

# Project Charter: Article Analysis and Recommendation Plugin

## 1. Project Overview

The project aims to enhance the user experience of the website “Ziarul de Gardă” by adding a recommendation section to new articles, allowing editors to pick and display related articles that are suggested by the system based on content similarity. The solution must not impact the current performance of the system in any meaningful manner.

### Objectives:

1. Develop a system to recommend related articles based on content similarity.
2. Allow writers to customize the selection of articles.
3. Ensure the solution integrates seamlessly with the WordPress platform.
4. Address performance bottlenecks of the existing relational database by implementing an alternative storage solution for high query loads.
5. Deliver a scalable and maintainable architecture for handling future articles efficiently.

### Key Deliverables:

1. **Content Recommendation Engine:** A system that analyzes the content of articles to determine relevant recommendations using NLP techniques (e.g., keyword extraction, vector representation, similarity measures).
  2. **Scalable Storage Solution:** Integration of an alternative to the relational database to handle the storage and querying of recommendations and summaries efficiently.
  3. **WordPress Integration:** A plugin or custom feature embedded in the WordPress site to dynamically display recommendations below each article.
  4. **Documentation:** Detailed technical documentation for system architecture, recommendation algorithms, data workflows, and WordPress integration. Maintenance guidelines for future updates and scalability.
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## 2. Stakeholder Requirements

### Publication Stakeholders:

1. **User Experience:**
  - Accurate article analysis and recommendations.
  - Custom selection of articles for editors
2. **Technical Integration:**
  - Plugin compatible with their WordPress website.
  - Minimal performance impact on the site.

## Development Team:

1. **Research Time:**
    - Study AI models for keyword extraction and summarization.
    - Investigate database optimization for large-scale text search.
  2. **Testing & Validation:**
    - Validate AI accuracy against sample articles.
    - Ensure plugin performance under heavy user load.
  3. **Support from the ZdG IT team:**
    - Access to the article database
    - Access to a development version of the ZdG website
    - Support from qualified personnel for integrating the plugin
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## 3. Project Timeline: December to May

### Phase 1: Research and Planning (3 weeks: December)

- **Goal:** Establish a strong foundation for the project by researching tools, techniques, and architectures.
  - **Activities:**
    - Study AI models for keyword extraction or vector representation.
    - Explore scalable database solutions and caching strategies.
    - Define system architecture, including workflows for article analysis, recommendations, and WordPress integration.
    - Outline testing and validation approaches for scalability and accuracy.
  - **Deliverables:**
    - Research report.
    - High-level project plan with architecture and workflow diagrams.
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### Phase 2: Prototype Development (4 weeks: January)

- **Goal:** Build and test individual components to validate feasibility.
  - **Activities:**
    - Develop a prototype **Content Recommendation Engine** using sample articles.
    - Set up and test a **Scalable Storage Solution**.
    - Create a basic plugin interface in WordPress to test integration with prototype engines.
  - **Deliverables:**
    - Functional prototypes for recommendation.
    - Initial database schema and search API.
    - Early-stage WordPress plugin with basic functionality.
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### Phase 3: Core Development (8 weeks: February – April)

- **Goal:** Develop the full-featured system, integrate components, and ensure performance.
  - **Activities:**
    - Refine and train AI models with the full article dataset.
    - Complete **WordPress Integration**, including a UI for displaying recommendations.
    - Conduct scalability testing with concurrent queries on the article database.
  - **Deliverables:**
    - Fully functional recommendation module.
    - Optimized storage integrated with WordPress.
    - Complete plugin with a dynamic recommendation.
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### Phase 4: Testing and Validation (4 weeks: April – Early May)

- **Goal:** Ensure system accuracy, scalability, and seamless integration.
  - **Activities:**
    - Test AI models for accuracy in recommendations quality.
    - Perform load testing to validate database performance.
    - Validate WordPress plugin performance under simulated user traffic.
    - Debug and refine based on stakeholder feedback.
  - **Deliverables:**
    - Test results and performance benchmarks.
    - Debugged and polished plugin ready for deployment.
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#### 4. Risks and Mitigation

Risk	Probability	Impact	Mitigation Strategy
High database query load	High	High	Use caching and precomputed results.
Integration issues with WordPress	Medium	High	Test with a staging environment before deployment.
Recommendation algorithm complexity	Low	Medium	Start with a simple similarity model and iterate.