

# Styrian Diversity Visualisation

## Visualising Statistical Open Data with a Lean Web App and Data Server

**Keith Andrews**  
Graz University of Technology

**Thomas Traunmüller**  
Graz University of Technology

**Thomas Wolkingner**  
FH Joanneum

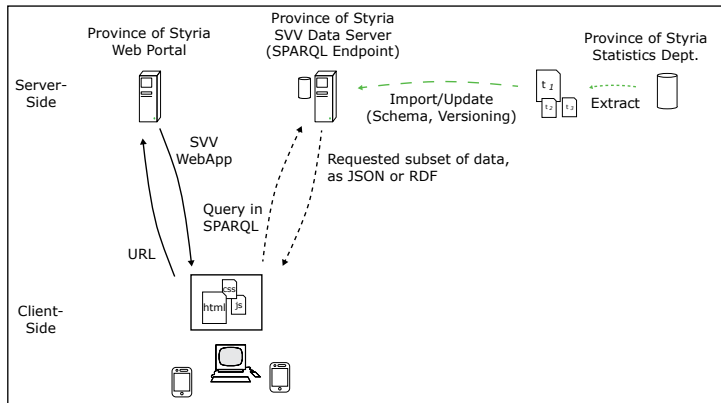
**Eva Goldgruber**  
FH Joanneum

**Robert Gutounig**  
FH Joanneum

**Julian Ausserhofer**  
FH Joanneum

### Motivation

Statistical open data is usually provided only in the form of spreadsheets or CSV files, which can sometimes be very large. The writer of an open data app is confronted with two choices: restrict themselves to manageable bite-sized chunks of data, which can be consumed (read, parsed, and held in memory) in one go, or install and maintain their own data server which the app can query on demand.



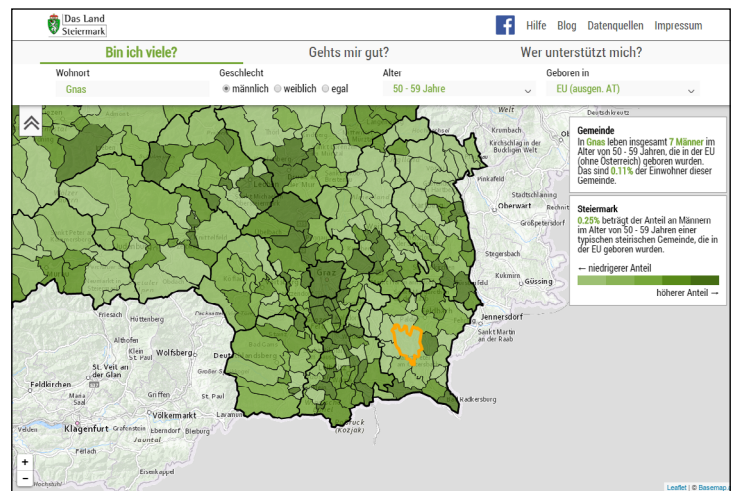
**Figure 1:** The client-server architecture of the SVV webapp. The webapp is hosted on the Province of Styria's web server. Data is requested on demand using a SPARQL query from the Province of Styria's SVV data server (Virtuoso). This greatly simplifies the webapp's internal logic and there is no need to parse and store entire data sets in memory.

### Project

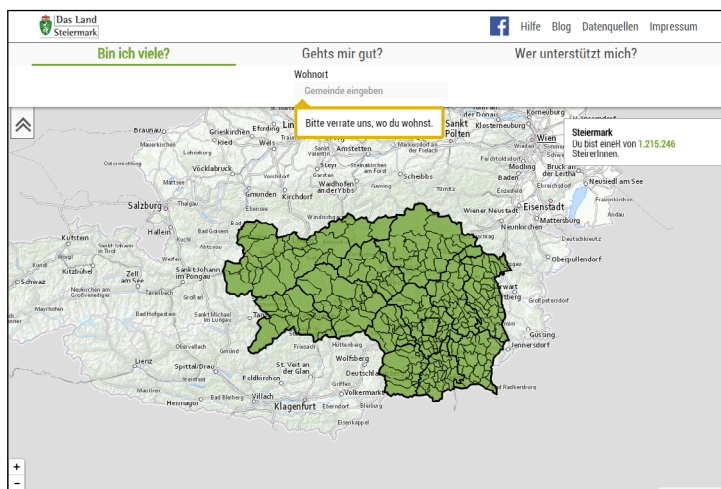
The Styrian Diversity Visualisation (SVV) project visualises the diversity of inhabitants of the Austrian Province of Styria (Land Steiermark) using open data served from a data server (triple store).

### Frontend Architecture

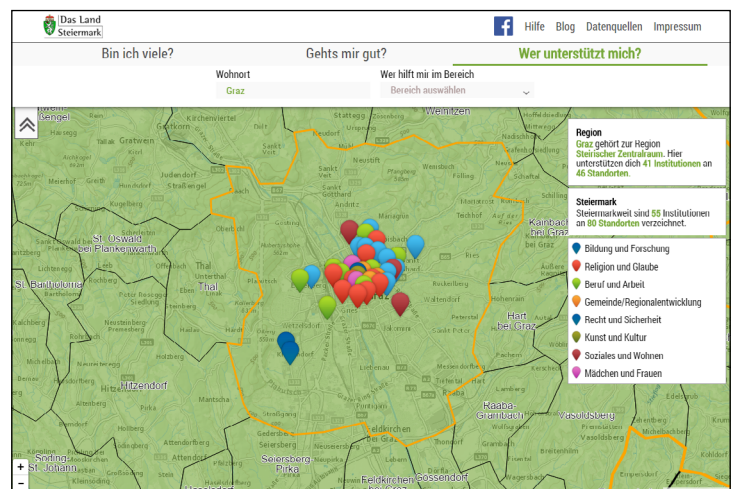
The webapp is written in responsive HTML5 and uses the leafletjs JavaScript library to access mobile-friendly interactive maps from basemap.at. Three stories guide users through a scenario with accompanying interactive visualisations.



**Figure 3:** The user has entered their place of residence, their gender, age range, and place of birth. The webapp successively reveals how many other people have the same characteristics.



**Figure 2:** The starting screen of the SVV webapp. The first story, Am I many? (Bin ich viele?) is active and the user is prompted to enter their place of residence.



**Figure 4:** In the third story, Wer unterstützt mich? (Who can support me?), map markers indicate the location of Styrian integration partners in 8 categories.