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Qur'anic Semantic Search Tool Based on Ontology of Concepts

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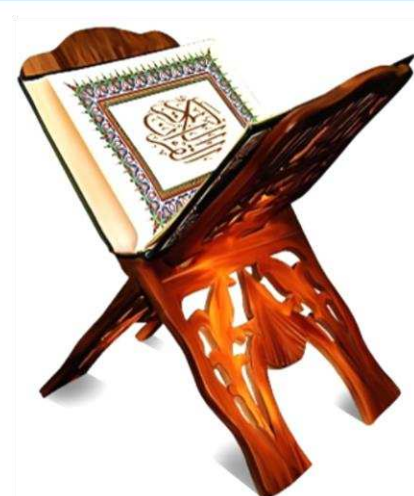


Aim

- To construct a useful Qur'anic search tool by employing both text-based, and semantic techniques. This tool will be able to answer any question with knowledge from the Qur'an.
- Enhance and refine the relationships between abstract concepts in Holy Qur'an (ontology). See figure 1

Why the holy Qur'an

- It is the main religious Arabic text for more than 1.4 billion Muslims. Muslims believe that Qur'an is a revelation from God (Allah) 1,356 years ago.
- It contains around 80,000 words forming 114 chapters. A chapter consists of a varying number of verses.
- Many Natural Language Processing studies have been conducted on Qur'anic text as case study.



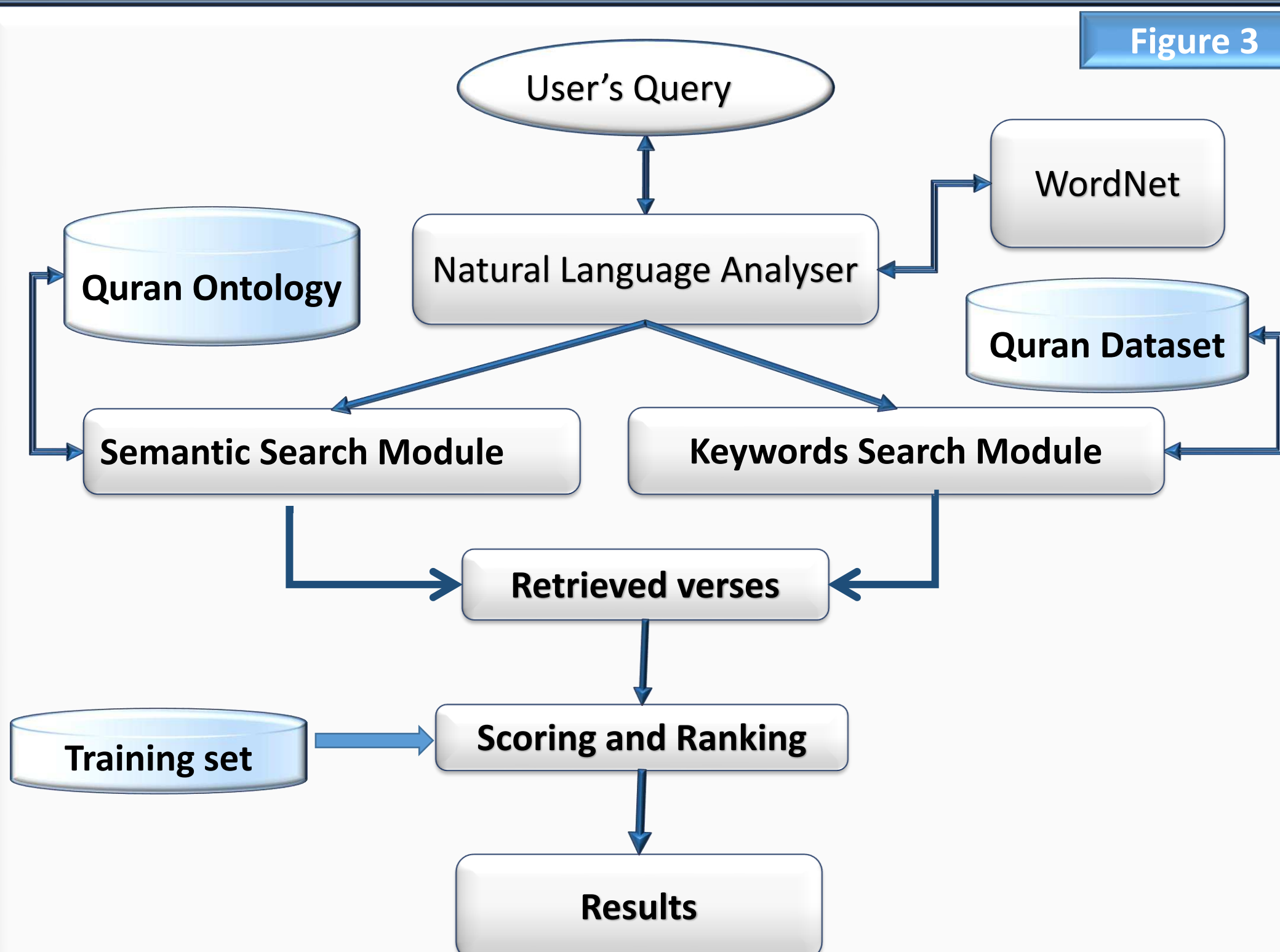
Research problems

- There are deficiencies with the verses (Aya'at) retrieved for a query using existing search tools (figure 2).
- Absence of an accurate and comprehensive resource for Islamic ontology, and neglecting some theories of information retrieval.
- There is not any online Qur'anic semantic search.

Research questions

- Is it possible to implement a useful search tool based on Qur'anic ontology, and Qur'anic datasets?
- How to assess the efficiency and accuracy of an existing Qur'anic ontology?

Proposed System framework



Qur'an abstract concepts

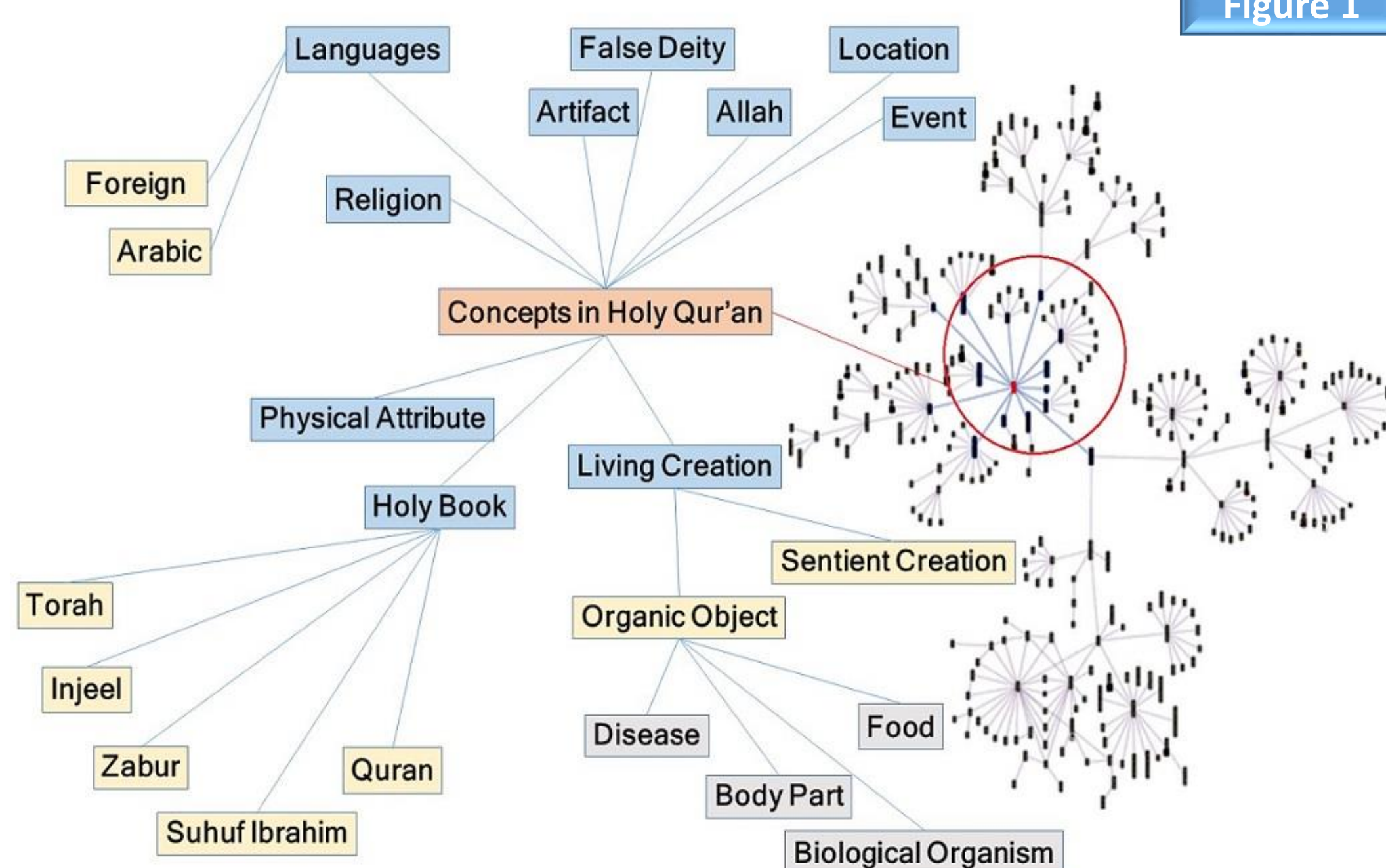


Figure 1

Classification of Existing Search Methods in Holy Qur'an

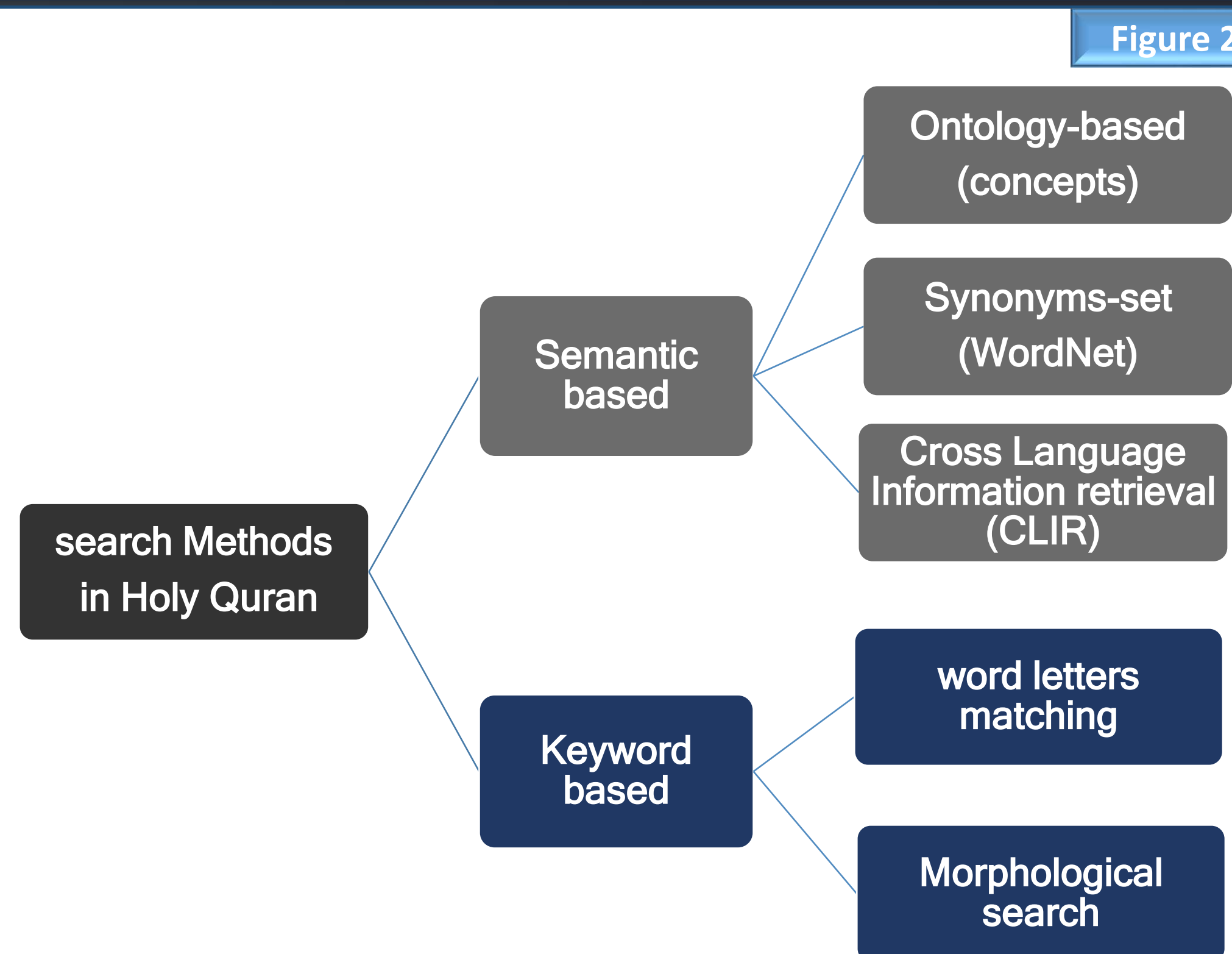


Figure 2

Objectives

- Understand the problem by evaluating existing Qur'anic semantic search methodologies.
- Assess the current Qur'anic ontologies and find out how these ontologies can be enhanced.
- Find the latest search techniques to employ in a Qur'anic search engine.

Outcome

- A tool for searching Arabic text semantically.
- Enhance Arabic question answering tool which will be helpful in Islamic and Arabic studies.

