

Administrator Application Design

1. Introduction

This document provides the design of the Administrator Application. The document provides details on how the application was implemented, functionalities contained and the class diagram.

2. Implementation

The administrator application provides the functionality to manage the kiosks and voter, as well as keeping history of the kiosks. The administrator will login at the beginning of the day to access the application. Using the application, the administrator may verify if a voter is eligible to perform his/her vote, that is, if the voter has not voted for the current elections and if the voter is assigned to the unit and precinct in which he/she is present. After the validation is done, the administrator can proceed to assign a kiosk to the voter to perform their vote. If there is a problem during the voter voting process the administrator may close the kiosk using the application to prevent anyone else from being assigned a nonfunctional kiosk. The status of the device is also available through the application. History for each kiosk can be found in the “Historial” tab of the application.

The administrator application was developed using the C# programming language. C# was selected as the programming language since using Microsoft Visual Studio 2008 makes the implementation of the user interface of the administrator application easier, than using any other programming language. All the connections between the application and the database are done through ODBC (Open Open Database Connectivity) driver. This driver allows accessing and modifying information contained in the database [1].

For implementation details please refer to the appendix of the final report, the Administrator Application Code Document (section 13.10).

3. Functionalities available through the application

3.1 Login

The administrator must provide the precinct and unit for which they are logged. The administrator must also provide the user name and password to verify his/her identity. The information provided by the administrator is compared with the information contained in the database for validation purposes.

3.2 Administrator Application

3.2.1 Registration Tab

3.2.1.1 Voter Verification

The registration tab provides the functionality to verify if a voter is allowed to vote. This verification is performed by matching the precinct and unit in which the voter is assigned to ID number in the “Número Electoral” text box and click the “Verifcar” button to verify if the voter is allowed to vote.

3.2.1.2 Kiosk Assignment

If the verification was successfully and the voter is allowed to vote, the kiosk assignment region of the tab will become usable. Using the kiosk drop down, the administrator will select a kiosk to be assigned to the voter. The kiosk dropdown is populated with available empty kiosks provided by the database. Clicking the “Asignar” button will assign the selected kiosk to the voter. After assigning a kiosk to a voter the kiosk status will change to an occupied state in the database, so that the kiosk cannot be assigned to any other voter until the current voter has finished. A message will appear indicating that the kiosk assignment was successful. The voter will then proceed to the assigned kiosk to perform his vote. If for some reason the verification of the voter results in a negative way, a message displaying the reason will appear on the screen.

3.2.1.3 Kiosk Management

A region for managing kiosks is also provided. If for some reason, a kiosk needs to be closed the administrator can close the kiosk by using the “Cerrar” dropdown selection. The “Abrir” dropdown will allow the administrator to reopen the kiosk. When a kiosk is closed it will automatically disappear from the kiosk assignment dropdown selection and

marked as closed on the database. When the kiosk is re-opened it will be found in the assign kiosk selection again and the status in the database will be changed to open.

3.2.2 Status Tab

3.2.2.1 Device status

The eVote device status can be seen by the administrator anytime. By selecting a kiosk in the “Caseta” dropdown and clicking on the “Ver Status” button the administrator can see the device status in the “Estado” field.

3.2.2.2 Printer Status

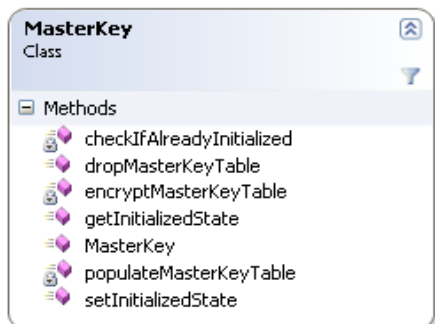
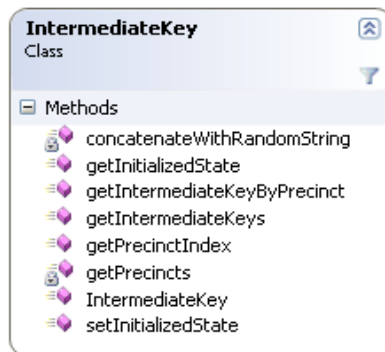
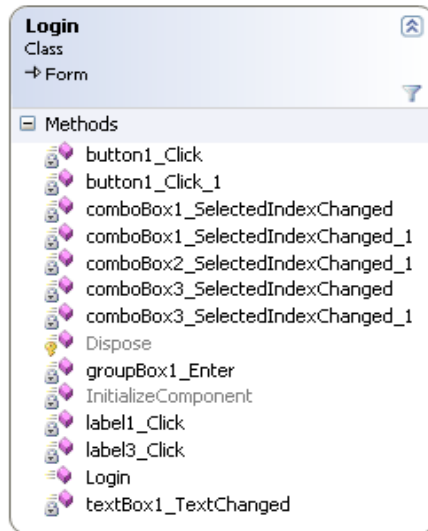
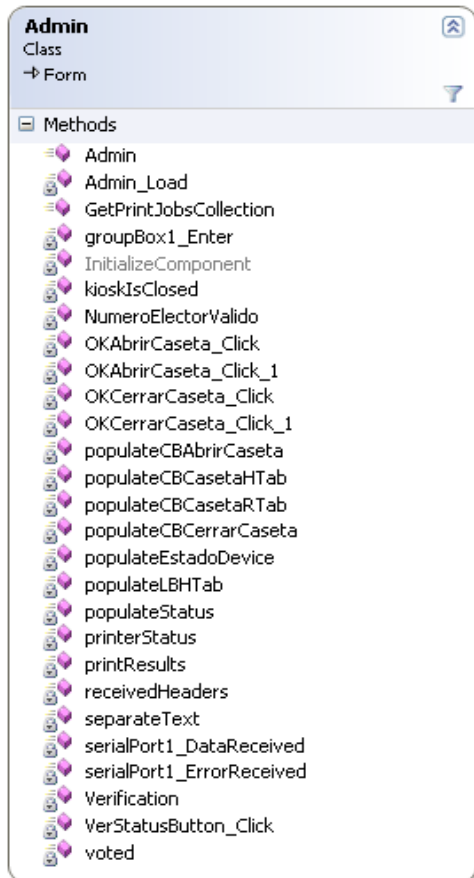
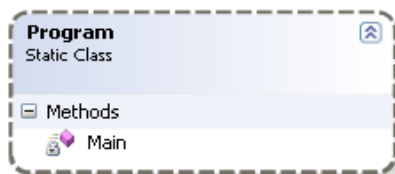
The printer status for each kiosk can also be seen by the administrator anytime. Information of the printer status can be found on the “Estado de la impresora” field. The printer status is provided directly by the printer. The printer provides a byte signal in which each bit represents a condition of the printer. If the condition is present, the bit will be equal to 1, otherwise the bit will be equal to 0. The application will decode the signal and will provide the printer status in the status tab field.

3.2.3 History

The administrator may access the history of a particular kiosk anytime. By selecting a kiosk on the “Caseta” dropdown and clicking “Ver Historial” button, the history field will be populated with information retrieved from the database.

4. Diagrams

4.1 Class Diagram



5. References

[1] *Open Database Connectivity*. [Online]. Available: <http://es.wikipedia.org/wiki/ODBC>