

RUDIMENTAL REQUIREMENTS ENGINEERING

This document describes the identified data that have to be analyzed and stored in an election analysis and voting tool. Advantages and disadvantages of the use of a database management system in such a scenario are named afterwards. A UML model describing the relationships between the identified objects is also attached to this file.

IDENTIFIED DATA

CONSTANTS: Each Bundestag initially has an amount of 598 seats to be filled with parliament members.

STATES: The Federal Republic of Germany consists of 16 states called 'Bundesländer'. Each state has a population and a set of parties, that can be elected in this state. Votes given as Zweitstimme are counted for that party in that certain state.

DISTRICTS: State are parted into districts called 'Wahlkreis'. For every district a list of candidates can be elected via Erststimme. The candidates do not necessarily need to be member of a party. The candidate with the most votes in a district is guaranteed a seat in the Bundestag.

PERSON-RELATED DATA: Information has to be stored regarding whether a person is allowed to vote, if the person has already voted in this election, and if the person is an electable candidate via Erststimme, Zweitstimme, both or not electable. No information about the vote submitted by a special person is allowed to be stored.

USING AN DBMS FOR ELECTION ANALYSIS AND SUBMITTING OF VOTES

ADVANTAGES	DISADVANTAGES
Central management of all data	Susceptible to manipulation and possibly easier bypassing of legal restrictions
almost instantly analysis of voting results	Extensive analyzing possibilities may reveal personal data (see weaknesses of k-Anonymity)
Paper gently	Power consumption and energy dependence
Less preparation for each election needed once the system is established	Acquisition costs

UML MODEL

