

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

KARNATAKA



**Mini Project Report
on
“ONLINE VOTING SYSTEM”**

*Submitted in the partial fulfillment of the requirements for the
“DATABASE MANAGEMENT SYSTEM Laboratory with Mini Project (18CSL58)” in
Computer Science Engineering during the year 2021-2022.*

Submitted by

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CERTIFICATE

This is to certify that the Project Work entitled "**Online Voting System**" is the bonafide work carried out by **Nagendra B** (4AD19CS048) and **Mithilesh A** (4AD19CS041) in partial fulfilment for the award of degree of Bachelor of Engineering in Computer Science and Engineering from Visvesvaraya Technological University, Belagavi during the year 2021-2022.

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2.....

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of any task would be incomplete without the mention of people whose ceaseless cooperation made it possible, whose constant guidance and encouragement crown all efforts with success.

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ABSTRACT

Database is a collection of inter-related data which helps in efficient retrieval, insertion and deletion of data from database and organizes the data in the form of tables, views, schemas, reports etc. For Example, university database organizes the data about students, faculty, and admin staff etc. which helps in efficient retrieval, insertion and deletion of data from it.

Online Voting is a web-based voting system that will help you manage your elections easily and securely. This voting system can be used for casting votes during the elections held in colleges, etc. In this system the voter does not have to go to the polling booth to cast their vote. They can use their personal computer to cast their votes. There is a database which is maintained in which all the name of the voters with their complete information is stored. The System Administrator registers the voters by simply filling a registration form to register the voters. The site will be activated only on the day of voting. Once the user logs in, their name and phone number will be verified with the database provided by the admin which has to be entered by the user before casting his/her vote. The voter will be able to vote only once. A receipt of the vote will be displayed to the voter so that he can see to whom he voted for. The advantage of online voting is that the voters have the choice of voting at their own free time and there is reduced congestion. It also minimizes on errors of vote counting. The individual votes are submitted in a database which can be queried to find out who of the aspirants for a given post has the highest number of votes.

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Technologies Used

MySQL

MySQL is an open-source relational database management system (RDBMS). "SQL", the abbreviation for **Structured Query Language**. A relational database organizes data into one or more data tables in which data types may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups. MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses.

PHP

PHP is a general-purpose scripting language geared towards web development. PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface (CGI) executable. On a web server, the result of the interpreted and executed PHP code – which may be any type of data, such as generated HTML or binary image data – would form the whole or part of an HTTP response. Various web template systems, web content management systems, and web frameworks exist which can be employed to orchestrate or facilitate the generation of that response. Additionally, PHP can be used for many programming tasks outside the web context, such as standalone graphical applications and robotic drone control. PHP code can also be directly executed from the command line.

HTML

The **Hyper Text Markup Language**, or HTML is the standard markup language for documents designed to be displayed in a web browser. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags*, written using angle brackets. Tags such as `` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colours, and fonts. This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics; enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, which reduces complexity and repetition in the structural content; and enable the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

Problem Statement

The traditional voting system requires the voter to go to the voting booth for casting their votes which is not practically possible in current COVID pandemic situation. Many people standing in the line waiting for their turn to vote is not the best scenario as the virus can spread rapidly due to these kinds of events. Even the traditional voting system takes a lot of time and lot of work is to be done for conducting election. The verification and authentication of voters is a real issue in traditional voting system. Handling details of authenticated voters and sharing it with every voting booth takes a lot of time and increases redundancy. Many times, we observe booth capturing is done during election. Even there will be conflicts between government and citizens. The traditional voting system requires many days for counting the ballots and announcing the results. It is also observed that so many cases of missing data in the voter registration files have been reported. There are also scenarios where unregistered voters flock in the polling centers as “Dead Voters” to participate in the voting process. Even after voting, malicious clerks and officers-in-charge of a polling station end up playing with the results figures. This results in the release of wrong results leading to cases of post-election violence such as the one that happened in early 2008 in Kenya. Such cases can be solved by insisting on voters exercising that task online using the OVS- KENYA. The voters can also vote from anywhere around the globe, they don't need to travel back to Kenya during election time in case they are abroad.

In the recent years there are many literatures on online voting that have been developed. While online voting has been an active area of research in the recent years, efforts to develop real-world solutions have just begun posing several new challenges. The use of insecure Internet, well documented cases of incorrect implementations and the resulting security Breaches have been reported recently. These challenges and concerns have to be resolved in order to create public trust in online voting.

ER-Diagram

ER Model is used to model the logical view of the system from data perspective which consists of these components:

Entity

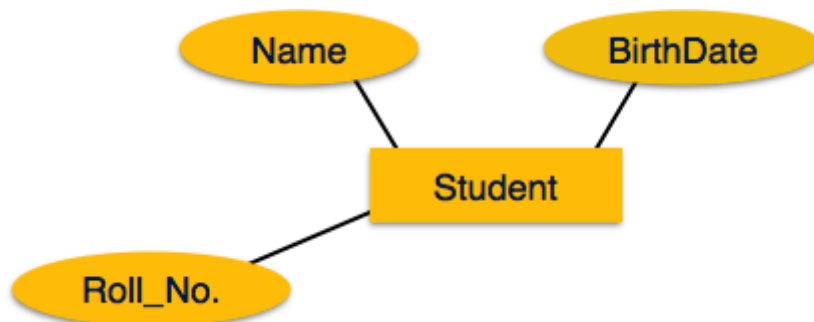
An Entity may be an object with a physical existence – a particular person, car, house, or employee – or it may be an object with a conceptual existence – a company, a job, or a university course.

An Entity is an object of Entity Type and set of all entities is called as entity set. e.g.; E1 is an entity having Entity Type Student and set of all students is called Entity Set



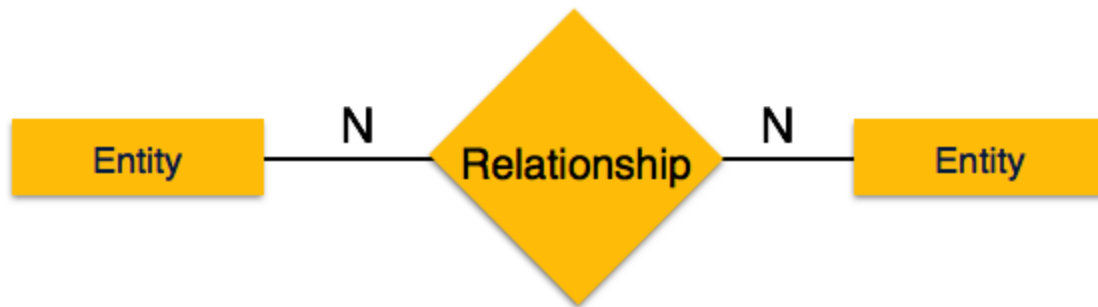
Attributes

Attributes are the properties which define the entity type. For example, Roll_No, Name, DOB, Age, Address, Mobile_No are the attributes which defines entity type Student. In ER diagram, attribute is represented by an oval.



Relations

A relationship type represents the association between entity types. For example, 'Enrolled in' is a relationship type that exists between entity type Student and Course. In ER diagram, relationship type is represented by a diamond and connecting the entities with lines.

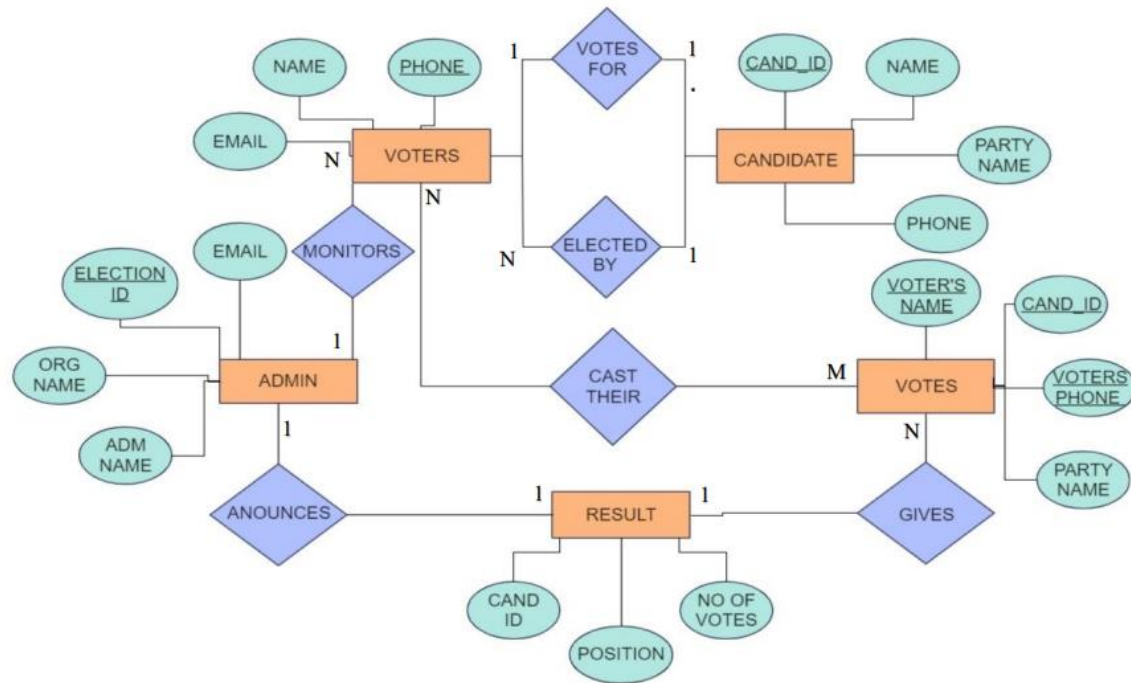


Cardinality

Cardinality defines the number of entities in one entity set, which can be associated with the number of entities of other set via relationship set.

- **One-to-one** – One entity from entity set A can be associated with at most one entity of entity set B and vice versa.
- **One-to-many** – One entity from entity set A can be associated with more than one entities of entity set B however an entity from entity set B, can be associated with at most one entity.
- **Many-to-one** – More than one entities from entity set A can be associated with at most one entity of entity set B, however an entity from entity set B can be associated with more than one entity from entity set A.
- **Many-to-many** – One entity from A can be associated with more than one entity from B and vice versa.

ER-Diagram for Online Voting system



Schema Diagram

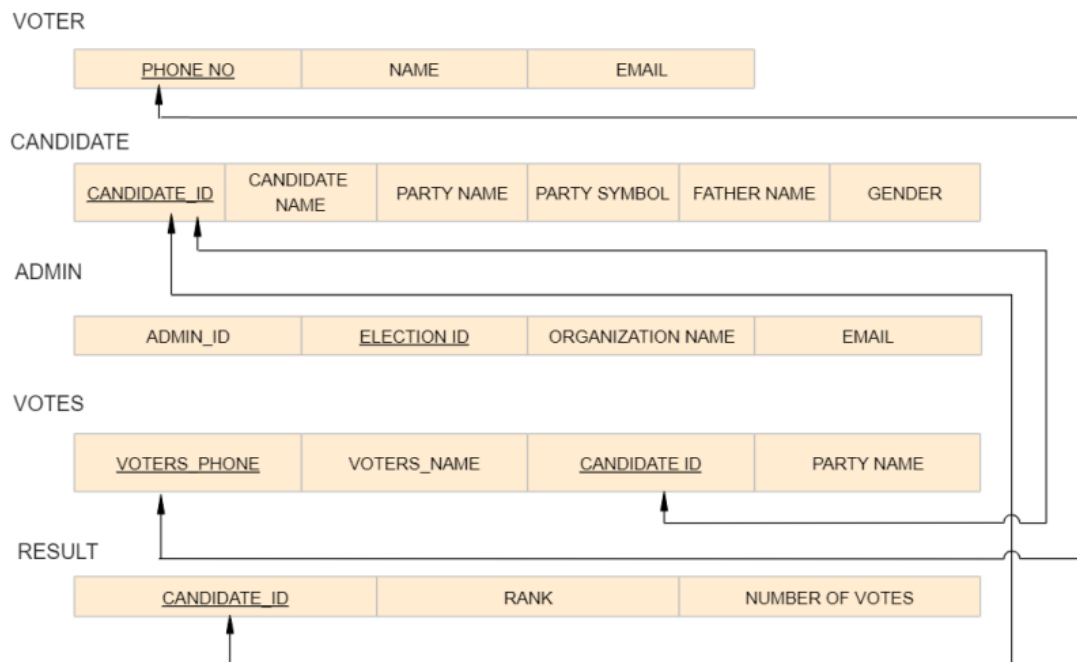


TABLE DESCRIPTION

1. ADMIN_LOGIN

Attributes	Datatype	Key
Admin_Id	int (11)	Primary Key
Admin_Username	varchar (255)	
Admin_Password	varchar (255)	

2. CANDIDATE

Attributes	Datatype	Key
Candidate_Id	varchar (255)	Primary Key
Name	varchar (255)	
Dob	date	
Gender	varchar (255)	
Party_Name	varchar (255)	
Party_Symbol	varchar (255)	
Phone	bigint(10)	

3. VOTERS

Attributes	Datatype	Key
Sjno	int (10)	Primary key, Auto_increment
Name	varchar (255)	
Phone	varchar (255)	

4. VOTES

Attributes	Datatype	Key
Name	varchar (255)	Foreign Key
Phone	bigint(10)	Primary Key, Foreign Key
Candidate_Id	varchar (255)	Foreign Key

5. ABOUT US

Attributes	Datatype	Key
Name	varchar (255)	
USN	varchar (255)	Primary Key
Sem	varchar (255)	
Sec	varchar (255)	

Views

1. VW_CANDIDATE

Attributes	Datatype
Candidate_Id	varchar (255)
Name	varchar (255)
Party_Name	varchar (255)
Party_Symbol	varchar (255)

2. VW_RESULT

Attributes	Datatype
Candidate_Id	varchar (255)
Name	varchar (255)
Party_Name	varchar (255)
Party_Symbol	varchar (255)
Count	bigint(21)

Home Page

The screenshot shows the Home Page of the Online Voting System. It features a pink header bar at the top. Below the header, the title "Online Voting System" is centered in a light purple font. On the left side, there is a vertical list of five dark grey buttons with white text: "Vote now", "Candidate Registration", "Admin Login", "Candidate info", and "Results". The main content area has a light grey background, and the bottom of the page is a solid yellow bar.

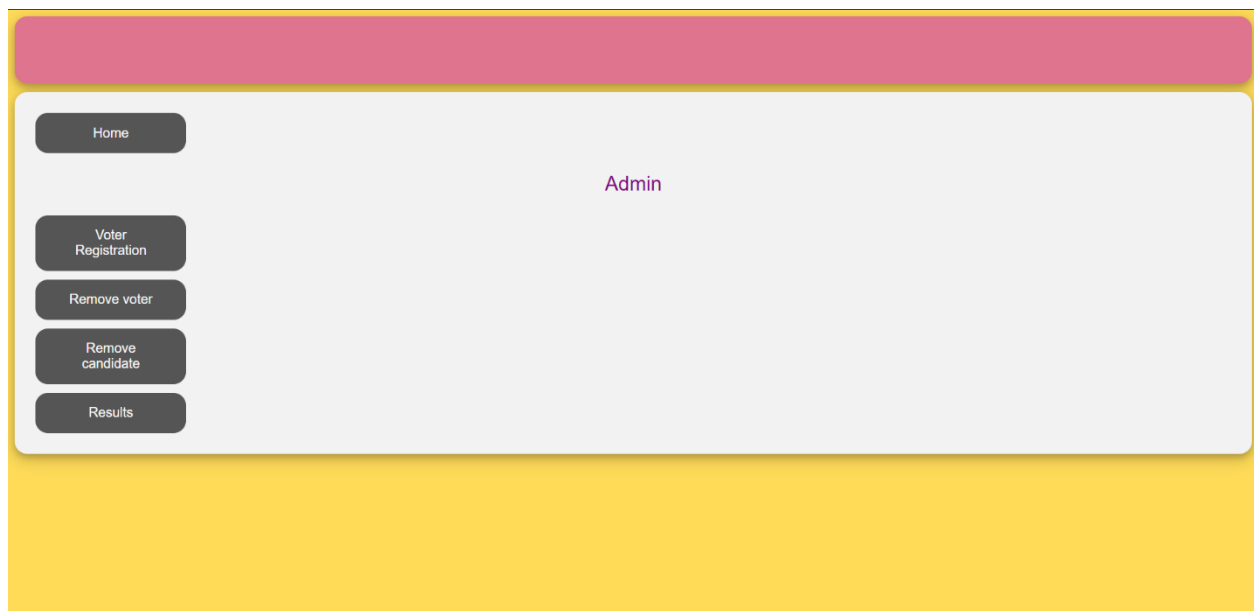
Home page is accessed by all the users admin, candidates and voters

Admin Login

The screenshot shows the Admin Login page of the Online Voting System. It features a pink header bar at the top. Below the header, the title "Admin Login" is centered in a light purple font. The login form consists of two input fields: "Username" and "Password", both with white text and a light grey border. Below the "Password" field is a dark grey "Login" button with white text. At the bottom of the form, there is a link that says "Don't have an account? [Sign up now.](#)". The main content area has a light grey background, and the bottom of the page is a solid yellow bar.

Admin is the one who conducts Elections in an organization .He first registers to the website by clicking on Signup now.

Admin Home Page



This is admin's home page which can be accessed only after logging in. Admin will be having exclusive privileges.

Voters Registration

Name	Phone
Ibrahim	4383548284
Mohamed Railhan	7899688068
Manjunatha D	8088188528
Nagendra B	8147349822
Manoj Gowda K B	9148351472
Abhishek B	9880247615
Mithulesh A	9900536585
Mohan Kumar M	9900536586

This is an admin's privilege where admin can register voters who are authenticated to vote in his election. He can view the list of voters who are already registered.

Admin Results

Results INFORMATION

Name	Phone	Candidate id
ibrahim	4383548284	Cand002
Mohammed Farooq	7795335626	Cand003
Mohamed Railhan	7899688068	Cand001
Manjunatha D	8088188528	Cand001
Nagendra B	8147349822	Cand001
Mithilesh A	9900536585	Cand002

Number Of Votes

6

Admin has the privilege to view who have voted for which candidate and total number of votes

Candidate Registration

CANDIDATE REGISTRATION

Candidate Id

Candidate id must be of the format CAND001

Name

Date of Birth

dd-mm-yyyy

Gender

Male or Female

Party Name

Party Symbol

Phone Number

REGISTER

The candidates who stand for election, should fill their details in this form, later Admin verifies with the candidate and give his approval. If Admin thinks that any candidate is not authorized, he has the privilege to remove that candidate.

Candidate Information

Candidate id	Name	Party name	Party symbol
Cand001	Tejasvi Surya	Bharatiya Janata Party	Lotus
Cand002	Prathap Simha Bharatiya Janata Party	Lotus	
Cand003	Rahul Gandhi	Indian National Congress Hand	

After candidate registering for the election, Candidate's information is displayed to everyone so that voters can know details about candidates

Vote

Candidate id	Name	Party name	Party symbol	
Cand001	Tejasvi Surya	Bharatiya Janata Party	Lotus	<button>Vote</button>
Cand002	Prathap Simha Bharatiya Janata Party	Lotus		<button>Vote</button>
Cand003	Rahul Gandhi	Indian National Congress Hand		<button>Vote</button>

The voters who vote for candidate lands here when they click “Vote now” in home page. The voter can view Candidate name, party name, party symbol and vote for desired candidate by clicking “Vote” button corresponding to candidate detail

Results

The Results page features a pink header bar. Below it, a white box contains the word "WINNER" in purple. Underneath, a table lists the winning candidate. Below this, another white box contains the word "Results" in purple, followed by a table listing all candidates and their vote counts. The bottom of the page has a large yellow rectangular area.

Candidate id	Name	Party name	Party symbol	Number of votes
Cand001	Tejasvi Surya	Bharatiya Janata Party	Lotus	3

Candidate id	Name	Party name	Party symbol	Number of votes
Cand001	Tejasvi Surya	Bharatiya Janata Party	Lotus	3
Cand002	Prathap Simha	Bharatiya Janata Party	Lotus	2
Cand003	Rahul Gandhi	Indian National Congress	Hand	1

Finally after voting is done, the Winner and other candidate's number of votes are declared in Results page.

About us page

The About Us page features a pink header bar. Below it, a white box contains the text "About Us" in purple. Underneath, a table lists team members with their names, USNs, semesters, and sections. At the bottom of the white box is a dark grey button labeled "Report".

Name	USN	Semester	Section
Nagendra B	4AD19CS048	5	A
Mithilesh A	4AD19CS041	5	A

The about us page is to give information about us with our report

REQUIREMENT SPECIFICATION

To perform this project , certain hardware and software requirements are required by the system. Those hardware and software requirements are listed below:

Hardware Requirements

- Processor – 1.5GHz or above.
- Memory – 512 kB RAM, 40GB hard disk
- Input Device – Keyboard, 2 or 3 button mouse
- Output Device – 1024 x 768 display resolution Monitor

Software requirements

- Operating system – Windows/Ubuntu.
- MySQL (XAMPP APACHE SERVER)
- Language – HTML CSS with PHP

References

1. <https://www.w3schools.com/>
2. <https://www.tutorialspoint.com/index.htm>
3. <https://www.wikipedia.org/>

CONCLUSION

The main aspect behind OVS is that it enabled us to bring out the new ideas that were sustained within us for many for many days. This project offers the voters to cast easily through internet. Vote counting is also made easy by the OVS since it's just a matter of querying the database. OVS is used by a number of countries today. Developing a good system is critical to the success of the system to prevent system failures and to gain wide acceptance as the best method available. A good OVS system requires ten characteristics which this system already has. These are: Accuracy Convenience Reliability Verifiability Flexibility Consistency Democracy Mobility Social Acceptance Privacy In analysing, designing, implementing, and maintaining standards, we considered these characteristics as the foundation. These standards were made national. OVS will be an inexpensive, and less time-consuming method once a system exhibiting national standards and the above-mentioned characteristics is implemented

Signature of Guide

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