REQUIREMENTS SPECIFICATION

This document describes how the requirements given in the product specification are going to be fulfilled. At first, those requirements are classified. Later GUI-mockups illustrate the planed human system interaction surface and the used technologies are explained. A data model visualizes connections between important entities.

CLASSIFICATION OF THE PROJECT GOALS

The requirements specified in the document 'Product Specification' are classified into three categories. One class contains goals that must be fulfilled, another one contains those, that should be fulfilled and optional features are gathered in the third category. To draw the outline of the system, a choice of features that are not in scope of this software project are named.

MUST BE FULLFILLED: The system supports the submitting of votes. The overall seat distribution within the Bundestag is presented and all Direktmandate can be shown. The output of the election results is presented in a structured web page. Überhangmandate and Ausgleichsmandate are temporarily computed and used correctly for seat distribution. The non-functional requirements privacy and security are fulfilled.

SHOULD BE FULLFILLED: In addition to the goals that must be fulfilled, the Members of Parliament as well as Überhangmandate and Ausgleichsmandate can be queried. All output is displayed with a pleasant graphical interface. The non-functional requirements performance and scalability are met as well as robustness and safety.

CAN BE FULFILLED: The election results have an interactive visualization. Possible collaborations of parties can be seen.

NOT IN SCOPE OF THIS PROJECT

In this software project, no physical infrastructure or voting device will be constructed. Also, we do not provide any comparison with other election systems, i.e. only the election process in Germany in 2015 is taken into account and no other processes from the past, future or other countries. In this project, no survey will be executed and the system does not provide extrapolation of final voting results. Security will be established without the use of two way authentication.

GRAPHICAL USER INTERFACE

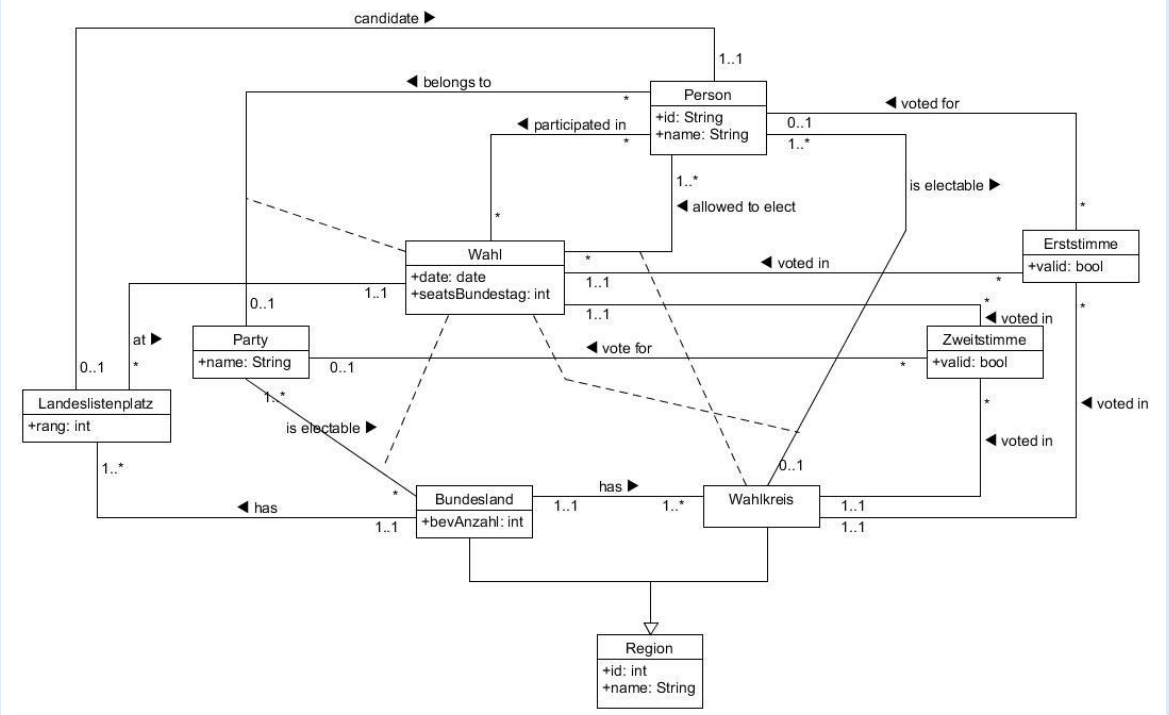
Mockups of the graphical user interfaces are attached to this file in 'Mockups.zip'. For information about access rights and security in the voting process, please see document 'Voting Process'.

TECHNOLOGICAL REALIZATION ASPECTS

The system will be developed on a VirtualMaschine 5.0.8 with 2 GB main memory and a 50 GB hard drive running Windows Server 2012 R as operation system. Both frontend for the voting procedure and frontend for election analysis are going to be implemented in Visual C#. To host these websites, Microsoft IIS (Internet Information Service) Server 8 will be launched. Supporting C# development as well as establishing connections to databases via the entity framework, Microsoft Visual Studio will be used to develop the necessary programs. Known for good collaboration with Visual Studio and IIS Server, SQL Server 2014 was chosen as the database management system.

DATA MODEL

UML-MODEL



This UML Modell is also stored in a separate file ‘ElectionsystemUML’.

GLOSSARY

A Glossary explaining used technical and legal terms can be found in the document ‘Glossary’.