[Enterprise Information Systems Lab]

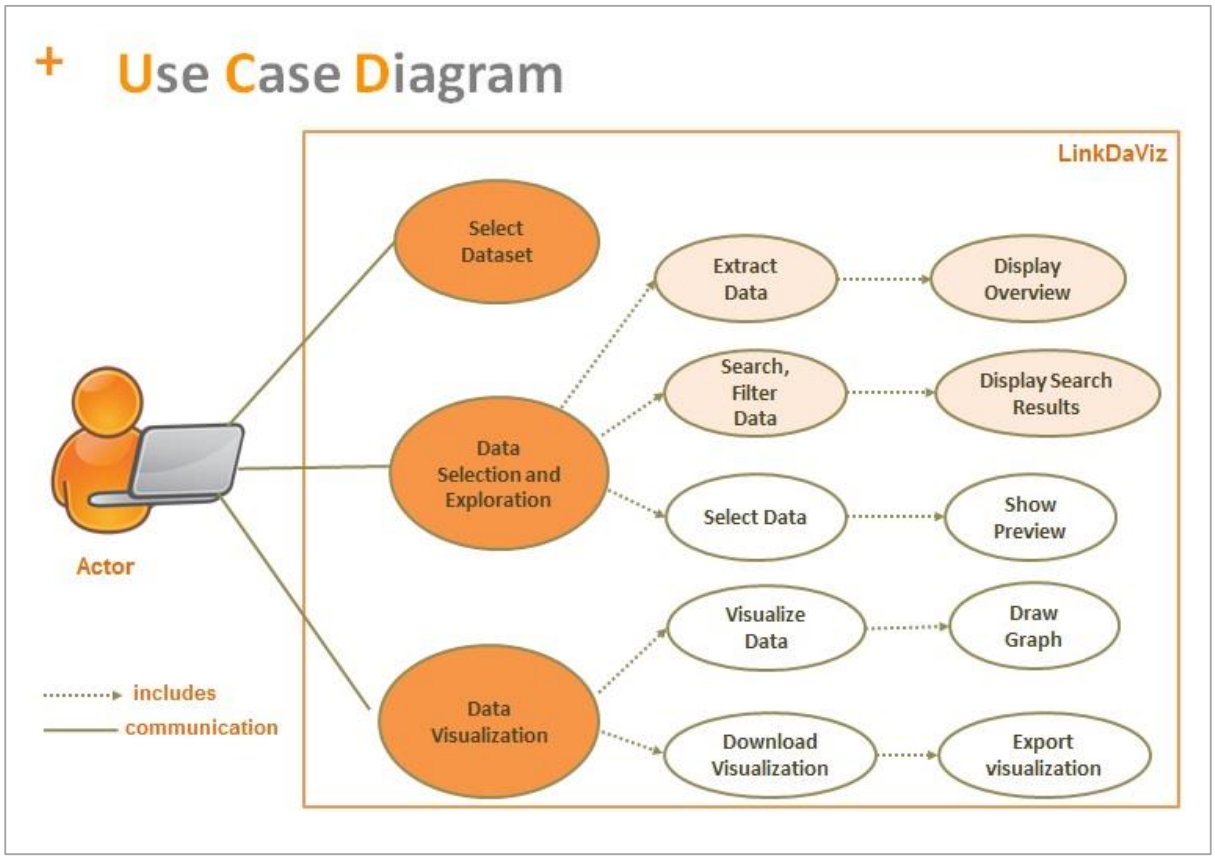
Linked Data Visualization and Exploration

[Mentor: Klaudia Thellmann]

Students: Alina Arunova, Tatiana Novikova, David Ibhaluobe

Table of Contents

1. Use Case Diagram:



Actor: A UML element representing the role of a person, object or device that interacts with the system.

Use Case Diagram: A UML behavior diagram that visually describes the functional requirements of a proposed system and shows the relationships between Actors and Use Cases. A Use Case diagram is mainly formed by Actors, Use Cases and Associations (connectors).

2. Scenario:

STEP 0: Selecting a dataset

User selects a RDF dataset containing statistical data for exploration and visualization.

STEP 1: Data selection and exploration

A preview is generated by the data tree consisting of classes, their properties and a “show more” button or choosing the exact data.

The data tree is scalable – a user can sort the classes by A-Z or by popularity (e.g. number of instances of a class or number of properties of a class)

STEP 2: Data filtering/searching

The user inspects the data tree and proceeds with filtering the data properties from classes he/she is interested in and by searching for classes and properties containing a certain keyword.

STEP 3: Data table overview

The data properties are queried and showed to a user as a table. If there are more than ten columns, the table becomes scrollable.

The user inspects the results and proceeds with configuring and visualizing the selection.

STEP 4: Exporting the data

After completing the data table, the user has the possibility to export the inspected data as a .csv file.

2.1. Functional Requirements

REQ_ID	REQ_NAME	DESCRIPTION	PRIORITY
1	**Display overview**	Improvement of display overview by decreasing the number of columns in the data table	1
2	**Sorting**	Provide sorting for the data tree (e.g. by A-Z)	1
3	**Filtering**	Provide filtering for the data properties from the data tree	1
4	**Searching**	Provide means for searching by keywords	1
5	**Hiding/Loading**	Provide the possibility to hide/load classes in the data tree for improving the tree overview	2
6	**Export data**	Data table export selection to .csv format	3

2.2. Non - Functional requirements

REQ_ID	REQ_NAME	DESCRIPTION	PRIORITY
2	**Data table scalability**	The ability to scale large data in order to get the full overview. (e.g. by scrolling)	1
3	**Usability (Search, Filter data)**	Easy to use search for filtering classes and properties	1
4	**Technical System Documentation**	The document must contain the whole procedure of testing (quick-reference guides)	1
7	**Backup**	The ability to restore the original data after the loss (copying, archiving)	4
8	**Robustness**	The ability of the system to deal with errors and normally operate despite abnormalities in input, calculations	5