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News Portal

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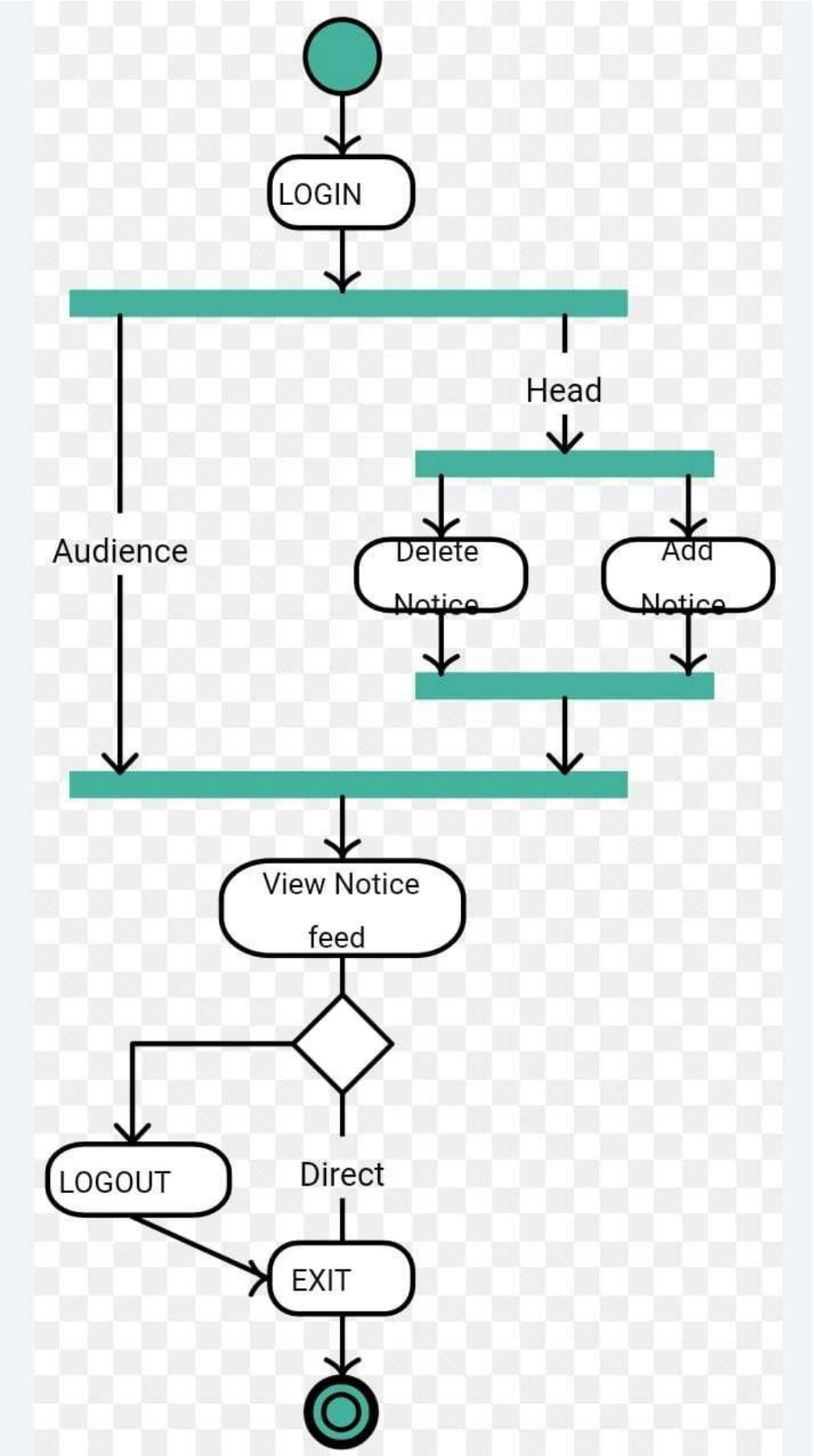
Abstract—
This research paper presents the development of a dynamic and user-friendly News Portal designed to provide structured and categorized news content to users. The system allows administrators to publish, edit, and manage news articles efficiently using a database-driven backend. The portal is developed using HTML and CSS for the frontend interface, PHP for backend processing, and MySQL for secure data handling. The primary objective of this system is to create a digital platform that enhances accessibility to reliable news, supports smooth navigation, and simplifies news management through an intuitive admin dashboard. Experimental results demonstrate that the system performs efficiently, offers responsive user experience, and can be extended for future improvements such as automated news classification and mobile app integration.

I. INTRODUCTION

With the rapid growth of the internet, online news platforms have become one of the most preferred sources of information. Traditional print media is gradually shifting toward digital platforms to deliver news instantly and efficiently. A News Portal serves as a centralized hub where users can access news articles from various categories such as politics, sports, technology, entertainment, and local events.

This project aims to design and implement a responsive News Portal that offers users an organized reading experience. The system provides category-based news viewing, user-friendly navigation, and an admin module for managing news content. By integrating PHP and MySQL, the project ensures dynamic content handling and secure data storage. The developed system focuses on accessibility, simplicity, and performance, making it suitable as a student-level implementation as well as a foundation for real-world applications.


LOGIN
Head
Audience
Delete Notice
Add Notice
View Notice feed
LOGOUT
Direct
EXIT

II. LITERATURE REVIEW

Existing Web-Based News Systems

Many existing news portals rely on CMS platforms such as WordPress, Joomla, or Drupal, which offer modular plugins for content publishing.
Research shows that large portals use automated news crawlers to gather articles from multiple sources.
Popular news systems like Google News use AI and ranking algorithms to personalize news for users.

Content Management and Publishing Techniques

Studies highlight the importance of database-driven content management for handling large amounts of news data.
Research emphasizes the need for version control and editorial workflows in publishing platforms.
Existing literature shows that effective news portals follow SEO optimization techniques to improve visibility.

User Interface and User Experience (UI/UX) Standards

Prior research states that a clean and responsive UI improves user engagement and readability.
Web portals with mobile-first design have higher user retention rates.
Studies emphasize the importance of category-based navigation to reduce user search time.

Security in News Portals

Literature highlights common threats like SQL injection, cross-site scripting (XSS), and unauthorized access, which must be prevented through secure coding practices.
Research shows that portals require role-based access control (RBAC) to protect admin operations.
Technologies Used in Previous Studies
HTML, CSS, PHP, and MySQL remain the most widely used technologies for academic news portal projects.
Several advanced systems use Node.js, Python Django, or ReactJS for improved performance.
Research suggests that MySQL databases are efficient for structured and categorized news storage.

III. PROPOSED METHODOLOGY

The proposed system follows a structured methodology that includes requirement analysis, design, implementation, testing, and deployment.

A. System Architecture

The architecture consists of three main components:

1. Frontend Interface: Developed using HTML and CSS for layout design and styling.

2. Backend Server: Implemented using PHP to handle server-side processing and communication with the database.

3. Database Layer: A MySQL relational database used to store news articles, user login data, categories, and admin information.

B. Workflow

1. Users visit the homepage and browse news articles by categories.

2. The system fetches data from the MySQL database through PHP scripts.

3. Admin users can log in to the dashboard.

4. The admin module allows adding, editing, and deleting news articles.

5. Updated content gets reflected dynamically on the frontend.

C. Development Steps

Requirement Gathering: Identified features such as categorization, admin login, and article management.

Design Phase: Included interface design, database schema, and system flow diagrams.

Implementation: Coding the frontend pages, backend logic, and database connections.

Testing: Functional testing, validation testing, and usability testing.

Deployment: Hosting the system on a local server using XAMPP or a hosting

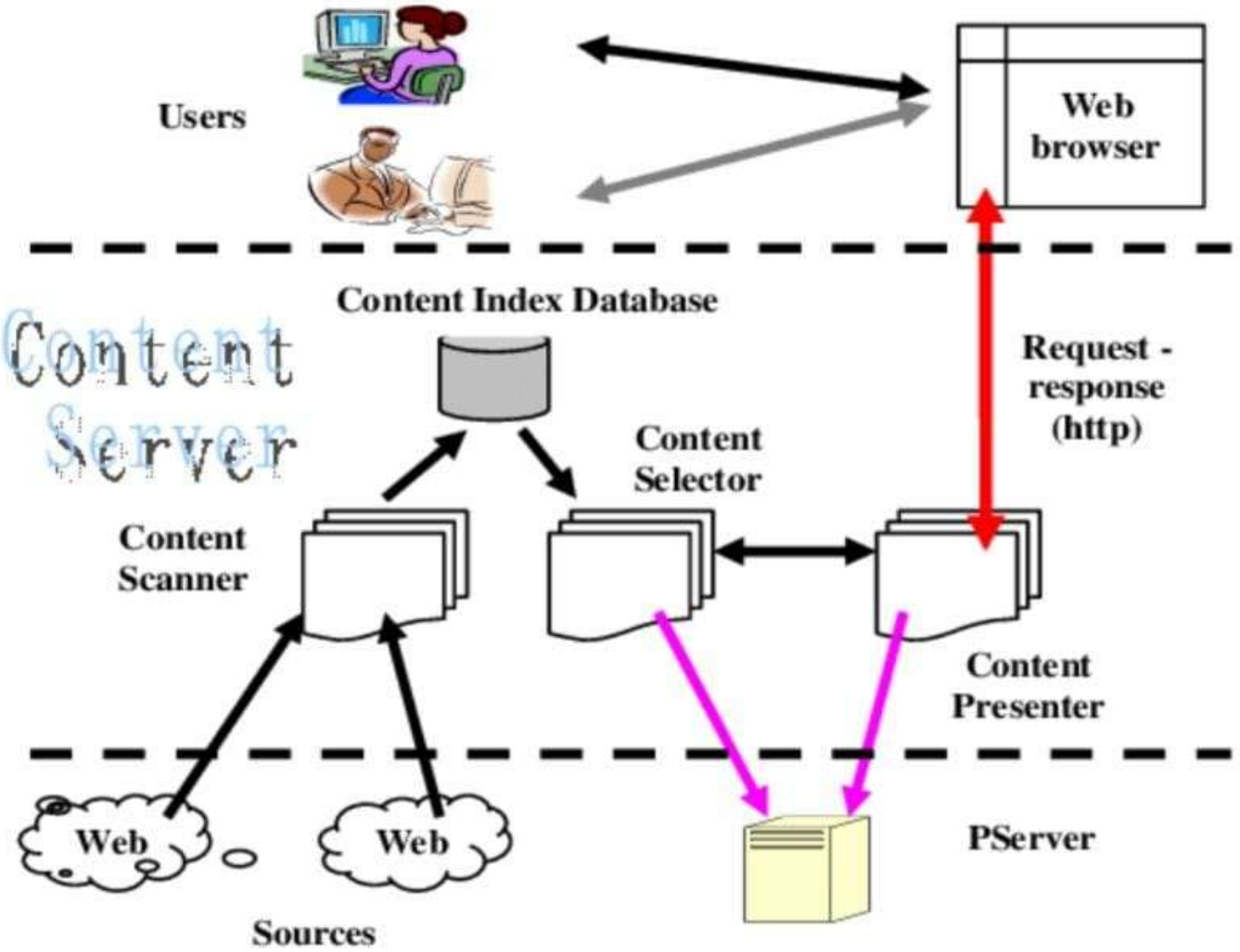


Fig: - SYSTEM ARCHITECTURE

Main Components

1. Sources

These are the original locations of the news content.
Includes: websites, online news portals, and web pages.

2. Content Server

Acts as the central manager of all incoming content.
Stores, processes, and coordinates data flow from sources.

3. Content Scanner

Automatically scans the web sources.
Detects and extracts newly published content.

4. Content Index Database

Stores indexed (organized + searchable) versions of all scanned content.
Helps in fast searching and filtering.

5. Content Selector

Chooses relevant content according to rules, filters, or user preferences.
Ensures only useful content moves forward.

6. PServer

Backend processing server.
Supports storage, personalization logic, and communication with the presenter.

7. Content Presenter

Prepares final formatted content.
Generates the output that appears in the user's browser.

8. User / Web Browser

The final consumer of the news.
Interacts through normal HTTP request–response communication.

Information Flow (Step-by-Step)

1. Content Acquisition

Content Scanner collects news from web sources.
Sends it to the Content Server.

2. Indexing & Selection

Content Server stores it in the Content Index Database.
Content Selector filters and determines which news items are relevant.

3. Presentation

Selected content is sent to the Content Presenter.
Data is formatted into a human-readable and personalized structure.

4. Delivery

The Content Presenter communicates with the PServer.
Using HTTP requests, content is delivered to the user's browser.

5. User Access

User opens the website and receives a personalized news feed.
User can request more information, which restarts the cycle.

IV. RESULTS AND DISCUSSION

The implemented News Portal successfully fulfills the intended objectives of providing a platform for publishing and viewing news articles. The system was tested across different browsers and devices, and the interface was found to be responsive and easy to navigate.

The admin module allows authorized users to efficiently manage all news categories and content in real time. PHP and MySQL integration ensured smooth execution of CRUD operations. Testing results indicate:

Fast loading of articles

Correct categorization

Proper functioning of admin authentication

Secure database operations

The system provides a solid foundation for additional features such as automated news scraping, push notifications, and user personalization.

Attributes used:

1. Frontend Attributes

Responsive Layout: Designed using HTML and CSS to ensure consistent appearance across different screen sizes.

Navigation Menu: Provides easy access to multiple news categories for improved user experience.

Typography & Color Scheme: Carefully selected to enhance readability and visual appeal.

Category-Based Filters: Allows users to quickly access news related to specific topics.

Image Handling: Supports article thumbnails and banners to improve engagement.

2. Backend Attributes

PHP Server-Side Scripting: Handles data processing, form validation, and content retrieval securely.

Session Management: Ensures secure login/logout functionalities for administrators.

Dynamic Page Loading: News articles are fetched and displayed dynamically without requiring manual page updates.

CRUD Operations: Admin can Create, Read, Update, and Delete news articles efficiently.

3. Database Attributes

MySQL Relational Structure: Stores user data, admin credentials, news articles, and categories in an optimized manner.

Primary & Foreign Keys: Maintain relationships between news and categories, ensuring data integrity.

Indexed Queries: Improve data retrieval and search performance.

Structured Tables: Includes tables for admin, news, categories, and users.

4. Security Attributes

Input Validation: Prevents invalid or malicious data from being entered into the system.

Hashed Passwords: Ensures secure storage of admin login credentials.

Restricted Access Controls: Only authorized administrators can access the dashboard.

Protection Against SQL Injection: Secure query handling prevents database attacks.

5. Performance Attributes

Optimized SQL Queries: Enable faster loading of news content.

Lightweight Interface: Minimal scripts and optimized CSS reduce page load time.

Efficient Database Connections: Reduces server overhead during operation.

CONCLUSION

This research presents the development of a functional and efficient News Portal website. The system improves the accessibility of categorized news and simplifies content management through an intuitive admin dashboard. The project highlights the importance of using web technologies such as HTML, CSS, PHP, and MySQL to build dynamic and responsive web applications. Future enhancements may include AI-based news recommendations, a mobile application version, cloud hosting, and multimedia content integration.

In conclusion, the News Portal system is a robust, efficient, and scalable platform that meets the core requirements of a modern online news service. It serves as a strong foundation for future research, development, and innovation in digital news distribution technologies.

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