**The Motivation:**

This project is designed to show the benefits of using applications, which are ontology driven, in term of browsing and querying for information. It demonstrates the use of the represented knowledge between machines instead of sharing just raw data. Since, the web full of raw information that could or could not has relevancy with each other, OWL ontology language came to represent the knowledge of domains instead of raw data. OWL simulates the intelligence behind the reasoning process in addition to knowledge representation. By doing this, relations between different objects within a domain are represented as well.

**Problem of Statement:**

Browsing and querying are two of the main characteristics of a retrieval system. Usually, user tries to figure out the functionalities of a user interface or some instructions are provided to guide the user. As for querying, in conventional querying system that is keywords based rather than the underlying concept, the process of retrieving information depends on recalling specific keywords. This method suffers some issues like the recall of keywords and ambiguity in the search query formation process.

**Approach:**

Those issues can be reduced be adopting ontology-based method and faceted-based search mechanism. Representing knowledge within ontologies will drive the interface and take care of guiding the user toward building only valid search queries. The recall problem will be reduced since user does not have to remember keywords and all relevant query elements derived automatically from the ontology. As for ambiguity, faceted-based search is introduced to narrow and personalize the search result.

**Additional info:**

This project is based on existing application (The Manchester Pizza Finder) that is ontology driven interface. An application is built using the code of Manchester Pizza Finder and adding some new modifications and functionalities. The Manchester Pizza Finder is a tool that display a list of toppings based on pizza ontology. The user query for different pizzas based on included and excluded chosen toppings. This project takes this tool further by adding more functionalities and a number of enhancements such as make it dynamically configured based on the ontology used, and implementing filters to be applied on the constructed query and on the search result. The application has the same basic functionalities with the Manchester Pizza finder and it is called The Manchester Sushi Finder that is a tool to query for sushi based on included and excluded ingredients. Although, the main ontology used is based on a sushi menu restaurant, does not mean only sushi ontology will work. In the contrary, a part of making the tool flexible is to allow it to work with different ontologies and domains.

**Results:**

**Conclusion:**