

Teacher Assistant



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING.
BANGLADESH UNIVERSITY OF BUSINESS & TECHNOLOGY.
(BUBT)
MIRPUR-2, DHAKA.

November, 2021

Teacher Assistant

A project

*Submitted to the Department of Computer Science and Engineering
Bangladesh University of Business and Technology (BUBT), Dhaka in
partial fulfilment of requirements
for the software development -I of*

**BACHELOR OF SCIENCE
IN
COMPUTER SCIENCE AND ENGINEERING.**

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ABSTRACT

Teachers are the main part of our educational system. They perform their honorary duty to teach us. But it is a lot of trouble to maintain student attendance, marks and all the student details. It will involve a lot of pen and paper work. Sometimes there will be some huge heap of files bundled up and kept together in some corner of the office. If they want to add a student assignment mark then they have to go through a lot of paperworks. But through our Teacher Assistant they can easily add any type of exam marks any time and without doing a lot of work. It can be used by educational institutes or colleges to maintain their departments easily. The creation and management of accurate, up-to-date information regarding a student's academic career is critically important in the university as well as colleges. It Tracks progress of those students, their marks, attendants and it lets teachers to add or update their marks and bring all this tiresome work in their fingertips.

DECLARATION

We hereby declare that the project entitled “**Teacher Assistant**” submitted in partial fulfilment by us for the degree B.Sc. Engineering in Computer Science and Engineering in the faculty of Computer Science and Engineering of Bangladesh University of Business and Technology (BUBT) under the guidance of our supervision of **Shovon Roy**, Lecturer, department of Computer Science and Engineering is our own work and it contains no material which has been accepted for the award to the candidates of any other disciplines except few references which is taken from various books and authors to enrich our knowledge about the topic of our project.

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CERTIFICATE

TO WHOM IT MAY CONCERN

That is to certify that Partho Debnath, Fayezur Rahman and Jack Pritom Soren students of B.Sc. in CSE has completed their project work titled “Teacher Assistant” satisfactorily in partial fulfilment for the requirements of B.Sc. in Computer Science and Engineering from Bangladesh University of Business and Technology in the year November,2021.

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DEDICATION

Dedicated to our teachers for all their love and inspiration.

ACKNOWLEDGEMENT

“Task successful” makes everyone happy. But happiness will be gold without glitter if we didn’t state the persons who have supported us to make it a success. Success will be crowned to people who made it a reality but the people whose constant guidance and encouragement made it possible will be crowned first on the eve of success.

This acknowledgment transcends the reality of formality when we would like to express deep gratitude and respect to all those people behind the screen who guided, inspired and helped me for the completion of our project work. We consider ourselves lucky enough to get such a good project. This project would add as an asset to our academic profile.

We express our gratitude to the help of our supervisor **Shovon Roy**, for his constant supervision, guidance and co-operation throughout the project and for giving constant motivation and valuable help through the project work. We also would like to thanks to our honourable chairman **Dr. Muhammad Firoz Mridha**, for his support and giving us support and giving us permission to use the computer lab whenever we needed.

We extend our sincere gratitude to our parents who have encouraged us with their blessings to do this project successfully. Finally, we would like to thank all our friends, all the teaching and non-teaching staff members of the CSE Department, for all the timely help, ideas and encouragement which helped throughout the completion of the project.

APPROVAL

This project “**Teacher Assistant** ” submitted by **Partho Debnath, Fayezur Rahman** and **Jack Pritom Soren** ID No. **19201103016, 19201103017** and **19201103032** students of B.Sc. in Computer Science and Engineering from Bangladesh University of Business and Technology in the year November, 2021 under the supervision of **Shovon Roy**, Lecturer, Department of Computer Science and Engineering has been accepted as satisfactory for the partial fulfilment for the requirements of B.Sc. in Computer Science and Engineering and approved as to its style and contents.

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ABBREVIATIONS

Synonyms and Acronyms

RAM

CPU

GHz

HDD

C# Programming Language

MB

IDE

Descriptions

Random Access Memory

Central processing unit

Gigahertz

Hard Disk Drive

Computer Programming Language

Megabytes

Integrated Development Environment

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1.1 Introduction

Teacher Assistant is software which is helpful for teacher as well as the school/college/university authorities. In the current system all the activities are done manually. It is very time consuming and costly. Our Teacher Assistant deals with the various activities related to the teachers.

There are mainly 3 modules in this software

- i. Admin Module.
- ii. Instructor Module.
- iii. Marks and Attendance Management.

1.2 Problem Statement

In this software we can create accounts as instructor. It has an admin panel through which he can manage the department related things. At the beginning of each semester Admin can prefer the courses and instructors according to the department and section. Admin will be able to add department, section and intake any time. We will save all this data in a database through the xampp server. Through this program we will add and calculate Marks of the students of each section and save it in the database. Instructors can easily login to their account and add marks and attendance. He can add marks according to the exam type he chooses.

1.3 Motivation

- In this age of modern science, the education system has been going through a lot of development.
- In the current situation, teaching method of teachers needs a lot of development too.
- For maintaining the quality of education in this era, proper materials are needed to make teaching easier for them.
- Thus, the primary motivation for creating a “Teacher Assistant” is to help our valuable teachers so that they can do their daily education related works as easily as possible.
- Other motivations are: to built a digital education system and take our education method one step forward.

1.4 **Objectives**

Stated the desired goals and objectives to address the needs. Also included the key benefits of reaching objectives.

- Every day the teacher can add class attendance of the students.
- Teachers can save student exams and assignments marks.
- Teachers can see Student Details.
- teachers can see if the student is enable to participate in the exam or not.
- Finally, teachers can see the total attendance and total mark of each student.

1.5 **Methodology**

The methodology which is used to develop the application system. This also includes the system development methodology that refers to the framework that was used in developing the Teacher Assistant application from planning, information gathering, design and until the end of the system. While working on this project, we will be able to learn C# and MySQL database. We have learned object-oriented programming and many more.

1.6 **Organization of Project Report**

This project will help us manage the student and instructor's data more preciously as we will get of current semester and previous semesters and many more.

1.7 Conclusions

Overall, this Application will help us to manage the data of a of student's attendance, marks and other informations. It'll also help our teachers with all the information they need from students.

2.1 Introduction

In this chapter we will get to know other's existing Teacher Assistant system software and their work ways.

2.2 Existing System

There are also lots of Teacher Assistant software on the internet. Different Teacher Assistant system has different features. Some of has lots of features. From internet a Teacher Assistant software has some good features.

Some existing Teacher Assistant System Projects Links:

- <https://phpgurukul.com/teachers-record-management-system-using-php-and-mysql/>

2.3 Supporting Literature

2.3.1 Visual Studio

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

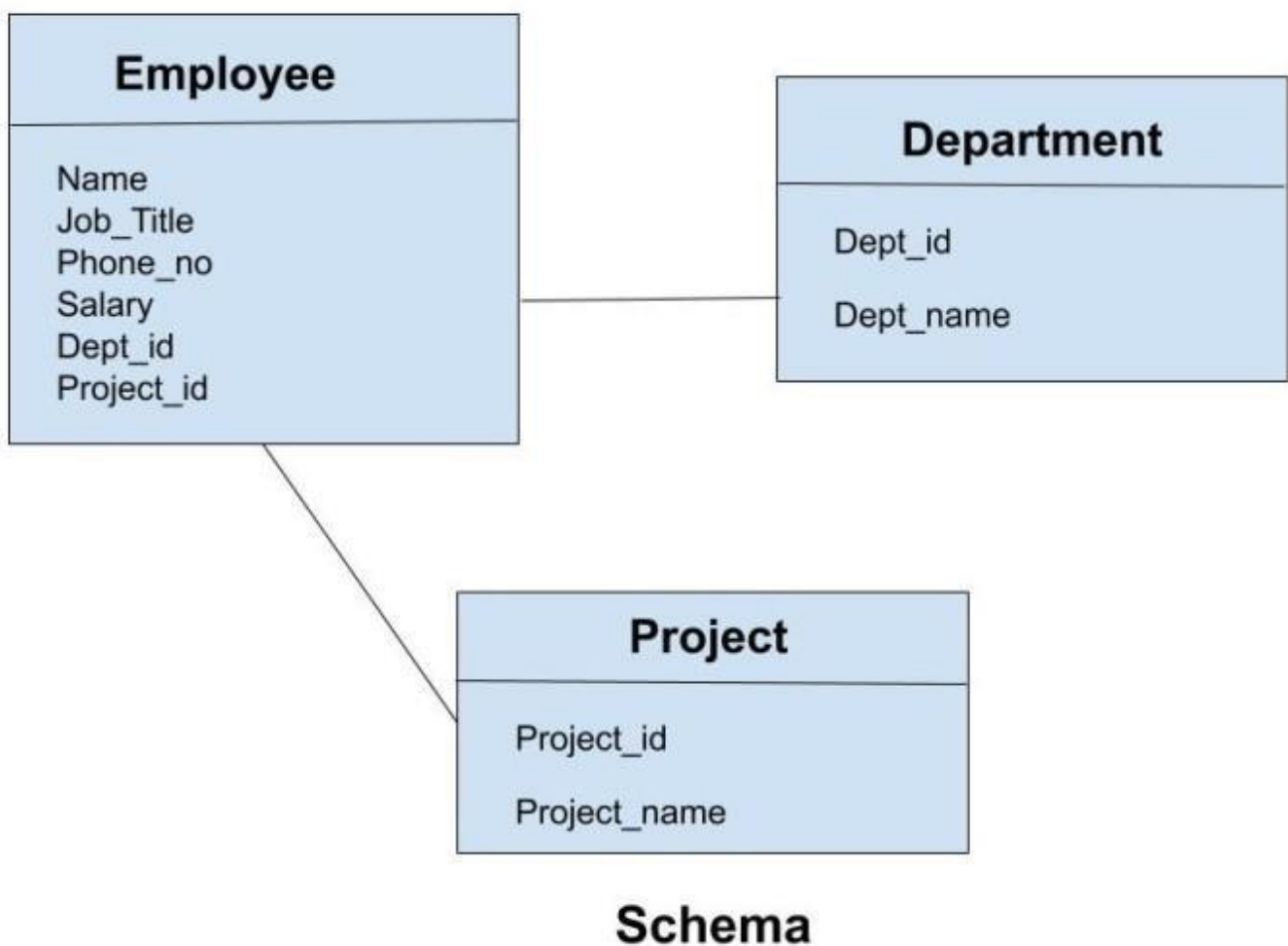
Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that expand the functionality at almost every level—including adding support for source control systems (like Subversion and Git) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Azure DevOps client: Team Explorer).

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C,[8] C++, C++/CLI, Visual Basic .NET, C#, F#,[9] JavaScript,

TypeScript, XML, XSLT, HTML, and CSS. Support for other languages such as Python,[10] Ruby, Node.js, and M among others is available via plug-ins. Java (and J#) were supported in the past.

2.3.2 Schema Diagram

The design of the database is called a schema. This tells us about the structural view of the database. It gives us an overall description of the database. A database schema defines how the data is organised using the schema diagram. A schema diagram is a diagram which contains entities and the attributes that will define that schema. A schema diagram only shows us the database design. It does not show the actual data of the database. Schema can be a single table or it can have more than one table which is related. The schema represents the relationship between these tables.



2.3.3 C# Language

C# is a general-purpose, multi-paradigm programming language. C# encompasses static typing, strong typing, lexically scoped, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines.

C# was designed by Anders Hejlsberg from Microsoft in 2000 and was later approved as an international standard by Ecma (ECMA-334) in 2002 and ISO (ISO/IEC 23270) in 2003. Microsoft introduced C# along with .NET Framework and Visual Studio, both of which were closed-source. At the time, Microsoft had no open-source products. Four years later, in 2004, a free and open-source project called Mono began, providing a cross-platform compiler and runtime environment for the C# programming language. A decade later, Microsoft released Visual Studio Code (code editor), Roslyn (compiler), and the unified .NET platform (software framework), all of which support C# and are free, open-source, and cross-platform. Mono also joined Microsoft but was not merged into .NET.

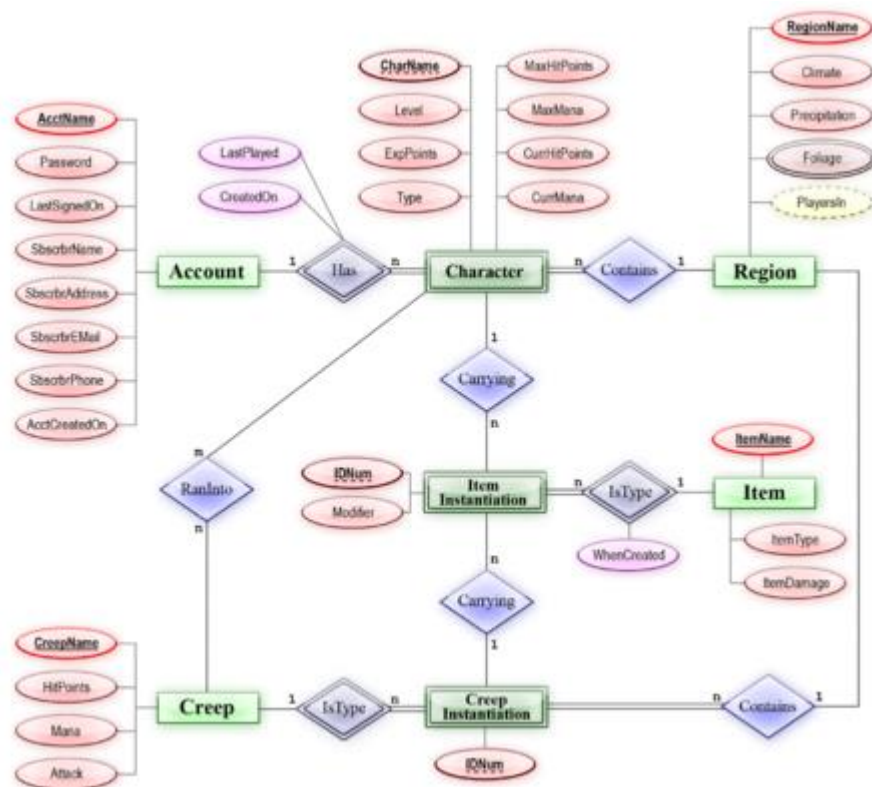
As of 2021, the most recent version of the language is C# 10.0, which was released in 2021 in .NET 6.0.

2.3.4 ER Diagram

An entity–relationship model (or ER model) describes interrelated things of interest in a specific domain of knowledge. A basic ER model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between entities (instances of those entity types).

In software engineering, an ER model is commonly formed to represent things a business needs to remember in order to perform business processes. Consequently, the ER model becomes an abstract data model, that defines a data or information structure which can be implemented in a database, typically a relational database.

Entity–relationship modeling was developed for database and design by Peter Chen and published in a 1976 paper, with variants of the idea existing previously. Some ER models show super and subtype entities connected by generalization-specialization relationships, and an ER model can be used also in the specification of domain-specific ontologies.



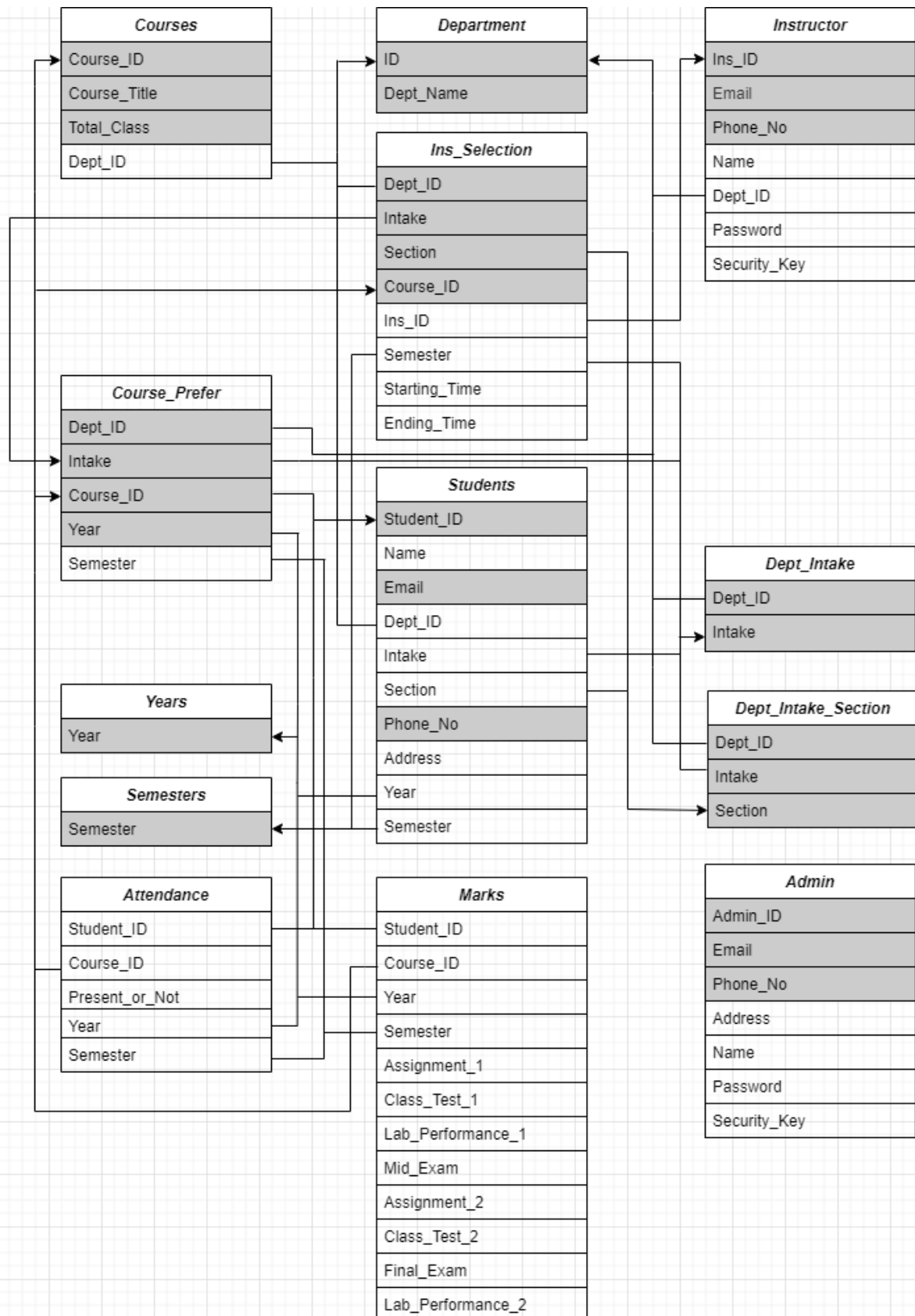
2.4 Conclusion

In this chapter we learned about C# Programming language Schema Diagram and ER Diagram.

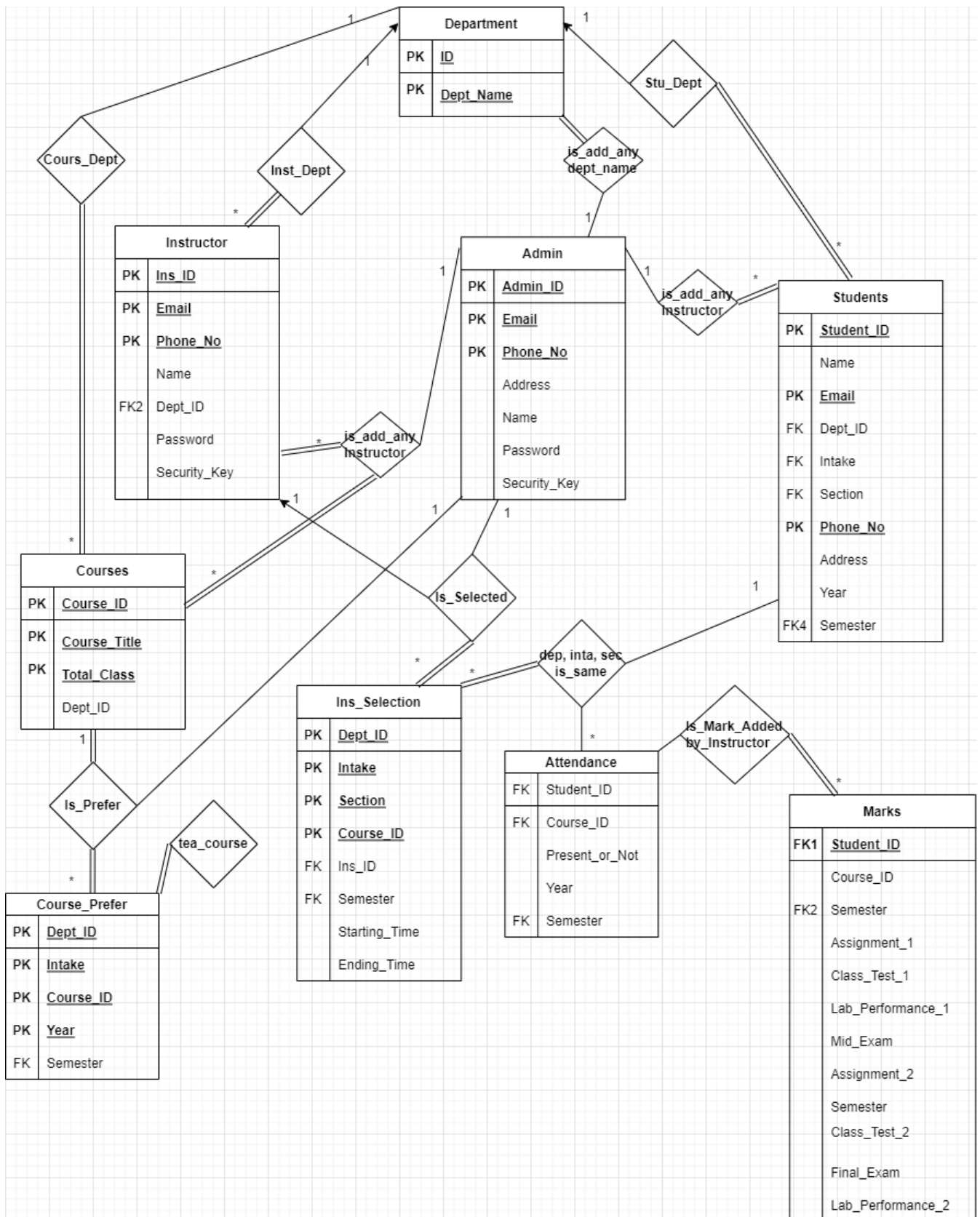
3.1 Introduction

In this chapter we will get to know about our system management software Schema Diagram, ER Diagram, software requirements, hardware requirements and how it works.

3.2 Schema Diagram



3.3 ER Diagram



3.4 System Requirements

3.3.1 Hardware Requirements:

**CPU: Intel Pentium Dual Core
Processor**

Minimum RAM: 2GB

Recommended Ram: 4GB

HDD: 200 MB

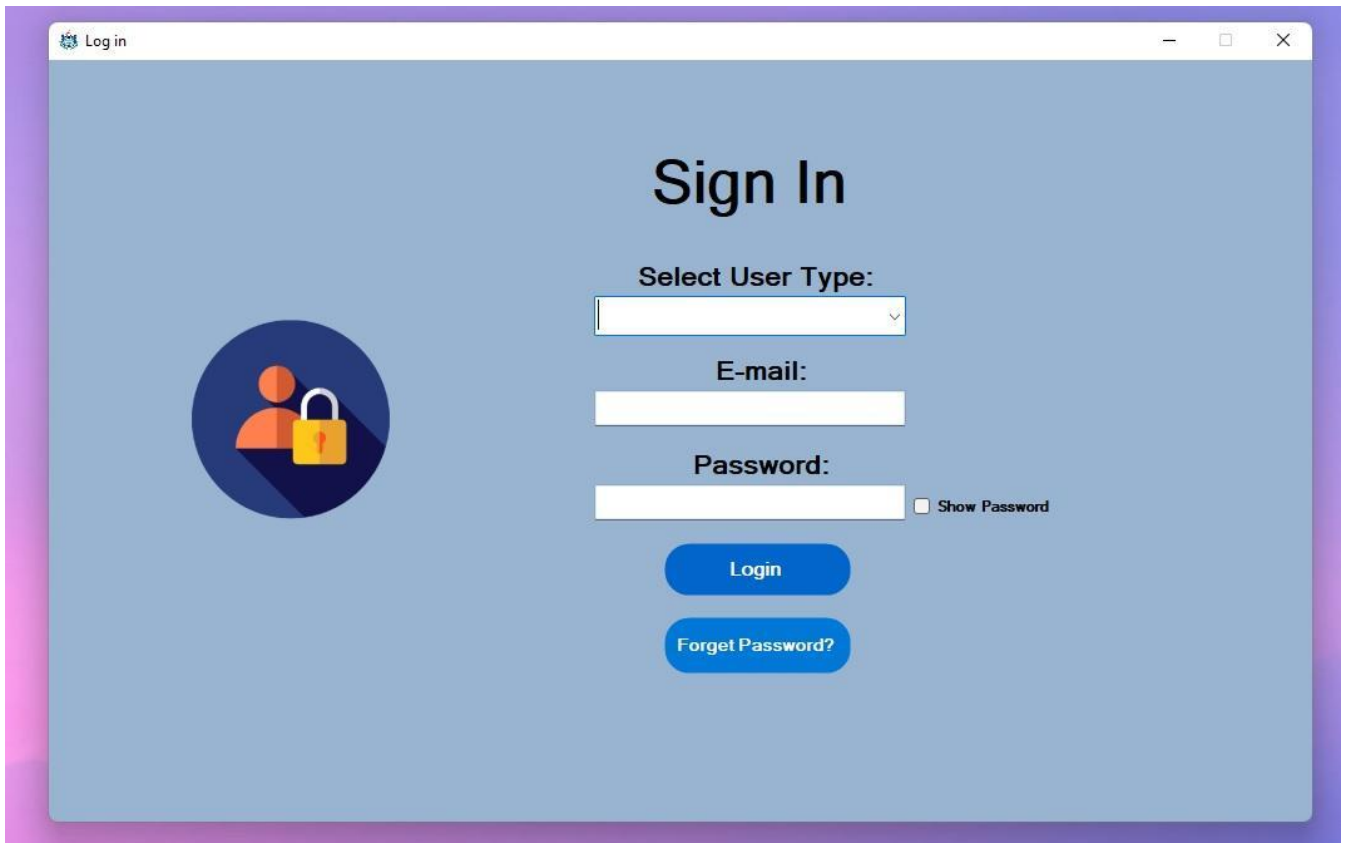
3.3.2 Software Requirements:

OS: Windows (32 & 64 Bit)

Software:

- I) Visual Studio**
- II) Xampp**
- III) MySQL Connector**

3.5 User Interfaces



The image shows a web browser window with the title "Log in". The main heading is "Sign In". On the left side, there is a circular icon containing a stylized person and a padlock. The form consists of the following elements:

- Select User Type:** A dropdown menu.
- E-mail:** A text input field.
- Password:** A text input field with a "Show Password" checkbox to its right.
- Login**: A blue button.
- Forget Password?**: A blue button.

Figure 3.4.1: Login Menu

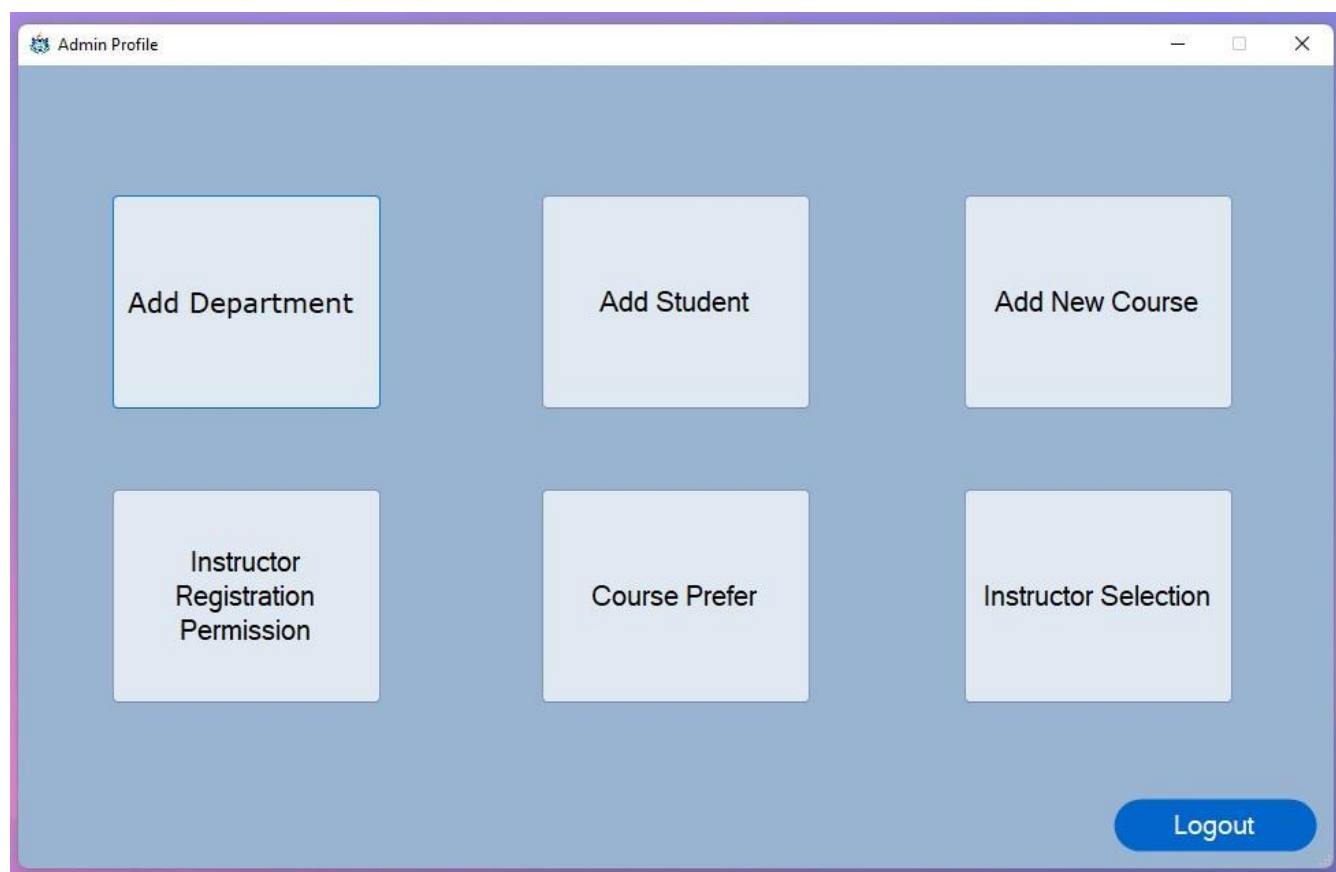
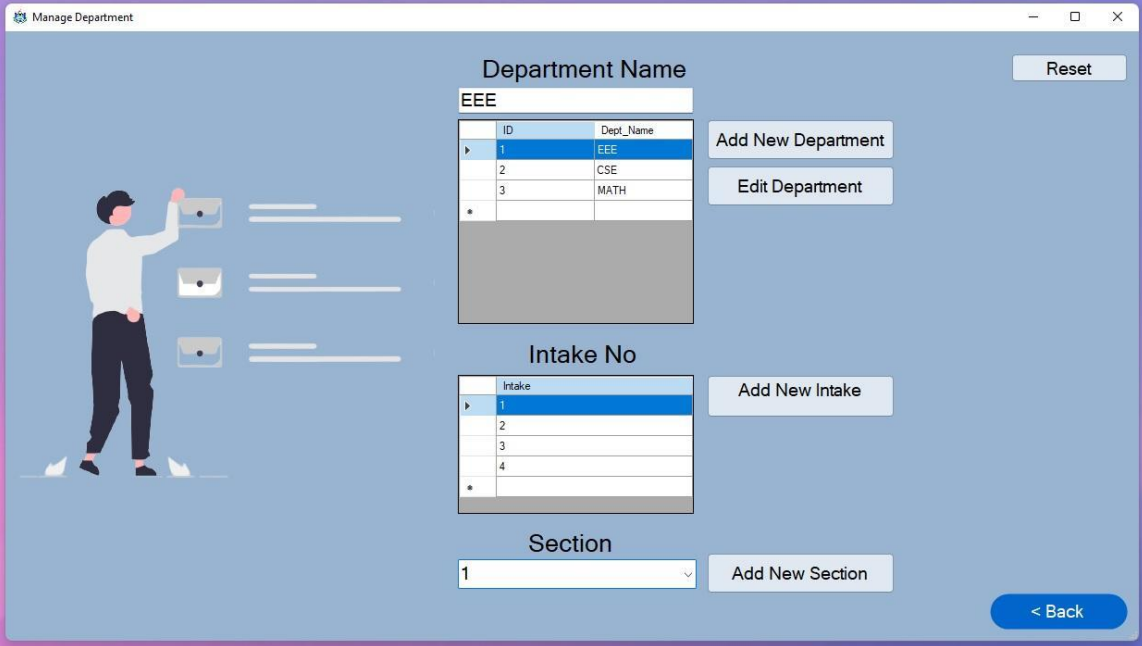


Figure 3.4.2: Admin Profile



The 'Manage Department' window features a light blue background with a stylized illustration of a person on the left. It includes a 'Department Name' input field with the value 'EEE' and a 'Reset' button. Below this is a table with columns 'ID' and 'Dept_Name', containing three rows: (1, EEE), (2, CSE), and (3, MATH). To the right of the table are 'Add New Department' and 'Edit Department' buttons. Further down is an 'Intake No' table with a single column 'Intake' and four rows: (1), (2), (3), and (4). To its right is an 'Add New Intake' button. Below the intake table is a 'Section' dropdown menu showing '1' and an 'Add New Section' button. A '< Back' button is located at the bottom right.

Department Name

EEE

Reset

ID	Dept_Name
1	EEE
2	CSE
3	MATH

Add New Department

Edit Department

Intake No

Intake
1
2
3
4

Add New Intake

Section

1

Add New Section

< Back

Figure 3.4.3: Manage Department



The 'Add New Student' window has a light blue background. It contains several form fields arranged in a grid. On the left, there are four dropdown menus: 'Select Department Name' (EEE), 'Select Intake' (1), 'Select Section' (1), and 'Select Semester' (Fall). In the center, there are four text input fields: 'Student Name' (Rahim), 'Student ID' (19202535), 'Email' (rahim@gmail.com), and a 'Submit' button. On the right, there are three text input fields: 'Phone No.' (01624578921), 'Address' (Mirpur, Dhaka), and 'Year' (2021). An orange graduation cap icon is centered at the bottom. A '< Back' button is at the bottom right.

Select Department Name

EEE

Select Intake

1

Select Section

1

Select Semester

Fall

Student Name

Rahim

Student ID

19202535

Email

rahim@gmail.com

Submit

Phone No.

01624578921

Address

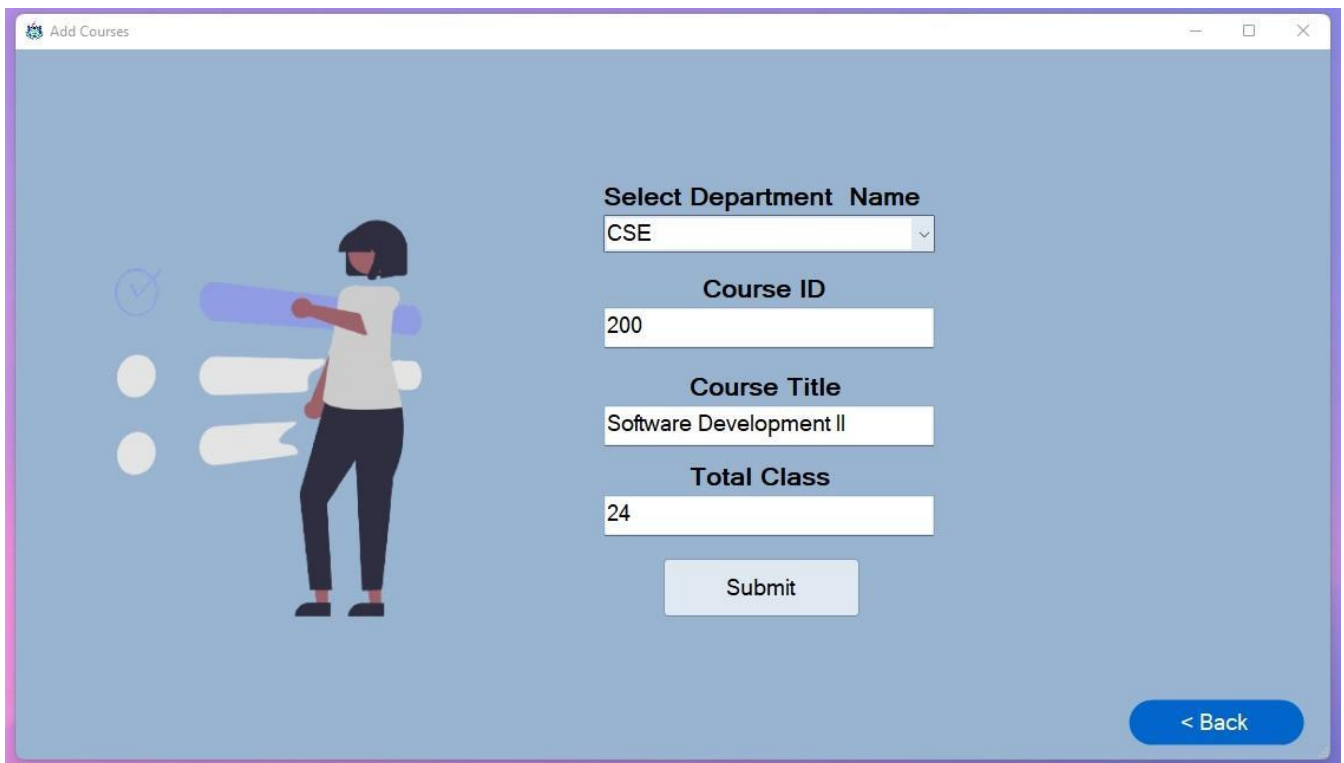
Mirpur, Dhaka

Year

2021

< Back

Figure 3.4.4: Add New Student

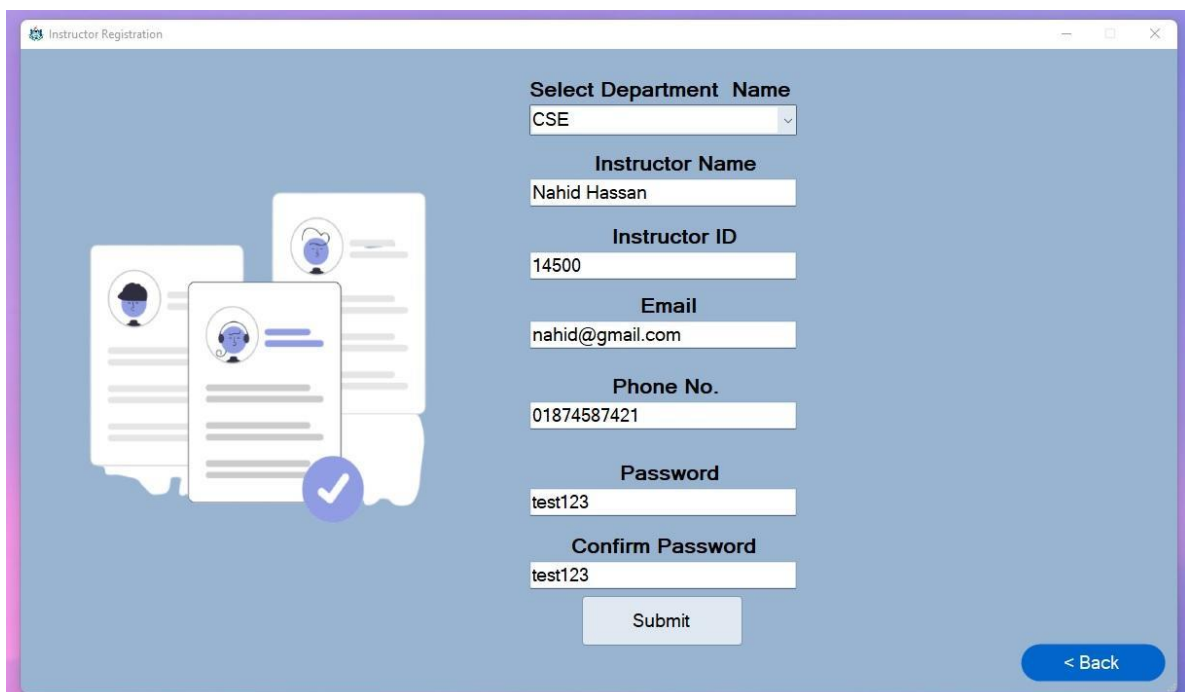


The 'Add Courses' form is displayed in a web browser window. On the left, there is an illustration of a person with dark hair, wearing a white t-shirt and dark pants, standing next to a large blue speech bubble with a white checkmark. The form fields are as follows:

Field Label	Value
Select Department Name	CSE
Course ID	200
Course Title	Software Development II
Total Class	24

Below the form fields is a 'Submit' button. At the bottom right of the form is a '< Back' button.

Figure 3.4.5: Add Courses

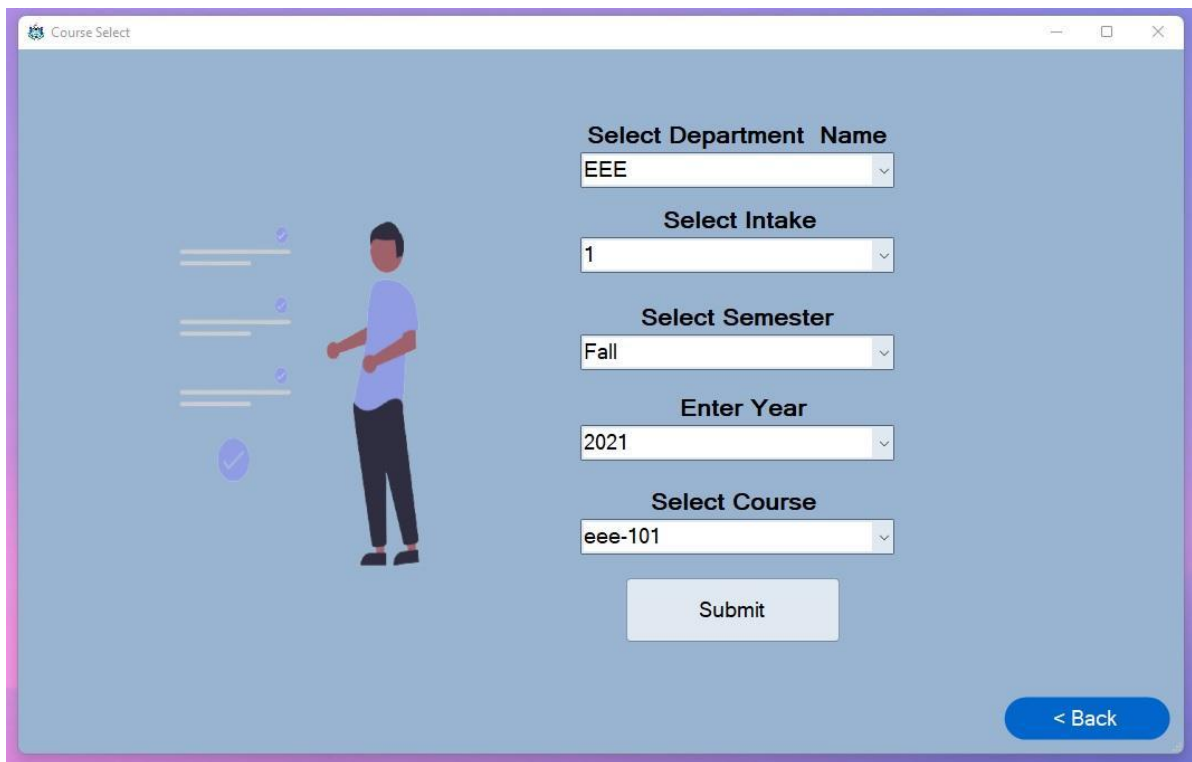


The 'Instructor Registration' form is displayed in a web browser window. On the left, there is an illustration of three overlapping documents with a blue checkmark in a circle at the bottom right. The form fields are as follows:

Field Label	Value
Select Department Name	CSE
Instructor Name	Nahid Hassan
Instructor ID	14500
Email	nahid@gmail.com
Phone No.	01874587421
Password	test123
Confirm Password	test123

Below the form fields is a 'Submit' button. At the bottom right of the form is a '< Back' button.

Figure 3.4.6: Instructor Registration



The 'Course Select' form is displayed in a web browser window. On the left, there is an illustration of a person in a blue shirt and dark pants standing next to a list of items, each with a checkmark. The form fields on the right are: 'Select Department Name' with 'EEE' selected, 'Select Intake' with '1' selected, 'Select Semester' with 'Fall' selected, 'Enter Year' with '2021' selected, and 'Select Course' with 'eee-101' selected. Below these fields is a 'Submit' button. At the bottom right, there is a blue button labeled '< Back'.

Course Select

Select Department Name
EEE

Select Intake
1

Select Semester
Fall

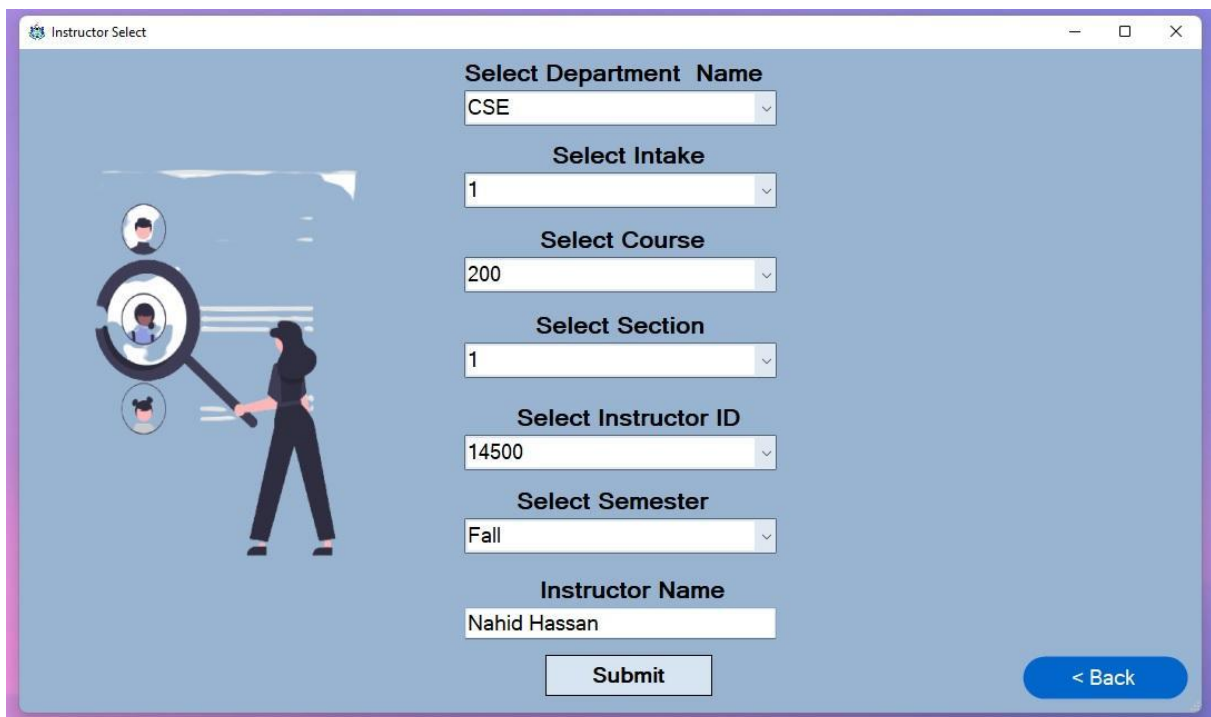
Enter Year
2021

Select Course
eee-101

Submit

< Back

Figure 3.4.7: Course Select



The 'Instructor Select' form is displayed in a web browser window. On the left, there is an illustration of a person in a black hijab and dark pants holding a magnifying glass over a list of people. The form fields on the right are: 'Select Department Name' with 'CSE' selected, 'Select Intake' with '1' selected, 'Select Course' with '200' selected, 'Select Section' with '1' selected, 'Select Instructor ID' with '14500' selected, 'Select Semester' with 'Fall' selected, and 'Instructor Name' with 'Nahid Hassan' entered. Below these fields is a 'Submit' button. At the bottom right, there is a blue button labeled '< Back'.

Instructor Select

Select Department Name
CSE

Select Intake
1

Select Course
200

Select Section
1

Select Instructor ID
14500

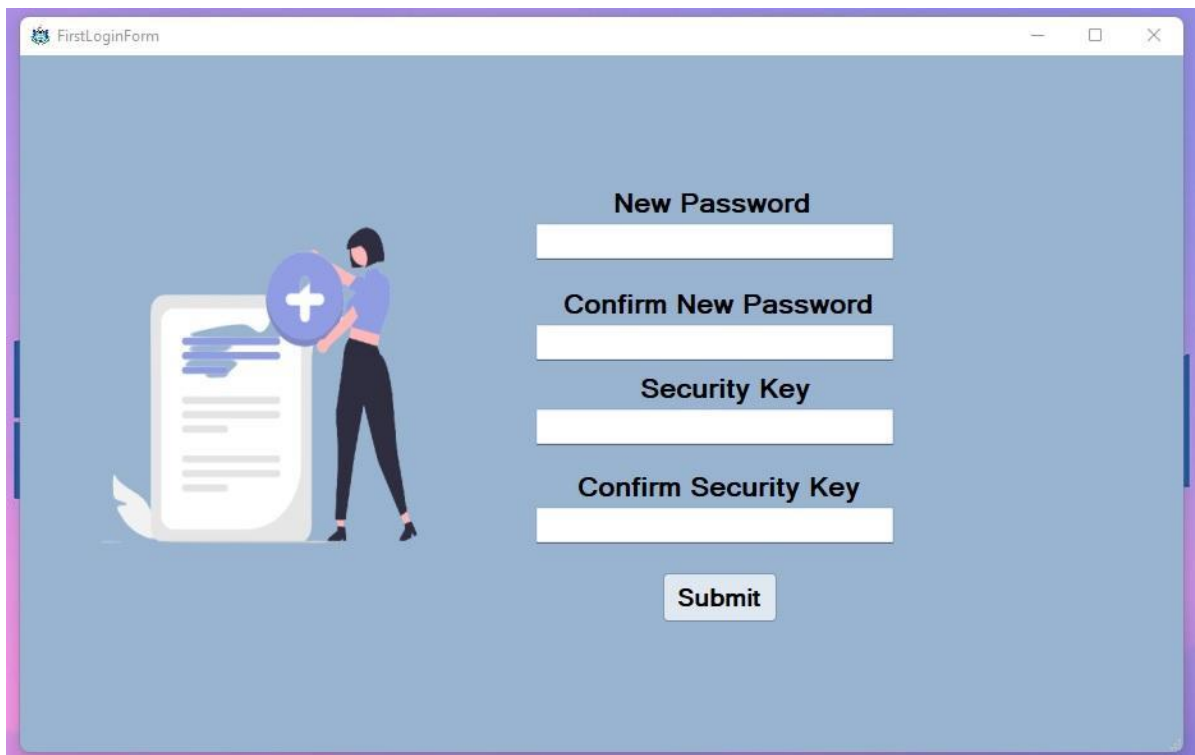
Select Semester
Fall

Instructor Name
Nahid Hassan

Submit

< Back

Figure 3.4.8: Add Courses



FirstLoginForm

New Password

Confirm New Password

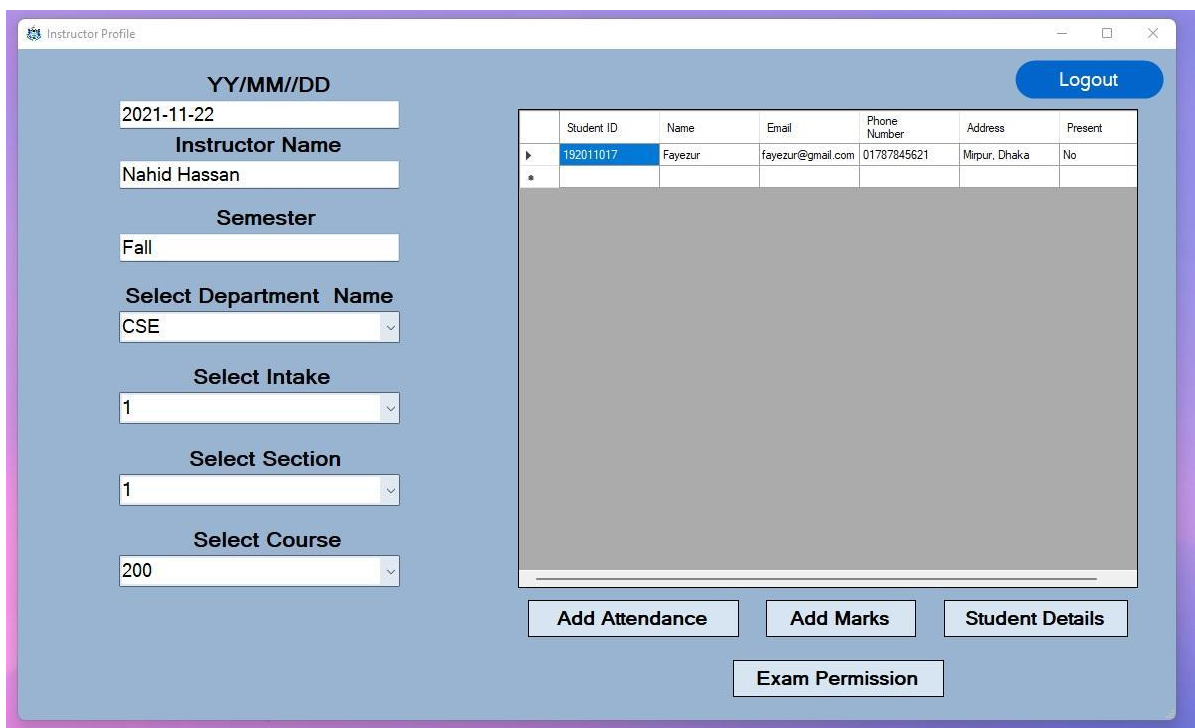
Security Key

Confirm Security Key

Submit

The form is titled 'FirstLoginForm' and features a blue background. On the left, there is an illustration of a person holding a large blue circle with a white plus sign, next to a document icon. On the right, there are four input fields for 'New Password', 'Confirm New Password', 'Security Key', and 'Confirm Security Key', followed by a 'Submit' button.

Figure 3.4.9: First Login



Instructor Profile

YY/MM/DD
2021-11-22

Instructor Name
Nahid Hassan

Semester
Fall

Select Department Name
CSE

Select Intake
1

Select Section
1

Select Course
200

Logout

	Student ID	Name	Email	Phone Number	Address	Present
▶	192011017	Fayezur	fayezur@gmail.com	01787845621	Mirpur, Dhaka	No
*						

Add Attendance **Add Marks** **Student Details**

Exam Permission

The 'Instructor Profile' window displays a form on the left for instructor details and a table on the right for student records. The form includes fields for date, name, semester, department, intake, section, and course. The table has columns for Student ID, Name, Email, Phone Number, Address, and Present status. Below the table are buttons for 'Add Attendance', 'Add Marks', 'Student Details', and 'Exam Permission'. A 'Logout' button is located in the top right corner.

Figure 3.4.10: Instructor Profile

Student Name
Fayezeur

Student ID
192011017

Course ID
200

Select Marks Type
Assignment 1

Enter Marks
5

Submit **Update Marks**

	Assignment 1	Class Test 1	Lab Performance 1	Mid Exam	Assignment 2	Class Test 2	Lab Performance 2
▶	5	0	0	0	0	0	0
*							

[< Back](#)

Figure 3.4.11: Add Marks

Student's Class Activity

	Student Name	Student ID	Total Attendance	Percentage (Attendance)	Mid Or Final
▶	Fayezeur	192011017	11	45.8333	Mid Exam
*					

[< Back](#)

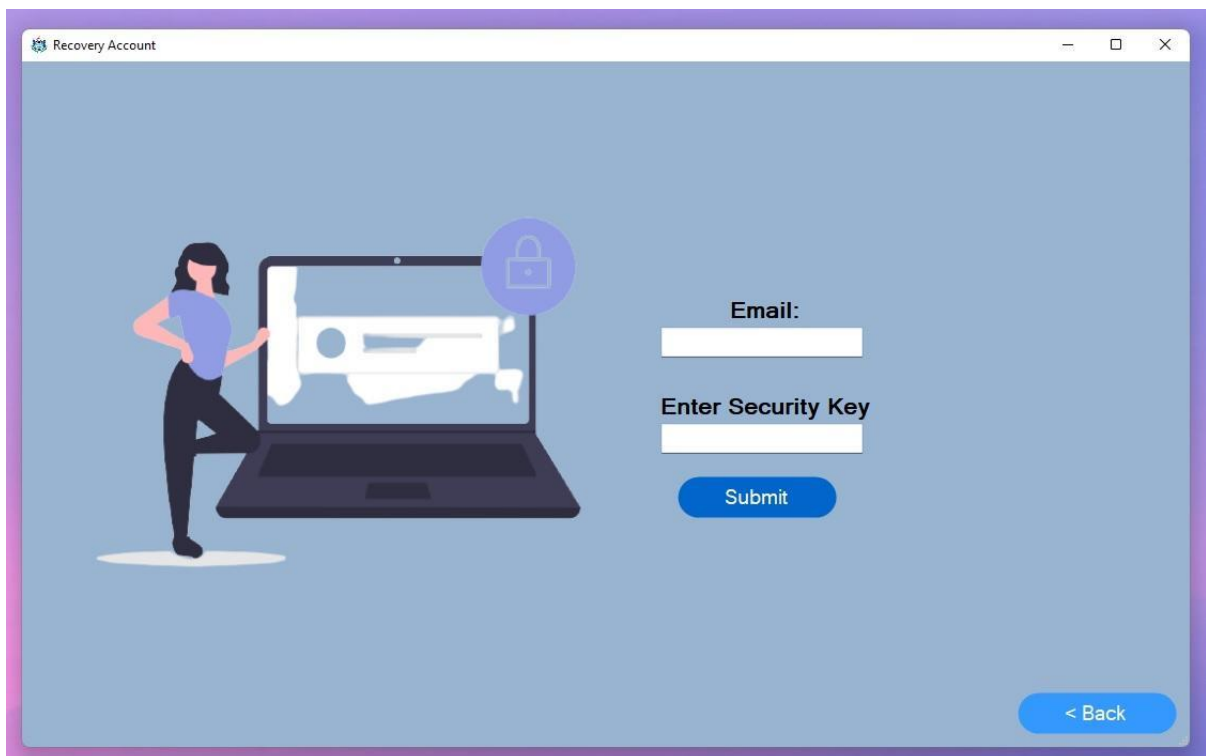
Figure 3.4.12: Student Exam Permission



The 'StudentDetails' form is displayed within a web browser window. It features a light blue background with a stylized illustration of a person sitting on a large blue sphere and reading a book. The form contains several input fields, each with a label above it. The labels are: 'Student Name', 'Student ID', 'Phone No.', 'Address', 'Email', 'Total Mark', and 'Attendance'. The corresponding values entered in the fields are: 'Fayezur', '192011017', '01787845621', 'Mirpur, Dhaka', 'fayezur@gmail.com', '5', and '25%'. A blue button labeled '< Back' is located at the bottom right of the form.

Field	Value
Student Name	Fayezur
Student ID	192011017
Phone No.	01787845621
Address	Mirpur, Dhaka
Email	fayezur@gmail.com
Total Mark	5
Attendance	25%

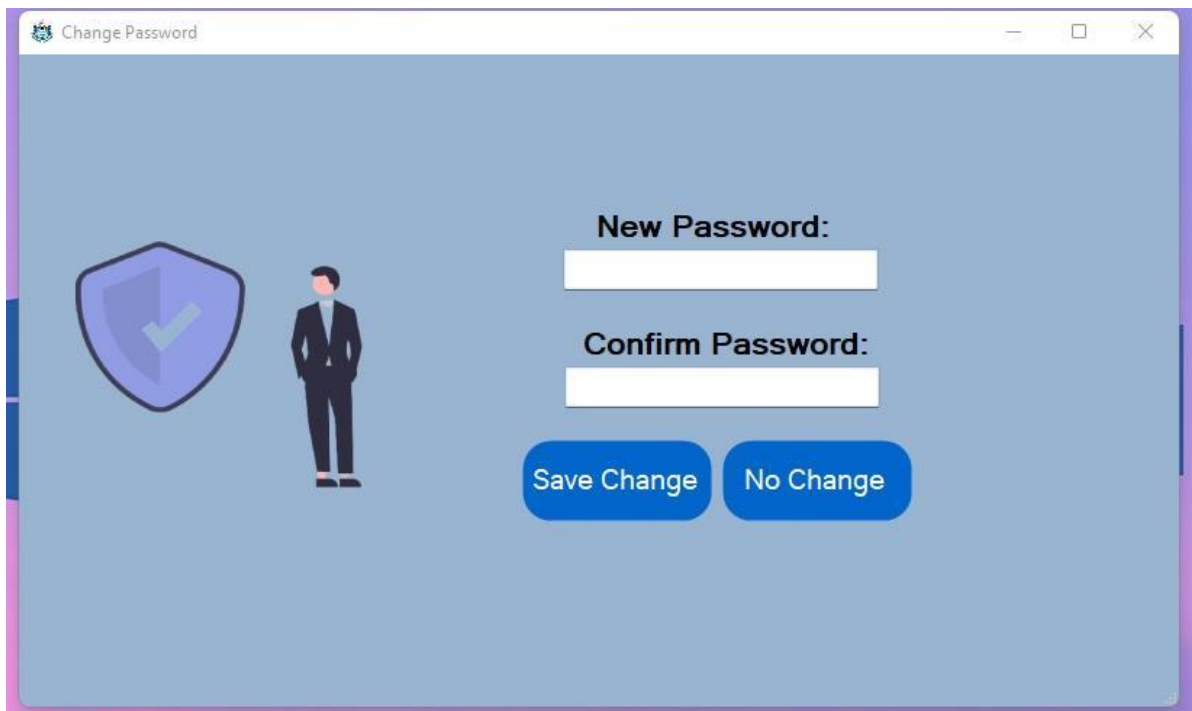
Figure 3.4.513: Student Details



The 'Recovery Account' form is displayed within a web browser window. It features a light blue background with a stylized illustration of a person standing next to a large laptop. The laptop screen shows a login form with a lock icon. The form contains two input fields: 'Email:' and 'Enter Security Key'. A blue button labeled 'Submit' is located below the 'Enter Security Key' field. A blue button labeled '< Back' is located at the bottom right of the form.

Field	Value
Email:	
Enter Security Key	

Figure 3.4.14: Recovery Account



A screenshot of a web browser window titled "Change Password". The window has a light blue background. On the left side, there is a purple shield icon with a white checkmark inside, and a small illustration of a person in a dark suit standing next to it. On the right side, there are two text input fields. The first field is labeled "New Password:" and the second field is labeled "Confirm Password:". Below these fields are two blue buttons with white text: "Save Change" and "No Change". The browser window includes standard window controls (minimize, maximize, close) in the top right corner.

Figure 3.4.15: Change Password

3.6 Conclusions

From this chapter we have seen the Software's Flowchart, Hardware requirements, Software Requirements and also, it's Interfaces.

4.1 Conclusions

While working on this project we face lots of problems. We can't add password changing option. We can't delete any student information on this project. We can't see which student got the highest marks on the exam. On this software one student can't see other student results or any information. Admin can't add routines and Student can't know about faculty information. They cannot choice their desire courses.

4.2 Future Plan

We know that C# program has lots of features. So, our future plan is to build this project as Online using ASP.NET (C# Framework). In future we want to add more features like

- A Dedicated Panel for Student
- Student can create their own Account
- A Dedicated Panel for Intake In-Charge
- Faculty members information