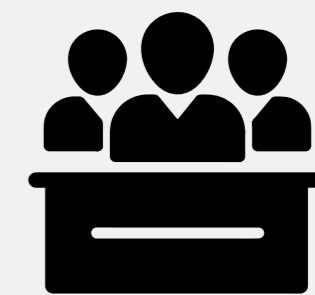# Data Analysis and Visualization of the City Councils

Author: Kristýna Zaklová
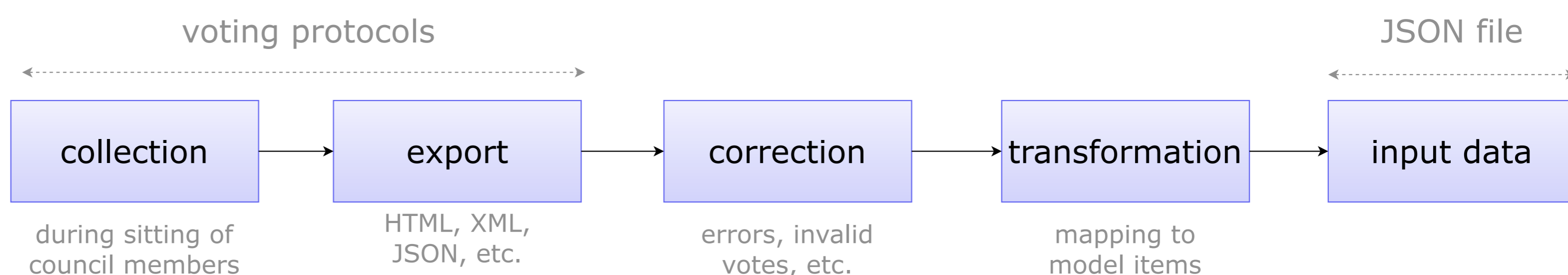Supervisor: Ing. Jiří Hynek, Ph. D.

Motivation

- representatives elected by the citizens influence their daily lives
- interest of citizens in municipal politics still needs to increase
- **14** regions and over **6 200** municipalities with their own councils
- no standard for such data

Objectives

- analysis of voting data from various municipalities
- design of a general model for input data as **JSON schema**
- bring a universal analysis **tool** working with this data and providing understandable dashboards for citizens
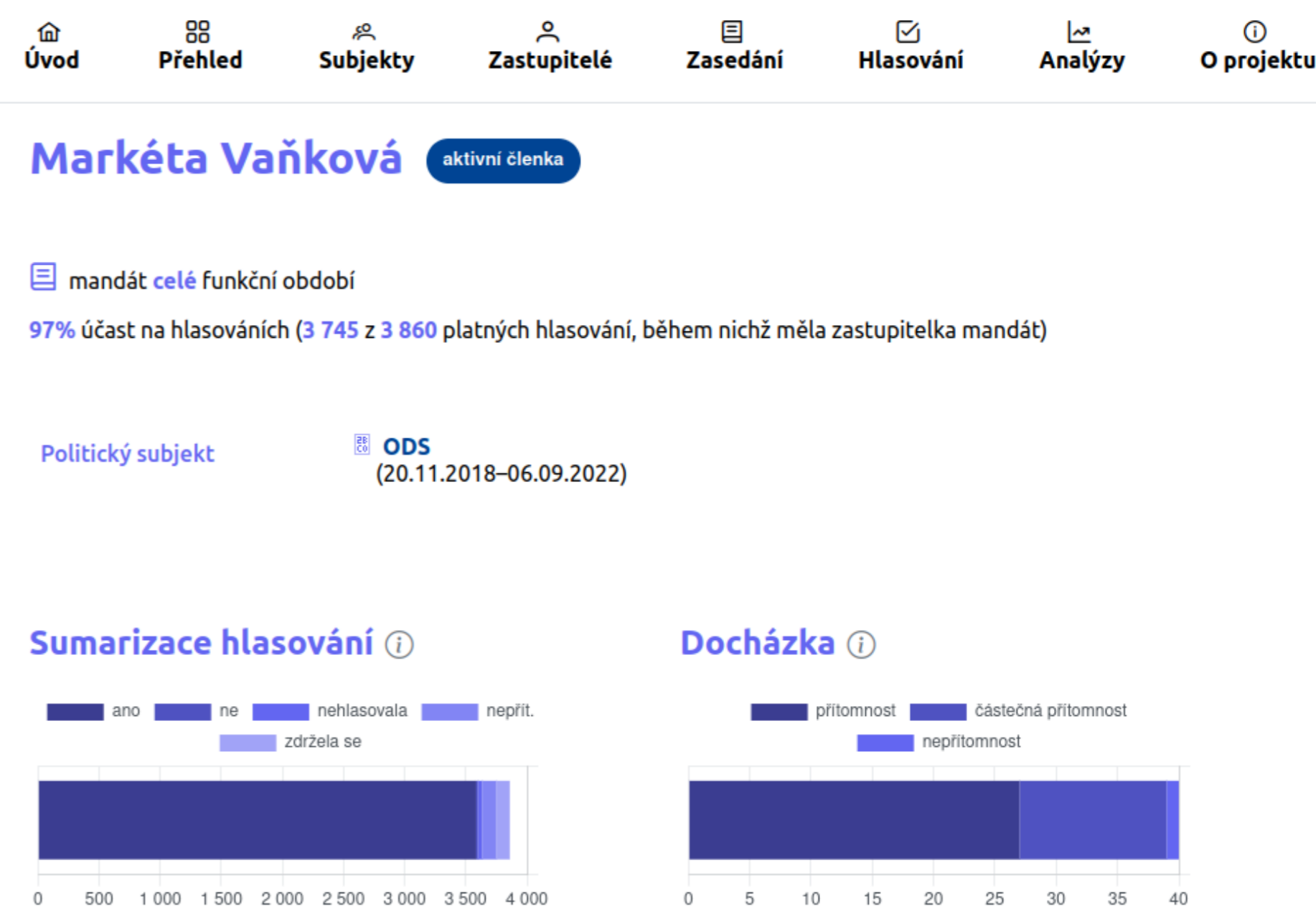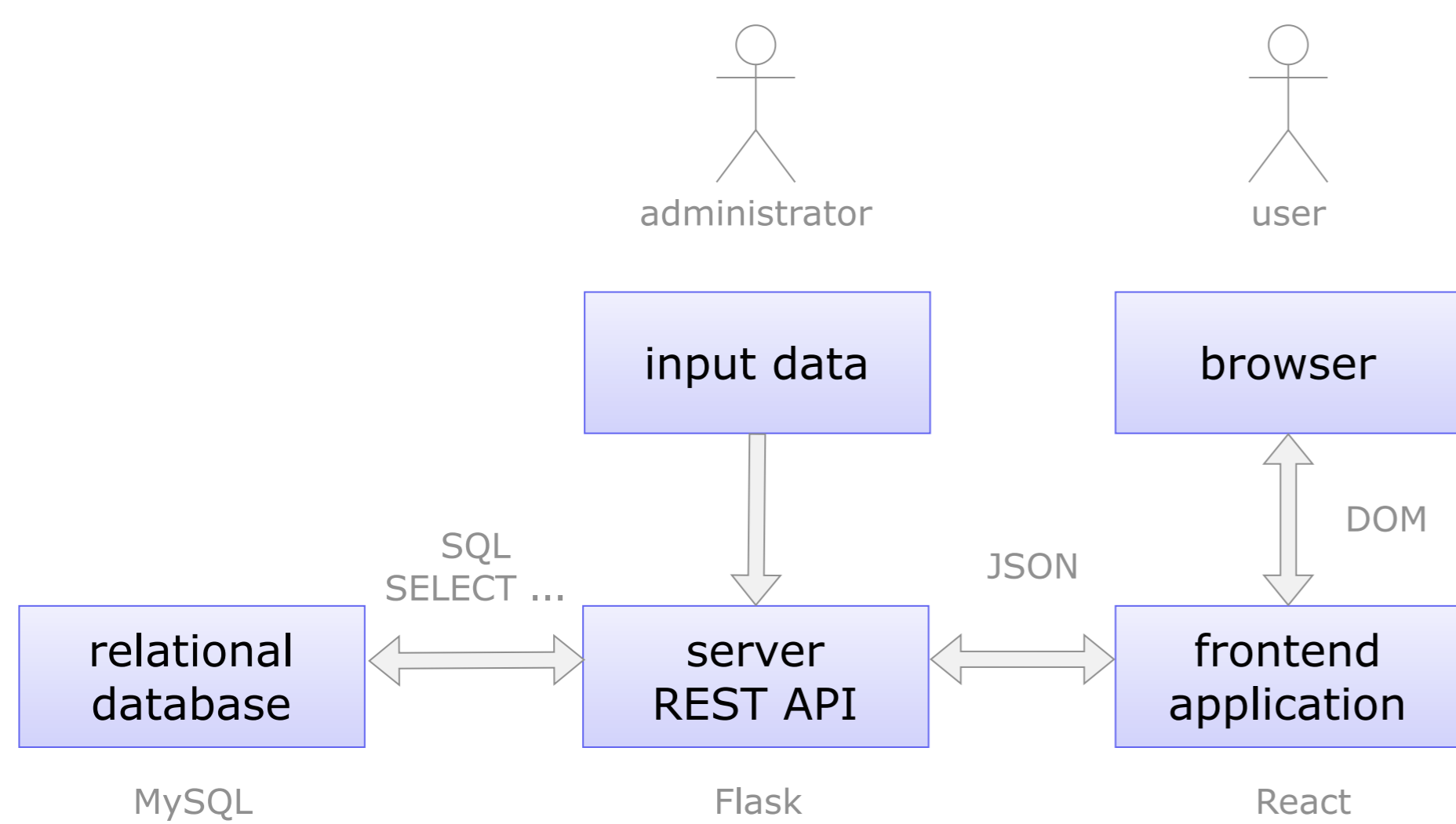- extending the solution to other municipalities
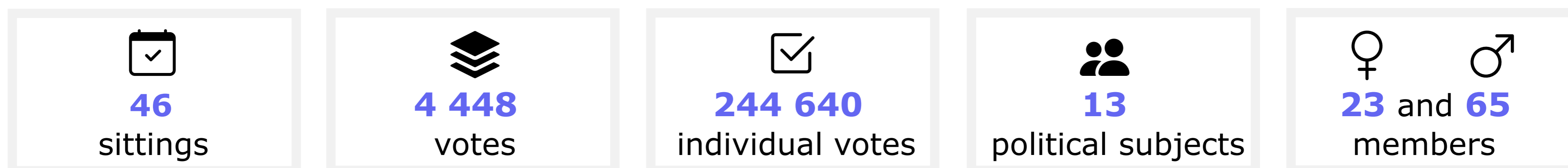
Design of the Solution

Data Preprocessing

voting protocols

JSON file

collection → export → correction → transformation → input data

- collection: during sitting of council members
- export: HTML, XML, JSON, etc.
- correction: errors, invalid votes, etc.
- transformation: mapping to model items

Architecture

- client-server web application

administrator — input data
user — browser

SQL SELECT ...
JSON
DOM

relational database (MySQL) ↔ server REST API (Flask) ↔ frontend application (React)

Úvod   Přehled   Subjekty   Zastupitelé   Zasedání   Hlasování   Analýzy   O projektu

Markéta Vaňková   aktivní členka

mandát **celé** funkční období

97% účast na hlasováních (**3 745** z **3 860** platných hlasování, během nichž měla zastupitelka mandát)

Politický subjekt   **ODS** (20.11.2018–06.09.2022)

Sumarizace hlasování   ano   ne   nehlasovala   nepřít.   zdržela se

Docházka   přítomnost   částečná přítomnost   nepřítomnost

Demonstration of Practical Use

- dataset from the real votes of **Brno City Council** (*Zastupitelstvo města Brna*) members
  – **two** terms of office (2018–2022 and 2022–2026)

46 sittings	**4 448** votes	**244 640** individual votes	**13** political subjects	**23** and **65** members

- result deployed within the Data Brno portal: https://www.brno.cz/zastupitelstvo-analyza