# Group J Knowledge And Data Engineering Deliverable 4

Liam Bartsch, Oisin Farrell, Yannick Gloster,
Sanil Gupta and Finn Jaksland

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## Contents

# 1   Liam Bartsch

## 1.1   My Contribution

I helped choose the datasets and started working on improving the layout of the data so that we could use them in a useful manner, this meant converting 167 columns into extra rows to be used for our queries.

I then had to work on making sure the data was in place and that our deliverables were on point.

I contributed to the initial design of the ontology model. Once the design was on it's way I then went on to draft the SPARQL queries. After that I started working on the documentation and the reports.

I tried helping out with building the queries but since SPAQRL wasn't my best strength I wasn't able to contribute as much as the others.

I helped with writing the final report and was good with managing the different tasks.

## 1.2   Strengths and Weaknesses of My Contribution and of Group Work

The strength of my contributions were in my dedication to get things done as well as getting started on the large amount of tasks that we had. I was also happy to check things off as we finished them, this helped me be more productive and look forward to the next task.

My weaknesses were less than ideal understanding of some material and how to use them in a useful matter for the group project. I also wasn't able to build a deep understanding of SPAQRL to help get the queries done.

Our strength as a group came from our determination to push forward even though we weren't sure of how to proceed at times. Another strength was our ability to organise ourselves during the week to work on the project.

Our weakness as a group was an insufficient understanding of how to apply the course material to our project which led to some obstacles. We also were under some stress, especially once we had to rebuild some of the mappings.

# 2   Oisin Farrell

## 2.1   My Contribution

My contributions to the project were the mappings, the OWL ontology and adding to the SPARQL queries. I was the lead ontology designer. This consisted of using Protege to produce the OWL ontology. Sanil and I worked cooperatively to create the OWL ontology. It was advantageous to have a second opinion when it came to creating ontology. I was also in charge of getting the mappings uplifted so that the data could be added to the database for querying. I worked closely alongside Yannick to ensure that the mappings captured all the relevant information and were made in such a manner that allowed us to query the

data effectively. Yannick gave me a lot of guidance about how SPARQL queries worked and best practices which allowed me to add two of the SPARQL queries. Finally, I choose one of the data sets.

## 2.2 Strengths and Weaknesses of My Contribution and of Group Work

I think my strength as a team member is that I am willing to work hard so that the team can prosper. Yannick, Sanil and myself put in a huge effort in the final days of the project to finalize the project. I feel that I was always willing get started early with tasks so that we would have the best chance to create a good project. Furthermore, I am always willing to take the opinion of the team on board and alter my work based on this. For example, while working with Yannick on the queries we would often come to the conclusion that the mappings needed to be altered and I was always willing to revisit and remake them.

The weaknesses of my contributions come from the fact that I am not an expert in this area. For the mappings I used FOAF vocab which in hindsight probably wasn't the most appropriate. I used FOAF as the project somewhat related to people but perhaps another vocab would have been better.

# 3 Yannick Gloster

## 3.1 My Contribution

Initially, I worked with the team to select our datasets and figure out what our original questions would be. I also gave our presentation to the class regarding our dataset and questions. At this point we realized that our questions were not well define and that our selection of datasets were quite weak. Working with Oisin, we looked for other datasets that could be interesting to pair with the datasets that we were looking at. I helped Oisin with the uplifting. As I wrote 50-75% of our queries, I gave feedback to Oisin about how we could improve our maping and uplifting and we worked together to improve the overall experience. Once the queries were written, I built the entire front end for the project, integrating our queries with our GraphDB database, and created interesting visualizations for the data using JavaScript and a few React, JavaScript libraries.

## 3.2 Strengths and Weaknesses of My Contribution and of Group Work

Unfortunately, due to the large number of other assignments due at the same time, I was not able to work on the project as early as I should have. With better cross-module planning, I would've been able to work on it more over the time we were given to it however I had so many other large assignments due

nearly every week, I felt like I was just working to try reach every deadline every week.

What I was able to do though was power through all of the different different parts of the project over the last couple of weeks and we went from having next to nothing, to having a decent project. I was able to work with Oisin to help create a great project.

# 4 Sanil Gupta

## 4.1 My Contribution

Initially, I contributed to deciding what data sets my group would work with for the group project, and helped identifying which ways we would be able to link these data sets by coming up with many different potential competency questions. For deliverable 2, I worked along side Oisin to create the OWL ontology using Protege. I had no experience with Protege prior to this so it required lot's of research from the lecture notes and online resources. It was very helpful to work on this alongside Oisin as he seemed to have a better grasp on how Protege operated and he was able to give me a clearer understanding of it. I also helped with writing and editing queries in Sparql, something I worked along side Oisin and Yannick doing. I put a considerable amount of my contribution into the technical report, however any time I was called upon by my team members to help with anything extra, I was happy to do so.

## 4.2 Strengths and Weaknesses of My Contribution and of Group Work

I think that the biggest strength of my contribution in the group work was my flexibility, as I was always happy to work on any aspects the project if called upon even if it meant that I had to leave my comfort zone to do so. A good example of this was in the final days of the project, the group went through a rush of completing all our Sparql queries. Although I had very little knowledge or experience with Sparql queries, I was more than happy to do my best to learn about them and help my team to complete them if it meant that the team would succeed more.

A big weakness of mine throughout the group project was that my skill-set in the front-end was nowhere near Yannicks, meaning I was not able to contribute in that section as much as I would have liked. I was also not the most confident at working on the Sparql queries, and although I feel like I got more used to them as time went on, if I had more experience with them initially it could have saved both me and my group some more time.

# 5 Finn Jaksland

## 5.1 My Contribution

Like the rest of the team I helped in the initial data set selection, identifying the ways we could potentially link certain data sets up together and identifying interesting competency questions. Since I was working on a project using similar technologies outside of the module, I helped to identify Semantic Web resources we could look at for designing our knowledge graph.

For the majority of the project, I worked on the back end contributing to the queries and mappings. I had taken on the role of scope manager and kept personal track of the project's overall progress and feature development to ensure we'd have our deliverable prepared.

I additionally contributed towards the writing of the project report.

## 5.2 Strengths and Weaknesses of My Contribution and of Group Work

My strength was my contributions in writing SPARQL queries. I was able to create several SPARQL queries that worked around the limitations of our data. For example, a dataset used "Other areas" to describe a set of otherwise unmentioned counties. I created a query that filtered out mentioned counties and found the sum values of data describing the unfiltered counties. These sums were then added to the returning query table as "Other areas".

I think one of my main weaknesses was in a lack of understanding of the front end. It was the area of the project I had a weaker understanding of and contributed the least amount of attention too. I don't think I could effectively identify issues with it and as a result Yannick put in a considerable amount of effort to get it functioning. I also believe that my SPARQL queries could have touched on more of the datasets used. As we initially started out with two datasets and expanded afterwards, I noticed a bias in my queries towards those datasets.