ICT FOR STUDENT: A web-based solution for learning ICT

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering.

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APPROVAL

This Project titled **"ICT For Student"**, submitted by **Samia Rahaman ID No: 142-15-3676, Avi Saha ID No: 141-15-3374** and **Mst. Ruli Akther ID No: 142-15-3987** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on **6thMay, 2018.**

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Declaration

We hereby declare that this project has been done by under the supervision of **Shaon Bhatta Shuvo, Lecturer, Department of CSE,** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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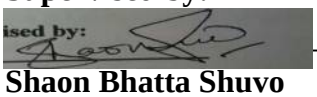

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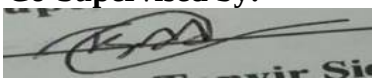

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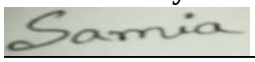

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ABSTRACT

The Goal of this project is developing an online ICT Learning System. This project is to build a web-based, online ICT Learning system, named **ICT FOR STUDENT: A web-based solution for ICT Knowledge**. This system provides an online platform for a quick learn and justify themselves. It is helpful for any people. This system helps the person or student who is interested to learn ICT can register and learn ICT as like Web Design, Basic Data Communication, Computer Fundamental, PHP. Any Student can join the particular Class or subject in the website to learn, to give online quiz, play game and they also can check the right answer of the questions which they gave the wrong answer on their online quiz. To develop this web application we used PHP, Java Script which helps us to build this application faster. We also used HTML, CSS, Bootstrap, for better web design and make this application user friendly. After implementation of all functions, the system is tested in different stages and it works successfully as a prototype.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Our project is based education on ICT field. Our project will increase the skills on ICT related things. Our main goal is to help student to improve on ICT also creating a huge educational field. This application any person who is interested in ICT related thing he can register and gain more knowledge from our site. By using our project people can attend some quiz on our site. By using it user can communicate with us directly for any information related ICT, User can play coding games on this site.

1.2 Motivation

There are some problems that motivate us to work with this project. In the present world without knowledge ICT we are nothing. In day to night we use many things that are related on ICT. But it is a matter when we know the importance of ICT but we don't take the proper way for improving skills on ICT. Also we didn't find the proper way were we can gain the knowledge. It happen only for lack of motivation. But ICT is more necessity in our life. Steps should be taken to inspire people so that they feel motivated to gain knowledge on ICT. They causes have motivated us to work with this project. We will try to solve this cause in this application

1.3 Objectives

Objectives of our web application are mentioned below:

- The main objective of this project is to connect people who are interested on ICT.
- All registered members will get the opportunity to improve their skills on ICT.
- All registered member will carry a unique id.
- Student will learn every lessons using this apps.
- After finishing the lessons they can participate in quiz exam though this apps.
- Student can play coding games using this application and earn point and ranking their profile.

1.4 Expected Outcome

We want to improve knowledge on ICT. Help all person to gain well knowledge on coding also ICT related thing. If student attend all quiz then we can build up a well community. Our project will help everyone to build their career on ICT.

CHAPTER 2

BACKGROUND

2.1: Introduction

Our system will be a website that can be operated by computer, smartphones, tablet etc. Different user will have different and secure profile. In the modern age we are long way from ICT. Our project will help people to connect with ICT and gain knowledge from it. Our project trained them as a high level master.

2.2: Related Works

We have Research plenty of documents related with ICT. We have monitored the functionalities how to work with it properly. This application is highly decorated with functionalities. They are equipped with many technical features. Some applications are following:

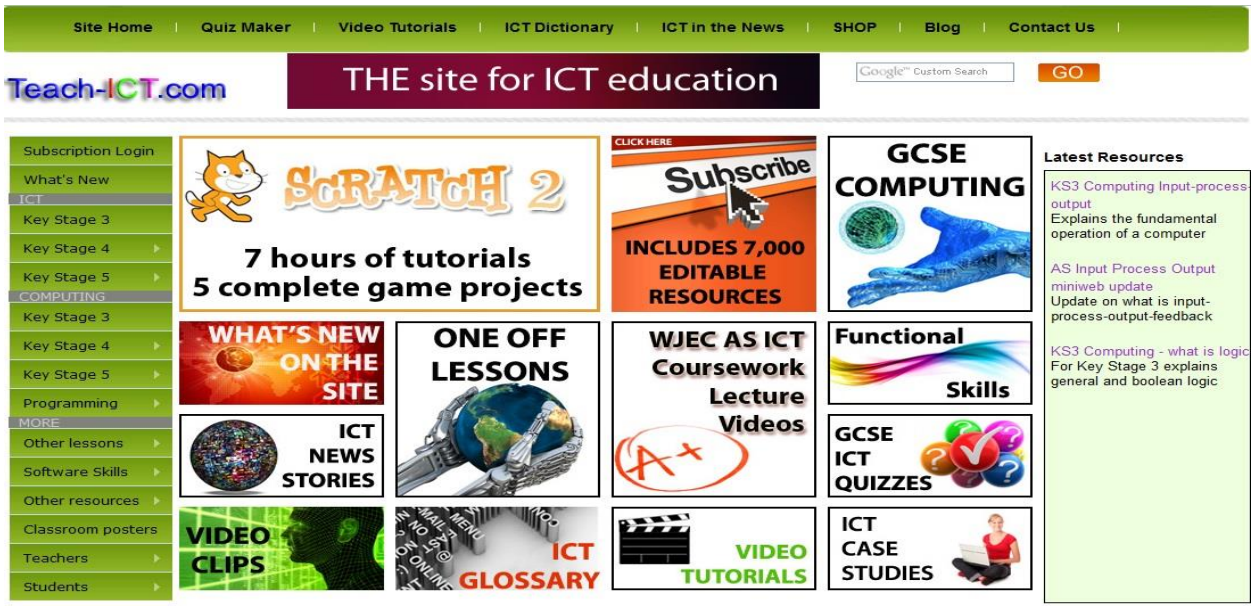

Figure 2.1: A web site of ICT teaching.

2.2.1 Common features of these application are:

- Register as a user.
- Course list.
- ICT related videos.

2.2.1.1 Register as Donor

The register is maintained with a data processing system. The register is maintained with a data processing system. Any person can register in this system. The login of register information requires that each user enters the defined usernames and passwords.

The following data is entered into the register, as applicable:

User Name

Password

Email Address

Figure 2.2: User registration demo.

2.2.1.2 Course list

Here the course list of users. All course are decorate part by part.

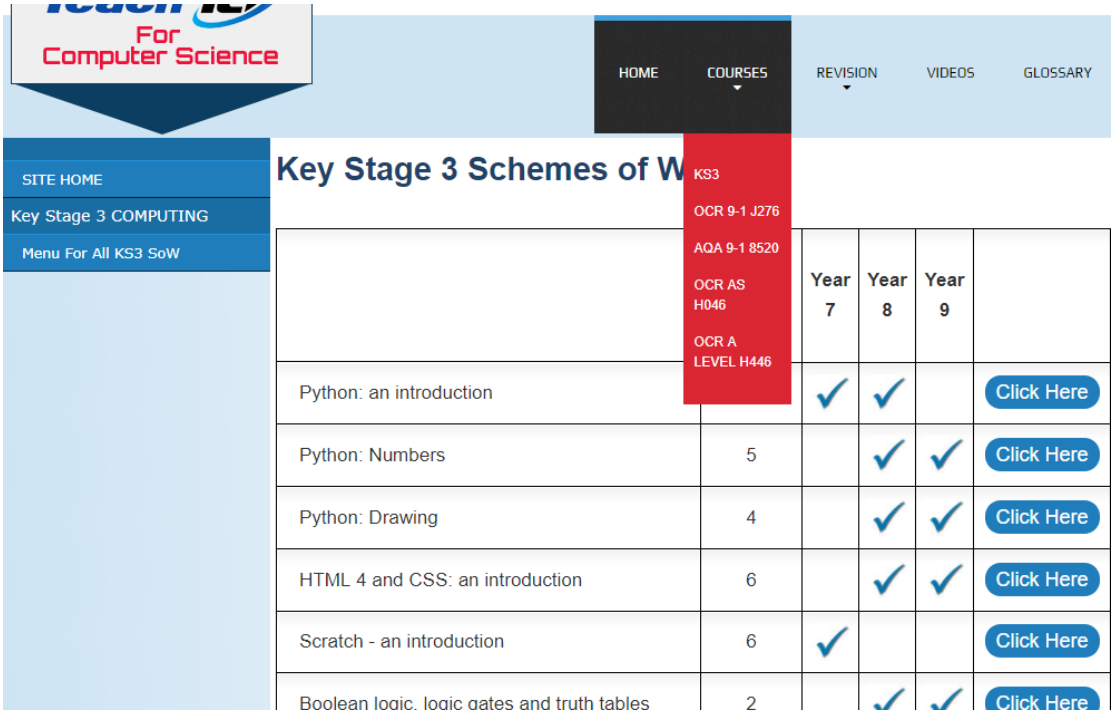

Figure 2.3: Course list demo.

2.2.1.3 ICT topic related video

Here the all video item related ICT, Student can watch this video. This features help student to gain knowledge easily.

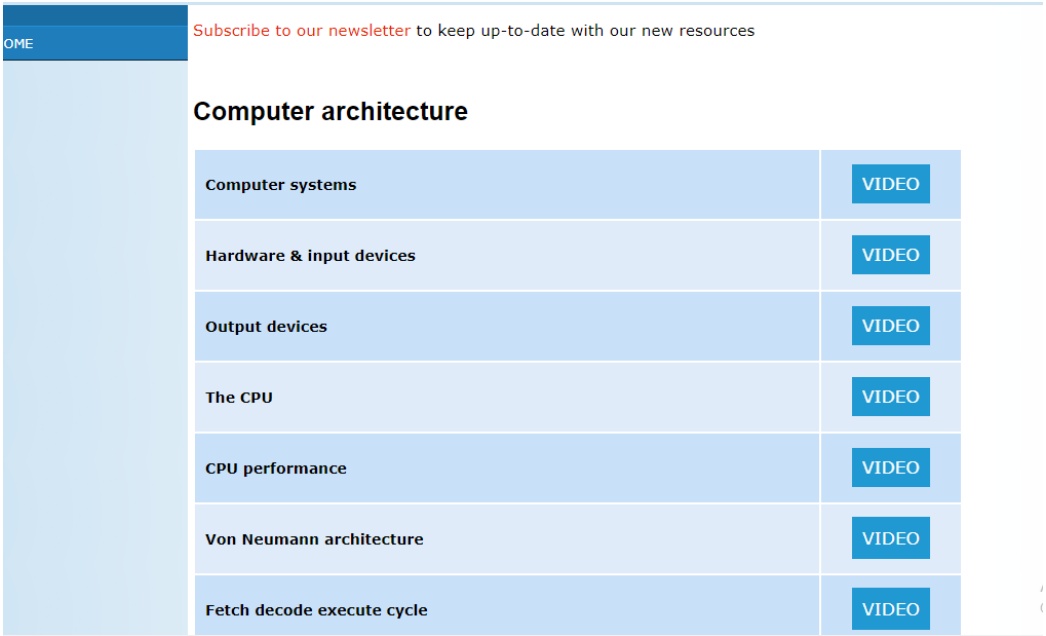

Figure 2.4: ICT topic related video demo.

2.3 Comparative Studies

Our implemented application is different from the existing application. Without registration user can see the course list & school level lessons. All authenticated registered members will get the opportunity to complete school level, intermediate and higher level course through this application. This Application will help to notify important lecture by email notification to the user.

2.4 Challenges

- User must update profile after registration.
- Send users opinion to us.
- Student attendance in every lecture & quiz.

2.5 Project Schedule/ Gantt Chart

Here is our project schedule:

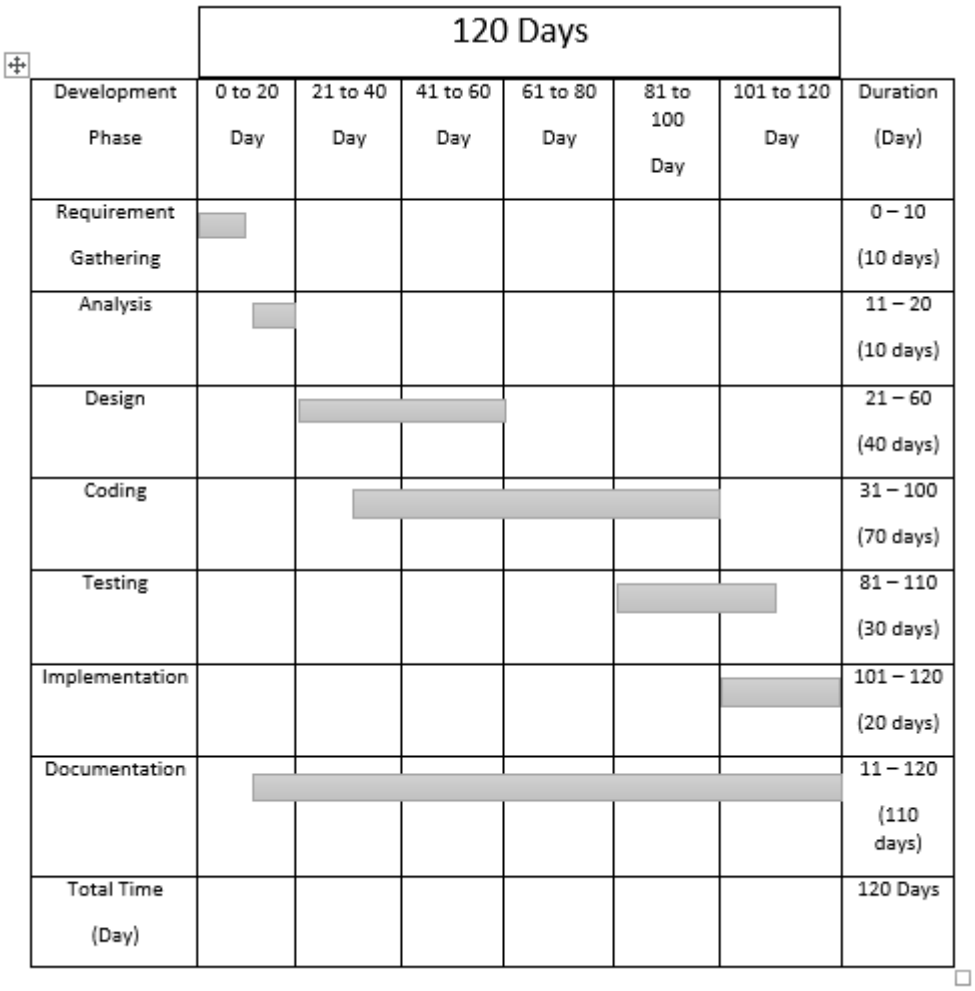

Figure 2.5: Gant chart of our project.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business process demonstrating, frequently called process displaying, is the systematic portrayal or representation of an association's business forms.

Alongside business process disclosure, process demonstrating is generally seen as a basic segment in fruitful business process administration (BPM). It is utilized to delineate an association's present procedures to make a benchmark for process changes and to outline future forms with those upgrades joined. Process demonstrating regularly utilizes Business Process Modeling Notation (BPMN), a standard strategy for delineating forms with flowchart-like outlines that can be effortlessly comprehended by both IT and business chiefs.

3.2 Requirement Collection & Analysis

Here some requirements are given that collected when implementation of software or the data collections. The requirement collections are given below:

- To collect the users problem to for teaching them easy way.
- Must need the user information.
- Needed to edit the account profile settings for selecting which topic are selecting for the career.
- Needed to be registered for using the app.
- Must needed a valid email to reset the password and further actions.
- Must be needed a valid email address for login the user profile.
- Needed to collect the personal opinion of user.

3.3 Requirements:

1. Used programing languages such as
   HTML, CSS, PHP, Java Script, jQuery, Bootstrap etc.
2. Using MySQL database

We use MySQL for database management and store information.

3. A valid email address.

3.4 Use Case Diagram

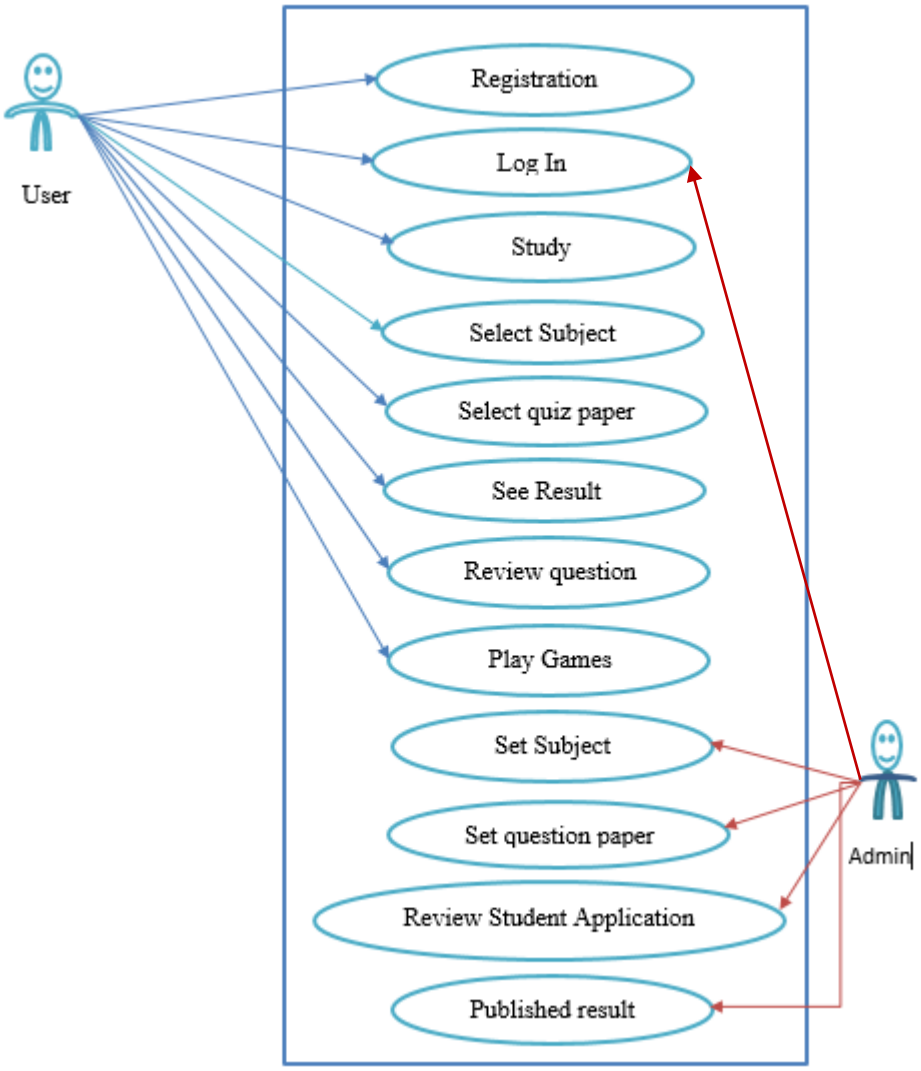

Figure 3.1: User Use Case diagram.

3.5 Detailed Use Case

The details use case diagram from our use case diagram figure:

Table 3.1: Use case description of Registration.

Use Case #01	Register
Primary Actor	User,
Secondary Actor	Admin
Pre-Condition	Go to the website
Scenario	1. Enter valid name. 2. Enter valid and active email. 3. Enter password. 4. Confirm password. 5. Click “Register” button.
Post-Condition	1. Registration successfully completed or failed.

Table 3.2: Use case description of Login

Use Case #02	Login
Primary Actor	User, Admin
Secondary Actor	Admin
Pre-Condition	Complete registration before
Scenario	1. Enter valid email address. 2. Enter correct password. 3. Click “Login” button.
Post-Condition	1. Login successful or failed. 2. Display main page

Table 3.3: Use case description of Study.

Use Case #03	Study
Primary Actor	User
Secondary Actor	Admin
Pre-Condition	Select study option.
Scenario	1. Click the study button. 2. Select study topics. 3. Click “Start lesson” button.
Post-Condition	1. Start lecture or quiz or games. 2. Agree to all conditions.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

HTML: Hyper Text Markup Language.

We use the (HTML) Hyper Text Markup Language for front-end design. HTML is one of the most popular structure design languages for view the web page. We build the web page block by this language. For representing HTML we use the various tags of HTML5. We also use the primary validation of HTML.

CSS: Cascading Style Sheet.

CSS is used for the front end design. Cascading style sheet represent that how to HTML view on the web page such as text, media etc. CSS can control multiple web pages for this web application CSS gives attractive layout. We use the CSS3 property to customize font size, padding, margin, border and control all over the style in our project.CSS: Cascading Style Sheet.

BOOTSTRAP:

Bootstrap is one of the most exceptional frameworks in the world. For design a responsive website it is one of the best ways. To make our project user-friendly we use the latest version Bootstrap4. By using this framework our project can be displayed attractively any kinds of device example: large screen, small screen, medium screen and extra small screen.

4.2 Back-end Design

PHP: Hypertext Preprocessor.

PHP was created by Rasmus Lerdorf in 1995. PHP is a popular server site scripting language that originally designed for web development. PHP used for making website dynamic. ICT FOR STUDENT basically stands for hypertext preprocessor. PHP produced our project dynamic every web pages. It can be attached in HTML and run on a web server.

For run PHP code we need to configure PHP and server on our computer. PHP supports all kind of web server and all operating system. The featured of PHP make our project more secure such as registration form validation we make it secured by PHP. It has many default function that make our project successfully for all the logical operation we use it such as input taking, updating etc. It is open source language.

JAVA SCRIPT:

Java script is an object-oriented programming language. It implements in HTML an integrated on a browser. Java script adds interactive features on the website and helps to update content, multimedia dynamically. Java scripts add interactivity to websites. Java scripts contain great tools and great online support. By using java script make basic graphics, animation and HTML canvas.

MySQL:

MySQL is an open source relational database management system. The database is a system that stores collection of data of a different application. It is always implemented data by database tables, rows, columns, and indexes. It can update data automatically. We can use the primary key, the foreign key compound key for database relation and identify various kinds of data. We handle our database by MySQL query and we can delete, update, search information by using MySQL query.

4.3 Interaction Design and UX

Admin Design Dashboard:

- In database show signup user list.
- Admin can easily delete, update, add user role.
- Admin can remove user and update information.
- Admin can view and delete post.

User Dashboard Design:

- User can register in register form.
- User must be sign up by registration information.

- User can participate all activities by using account.
- Finally user logout of this application.

UX

UX means user Experience. It refers that how much user is satisfied with your product. User experience design comprises of in gradient of information architecture, user research, interaction design and other disciplines. In our project, we try to keep some user experience from users and we get user experience some student user 13 users use our application and 9 of them say yes it is helpful application and 4 of them say to add some features to improve our project.

4.4 Implementation Requirements

To implement application every web application has the implementation requirements. In our project we also used some implementation requirements

Requirements:

4. Used programing languages such as
   HTML,CSS, PHP, Java Script, jQuery, Bootstrap etc.
5. Using MySQL database
   We use MySQL for database management and store information.
6. A valid email or other information.
7. By the user information we can notify user to gives important information.
8. For use our application need a mobile or pc and internet connection also need a browser for connect our application.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1: Implementation of database

The implementation of the database is stored of user information of this project and other project relative data stored in the database system, for example, admin information and other projects relative information. Now show our database design and requirements. The database system also include number of tables such as admin, user, result, subject, test, and answer.

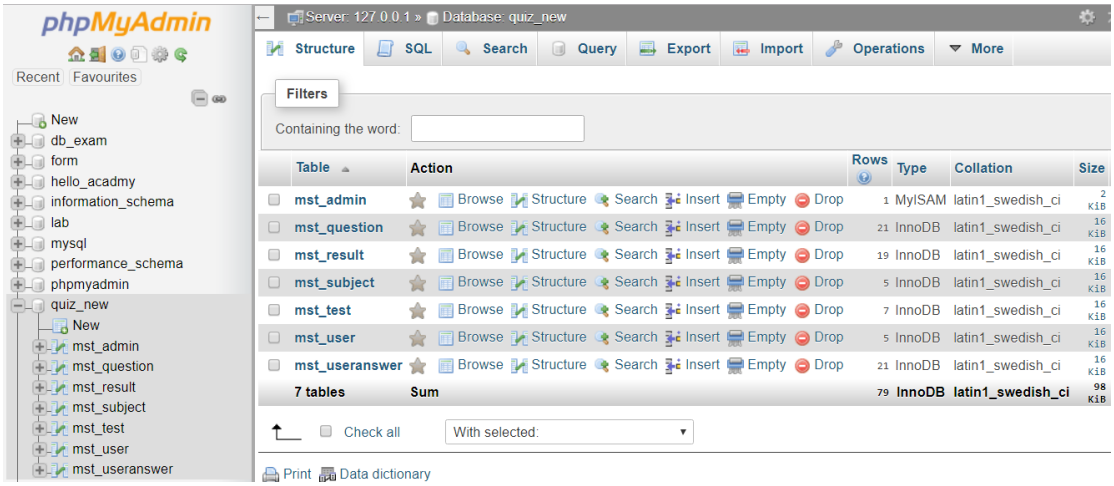

Figure 5.1: Database design of ICT FOR STUDENT.

5.1.1 Admin information

The database system includes admin information and the admin can change username id and password on the other hand admin can add an admin to handle this project. Admin adds new subject add new test and question.

5.1.2: User Information

In our project database system, there are contain a user table for store user information. User signup this application by id, password, name, phone number, the email also address. When user signup this application then the system adds the database of user table all information. After the process

user can log in this application and after login then he can participate all the activities of this project.

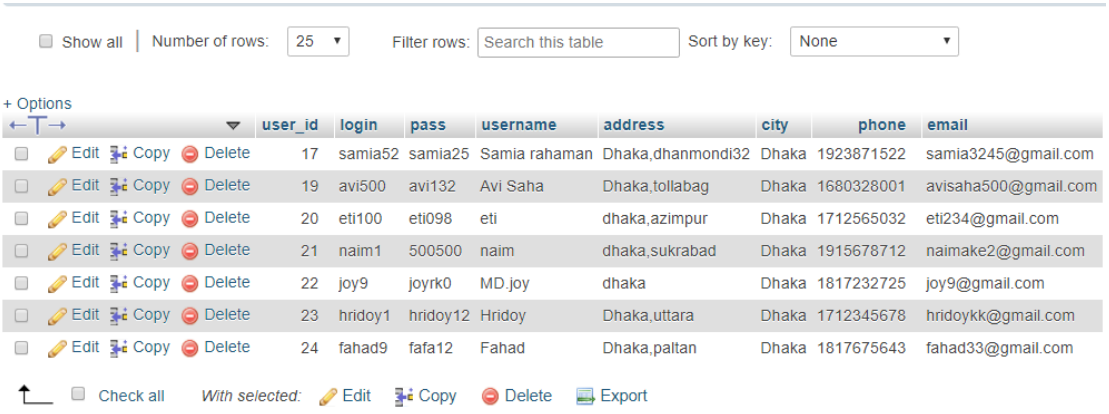

Figure 5.2: Database design of user.

5.1.3: Database of question information

A table of all question are included in the database system. In this table stored all the question paper. Admin can add delete and edit the question paper by admin log in.

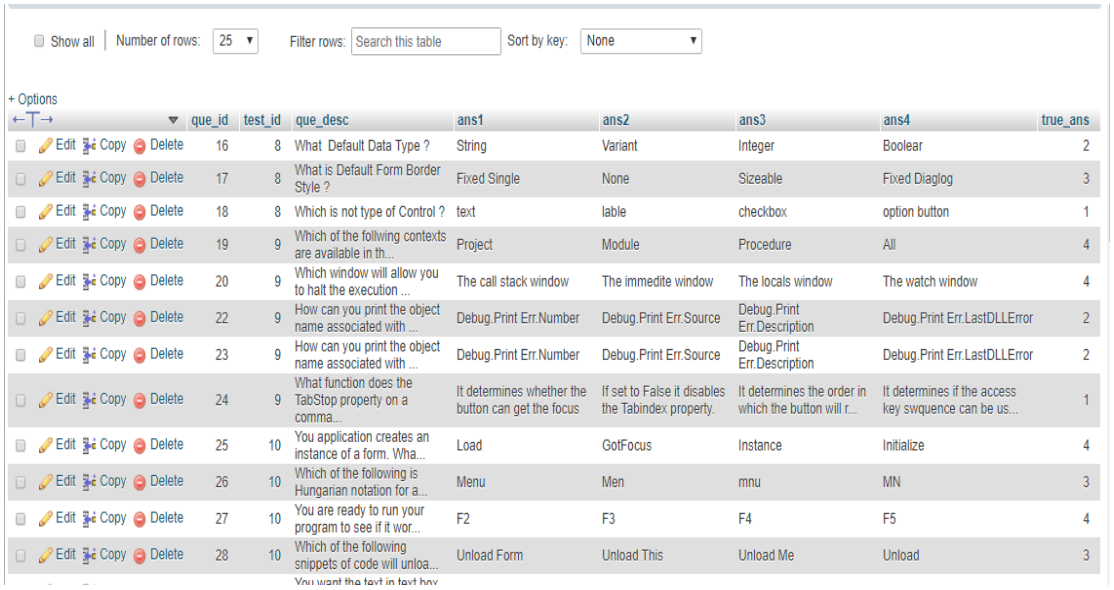

Figure 5.3: Database design of question paper.

5.1.4: Result information

In result table stored user result by participate quiz system. All the result of each user displayed sequentially.

5.1.5: Subject information

Subject table are created in database for store subject name if admin add a subject then the subject name and information stored in the table.

5.1.6: Test information

In test table contains the test name and test information it can be changed by admin and it contains the subject id of each test.

5.1.6: Answer information

Answer table created for the store all the answer script given by the user it is also called the user answer table. In here displayed all the option, right answer and user given the answer and test id and the question and question number.

5.2 Implementation of Front-end Design

The front end design is one of the main parts of a web application if the front end implementation is not more user-friendly then a user is not satisfied. In our project, we have tried to attractive front-end design and implementation. We use HTML5, css3, and javascript for front-end design that's make our project better view and better user interface. We always try to make user-friendly design for this project because of all user can use it easily and it is very simple to use.

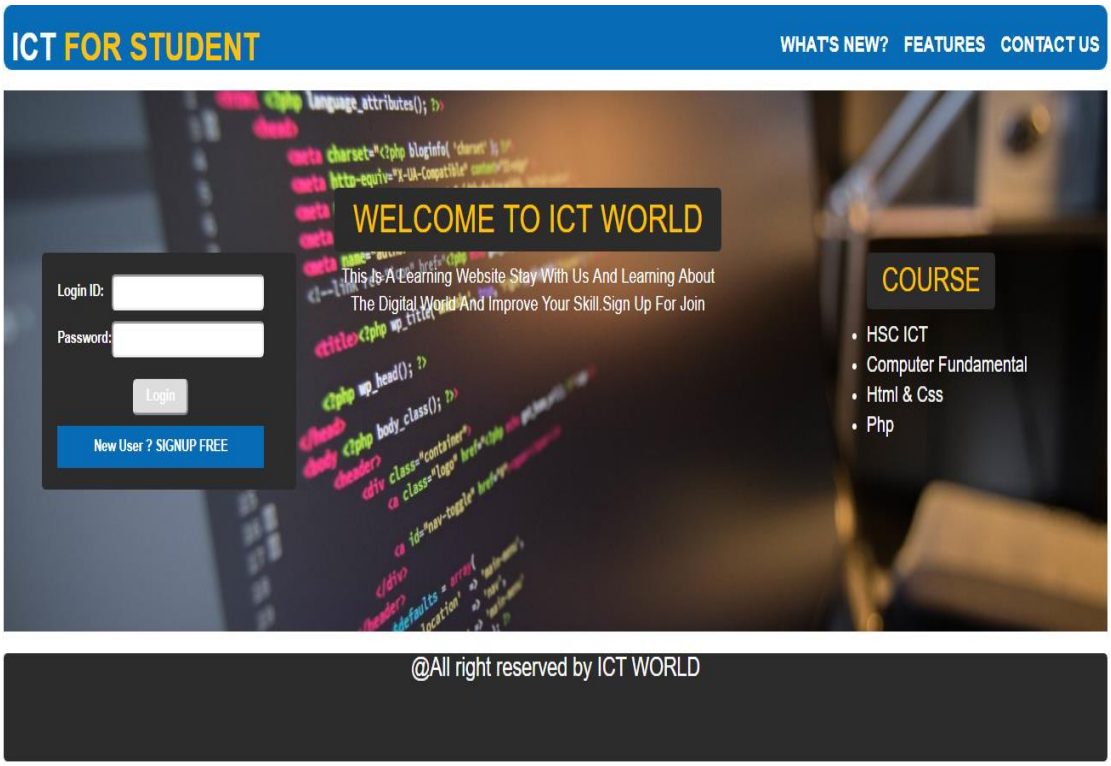

Figure 5.4: First page of "ICT FOR STUDENT".

5.2.1: Overview of pages and Description

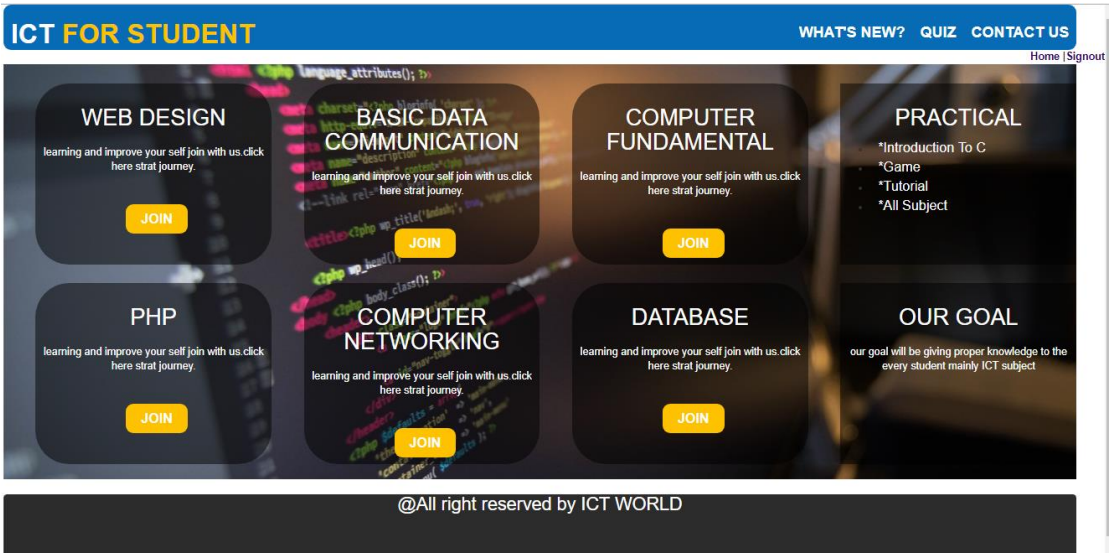

Figure 5.5: Homepage of "ICT FOR STUDENT".

This figure is the main home page of ICT for student. At the top, there is a navigation bar and it containing the features, what's new and contact option. When we visit this site at first we need to log in if the user is new then the user needs to be registered by fill up information in the registration form. After log in by user id and password the user can see this figure. Now the user is ready to participate all activities. A user can register to fill up user id, name, password, a valid mail and other information. After login, he can see her record and user record start here.

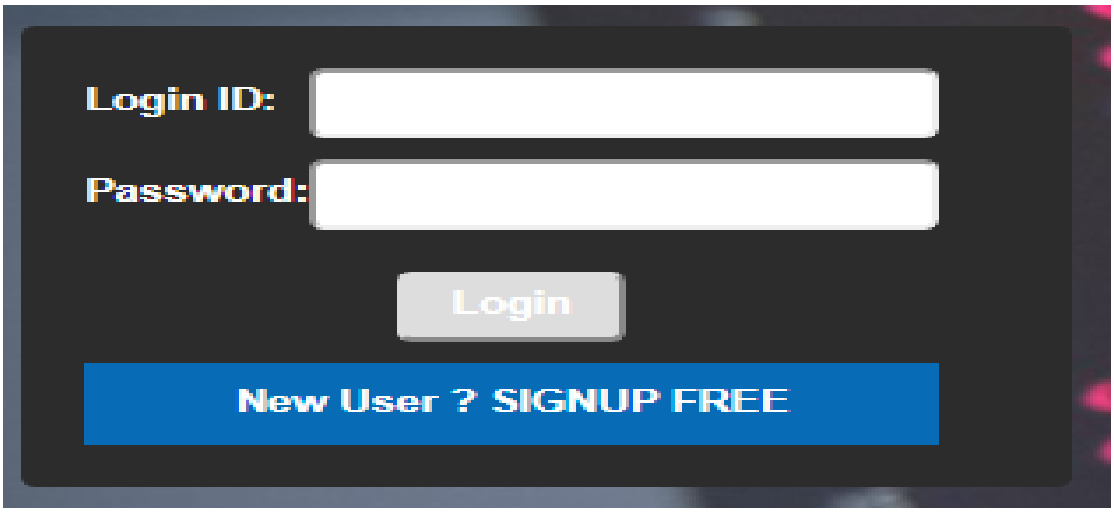

Figure 5.6: “ICT FOR STUDENT” Login page.

This figure is “ICT FOR STUDENT” login page. Only register user can log in this application.

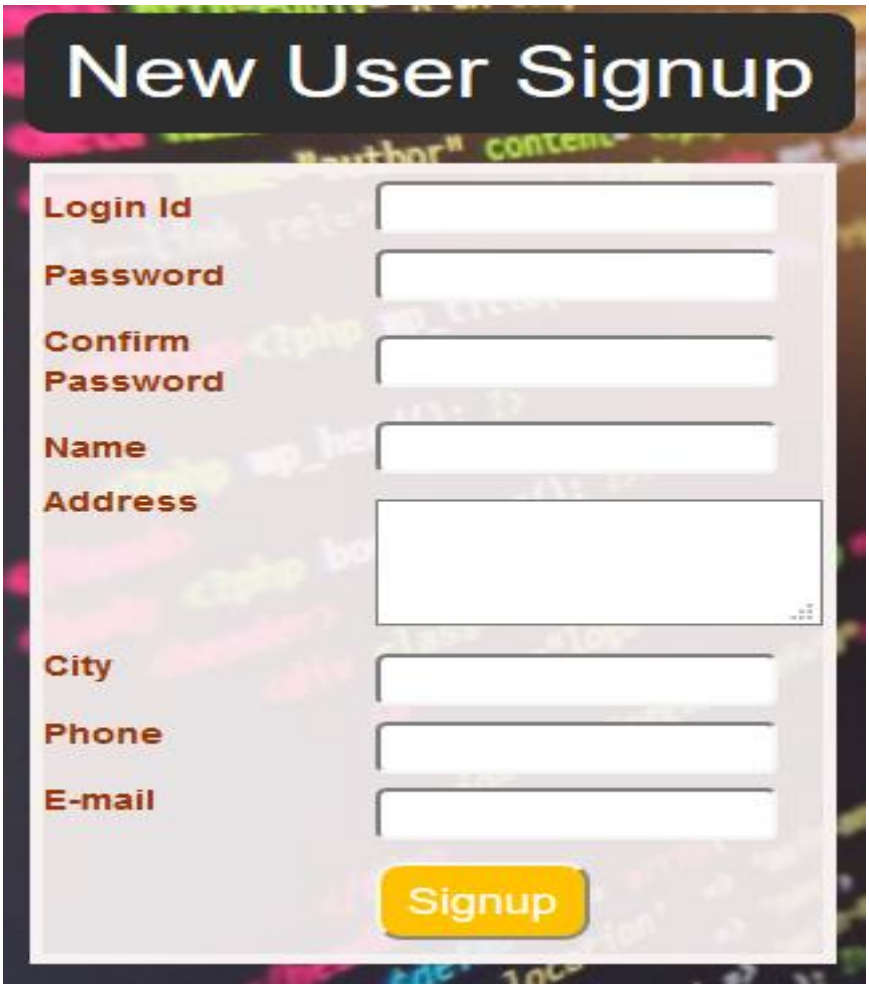

Figure 5.7: “ICT FOR STUDENT” Registration page

This figure is "ICT FOR STUDENT" user registration page and any user can need to registration to continue our application. If user has no account at first needs to be signup in the registration form. In here a user must fill up all the information. After finishing this process user can log in our application by login id and password. If user given email is not valid then user can see an error massage.

Figure 5.8: “ICT FOR STUDENT” join a subject part.

In this figure show the joining part of our project by clicking user can see the subject details.

Figure 5.9: subject details.

This figure is subject content it start in basic to a professional user can improve skill in each subject by joining subject.

Figure 5.10: Subject quiz paper.

This figure is subject quiz paper user can attend a quiz of each subject. A user can also see the wrong answer and right answer by reviewing question and user can see all result.

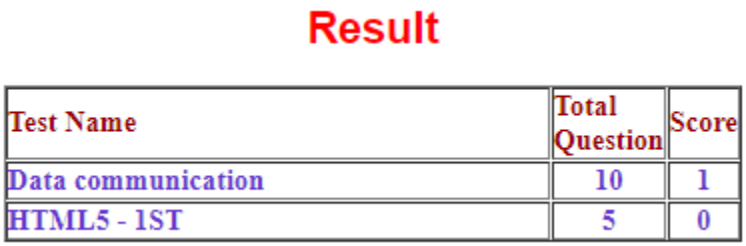

Figure 5.11: result all quiz.

In this figure show the result. A user can see all the result by joining user id. All the subject quiz result store here. This figure is student result record.

5.3 Testing Implementation

Testing and implementation is an important process of a web successful web application and it is the process of an action of the formulated plan. In our project, we are testing various process of our application. Now we see some testing implementation result in our project.

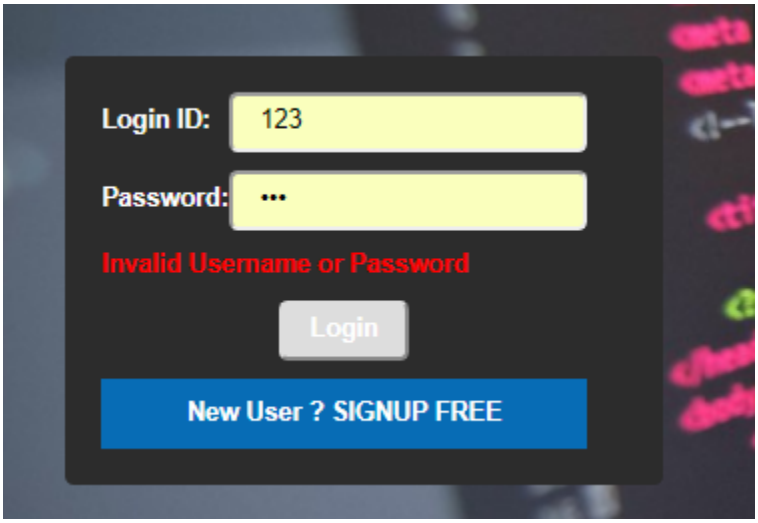

Figure 5.12: Invalid Login form.

The page is invalid log in form if user gives wrong information to log in then user gets error massage. If password or login id one of them is wrong we can't log is this application.

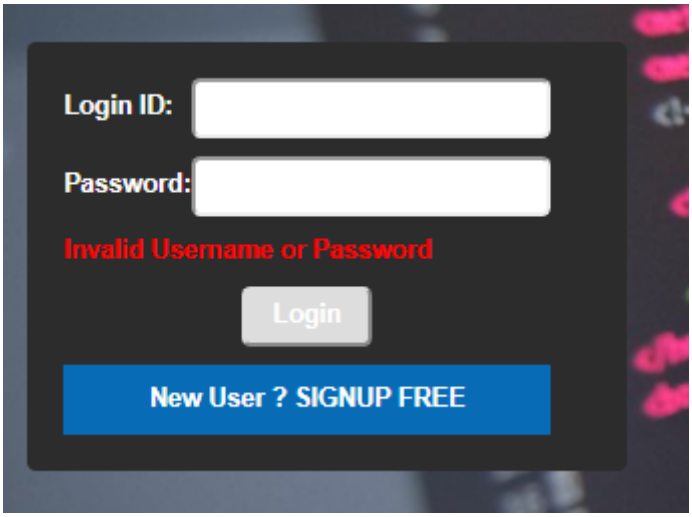

Figure 5.13: Invalid blank Login form.

A user gets an error message if the user submits blank all the information on the login page. A user needs to give proper information for log in this application. If a user submits blank all the information then he can't log in this page and user must be filled up with all correct information.

It is the testing implementation of our web application. For secure log in user must be given correct information.

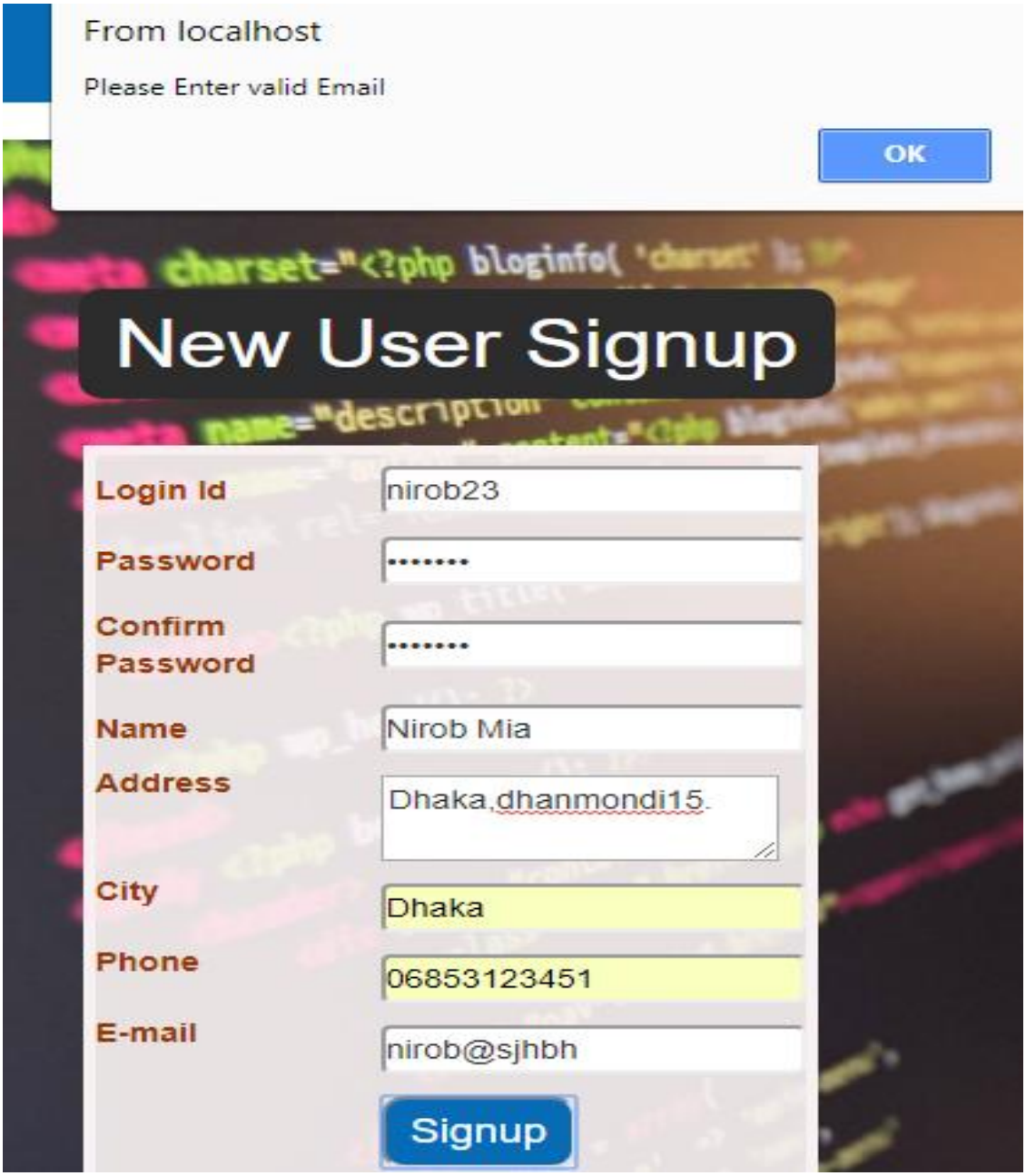

Figure 5.14: Invalid email signup form.

This page is invalid mail in signup form if a user gives all the information but user mail is not valid then he gets an error message for invalid mail. Without valid mail, he can't sign up for this application. For security, purpose user must be given a valid mail for regular update of our application.

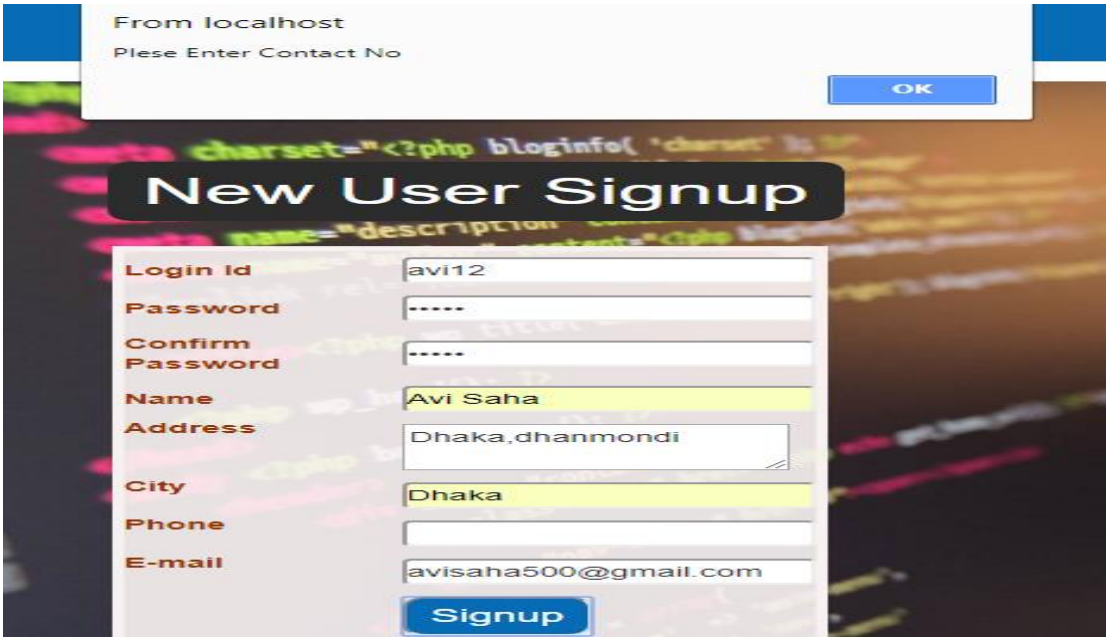

Figure 5.15: Miss required information signup form.

For signup, a user must be filled up the all the required information if a user misses one of the users can not register.

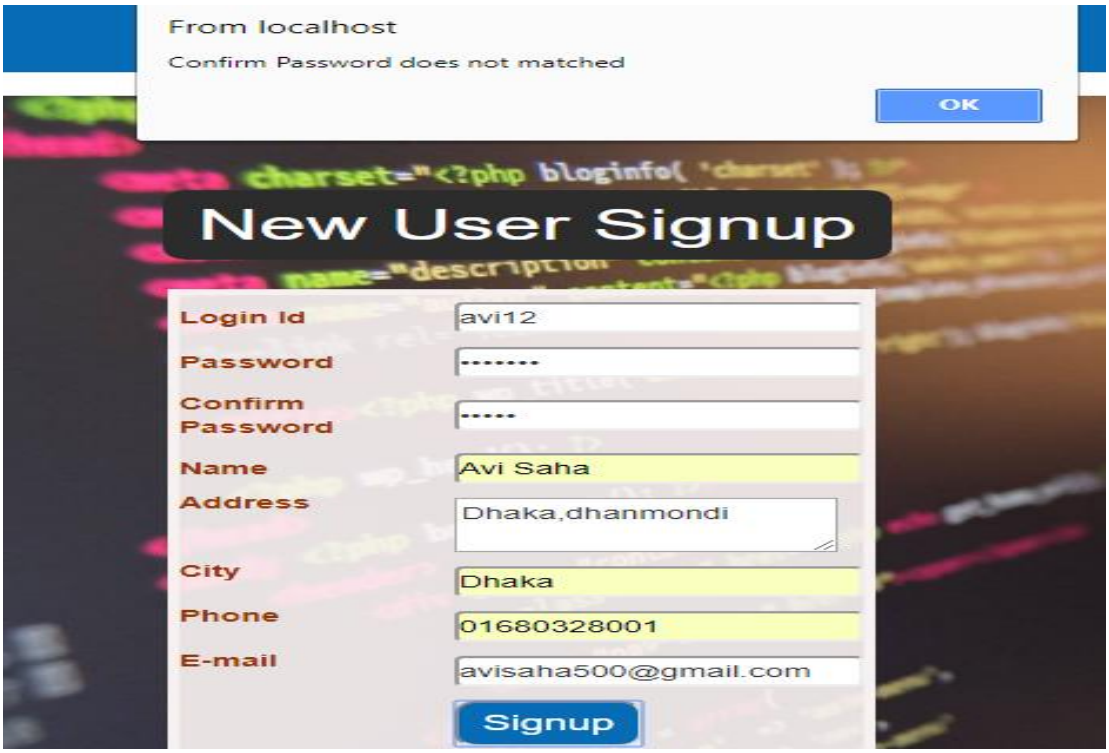

Figure 5.16: Password does not match signup form.

If the password and confirm password do not match then the user gets an error message. The password and confirm password needs to match.

5.4 Test Results and Reports:

Table 5.1: Test Case Table for Registration.

Test Case	Test Input	Expected Output	Actual Output	Result	Tested On
1.Display The application pages	Tested browsers- ❖ Firefox ❖ Google Chrome ❖ Opera	To display the Pages successfully	Displayed the pages successfully	Passed	2-1-18
2.Username	Blank or Incorrect Username	Username or correct username must entered	Showed the Warning	Passed	2-1-18
3.Password	Blank or Incorrect Password	Password or correct password must entered	Showed the Warning	Passed	2-1-18
4.Registration	Without Registration	To restrict to access the "ICT FOR STUDENT"	Imposed the restriction	Passed	2-1-18

Table 5.2: Test Case Table for “ICT FOR STUDENT”

Test Case	**Test Input**	**Expected Output**	**Actual Output**	**Result**	**Tested On**
1.Create user result for users	Input the quiz paper the answer.	User can see the right answer.	User can see all the result of each subject.	Passed	3-1-18
2.Join subject	User can join a subject.	User can learn about the subject.	User prepare for the subject quiz.	Passed	3-1-18
3.Join a game	For refreshment user can join a game.	User play game.	Entertainment purpose	Passed	3-1-18

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

The application has been effectively actualized. Subsequent to associating with the application through the SQL server general highlights and functionalities work fine. This current application's work process and responsive plan is easy to use. We have urged and took activities to build up this application in light of the fact that different Organizations require this framework in their everyday tasks. This undertaking is implied for depicting every one of the highlights and methodology that were taken after while building up the application. This archive exceptionally says the points of interest of the undertaking how it was created, the essential prerequisite, and different highlights and functionalities of the venture and the systems followed in accomplishing these targets.

6.2 Scope for Further Developments

- Our mission is to make this application for all platform like Windows, IOS, and Android.
- Our application’s data needs more storage in future, so we will add this with larger database system such as Oracle Database.
- We will add more advance features to make it more dynamic to satisfy larger organizations and make this application trusted by them and verified.
- We will add more lessons in future for creating big community.

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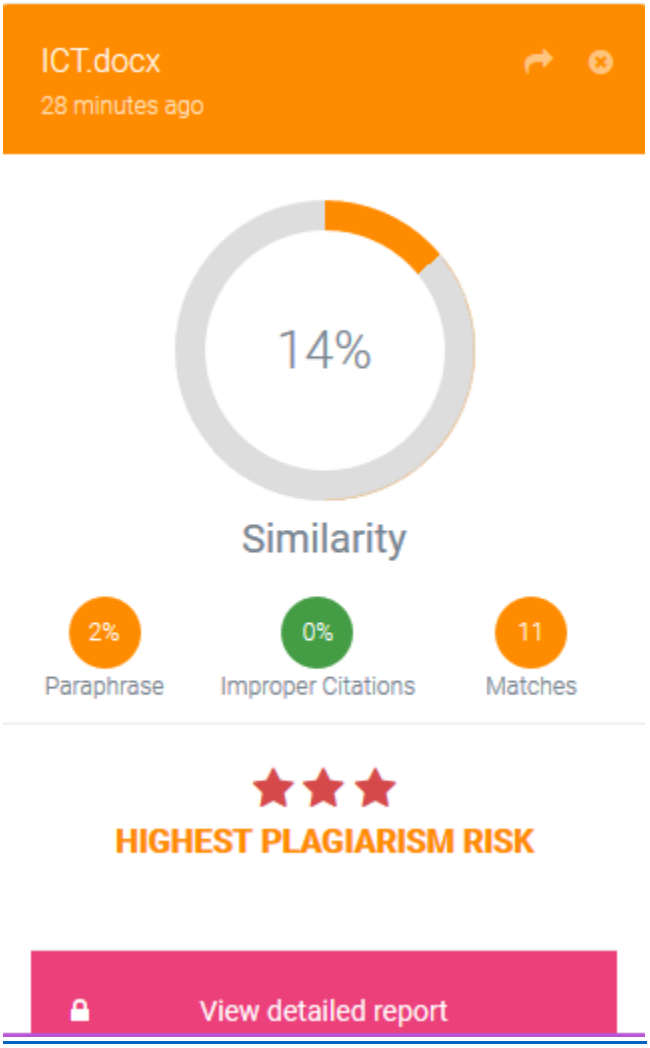
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