Administration User Interfaces for UniVote

Subject: Web and Business Applications
Thesis advisor: Prof. Dr. Eric Dubuis
Expert: Dr. Andreas Spichiger (Berner Fachhochschule Wirtschaft)

An election administrator would like to set up an election and provide all the information to successfully carry out the election without facing any technical difficulties. UniVote AdEle is a desktop application developed to provide a user interface for the election administrator. The application can be installed on his system and it provides all the functionalities to carry out an election from start to end. AdEle is a Maven JavaFX project.

Role of the Election Administrator
An election process consists of procedures that needs to be carried out in a specific order. Firstly, the election administrator obtains a certificate from a registry which is an auxiliary system of UniVote. He registers this certificate. He is known to UniVote as an election administrator and he may authenticate himself using this certificate.

He may now run an election. He creates an election by providing information like the title, date, time etc. This information is not signed and hence can be modified in the future. The election options and the electoral roll can be provided only after the definition has been defined. The election definition is signed and contains information like the election abbreviation, title, voting phase etc. The options contain the list of candidates for the election and it is signed. The electoral roll contains the list of voters for the election which is signed aswell.
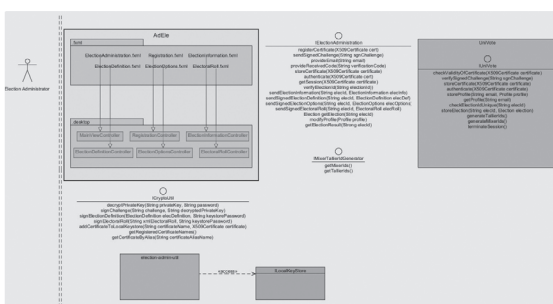
The election administrator can monitor an election and obtain the results of an election that has already been run.
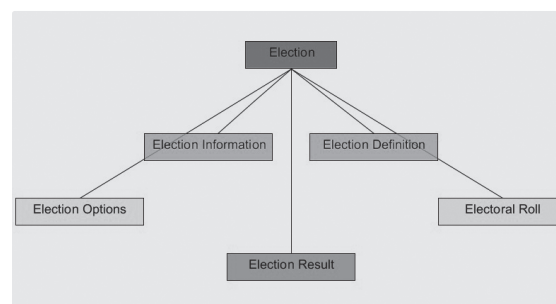
UniVote AdEle
AdEle(**Ad**ministration **Ele**ction) is a Java project aimed at achieving the functionalities required by the election administrator. It facilitates the election administration process by providing a user interface where files can be uploaded and information can be signed by just clicking on buttons. The java interfaces IElectionAdministration and ICryptoUtil are designed to provide the applications with all the necessary functions. IElectionAdministration provides the administration functions and ICryptoUtil provides all the functions required by the application internally.

Priya Bianchetti

Project Structure

Election