NEWS PORTAL SYSTEM

A PROJECT REPORT

Submitted by

MARIYAYEE L (8115U23EC061)

in partial fulfillment of requirements for the award of the course

EGB1201 - JAVA PROGRAMMING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

K. RAMAKRISHNAN COLLEGE OF ENGINEERING

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

SAMAYAPURAM – 621 112

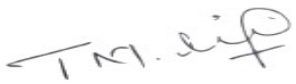
DECEMBER - 2024

K. RAMAKRISHNAN COLLEGE OF ENGINEERING (AUTONOMOUS)

SAMAYAPURAM – 621 112

BONAFIDE CERTIFICATE

Certified that this project report on **" NEWS PORTAL SYSTEM"** is the bonafide work of **MARIYAYEE L (8115U23ECO61)** who carried out the project work during the academic year 2024 - 2025 under my supervision.



SIGNATURE	**SIGNATURE**
Dr. T. M. NITHYA, M.E.,Ph.D.,	**Mr.V.KUMARARAJA, M.E.,(Ph.D.,),**
HEAD OF THE DEPARTMENT	**SUPERVISOR**
ASSOCIATE PROFESSOR	**ASSISTANT PROFESSOR**
Department of CSE	**Department of CSE**
K.Ramakrishnan College of Engineering (Autonomous)	**K.Ramakrishnan College of Engineering (Autonomous)**
Samayapuram–621112.	**Samayapuram–621112.**

Submitted for the viva-voice examination held on 6.12.24


INTERNAL EXAMINER


EXTERNAL EXAMINER

DECLARATION

I declare that the project report on **"NEWS PORTAL 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 **EGB1201 - JAVA PROGRAMMING.**

.

Signature
MARIYAYE L

Place: Samayapuram
Date:

ACKNOWLEDGEMENT

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

I glad to credit honourable chairman **Dr. K. RAMAKRISHNAN**, **B.E.,** for having provided for the facilities during the course of our study in college.

I would like to express our sincere thanks to our beloved Executive Director **Dr. S. KUPPUSAMY, MBA, Ph.D.,** for forwarding to our project and offering adequate duration in completing our project.

I would like to thank **Dr. D. SRINIVASAN, B.E, M.E., Ph.D.,** Principal, who gave opportunity to frame the project the full satisfaction.

I whole heartily thanks to **Dr. T. M. NITHYA, M.E.,Ph.D.,** Head of the department, **COMPUTER SCIENCE AND ENGINEERING** for providing her encourage pursuing this project.

I express our deep expression and sincere gratitude to our project supervisor **Mr.V.KUMARARAJA, M.E., (Ph.D.,),** Department of **COMPUTER SCIENCE AND ENGINEERING,** for his incalculable suggestions, creativity, assistance and patience which motivated us to carry out this project.

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 achieve a prominent position among the top technical institutions.

MISSION OF THE INSTITUTION

- M1: To bestow standard technical education par excellence through state of the art infrastructure, competent faculty and high ethical standards.
- M2: To nurture research and entrepreneurial skills among students in cutting edge technologies.
- M3: To provide education for developing high-quality professionals to transform the society.

VISION OF DEPARTMENT

To create eminent professionals of Computer Science and Engineering by imparting quality education.

MISSION OF DEPARTMENT

M1: To provide technical exposure in the field of Computer Science and Engineering through state of the art infrastructure and ethical standards.

M2: To engage the students in research and development activities in the field of Computer Science and Engineering.

M3: To empower the learners to involve in industrial and multi-disciplinary projects for addressing the societal needs.

PROGRAM EDUCATIONAL OBJECTIVES

Our graduates shall

PEO1: Analyse, design and create innovative products for addressing social needs.

PEO2: Equip themselves for employability, higher studies and research.

PEO3: Nurture the leadership qualities and entrepreneurial skills for their successful career.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- **PSO1:** Apply the basic and advanced knowledge in developing software, hardware and firmware solutions addressing real life problems.

- **PSO2:** Design, develop, test and implement product-based solutions for their career enhancement.

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

A **News Portal System** is a digital platform designed to collect, curate, and deliver news articles and information to users in an organized and user-friendly manner. This system centralizes content from multiple sources, providing real-time updates across diverse categories such as politics, sports, technology, entertainment, and business. It incorporates features such as advanced search functionality, personalized news feeds based on user preferences, and interactive elements like commenting and sharing.

The system leverages modern web technologies, ensuring scalability, responsiveness, and accessibility across devices. With tools for content moderation, data analytics, and multi-language support, the platform caters to a wide audience. Additional features like push notifications, multimedia content integration, and social media connectivity enhance user engagement.

Designed for both readers and administrators, the News Portal System simplifies the process of information dissemination, delivering accurate and timely news in an ever-evolving digital landscape.

ABSTRACT WITH POs AND PSOs MAPPING

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

ABSTRACT	POs MAPPED	PSOs MAPPED
This project enables students to design and implement a dynamic web-based platform for managing and delivering news content. Using Java and its frameworks, students gain hands-on experience in object-oriented programming, database integration, and multi-tier architecture. The project emphasizes real-world problem-solving by allowing users to publish, categorize, and access news articles seamlessly. Key focus areas include user authentication, role-based access control, responsive UI design, and scalability to support high user traffic. This outcome prepares students to address contemporary challenges in software development while adhering to best practices in coding and design.	**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**

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

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1 OBJECTIVE

The objective of the News Portal System is to create a dynamic and efficient platform for managing and delivering real-time news using Java technologies. The system enables users to access personalized news feeds based on their preferences, browse categorized news, and engage with interactive features like commenting and sharing.

It is designed to provide a responsive and user-friendly interface for seamless accessibility across devices. Administrators can efficiently manage content through robust backend tools, while the integration of APIs ensures real-time updates. The system also focuses on secure data handling, scalability, and delivering an engaging user experience.

1.2 OVERVIEW

The **News Portal System** is a web-based application designed to aggregate, organize, and deliver news content from various sources. Built using **Java technologies**, it provides a robust, secure, and scalable solution for managing and disseminating real-time news to users. The platform offers personalized news feeds, category-based browsing, and interactive features such as commenting and sharing, ensuring a dynamic and engaging experience for users.

From a technical perspective, the system employs **Java frameworks** like **Spring Boot** for backend development, **JSP/Servlets** for frontend design, and databases like **MySQL** for data storage and management. Integration with REST APIs

facilitates real-time updates, while responsive design ensures compatibility across devices, including desktops, tablets, and smartphones.

The platform is beneficial for both users and administrators. Users can access relevant, up-to-date news based on their preferences, while administrators can manage and organize content efficiently. Additionally, the system emphasizes data security and privacy, employing Java's built-in security mechanisms for authentication and authorization.

This project showcases the potential of **Java technologies** in creating a feature-rich, scalable, and user-friendly solution for the growing demands of digital news consumption.

1.3 JAVA PROGRAMMING CONCEPTS

Object-Oriented Programming (OOP):

- **Class:** The program is structured as a class (NewsPortalSystem).
- **Inheritance:** The class extends Frame to create a window for the GUI.
- **Encapsulation:** The news titles and details are stored in arrays inside the class.

Event Handling:

- **ActionListener:** The program listens for user actions (like selecting a news item or clicking the "Exit" button) and responds accordingly.

- **actionPerformed() Method:** Handles what happens when a user interacts with components (e.g., showing news details).

AWT (Abstract Window Toolkit):

- **Components:** The program uses GUI elements such as Label, List, TextArea, and Button to display news and allow user interaction.
- **Layout:** The program uses setBounds() to manually place components on the window.

Arrays:

- **Arrays:** News titles and their details are stored in two arrays (newsItems and newsDetails).

Methods:

- **Constructor:** Initializes the window and GUI components when the program starts.
- main() **Method:** The starting point of the program, which creates the window.

Simple Interaction:

- **User Selection:** When a user clicks on a news item in the list, the details appear in the text area.

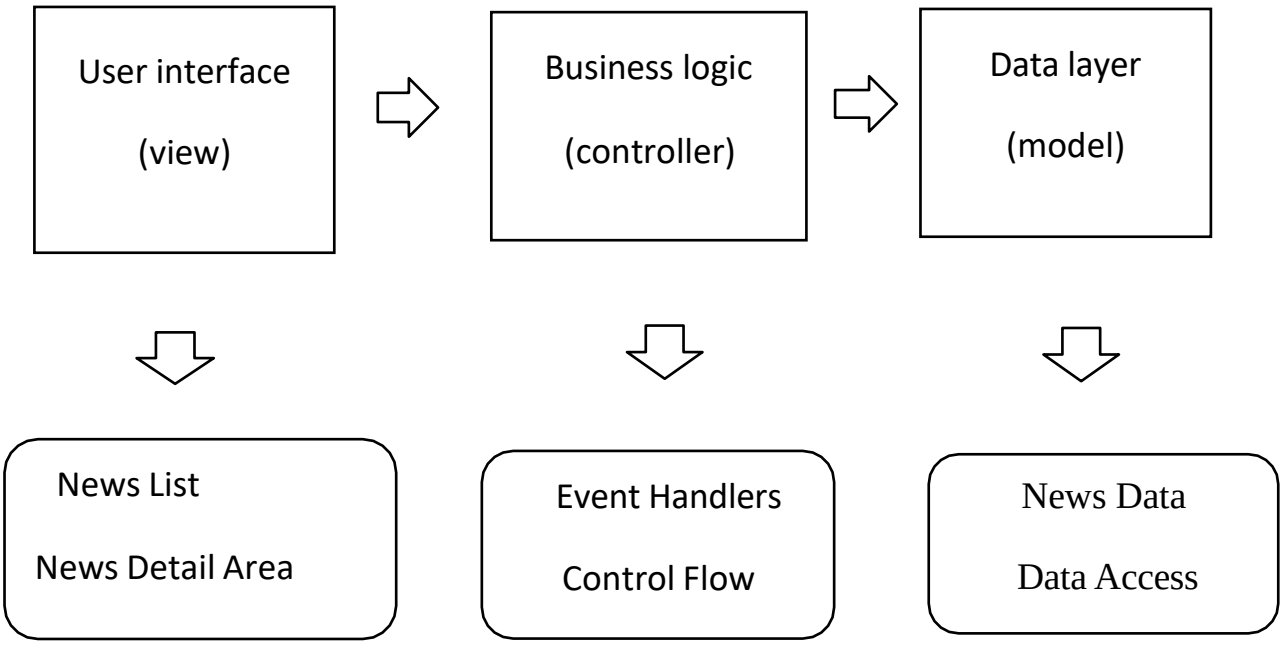
CHAPTER 2

PROJECT METHODOLOGY

2.1 PROPOSED WORK

The **News Portal System** will follow a structured **Waterfall Model** methodology to ensure systematic development and successful implementation. The process begins with **Requirement Analysis**, where the core features and functionalities, such as displaying news items, showing detailed content, and handling user interactions, are defined. In the **Design Phase**, the user interface and system flow are planned, including the layout of the news list, details display area, and the exit button. The **Implementation Phase** involves coding the application using **Java and AWT**, creating the graphical user interface, and integrating necessary functionalities like event handling and array-based news management. Once implemented, the system will undergo **Testing** to identify and resolve any bugs or issues. This includes **Unit Testing**, **Integration Testing**, and **User Testing** to ensure the system meets the requirements and functions smoothly. Finally, the **Deployment and Maintenance** phase ensures that the application is made available to users and is maintained to address any issues post-launch. This methodology guarantees a clear, manageable, and efficient process for delivering a functional and user-friendly News Portal System.

2.2 BLOCK DIAGRAM



CHAPTER 3
MODULE DESCRIPTION

3.1 User Interface Module

Description:

This module is responsible for creating and managing the graphical user interface (GUI) of the News Portal System. It provides the interface through which users interact with the system.

3.2 Event Handling Module

Description:

This module manages all events triggered by user actions, such as selecting a news item or clicking the "Exit" button. It listens for events and processes them accordingly.

3.3 Data Management Module

Description:

This module handles the data storage and retrieval of news items and their details. It stores the headlines and associated content in arrays.

3.4 News Display Module

Description:

This module displays the details of the news item selected by the user. It works by updating the **TextArea** with the corresponding news details.

3.5 User Authentication Module

Description:

This module handles user authentication and access control to ensure secure

interaction with the News Portal System. It allows users to log in and provides role-based access to features (e.g., admin for content management, readers for browsing new.

CHAPTER 4
CONCLUSION & FUTURE SCOPE

4.1 CONCLUSION

In conclusion, the **News Portal System** serves as an introductory project to demonstrate key concepts of Java programming, particularly in GUI development, event handling, and data management. By using the **AWT (Abstract Window Toolkit)**, the system creates an interactive user interface where users can select news headlines and view their details. The modular design of the application ensures clarity and maintainability, with separate components for the user interface, event handling, and data management. Although the system uses static data for simplicity, it provides a solid foundation for extending functionality in the future, such as integrating real-time data sources or adding advanced features like search, categorization, or multi-language support. Overall, the program is a practical example of how Java can be used to build simple yet interactive applications, making it a great starting point for beginners and a stepping stone for more complex projects.

4.2 FUTURE SCOPE

Integration with Artificial Intelligence (AI):

- Implement **AI-driven content recommendations** based on user preferences and browsing history.
- Use **natural language processing (NLP)** for summarizing lengthy news articles and generating headlines.

Cloud-Based Deployment:

- Host the News Portal System on a cloud platform to provide **scalability** and ensure **high availability** during peak traffic.
- Integrate with cloud storage solutions for seamless data management and backup.

Mobile Application Development:

- Extend the platform by developing a dedicated **mobile application** for Android and iOS users, ensuring accessibility on the go.
- Optimize UI/UX design for small screens and touch interfaces.

Multimedia Support:

- Add support for multimedia content, such as **videos, podcasts**, and interactive infographics, enhancing user engagement.
- Implement live streaming for broadcasting breaking news events.

Real-Time Updates:

- Integrate with **RSS feeds** and **APIs** of news agencies to fetch and display real-time news updates.
- Implement **push notifications** for breaking news and personalized alerts.

APPENDIX A (SOURCE CODE)

```
import java.awt.*;

import java.awt.event.*;


public class NewsPortalSystem extends Frame implements ActionListener {

    // Components

    Label titleLabel, newsLabel;

    List newsList;

    TextArea newsDetailArea;

    Button exitButton;

    // Sample News Data

    String[] newsItems = {

        "Global Warming Effects",

        "Stock Market Crashes",

        "New Technologies in Healthcare",

        "International Trade Policies",

        "Space Exploration Update",
```

```
};

String[] newsDetails = {

"Global warming is causing unprecedented climate changes around the world...",

"The stock market has experienced a major crash due to recent economic instability...",

"Healthcare industry has seen significant growth in the development of new technologies...",

"New international trade policies are being discussed by the World Trade Organization...",

"NASA has announced new plans for space exploration missions in the coming decade..."

};

public NewsPortalSystem() {

// Frame  settings

setTitle("News Portal System");

setSize(600, 400);

setLayout(null);

setVisible(true);
```

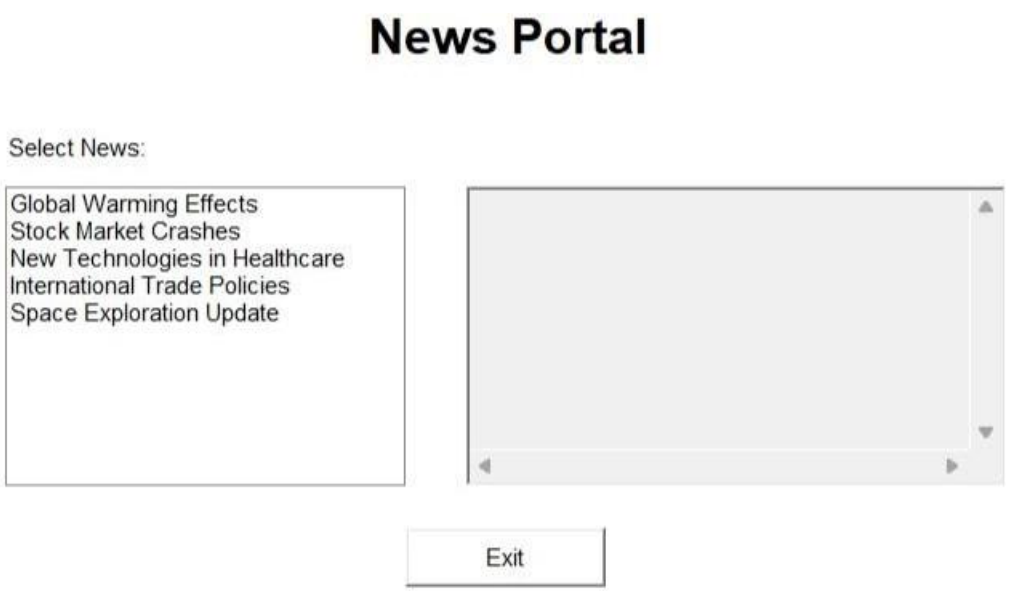
```
// Title Label
titleLabel = new Label("News Portal");
titleLabel.setFont(new Font("Arial", Font.BOLD, 24));
titleLabel.setBounds(230, 40, 200, 30);
add(titleLabel);


// News List Label
newsLabel = new Label("Select News:");
newsLabel.setBounds(50, 100, 100, 20);
add(newsLabel);
// News List
newsList = new List();
for (String news : newsItems) {
    newsList.add(news);
}
newsList.setBounds(50, 130, 200, 150);
add(newsList);
```

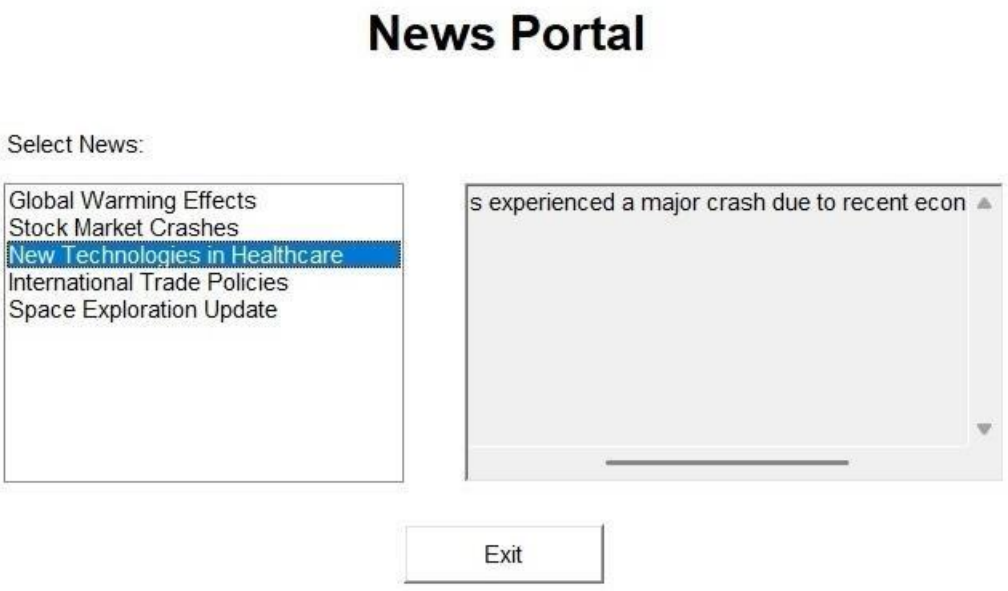
```
// News Detail Area
        newsDetailArea = new TextArea();
        newsDetailArea.setBounds(280, 130, 270, 150);
        newsDetailArea.setEditable(false);
        add(newsDetailArea);
        // Exit Button
        exitButton = new Button("Exit");
        exitButton.setBounds(250, 300, 100, 30);
        add(exitButton);
        // Action listeners
        newsList.addActionListener(this);
        exitButton.addActionListener(this);
    }
    @Override
    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == newsList) {
            // Display the selected news details
```

```
            int index = newsList.getSelectedIndex();
            if (index >= 0) {
                newsDetailArea.setText(newsDetails[index]);
            }
        } else if (e.getSource() == exitButton) {
            // Close the application
            System.exit(0);
        }
    }
    public static void main(String[] args) {
        new NewsPortalSystem();
}}
```

APPENDIX B (SCREENSHOTS)

OUTPUT





REFERENCES

1. "Effective Java" by Joshua Bloch
2. "Head First Java" by Kathy Sierra and Bert Bates
3. "Java: The Complete Reference" by Herbert Schildt
4. "Spring in Action" by Craig Walls
5. "Java 9 for Beginners" by David J. Barnes
6. "Java Performance: The Definitive Guide" by Scott Oaks
7. "Core Java Volume I – Fundamentals" by Cay S. Horstmann
8. "Java in a Nutshell" by Benjamin J. Evans and David Flanagan
9. "Java SE 9 for the Impatient" by Cay S. Horstmann
10. "Beginning Java 8 Fundamentals" by Kishori Sharan