Another element of the setup is the process of defining the issues to be voted upon and the options that are presented to the users. The election officials must specify the list of political offices and issues to be voted upon, as well as creating the list of candidates and their party affiliations.

The Voter may also have a nominated party affiliation, and based on this he or she will be presented with a variation of the ballot. This background setup information is known as a ballot definition.

At first, the Election object could be created. And then, we need to define a new Ballot Definition for this election. In this definition, we add the candidates and political offices. ~~The party affiliation is specified for each candidate.~~ And the ballot definition also includes the political offices for voting. In the election, based on the candidates’ party affiliation, the definition can have different ballot formats for different voters. Some for party preference, some for generic. At the end, the election need to set up the validation date. The start date and time, then the end date and time. In that period, the election is valid and voters can vote. All these data could be stored in database using the add method in each object.

For user registration, the register page will get election object because the voter would decide which election he will attend. Maybe there are several elections at same time. And then, the election can trigger the voter creation process. The system will check the validation of this voter, if the result is true and this voter’s data doesn’t exist in the system then the system will add this voter’s data to database and also add the smartcard data too.

In the voting process, the first step is smartcard checking. When the voter swipe his smartcard, the system can get smartcard by id, then smartcard object could get Voter object and call the checking method to check user’s validation. For example, if the voter has already voted, he cannot vote again. So after checking, IF the result is true, voter object can get appropriate ballot form based on the voter’s preference. Then when the voter finish to make the selection on the Voting Page, the summary page can be displayed to voter and voter can commit it. At the end, the system will close the Voter object and Smartcard object. Furthermore the Smartcard data in database also should be deleted because the voter cannot use this card to revote.