

Specifications

New Development

Electoral System

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1. Project Description

This chapter describes the project conducted in the Software Engineering study program's database lecture.

1.1. Project Goals

The project goal is to develop an electoral system for the Bundesrepublik Deutschland. Primary purpose is hereby the calculation of the seat allocation based on the current election results.

1.1.1. Company Description

The Bundesrepublik Deutschland is the public contracting entity for this project.

1.1.2. Project Background

The project is conducted to give students insights in development and operation of productive database systems.

1.2. Product Application and Overview

A System with Front- and Backend, depicting the whole election process, has to be developed. This includes for example persons eligible to vote, voting and calculating the allocation of seats for the Bundestag.

1.2.1. Current Situation

There is no electoral system where citizens can access the current status of election results in real-time. This system has to be developed.

1.2.2. Target Concept

The system has to implement the election process according to current and previous law standards precise and correct.

1.2.3. Description of Interfaces and Technologies

As the system is a completely new development no special external interfaces are required. Technologies can be chosen almost entirely without restrictions.

1.3. Product Details

This chapter specifies the product details in greater detail.

1.3.1. Functional Requirements

The project, as complete electoral system, is comprised of the following functional requirements

- Frontend with user interface in a web browser. It has to be possible that the user can access all relevant information regarding the current election results.
- Backend with database, storing all necessary information and calculating the results for users to access via frontend. Information content has to be as rich as possible. It has to be possible to compute the explicit members of the Bundestag.
- The secrecy of the ballot has to be ensured.

1.3.2. Non-Functional Requirements

- Response time for every query in normal operation less than 1 second. The response time can be higher for exceptional cases.
- The system has to scale with greater hardware capacities.

1.3.3. User Interface

- User interaction takes place in a web browser. In order to access the election results no login is required, the data is publicly accessible.
- A login system is used to access a personalized area for voting.

1.3.4. Technological Basics

The only given technological requirement is the usage of a relational database system. The contractor has free choice for other system components.

1.4. Quality Requirements

- Preservation of voter privacy
- High quality documentation
- Scalability
- Deadline compliance is critical
- Regarding the development approach, no requirements are given.

1.5. Operations

The software needs to run on private computers for scientific purpose.

1.6. Project Organization

Project Organization is conducted in a Scrum-Like environment. The client is informed via weekly assignments and is able to inform about the current development status.

Project acceptance includes a demonstration and delivery of a feature-complete and functional system.

1.7. Time- and Deadline

Project start is from present (Winter Semester 15/16), project closure is conducted at the end of semester (18.1.16/25.1.16).