Informatics Institute of Technology
In Collaboration with
University of Westminster
Ontology Based Approach for Generating NoSQL Queries from Natural Language
A dissertation by
F. Aadilah Iqbal
Supervised by
Aloka Fernando
Submitted in partial fulfillment of the requirements for the
BEng. (Hons) in Software Engineering
Department of Computing
May 2019

Abstract

Interrelated data are organized and stored in a database, which can be retrieved when needed. Relational database and NoSQL (Not Only SQL) which is a non-relational database are two of the commonly used database types. NoSQL databases are amongst the emerging types of databases. Querying a NoSQL database is not equivalent to the querying of a traditional database. Typically, the user who needs to perform a query, should possess a knowledge on technical aspects such as n the query language and the domain of the database for efficient querying. These conditions in turn makes querying of database difficult for individuals such as the non-technical people.

This problem brings, this research in to light. The dissertation discusses on a solution to solve this problem using an ontological-based approach. The user is prompted to enter the query using the English natural language. Next, it automatically generates the corresponding NoSQL query for the querying of the result from the database.

The dissertation discusses on the approach of the implementation of the solution and how the tests are performed with its test result in chapter 7 - Testing. The solution was evaluated by two target evaluators. The evaluations given by them are discussed in the evaluation chapter while future works and limitations are included in the concluding chapter of the thesis.

Keywords:

NoSQL, Ontology, Natural Language, Natural Language Processing, Databases