

# Student Management System

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UNDER THE GUIDANCE OF DR. MAINAK ADHIKARI

- Saniya Maheshwari (LCI2020022)
- Tusharika Maheshwari (LCI2020023)
- Vartika Gupta (LCI2020024)
- Divya Rai (LCI2020025)

# Introduction

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- We have tried to create a student management system that allows authorized members to access the record of academically registered students.
- It can be used in various educational institutes across the globe and simplifies the working of institutions.
- This system is designed for schools to help administrators and teachers in the management of students.

# Motivation & Idea

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The student management has to handle records for many students, and maintenance was complex. Though it has used an information system, it was totally manual. Hence there is a need to upgrade the system with a computer-based information system.

- To overcome existing problems occurring in the maintenance of student information
- To manage student's information during admission
- To develop a system that is convenient to use and easy to handle
- To reduce unnecessary paperwork in maintaining student's information
- This system is fast and convenient

# Applications

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With an online student management system, the entire process of an institute gets automated. A lot of manpower and resources' time is saved from an admin's perspective. On the other hand, the resources can be utilized to better drive students' progress and outcomes.

- It can be used by students to fill application forms of respective schools.
- Students can view the list of current courses and batches to choose from.
- It can be used by the administration to manage the data of the students at one place.
- Management staff can use the portal to view the list of current batches and courses and add new if needed.

# Description of the project

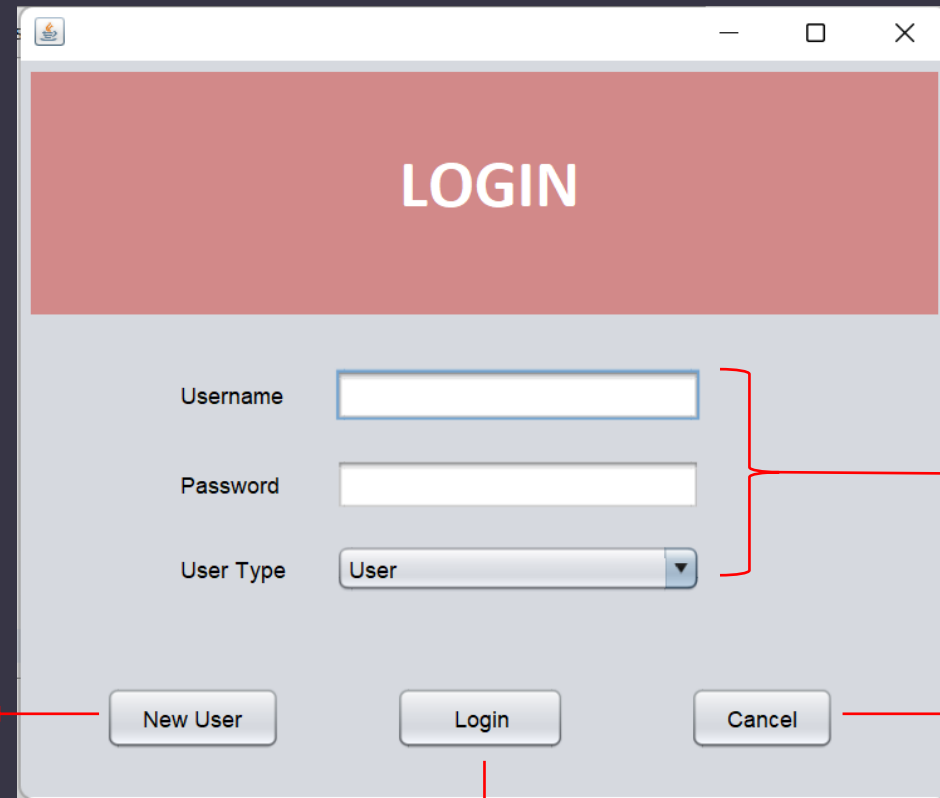
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The project mainly consists of four pages:

- The login page
- New User page
- User page
- Admin page

# The Login Page

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This button opens the New User page to register as a new user

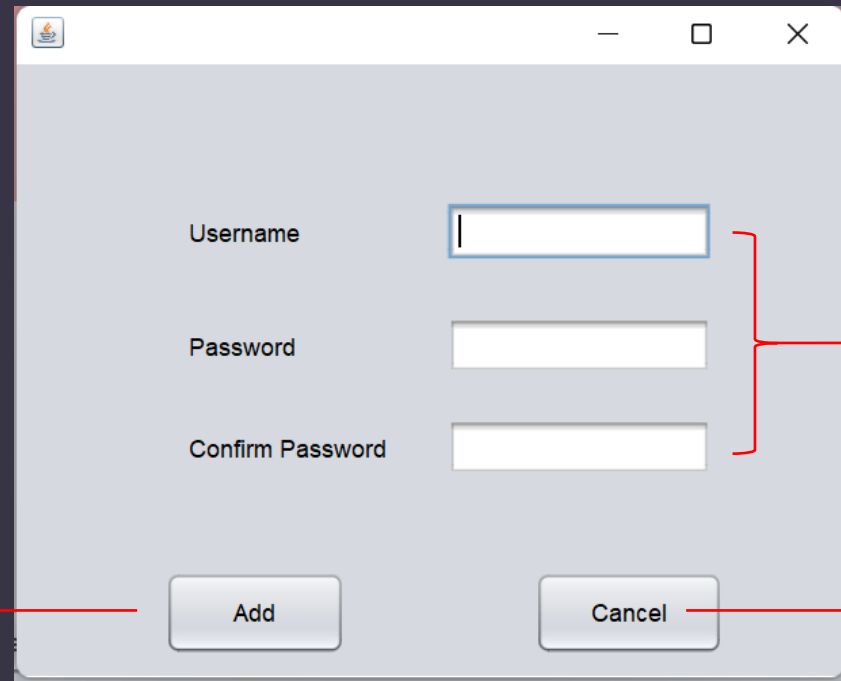
Textboxes and dropdown to take the credentials of user as input

Cancel button to close the portal

Login button opens the next page if the credentials matches, otherwise shows error message

# Add Admin page

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A screenshot of a web application window titled "Add Admin". The window has a light gray background and a standard window title bar with minimize, maximize, and close buttons. Inside the window, there are three text input fields stacked vertically, each with a label to its left: "Username", "Password", and "Confirm Password". The "Username" field is currently active, showing a cursor. Below the input fields are two buttons: "Add" on the left and "Cancel" on the right. Red arrows and a bracket are used to highlight specific elements: a bracket on the right side of the three input fields points to an external text box; an arrow points from the "Add" button to an external text box; and an arrow points from the "Cancel" button to an external text box.

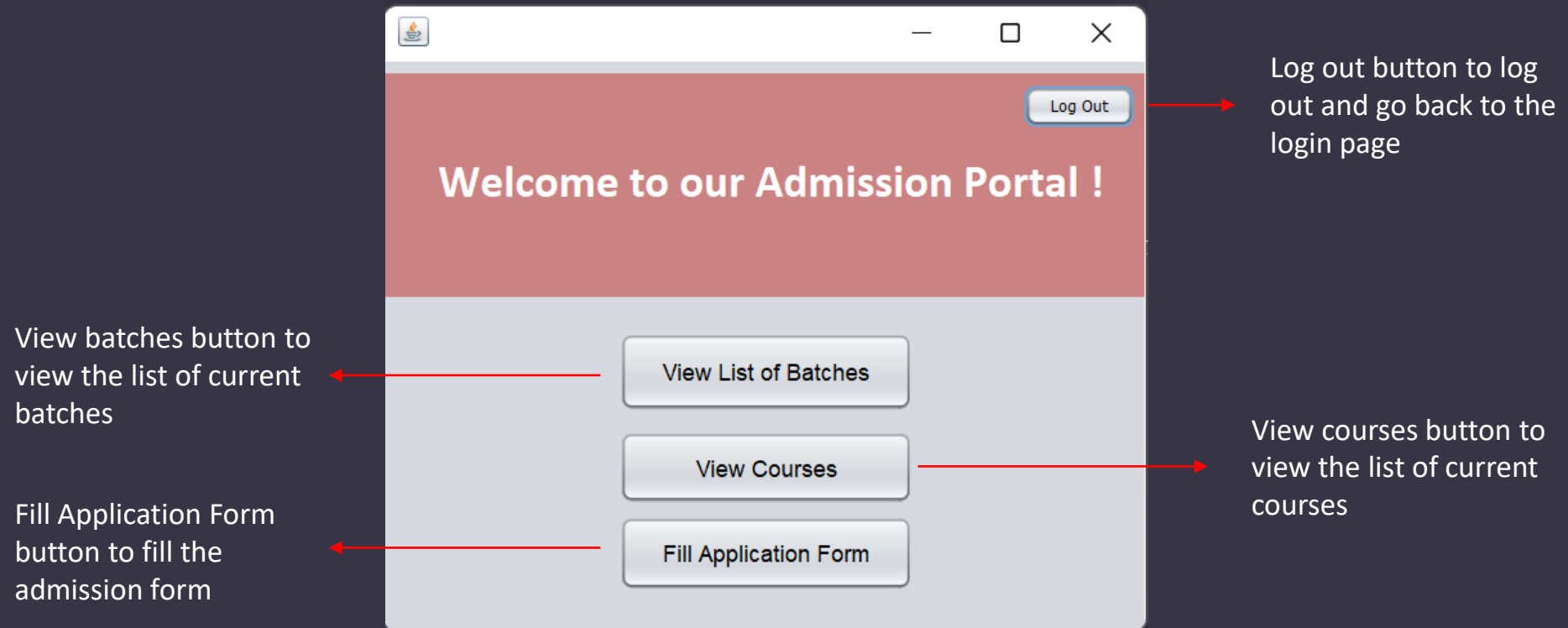
Textboxes to enter the credentials to add a new admin to the database who can access the data

If both the password matches, new user is added to the database

Cancel button to close this page and go back to login page

# User page

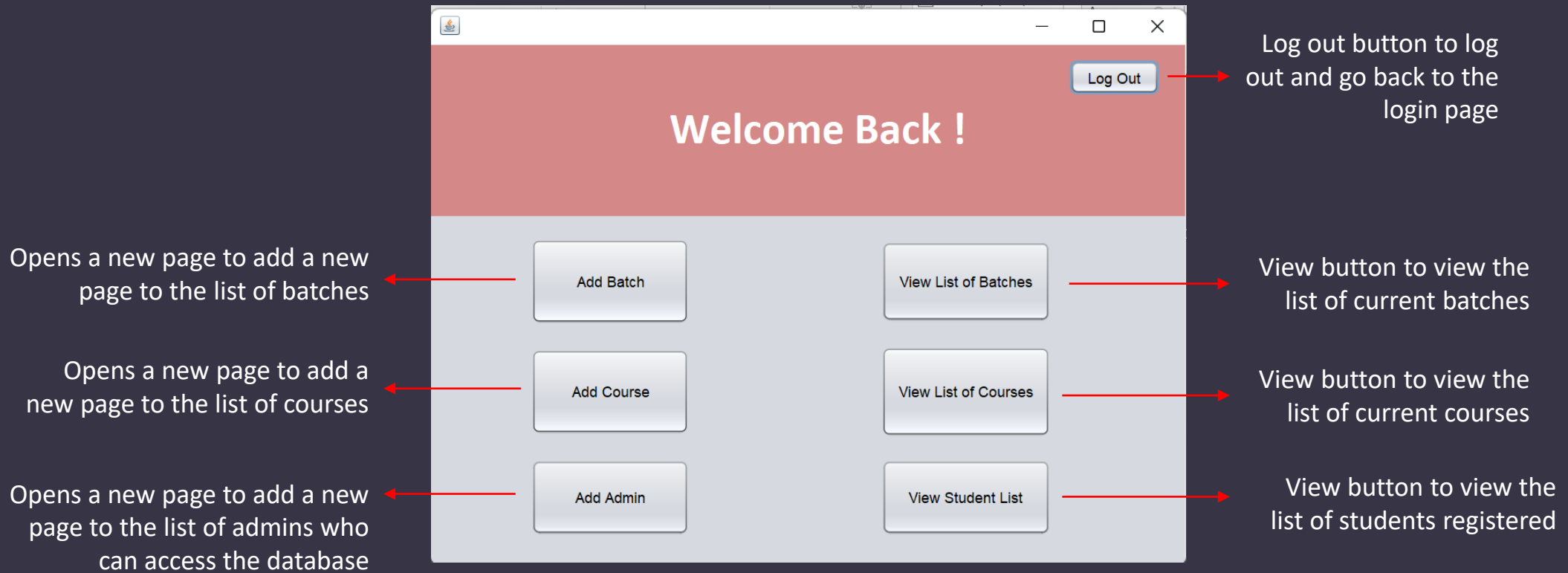
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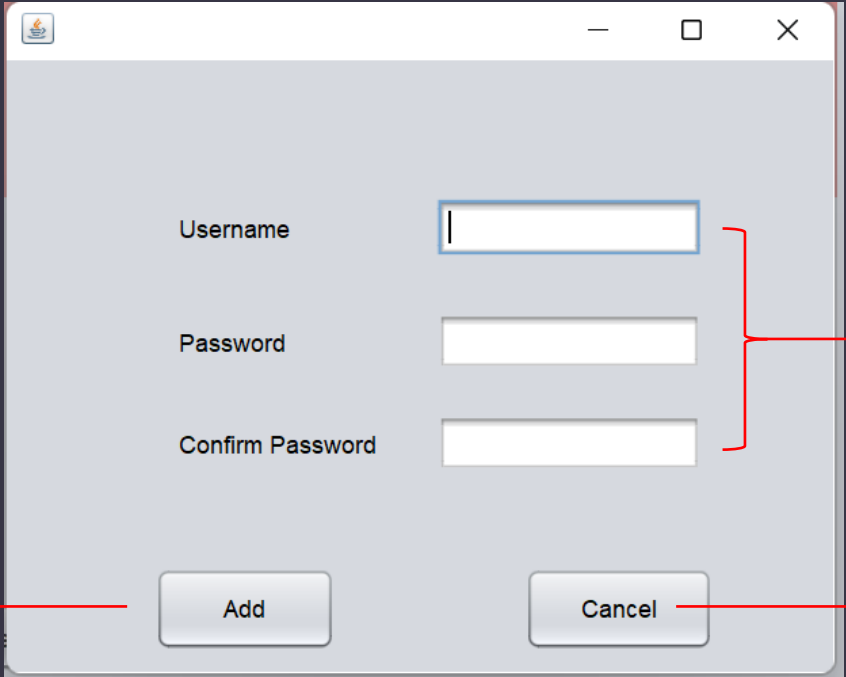
# Admin Page

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# New User page

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The image shows a 'New User' registration window with the following elements:

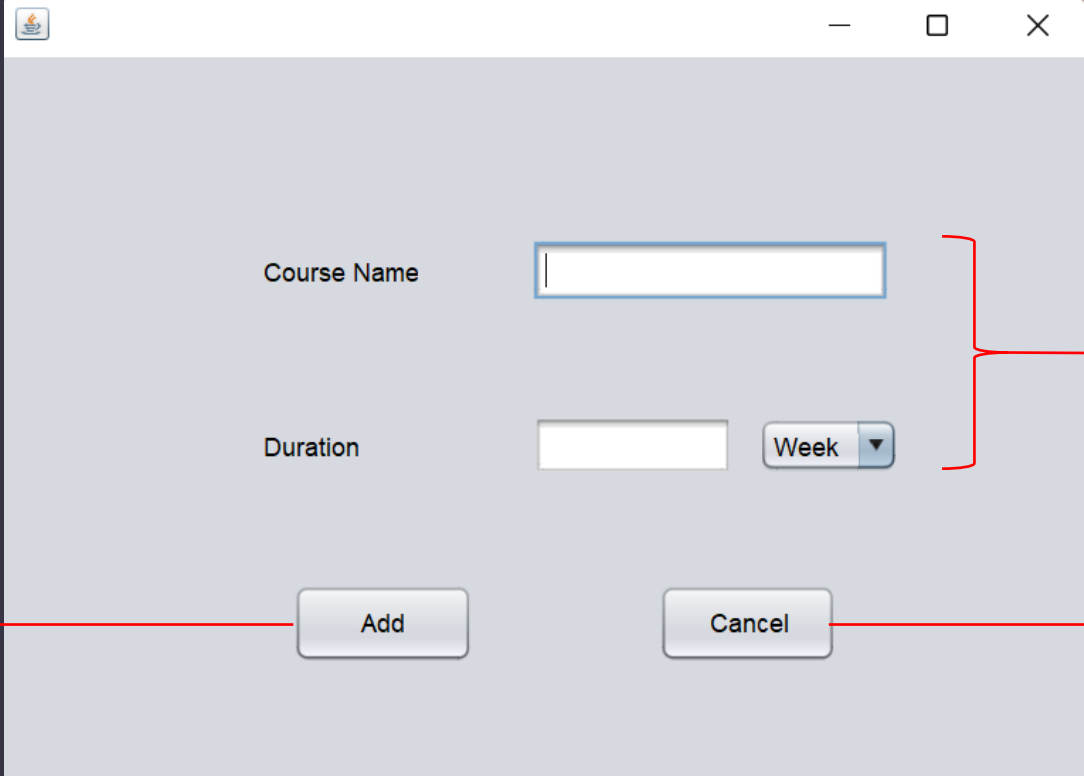
- Username:** A text input field with a cursor.
- Password:** A text input field.
- Confirm Password:** A text input field.
- Add:** A button at the bottom left.
- Cancel:** A button at the bottom right.

Annotations with red arrows and text:

- A bracket on the right side of the Password and Confirm Password fields points to the text: "Textboxes to enter the credentials to register as a new user".
- An arrow points from the text "If both the password matches, new user is added to the database" to the Add button.
- An arrow points from the text "Cancel button to close this page and go back to login page" to the Cancel button.

# Add Course

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The image shows a screenshot of a software window titled "Add Course". The window has a standard title bar with a minimize button, a maximize button, and a close button. The main content area is light gray and contains the following elements:

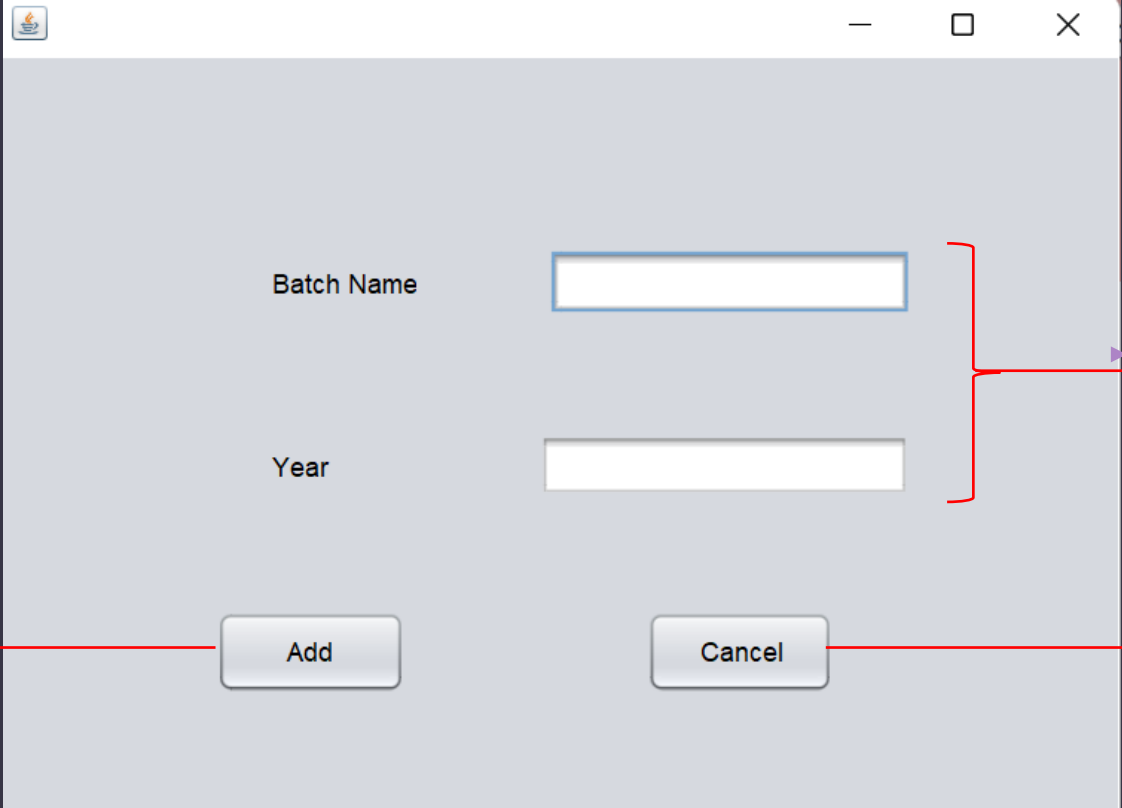
- A label "Course Name" followed by a text input field.
- A label "Duration" followed by a text input field and a dropdown menu currently showing "Week".
- At the bottom, there are two buttons: "Add" and "Cancel".

Red arrows and a bracket provide annotations:

- A red arrow points from the text "Add button to add the course" to the "Add" button.
- A red arrow points from the text "Cancel button to close this portal" to the "Cancel" button.
- A red bracket groups the "Course Name" text box and the "Duration" text box/dropdown, with a red arrow pointing to the text "Textbox and dropdown to take the details of the course".

# Add Batch

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The image shows a screenshot of a software window titled "Add Batch". The window has a standard title bar with a minimize button, a maximize button, and a close button. The main content area is light gray and contains two text input fields. The first field is labeled "Batch Name" and the second is labeled "Year". Both fields are empty. Below the text fields are two buttons: "Add" and "Cancel".

Annotations with red arrows point to the following elements:

- A bracket on the right side of the "Batch Name" and "Year" text boxes points to the text: "Textboxes to take the details of the batch".
- An arrow points from the text "Add button to add the course" to the "Add" button.
- An arrow points from the text "Cancel button to close this portal" to the "Cancel" button.

# Registration Page

The image shows a web browser window titled "REGISTRATION". The form contains the following elements:

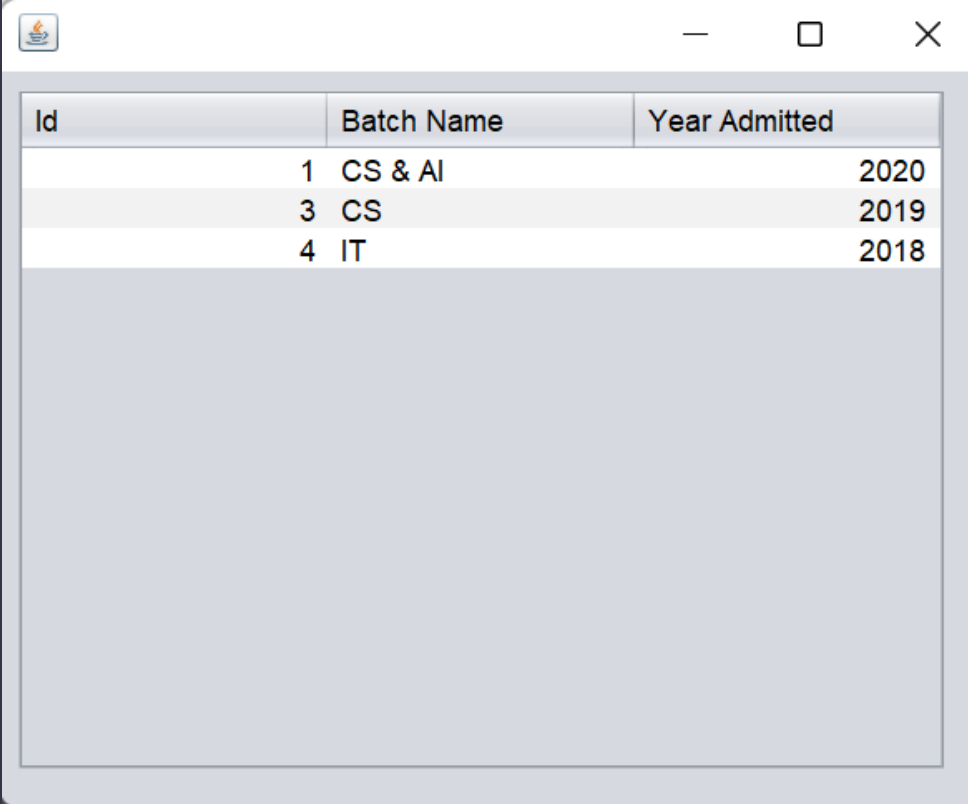

- First Name**: A text input field.
- Last Name**: A text input field.
- Username**: A text input field.
- Gender**: Two radio buttons labeled "Male" and "Female".
- Course**: A dropdown menu with "B. Tech" selected.
- Batch**: A dropdown menu with "CS & AI" selected.
- Phone No.**: A text input field.
- Address**: A larger text input area.
- Save**: A button at the bottom left.
- Cancel**: A button at the bottom right.

Annotations with red arrows point to specific parts of the form:

- A bracket on the right side of the "First Name", "Last Name", and "Username" fields points to the text: "Text field to get the user credentials".
- A bracket on the left side of the "Gender", "Course", and "Batch" fields points to the text: "Radio buttons and dropdowns to select gender , course and batch".
- A bracket on the right side of the "Phone No." and "Address" fields points to the text: "Text field to get the user credentials".
- An arrow points from the "Save" button to the text: "Registers the user and adds data to database".
- An arrow points from the "Cancel" button to the text: "Cancels the registration".

# View Batches

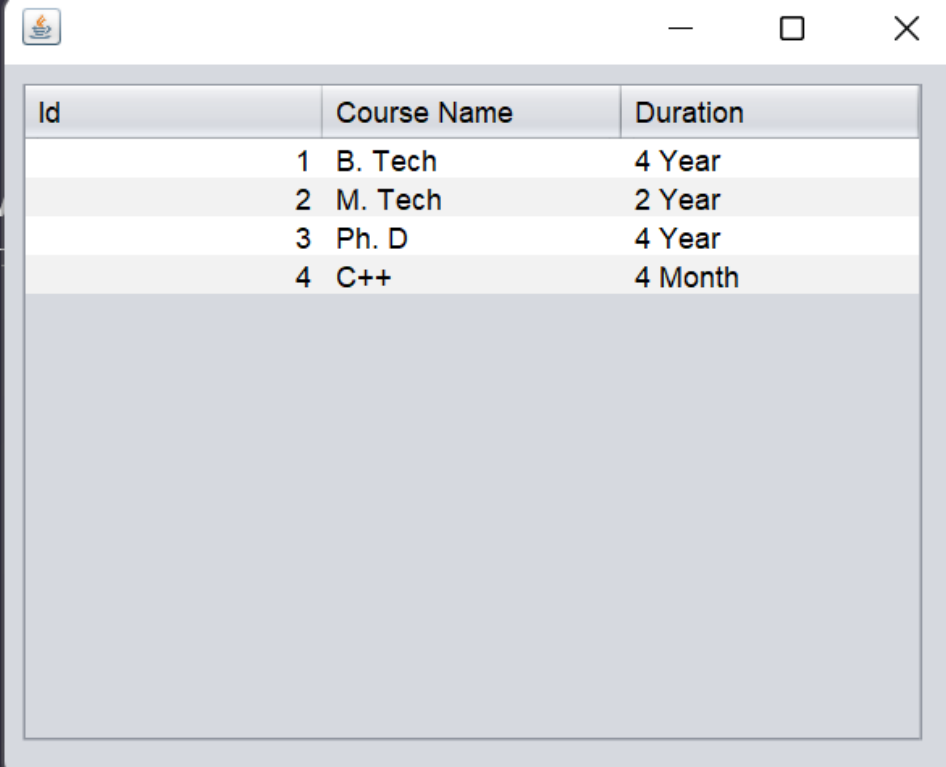
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Id	Batch Name	Year Admitted
1	CS & AI	2020
3	CS	2019
4	IT	2018

# View Courses

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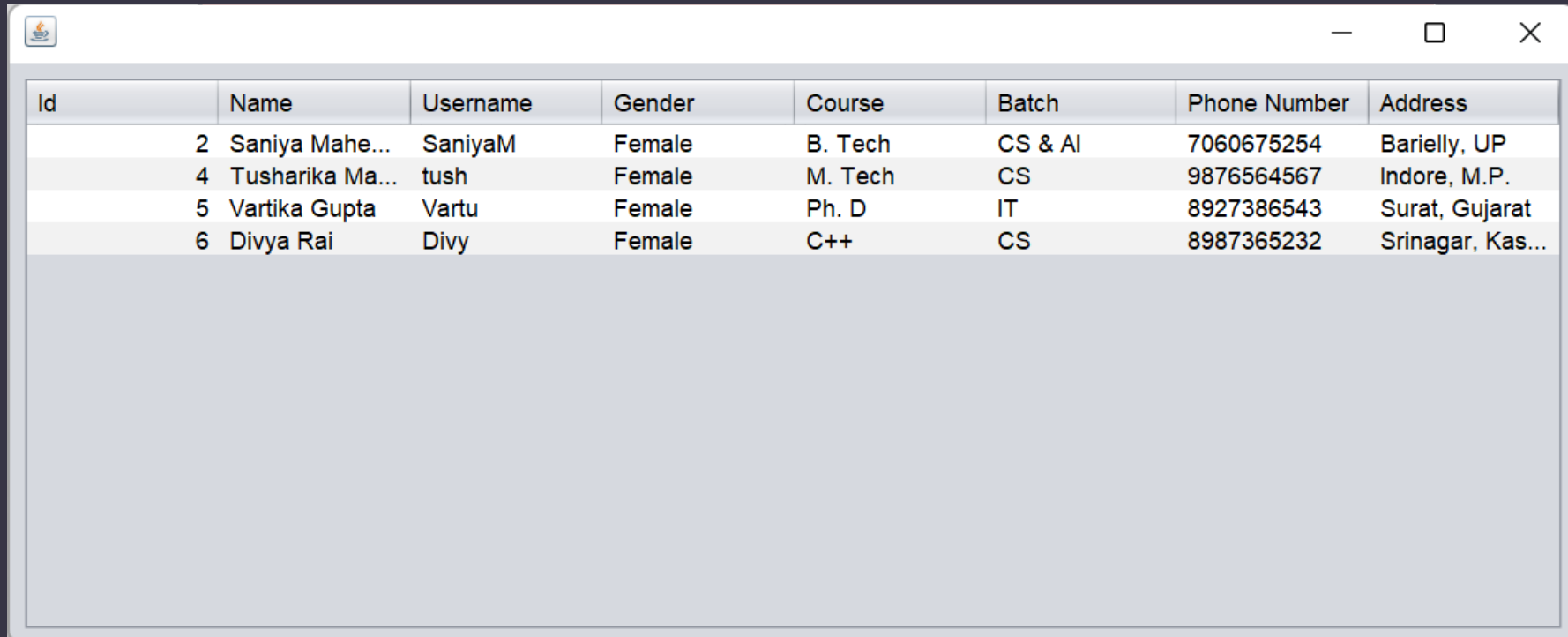


A Java Swing window titled "View Courses" with a standard Mac OS-style title bar (red, yellow, and green buttons). The window contains a table with three columns: "Id", "Course Name", and "Duration". The table has four data rows. Below the table is a large, empty light blue rectangular area.

Id	Course Name	Duration
1	B. Tech	4 Year
2	M. Tech	2 Year
3	Ph. D	4 Year
4	C++	4 Month

# View Student List

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A screenshot of a web application window titled "View Student List". The window contains a table with 8 columns: Id, Name, Username, Gender, Course, Batch, Phone Number, and Address. The table displays 4 rows of student data. The window has a standard title bar with a minimize button, a maximize button, and a close button.

Id	Name	Username	Gender	Course	Batch	Phone Number	Address
2	Saniya Mahe...	SaniyaM	Female	B. Tech	CS & AI	7060675254	Barielly, UP
4	Tusharika Ma...	tush	Female	M. Tech	CS	9876564567	Indore, M.P.
5	Vartika Gupta	Vartu	Female	Ph. D	IT	8927386543	Surat, Gujarat
6	Divya Rai	Divy	Female	C++	CS	8987365232	Srinagar, Kas...



# Technologies Incorporated

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- Swing API for window application
- AWT API for window application (event listeners)
- JDBC for database connectivity (MySQL as DBMS)

# Java Properties Incorporated

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- Multiple Inheritance
- Multi-level Inheritance
- Polymorphism
- Exception Handling

# Possibilities for Extensions

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Adding more functionalities to this application can help it get deployed on a large scale. We can add various functionalities such as

- We can add a profile page for each student, where they can view information related to their accounts, such as the courses they have registered in, the batch they are in, the validity of their courses, and more.
- Since it is a management system; therefore it can be deployed in not only schools and colleges but also for other fields such as hospitals, banks, libraries, government offices, etc., to maintain the record of users.

# Possibilities for Extensions

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- Fee-paying functionalities can also be added to this system so that the students can perform fee transactions and view its status as well.
- This portal can also be extended by adding exam-related data of students to the database. As a result, the students can view their marks obtained in the exams they have appeared in and can also get a finalized report of their performance.

# Contribution of group members

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Saniya Maheshwari  
(LCI2020022) { Login Page  
View List of Students

Fill Application Form page } Tusharika Maheshwari  
New User/Admin page } (LCI2020023)

Vartika Gupta  
(LCI2020024) { User Page  
View list of batches  
View list of courses

Admin Page } Divya Rai  
Add Batches } (LCI2020025)  
Add Courses }

THANK YOU