Project Proposal

Track: Development

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Background

Many university website searches are often just a built-in Google search that exists to mix external content with campus resources and only supports simple keyword matching. University resources are scattered across different web pages, making it difficult for users to efficiently access the information they need.

Goal & Functions

Develop an Elasticsearch-based search platform for a centralized information retrieval system focused on campus resources, with semantic search support and a user-friendly interface.

Users & Singnificance

Serving students, faculty, and visitors. By providing a centralized information portal, we hope to improve resource discoverability, enhance information transparency, and save search time.

Approach

We will use Python and Flask to collect and manage data, with Elasticsearch serving as our search engine core. The system will implement semantic query functions and ranking algorithms to improve search results. A JavaScript-based web interface will provide interactive user experience.

Evaluation

Evaluate project success through search quality (accuracy, coverage, response time), system performance (data updates, stability), and user experience testing.

Timeline

Week 10: Determine technical architecture

Weeks 11-12: Develop crawlers for data collection

Weeks 13-14: Implement search functions and ranking algorithms

Week 15: Complete frontend interface development and system integration

Task Division

Tianyi Tang: Data collection and preprocessing

Maohong Liao: Elasticsearch implement and query development

Haipeng Zhang: Weight algorithm implementation

Nanguan Lin: User interface design