Complex Problem-Solving Self-Assessment Form

1	Name of the Student	G.ABHINAYA
2	Roll Number	25951A6606
3	Branch and Section	CSE-(AI&ML) - A
4	Program	B. Tech
5	Course Name	Front-End Web Development
6	Course Code	ACSE04
7	Please tick (✓) relevant Engineering Competency (ECs) Profiles	

EC	Profiles	(✓)
EC 1	Ensures that all aspects of an engineering activity are soundly based on fundamental principles - by diagnosing, and taking appropriate action with data, calculations, results, proposals, processes, practices, and documented information that may be ill-founded, illogical, erroneous, unreliable or unrealistic requirements applicable to the engineering discipline	✓
EC 2	Have no obvious solution and require abstract thinking, originality in analysis to formulate suitable models.	✓
EC 3	Support sustainable development solutions by ensuring functional requirements, minimize environmental impact and optimize resource utilization throughout the life cycle, while balancing performance and cost effectiveness.	
EC 4	Competently addresses complex engineering problems which involve uncertainty, ambiguity, imprecise information and wide-ranging or conflicting technical, engineering and other issues.	✓
EC 5	Conceptualises alternative engineering approaches and evaluates potential outcomes against appropriate criteria to justify an optimal solution choice.	✓

	EC 6	Identifies, quantifies, mitigates and manages technical, health, environmental, safety, economic and other contextual risks associated to seek achievable sustainable outcomes with engineering application in the designated engineering discipline.	
	EC 7	Involve the coordination of diverse resources (and for this purpose, resources include people, money, equipment, materials, information and technologies) in the timely delivery of outcomes	
	EC 8	Design and develop solution to complex engineering problem considering a very perspective and taking account of stakeholder views with widely varying needs.	✓
	EC 9	Meet all level, legal, regulatory, relevant standards and codes of practice, protect public health and safety in the course of all engineering activities.	
	EC 10	High level problems including many component parts or sub-problems, partitions problems, processes or systems into manageable elements for the purposes of analysis, modelling or design and then re-combines to form a whole, with the integrity and performance of the overall system as the top consideration.	✓
	EC 11	Undertake CPD activities to maintain and extend competences and enhance the ability to adapt to emerging technologies and the ever-changing nature of work.	✓
	EC 12	Recognize complexity and assess alternatives in light of competing requirements and incomplete knowledge. Require judgement in decision making in the course of all complex engineering activities.	✓
8	Please tick (✓) relevant Course Outcomes (COs) Covered		
	CO	**Course Outcomes**	**(✓)**
	CO 1	Describe language basics like alphabet, strings, grammars, productions, derivations, and Chomsky hierarchy, construct DFA, NFA, and conversion of NFA to DFA, Moore and Mealy machines and interpret differences between them.	✓
	CO 2	Recognize regular expressions, formulate, and build equivalent finite automata for various languages.	✓
	CO 3	Identify closure, and decision properties of the languages and prove the membership.	✓
	CO4	Demonstrate context-free grammars, check the ambiguity of the grammar, and design equivalent PDA to accept the context-free languages.	
	CO 5	Uses mathematical tools and abstract machine models to solve complex problems.	✓
	CO 6	Analyze and distinguish between decidable and undecidable problems.	✓

9	Course ELRV Video Lectures Viewed	**Number of Videos**	**Viewing time in Hours**
		-	-
10	Justify your understanding of WK1	-	
11	Justify your understanding of WK2 – WK9	-	
12	How many WKs from WK2 to WK9 were implanted?	-	
	Mention them	-	

Date: 12-12-2025

G.Abhinaya

Signature of the Student

COMPLEX ENGINEERING PROBLEM

A COURSE SIDE PROJECT ON

Front-End Web Development

G.Abhinaya

25951A6606

Campus wire

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

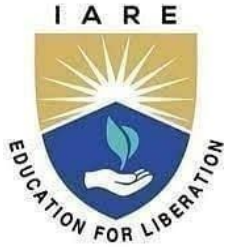
Bachelor of Technology
in

CSE (Artificial Intelligence & Machine Learning)

By

G.Abhinaya

25951A6606



Department of CSE (Artificial Intelligence & Machine Learning)

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad – 500 043, Telangana

November, 2025

DECLARATION

I certify that

a. The work contained in this report is original and has been done by me under the guidance of my supervisor (s).

b. The work has not been submitted to any other Institute for any degree or diploma.

c. I have followed the guidelines provided by the Institute for preparing the report.

d. I have conformed to the norms and guidelines given in the Code of Conduct of the Institute.

e. Whenever I have used materials (data, theoretical analysis, figures, and text) from other sources, I have given due credit to them by citing them in the text of the report and giving their details in the references. Further, I have taken permission from the copyright owners of the sources, whenever necessary.

G.Abhinaya

Place: Hyderabad **Signature of the Student**

Date: 12-12-2025

CERTIFICATE

This is to certify that the project report entitled **campus wire** submitted by **G.Abhinaya** to the Institute of Aeronautical Engineering, Hyderabad in partial fulfillment of the requirements for the award of the Degree Bachelor of Technology in **CSE - (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)** is a Bonafide record of work carried out by his guidance and supervision. The Contents of this report, in full or in parts, have not been submitted to any other Institute for the award of any Degree.

Supervisor **Head of the Department**

Date: 12-12-2025

Principal

APPROVAL SHEET

This project report entitled **campus wire** submitted by **G.Abhinaya**is approved for the award of the Degree Bachelor of Technology in Branch **CSE (Artificial Intelligence & Machine Learning).**

Examiner **Supervisor(s)**

Principal

Date: 12-12-2025

Place: Hyderabad

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of any task would be incomplete without introducing the people who made it possible and whose constant guidance and encouragement crowns all efforts with success.

I am extremely grateful and express my profound gratitude and indebtedness to my project guide **Mr. Vidyasagar Vidapu, Assistant Professor, Department of CSE – (Artificial Intelligence and Machine Learning),** for his kind help and for giving me the necessary guidance and valuable suggestions for this project work.

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I express my sincere gratitude to **Dr. L. V. Narasimha Prasad, Professor** and **Principal** who has been a great source of information for my work.

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I take this opportunity to express my deepest gratitude to one and all who directly or indirectly helped me in bringing this effort to present form.

Abstract

CampusWire is a web-based application designed to keep students and faculty informed about the latest campus news, announcements, and events through a centralized digital platform. The system aggregates information from multiple campus-related sources and presents it in a clean, organized, and user-friendly dashboard. By allowing users to subscribe to categories of interest, bookmark important updates, and receive real-time notifications, CampusWire improves information accessibility and engagement within the campus community.

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1. Introduction

In modern educational institutions, information is often scattered across notice boards, emails, departmental websites, and social media platforms. This fragmentation makes it difficult for students and faculty to stay updated with important campus activities. CampusWire addresses this problem by acting as a unified news aggregation and notification system.

The primary objective of CampusWire is to deliver relevant and timely campus-related information in an efficient and personalized manner. The platform focuses on usability, responsiveness, and scalability to support diverse users and devices.

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2. Objectives of the Project

The main objectives of CampusWire are:

- To aggregate campus news, announcements, and events into a single platform
- To provide personalized content based on user interests
- To ensure timely notifications for urgent or important updates
- To offer a responsive interface compatible with desktop and mobile devices
- To enhance student and faculty engagement within the campus

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3. System Overview

CampusWire functions as a centralized dashboard where users can view, filter, and interact with campus-related information. The system collects data from various internal

sources such as departments, clubs, and administration, and organizes it into structured categories.

Users can:

- Subscribe to specific categories or departments
- Bookmark important news items
- Receive push or email notifications
- Access the system on multiple devices

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4. Features and Functional Requirements

4.1 Core Features

1. **News Aggregation**
   The system aggregates and displays campus news, announcements, and events from multiple sources in a unified feed.
2. **Category Subscription**
   Users can subscribe to specific departments, clubs, or categories to receive personalized updates.
3. **Bookmarking**
   Important news items can be bookmarked or saved for future reference.
4. **Notifications**
   Users receive notifications for urgent or high-priority updates.
5. **Responsive Design**
   The application is fully responsive and works efficiently on desktops, tablets, and mobile devices.

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5. Optional Enhancements

CampusWire can be extended with the following optional features:

1. **Discussion and Comment Section**
   Allows users to discuss or comment on news items, promoting interaction.

2. **Social Sharing**
   Enables sharing of news and events on social media platforms.
3. **Analytics Dashboard**
   Displays statistics such as most-read news, trending topics, and user engagement.
4. **Dark/Light Mode**
   Provides theme customization for better user experience.

Methodology

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>CampusWire</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      background: #f4f6f8;
    }
    header {
      background: #2c3e50;
      color: white;
      padding: 15px;
      text-align: center;
      font-size: 24px;
    }
```

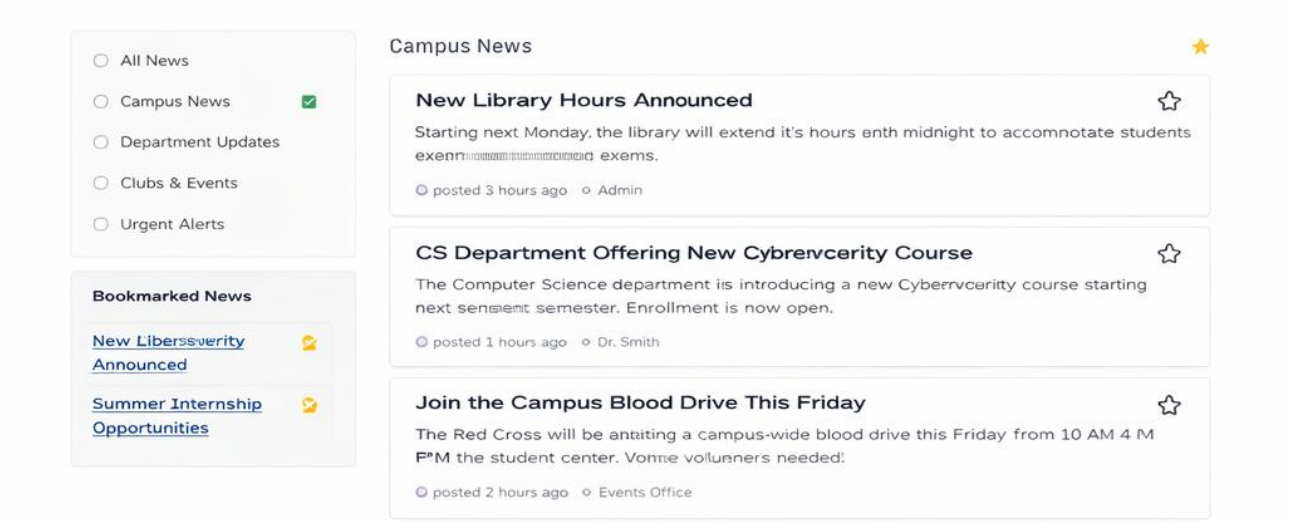
```
.container {
  display: flex;
  padding: 20px;
  gap: 20px;
}
.sidebar {
  width: 25%;
  background: white;
  padding: 15px;
  border-radius: 8px;
}
.content {
  width: 75%;
  background: white;
  padding: 15px;
  border-radius: 8px;
}
h3 {
  margin-top: 0;
}
.news-item {
  border-bottom: 1px solid #ddd;
  padding: 10px 0;
}
```

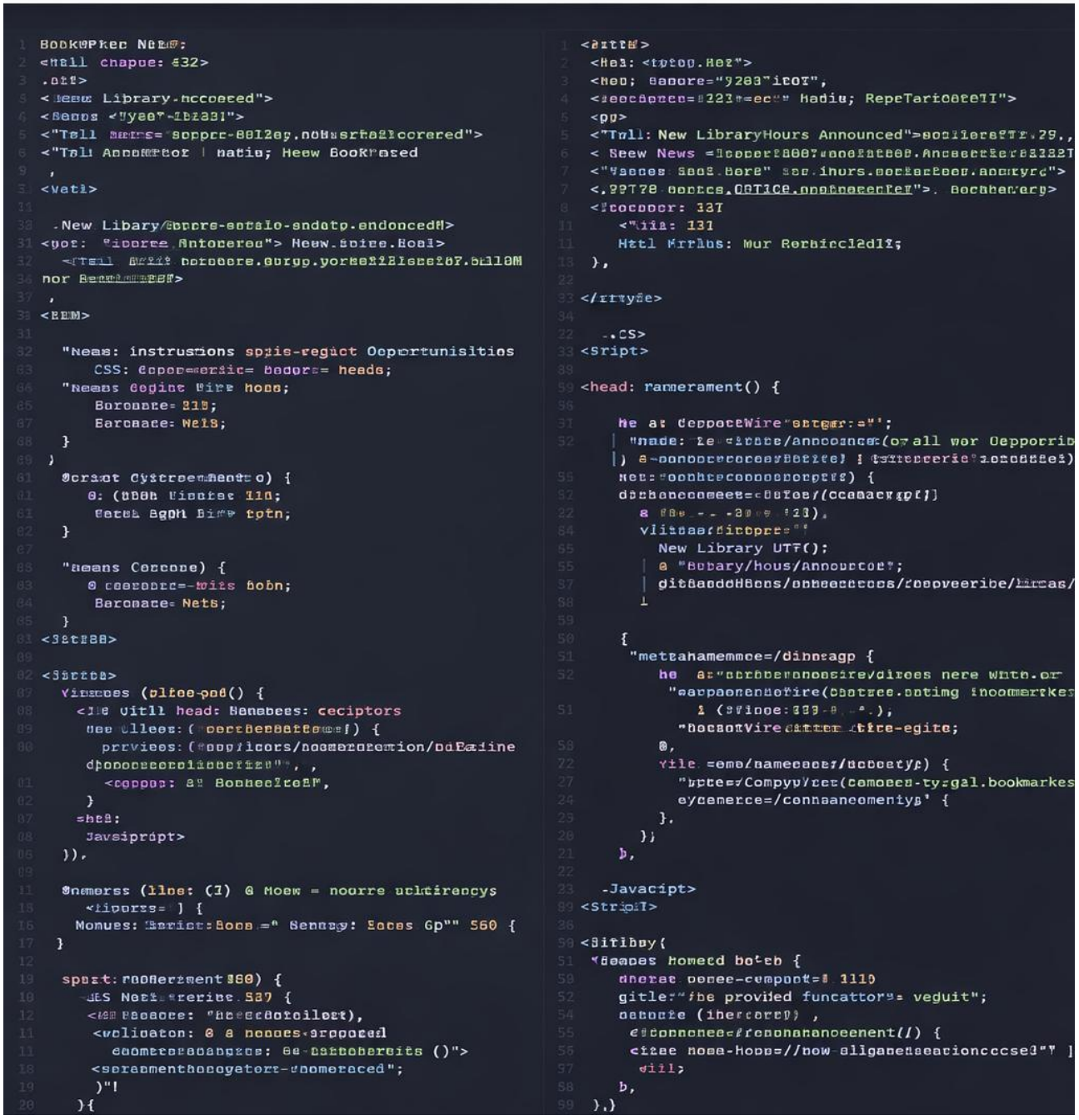
```
.news-item:last-child {
  border-bottom: none;
}
button {
  background: #3498db;
  color: white;
  border: none;
  padding: 6px 10px;
  border-radius: 4px;
  cursor: pointer;
}
button:hover {
  background: #2980b9;
}
.category {
  display: block;
  margin-bottom: 8px;
}
footer {
  text-align: center;
  padding: 10px;
  background: #2c3e50;
  color: white;
  margin-top: 20px;
```

```
    }
    @media (max-width: 768px) {
      .container {
        flex-direction: column;
      }
      .sidebar, .content {
        width: 100%;
      }
    }
  </style>
</head>
<body>

<header>
  CampusWire – Campus News & Announcements
</header>

<div class="container">
  <div class="sidebar">
    <h3>Categories</h3>
    <label class="category"><input type="checkbox" checked>
Academics</label>
    <label class="category"><input type="checkbox" checked> Events</label>
    <label class="category"><input type="checkbox"> Clubs</label>
```

```
    <label class="category"><input type="checkbox"> Placements</label>
    <label class="category"><input type="checkbox"> Sports</label>
  </div>

  <div class="content">
    <h3>Latest News</h3>

    <div class="news-item">
      <h4>Mid-Semester Exams Schedule Released</h4>
      <p>The examination branch has released the mid-semester exam timetable.</p>
      <button onclick="bookmark('Mid-Semester Exams')">Bookmark</button>
    </div>

    <div class="news-item">
      <h4>AI Workshop This Weekend</h4>
      <p>The CSE department is conducting an AI workshop on Saturday.</p>
      <button onclick="bookmark('AI Workshop')">Bookmark</button>
    </div>

    <div class="news-item">
      <h4>Annual Sports Meet</h4>
      <p>Registrations are open for the annual sports meet.</p>
```

```
      <button onclick="bookmark('Sports Meet')">Bookmark</button>
    </div>
  </div>
</div>

<footer>
  © 2025 CampusWire | All Rights Reserved
</footer>

<script>
  function bookmark(title) {
    alert(title + " bookmarked successfully!");
  }
</script>

</body>
</html>
```





6. Technology Stack

6.1 Frontend

- HTML5
- CSS3
- JavaScript
- React (optional for component-based UI)

6.2 Backend (Optional / Scalable)

- Node.js / Express.js
- REST APIs

6.3 Database

- MongoDB / MySQL (for storing news, users, and preferences)

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7. System Architecture

The system follows a modular architecture:

- **Presentation Layer**: User interface and dashboard
- **Application Layer**: Business logic, filtering, and notifications
- **Data Layer**: Storage of news, user preferences, and analytics

This architecture ensures scalability, maintainability, and performance.

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8. Use Case Description

Use Case: View Campus News

- User logs into the system
- Dashboard displays latest campus news
- User filters news by department or category

Use Case: Subscribe to Category

- User selects a category of interest

- System saves preference
- User receives updates related to the selected category

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9. Deliverables

The following deliverables are expected from the CampusWire project:

- Source code (HTML, CSS, JavaScript, React)
- README file describing setup, features, and modules
- Screenshots or demo video (optional)
- GitHub repository link (optional)
- Detailed project report (10–20 pages)

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10. Challenges Faced

1. **Dashboard Design**
   Designing an intuitive and clutter-free dashboard for multiple information sources.
2. **Notification Management**
   Handling notifications for different categories without overwhelming users.
3. **Data Freshness**
   Ensuring timely and accurate updates from various campus sources.

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11. Advantages

- Centralized access to campus information
- Personalized user experience
- Improved communication between administration and students
- Time-saving and efficient information delivery

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12. Applications

- Colleges and universities

- Educational institutions
- Student communities and clubs
- Faculty and administrative communication systems

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13. Future Scope

- Integration with official college ERP systems
- Mobile application version
- AI-based news recommendation system
- Multi-language support

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14. Conclusion

CampusWire provides an effective solution for managing and distributing campus-related information in a structured and user-friendly manner. By centralizing news, announcements, and events, the platform enhances communication, engagement, and awareness within the campus community. With further enhancements and scalability, CampusWire can become a vital digital infrastructure for modern educational institutions.