Project Report

On

STUDY HUB

Submitted to:

Panjab University, Chandigarh

In the partial fulfillment of the requirement for the degree of

Bachelor of Computer Applications (B.C.A.)

(Session – 2018-2019)

Under the Supervision of:

Dr. Harmunish Taneja

Submitted by:

Rohit Thakur

16091159

Vikas Bohra

16091189

B.C.A 6th Semester

DAV COLLEGE, SECTOR 10, CHANDIGARH.

DAV COLLEGE, SECTOR 10, CHANDIGARH

CERTIFICATE

This is to certify that Mr. Rohit Thakur, Class Roll No. 8064 and Mr. Vikas Bohra, Class Roll No. 8066 a bonafide student of B.C.A. 6th Sem being run by DAV College, Chandigarh of batch 2018-2019 has completed the project entitled "STUDY HUB" under my supervision & Guidance. It is further certified that the work done in this project is a result of candidate's own efforts.

I wish him all success in his life.

Date:

Dr. Harmunish Taneja

ACKNOWLEDGMENT

It gives me a great pleasure in bringing out the report titled "**STUDY HUB**". This project is not a solitary undertaking; it's a work of many brains. I am pleased to take opportunity of thanking all my teachers and friends for their help and assistance.

I express my regards to the principal of our college **Mr. Pawan Sharma** for extending his support. I extend my gratitude to Head of the Department **Prof. Mrs. Meenakshi Bhardwaj,** for supervising me in due course.

I express my gratitude towards my project guide **Dr. Harmunish Taneja** for giving me the opportunity to take on my project work. I sincerely feel obliged for his unending efforts in guiding me for this project that will be great assistance to me in my future of the subject matter.

I thank her whole-heartedly for her expert guidance, encouragement, valuable suggestions and supervisions. My sincere thanks also go to my parents, friends and my relatives for their ever flowing love, care and timely guidance and encouragement.

Rohit Thakur
BCA-III
Pupin No: 16091159
Roll No: 8064

Vikas Bohra
BCA-III
Pupin No: 16091189
Roll No: 8066

TABLE OF CONTENT

INTRODUCTION
(STUDY HUB)

1.1.Project Overview

This project allows the student to study different languages that has been provided in the website like C++, JAVA, PHP and many more. The students at the same time can ask query from the teachers in query panel.
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 website can be used as worldwide as well as can be used by any specific college, school or any faculty.

1.2.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.
- Students can Learn different languages directly using the website.
- They can ask question directly from the professionals or teachers and solve their problems.

1.1.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.
This project would be very useful for a world wide where different teachers from all over the world make a community and answering the problems of the student as well as can give their own questions in question bank.
This could be the best platform for the students where they can learn anything related to computers and like in real life can ask query anytime and anywhere, as well as can test their knowledge.

1.2.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
1.	Student	User mostly a student who will appear for the examination as well as study languages
2.	Faculty	Another user mostly faculty member, lecturer or examiner who posts set of questions, the available options and correct answers.
3.	Administrator	Super user, adds faculty and manages system.

II. OBJECTIVE OF THE PROJECT.

I. It will help student in learning new Languages.
II. It will help students to ask any questions from specialized teachers in their respective subjects.
III. It will help students to test their knowledge about the specific language by giving Quizzes.
IV. It allows teachers to make their own test and student can give the test of the respective teacher.
V. It can be used in colleges where teacher can make their own test and can give links to the students and student can give the test.
VI. The website will include number of simple steps from login as a student and start using the website for study purposes.
VII. It will help students to know more about the new languages and advancement on them.

Requirement Analysis and System Analysis

INTRODUCTION:

System analysis is the process of studying the business processors and procedures, generally referred to as business systems, to see how they can operate and whether improvement is needed.

This may involve examining data movement and storage, machines and technology used in the system, programs that control the machines, people providing inputs, doing the processing and receiving the outputs.

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

- **Administrator Aspect**
    1. Taking backup of the database
    2. Editing/Deleting/Creating the database.
    3. Adding or expelling faculty
    4. Changing the super password.
- **Faculty Aspect**
    1. Logging into the system.
    2. Sending invitations to specific student by mail
    3. Accepting registrations of candidates
    4. Adding the candidate to a group
    5. Create/Edit/Delete candidate groups
    6. Creating a test
    7. Posting questions in the above test
    8. Posting multiple options to respective question
    9. Marking correct answer within the given options
    10. Specifying to allow user defined answer
    11. Time limit of the test if any.
    12. Whether to randomize the questions
    13. Whether to randomize the options displayed
    14. To allow the test to be taken in practice mode where the correct answer is shown immediately after the candidate selects an option.

15. Set negative marks for wrong responses

- **Student Aspect:**

    1. Requesting registration
    2. Logging into the system.
    3. Edit user information.
    4. Selecting the test.
    5. Selecting whether the test to be taken in practice mode where the correct answer is shown immediately after the candidate selects an option.
    6. Appearing for the examination.
    7. Printing the result at the end of the examination.
    8. Reviewing the given responses.
    9. Changing password.
    10. Resetting of forgotten password

- **Analysis**

    1. Authenticating users based on username and password
    2. Keeping session track of user activity
    3. Recording candidates' responses to every question
    4. Checking whether the given response is correct or not
    5. Keeping history of test reports of all users

1.3.External Interface Requirements

1.3.1. 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.

1.3.2. Software Interface

Server side software

- Web server software, Apache Tomcat
- Server side scripting tools: PHP
- Database tools: Sedna native XML DBMS.
- Compatible operating system: Linux

Client side software

- Web browser supporting JavaScript, refer Browser Compatibility 2.3.1

1.3.3. Third Party Software Interfaces

None

1.3.4. Communication Protocol

Following protocols are required to be permitted on the server side

- HTTP incoming request
- HTTPS incoming request if secure gateway is implemented

Following protocols are required to be permitted on the client side

- HTTP outgoing request
- HTTPS outgoing request if secure gateway is implemented

1.3.5. Assumption and Dependency

1. Username are valid email addresses of respective user
2. Administrator has the authority to add/delete faculty level accounts.
3. Faculty have the authority to approve/expel student
4. Faculty have the authority to change student's group

1.4. Non-Functional Requirements

- System should be able handle multiple users
- Database updating should follow transaction processing to avoid data inconsistency.

1.5.Software System Attributes

1.5.1. Browser Compatibility

The project being web based required compatibility with at least the popular web browsers. Microsoft Windows XP and above, 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.

Operating System→ Browsers	***Win 10***	***WinXP***	***WinXPSP2***	***Win Vista***	***Win 7***	***Mac OS***	***Linux***
	Modern Browsers						
IE 8.0	*SUPP*	*SUPP*	*SUPP*	*SUPP*	*SUPP*	*N/A*	*N/A*
IE 7.0	*N/A*	*N/A*	*N/A*	*N/A*	*SUPP*	*N/A*	
IE 6.0	*N/A*	*N/A*	*N/A*	*N/A*	*SUPP*	*N/A*	
Firefox 3.5	*SUPP*	*SUPP*	*N/A*	*N/A*	*SUPP*	*N/A*	
Opera 9.23	*N/A*	*SUPP*	*N/A*	*N/A*		*N/A*	
Safari 9.27	*N/A*	*SUPP*	*N/A*	*N/A*		*SUPP*	
	"Legacy" Old Browsers						
IE5.5	*N/A*	*N/A*	*N/A*	*N/A*		*N/A*	
Netscape	*N/A*	*N/A*	*N/A*	*N/A*		*N/A*	

Globalization Support

The questionnaires and their respective options provided by the faculty may or may not be in English. Hence the questions and their options must be in Unicode format that will accept any Unicode character.

1.5.1.1. List of Locale

The system will mostly be in US English, although the questions and their options may not be in US English. Hence the questions and their options are to be in Unicode format.

Locale	Date Format	Time Format	Currency Format	Calendar	Character Set
en-US	Use Default	Use Default	Use Default	Use Default	SBCS
Non en-US	dd-MM-yy	HH:mm:ss	Use Default	d-MM-yyyy	MBCS/Unicode

1.5.1.2. Content to be localized

The following table lists all the possible area in the system and also mentions whether that area should support Globalization.

Interface Type	Needs Localization?
User Interface	Yes*
Standard Errors and exceptions logged by system in error log	No
Logos, Images	No
Unit of Measurement (Ex. Length, Weight, Area, Volume, Paper Size etc)	No
Reports	Yes*

*Limited to questionnaires set by user who posted questions.

1.5.2. Security

- Administrator has the highest authority to edit/delete/create database
- Faculty have the authority to add/expel students
- Students can only view their test records.
- Faculty 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 reset link will be sent.

1.5.3. Reliability

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

- Validating user input
- Use of locking mechanism while updating database like transaction processing
- Recovering the transaction using rollback.

1.5.4. Availability

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

Constraints:

Though the system should be available 24x7 some features may be restricted.

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

1.5.5. 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 either XML or MySQL would be used, that too has extensive support over many popular architectures and operating systems.

Constraints:

Portability would be limited to the support provided by the respective application vendor on various architectures and operating environments.

1.5.6. 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.

1.6.Database Requirements

Database fields for questions and respective options must be in Unicode format to handle non English characters

1.7.Technologies

This section lists all the technologies for the web based system.

- PHP scripting for server side scripting as it has a very strong support for XML and MySQL.
- XML as database format: The database' performance requirements are not very high and the ability to have custom fields in case the quiz creator needs to add more than expected answer options. This is limited in any other database management system where we have to first specify the maximum number of fields.
- Apache as web server has a tight integration with PHP and is also available for various popular platforms.

1.8.Software

Netbeans or Eclipse for PHP and XML coding.

Apache Tomcat as Web server

1.9.Hardware

The recommended hardware specified by the respective software would suffice the needs. The memory and processing power needed would increase as the number of users increase. The estimated hardware requirements are as specified.

1.9.1. Server

The minimum hardware as recommended by all of the software required on server side say web server, operating system and development software

- Processing speed of 1.6 GHz
- 1 GB of RAM
- Network interface

1.9.2. Client

The minimum hardware as recommended by all of the software required on client side say web browser, operating system

- Minimum hardware depending on the operating system used
- True color visual display unit
- User peripherals for better interaction

SYSTEM DESIGN

INTRODUCTION:

System design is the process of developing specifications for a candidate system that meet the criteria established in the system analysis. Major step in system design is the preparation of the input forms and the output reports in a form applicable to the user.

The main objective of the system design is to make the system user friendly. System design involves various stages as:

Data Entry

Data Correction Data

Deletion Processing

Sorting and Indexing Report

Generation

System design is the creative act of invention, developing new inputs, a database, offline files, procedures and output for processing business to meet an organization objective. System design builds information gathered during the system analysis.

CHARACTERSTICS OF A WELL DEFINED SYSTEM

In design an efficient and effective system is of great importance to consider the human factor and equipment that these will require to use. System analyst must evaluate the capabilities and limitations of the personal and corresponding factors of the equipment itself.

The characteristics associated with effective system operations are:

Accessibility

Decision Making Ability

Economy

Flexibility

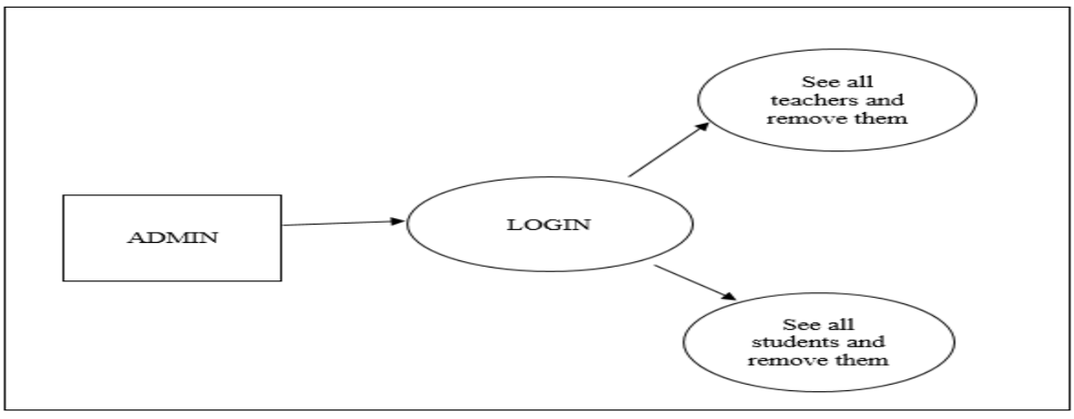
Reliability

Simplicity

Success is a new system pivots on its acceptance or non-acceptance by the organization.

Personnel:

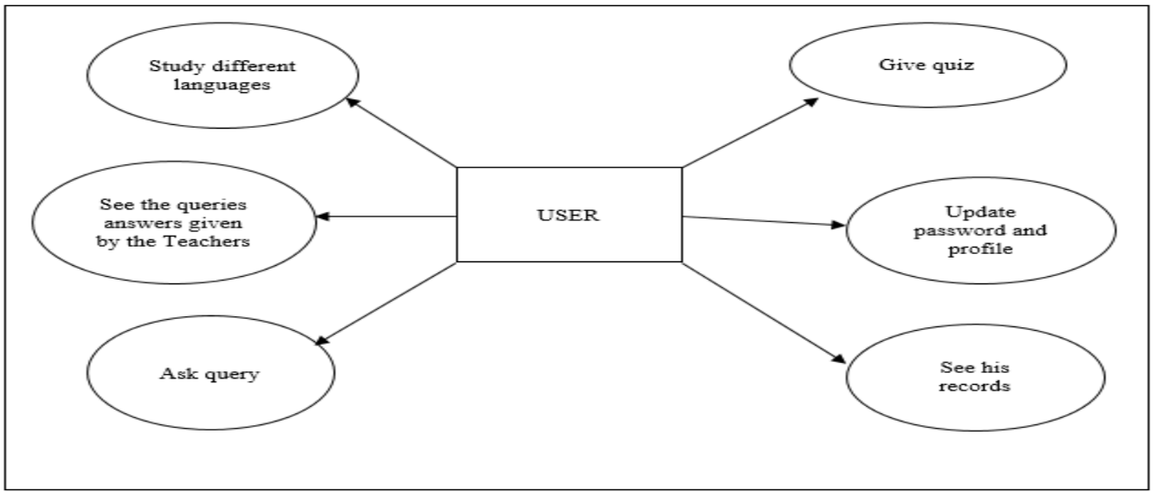
If the operating system is convinced that the new system will not benefit them, it appears one, and the system is in serious trouble. To overcome this resistance participation by operating personal during all phases of the changeover is necessary because they constitute the organization, which must use alive in with newly design system. An effective system produces not only information at the lowest cost pertinent and timely for making decision.



ADMIN

Admin is the administrator of the site. He manages the site and can view members after login. So he is connected to tbusr(users and passwords).

DFD Showing the working of Student module

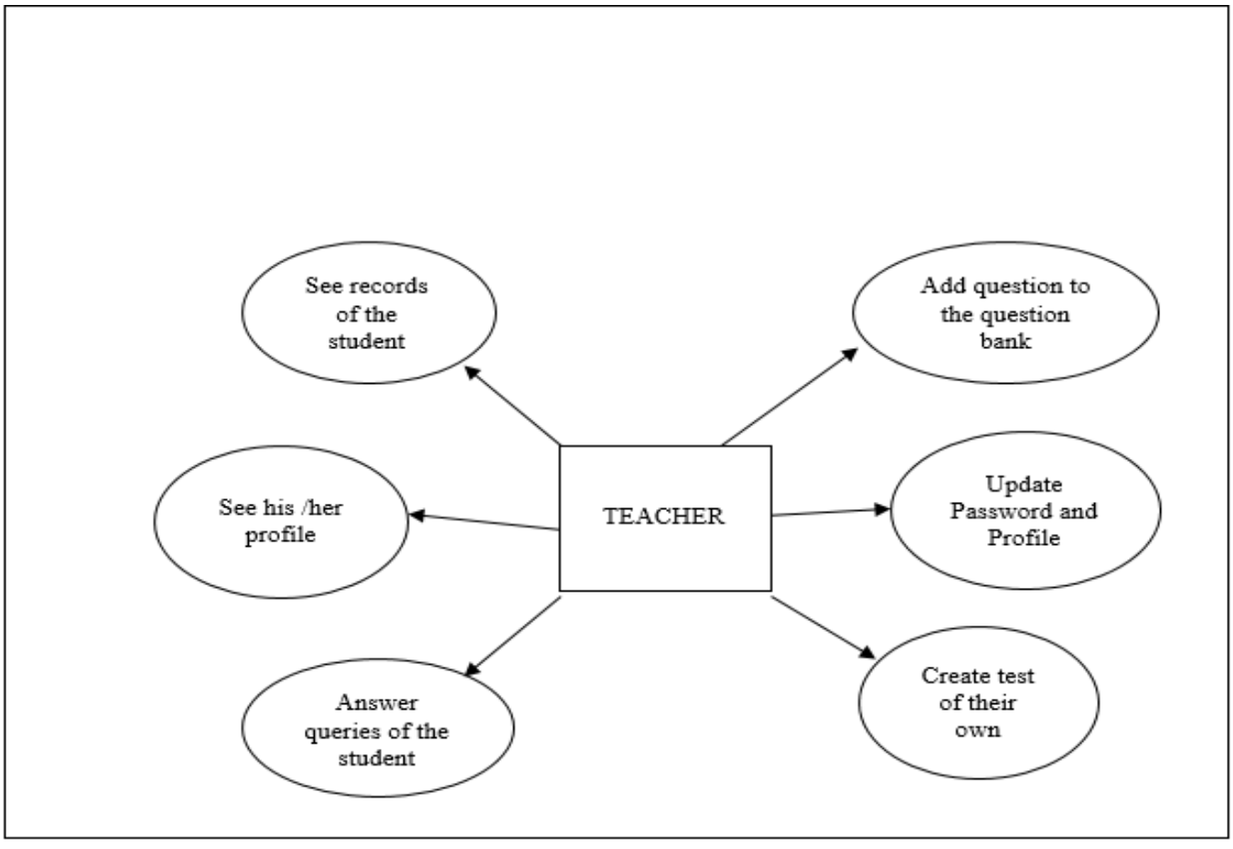


STUDENT

Student is the user who are allowed to do specific functions such as: -

1. Study about different languages from the website which are provided in the website.
2. They can ask queries from the teacher from anywhere and anytime by just posting queries to the query box.
3. They are allowed to give test according to the Test code and examine their knowledge.
4. They are allowed to see records of the test they have given in total.
5. The answer given to the query is directly posted to their account and they can see them.
6. They are allowed to update their password and profile whenever they want to.

DFD Showing the working of Teacher module



Teacher is the user who are allowed to do specific functions such as: -

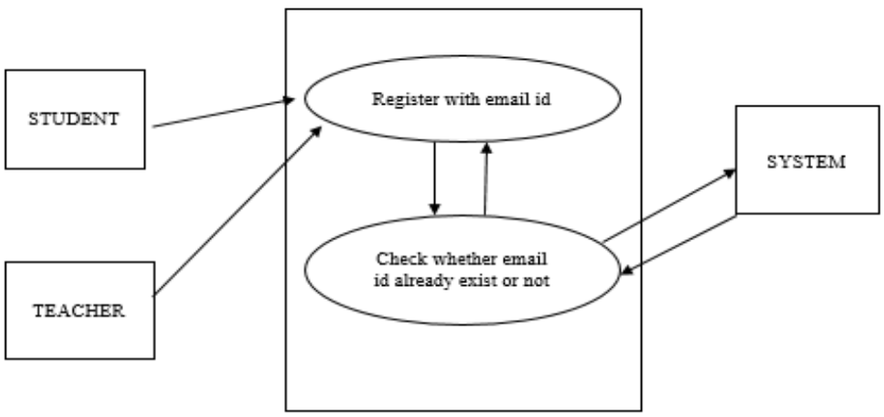
1. They are allowed to see the record of the student whenever they want to and analyze them.

2. They are allowed to add question to the question bank, so every teacher can see that question and thus there would be a variety of questions will be there.
3. They are allowed to answer the queries of the student and answer get directly posted to student profile.
4. They are allowed to create test of their own name with selected questions from the question bank.
5. They are allowed to update their password and profile whenever they want to.

Diagram which shows the working of the Study Hub

STUDY HUB, is the project we can say that a overall platform that providing a student a proper classroom feeling where teacher are available 24*7 hr. Student can study from the Study panel whenever they want to. They can give test whenever they feel they have learnt about computers. This can be used in school and colleges where teacher can make tests and tell the code to the student and student would give that particular test.

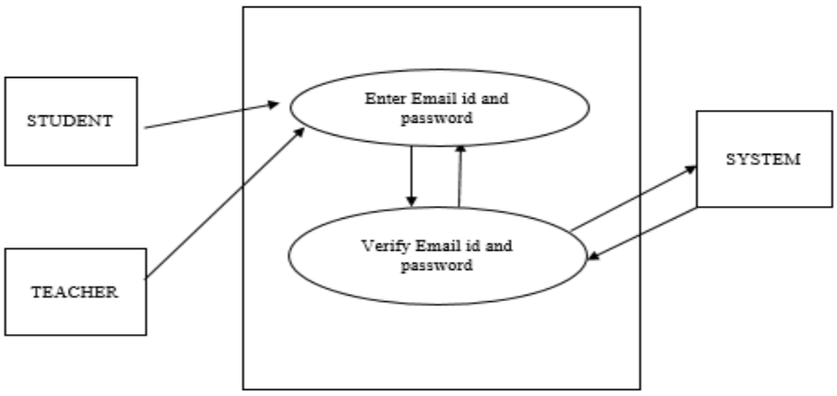
1.Registration Use case:-



In order to use the facilities, you need to first Register yourself with the Study Hub. In order to register yourself you need to go to the sign in page where there is a form asking you about your detail. After you finish up your

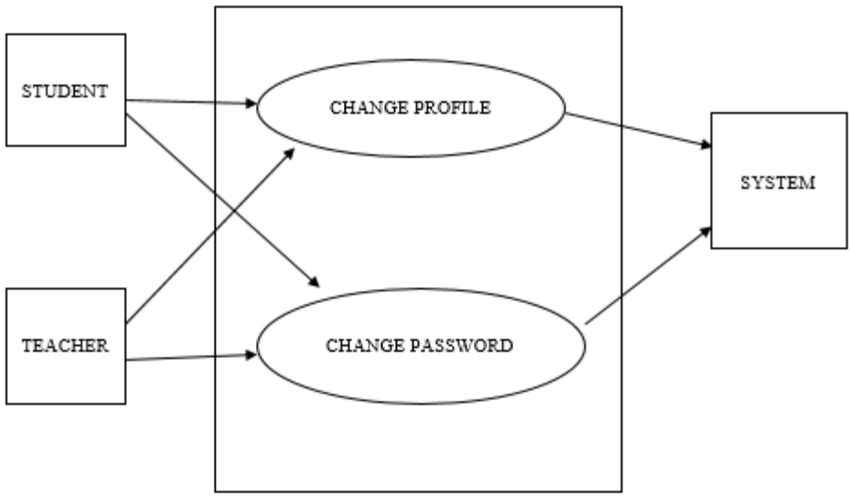
detail and submit the form it will check whether the email id is already present or not if it is already present It will show a pop say email id already present and if email id is not present you get successfully register to the website and use the functions of the website.

2.Login use case :-



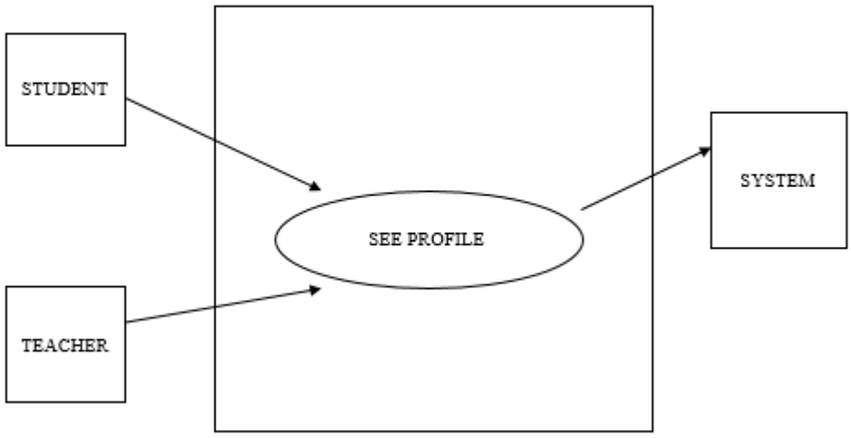
Once you get successfully register to the website, you can now login yourself using email id and password , after submitting the email id and password it will check whether the user with email id present or not if present it will take you to the homepage else it will pop up a message invalid username or password.

3.User Profile Edit use case :-



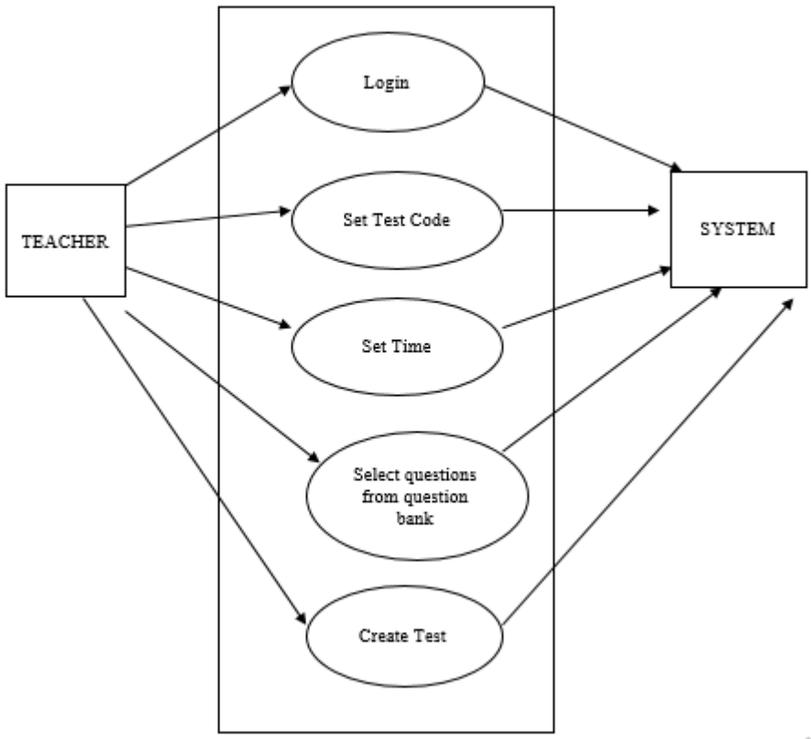
Once you get successfully login to the account, You are provided with different options, one such option which is given to the student as well as teacher of updating their Profile data such as phone no. or profile picture and can change their password.

4.User Profile use case



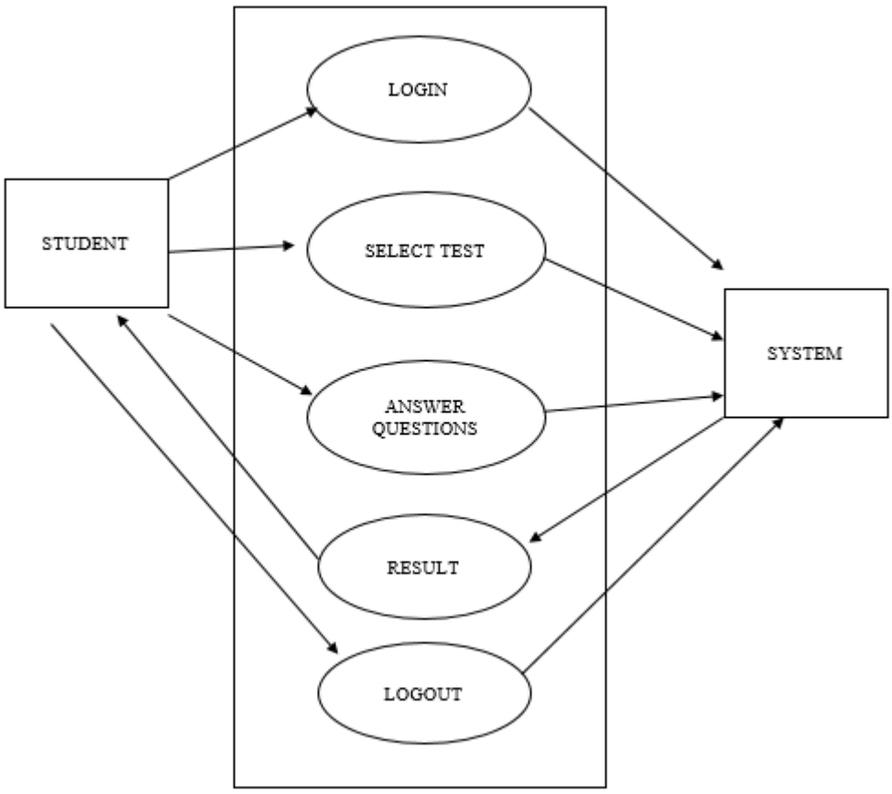
Once you get successfully login to your account ,Teacher as well as Student can see their profile anytime by just clicking to the home option.

5.Manage Test use case



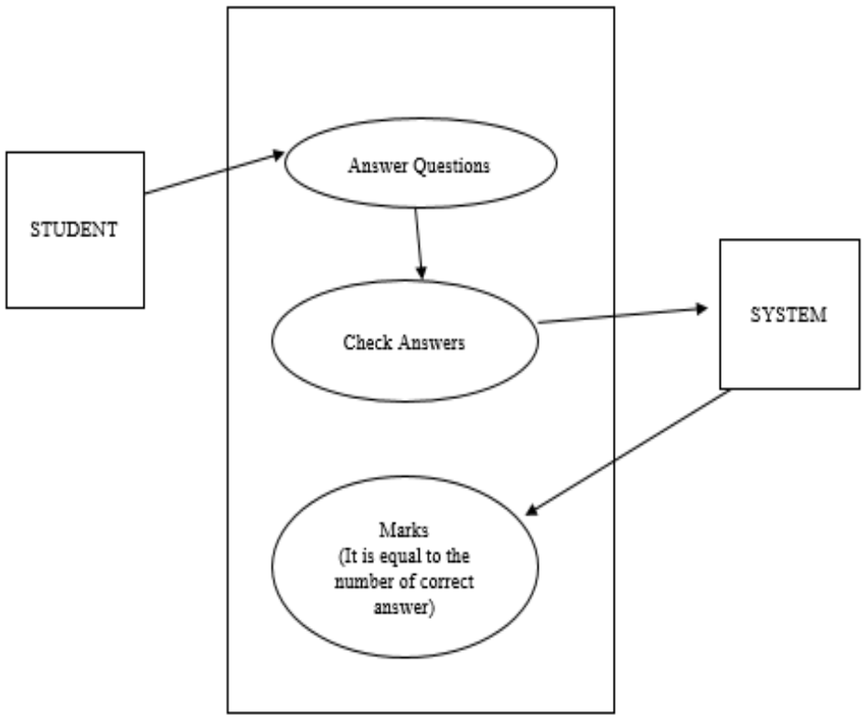
This is the functionality that is provided to the Teacher where Teacher first login themselves and then use the option for creating test, then set the test code and test duration , and then select the number of questions from the question bank and create test.

6.Appear Test Use case



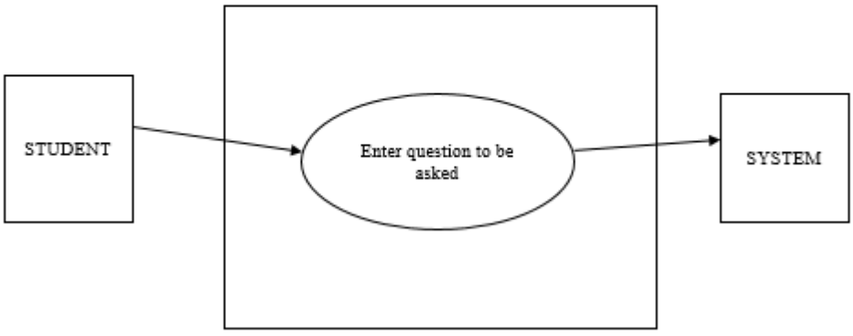
This is the functionality given to the student, In order to use this options Student first had to login to the account and then use the apply test option where he need to login with the help of test code which he want to give with his username and password if it matches with the database a MCQ will appear with a timer where he will choose the options and submit the test or Time overs it will automatically get submitted. After that automatically test is checked and result is shown to the student as well as get deposited to the database.

7.Generate Result Use case



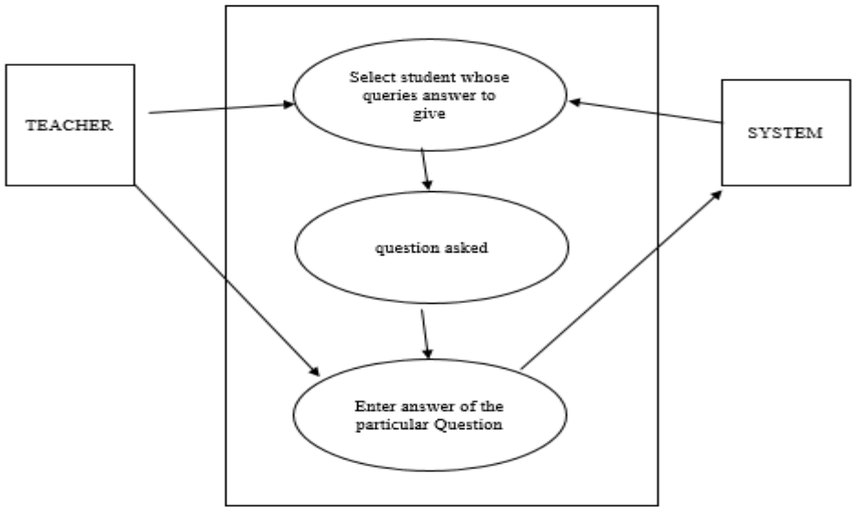
Once student answers all the questions or time finished it will go for checking answers. System will check answers submitted whether correct or not if the answer is correct 1 marks will be given. After the marks is given the result is shown to the student as well as send it to the database.

8.Query Ask Use Case



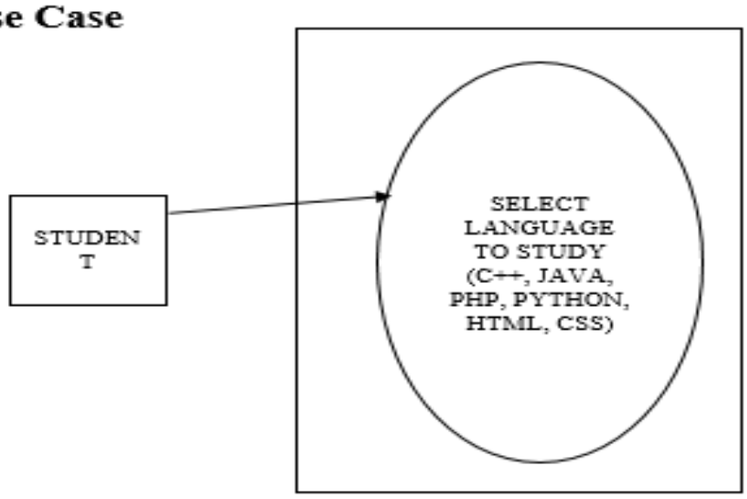
For this Student first need to login to the account and then he can ask questions by going to the query page where he just need to write the question that he want to ask and submit the query. Query than get submitted

9.Query Answer Use Case



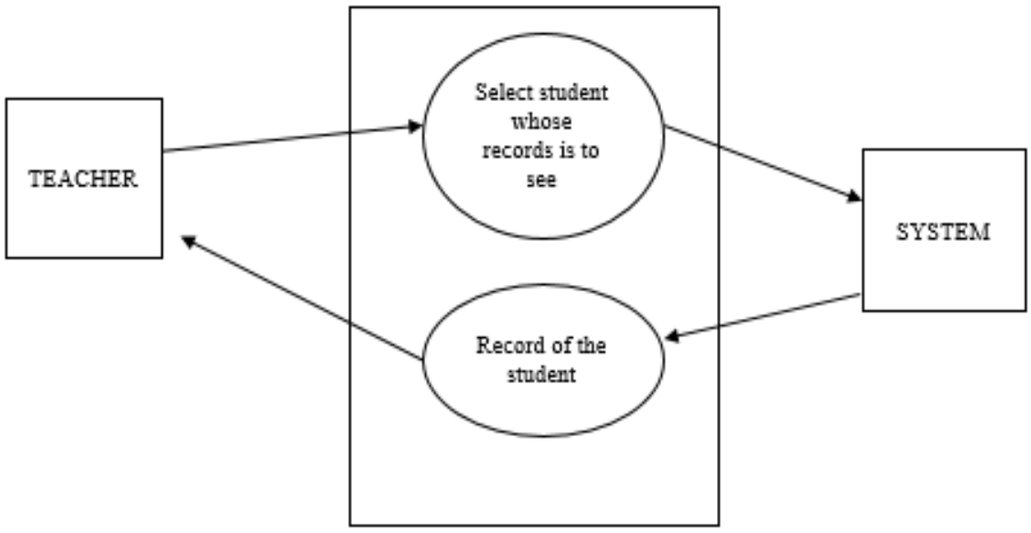
For this teacher first need to login to his account, here he will get an option where he can select a particular student whose query is to answer and after answering the particular the query submits the query. Queries answer get submitted to the database.

10.Student Study Use Case



Student first need to login to his account where he has to select the study option and then he will have directed to the page consist of different languages, he just need to select a particular language that he wants to study.

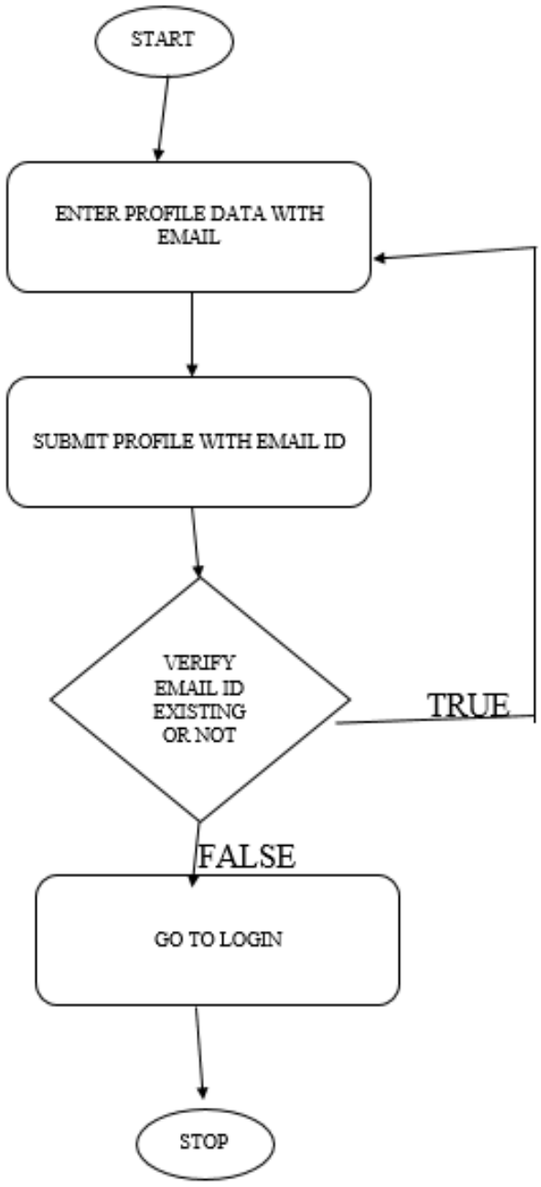
11.See Records of Student Use Case



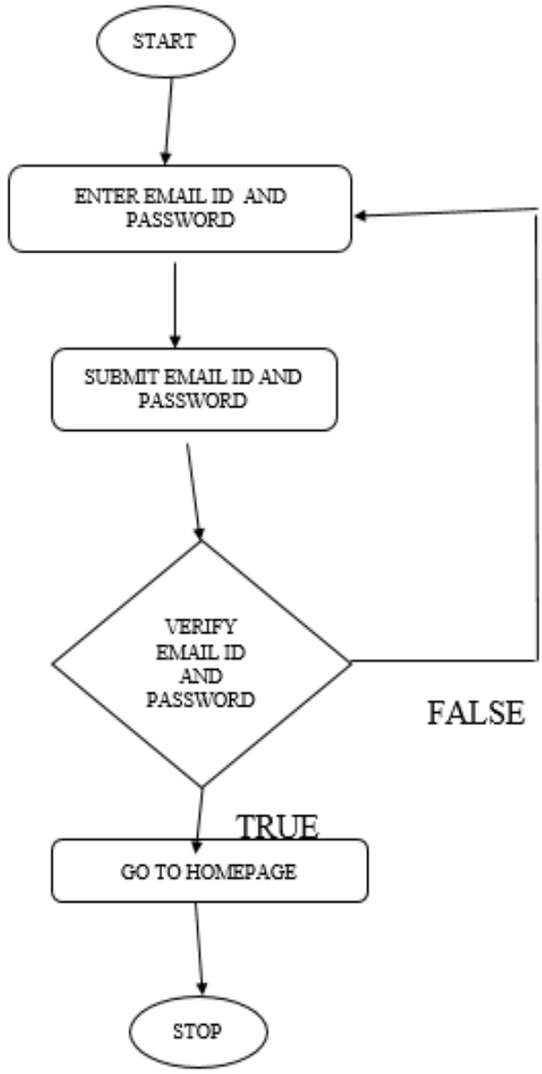
For this Teacher need to login to the account with valid email id and password. After successfully login to the account Teachers are allowed to see all the student that has been enrolled in the website with that he can also see the record of the student i.e. all the marks of the student as well as profile of the student with their email id and phone number.

ACTIVITY DIAGRAM

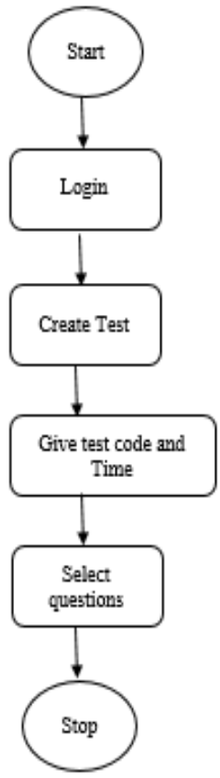
1.Registration Activity



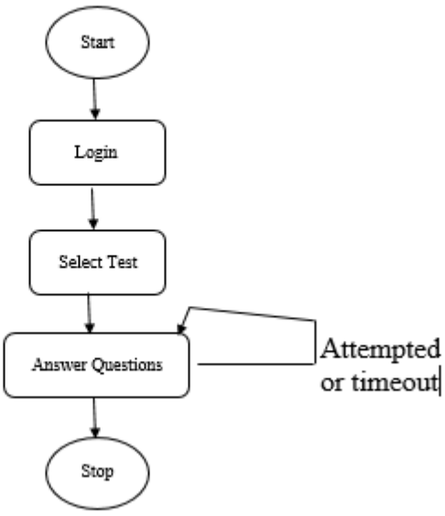
2.Login Activity



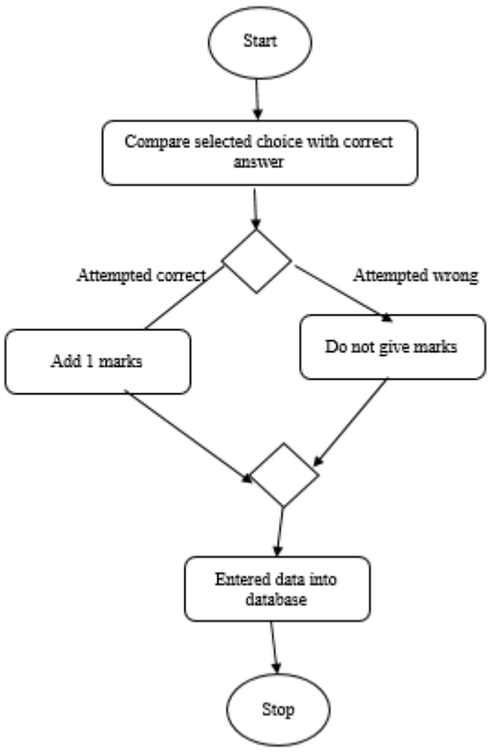
3.Manage Test Activity diagram



4.Answer Test Activity Diagram



5.Generate Result



Database Design

Table: login

Field Name	Data Type	Constraints/Description
Id	Unsigned Integer	Primary Key, AutoIncrement
name	Varchar	
Email	Varchar	Primary Key
password	Varchar	
Dob	Varchar	
Status	Varchar	
Phoneno	Varchar	Unique Key
Photo	Varchar	

```
SELECT * FROM `login`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create P

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Options

	id	name	email	password	dob	status	phoneno	photo
Edit Copy Delete	1	Rohit	Rohit.thakur2698@gmail.co	1234	0000-00-00	Teacher	2147483647	image/100_5688.JPG
Edit Copy Delete	2	abc	abc@gmail.com	1234	0000-00-00	student	2147483647	image/100e4607_001.jpg
Edit Copy Delete	3	Jindu	jindu@gmail.com	jindu	0000-00-00	student	1234567890	image/100_5695.JPG
Edit Copy Delete	5	Itu	jindu123@gmail.com	jindu	0000-00-00	Teacher	2147483647	image/100_5719.JPG
Edit Copy Delete	6	Rohit Thakur	Rohit.thakur2698@gmail.co	miju2698thakur	0000-00-00	Teacher	2147483647	image/100_5740.JPG
Edit Copy Delete	7	Mohit thakur	Mohit.thakur@gmail.com	momanddad	0000-00-00	student	2147483647	image/100_4553.JPG
Edit Copy Delete	10	qwe	qwe@gmail.com	qwe	0000-00-00	student	2147483647	image/
Edit Copy Delete	11	kd	kd@gmail.com	kd	0000-00-00	student	815628393	image/
Edit Copy Delete	12	Kumar	kumar@gmail.com	1234	1990	student	9915092933	image/
Edit Copy Delete	13	admin		admin				

Check all With selected: Edit Copy Delete Export

Table: questionbank

Field Name	Data Type	Constraints/Description
Id	Unsigned Integer	Primary Key, AutoIncrement
Question	Varchar	
A	Varchar	
B	Varchar	
C	Varchar	
D	Varchar	
E	Varchar	
Ans	Varchar	

Showing rows 0 - 5 (6 total, Query took 0.0020 seconds.)

```
SELECT * FROM `questionbank`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

+ Options

	id	question	a	b	c	d	e	ans
Edit Copy Delete	14	WWW stands for ?	World Whole Web	Wide World Web	Web World Wide	World Wide Web		World Wide Web
Edit Copy Delete	17	Which of the following are components of Central P...	Arithmetic logic unit, Mouse	Arithmetic logic unit, Control unit Circuits	Control Unit, Monitor	Arithmetic logic unit, Integrated		Arithmetic logic unit, Control unit Circuits
Edit Copy Delete	18	Which among following first generation of computer...	Vaccum Tubes and Magnetic Drum	Integrated Circuits	Magnetic Tape and Transistors	All of above		Vaccum Tubes and Magnetic Drum
Edit Copy Delete	22	Where is RAM located ?	Expansion Board	External Drive	Mother Board	All of above		Mother Board
Edit Copy Delete	23	If a computer has more than one processor then it ...	Uniprocess	Multiprocessor	Multithreaded	Multiprogramming		Multiprocessor
Edit Copy Delete	25	If a computer provides database services to other...	Web server	Application server	Database server	FTP server		Database server

Check all With selected: Edit Copy Delete Export

Table: Marks(by the name of user email)

Field Name	Data Type	Constraints/Description
Id	Unsigned Integer	Primary Key, AutoIncrement
Marks	Unsigned Integer	
Test	Varchar	
Time	Varchar	

Showing rows 0 - 3 (4 total, Query took 0.0010 seconds.)

```
SELECT * FROM `kumar@gmail.com`
```

Show all | Number of rows: 25 Filter rows: Search this

+ Options

	id	marks	test	time
Edit Copy Delete	1	2	good	20
Edit Copy Delete	2	0	C++	0
Edit Copy Delete	3	1	fill	20
Edit Copy Delete	4	0	Clang	20

Check all With selected: Edit Copy Delete

Table: studentquery

Field Name	Data Type	Constraints/Description
Id	Unsigned Integer	Primary Key, AutoIncrement
Email	Varchar	Primary Key

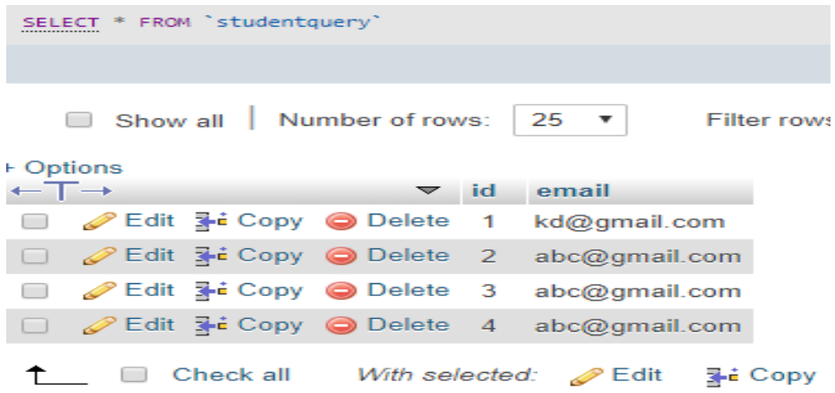


Table: testtable

Field Name	Data Type	Constraints/Description
Id	Unsigned Integer	Primary Key, AutoIncrement
Test	Varchar	
Time	Varchar	Primary Key

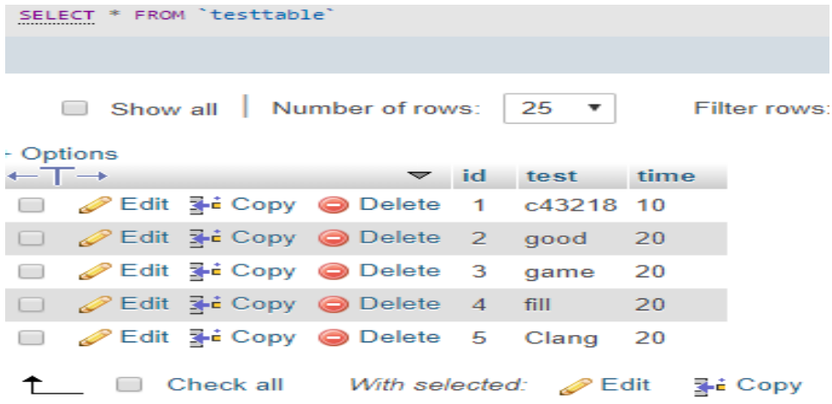


Table: testcode(by the name of the test)

Field Name	Data Type	Constraints/Description
Id	Unsigned Integer	Primary Key, AutoIncrement
Question	Varchar	
A	Varchar	
B	Varchar	
C	Varchar	
D	Varchar	
E	Varchar	
Ans	Varchar	

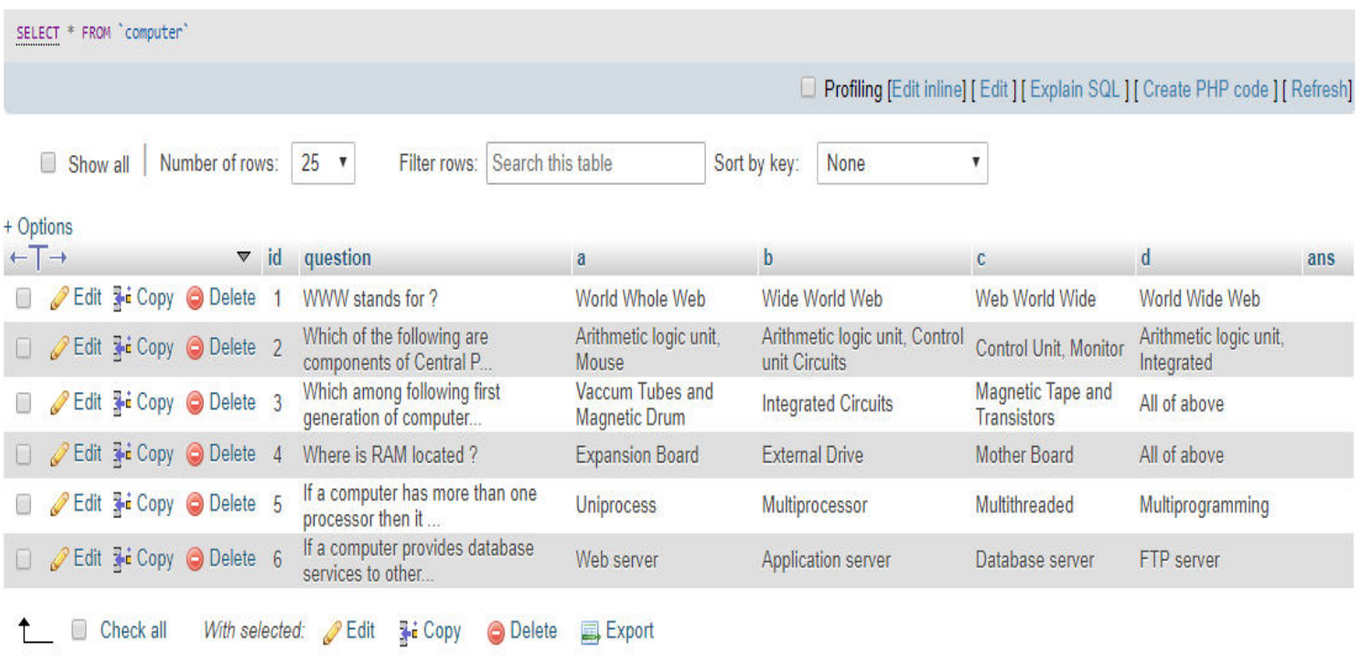
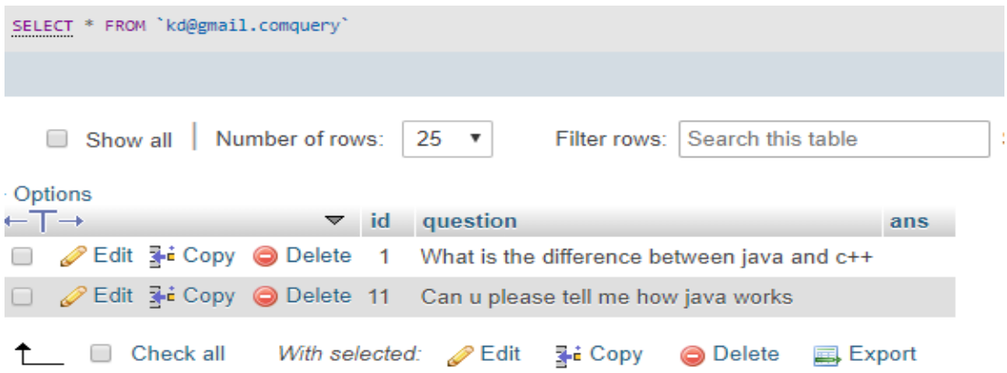


Table: email.query(email of the user concatenate with query)

Field Name	Data Type	Constraints/Description
Id	Unsigned Integer	Primary Key, AutoIncrement
Question	Varchar	
Answer	Varchar	



SYSTEM CODING

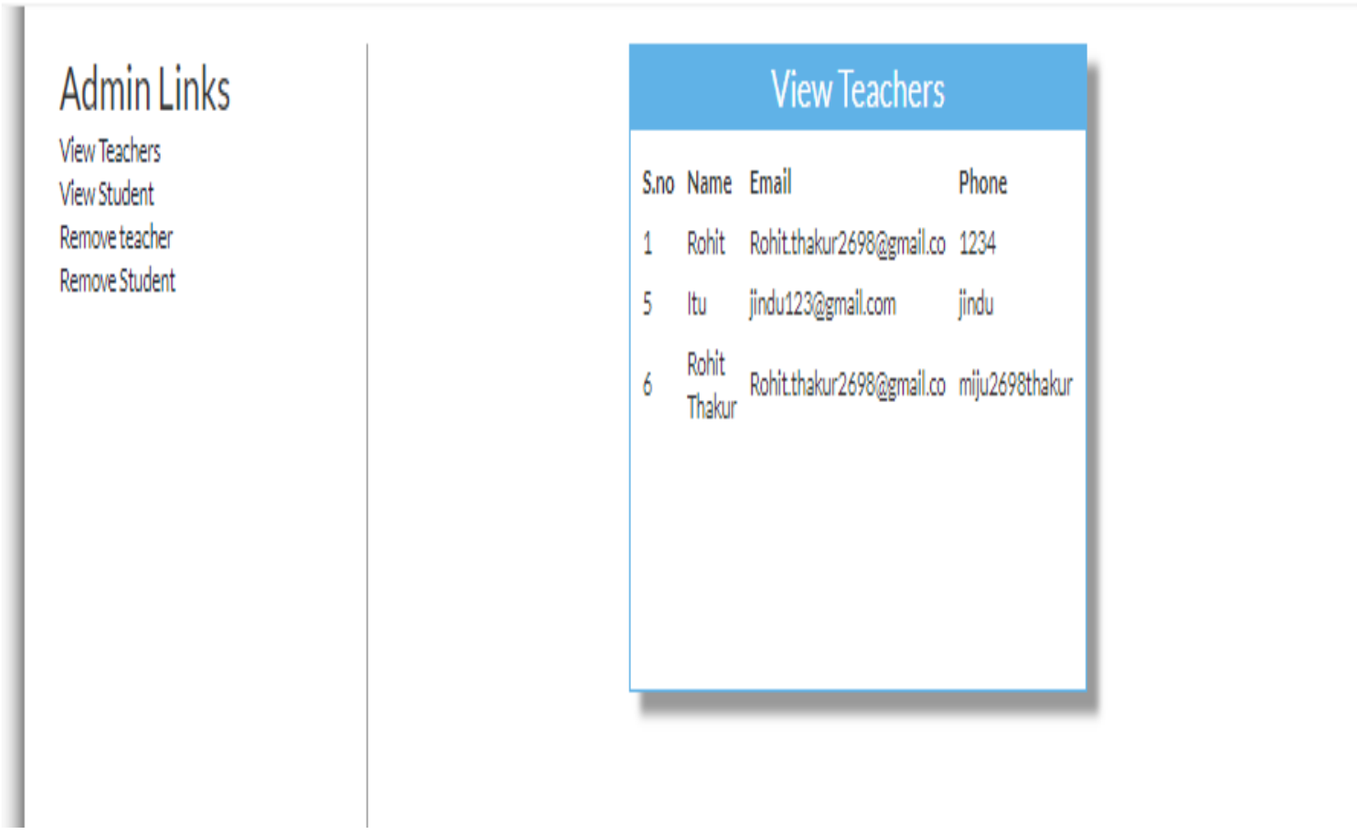
In coding structured programming is a data flow based methodology. The approach begins with a system specification that identifies inputs and outputs and describes the functional aspects of the system. The system specifications then are used as a basis for the graphic representation data flow diagram of the data flows and processes. The next step is the definition of modules and their relationships to one another in a form called a structure chart, using a data dictionary and other structured tools. Structured programming partitions a program into small, independent modules. They are arranged in a hierarchy that approximates a model of the business area and is organized in a top-down manner with the details in bottom-up manner. Thus structured programming is an attempt to minimize complexities and make a problem manageable by subdividing it into smaller segments, which is called modularization or decomposition. A design is said to be top-down if it consists of a hierarchy of modules, with each module having a single entry, and a single exit subroutine.

All designs, contents, hierarchies, as creating a hierarchy is a natural way to manage complexity. Most design methodologies for software also produce hierarchies. In a top-down implementation, the implementation starts from the top of the hierarchy and proceeds to the lower level. First the main module is implemented, then its sub-ordinates are implemented, and their sub-ordinates and so on. In a bottom-up implementation, the process is reversed. The development starts with implementing the modules at the bottom of the hierarchy and proceeds through the higher levels until it reaches the top.

Admin Page

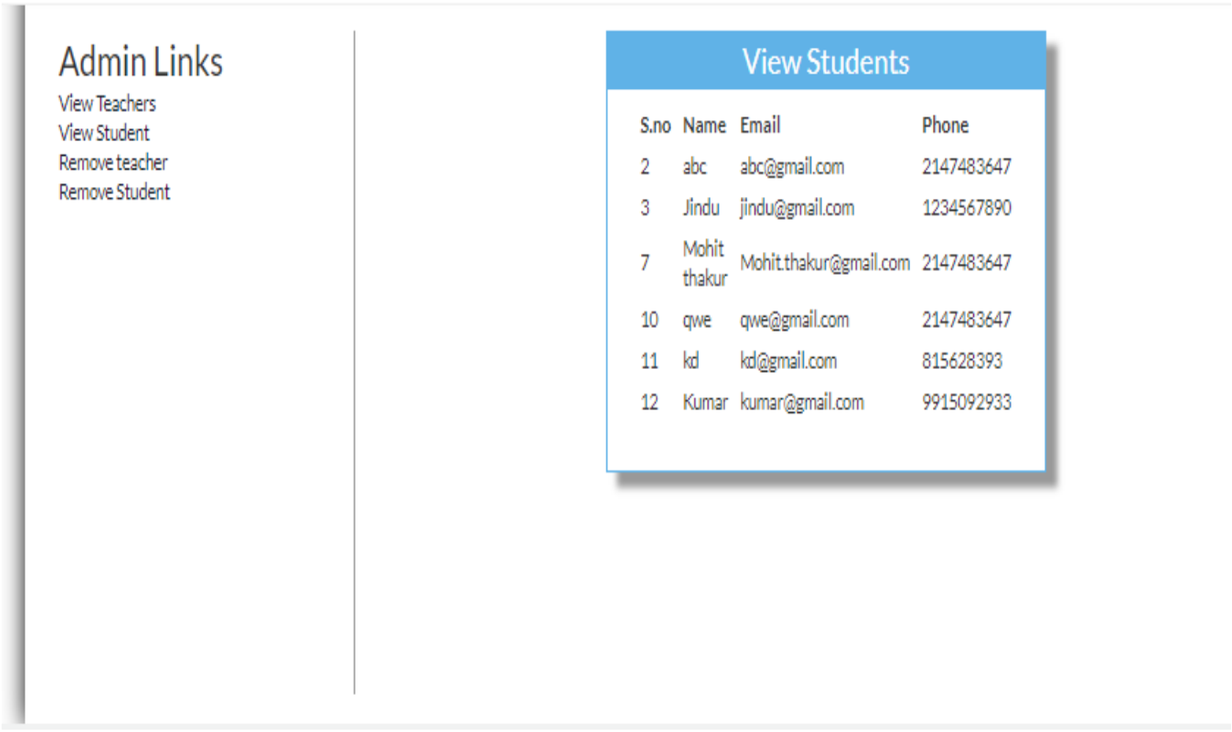
This is the main Page of the admin.

View Teachers



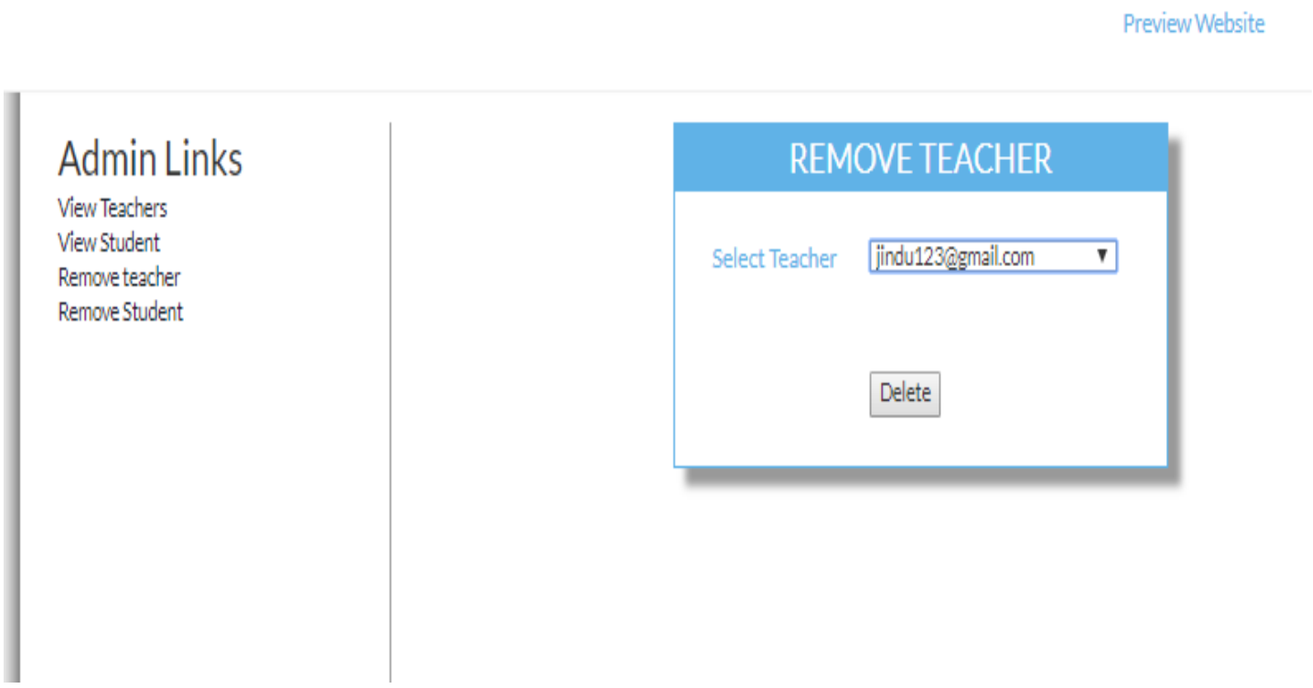
By clicking on View Teachers he can view all the teachers that has been enrolled in his website with their Email id and Phone number.

View Students



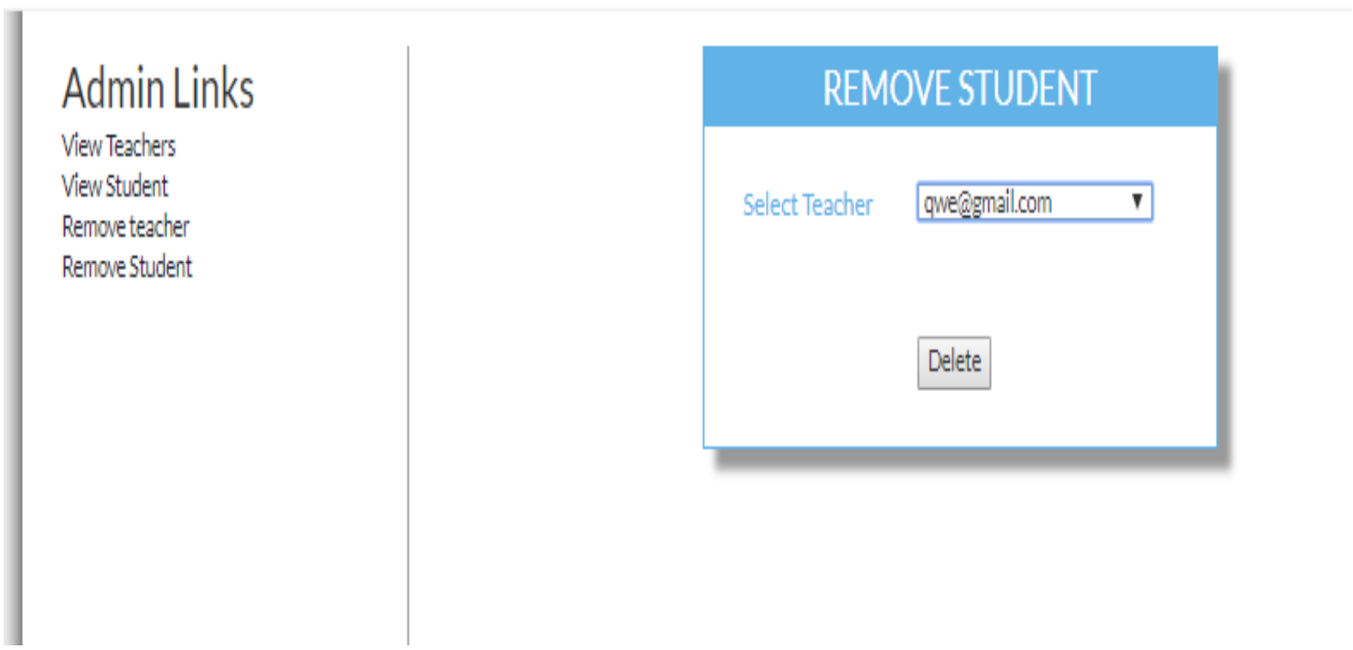
By clicking on View student he can view all the student that has been enrolled in the website with their email id and phone number

Remove Teachers



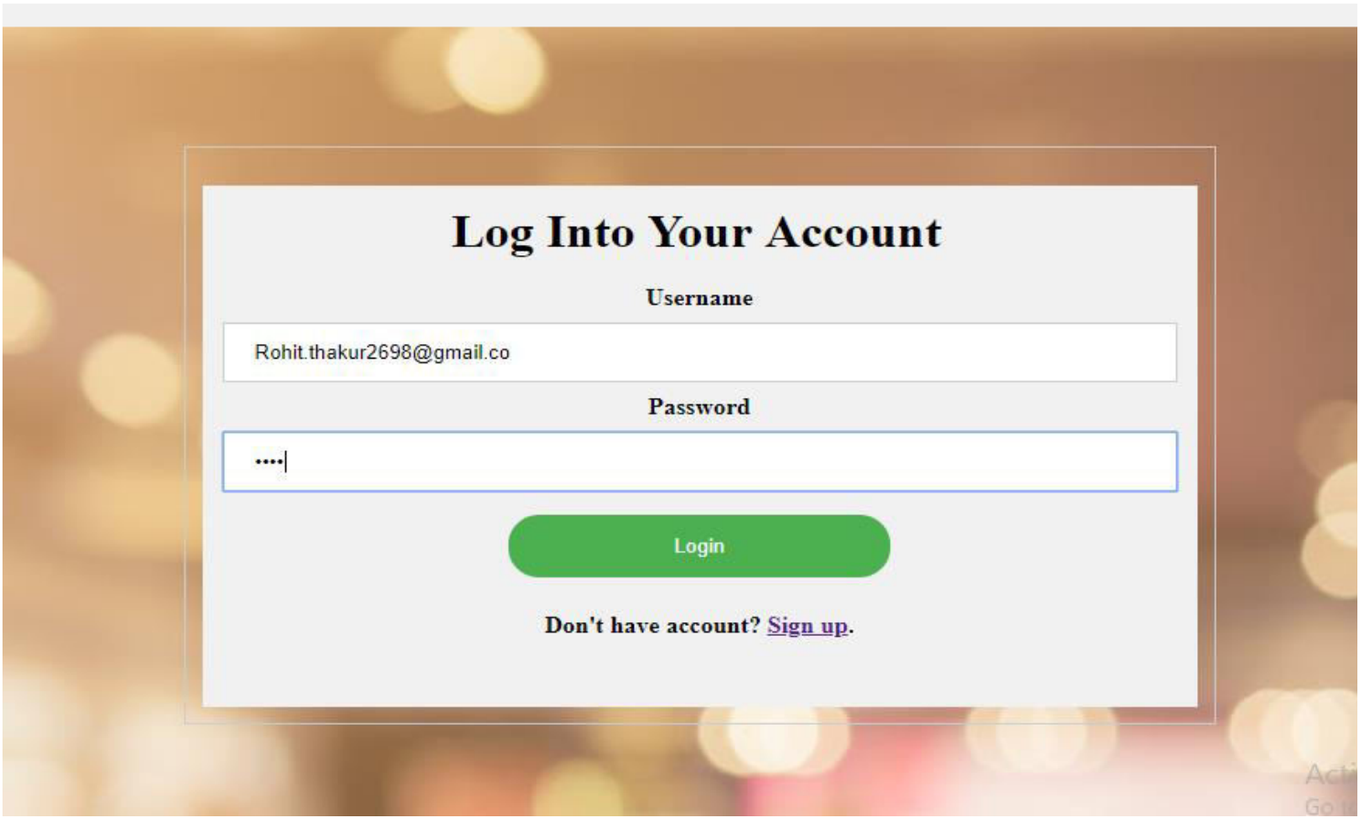
By clicking on the Remove teacher options he can remove the teacher from the database by just selecting the teacher email id and click on delete button.

Remove Student

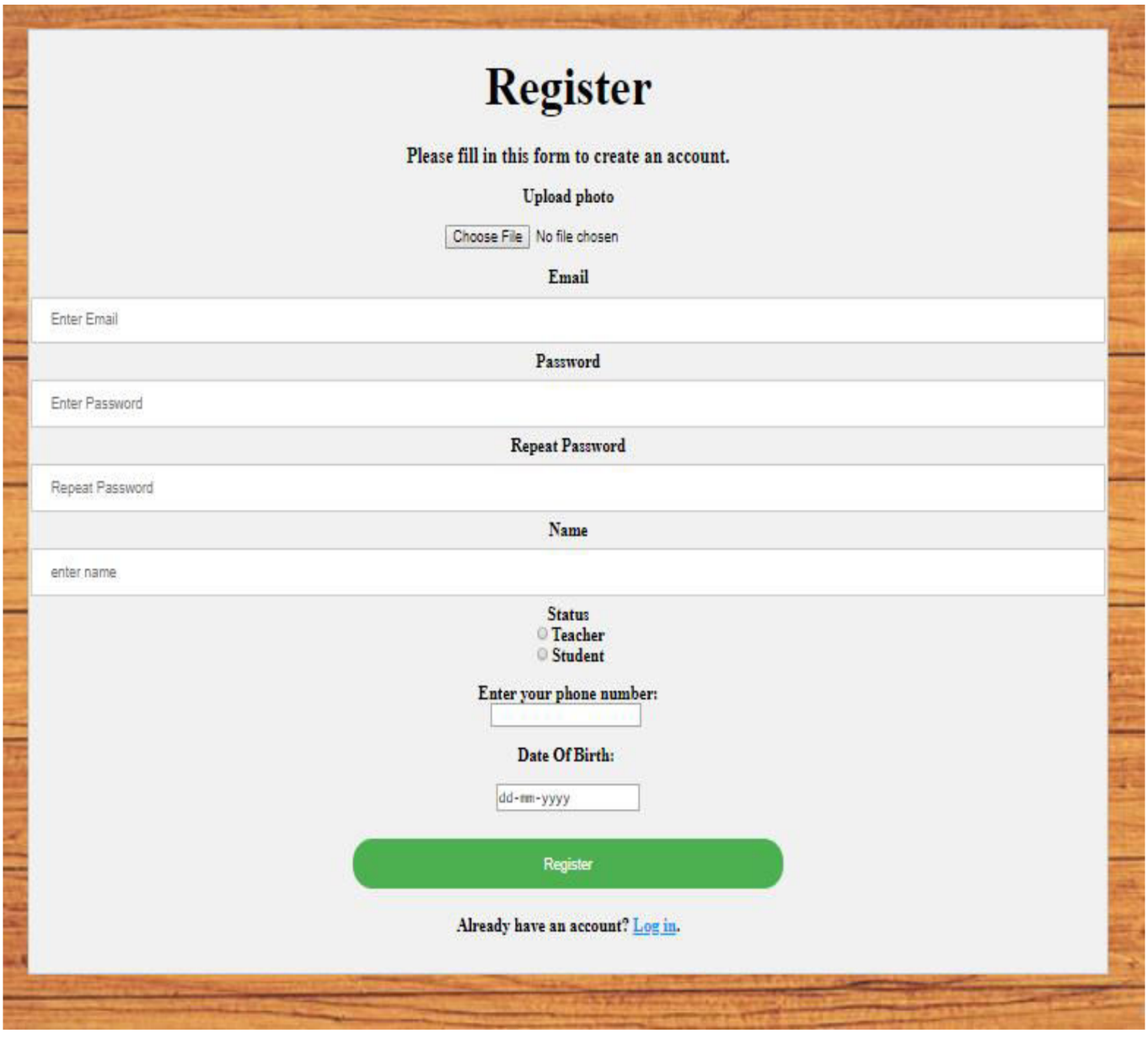


By clicking on the Remove Student option he can remove the Student from the database by just selecting the teacher email id and click on delete button.

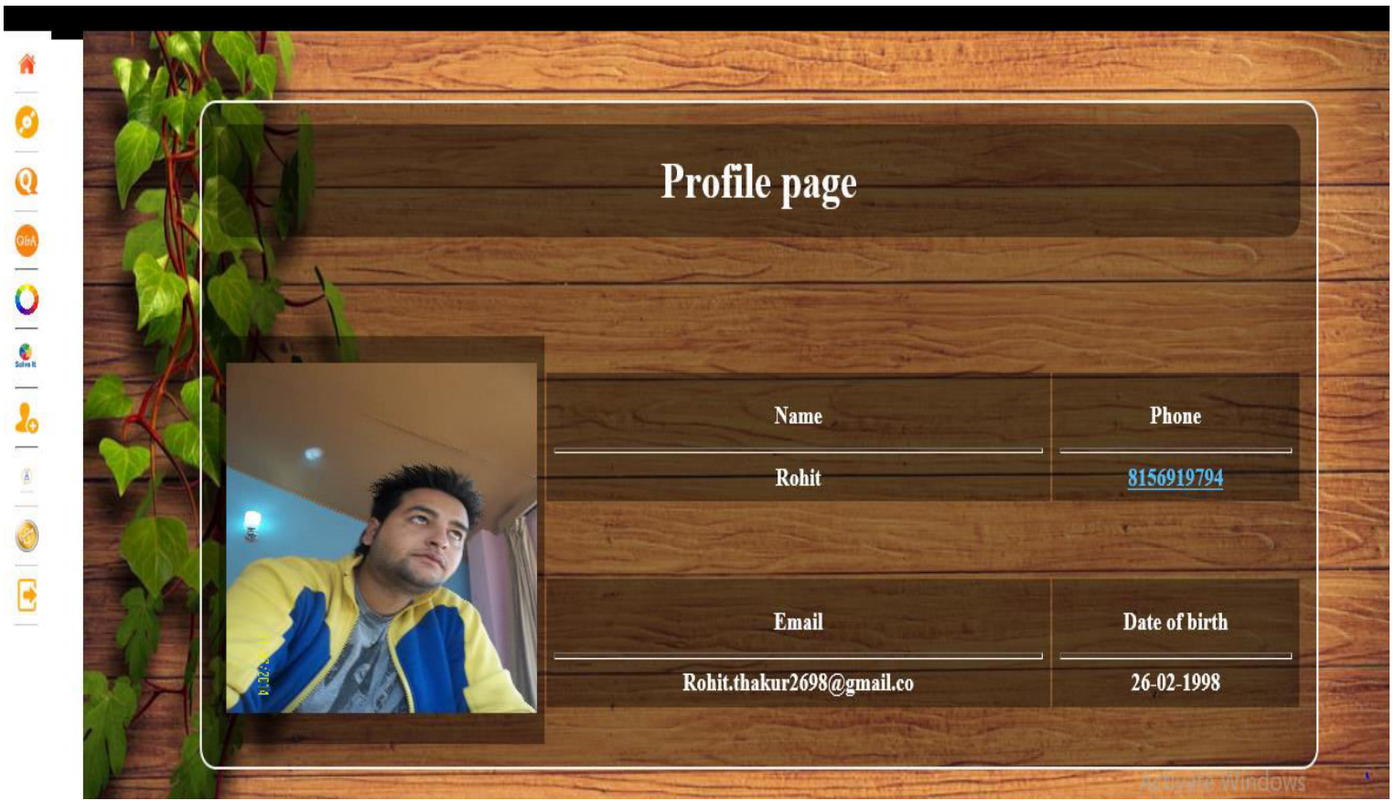
Login Page for Users (Teacher and Student)



Registration Page for First Time Users



Teacher HomePage



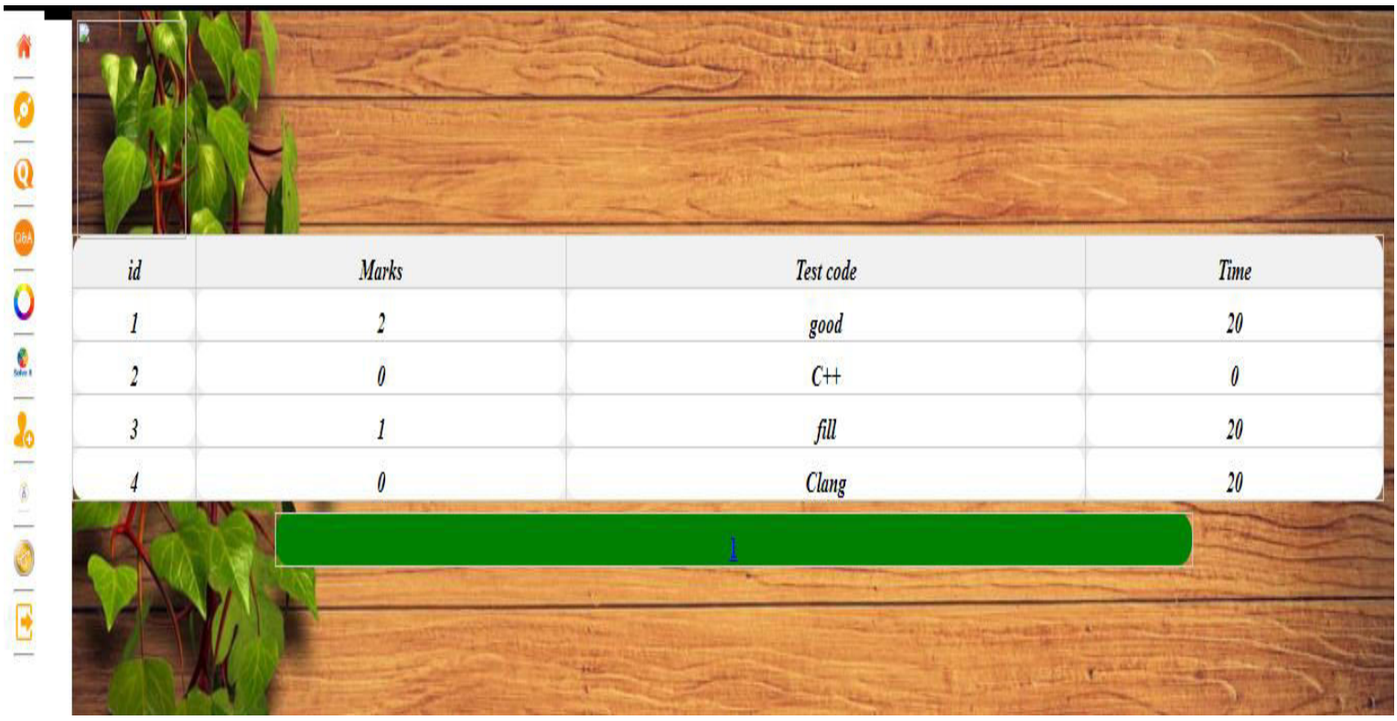
After Teachers get logged in to the website this is the first page that is the profile page Consisting of his name phone number, email id and Date of Birth.

Teacher's Module

1.See all students

Teacher are provided with different functionalities, the very first is the teacher can see all the students that has been enrolled in the website with their phone number as well as email id and Date of Birth.

a. Find Records of student

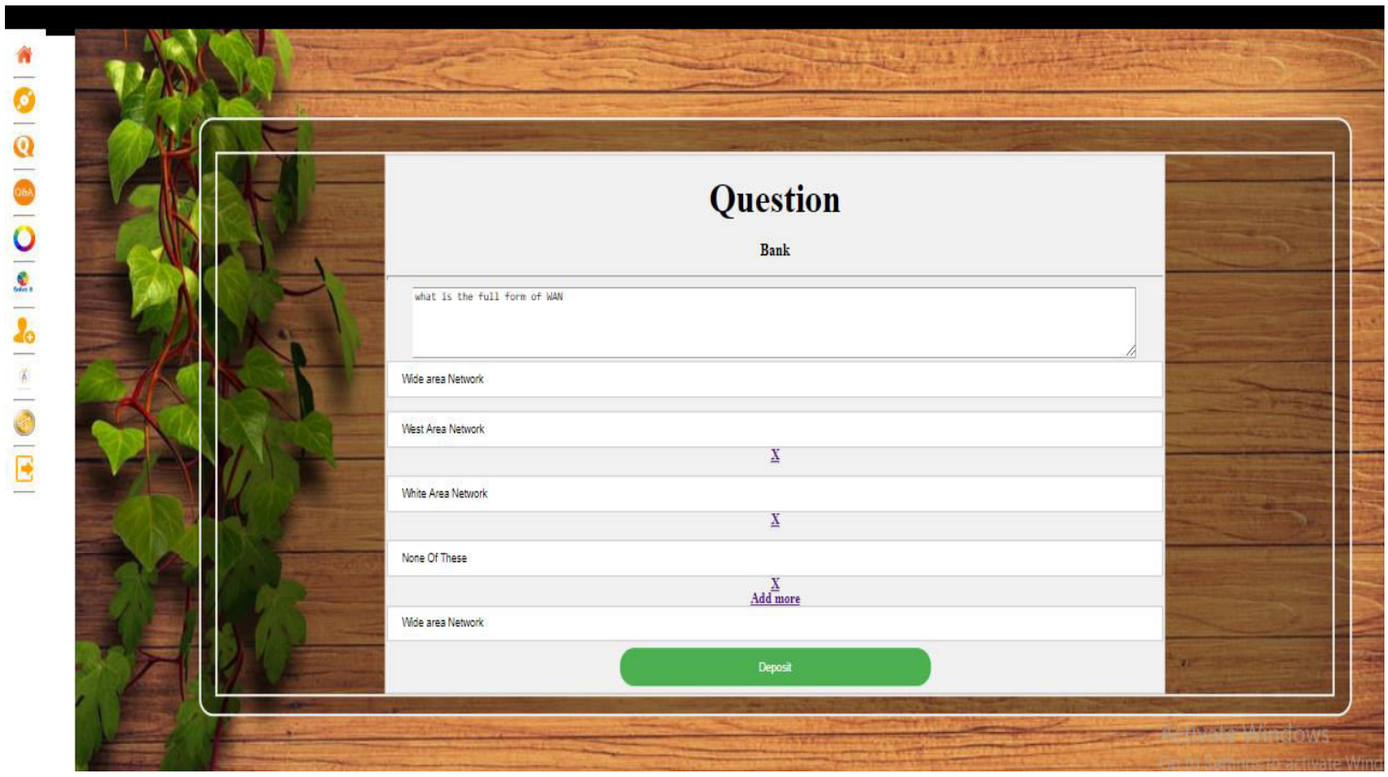


id	Marks	Test code	Time
1	2	good	20
2	0	C++	0
3	1	fill	20
4	0	Clang	20

1

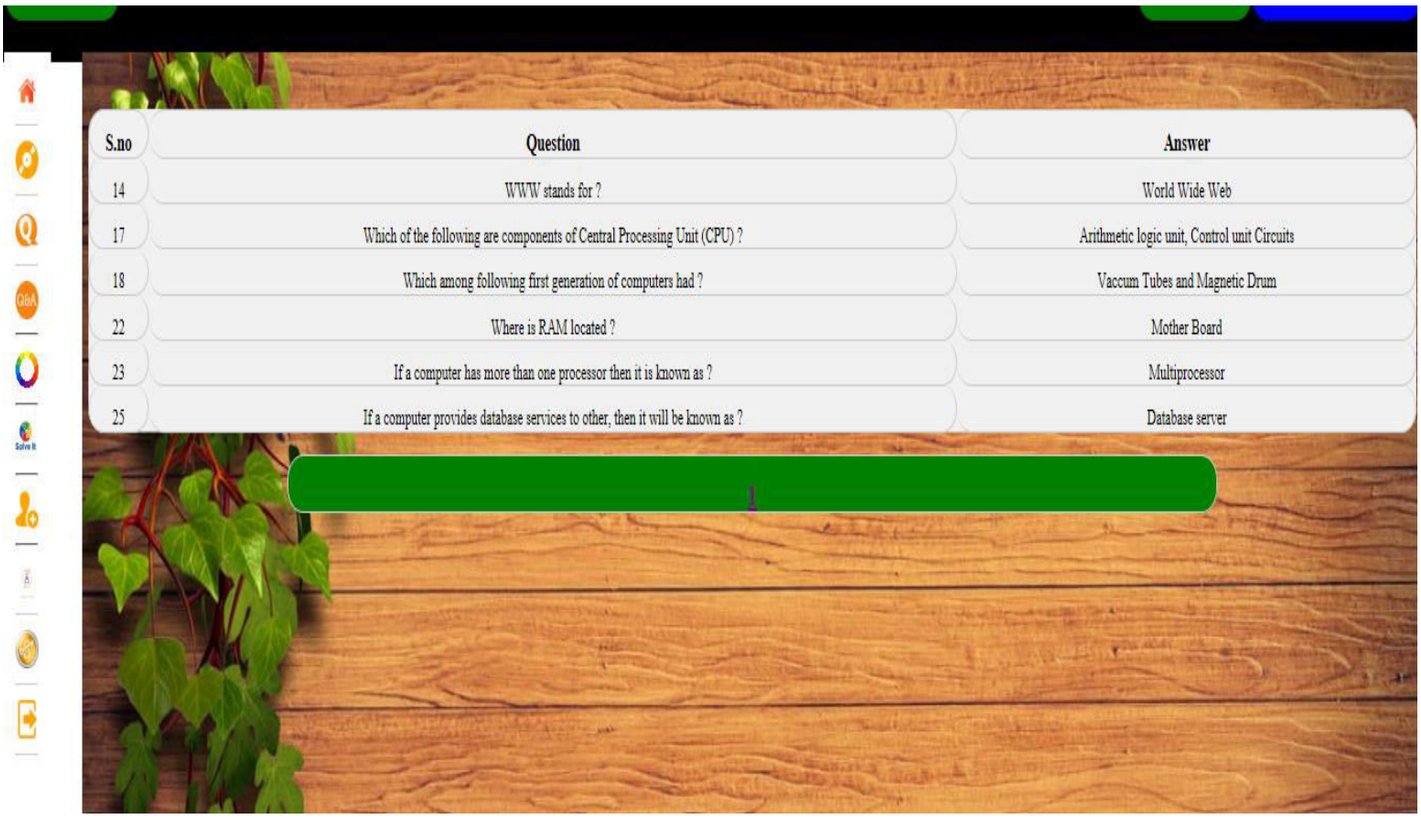
He can also see the records of the student i.e. how many test has been given by the student and how much marks he got.

2.Add question to the questionbank



Another Functionality that has been provide is that he can enter questions in the question bank with the options and answer so that it can be used to give this questions in the test.

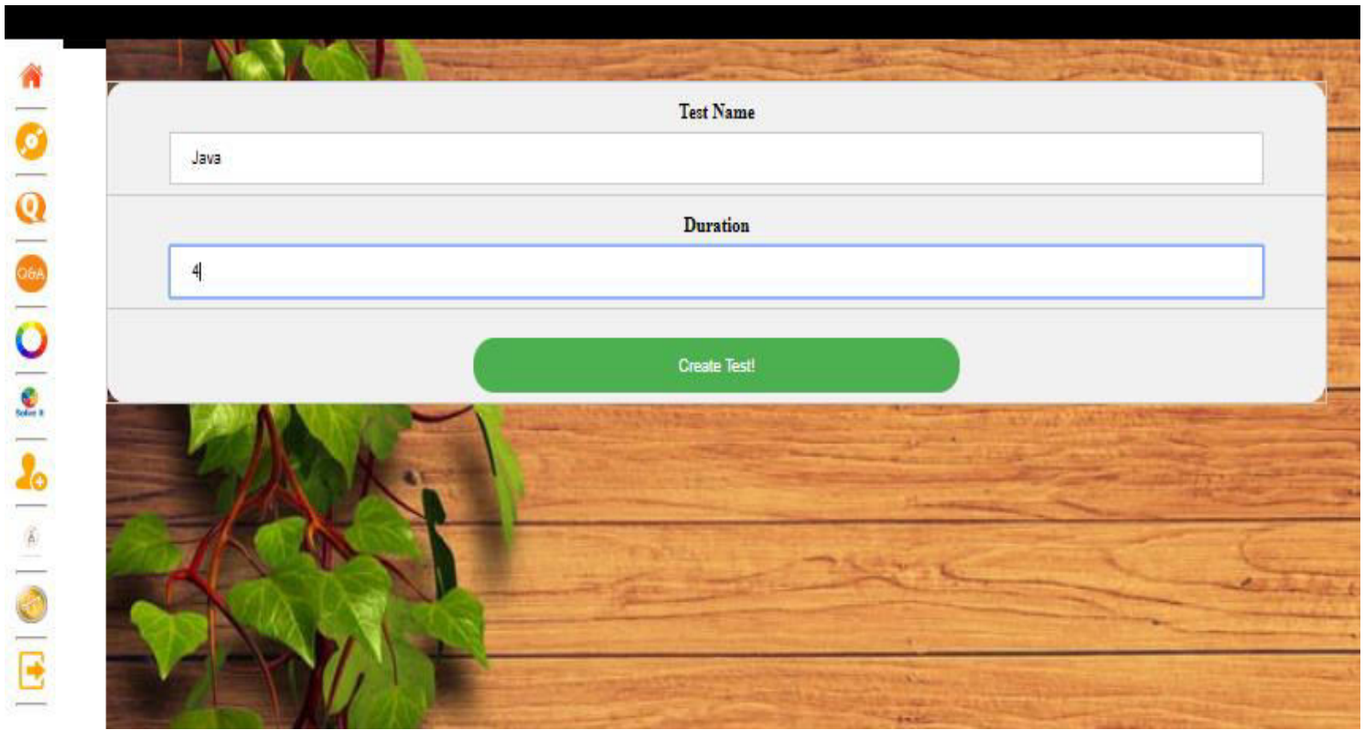
3.See all the questions In the question Bank



S.no	Question	Answer
14	WWW stands for ?	World Wide Web
17	Which of the following are components of Central Processing Unit (CPU) ?	Arithmetic logic unit, Control unit Circuits
18	Which among following first generation of computers had ?	Vaccum Tubes and Magnetic Drum
22	Where is RAM located ?	Mother Board
23	If a computer has more than one processor then it is known as ?	Multiprocessor
25	If a computer provides database services to other, then it will be known as ?	Database server

Teacher can see all the questions that are presently present in the Question Bank.

4.Create Test



Another Functionality that has been given to the teacher is that they can create Test by writing the test name and assign Duration of the test.

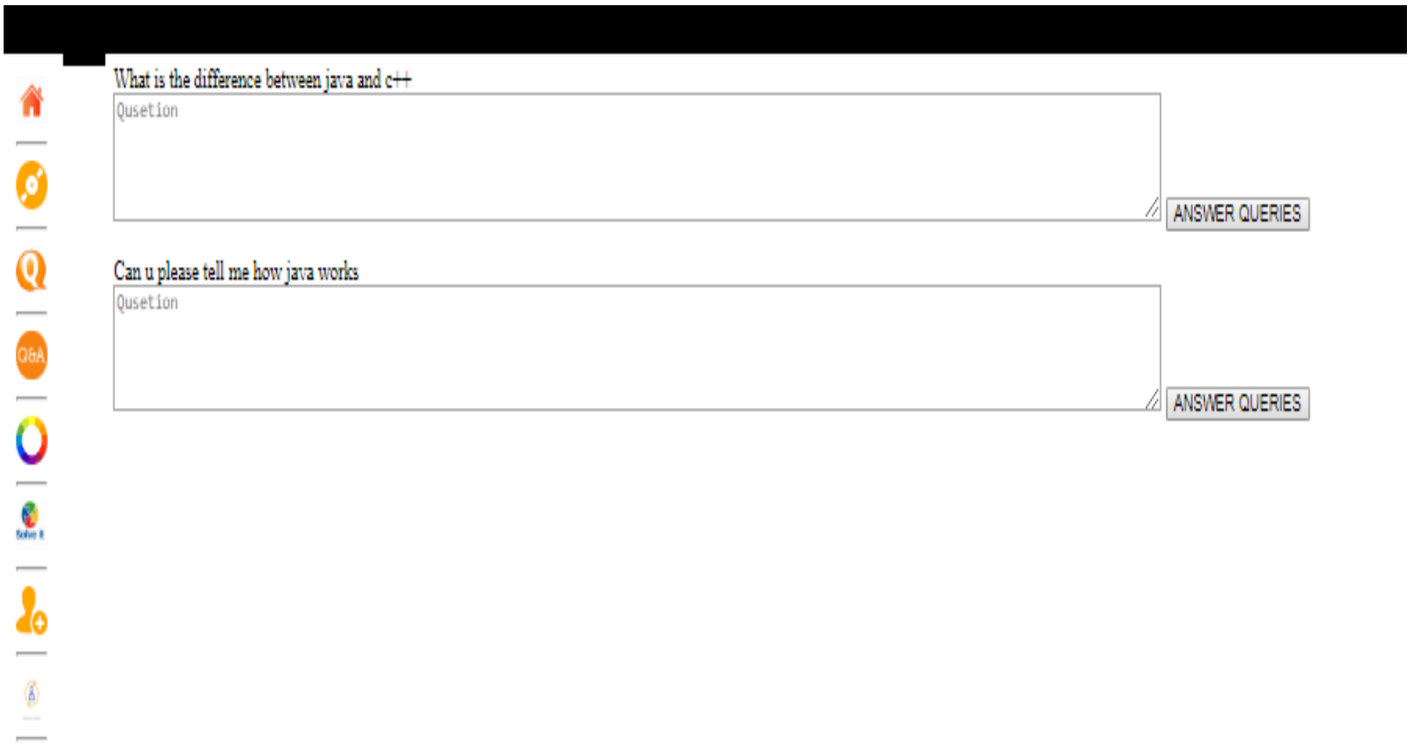
4. a. Select questions for the Test

After giving the test name and test duration teacher has to select the questions that he want to include in his test and then click on Create Test.

5. Answer Queries of student

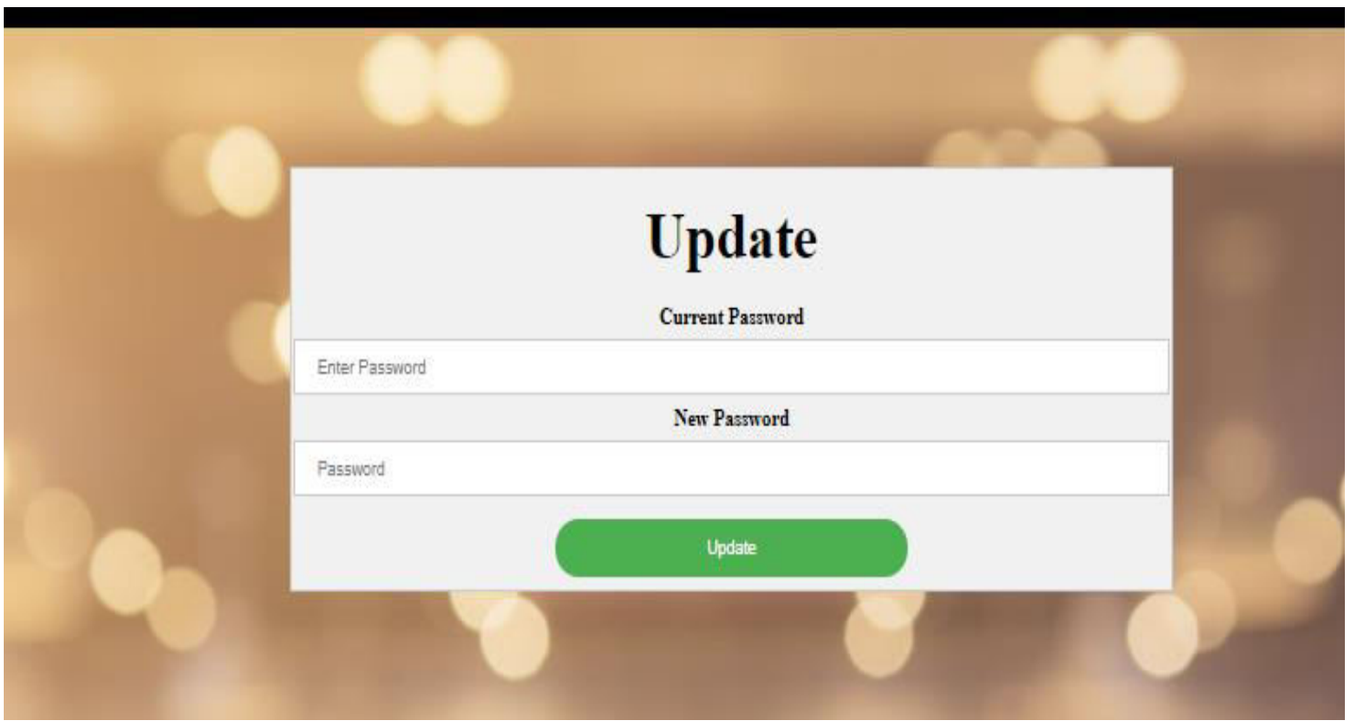
Teacher are allowed to answer the queries of the student by just going to the queries page where he will see all the students who asked the queries with their email id and teacher will select the student whose he want to answer the query and click on the ANSWER QUERY button

5. a. Answer Queries of selected student



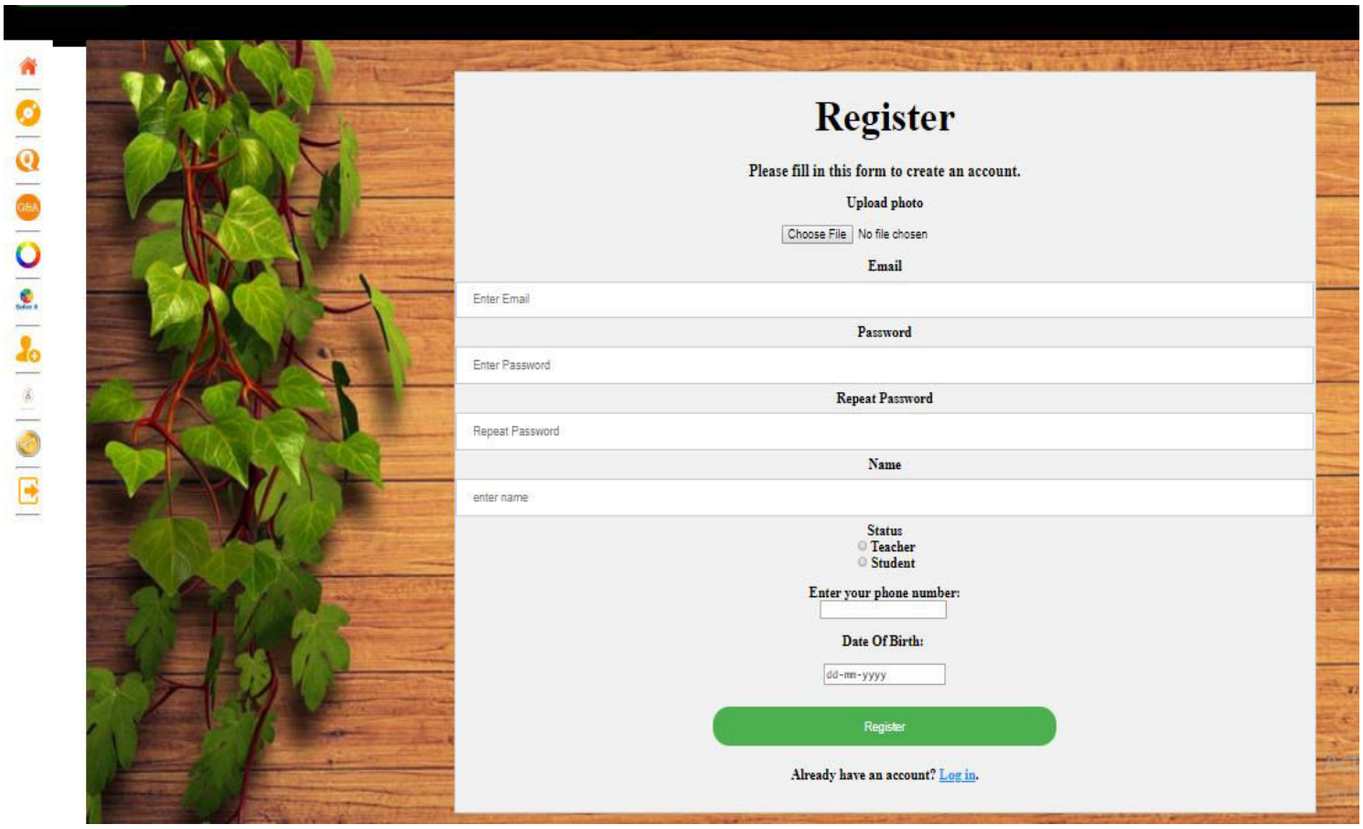
After the student selection a page will appear consist of all the queries that has been asked by the student and teacher can answer the queries of the student and post the answer by clicking on ANSWER QUERIES button.

7.Update His Password



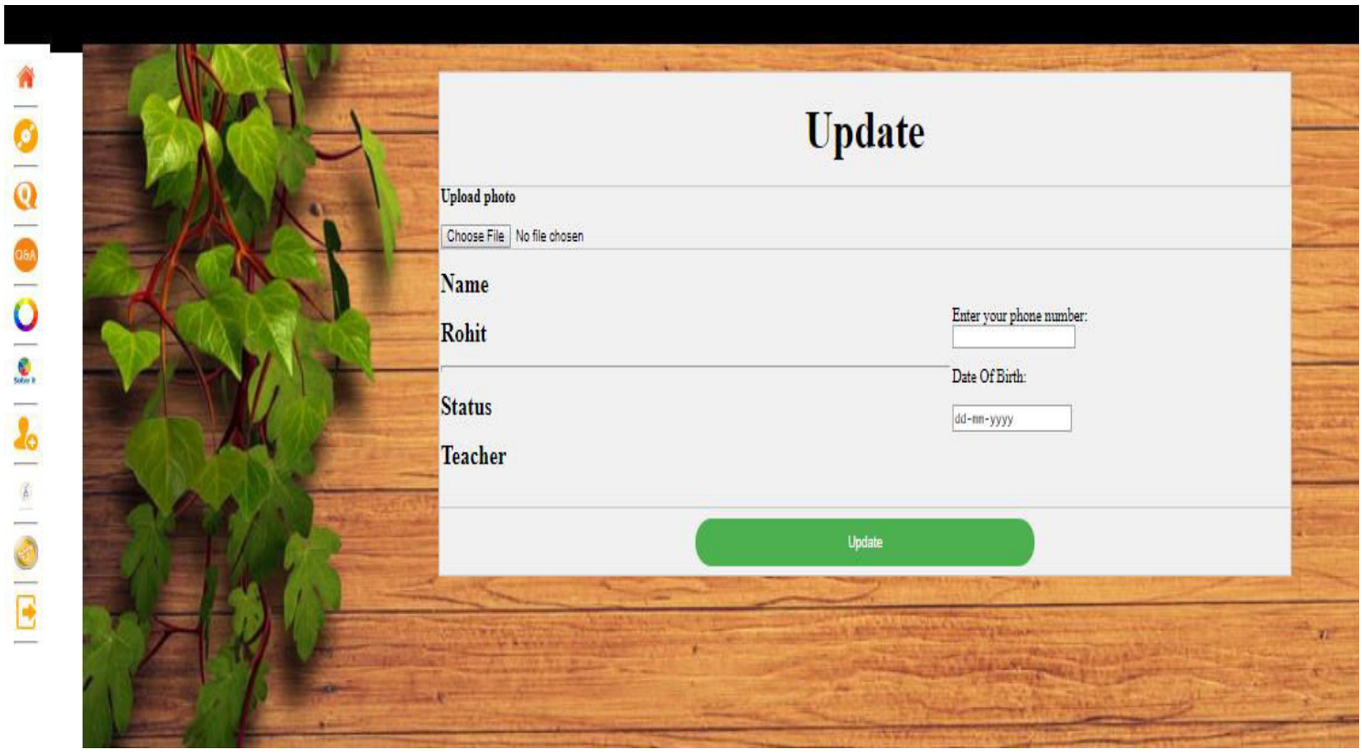
Teacher are allowed to change their password by just entering the current password and then new password. If current password match with the current password in the database, then only password get updated else it will show error message.

8.Register any student or teacher



Teacher are allowed to register any student or teacher that he want to and give the password to them so that they can also login to the website.

9.Update phone no and photo



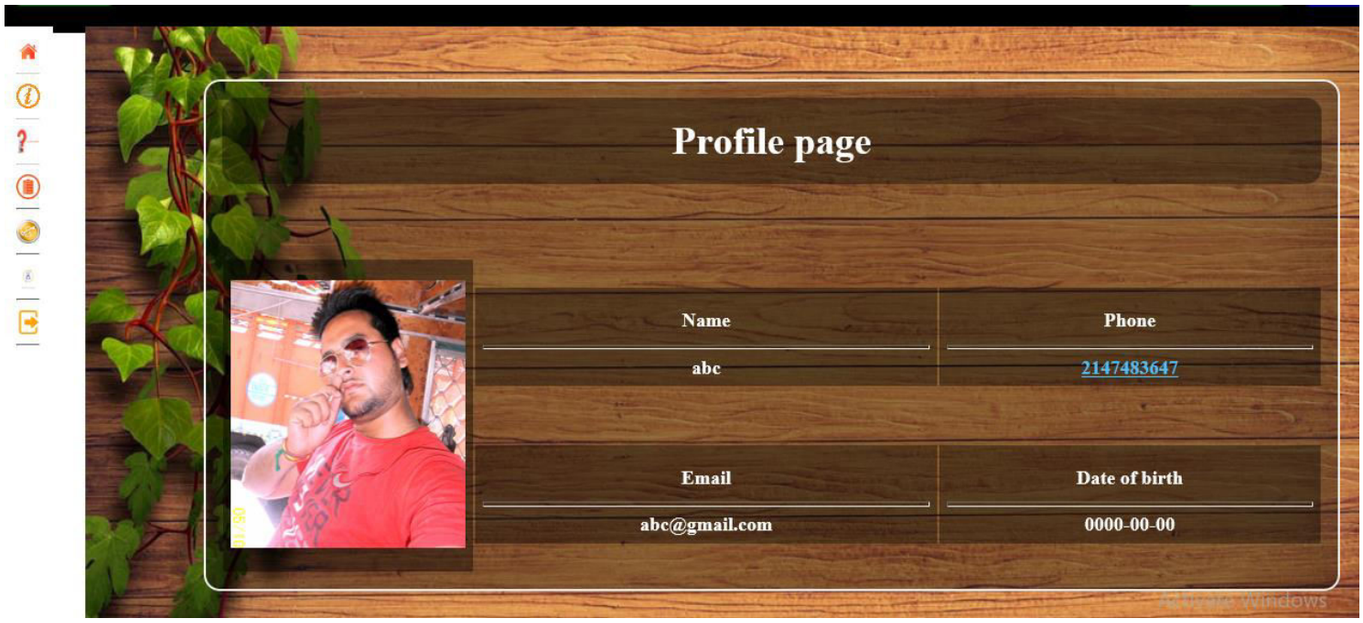
Teacher are allowed to update their Photo and Phone number whenever they want to or need to by just uploading photo and entering phone number and click on update button.

There are different functionalities provided to the Teachers such as :-

1.They can see or make a record of the students that are enrolled with them.
2.They can deposit their own questions to the Question Bank so that student can take benefits of that.
3.Teachers can see all the questions that are presently present in the Question Bank that is submitted by all the teachers around the world.
4.Teachers can create the test of their own by selecting questions from the Question Bank and assign Time duration for the test.
5.Teachers can answer queries of the student and thus can enhance their own knowledge.
6.Teachers are allowed to change their password as well as profile whenever they want.

Student's Module

1.Home Page/Profile page



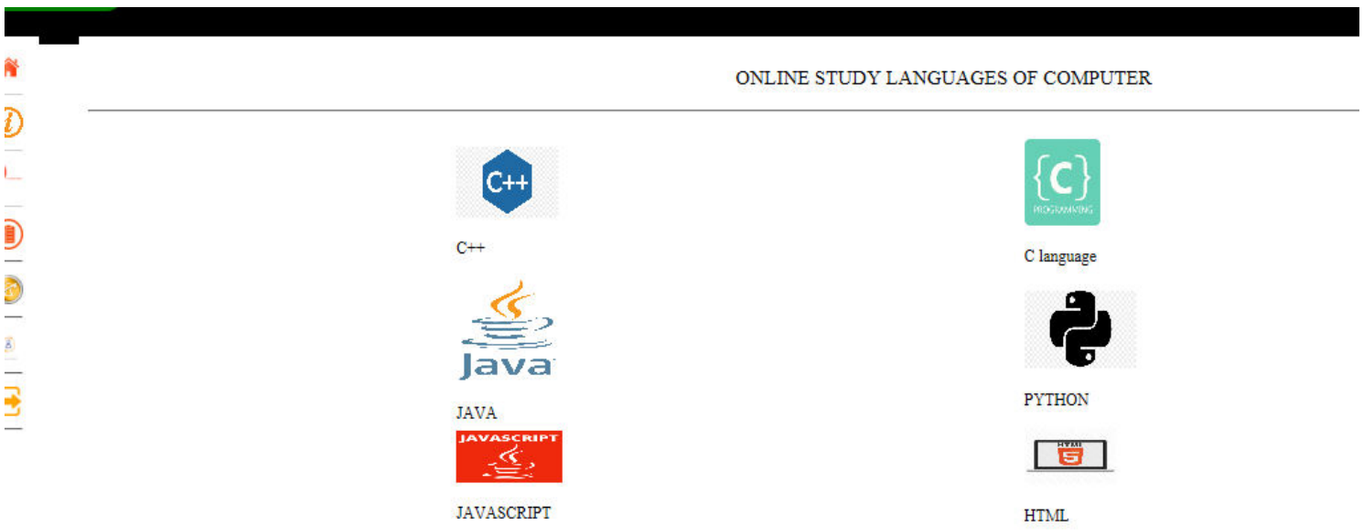
This is the first page whenever student login, it is the profile page where student photo, name, Phone number, Email id, and Date of birth is shown.

2.Show Record (Student can see his marks of all the test that he has given)

id	*Marks*	*Test code*	*Time*
1	*1*	*good*	*20*
2	*0*	*good*	*20*
3	*0*	*good*	*20*
4	*0*	*good*	*20*
5	*0*	*good*	*20*
6	*0*	*good*	*20*
7	*0*	*good*	*20*
8	*0*	*good*	*20*
9	*0*	*good*	*20*

This page contains all the marks of the student that a student given in the website and thus analyze himself.

2.Study Languages

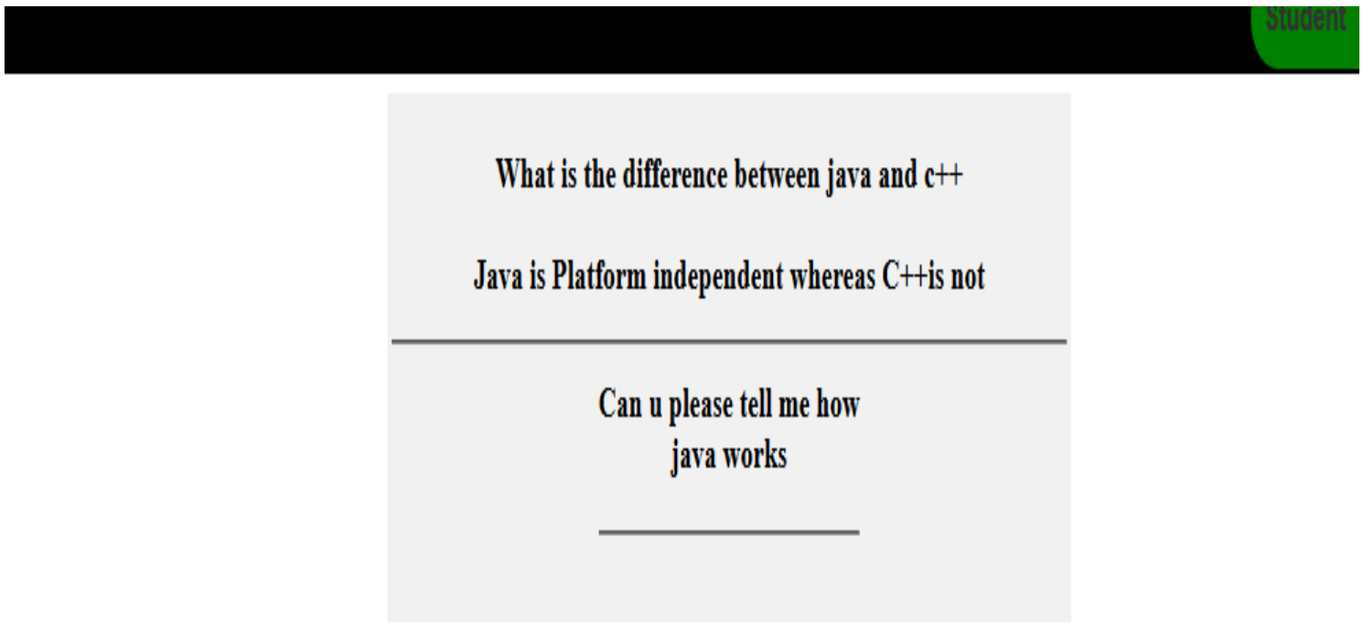


This is the page consist of Different languages that can be studied by the student. In order to study the particular language, he just need to click on the particular language.

3.Ask query from Experts

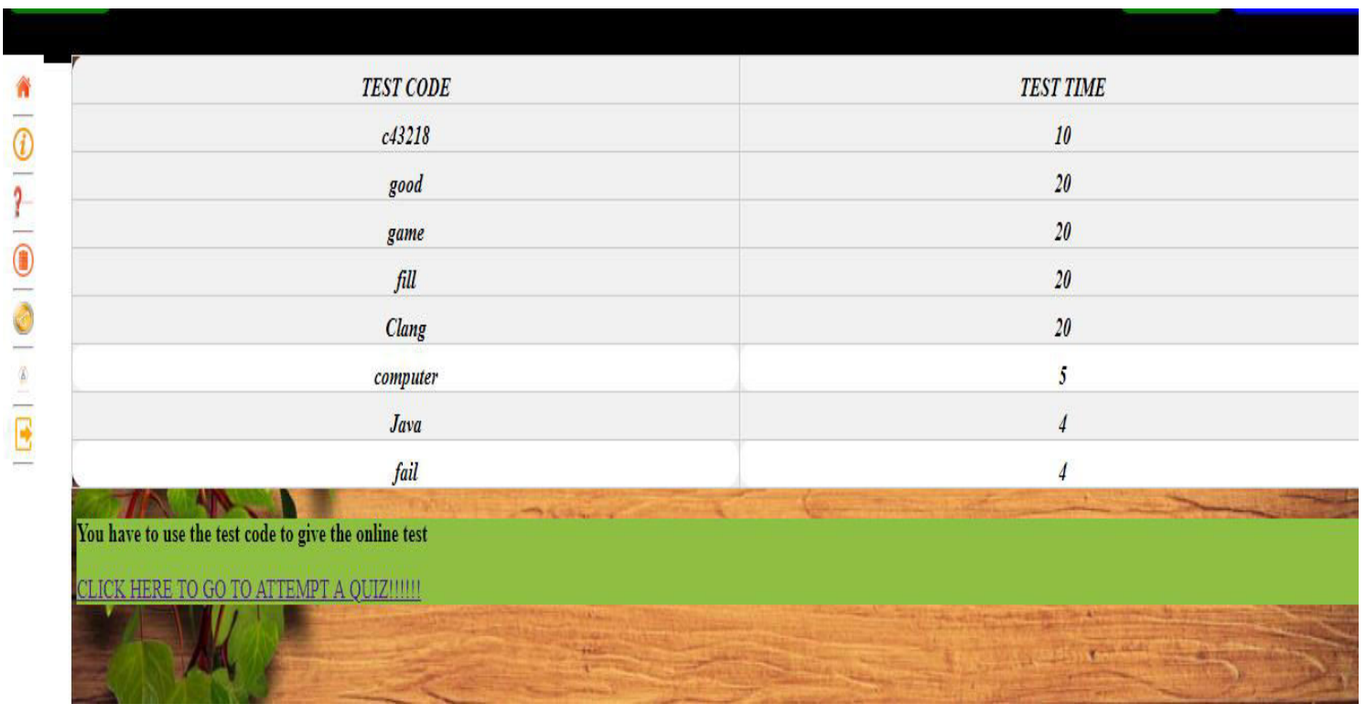
Student can ask query from the teacher by just going to the Query Bank and write their query and click on the Ask Query From Experts button and post queries to the teacher.

Show answer of the query



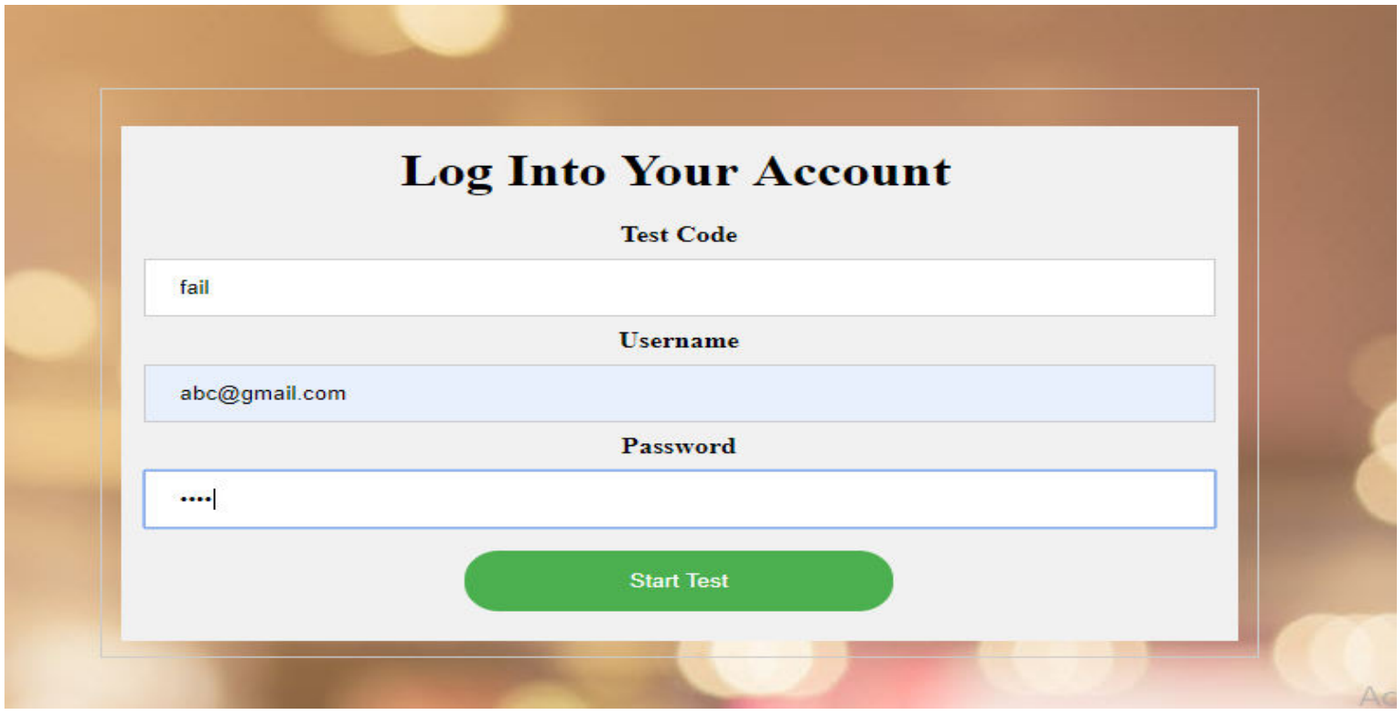
This page contains all the queries that has been asked by the student with the answer that has been given by the teacher.

4.Give Test



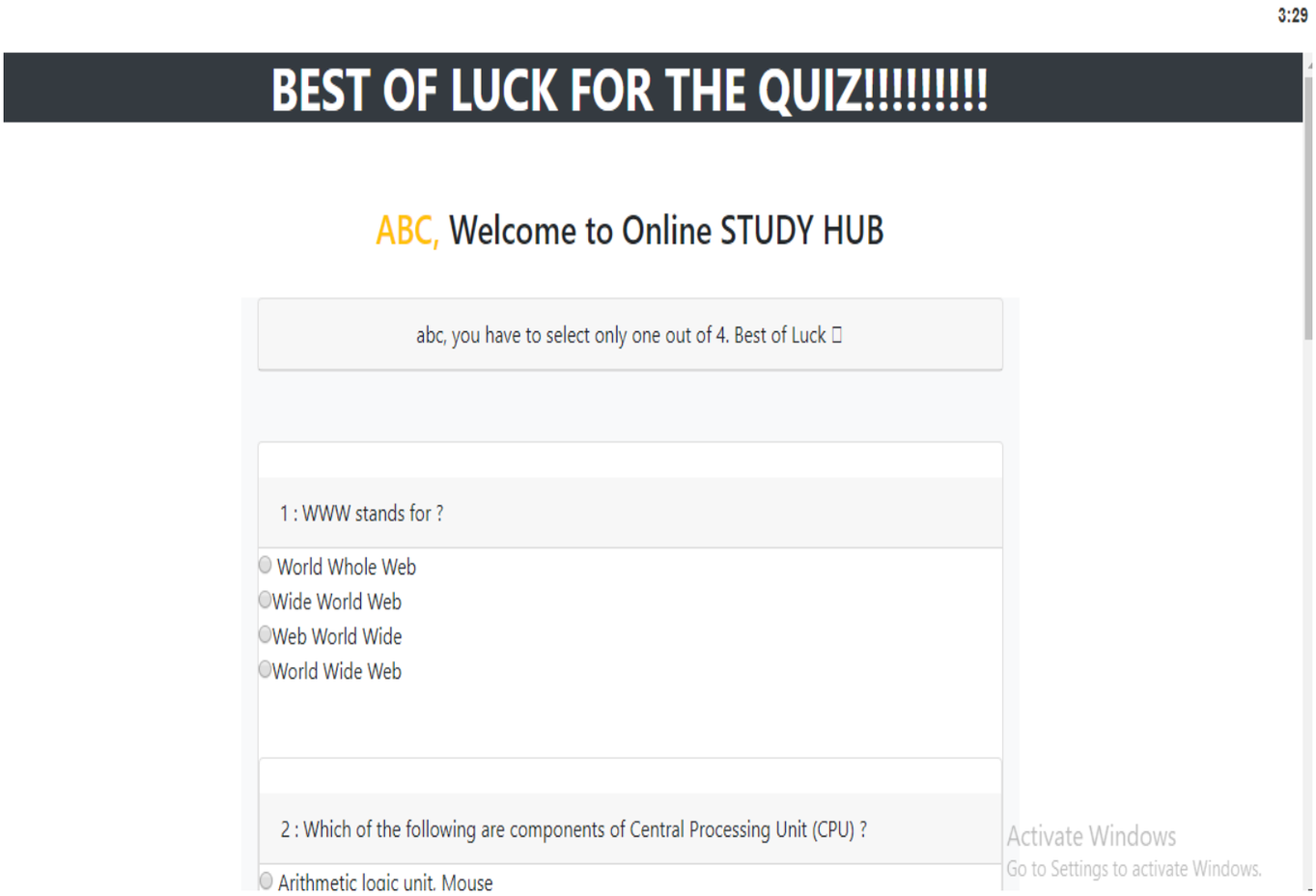
By clicking on the give Test option he will be provided with all the test that has been given by the teachers with the duration of the test he has to use the test code for giving the particular test.

6. a. Login for a quiz



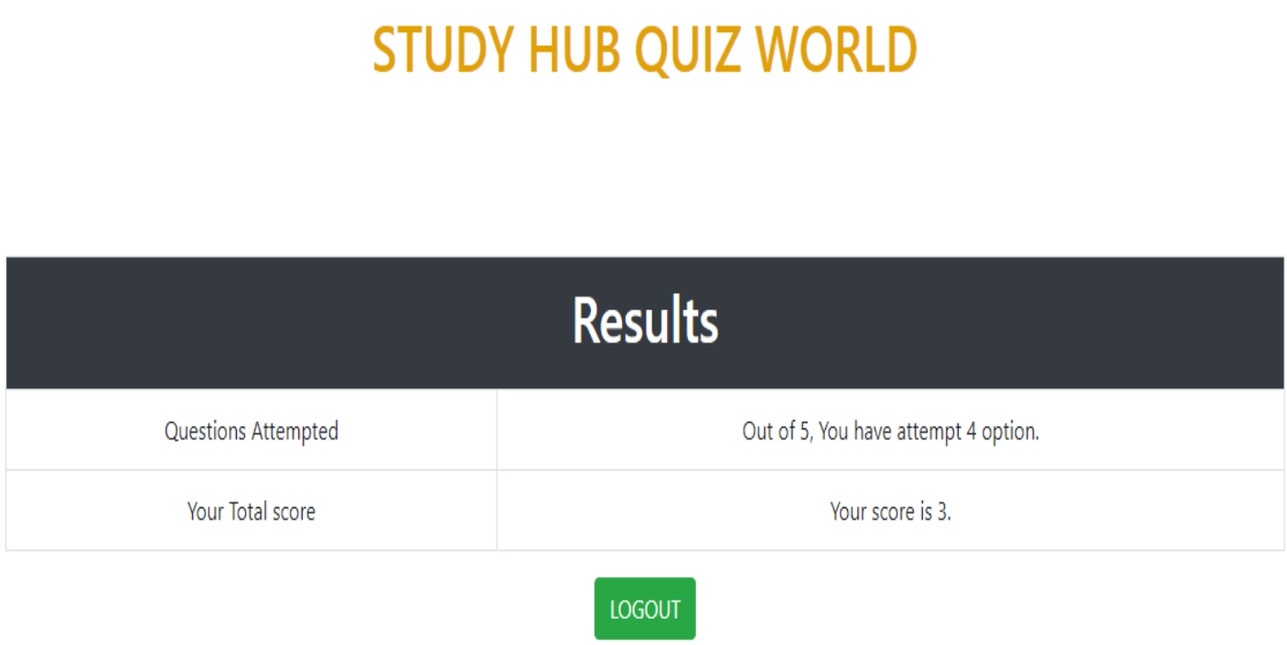
In order to start a test, he need to enter the test code and then the username and password. If all these matches to the database, then only he was allowing to give the test

b. Start Test



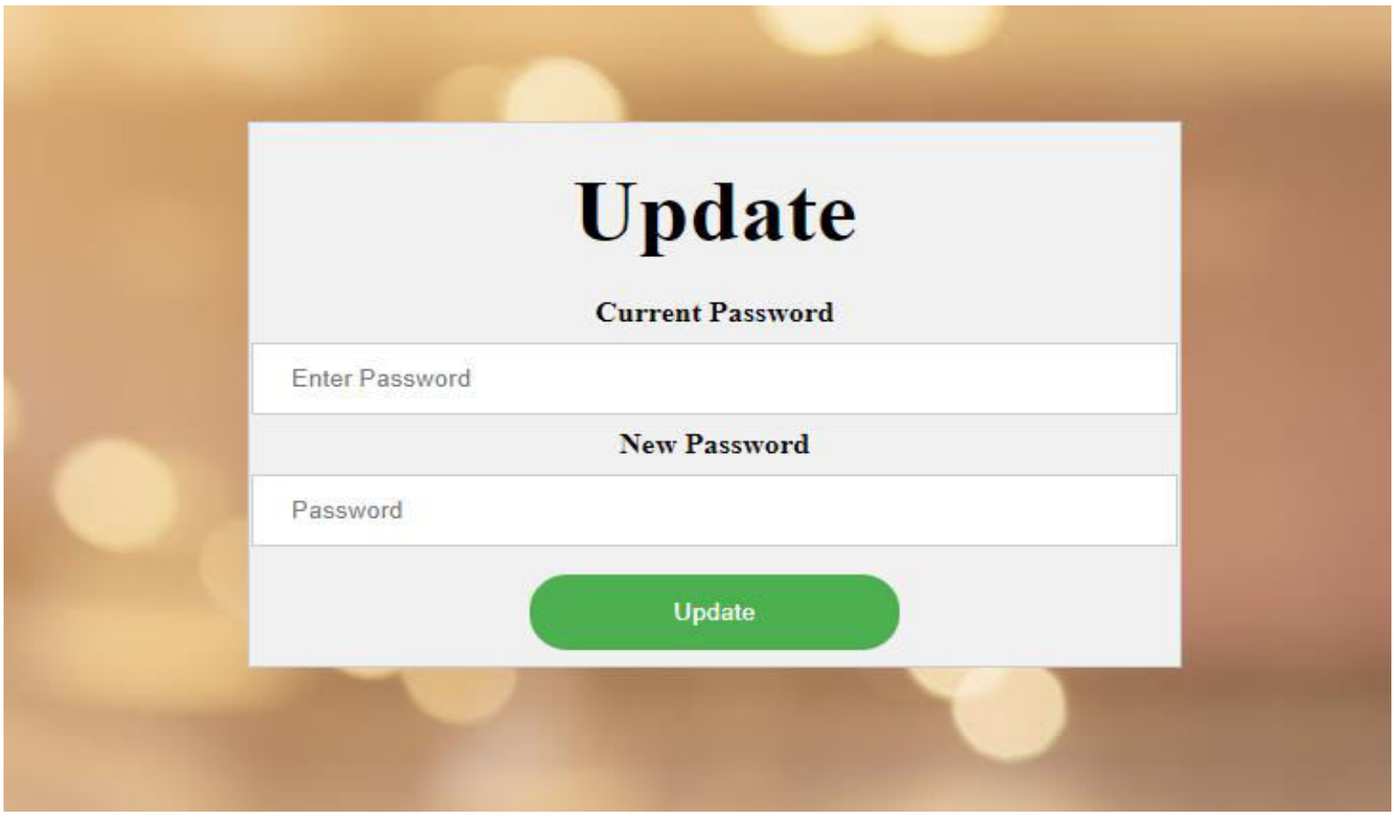
This is the main test that contain the name of the student who is giving the test as well as the test time countdown in the top right corner if he is not able to answer all the questions in the time the question paper gets submitted by its own.

c. Check Result



After student submit the Test the answers go to the database answers are checked and then result is returned to the user and the score is inserted in the database.

7. Update Password



Student can update their password by entering the current password and then entering the new password. If the current password matched with the database password, then only password get updated else error message is shown.

8. **Update Profile**

This is the page where student can update his Photo as well as his phone number by just uploading his new photo and entering new phone number and click on update button.

Functionalities provided to the student.

There are different functionalities provided to the Students such as :-

1.They can Study different languages.
2.They can deposit their own questions to the Question Bank so that student can take benefits of that.
3.Teachers can see all the questions that are presently present in the Question Bank that is submitted by all the teachers around the world.
4.Teachers can create the test of their own by selecting questions from the Question Bank and assign Time duration for the test.
5.Teachers can answer queries of the student and thus can enhance their own knowledge.
6.Teachers are allowed to change their password as well as profile whenever they want.

TESTING

The basic goal of software development is to produce software that has no errors or few errors. As testing is the last phase before the final software is delivered, it hold the tremendous responsibility of detecting any type of error that may have crept in the testing is the costliest activity in software development, it is important it be done efficiently. Different level of testing is used in the testing process. Level of testing aims test of different aspects of the system and acceptance testing. We have used all level of testing during the development of our project.
The stages in the testing process are:

Unit Testing

Unit testing was conducted first. Different modules of the software were tested against the specifications produced during design of the modules. Verification of the code produced during the coding phase was done. Each module was tested separately.
Unit testing focuses verification effort on the smallest unit of software design module. This uncovers errors within the boundary of a module. Unit testing is actually White box testing both the external things as well as the internal codes are tested. In testing, the interfaces are tested in order to ensure the proper flow of data in and out of the module. The boundary testing is done to ensure that the module keeps the limit of it. All independent paths are tested to ensure that all statements are tested at least once. At last the error path is also tested.

Unit testing comprises the set of tests performed by an individual programmer prior to integration of the unit into a larger system. There are four categories of test that can be performed on a program unit

Functional Unit
Performance Unit Stress
Unit
Structure Unit

Module Testing

A module is a collection of dependent components such as an object class, an abstract data type or some looser collections of procedures and functions. A module encapsulates related components so can be tested without other system modules.

Sub-system Testing

This phase involves testing collection of modules which have been integrated unto sub-systems. Sub-systems may be independently signed and implemented. The most common problems which arise in large software systems are sub-systems interface mismatches. The subsystem test process should therefore concentrate on the design of interface errors by rigorously exercising these interfaces.

System Testing

Then system testing was conducted. Here the entire software system was tested.
The reference document used for this process was requirement document and the goal was to see if the software meets its requirements
System testing includes the thorough testing of the product. System testing is actually a series of different tests whose primary purpose is to fully exercise the computer based system. The tests are recovery testing: this checks the recovery of the system when failure occurs. This is to ensure that there are recovery procedures for error occurrences.
System testing involves unit testing, integration testing, acceptance modules will be available for

integration into the evolving software product when needed. A test plan has the following steps:

Prepare test plan
Specify conditions for user acceptance
testing Prepare test data for program testing
Prepare test data for transaction
path testing Plan user testing
Compile/Assemble program
Prepare job performance aids
Prepare operational documents

Acceptance Testing

This is the final stage in the testing process before the system is accepted for optional use. The system is tested with data supplied by the system procurer rather than simulated test data. Acceptance test may reveal errors and omissions in the system requirements definition because the real data exercises the system in different ways from the test data. Accepting test may also reveal requirements problems where the system's facilities do not really meet the user's needs or the system performance is unacceptable.

Test case design

We know, test cases are integral part of testing. So we need to know more about test cases and how these test cases are designed. The most desired or obvious expectation from the test cases is that it should be able to find most errors with the least amount of time and effort.
A software product can be tested in two ways. In first approach, only overall functioning of the product is tested. Inputs are given and outputs ate checked. This approach is called black box testing. It does not care about the internal functioning of the product.
The other approach is called white box testing. Here the internal functioning of the product is tested. Each procedure is tested for its accuracy. It is more intensive than black box testing. But for the overall product both these techniques are crucial. There should be sufficient number of tests in both categories to test the overall product.

Basic methods of Testing

White box testing

White box testing is performed to reveal problems with the internal structure of a program. This requires the tester to have detailed knowledge of the internal structure. A common goal of white box testing is to ensure a test case exercises every path through a program. A fundamental strength that all white box strategies share is that the entire software implementation is taken into account during testing, which facilitates error detection even when software specification is vague or incomplete. The effectiveness or thoroughness of white box testing is commonly expressed in terms of test or code coverage metrics, which measure the fraction of code exercised by test cases.

Basic Path Testing

It is a white box technique. It was proposed by Tom McCabe. These tests guarantee to execute every statement in the program at least one time during testing. Basic set is the set of all execution paths of a procedure.

Black Box Testing

Black box tests are performed to access how well a program meets its requirements, looking for incorrect or missing functionality. Functional tests typically exercise code with valid or nearly valid input for which the expected output is known. This includes concepts such as 'boundary values'.

Integration Testing

One of the most difficult aspects of software development is the integration and testing of large untested subsystems the integrated system frequently fails in significant and mysterious ways and it is difficult to fix it.Integration testing exercises several units that have been combined to form a module, subsystem or system. Integration testing focuses on the interfaces between units, to make sure the units work together. The nature of this phase is certainly 'white box', as we must have knowledge of the units to recognize if we have been successful in focusing them together in the module.

TEST CASES

1] **Test case For Log In**:

Project : - Study Hub.
Objective : - To check whether user name & Password valid or invalid.
Prepared By: - Team-P
Page : - Login Screen.
Test Data : - User="admin" and Password ="123.4".

Sr No.	Steps	Data	Excepted Data	Actual result	Status
1	Enter user name, password and press submit button		Should navigate to admin's page		Pass
2	Enter User name and press submit button.		Should Display message box 'please fill all the fields'		Pass
3	Enter password and press submit button		Should Display message box 'please fill all the fields'		Pass
4	Enter blank user name and blank password and press submit button.		Should display a message box 'please fill all the fields'		Pass
5	Enter wrong user and password.		Should display a message box 'Invalid ID or Password'		Pass

2] **Test case For Navigation in admin panel**:

Project : - Study Hub.
Objective : - To check whether different hyperlinks are working properly or not.
Prepared By: - Team-P
Page : - home page (default page).

Sr No.	Steps	Data	Excepted Data	Actual Result	Status
1	Click on View Teacher Hyperlink		Should display all Teachers in the website		Pass
2	Click on View Student Hyperlink		Should display all Students in the website		Pass
3	Click on Remove teacher Hyperlink		Should remove the selected Teacher		Pass
4	Click on Remove Student Hyperlink		Should remove the selected Student		Pass
5	Click on logout hyperlink menu		Should logout respective login page		Pass

3] **Test case For Navigation in Teacher panel**:

Project : - Study Hub.
Objective : - To check whether different hyperlinks are working properly or not.
Prepared By: - Team-P
Page : - home page (default page).

Sr No.	Steps	Data	Excepted Data	Actual Result	Status
1	Click on Profile page Hyperlink		Should display all details of the person		Pass
2.	Click on see record Hyperlink		Should open a particular page in the website		
3.	Click on question bank Hyperlink		Should open a particular page in the website		Pass
4.	Click on add test Hyperlink		Should open a particular page in the website		Pass
5.	Click on answer query Hyperlink		Should open a particular page in the website		Pass
6.	Click on make test hyperlink menu		Should open a particular page in the website		Pass
7.	Click on Update password hyperlink		Should open a particular page in the website		Pass
8.	Click on Update Profile hyperlink		Should open a particular page in the website		Pass
9.	Click on logout Hyperlink		Should get logout from the page.		Pass

4] **Test case For Navigation in Student panel**:

Project : - Study Hub.
Objective : - To check whether different hyperlinks are working properly or not.
Prepared By: - Team-P
Page : - home page (default page).

Sr No.	Steps	Data	Excepted Data	Actual Result	Status
1	Click on Profile page Hyperlink		Should display all details of the person		Pass
2.	Click on see record Hyperlink		Should open a particular page in the website		
3.	Click on Study Language Hyperlink		Should open a particular page in the website		Pass
4.	Click on ask query Hyperlink		Should open a particular page in the website		Pass
5.	Click on give test hyperlink menu		Should open a particular page in the website		Pass
6.	Click on Update password hyperlink		Should open a particular page in the website		Pass
7.	Click on Update Profile hyperlink		Should open a particular page in the website		Pass
8.	Click on logout Hyperlink		Should get logout from the page.		Pass

IMPLEMENTATION

INTRODUCTION:

Implementation is the stage in the project where the theoretical design is turned into the working system and is giving confidence to the new system for the users i.e. will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementation, design of method to achieve the changeover, an evaluation, of change over methods. A part from planning major task of preparing the implementation is education of users. The more complex system is implemented, the more involved will be the system analysis and design effort required just for implementation. An implementation coordinating committee based on policies of individual organization has been appointed. The implementation process begins with preparing a plan for the implementation for the system. According to this plan, the activities are to be carried out, discussions may regarding the equipment has to be acquired to implement the new system.

Implementation is the final and important phase. The most critical stage is in achieving a successful new system and in giving the users confidence that the new system will work and be effective. The system can be implemented only after thorough testing is done and if it found to working according to the specification. This method also offers the greatest security since the old system can take over if the errors are found or inability to handle certain types of transaction while using the new system.

At the beginning of the development phase a preliminary implementation plan is created to schedule and manage the many different activities that must be integrated into plan. The implementation plan is updated throughout the development phase, culminating in a changeover plan for the operation phase. The major elements of implementation plan are test plan, training plan, equipment installation plan, and a conversion plan.

There are three types of implementation:

Implementation of a computer system to replace a manual system.

Implementation of a new computer system to replace an existing system.

Implementation of a modified application to replace an existing one, using the same computer. Successful implementation may not guarantee improvement in the organization using the new system, but improper installation will prevent it. It has been observed that even the best system cannot show good result if the analysts managing the implementation do not attend to every important detail. This is an area where the systems analysts need to work with utmost care.

IMPLEMENTATION TOOLS:

- **Training personnel**
- **Conversion Procedures**

Post-implementation review

Training personnel

Training of Personnel involved with system.Even well designed system can succeed or fail because of the way they are operated and used. Therefore, the quality of training received by the personal involved with the system in various capacities helps or hinders and may even prevent the successful implementation of management information system.

Those who are directly or indirectly related with the system development work must know in detail what must know in detail what their roles will be, how they can make efficient use of the system and what the system will or will not do for them. Both system operators and users need training.

System Operators Training

Running of the system successfully depend on the personnel working in the Computer Centre. They are Responsible for providing the necessary support. Their training must ensure that they are able to handle all possible operations, both routine and extra-ordinary in nature.

If the system calls for the installation of new equipment, such as new computer system, special terminals or different data entry machines, the operators training should include such fundamentals as how to turn the equipment on and use it, how to power off and a knowledge of what constitutes normal operations. The operators should also be trained on different type of malfunctioning, how to recognize them and what steps should also be taken whenever they arise.

User Training

User may be trained on use equipment, particularly in the case where, e.g. a microcomputer is in use and individual involved is both operator and user. In such cases, user must be given training on how to operate and user. In such cases, user must be given training on how to operator the system also. Questions that may be trivial to the analyst, such as how to turn on a terminal, how to insert a diskette into a micro-computer or when it is safe to turn off equipment without danger of data loss are significant problems to new users who are not familiar.

In most of the cases user training deals with the operation of the system itself, with proper attention given to data handling techniques. It is imperative that users be properly trained in methods of entering transaction, editing data, formulating inquiries, deleting and inserting of records. No training is complete without familiarizing users with simple systems maintenance activities. Weakness in any aspect of training may lead of awkward situation that creates user frustration and error.

Conversion Methods

A conversion is the process of changing from the old system to the new one. It must be properly planned and executed. Four methods are common in use. They are Parallel Systems, Direct Conversion, Pilot System and Phase In method. Each method should be considered in the light of the opportunities that it offers and problems that it may create. In general, system conversion should be accomplished in shortest possible time. Long conversion periods create problems for all persons involved including both analysts and users.

Parallel systems:

The most secure method of converting from an old to new system is to run both systems in parallel. This method is safest one because it ensures that in case of any problem in using new system, the organization can still fall back to the old system without the loss of time and money.

The disadvantages of parallel systems approach are:

It doubles operating costs.
The new system may not get fair trial.

Direct conversion:

This method converts from the old system to new system abruptly, sometimes over a weekend or even overnight. The old system is used until a planned conversion day, when it is replaced by the new system.

Pilot system:

Pilot approach is often preferred in the case of the new system which involves new techniques or some drastic changes in organization performance. In this method, a working version of the system is implemented in one part of the organization, such as a single work area or department.

Phase –IN- method:

This method is used when it is not possible to install a new system throughout an organization all at once. The conversion of files, training of personnel or arrival of equipment may force the staging of the implementation over a period of time, ranging from weeks to months.

POST IMPLEMENTATION REVIEW

After the system is implemented and conversion is complete, a review should be conducted to determine whether the system is meeting expectations and where improvements are needed. A post implementation review measures the systems performance against predefined requirement. It determines how well the system continues to meet the performance specifications.

Maintenance

After a system has been executed and produced satisfactory results, it’s stored as a software package or in system library. The needs of an organization may change with time and a lot more may be expected from the system and this needs either development of a new system or modifications in the existing program. Modification in the system may also be required if it fails to working changed environments, which may be caused by the use of better machines.

The system maintenance means continuous modification and updating of the system to meet the requirements of the users. It's certainly cheaper than developing a new system. Technical documentation plays an important role in the system maintenance.

Maintenance is the enigma of system development. It holds the software industry captive, typing up programming resources. Analysts and programmers spend far more time maintaining programs then they do writing them. Maintenance can be classified as corrective, adaptive or perfective.

SYSTEM MAINTENANCE PLAN

Software system maintenance covers a wide range of activities, including correcting coding and design errors, updating documentation and test data and upgrading user support. It is the process of changing the system to maintain its ability to survive. The system design can adopt any of the under given system maintenance strategies.

Corrective Maintenance

The design software can be maintained by corrective maintenance that is concerned with fixing reported errors in the software. Coding errors are relatively cheap to fix as compared to design errors and requirement errors. The requirement errors are more expensive, as redesigning of the entire system is to fix them.

Adaptive Maintenance

The design software can be maintained by adaptive maintenance if case there is a need to change the system environment such as a different hardware platform or for using it with different operating system.

Predictive Maintenance

The design system can be maintained by predictive maintenance if there is need to implement new functional requirements. They are generated due to the changing requirements of the software customers as their organization or business changes.

Conclusion

The development of software includes so many people like user system developer, user of system and the management, It is important to identify the system requirements by properly collecting required data to interact with supplier and customer of the system. Proper design builds upon this foundation to give a blue print, which is actually implemented by the developers.

On realizing the importance of systematic documentation all the processes are implemented using a software engineering approach. Working in a live environment enables one to appreciate the intricacies involved in the System Development Life Cycle(SDLC).

We have gained a lot of practical knowledge from this project, which we think, shall make us stand good state in the future.

FURTHER SCOPE OF THE PROJECT

1. Including Image Support

The existing system has no image support due to which the images cannot be used. It will be one of the priorities in the proposed enhancements to enable Image Support in the system.

2. Flags

The new system will allow the users to set flags far an answered question. Flags like Passed, Doubtful, Answered etc. will help a user to return to those questions to review them and change them accordingly

3. Marking Scheme.

The new system will allow the Teacher to set the Marks for correct answer and marks for incorrect answer.

4. Send Email

The new system will allow the Teacher to send the email to the particular student about anything that he want to share with them.

5. Search from email id

The new system will allow the Teacher to search the student by the email id or phone number of the student.

6. Forgot password option

The new system will allow the user to recover the password if they forgot their Password.

7. Multiple answer

Current system provides only multiple choices but single correct answer selection. Faculty may wish to provide multiple choices multiple selection responses.

SCOPE OF THE PROJECT

STUDY HUB is designed for Educational Purposes that can be used by the schools, Colleges, and Private Institutes to conduct logical tests on regular basis. The system handles all the operations and generates report as soon as the test is completed which saves the precious time of facilities spent on reviewing answer sheets. As well as in wide scale It work as the community of the Teachers and Students where they can interact with each other. It allows the student to learn new languages as well as ask direct questions from the teachers.

ANNEXURE'S

The Study Hub is basically Platform which helps students to take the feeling of a classroom virtualy like in classroom you can ask questions from the teacher, study and also give tests too. Same, all things can be done but here, it is not limited to 1 or 2 teacher but almost from all over the world and region. And also student from all over the world.

BIBLOGRAPHY

HTML	Tim Berners-Lee, Robert Cailliau, and others
JAVASCRIPT	Brendan Eich
PHP	Rasmus Lerdorf
BOOTSTRAP	Mark Otto, Jacob Thornton
SQL	Donald D. Chamberlin , Raymond F. Boyce