

Online Inspector for UniBoard

Subject: Computer Science

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UniBoard is a system that deals with the implementation of a public bulletin board where data in the context of e-voting is stored. Hence, the nature of the messages vary from being a clear text message to cryptographic content like digital signatures. The goal of this project is to develop an independent web application that allows a user to inspect the content of the board by querying the board. The obtained results are displayed in a clear and convenient way in a viewer.

UniBoard is a central component of UniVote, a current e-voting project at the Bern University of Applied Sciences. UniVote uses a public bulletin board to register information about an election, for example the list of eligible voters, encrypted ballots etc. The existing web service interface called UniBoardService exposes two principle operations, the POST and the GET operations that allow to post messages to the board and read previously posted messages respectively. All communication with UniBoard is done over the existing web service interface.

UniBoard Inspector is an independant web application that has been implemented as a work of this project. The application queries the board for election data such as the voters, candidates, election information, ballots etc. It provides three different search methods to query the board. The project stucture of UniBoard Inspector is provided in Figure 1.

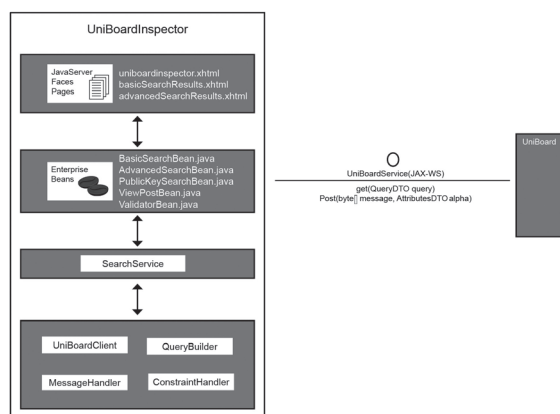


Figure 1: UniBoard Inspector Project Structure

It is a JavaEE web service client application that consumes the services of the existing web service interface. It provides a web user interface for users to enter the search criteria. The user interface is built using the JSF (Java Server Faces) technology. The search parameters entered by the user are assigned to variables in the enterprise bean classes where validation is done if necessary. The enterprise beans along with other classes contains the business logic of the application that handles the task of constructing a query and obtaining the results by invoking the GET operation of the web service interface.

The page flow diagram of the application UniBoard Inspector is shown in Figure 2. The arrows show the interaction of a user with the application, such as clicking on a button or a link. The blue ovals show the different pages that are displayed by the application.

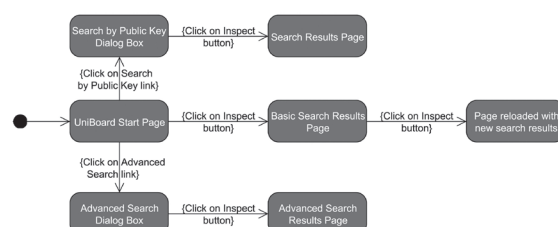


Figure 2: UniBoard Inspector Page Flow Diagram



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