



Enterprise **I**nformation **S**ystems **L**ab

+ Linked Data Visualization and Exploration

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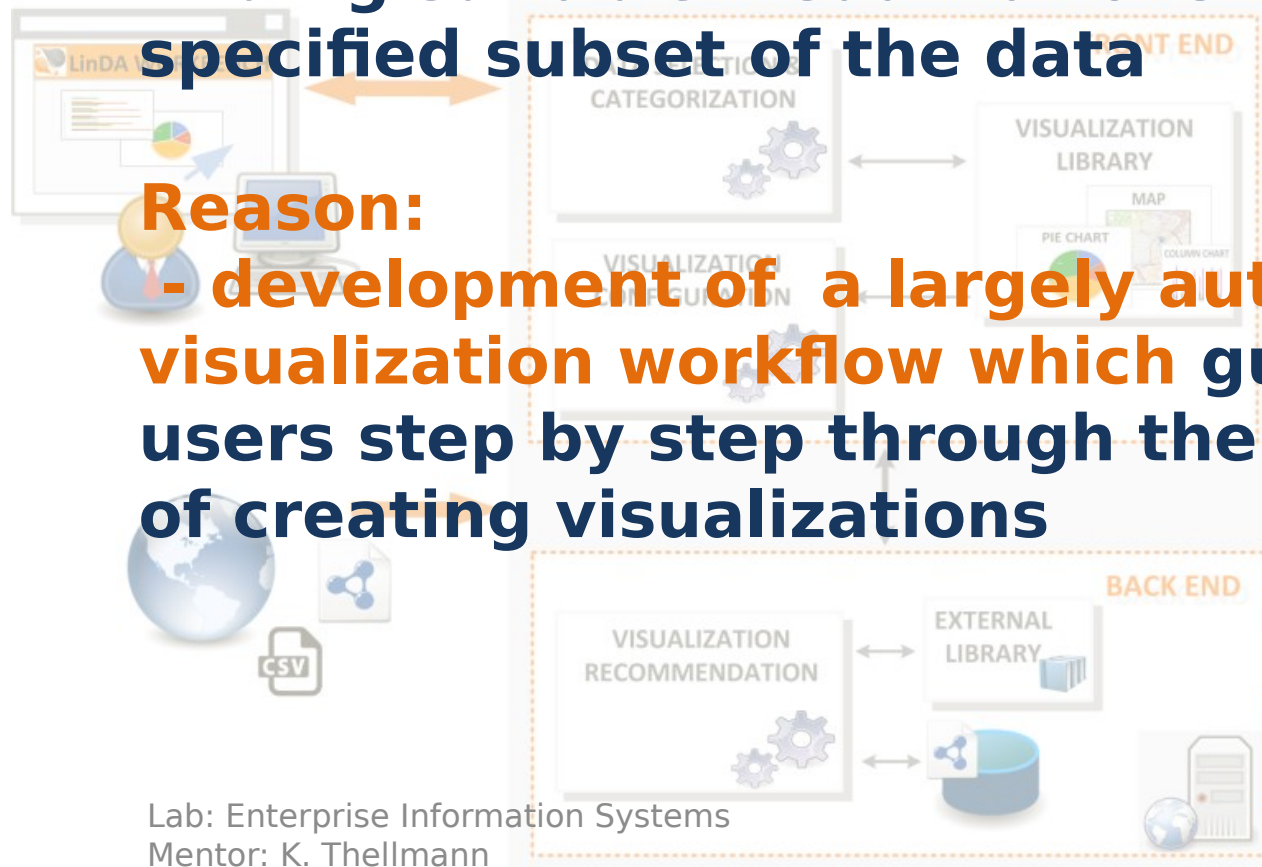
+Why we need LinDaViz

Goal:

- supporting non-technical users in finding suitable visualizations for a specified subset of the data

Reason:

- development of a largely automatic visualization workflow which guides users step by step through the process of creating visualizations



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+ Architecture

The **LinDaViz** tool is a JavaScript based web application. It receives as input data in RDF or tabular format.

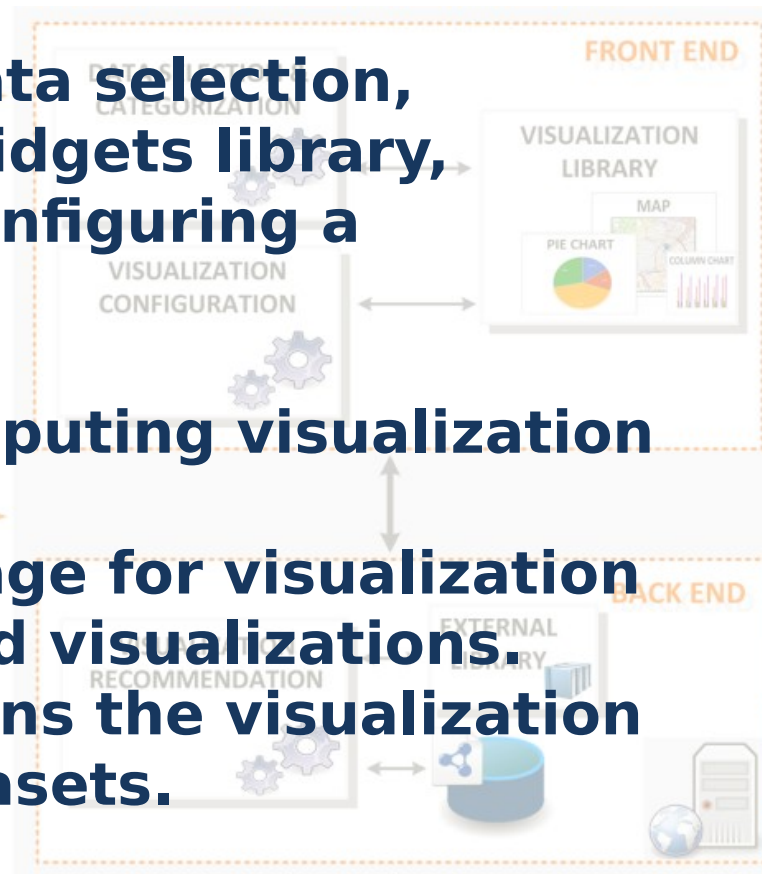
The frontend module:

- A component for data selection,
- The visualization widgets library,
- A component for configuring a visualisation.

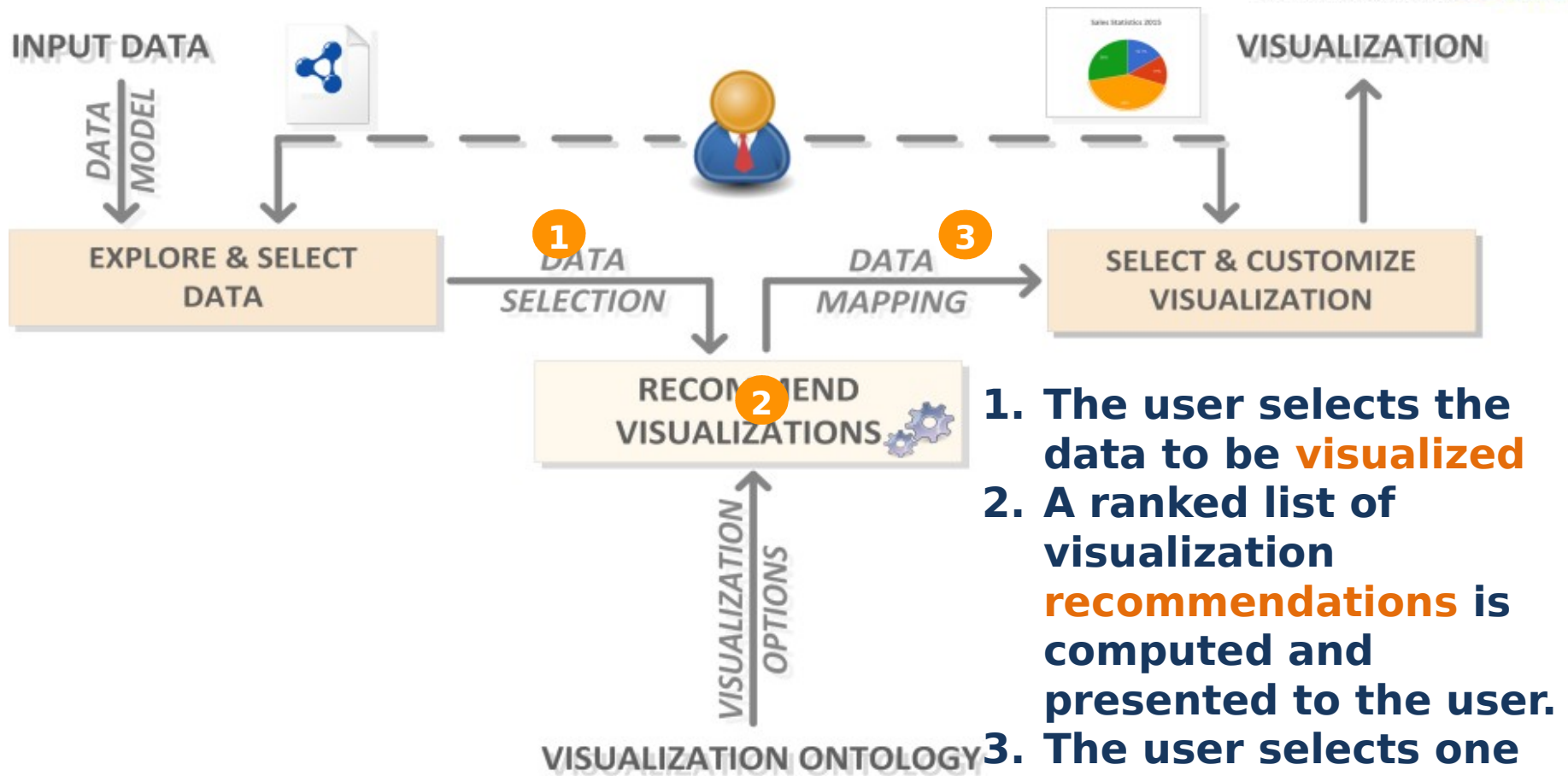
The backend module:

- is in charge of computing visualization recommendations,
- acts as a data storage for visualization metadata and saved visualizations.

The **triplestore** contains the visualization ontology and the datasets.



+ Visualization Workflow



1. The user selects the data to be **visualized**
2. A ranked list of visualization **recommendations** is computed and presented to the user.
3. The user selects one of the recommended visualizations and proceeds with **customizing** and **consuming** it.

+ Lab Topic

NOW: the tree view for browsing and selecting data does not scale to large datasets.

Problem: If the dataset contains classes with lots of properties you won't be able to get an overview this way.

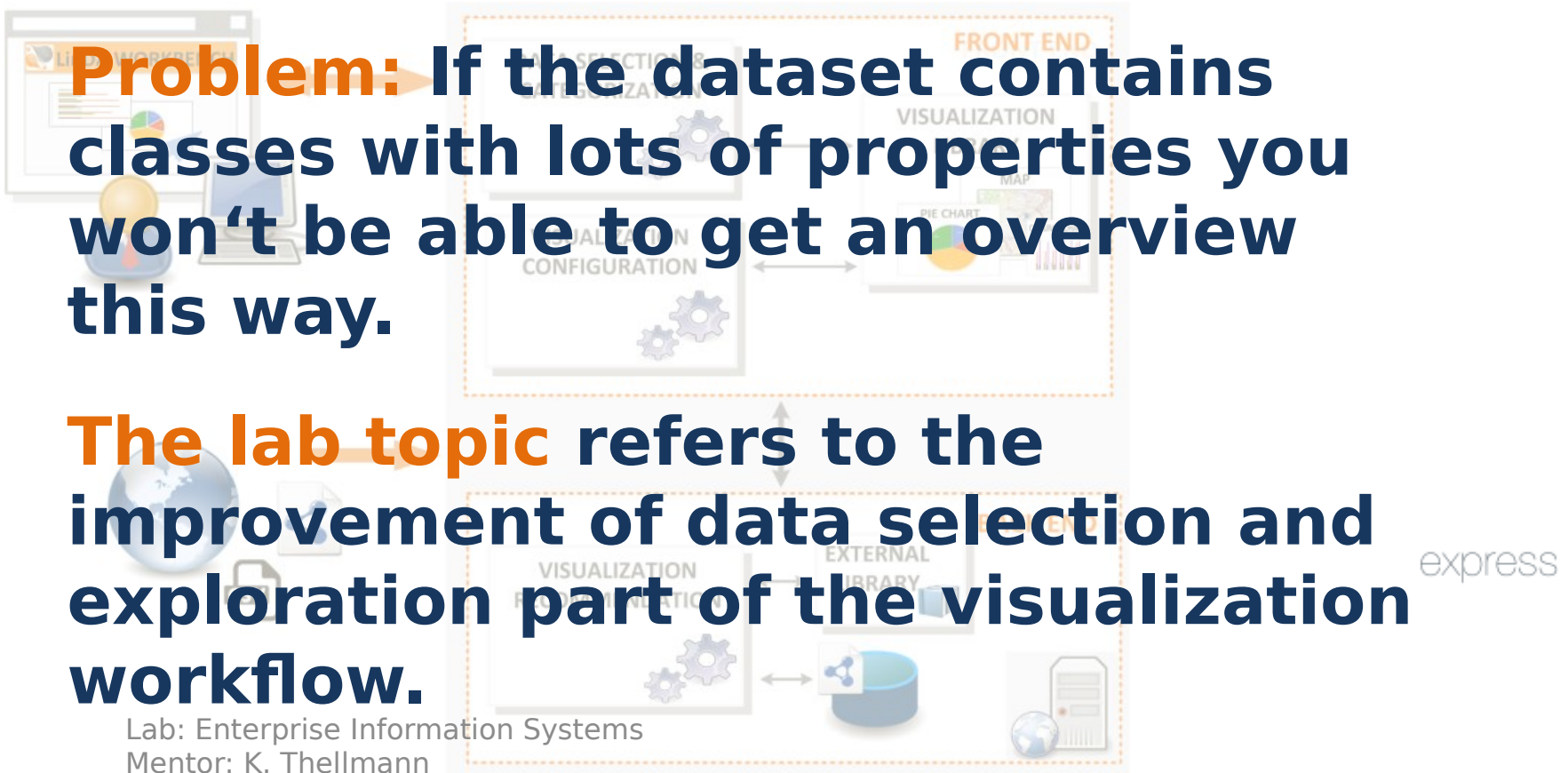
The lab topic refers to the improvement of data selection and exploration part of the visualization workflow.

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Improve Data Selection and Exploration Scalability

 LinDaViz

Explore and Select Data

- ☒ Observation class
 - ☒ Precipitation Deviation number
 - type resource
 - ☒ Month number
- ☐ dataSet resource
 - ☒ structure resource
 - type resource
 - ☐ label string
- ☒ Quality Deviation number
- ☐ ComponentSpecification class
 - type resource
- ☒ dimension resource
- ☒ label string
- ☒ measure resource
- ☒ DataStructureDefinition class
- ☒ MeasureProperty class
- ☒ DataSet class
- ☒ DimensionProperty class
- ☒ Ontology class

Preview Data Selection

Show 10 entries Search:

Precipitation Deviation	Month	Quality Deviation
-1.118	8	-0.06
-0.999	7	-0.028
-0.569	6	0.011
-0.323	4	0.02
-0.195	10	-0.046
-0.092	9	-0.629
-0.085	5	0.029
0.005	12	0.05
0.01	11	0
0.117	1	-0.046

Showing 1 to 10 of 12 entries Visualize Previous 1 2 Next

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+ Improve Data Selection and Exploration

Suggestion

1 Data Overview

- ☐ Generate statistics:
 - ☐ #class instances
 - ☐ #property triples
 - ☐ ?
- ☐ Generate blueprint:
 - ☐ graphs, histograms

2 Search and Browse

- ☐ Keyword search
- ☐ More complex queries:
 - ☐ Aggregation
 - ☐ Filter
- ☐ Faceted Browser
- ☐ Data selection wizard



+ Thank you!

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