There are 3 types of end users interacting to the required system:

1. Election committee members
2. Contesters
3. Students

Entities:

0) Student\_info - SID, Full\_name, Email, Phone\_number, SchoolID , Year, Password.

1) Commitee\_member - SID, Status

2) Contester - SID, ElectionID, Position\_Number

3) Election\_Details - ElectionID, SchoolID, Position\_Name, Position\_Year

4) Votes - SID, CID , ElectionID

5) School\_info - SchoolID, School\_name (Exp: computing, business)

- Can add school and seats

- Special Election can held anytime

- EJB to talk to database, JSP, and servlet are main required

- 1 student only can vote 1 school representative

- 1 contestant 1 seat

All the end users are required to login for authentication and authorisation purposes.

**a) The following functionalities should be provided for the committee members’ interface:**

To add, delete, search, and update all committee members’ information.

To approve, delete, search, and update all contesters’ details and students’ information.

To set the date of the election.

To create the number of seats and define the number of contesters for each seat.

To monitor the election progress and finally announce the winning contesters.

In addition, some reporting functionality is required. Committee members would like to get as much useful information from the system as possible and is therefore open to the inclusion of any other useful reports.

**b) The following functionalities should be provided for the contesters’ interface:**

To register and edit individual profile.

To contest for a specific seat.

To view the current vote count.

**c) The following functionalities should be provided for the students’ interface:**

To register and edit individual profile.

To vote for a specific seat.

The application is to be developed in a multi-tier architecture with each tier to be implemented using the technologies defined as follows:

The presentation tier is a web application based on JSP/JSF technologies.

The JSPs may contain Standard Tag Library functions and Servlet may be used for validating input fields with predefined string and/or number format.

The JSFs may utilize PrimeFaces UI components for an intuitive design.

The business tier is an application that contains the business logic and processes with connections to the backend database via JDBC using Enterprise Java Beans (EJB).

The database tier is a database application used to store all relevant data of the application.

- Extra feature: System Admin

- Generate Reports to analyse contesters data (exp: Pie Chart)

- User validation is important

- Extra features:

1) More functionalities (Example: Notify user through email)

2) Advanced Technologies

3) Web Page Design