



**UNIVERSITY OF LEEDS**

This is a repository copy of *Qur'anic semantic search tool based on ontology of concepts*.

White Rose Research Online URL for this paper:

<http://eprints.whiterose.ac.uk/81890/>

---

**Conference or Workshop Item:**

Alqahtani, MMA and Atwell, E (2014) Qur'anic semantic search tool based on ontology of concepts. In: Postgraduate Research Showcase Conference, 4 December 2014, University of Leeds, Leeds, UK. (Unpublished)

---

**Reuse**

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

**Takedown**

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing [eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk) including the URL of the record and the reason for the withdrawal request.



[eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk)  
<https://eprints.whiterose.ac.uk/>

# Qur'anic Semantic Search Tool Based on Concepts



## 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).

## 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 a case study.



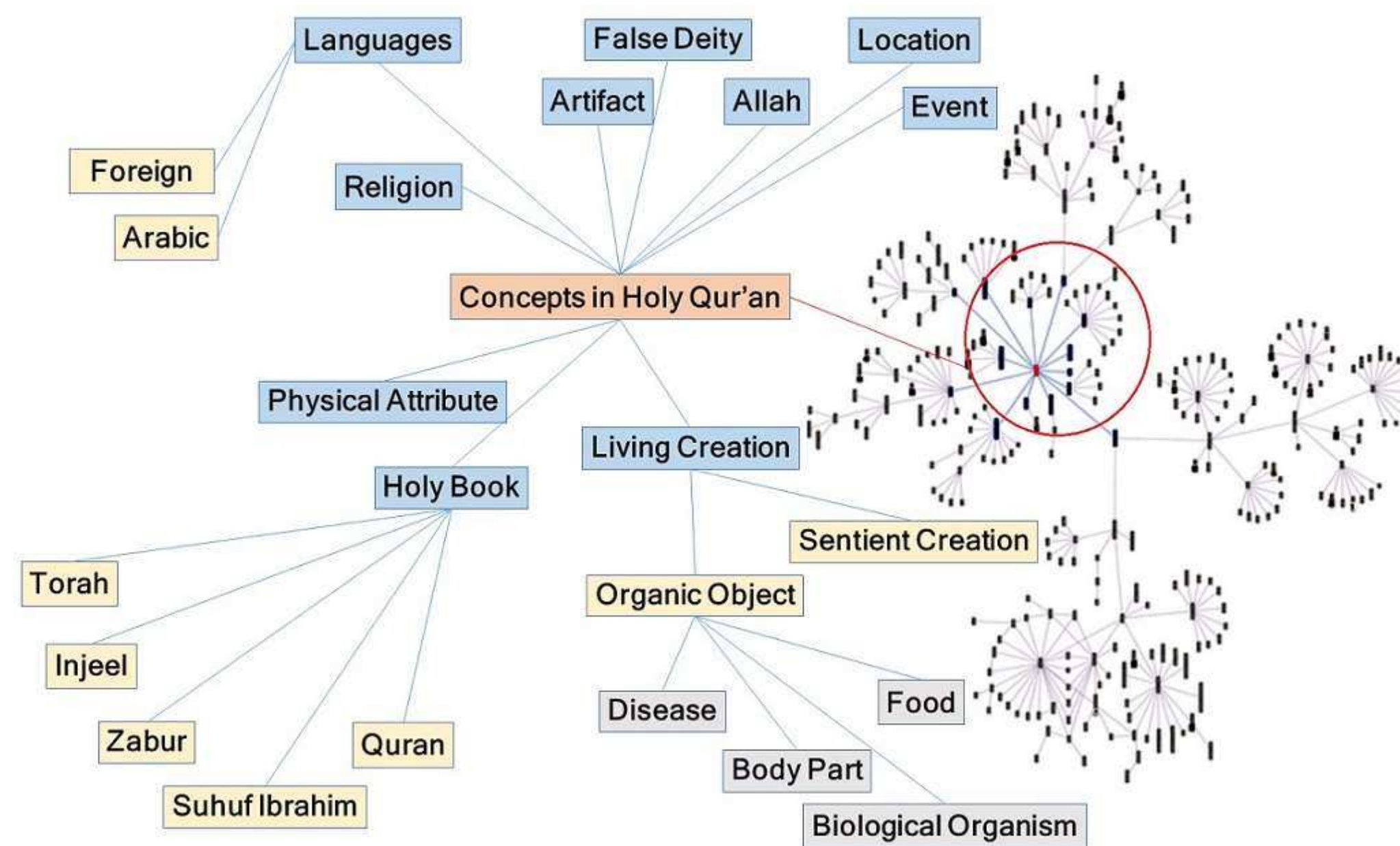
## Research problems

- There are deficiencies with the verses (Aya'at) retrieved for a query using existing search tools.
- 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.

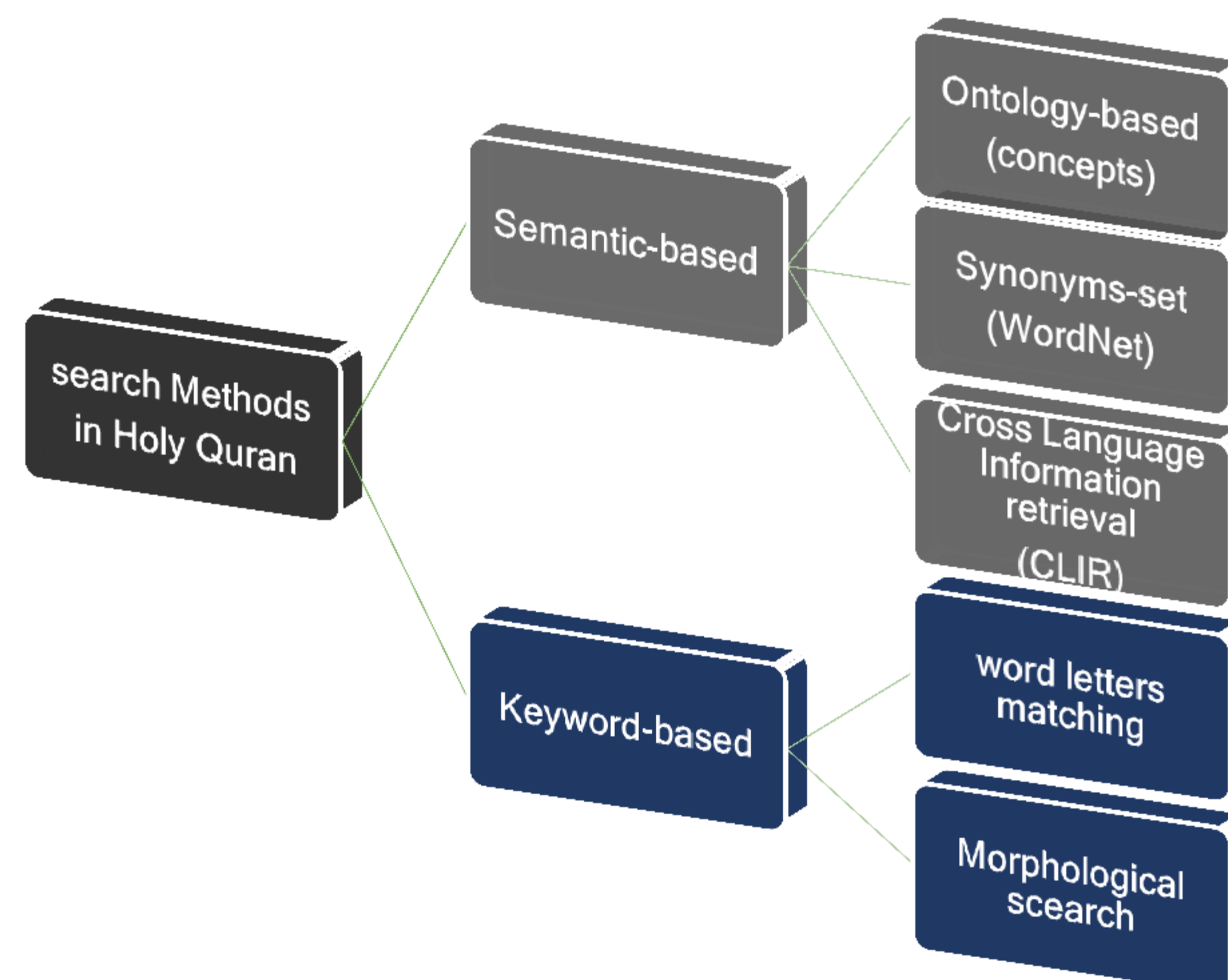
## Research questions

- 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?

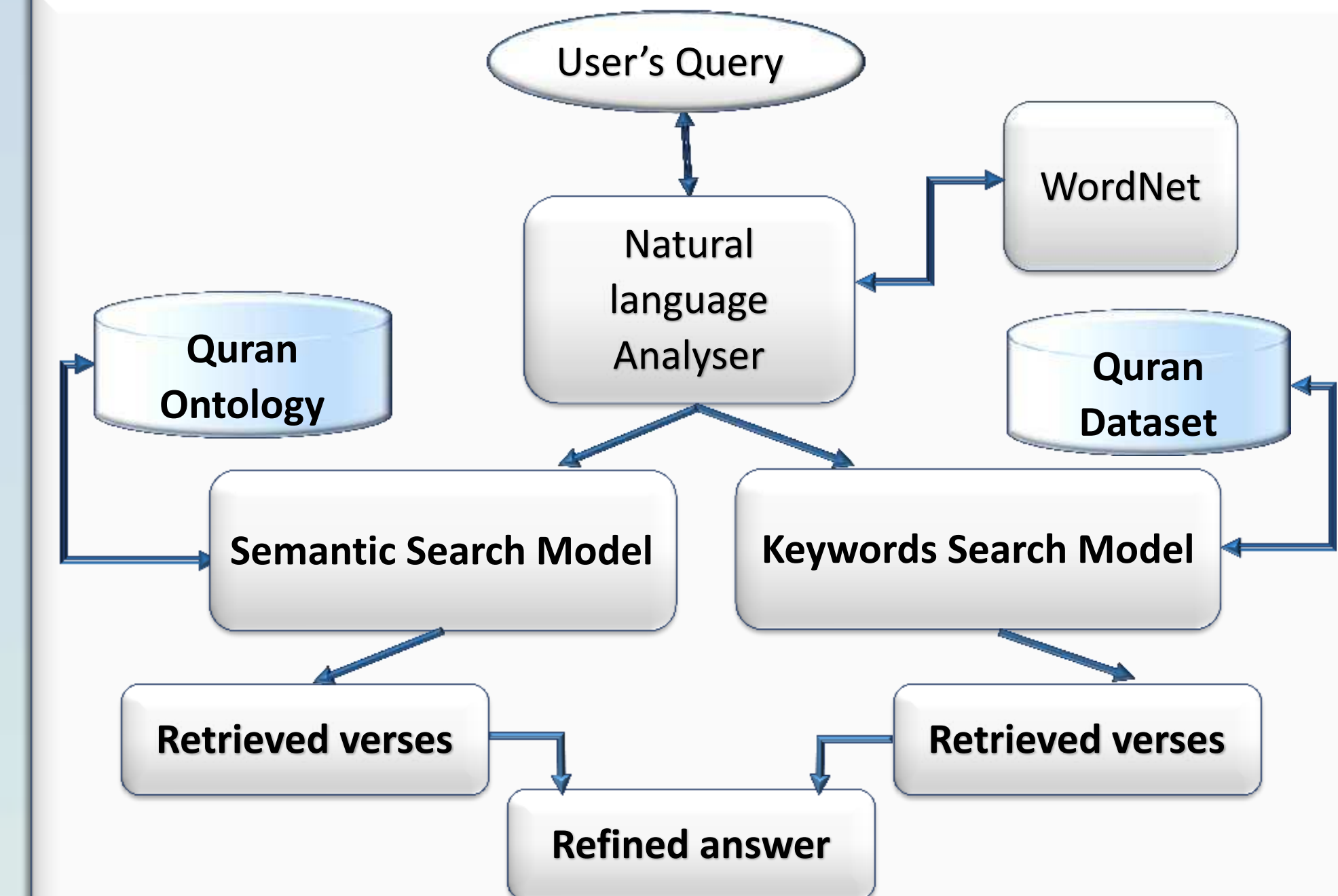
## Qur'an abstract concepts



## Classification of Existing Search Methods in Holy Qur'an



## Proposed System framework



## Objectives

- Understand the problem by evaluating existing Qur'anic semantic search methodologies.
- Assess the current Islamic ontologies and find out how these ontologies can be developed.
- 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.

## Acknowledgement

- To my PhD supervisor Dr. Eric Atwell

