Research Paper Management System (RPMS)

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Project Description

The project titled **Research Paper Management System** aims to provide users to search, discover, and access research papers and all information about the research paper from a wide range of disciplines.. The project will index papers from various sources, including academic journals, conference proceedings, and institutional repositories, providing a comprehensive and accessible database for researchers, students, and academics.

Motivation

The exponential growth of academic research has made it increasingly difficult for researchers, students, and academics to find relevant literature quickly. Searching and accessing research papers separately on different publications often causes inefficiencies. The **RPMS** aims to solve this problem by integrating diverse data sources into a single platform, making it easier for users to retrieve relevant papers. The focus on federated querying ensures that users can fetch data from different sources simultaneously, overcoming the challenges faced.

Use Cases & Features

1. **Keyword Search**: Users can input keywords, titles, or author names to search for relevant research papers.

2. **Advanced Filtering**: Users can filter search results by various criteria, such as publication year, author, journal, citation count, and subject area. This feature allows for more precise searches tailored to specific research needs.

3. **Research Metrics Analysis:**
   Scenario: A user wants to evaluate the impact of a paper or an author’s work.
   Functionality: The system provides metrics such as citation counts, h-index, and journal impact factors, helping users assess the significance of research papers and authors.

4. **Metadata Extraction:**
   Automatically extract metadata such as title, author, publication year, and abstract from research papers. This ensures consistent data representation and aids in search and retrieval.

5. **Semantic Analysis:** The Query Analyzer will perform semantic analysis on the user's query to understand the intent and context. This includes identifying key terms, synonyms, and relevant categories that can help enhance the search accuracy.

Stakeholders

1. **Researchers and Academics**: The primary users who will rely on the search engine to find relevant literature for their research, teaching, and study purposes.

2. **Publishers and Academic Institutions**: These entities will benefit from increased visibility and access to their published works, contributing to a broader dissemination of knowledge.

3. **Students**: Users who will benefit from the platform when conducting research for assignments, theses, or dissertations.

4. **Developers**: Responsible for maintaining and improving the platform, ensuring that it remains up-to-date with the latest technological advancements and user needs.

Focus on Innovation

The innovative aspect of this project lies in its federated querying capabilities. Unlike traditional systems that rely on a single source, the **RPMS** distributes queries across multiple data sources with different schemas. It integrates the fetched data to provide users with a seamless experience, ensuring that the most relevant research papers are displayed regardless of where they are stored. This approach reduces the time and effort needed to locate specific academic papers and offers a more holistic view of available research.