Web Technologies Graded 02

G2-1   **Bundestagswahl 2017**

In this lab, you will program a web application which shows the results of the *Wahlkreise* in *Bundestagswahl 2017*.

You may find the complete results of the *Wahlkreise* in the file `btw17_kerg.csv` in moodle.

a) First import the data in `btw17_kerg.csv` into a *sqlite* database. Use the library *SqlAlchemy* as your ORM.

b) When the application starts, it shows a list of all *Bundesländer*. When the user clicks on one of them, a list of the *Wahlkreise* of the *Bundesland* is shown. When the user clicks on a *Wahlkreis*, the percentage of *Erststimmen* and *Zweitstimmen* of each party should be shown in a table.

c) The result of the *Wahlkreis* should also be shown graphically. A prototype with a rudimentary GUI is shown in Fig. 1. To render the chart, the Javascript library *angular-chart* was used. Feel free to use your own charting libraries instead.

d) Implement a search function which helps the user to find a *Wahlkreis* easily.

e) The web application should be a single-page application. When the user clicks on a *Bundesland* or a *Wahlkreis*, only the part of the page that is going to change, instead of the whole page, should be refreshed.
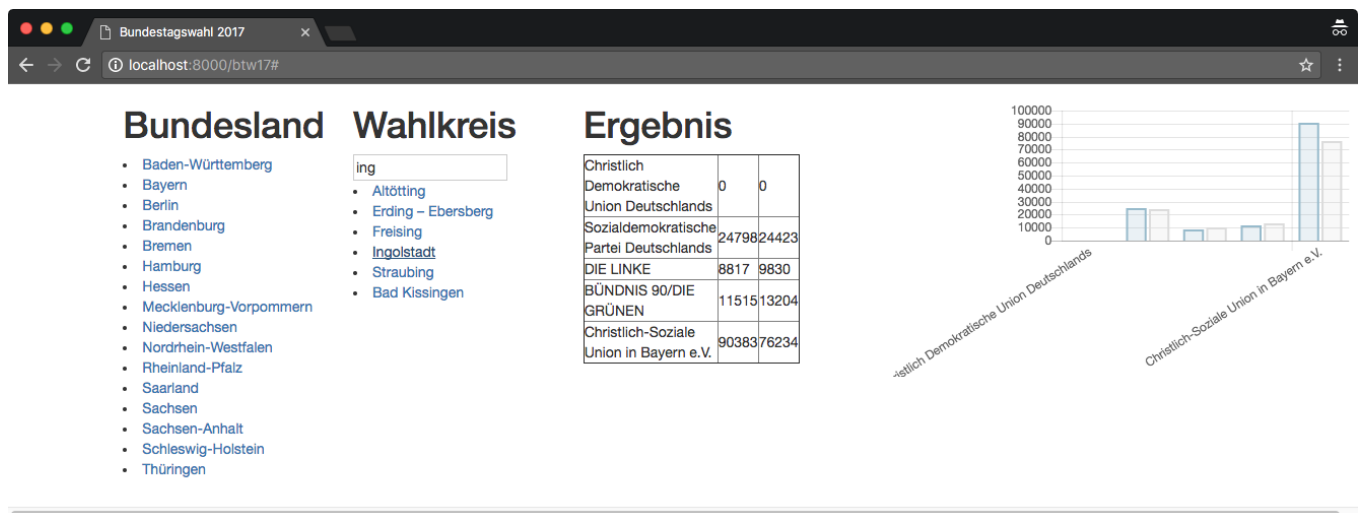

Figure 1: Prototype

Note:

- This lab will be graded. The score will be counted to 15% in the final score.

- Implement the back end in Python using the framework Flask and the front end using the framework AngularJS.

- Please use proper front end techniques to achieve an acceptable GUI.

- In Flask templates (which are interpreted by the *jinja* engine), you may need to use `row` blocks to pass certain parts of your template to Javascript directly. See `http://jinja.pocoo.org/docs/2.10/templates/`, section `Escapeing`.

- Two-person-groups are encouraged.

- **Submission**: upload a `zip` file (only `zip`, no other compression format!) which contains your source files, including both those of the web application and those for importing the data into the DB, and a documentation of your software in *moodle*. The `zip` file should be named `<name1>_<name2>.zip`.

- Plagiarism will not be tolerated!

- **Deadline**: 2018-01-15, 23:59 CET.