News Ontology

1. Introduction

Newspapers give essential information about what is happening in other parts of country and distinct parts of globe which add to our knowledge. I choose News Ontology as domain of interest because it mirrors the public views through Article's on various topics.

The News ontology consist of two mode of communication about current events-Newspaper and Social-Media Posting. Newspaper consists of articles related to Business, Sports, World, Technology, Economy, Crime, Local-city News, Entertainment, Politics, Editorial, Advertisement and many more. Newspaper is printed in many languages all over the world such as English, Chinese, Italian, French .The Social-Media Posting are done through Blogs, Audio, Video, Image Media which allows us to easily access information, as well as inexpensive way to communicate and connect with people all around the world. Social Website such as Twitter, Quora, and Facebook provide unprecedented dissemination knowledge.

2. Steps taken to build News Ontology:-

1. I selected my ontology's domain meticulously i.e. News and prepared a set of 5 competency question's that my ontology can answer. Example:-
    a. What are different types of Article printed in newspaper? (Genre)
    b. Who are responsible for writing, editing, publishing, reviewing those articles?(Person)
    c. Which organizations are responsible for printing those Articles? Who publishes content on the Internet? (Organizations)
    d. What does author mentions about in the article?(Content)
    e. What properties will be needed to connect different classes together? (Object and data-type property)

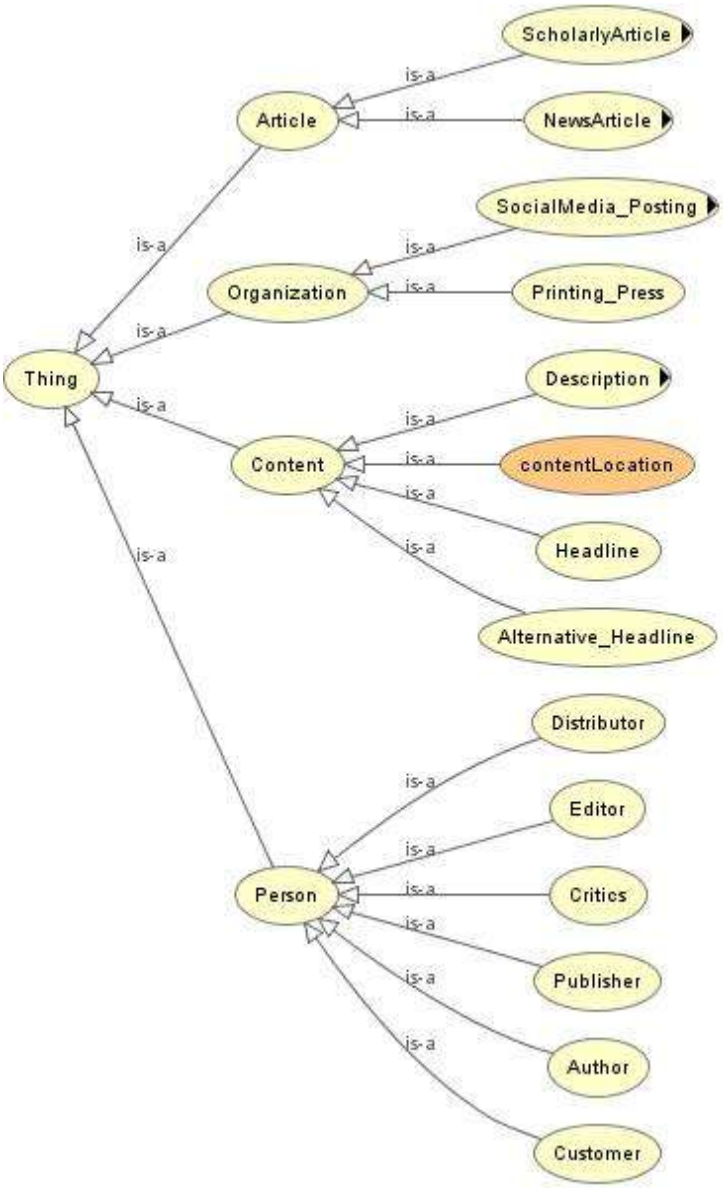
   This information helped me to define the scope of my ontology.

2. I learned "How to Build OWL Ontologies using Protégé 5" through "Horridge M.A. Practical Guide" uploaded on Beach-Board.
3. Creating Class and Property Design: I defined four classes after deducing solutions to my question's i.e. Article, Person, Organization, and Content .I arranged them in taxonomic (super-subclass) hierarchy.

    a. In modeling Article class, I choose two subclasses i.e. News-Article's and Scholarly-Article's .I also considered property with article called Page-Start, Page-End, word-count, date (article-Created, article-Modified, and article-Published) as Data-type properties.
    b. In modeling Peron class, I choose six subclasses i.e. Customer, Critics, Author, Publisher, Editor, Distributor. Each person has a significant task to perform. So I considered property with person class as is-Created-By, is-Modified-By, is-Published-By and with Customer created has-Customer-Id, has-Name, Has-Postal-Address.
    c. In modeling Organization class, I choose two subclasses i.e. Printing Press and Social-Media Posting.
    d. In modeling Content class, I choose five subclasses i.e. Headline, Alternative Headline, Description (article Head, article section, article Conclusion), Content-Location, Language.

4. Adding Instances to Classes: I created individual instances of classes defined under "Entities" Tab. While defining an individual instance of a class, I filled up the slot values.
5. Check for Consistency: In order to check, whether my ontology is Probe-Consistent or Probe-Inconsistent, I used Reasoner (HermiT in Protégé 5.0) to infer that relationship, property, classes are consistent. If Reasoner find some inconsistency, it will report those Errors and further modification will be needed.

3. Ontology Hierarchy



4. Limitations of Ontology

1. The news consists of passing information through android applications, TV News channel, Magazines, Radio, digital watches. These topics are not included in the above defined ontology as it increases domain of ontology and become too huge.
2. I was not able to define the OWL object property characteristic's -Functional, Inverse Functional, Irreflexive as it was difficult to maintain a large coherent view of complete representation of super and sub classes.
3. The Reasoner display Error -out of memory Java heap space which requires modification in JVM size of heap structure.