

# Self-Reflection Report

## ANIRBAN BHATTACHARJEE

Implemented several queries in SPARQL and contributed in finalizing the dataset, helped in refining the ontology to some extent. However, there are limitations with this ontology and it could be enhanced by linking it to more than one dataset. Cardinalities could have been well thought of at the beginning of the project. The strength of my work was critical analysis and finding ways to enhance the ontology constantly during the execution of the project and during query formulation. The limitations of my work were not able to clearly define cardinalities at the right point of time between properties, although we figured out what could have been the best approach later on when there wasn't much time remaining to rebuild sections of the ontology.

## LOVISH

I have contributed to writing the SPARQL queries for the group project. While writing the queries I also refined the ontology. The queries written extensively used the SPARQL features like LIMIT, FILTER, langMatches, Aggregate functions, GROUP BY etc. I think more complex queries could have been written leveraging the extensivity of the full dataset containing information about the various years.

## NEERAJ

I worked along with Nicholas in creating the Ontology and in converting it to a LOD compatible format. First, I decided what dataset to use along with the GeoHive Dataset. After selecting the crime dataset, I had to select classes and object and data properties to represent the dataset. After the ontology was created using Jena, the Individuals were added, and I spent my time in finding and fixing the bugs in the ontology. Once all the bugs were fixed, I converted the ontology to a human readable LOD compatible format. The strengths of my work were the clear distinction between the classes, object properties and individuals. The weaknesses of my work were that the initial understanding of the properties was wrong.

## NICHOLAS BONELLO

Most of my focus was on understanding how to create the ontology, modelling the different classes, defining properties per class and evaluating how to interlink the two datasets through different object properties. Once the initial design was modelled and agreed upon with the rest of the group members, I began creating the ontology by making use of the Jena toolkit in Java, updating the ontology throughout the duration of the project with suggestions from the team along the way.

Once the ontology was complete and successfully evaluated by the reasoner, my next task was to use the uplifted Crime and GeoHive datasets to add all the individuals into the newly formed ontology – ensuring that all object properties were correctly added for each individual.

**Strengths/Weaknesses:** I organised team meetings and urged the team to progress in reading, doing the tutorials and doing preliminary work so as to start the project with a good understanding of the subject. While the ontology served its purpose of allowing queries to produce results from both datasets, there were some weaknesses and flaws that were only spotted when it came to querying and creating the LOD description which could have been prevented with better organisation and preparation.

## TOMIN BIJAIMON AZHAKATHU

Working with my group in Knowledge and Data Engineering group assignment helps me to learn the importance of group work and documentation. The well-organized team works help us to solve the problem in a quick and efficient manner.

I'm responsible for uplifting or converting the CSV File to RDF File. In this method we planned to eliminate many columns with unwanted data for our ontology and replace all empty cells with the empty string so that there won't be any parsing error will occur while uplifting which was occurred while trying to uplift the entire dataset as it is. This helps me to learn the core features of Apache Jena Like Model Class, RDF Class etc.

Apart from Uplifting I also contributed to GUI creation for the Query so that anybody can run the defined query without any extra effort. The GUI was created using Java Swing Library. In backend Apache Jena is used for querying from the ontology/ owl file. This helps me study more on Ontology class, Querying, and representation of the result.

Being in the team working with the team members in KDE assignment helps me to learn more deeper in Linked Data, its creation, functionality and representation. It helps me in improving my knowledge in uplifting, creating ontology, creating queries and analyzing results.