AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (AUST)
141 & 142, Love Road, Tejgaon Industrial Area, Dhaka-1208.

Department of Computer Science and Engineering
Program: Bachelor of Science in Computer Science and Engineering

Project Report

Course No: CSE3224
Course Title: Information System Design & Software Engineering Lab

Project Title: **"The Parody Journal: A Broad-Spectrum AI-Enhanced Interactive News Platform"**

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Submitted to
Md. Sohidul Islam
Lecturer, Department of CSE, AUST.
Submitted by,
Name: Ananto Nayan Bala
Student ID: 20210204028
Name: Shaik Farhan Abid
Student ID: 20210204041
Name: Md. Sakib
Student ID: 20210204049
Name: Atik Ahmed
Student ID: 20210204051

Reason for Project Selection

In an era of information overload, readers face significant challenges in accessing reliable, relevant, and engaging news. Most existing platforms focus on either general news or niche areas, failing to provide a balanced mix of personalized content across diverse topics such as technology, lifestyle, entertainment, politics, and global issues. Moreover, a lack of interactive features and engaging multimedia integration leaves readers disconnected and passive.

Proposed Solution

The Parody Journal is going to be an interactive news platform designed to:

- **Diversify Content**: Cover a broad range of topics, including technology, politics, entertainment, lifestyle, health, and global trends.
- **Integrate AI**: Provide personalized recommendations, content summarization, and sentiment analysis.
- **Incorporate Multimedia**: Blend written content with videos, podcasts, and infographics for enhanced storytelling.
- **Foster Engagement**: Offer interactive features such as commenting, polls, and live Q&A sessions with experts.

Goals

- Create a comprehensive and interactive platform for diverse news consumption.
- Use AI to enhance content personalization and discovery.
- Provide an immersive multimedia experience.
- Establish a user-friendly platform built on .NET technologies for scalability and reliability.

Background Study

1. **Diverse Content Demand**: Research indicates strong user preference for platforms offering varied content mixing general and niche topics
2. **Multimedia Integration Trends**: Video, podcasts, and interactive graphics have become crucial for effective digital storytelling
3. **AI Implementation in News**: AI-driven features significantly enhance user experience through personalized recommendations and content analysis
4. **Interactive Feature Impact**: Community engagement tools demonstrate increased user participation and platform loyalty

Requirement Analysis

Functional:

Designing a User:

A user should be able to:

- Create and manage their profile with personal information
- Customize their news feed preferences
- Maintain a reading history
- Save articles for later reading
- Manage account settings and privacy options

User Authentication and Management:

Users should be able to:

- Register using email
- Log in securely with authentic password
- Reset passwords through email verification
- Update profile information
- Delete their account and associated data

Content Personalization:

Users should be able to:

- Select preferred news categories
- Follow specific topics or tags
- Rate and provide feedback on articles
- Save reading preferences

News Feed Management:

The system will:

- Display personalized news based on user preferences
- Sort content by relevance, date, or popularity
- Filter content by category, source, or topic
- Update content in real-time

Social Features:

Users should be able to:

- Share articles on social media platforms

- Comment on articles and engage in discussions
- Create and join topic-based communities
- Participate in polls and surveys
- Engage in live Q&A sessions

Notification System:

Users will receive notifications for:

- Breaking news in selected categories
- Updates on followed topics
- Responses to their comments
- Live event reminders
- Personalized content recommendations

AI-Enhanced Features:

The system will provide:

- Content summarization for long articles
- Sentiment analysis for comments and trends
- Personalized reading recommendations
- Content categorization and tagging
- Translation services for international news
- Trend analysis and prediction

Non-Functional:

Performance:

- Page load time under 3 seconds
- Support for concurrent users: minimum 10,000
- Response time for API calls under 200ms
- Smooth scroll and navigation
- Efficient content caching
- Optimized image and video loading

Security:

- Secure authentication protocols
- Regular security audits
- Protection against common web vulnerabilities

Reliability:

- 99.9% uptime guarantee

- Automated backup systems
- System health checks
- Graceful degradation under load

Maintainability:

- Modular code architecture
- Comprehensive documentation
- Version control system
- Continuous integration
- Regular system updates

Feasibility Analysis

Technical

- Backend: .NET Core
- Frontend: Blazor
- Database: SQL Server and Azure Blob Storage
- AI Integration: ML.NET
- External APIs: News API, YouTube Data API

Operational

- Target Market: General readers, professionals, students
- Workflow: Intuitive user interface
- Content Management: Automated and manual curation

Economical

1. Initial Costs
    - Development infrastructure
    - API subscriptions
    - Cloud hosting
2. Revenue Streams
    - Premium subscriptions
    - Targeted advertising
    - Affiliate marketing

Github link of project: https://github.com/shaik-farhan-abid/The-Parody-Journal