



CET-212 Advanced Software Development

PART A - DESIGN

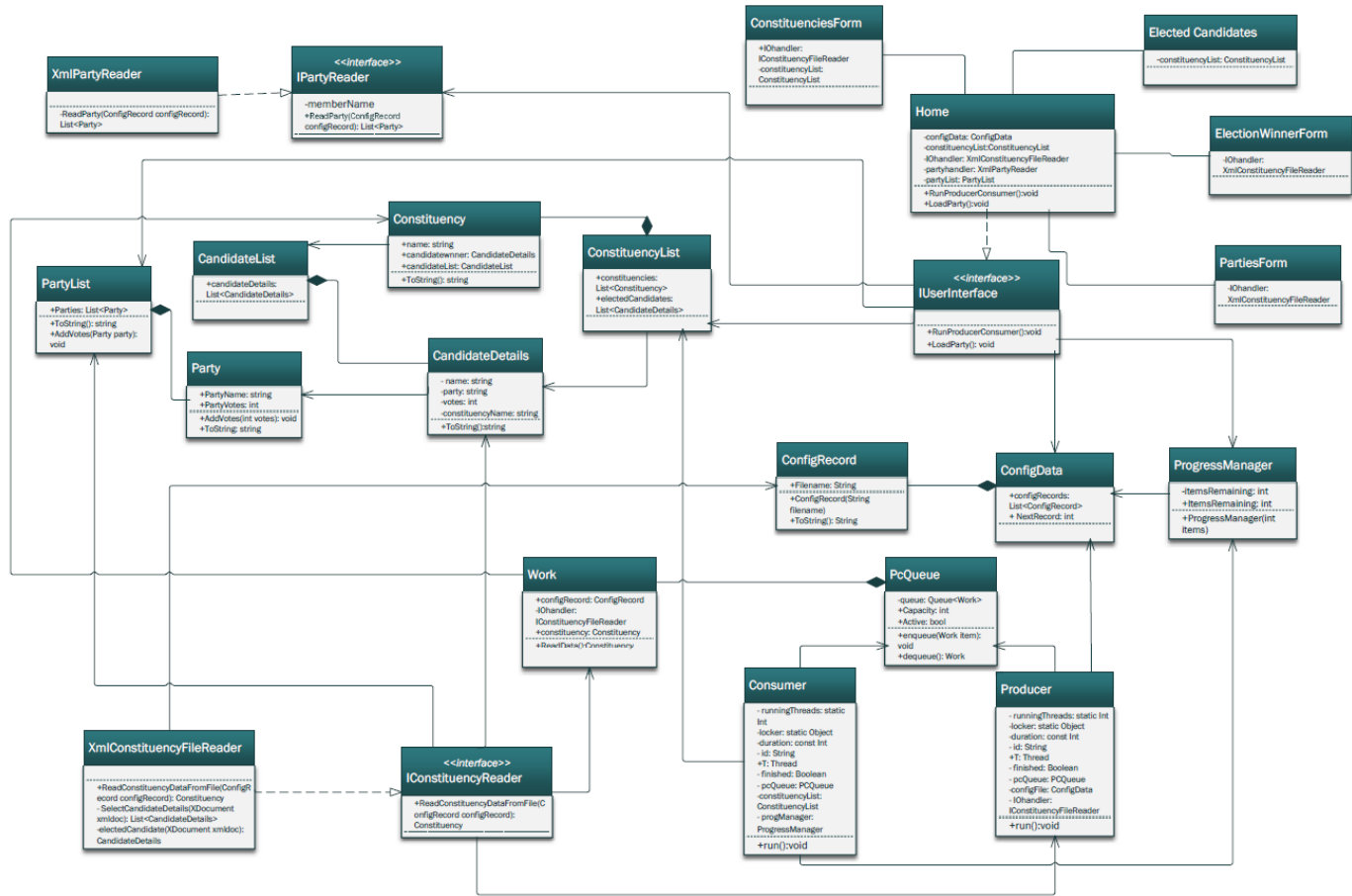
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UML class diagram



Design Rationale

Separating the concerns in my program, I have made it more feasible for maintenance and updating/changing/reuse of the program.

The XmlConstituencyFileReader class has one responsibility that is to read the xml files and return a Constituency .The XmlPartyReader class reads the parties from the files by separating the concerns, thus providing loose coupling in the system.

The following classes follows the Single Responsibility Principle (one of the SOLID principles):

- The Constituency class concern is to store the constituency details read from the xml document.
- The Constituency List's concern is to store the list of all the constituencies in the general election and displaying information about the constituency list.
- The Candidate Details concern is to store the candidate's details.
- The Candidate List's concern is to hold the list of all the candidate details in the constituency.
- The party class has been separated since it is critical information for this General election, this class holds the party's votes for each constituency, and this data is used to determine the winner of the election.
- The party list stores the list of all the party participating in this election.

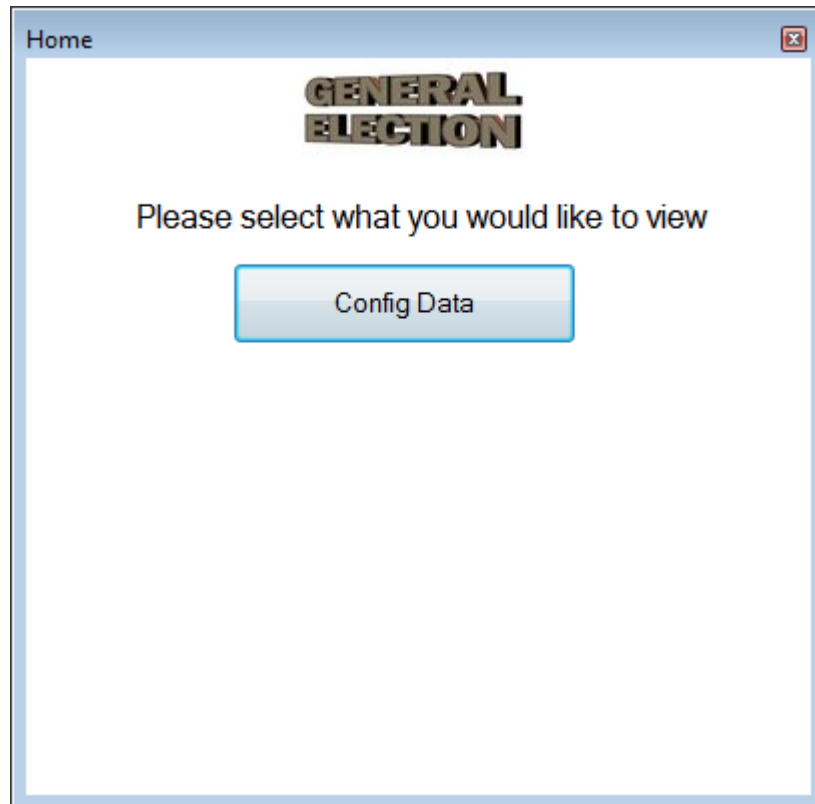
Since these classes are separated by unique concerns they can be reused, as well as developed and updated independently.

Since the system is not hard coded, it can read a multiple number of constituencies files.

User Guide

Home Screen

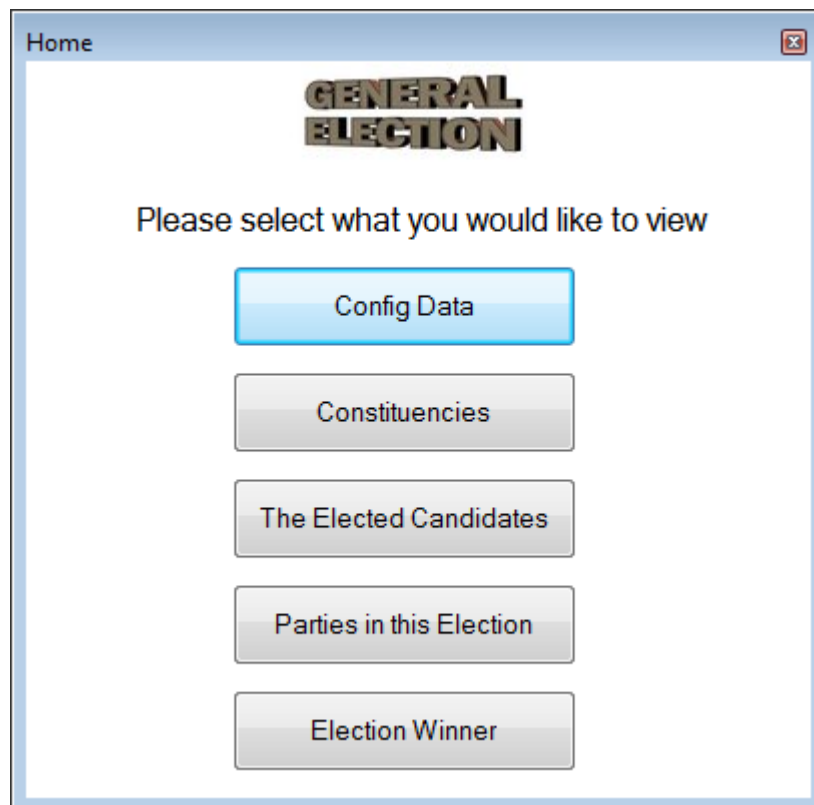
The home screen is displayed on start-up and it contains buttons with relevant button names, so that the user can decide what to view



When the screen loads the user must select constituencies which are in xml files(ex: Sunderland.xml), so that the system understands the data to be configured.

Once the configuration is done it displays buttons shown in the figure below.

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- To view all the constituencies and the candidates select the “Constituencies” button
- To view the Elected Candidates from each constituency select “The Elected Candidates” button
- To view all the Parties in this election with their total votes select the “Parties in this Election” button
- To View the Election Winner select the “Election Winner” button

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Constituency Form

The screenshot shows a mobile application window titled "Constituencies". In the top left corner, there is a back button (a left-pointing arrow) labeled with a box containing the number 0. In the top right corner, there is a logo that says "GENERAL ELECTION". Below the title, the text "Please Select a Constituency" is displayed above a dropdown menu currently showing "Sunderland", which is labeled with a box containing the number 1. The main area is divided into two sections: "Candidates" on the left and "Details" on the right. The "Candidates" list includes Fred Bloggs, Jane Smith, Harry Knowles, Daisy Knightly (highlighted in blue), Jamie Cook, and David Yeshi; this list is labeled with a box containing the number 2. The "Details" section shows "Constituency: Sunderland", "Party: 4Youth", and "Votes: 125".

In the constituency form above controls are labelled from 0 to 2, they are:

0. This is the Back button so if pressed then goes back to the home screen.
1. When this form is loaded the candidates list will not be displayed so you have to first select a constituency from the drop down box.
2. If you want to see the Candidates Details then you must select one of the candidates from the list.

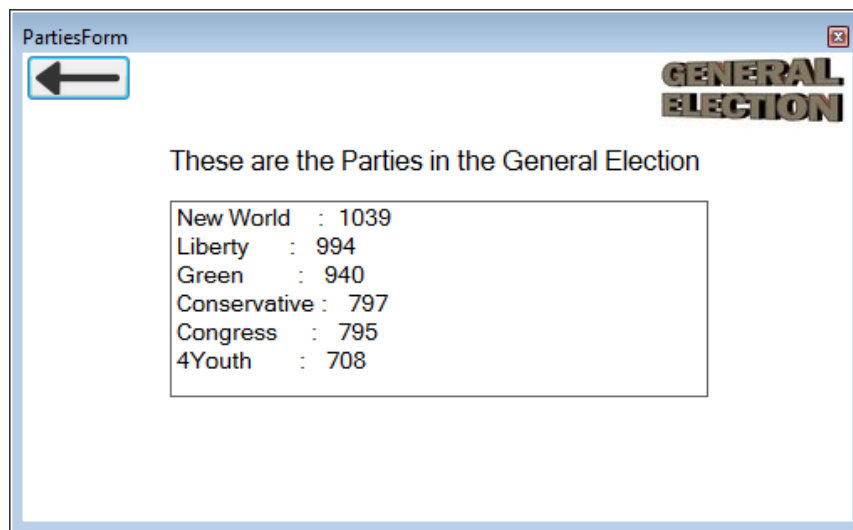
Elected Candidates

The screenshot shows a mobile application window titled "Elected_Candidates". In the top left corner, there is a back button (a left-pointing arrow). In the top right corner, there is a logo that says "GENERAL ELECTION". Below the title, the text "The following are the Elected Candidates for each Constituency" is displayed. The main area is divided into two sections: "Candidates" on the left and "Details" on the right. The "Candidates" list includes Jamie Cook, Sandra Lee, Sandra Lee, and Harry Knowles; this list is labeled with a box containing the number 1. The "Details" section has a label "Select a Candidate" above an empty text input field.

1. To View the Canidate Details, select one of the candidates from the list.

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Parties Form

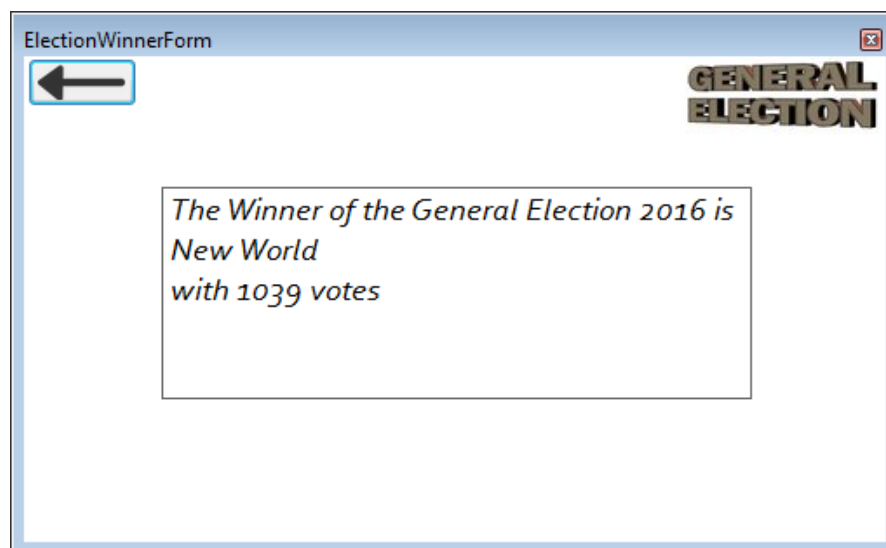


The screenshot shows a window titled "PartiesForm" with a blue header bar. In the top-left corner of the header bar is a back button (a left-pointing arrow). In the top-right corner is a logo that reads "GENERAL ELECTION" in a bold, stylized font. The main content area of the window contains the text "These are the Parties in the General Election" followed by a list of parties and their vote counts:

New World	: 1039
Liberty	: 994
Green	: 940
Conservative	: 797
Congress	: 795
4Youth	: 708

There is no functionality in this form, so once you have done viewing the parties press the back button.

Election Winner Form



The screenshot shows a window titled "ElectionWinnerForm" with a blue header bar. In the top-left corner of the header bar is a back button (a left-pointing arrow). In the top-right corner is a logo that reads "GENERAL ELECTION" in a bold, stylized font. The main content area of the window contains the text "The Winner of the General Election 2016 is New World with 1039 votes" in a serif font.

There is no functionality/controls in this form, so after viewing it press the back button