SAC ELECTION

Software Design Document

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1. INTRODUCTION

1.1 Purpose

This Software Design Document provides the design details of SAC Election System. The expected audience are students of NITC, Election committee and the people who will maintain the software.

1.2 Scope

This document contains a complete description of the design of SAC Elections.

The basic architecture is a web server from a client server paradigm. The basic pages will be in HTML, JavaScript and PHP.

The designated faculty member in charge of the SAC Election will have full access to make changes, as he/she deems necessary. The changes could include, changing the contesting candidates, the posts for which elections are to be held, details of the candidates, etc..,

1.3 Overview

The remaining chapters and their contents are listed below.

Section 2 tells the physical locations where the system actually exists. This allows a clear explanation of where each design entity will reside. Each part will work in unison to accomplish each requested task.

Section 3 is the Architectural Design that specifies the design entities that collaborate to perform all the functions included in the system. Each of these entities has an abstract description concerning the services that it provides to the rest of the system.

Section 4 concerns the Data Structure Design.

Section 5 contains the component design.

Section 6 discusses the User Interface Design, and how it can be created with maximum user efficiency and ease of use.

1.4 Reference Material

- Fundamentals of Database Systems by Ramez Elmasri and Shamkanth B Navathe

1.5 Definitions and Acronyms

Term	Definition

SAC	Student Affairs Council
HTML	Hyper Text Markup Language
SDD	Software Design Document
SRS	Software Requirement Specification
PHP	PHP : Hypertext pre-processor
E-R	Entity Relation

Table 1: Definitions and acronyms

2. SYSTEM OVERVIEW

The SAC election database is external to the web server. All of the pages for the web site will reside on the departmental server.

3. SYSTEM ARCHITECTURE

3.1 Architectural Design

Web system architecture:

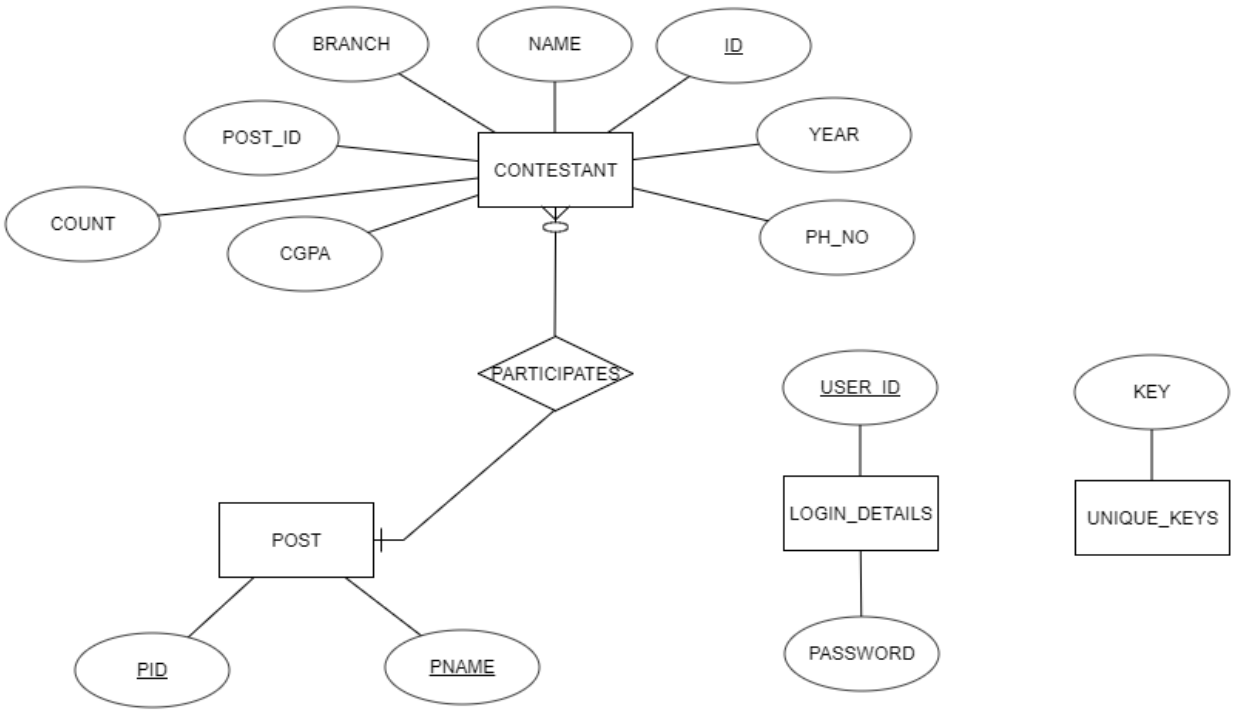

Figure 1 ER Model

Relational Schema

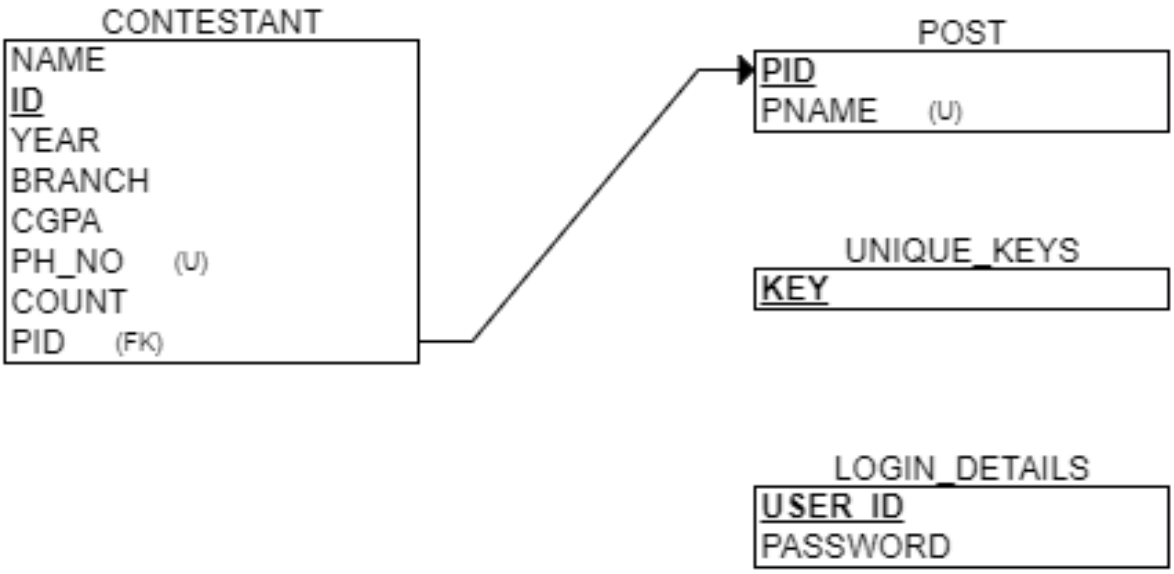

Figure 2 Relational Schema

3.2 Decomposition Description

Voter login page:

Name: Voter Login Page

Type: Web Page

Description: There will be seven drop down menus to enter the seven digit key provided. A submit button to submit the key.

Operations:

Name: Submit()

Arguments: Number

Return: No return value

Pre-condition: Connected to site

Post-condition: On another page

Exceptions: None

Flow of Events:

1. Voter is presented with the voter login page.
2. Voter enters the number and clicks submit button.
3. Voter is connected to another page.

Officer login page:

Name: Officer Login Page

Type: Web Page

Description: There will be two fields, one for username and the other for password. A login button to login.

Operations:

Name: login()

Arguments: Username, password

Return: No return value

Pre-condition: Connected to site

Post-condition: On another page

Exceptions: None

Flow of Events:

1. Officer is presented with the login page.
2. Officer enters the username and password, and clicks login button.
3. Officer is connected to another page.

Voter home page:

Name: Voter Home Page

Type: Web Page

Description: Names of all the posts are given as a list and there will be dropdown menus to right of the corresponding posts which has the contestant names. There is a reset button and a submit button.

Operations:

Name: Reset()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: Entries are cleared

Exceptions: None

Name: Submit()

Arguments: Contestant Names

Return: No return value

Pre-condition: Connected to site

Post-condition: On another page

Exceptions: None

Flow of Events:

1. Voter is presented with the voting page.
2. Voter enters his choices and clicks submit button.
3. If he wants to clear all his choices, he has to click reset button before submitting. Once submitted it cannot be changed.
4. Voter can leave and the page is redirected to voter login page.

Officer's page:

Name: Officer's Page

Type: Web Page

Description: There will be 2 buttons one for contestant details and the other for posts details. There is a logout button. And a results button.

Operations:

Name: logout()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On another page

Exceptions: None

Operations:

Name: Get_Results()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On another page

Exceptions: None

Operations:

Name: Contestant()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On another page

Exceptions: None

Operations:

Name: Posts()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On another page

Exceptions: None

Flow of Events:

1. Officer is presented with his home page.
2. He can select contestants button to enter in to the contestants page and modify contestants. He can select posts button to enter in to the posts page and make changes to the posts as he wish.
3. Officer can logout by clicking logout button.

Contestant modification page:

Name: Contestant modification Page

Type: Web Page

Description: This page will show the details of the contestants and there will be options to add , edit, or delete a contestant. There is a home button to get back.

Operations:

Name: Add_Contestant()

Arguments: Contestant Details

Return: No return value

Pre-condition: Connected to site

Post-condition: Contestant is added

Exceptions: None

Operations:

Name: Details()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On same page

Exceptions: None

Operations:

Name: Delete()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On same page

Exceptions: None

Flow of Events:

1. Officer is presented with his working page.
2. Officer can make changes required.
3. Officer can go to home page by clicking home button.

Post modification page:

Name: Post modification Page

Type: Web Page

Description: This page will show the details of the posts and there will be options to add , edit, or delete a post. There is a home button to get back.

Operations:

Name: Add_Post ()

Arguments: Post Details

Return: No return value

Pre-condition: Connected to site

Post-condition: Posts is added

Exceptions: None

Operations:

Name: Details()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On same page

Exceptions: None

Operations:

Name: Delete()

Arguments: No arguments

Return: No return value

Pre-condition: Connected to site

Post-condition: On same page

Exceptions: None

Flow of Events:

1. Officer is presented with his working page.
2. Officer can make changes required.
3. Officer can go to home page by clicking home button.

4. DATA DESIGN

4.1 Data Description

The data is stored in a relational DB. The relations are described by the database administrator for the SAC Election system.

4.2 Data Dictionary

Attribute Name	Attribute Type	Attribute Size
NAME *	String	50
ID * ^	Int	10

YEAR * ^	Int	4
BRANCH * ^	String	50
CGPA * ^	Float	5
PH_NO * ^	Int	10
PID * ^	Int	2
COUNT * ^	Int	5
PNAME *	String	50
USER_ID * ^	String	50
PASSWORD * ^	String	20
KEY *	Int	10

Table 2 Attributes and Data types

Fields marked with an '*' are required fields. Fields marked with '^' are never visible to anyone other than the officer.

5. COMPONENT DESIGN

Will be updated in the next version

6. HUMAN INTERFACE DESIGN

Will be updated in the next version.