

## Abstract

An ontology is a formal representation of a domain as a set of concepts and relationships between pairs of these concepts. It plays a key role in realizing the vision of the Semantic Web where large, complex ontologies provide a means to define fundamental terms and their relationships that comprise the vocabulary of a particular domain, enabling machines to process information in an eloquent and more efficient manner. We need to change ontologies because our understanding of the domain changes, or because the domain itself changes; this puts forth a challenging task before the Semantic Web and AI researchers.

This M.Tech dissertation proposes a framework for Ontology Revision, requiring minimal human participation, where only the relevant part of the ontology will be extracted, modified with the required change and integrated back into the parent ontology. FCA techniques form the backbone of the revision framework. Throughout the entire process, the system minimises loss of information, as well as handle inconsistencies that might arise during the revision process.