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**Project Overview**

The project involves the creation of a Quran and Hadith Knowledge Graph Search Engine. This search engine aims to provide a structured and efficient way for users to explore and understand Islamic texts, including Quranic verses, Hadiths, and related content. It leverages knowledge graph technology, which represents data as nodes and relationships, to enable powerful search and discovery capabilities.

**Problem(WHAT)**

Current platforms offer Quranic texts, Hadith collections, and other related material in isolation, making it difficult for users to establish meaningful connections between them. This fragmentation hinders comprehensive understanding. **Representing the complex semantic relationships between Quranic verses, Hadiths, and other entities in a traditional database is challenging.** While various resources exist for Islamic studies, they are often scattered across books, websites, and libraries. There is a need for a centralized and comprehensive platform to access these resources. **Traditional search engines may not efficiently retrieve relevant content and often lack context-awareness. Basic keyword-based searches may not capture the nuances of Islamic textual content.** Conventional search engines do not cater to the unique challenges of Quranic and Hadith study. **Users face difficulties in conducting precise, context-aware searches, which results in inadequate exploration by users.**

**Solution(WHY)**

Knowledge graphs excel in **capturing semantic relationships between entitie**s. They use nodes (entities) and edges (relationships) to connect data points. Quranic verses, Hadiths, and other related elements can be represented explicitly. **They are inherently flexible.** We can easily add new entities or relationships as our dataset expands, or **it can be connected with other large datasets.** This is advantageous as we are dealing with a diverse and intricate Islamic textual data, that needs to be . Knowledge graphs **enable users to explore content within a contextual framework**. Users can navigate between Quranic verses, and Hadiths seamlessly, as they are inherently connected

**HOW**

Algorithms like Centrality Algorithms and Community Detection Algorithms are used for traversing the graph. Understanding how the nodes lie close to each other, with the number of connections with other individual nodes, a node’s centrality is measured, to highlight how often the Quranic verse or Hadith is mentioned. Modularity-based community detection can help identify thematic clusters within the knowledge graph. For instance, it can group related Quranic verses, Hadiths, and Tafseer interpretations together, making it easier for users to explore content by topic.

**References**

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