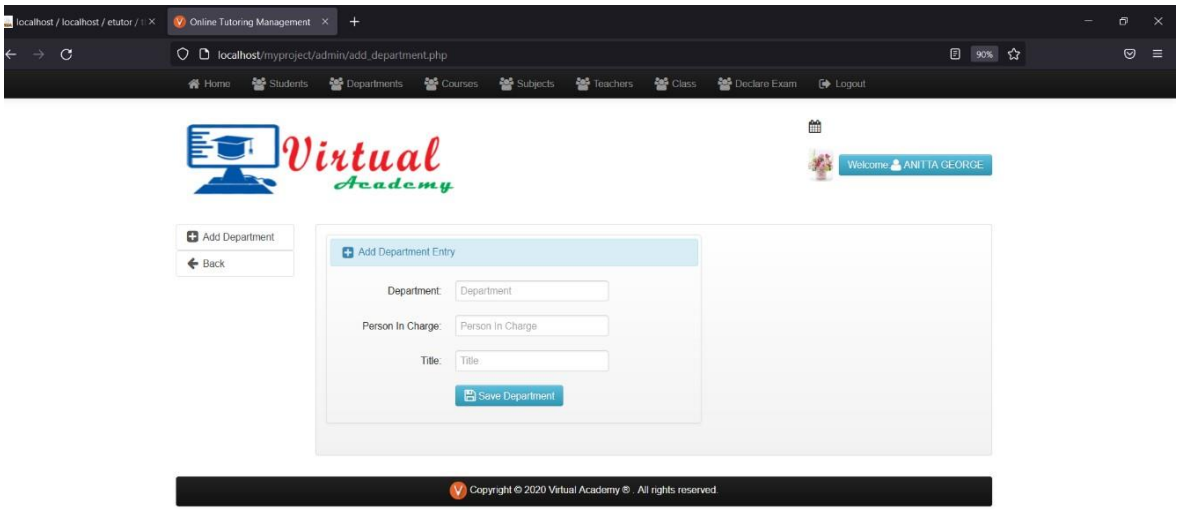
## ❖ TEACHER HOME



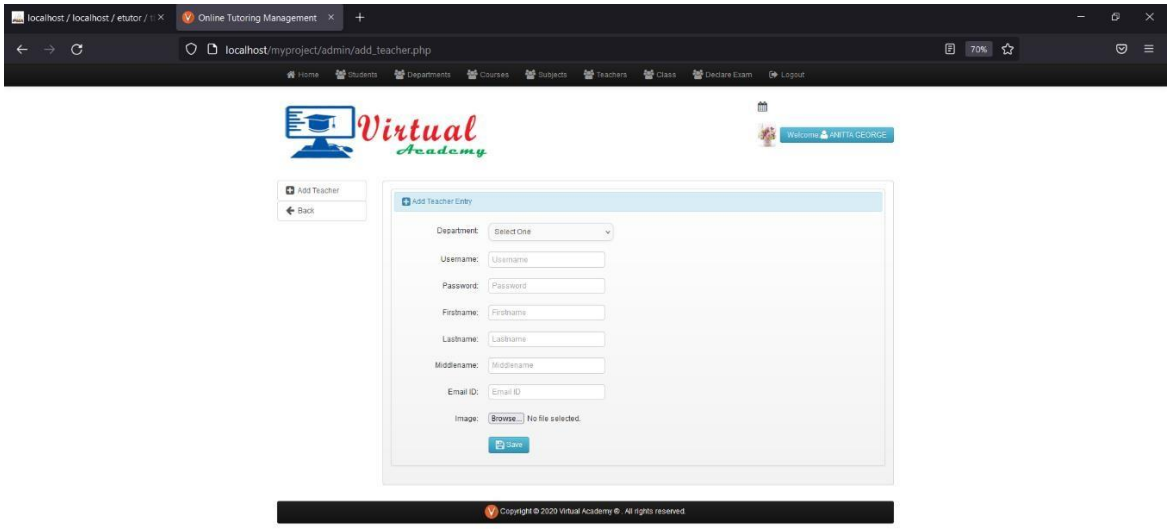

## ❖ STUDENT HOME



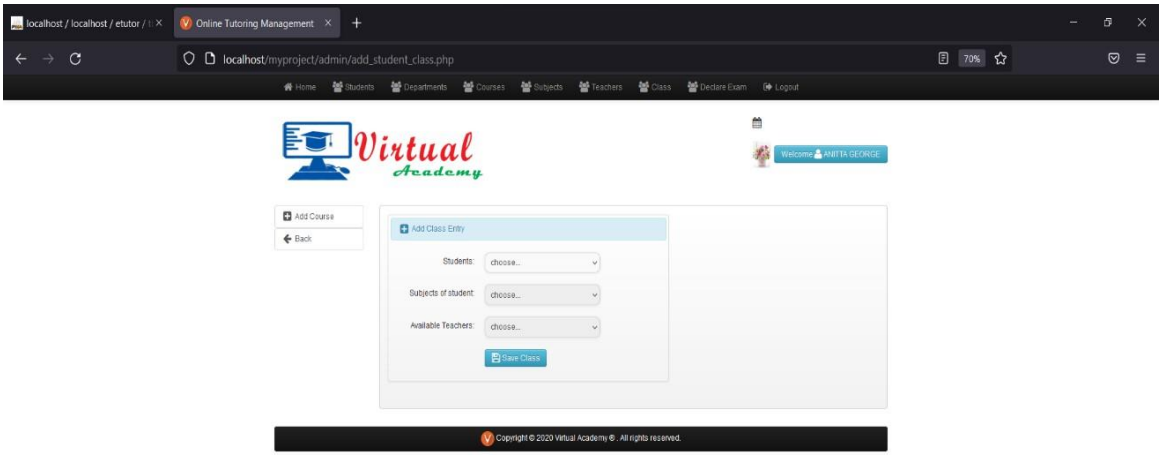
## ❖ ADD DEPARTMENT



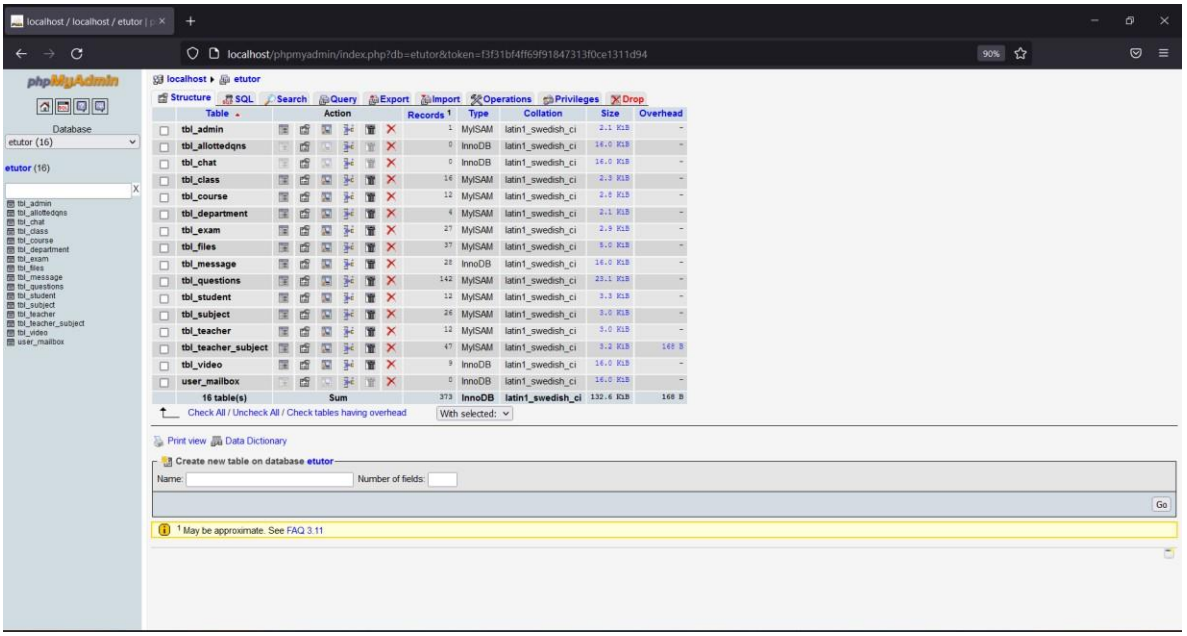

## ❖ ADD TEACHER



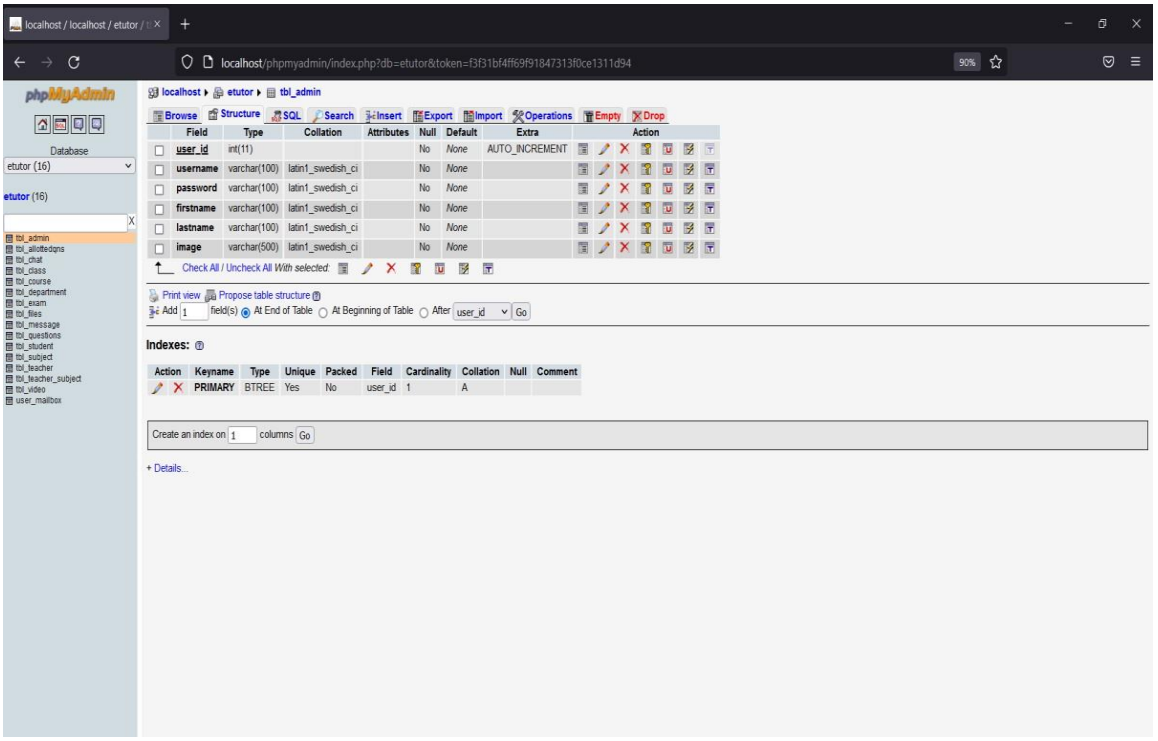
## ❖ ASSIGN CLASS



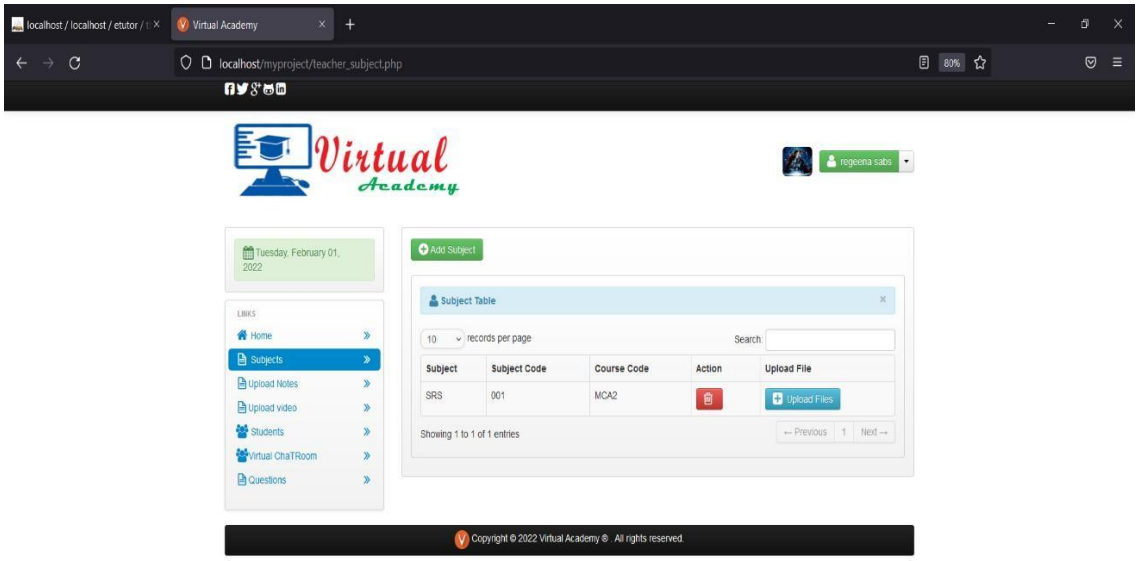

## ❖ DATABASE



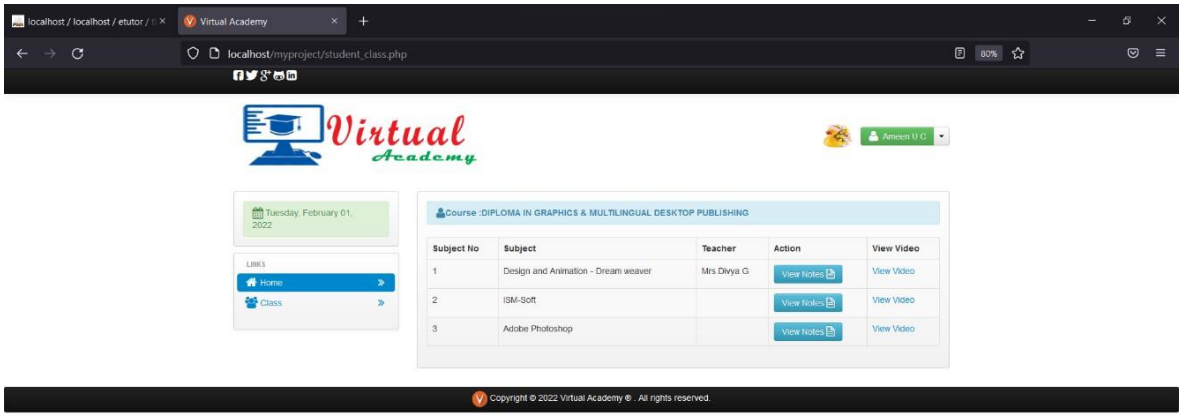
## ❖ ADMIN TABLE



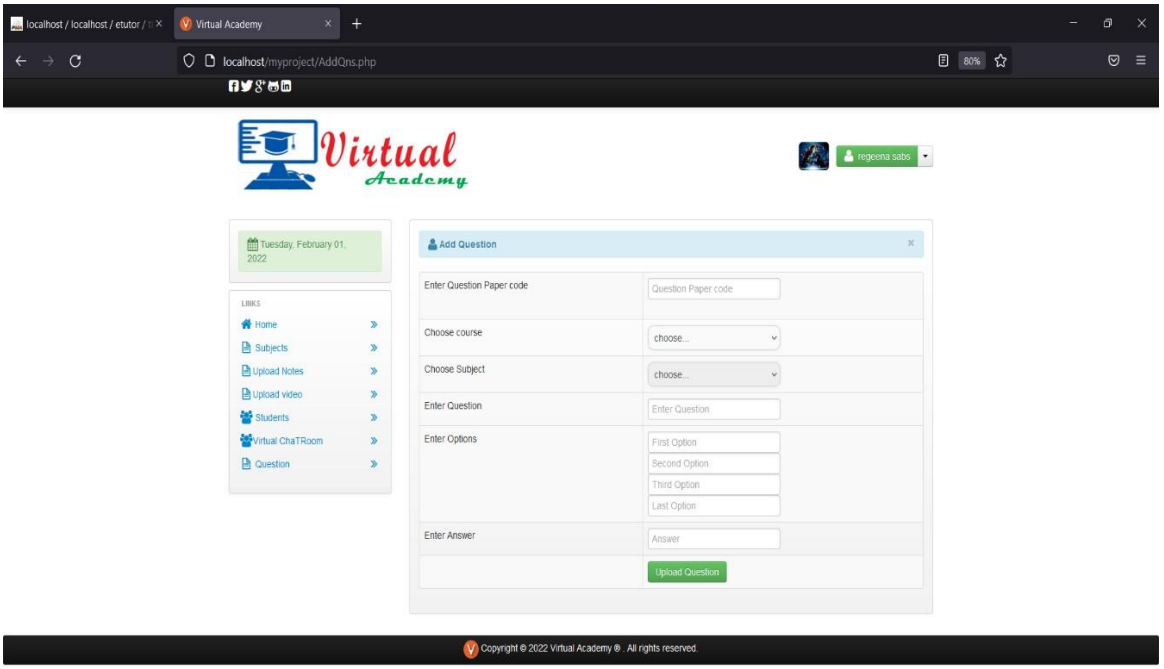

## ❖ UPLOAD NOTE



## ❖ VIEW CLASS




## ❖ UPLOAD QUESTION



## ❖ VALIADATION EXAMPLE