ALUMNI MANAGEMENT SYSTEM

A PROJECT REPORT

Submitted by

HARIVARSHINI G (2303811710422059)

in partial fulfillment of requirements for the award of the course

CGB1201 - JAVA PROGRAMMING

In

COMPUTER SCIENCE AND ENGINEERING

K. RAMAKRISHNAN COLLEGE OF TECHNOLOGY

(An Autonomous Institution, affiliated to Anna University Chennai and Approved by AICTE, New Delhi)

SAMAYAPURAM – 621 112

NOVEMBER- 2024

K. RAMAKRISHNAN COLLEGE OF TECHNOLOGY (AUTONOMOUS)

SAMAYAPURAM – 621 112

BONAFIDE CERTIFICATE

Certified that this project report on **"ALUMNI MANAGEMENT SYSTEM"**is the bonafide work of **HARIVARSHINI G (2303811710422059)** who carried out the project work during the academic year 2024 - 2025 under my supervision.

SIGNATURE	**SIGNATURE**
Dr.A.Delphin Carolina Rani, M.E.,Ph.D.,	Mr. M. Saravanan, M.E.,
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PROFESSOR	ASSISTANT PROFESSOR
Department of CSE	Department of CSE
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Submitted for the viva-voce examination held on 02.12.2024

INTERNAL EXAMINER	EXTERNAL EXAMINER

DECLARATION

I declare that the project report on **"ALUMNI MANAGEMENT SYSTEM"** is the result of original work done by us and best of our knowledge, similar work has not been submitted to **"ANNA UNIVERSITY CHENNAI"** for the requirement of Degree of **BACHELOR OF ENGINEERING**. This project report is submitted on the partial fulfilment of the requirement of the completion of the course **CGB1201 - JAVA PROGRAMMING.**

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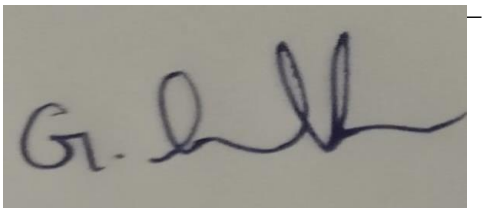
Signature



HARIVARSHINI G

Place: Samayapuram

Date:02.12.2024

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It is with great pride that I express our gratitude and in-debt to our institution "**K.Ramakrishnan College of Technology (Autonomous)**", for providing us with the opportunity to do this project.

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I render our sincere thanks to Course Coordinator and other staff members for providing valuable information during the course.

I wish to express our special thanks to the officials and Lab Technicians of our departments who rendered their help during the period of the work progress.

VISION OF THE INSTITUTION

To serve the society by offering top-notch technical education on par with global standards

MISSION OF THE INSTITUTION

- Be a center of excellence for technical education in emerging technologies by exceeding the needs of the industry and society.
- Be an institute with world class research facilities
- Be an institute nurturing talent and enhancing the competency of students to transform them as all-round personality respecting moral and ethical values

VISION OF DEPARTMENT

To be a center of eminence in creating competent software professionals with research and innovative skills.

MISSION OF DEPARTMENT

M1: Industry Specific: To nurture students in working with various hardware and software platforms inclined with the best practices of industry.

M2: Research: To prepare students for research-oriented activities.

M3: Society: To empower students with the required skills to solve complex technological problems of society.

PROGRAM EDUCATIONAL OBJECTIVES

1. PEO1: Domain Knowledge

To produce graduates who have strong foundation of knowledge and skills in the field of Computer Science and Engineering.

2. PEO2: Employability Skills and Research

To produce graduates who are employable in industries/public sector/research organizations or work as an entrepreneur.

3. PEO3: Ethics and Values

To develop leadership skills and ethically collaborate with society to tackle real-world challenges.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1: Domain Knowledge

To analyze, design and develop computing solutions by applying foundational concepts of Computer Science and Engineering.

PSO 2: Quality Software

To apply software engineering principles and practices for developing quality software for scientific and business applications.

PSO 3: Innovation Ideas

To adapt to emerging Information and Communication Technologies (ICT) to innovate ideas and solutions to existing/novel problems

PROGRAM OUTCOMES (POs)

Engineering students will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations

6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice

7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development

8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

ABSTRACT

The **Alumni Management System** is a digital platform designed to streamline the management and engagement of an institution's alumni network. This system aims to centralize alumni data, enabling administrators to efficiently manage records, track alumni activities, and organize events. It provides a user-friendly interface where alumni can update their profiles, connect with fellow graduates, search for career opportunities, and participate in institutional events. The system also facilitates networking by grouping alumni based on shared interests or graduation years and encourages involvement in fundraising or mentorship programs. Additionally, the system ensures data privacy and security, adhering to global standards like GDPR, to protect alumni information. The project envisions future scalability, incorporating advanced features such as AI-driven recommendations, mobile access, and integration with social media platforms to further enhance alumni engagement. By fostering strong connections and continuous communication, the Alumni Management System serves as a valuable tool for both the institution and its graduates, promoting long-term relationships, professional growth, and institutional development.

ABSTRACT WITH POs AND PSOs MAPPING

CO 5 : BUILD JAVA APPLICATIONS FOR SOLVING REAL-TIME PROBLEMS.

ABSTRACT	POs MAPPED	PSOs MAPPED
The **Alumni Management System** aims to address the challenges faced by educational institutions in managing, engaging, and maintaining relationships with their alumni. By providing a centralized platform for storing and managing alumni data, the system offers a solution to organize and connect alumni, facilitate networking, and improve communication between alumni and the institution. Key features of the system include profile management, alumni search, event management, and networking tools, all designed to enhance the alumni experience.	**PO1 -3** **PO2 -3** **PO3 -3** **PO4 -3** **PO5 -3** **PO6 -3** **PO7 -3** **PO8 -3** **PO9 -3** **PO10 -3** **PO11-3** **PO12 -3**	**PSO1 -3** **PSO2 -3** **PSO3 -3**

Note: 1- Low, 2-Medium, 3- High

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CHAPTER 1

INTRODUCTION

1.1 Objective

The objective of an Alumni Management System (AMS) is to facilitate and strengthen the relationship between an educational institution and its former students. By creating a centralized platform, the system allows the institution to efficiently maintain a database of alumni, track their professional progress, and engage them in various activities. AMS aims to promote networking opportunities, collaboration, and support for current students, as alumni can offer mentorship, internships, or job opportunities. Additionally, the system helps to organize events, reunions, and fundraising initiatives, encouraging alumni to contribute to the institution's development. Overall, the goal is to foster a sense of community, enable lifelong engagement, and leverage the alumni network for mutual benefit. AMS supports efforts to engage alumni in fundraising campaigns, scholarships, and initiatives that enhance the educational experience of future generations. Furthermore, it can aid in building a robust professional network for current students by linking them with alumni for internships, job opportunities, and career advice. Ultimately, the AMS aims to build a dynamic, mutually beneficial relationship that enhances both alumni and institutional growth over time.

1.2 Overview

An Alumni Management System (AMS) is a comprehensive software solution designed to strengthen the relationship between educational institutions and their alumni. It acts as a centralized platform where an institution can efficiently store and manage data on its former students, including their personal, academic, and professional information. The system is aimed at fostering long-term engagement and communication between alumni and their alma mater, enabling seamless interactions through digital channels. It allows alumni to stay updated on the institution’s events, news, and initiatives, while also providing them with opportunities to give back through donations, mentoring, or involvement in institutional activities. Additionally, AMS helps institutions track alumni achievements and professional progress, creating a dynamic database of success stories that can be showcased to inspire current students. The system facilitates organizing alumni events such as reunions, networking sessions, and career development workshops, which contribute to strengthening the alumni community.

1.3 Java Programming Concepts

The basic concepts of Object-Oriented Programming (OOP) are:

- ✓ The Alumini Management System utilizes Java concepts such as Object-Oriented Programming (OOP) with classes for data encapsulation, and Array List for dynamic storage of alumni records.
- ✓ Scanner is used for user input, while methods perform tasks like adding and displaying alumni.
- ✓ Conditional statements and switch manage program flow, and an enhanced for-loop iterates over the list.

Project related concepts:

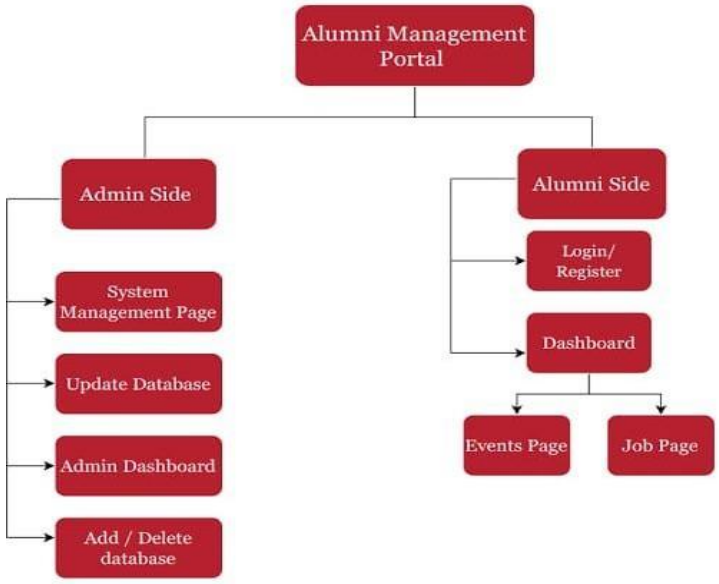
- ✓ **Database Management**: An essential feature of AMS is the management of alumni data. The system stores vital information such as contact details, academic records, professional achievements, and career progression.
- ✓ **Event Management**: AMS includes tools for organizing and managing alumni events such as reunions, networking sessions, and fundraising campaigns
- ✓ **Alumni Networking**: A core aspect of AMS is its ability to facilitate professional and social networking among alumni. The system includes features like alumni directories, job boards, and interest groups, allowing former students to connect with each other, share opportunities, and collaborate professionally.
- ✓ **Data Privacy and Security**: With the handling of personal and sensitive data, the project incorporates strong data privacy and security measures. The concept emphasizes compliance with global data protection regulations (e.g., GDPR) to ensure that alumni data is protected from unauthorized access, ensuring trust and confidentiality.

CHAPTER 2
PROJECT METHODOLOGY

2.1 Proposed Work

The proposed work for the Alumni Management System aims to develop a comprehensive platform that connects alumni with their alma mater and fellow graduates. This system will provide a centralized database for managing alumni records, including personal information, graduation details, and career achievements. It will enable easy communication between alumni and the institution through features such as event announcements, newsletters, and job opportunities. Additionally, the system will facilitate alumni networking by allowing them to connect based on shared interests, industries, or graduation years. The platform will also support alumni donations and fundraising activities, contributing to the institution's growth. By implementing this system, the institution can foster stronger alumni relations, engage alumni in various institutional activities, and enhance the overall alumni experience. This will not only help maintain a lasting bond with graduates but also ensure that the institution remains a vibrant part of their professional and social networks.

2.2 Block Diagram



CHAPTER 3

MODULE DESCRIPTION

3.1 ALUMNI CLASS

- ✓ **Class-Year Grouping:** Alumni are categorized into their respective class years, allowing for targeted communication, reunion planning, and networking within that class.
- ✓ **Events and Reunions:** The system can organize and promote events tailored to specific alumni classes, such as annual reunions, milestone celebrations (e.g., 10-year, 25-year reunions), and networking opportunities.
- ✓ **Class Representatives:** Each class may have elected representatives who act as the point of contact for their group, helping with event coordination, fundraisers, and other alumni initiatives.
- ✓ **Class-Specific News:** Updates or achievements related to a specific class can be shared, such as member career highlights, accomplishments, or significant life events.

3.2 ALUMNI MANAGEMENT SYSTEM CLASS

1. Adding Alumni:
    - This function allows administrators to input new alumni data into the system, including personal information, graduation details, current occupation, and other relevant information.
2. Searching Alumni:
    - The system enables searching for specific alumni based on various criteria such as name, graduation year, or program of study.
3. Displaying Alumni:
    - This functionality ensures that alumni data is retrieved from the database and presented in an organized and accessible format. It can display alumni profiles or list entries, making it easier for users to view and interact with the information.

3.3 ADD ALUMNI

The Add Alumni function in an Alumni Management System allows administrators to input and store essential information about new graduates or former students who wish to be part of the alumni network. This process typically involves entering key details such as the alumni's full name, contact information (phone number, email), graduation year, degree or program, current profession, and any additional personal or professional achievements. The system may also include fields for social media profiles or other contact preferences to facilitate networking. Once the information is submitted, the system validates the data for accuracy and completeness, ensuring no critical information is missing. After successful validation, the alumni profile is added to the database, where it can be accessed, updated, or displayed for future use.

3.4DISPLAY ALUMNI

The Display Alumni function in an Alumni Management System is responsible for retrieving and presenting the stored alumni data in an organized and accessible manner. Once alumni profiles are added to the system, this function allows users, such as administrators or alumni themselves, to view detailed information about specific alumni or browse through a list of all alumni. The display can include key details like the alumni’s name, graduation year, degree, current occupation, and contact information. Depending on the system’s design, it may also show additional data such as professional achievements, involvement in events, or any social media links.

3.5SEARCH ALMNI

The Search Alumni function in an Alumni Management System enables users to efficiently locate specific alumni from the database based on various search criteria. This feature allows users, such as administrators or alumni, to search for individuals by entering keywords or filtering options such as name, graduation year, degree program, location, or current occupation. The system retrieves matching alumni profiles and presents them in a list or as detailed profile pages, making it easier for users to connect with fellow alumni for networking, collaboration, or social purposes.

CHAPTER 4

CONCLUSION & FUTURE SCOPE

4.1 CONCLUSION

In conclusion, the Alumni Management System is a powerful tool designed to streamline the process of managing and engaging with alumni. By incorporating key functionalities such as adding, searching, and displaying alumni, the system enhances communication, networking, and collaboration within the alumni community. The ability to easily input, search, and view alumni profiles ensures that both alumni and administrators can efficiently access and interact with important information. This ultimately strengthens the bond between the institution and its graduates, promotes lifelong connections, and fosters opportunities for professional and personal growth. With these features, the Alumni Management System not only supports the ongoing engagement of alumni but also contributes to the institution's growth and success in the long term.

4.2 FUTURE SCOPE

The future scope of an Alumni Management System is vast, with numerous opportunities for growth and improvement that can enhance the overall experience for both alumni and institutions. One significant advancement is the integration with social media platforms, which would allow for automatic updates to alumni profiles, making it easier for graduates to stay connected and engaged. A mobile application for the system would further increase accessibility, allowing alumni to interact with the platform on the go, receive notifications about upcoming events, and connect with other alumni in real-time. Additionally, integrating advanced analytics and reporting tools would enable institutions to track alumni engagement and trends, leading to more targeted and effective communication strategies. The use of artificial intelligence (AI) to offer personalized recommendations and content tailored to individual alumni interests is another exciting opportunity. This could include personalized event invitations, career opportunities, or alumni networking groups. Future developments could also introduce features such as mentorship programs, allowing experienced alumni to guide newer graduates in their careers, fostering a supportive community and enhancing professional development

APPENDIX A

(SOURCE CODE)

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
import java.util.ArrayList;

// Class to represent Alumni
class Alumni {
    String name;
    String batch;
    String department;
    String email;

    Alumni(String name, String batch, String department, String email) {
        this.name = name;
        this.batch = batch;
        this.department = department;
        this.email = email;
    }

    @Override
    public String toString() {
        return "Name: " + name + "\nBatch: " + batch + "\nDepartment: " + department + "\nEmail: " + email
+ "\n\n";
    }
}

public class AlumniManagementSystem {

    // Main frame and components
    private JFrame mainFrame;
    private JPanel mainPanel, addPanel, viewPanel, searchPanel;
    private JTextField nameField, batchField, departmentField, emailField, searchField;
    private JTextArea alumniTextArea;
    private JButton addButton, viewButton, searchButton, clearButton;
```

```
// List to hold alumni records
private ArrayList<Alumni> alumniList = new ArrayList<>();

// Constructor
public AlumniManagementSystem() {
    mainFrame = new JFrame("Alumni Management System");
    mainFrame.setSize(500, 400);
    mainFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    mainFrame.setLocationRelativeTo(null);

    // Main panel to hold all screens
    mainPanel = new JPanel();
    mainPanel.setLayout(new CardLayout());

    // Add Alumni Panel
    addPanel = new JPanel();
    addPanel.setLayout(new GridLayout(5, 2));
    addPanel.add(new JLabel("Name:"));
    nameField = new JTextField(20);
    addPanel.add(nameField);

    addPanel.add(new JLabel("Batch:"));
    batchField = new JTextField(20);
    addPanel.add(batchField);

    addPanel.add(new JLabel("Department:"));
    departmentField = new JTextField(20);
    addPanel.add(departmentField);

    addPanel.add(new JLabel("Email:"));
    emailField = new JTextField(20);
    addPanel.add(emailField);

    addButton = new JButton("Add Alumni");
    addPanel.add(addButton);
```

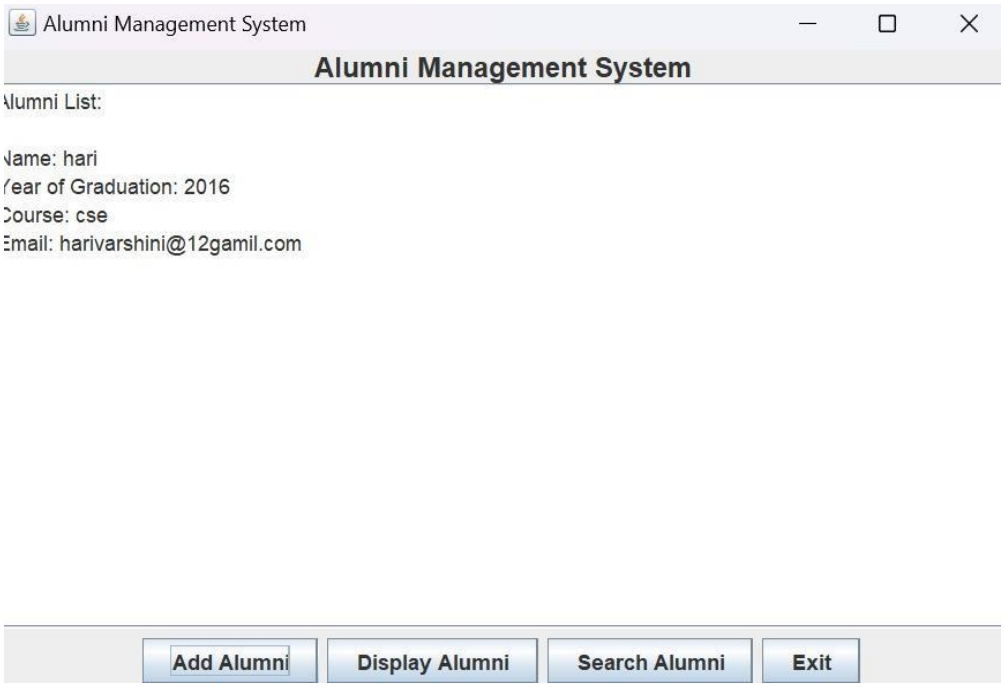
```
// View Alumni Panel
viewPanel = new JPanel();
viewPanel.setLayout(new BorderLayout());

alumniTextArea = new JTextArea();
alumniTextArea.setEditable(false);
viewPanel.add(new JScrollPane(alumniTextArea), BorderLayout.CENTER);

// Search Panel
searchPanel = new JPanel();
searchPanel.setLayout(new BorderLayout());

searchField = new JTextField();
searchPanel.add(new JLabel("Search Alumni by Name:"), BorderLayout.NORTH);
searchPanel.add(searchField, BorderLayout.CENTER);

searchButton = new JButton("Search");
searchPanel.add(searchButton, BorderLayout.SOUTH);

// Buttons to switch between screens
JPanel navigationPanel = new JPanel();
viewButton = new JButton("View All Alumni");
navigationPanel.add(viewButton);

clearButton = new JButton("Clear Search");
navigationPanel.add(clearButton);

mainFrame.add(navigationPanel, BorderLayout.NORTH);
mainPanel.add(addPanel, "Add Alumni");
mainPanel.add(viewPanel, "View Alumni");
mainPanel.add(searchPanel, "Search Alumni");
mainFrame.add(mainPanel, BorderLayout.CENTER);

//  Action Listeners
addButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        String name = nameField.getText();
```

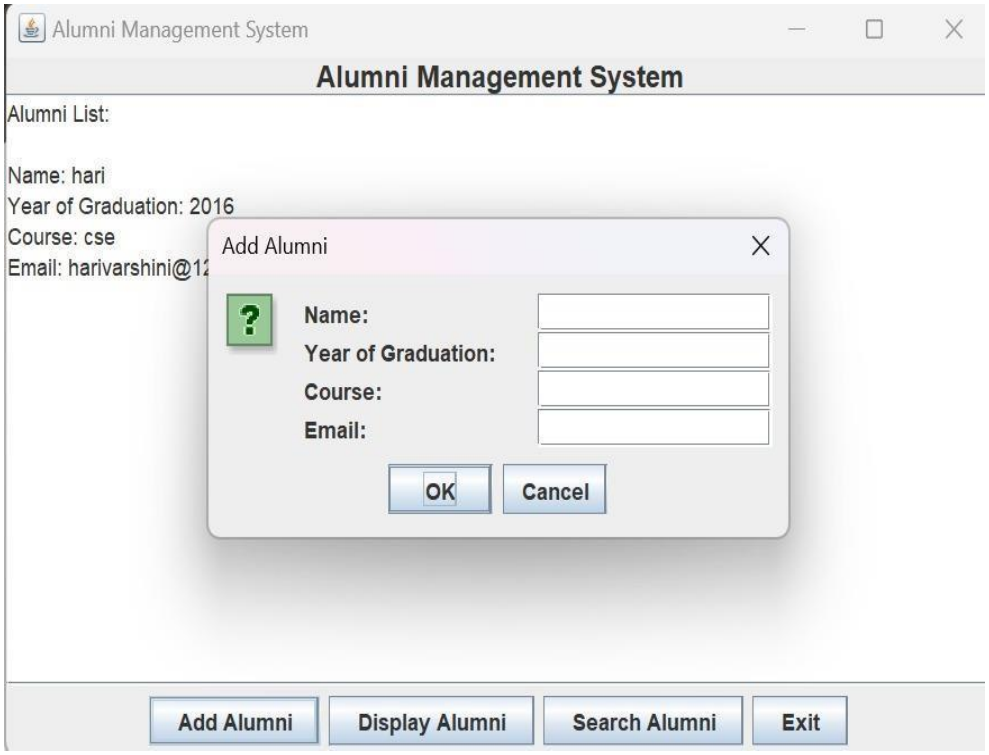
```
        String batch = batchField.getText();
        String department = departmentField.getText();
        String email = emailField.getText();
        if (!name.isEmpty() && !batch.isEmpty() && !department.isEmpty() && !email.isEmpty()) {
            Alumni alumni = new Alumni(name, batch, department, email);
            alumniList.add(alumni);
            JOptionPane.showMessageDialog(mainFrame, "Alumni Added Successfully!");
            nameField.setText("");
            batchField.setText("");
            departmentField.setText("");
            emailField.setText("");
        } else {
            JOptionPane.showMessageDialog(mainFrame, "Please fill in all fields.");
        }
    }
});

viewButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        CardLayout cl = (CardLayout)(mainPanel.getLayout());
        cl.show(mainPanel, "View Alumni");
        showAlumniList();
    }
});

searchButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        String searchName = searchField.getText().toLowerCase();
        boolean found = false;
        StringBuilder result = new StringBuilder();
        for (Alumni alumni : alumniList) {
            if (alumni.name.toLowerCase().contains(searchName)) {
                result.append(alumni.toString());
                found = true;
            }
        }
        if (found) {
```

```
                alumniTextArea.setText(result.toString());
            } else {
                alumniTextArea.setText("No alumni found with the given name.");
            }
        }
    });

    clearButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            searchField.setText("");
            alumniTextArea.setText("");
        }
    });
}

// Method to display all alumni records
private void showAlumniList() {
    StringBuilder result = new StringBuilder();
    for (Alumni alumni : alumniList) {
        result.append(alumni.toString());
    }
    alumniTextArea.setText(result.toString());
}

// Method to display the main frame
public void display() {
    mainFrame.setVisible(true);
}
public static void main(String[] args) {
    AlumniManagementSystem system = new AlumniManagementSystem();
    system.display();
}
}
```

APPENDIX B

(SCREENSHOTS)





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