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A  
PROJECT REPORT ON  
“online voting SYSTEM”  
SUBMITTED TO  
**DEPARTMENT OF COMPUTER SCIENCE**

BY

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UNDER THE GUIDENCE OF  
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- SPPU Best College Award

## DEPARTMENT OF COMPUTER SCIENCE

# CERTIFICATE

This is to certify that the project entitled

**“online voting SYSTEM”**

has been successfully completed by

as a Project (CSDT234C) during semester IV of B.Sc.  
(Computer Science), Under-Graduate degree affiliated to  
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## **ABSTRACT**

This project is web-based voting system. The project objective to deliver the online voting facilities to user for their flexibility of vote from anywhere. This project is an attempt to provide the advantages of online voting. Users are able to vote individually from their residence by using an android device or desktop/laptop. Thus the user use the voting system comfortably. This System is able to work in any web browser and device with active internet. Users shall also be trained on how to vote online before the election time

# INTRODUCTION TO ONLINE VOTING SYSTEM

- 1. “ONLINE VOTING SYSTEM”** is an online voting technique. In this system any sex can give his\her vote online without any physical polling station.
- 2. In “ONLINE VOTING SYSYTEM”** a voter can use his\her voting right online without any difficulty. He\She has to be registered first for him\her to vote manually. Registration is mainly done by the system administrator for security reasons.
- 3.** After registration, the voter is assigned a secret “Login Id” and “Password” with which he\she can use to log into the system and enjoy services provided by the system such as voting. If **Invalid\Wrong** details are submitted, then the citizen is not registered to vote.

## PROBLEM STATEMENTS

**The problems of the existing manual system of voting include among others the following:**

1. **Expensive and Time Consuming:** The process of collecting data and entering this data into the database takes too much time and is expensive to conduct, **for example,** Time and Money is spent in printing data capture forms, in preparing registration process including sensitizing voters on the need for registration, as well as time spent on entering this data to database.
2. **Too much paper work:** The process involves too much paper work and paper storage which is difficult as papers become bulky with the population size.
3. **Errors during data entry:** Errors are part of all human beings; it is very unlikely for humans to be 100% (percent) efficient in data entry.
4. **Loss of registration forms:** Some times, registration forms get lost after being filled in with voters' details, in most cases these are difficult to follow-up and therefore many remain unregistered even though they are voting age nationals and interested in exercising their right to vote.
5. **Short time provided to view the vote register:** This is very big problem since not all people have free time during the given short period of time to check and update the voter register.
6. **Above all,** a number of voters end up being locked out from voting.

**Hence,** there is great desire to reduce official procedure in the current voter registration process if the general electoral process is to improve.

## Purpose/Objective and Goals

- Provision of improved voting services by the Electoral Authority fast, timely and convenient voting.
- Check to ensure that the member who are registered are the only ones to vote.
- Increased number of voters as individual will find it easier and more convenient to vote, especially those abroad.

## EXISTING SYSTEM

1. **Paper based voting:** In this, voter gets ballot and use a pen or a marker to indicate he/she wants to vote for which candidate. Hand-counted ballots is a time and labour consuming process.
2. **Lever voting machine:** Lever machine is peculiar equipment, and each lever is assigned for a corresponding candidate. This kind of voting machine can count up the ballots automatically. Because it's interface is not user-friendly enough, giving some training to voters is necessary.
3. **Direct Recording Electronic Voting Machine:** This type, which is abbreviated to DRE, integrates with keyboard; touch screen, or buttons for the voter press to poll. Some of them lay in voting records & counting the votes is very quickly but, the other DRE without keep voting records are doubted about its accuracy.
4. **Punch card:** The voter uses metallic hole-punch to punch a hole on the blank ballot. It can count votes automatically, but if the voter's perforation is incomplete, the result is probably determined wrongfully.
5. **Optical voting machine:** After each voter fills a circle correspond to their favourite candidate on the blank ballot, this machine selects the darkest mark on each ballot for the vote then computes the total result.



## PROPOSED SYSTEM

### **THE ONLINE VOTING SYSTEM (OVS) SHOULD:**

- a) Be able to display all registered voters in database.
- b) Have a user-friendly interface and user guides understandable by people of average computer skills.
- c) Be robust enough so that user do not corrupt it in the event of voting.
- d) Be able to handle multiple user at the same time.

## Functional requirement

- a) Secure storage and retrieval of voter's details from database.
- b) Enable secure login of voters, that is to say non-legitimate voters should never be allowed to login to the tool.
- c) Maintaining and manipulating records un database through functions like edit, delete, and view.
- d) Validate and verify input

# FEASIBILITY STUDY

## ➤ TECHNICAL FEASIBILITY:

- **Infrastructure:** Assess the availability and reliability of the required hardware, software, and network infrastructure to support online voting.
- **Security:** Evaluate the feasibility of implementing robust security measures to protect the integrity, confidentiality, and authenticity of the voting system.
- **Scalability:** Determine if the system can handle a potentially large number of concurrent user during peak voting periods.
- **Accessibility:** Assess the feasibility of providing access to the online voting system for a diverse range of users, including those with disabilities.

## ➤ SECURITY FEASIBILITY:

- **Authentication:** Assess the feasibility of implementing strong authentication mechanism to verify the identity of voters.
- **Encryption:** Evaluate the feasibility of using encryption techniques to secure the transmission and storage of voting data.
- **Auditing:** Determine if it's feasible to implementing auditing mechanisms to detect and prevent fraudulent activities.

## ➤ USER ACCEPTANCE AND ADOPTION:

- **User Experience:** Assess the feasibility of providing a user-friendly interface and intuitive voting process to encourage user adoption.
- **Training and Support:** Evaluate the feasibility of providing training and support to voters to ensure they can navigate and use the online voting system effectively.
- **Trust and Confidence:** Determine the feasibility of building trust and confidence among voters regarding the security, privacy, and integrity of online voting system.

## ➤ Cost and Resource Feasibility:

- **Budget:** Evaluate the financial feasibility of implementing and maintaining the online voting system, including hardware, software, security measures, infrastructures, and ongoing maintenance costs.
- **Resources:** Assess the availability and adequacy of skilled personnel, technical expertise, & resource required for the development , deployment, and operation of the online voting system.

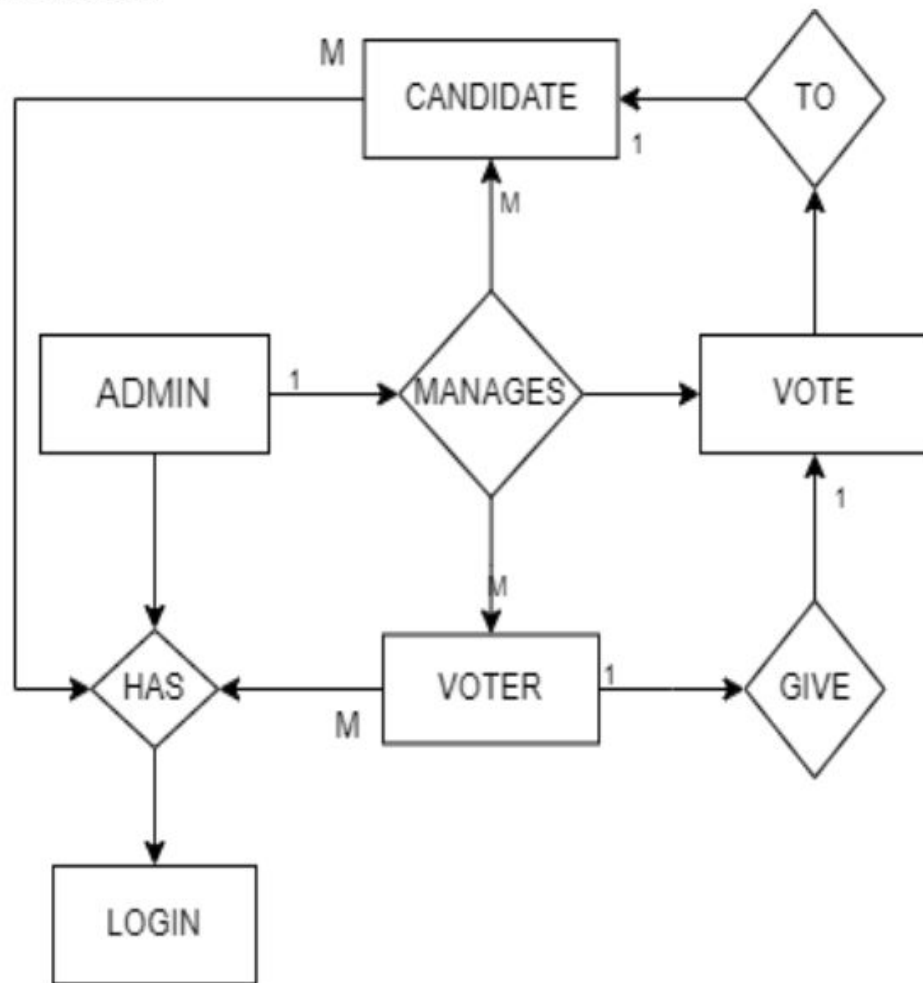
## SOFTWARE requirements

- I. Windows 11(64-bit).
- II. Ms Office
- III. Microsoft Visual Studio 6.0
- IV. Development language: HTML, CSS & PHP
- V. Database: MySQL
- VI. XAMPP

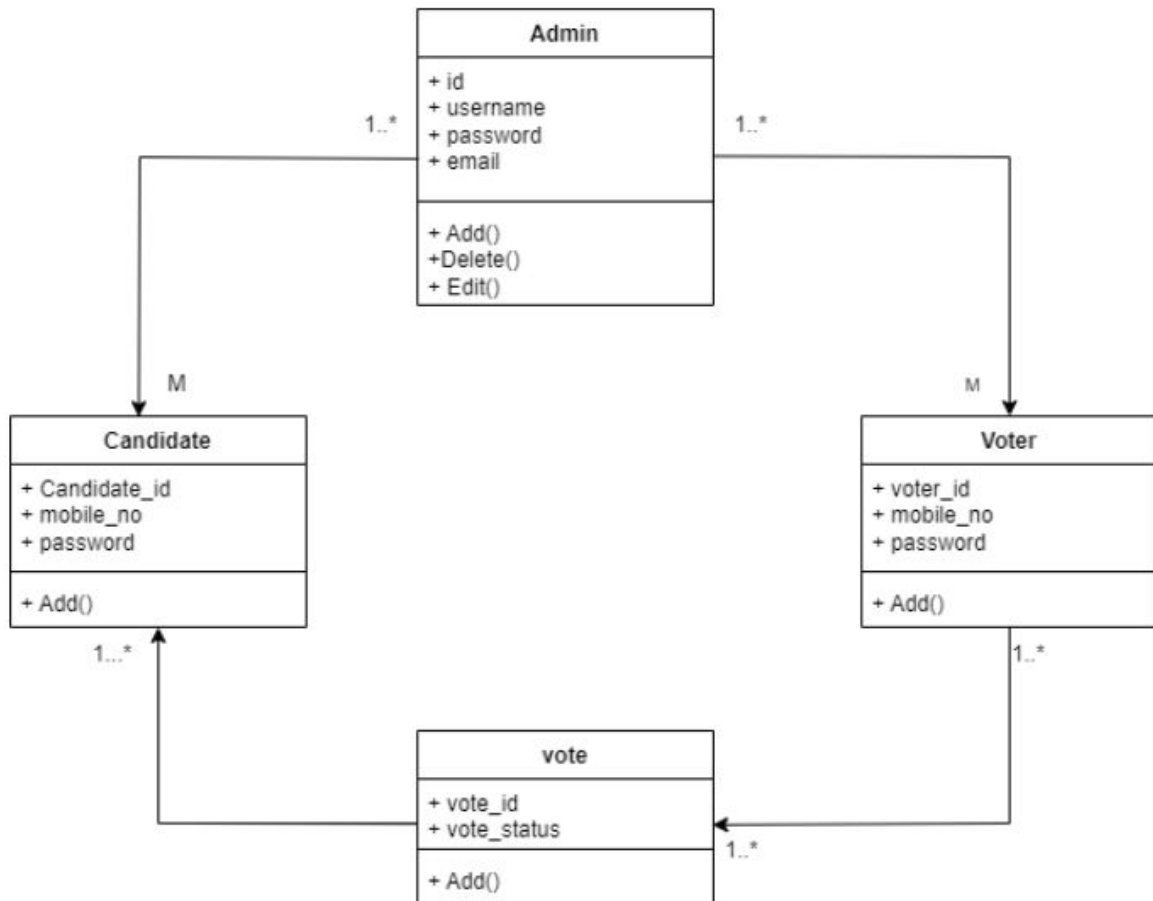
## HARDWARE requirements

- I. **PROCESSOR:** AMD RYZEN 3
- II. **MOTHERBOARD:** hp-80425-21
- III. **RAM:** 12GB DDR4 3200MHz
- IV. **ROM:** 256GB SSD, 1TB HDD

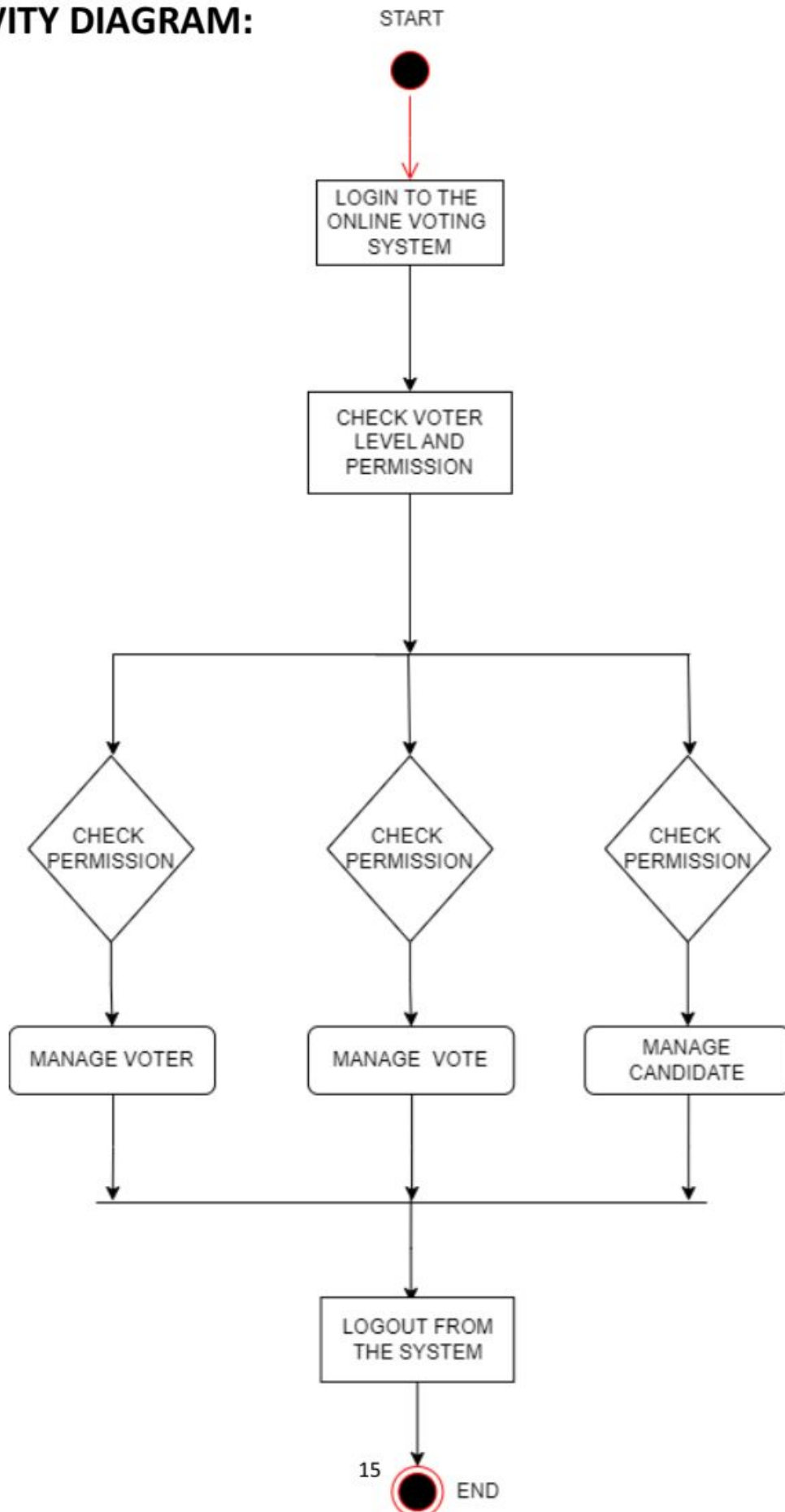
## E-R DIAGRAM:



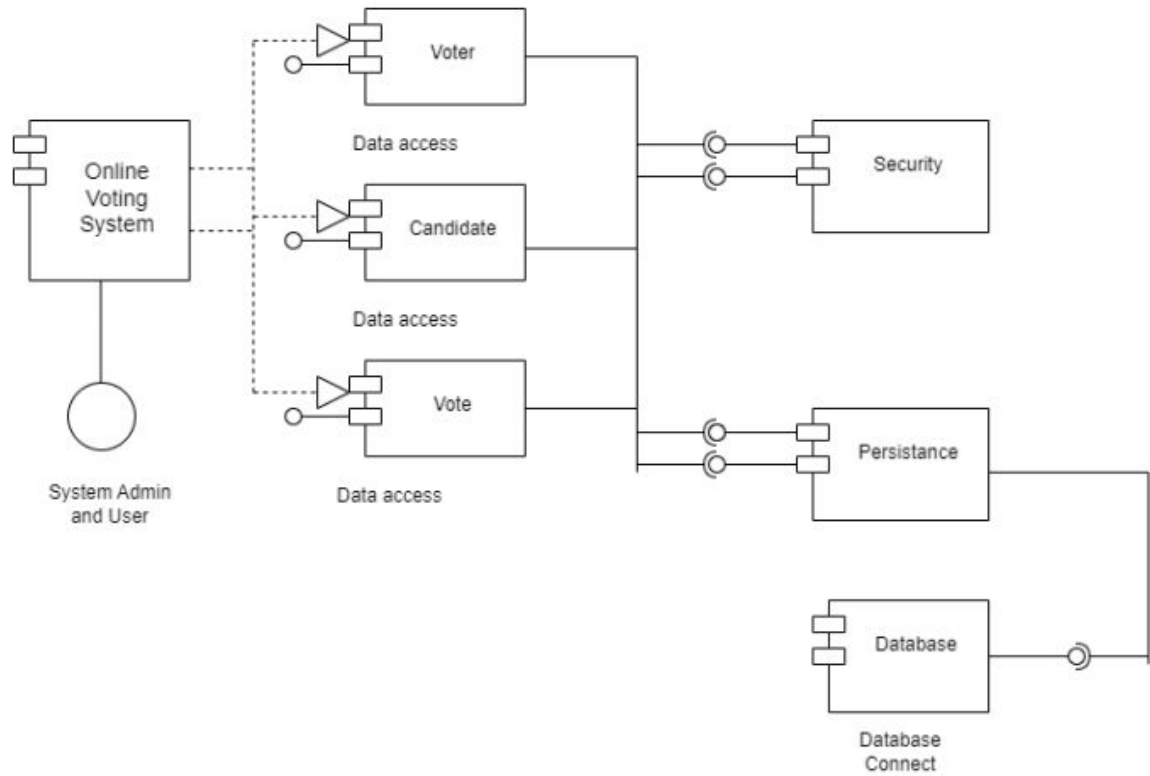
## CLASS DIAGRAM:



## ACTIVITY DIAGRAM:

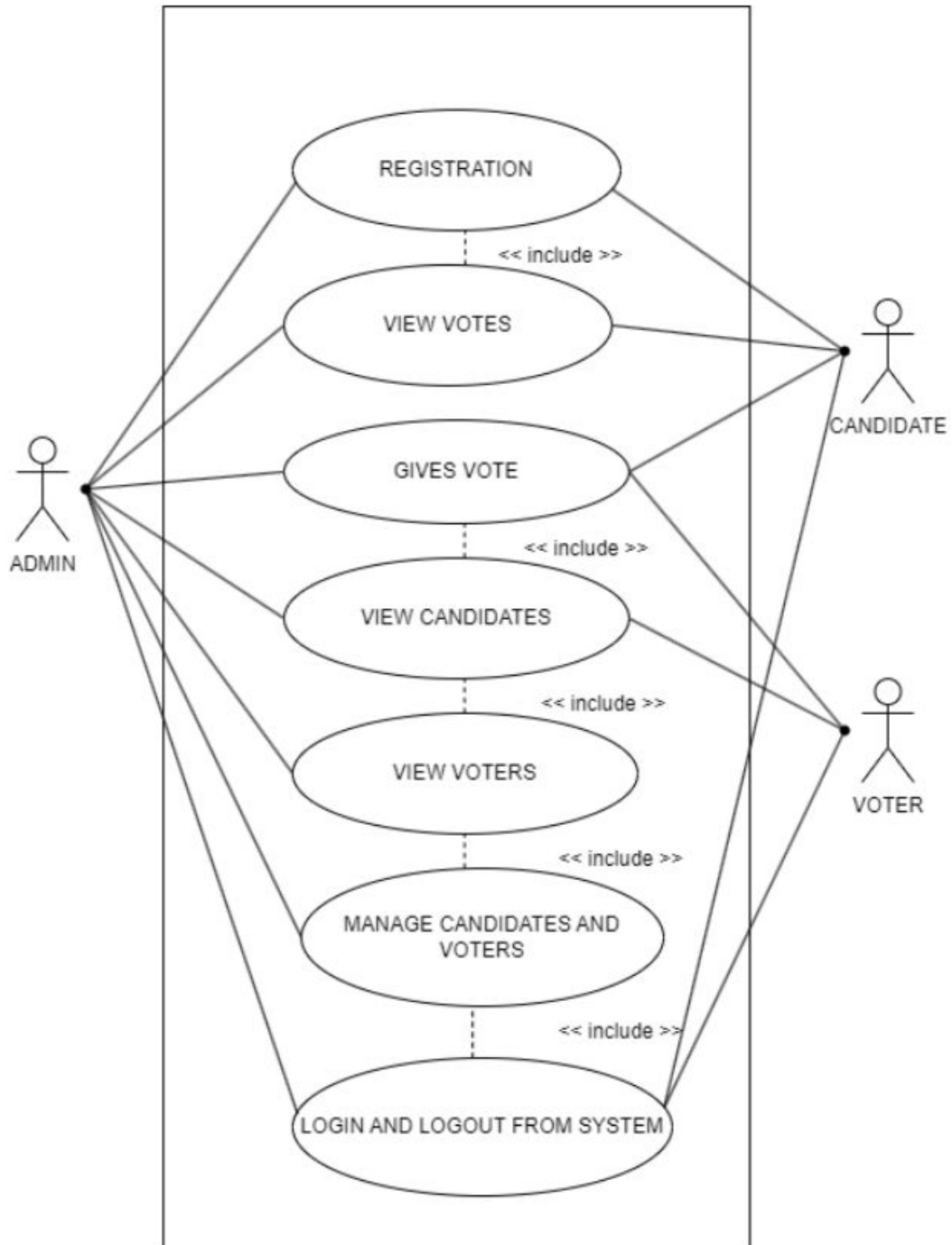


## ComPONENT DAIGRAM:





## USECASE DIAGRAM:



## DATA DICTIONARY

### Admin:

Sr.No	Field_name	Field_type	Description
1	admin_id	int	primary key
2	username	varchar(20)	NOT NULL
3	password	password	NOT NULL
4	email	email	NOT NULL

### Voter:

Sr.No	Field_Name	Field_Type	Description
1	Voter_id	int	primary_key
2	Mobile_no	bigint(10)	NOT NULL
3	Name	text	NOT NULL
4	Password	password	NOT NULL
5	Address	varchar(255)	NOT NULL
6	Photo	blob	NOT NULL
7	Status	varchar(11)	NOT NULL
8	votes	int	NOT NULL
9	Role	varchar(10)	NOT NULL

### CANDIDATE:

Sr.No	Field_Name	Field_Type	Description
1	Candidate_id	int	primary_key
2	Mobile_no	bigint(10)	NOT NULL
3	Name	text	NOT NULL
4	Password	password	NOT NULL
5	Address	varchar(255)	NOT NULL
6	Photo	blob	NOT NULL
7	Status	varchar(11)	NOT NULL
8	votes	int	NOT NULL
9	Role	varchar(10)	NOT NULL

## VOTE:

Sr.No	Field_Name	Field_Type	Description
1	Vote_id	int	primary_key
2	Vote_status	varchar(10)	NOT NULL

## INPUT/OUTPUT SCREEN

### REGISTRATION:

Online Voting System

Registration

Name  Mobile

Pasoword  Confirm Password

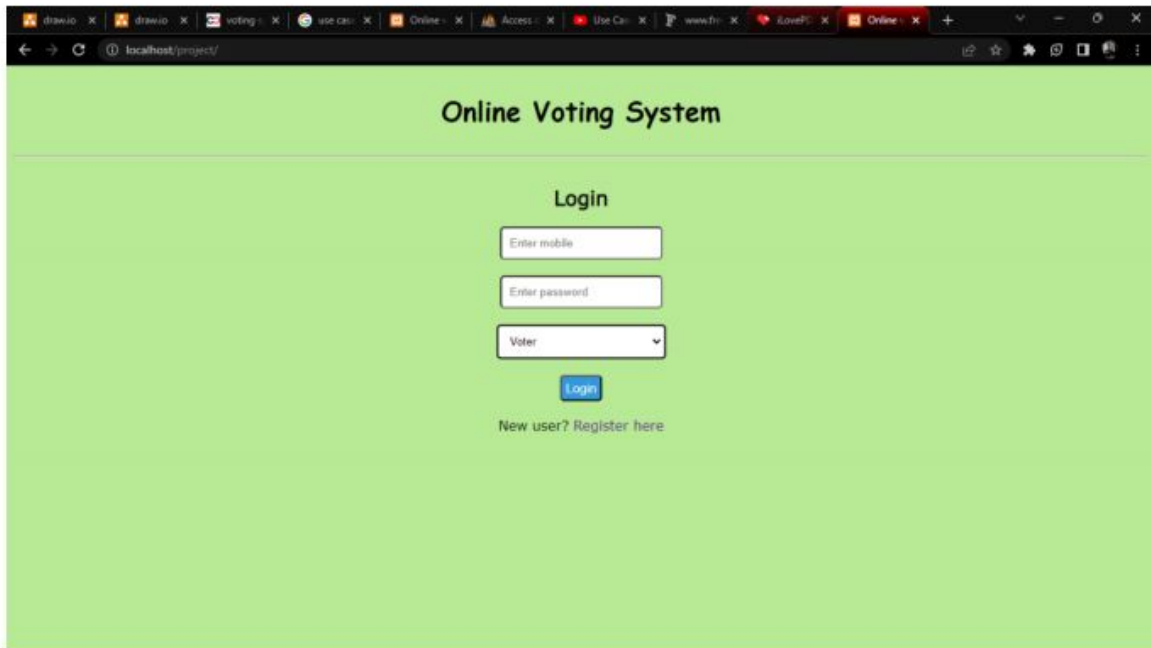
Address

Upload image:  No file chosen

Select your role:

Already user? Login here

## LOGIN:



The screenshot shows a web browser window with the URL `localhost/project/`. The page has a light green background and a dark green header with the text "Online Voting System". Below the header, the word "Login" is centered. There are three input fields: "Enter mobile", "Enter password", and a dropdown menu labeled "Voter". Below these fields is a blue "Login" button. At the bottom of the login section, there is a link that says "New user? Register here".

## DASHBOARD:

The screenshot shows a web browser window with the URL `localhost/project/routes/dashboard.php`. The page title is "Online Voting System". On the left, there is a "Back" button. On the right, there is a "Logout" button. The main content area is divided into two columns. The left column contains a profile card for Mangesh Ghadwaje with a camera icon, name, mobile number, address, and status "Not Voted". The right column contains two candidate cards. The top card is for Sachin Pandit with a photo, name, and 3 votes, with a "Vote" button. The bottom card is for Mangesh Ghadwaje with a camera icon, name, and 0 votes, with a "Vote" button.

The screenshot shows the same web browser window. The page title is "Online Voting System". On the left, there is a "Back" button. On the right, there is a "Logout" button. The main content area is divided into two columns. The left column contains a profile card for Mayur with a camera icon, name, mobile number, address, and status "Voted". The right column contains two candidate cards. The top card is for Sachin Pandit with a photo, name, and 3 votes, with a red "Voted" button. The bottom card is for Mangesh Ghadwaje with a camera icon, name, and 1 vote, with a red "Voted" button.

## Test Case Design

### Introduction

Testing is set of activities that can be planned in advanced and conducted systematically. Testing requires that the developer discard preconceived notation of the correctness of the software just developed and overcome a conflict of interest that occurs when errors are encountered .Testing principles are.

- All tests should be traceable to customer requirements.
  - Testing should be planned long before the testing begins.
  - Testing should be begin “in the small” and progress towards testing “in the large”.
  - To be most effective, testing should be conducted by an independent third party.
- Testing objective are:-
- Testing is the process of executing a program within the intent of finding an error.
  - A good test case is one that has high probability of finding an as-yet-undiscovered error.
  - A successful test is one that run un covers an yet – undiscovered error

There are various testing strategies available to accommodate from low-level testing to high-level testing as discussed below.

### Test plan

Testing is the major quality control measure employed during software development .In the project ,the first test considered is the unit testing .In this each module of the system tested separately .This is carried out during code level performed by developers.

After the entire module are checked independently and completed then the integration testing is performed to check whether there are any interface errors .Then those error are verified and corrected.

Also, the security test is performed to allow only authorized persons to this system. Finally, the validation testing is performed to validate whether the customer requirements are satisfied are not.

## **Unit Testing**

The unit testing is carried out on coding .Here different module are tested against the specifications produced during design for the module. Unit testing mainly focused first in the smallest and low-level modules. Proceeding one at a time .Each module was tested against required functionality and test case where developed to test the boundary value.

Unit testing focused verification effort on the smallest unit of software design the software component or module. The unit testing focus on the internal processing logic and data structure within the boundary the component. This type of testing can be conducted in parallel for multiple components.

## **Integration Testing**

Integration testing is systematic technique for consulting the software architecture while at the same time conducting test to uncover errors associated with interfacing. The objective is to take unit tested component and build a program structure that has been dictated by design.

## **Validation Testing**

Validation testing is validation succeeds. When software functions in a manner that can be reasonably expected by user. Validation testing begins after the culmination of integration testing. Software is completely assemble as a package. Interfacing errors have been uncovered and corrected.

The error detecting during this testing is –

- Incorrect function.
- Input condition errors
- Database error.
- Performance error.
- Initialization and interface error.

## **Security Testing**

Security testing verifies that protection mechanisms built into a system will, in fact, protect it from improper penetration. The system security must, of course, be tested for invulnerability from flank or rear attack.

### **Test case**

The system provides authentication by means of validating the username and password. It won't allow the user gives the exact password and username.



## CONCLUSION AND RECOMMENDATION

The online voting system offers numerous advantages, such as convenience, accessibility, and cost-effectiveness, but it also comes with certain limitations and challenges. Overall, it is important to carefully consider the strengths and weaknesses of the online voting system before implementing it.

### ➤ **Advantages of Online Voting System:**

- 1. Convenience:** Online voting allows voters to cast their ballots from anywhere, eliminating the need to travel to physical polling stations.
- 2. Accessibility:** Online voting provides an opportunity for individuals with disabilities, the elderly, or those residing in remote areas to participate in the electoral process.
- 3. Cost-effectiveness:** Online voting can potentially reduce costs associated with physical polling stations, paper ballots, and staff required for traditional voting methods.
- 4. Speed and efficiency:** Online voting systems can streamline the vote counting process, reducing the time required to announce the results.

### ➤ **Limitations and Challenges of Online Voting System:**

- **Security concerns:** Online voting systems are vulnerable to cyber threats, including hacking, tampering, and data breaches. Ensuring the integrity and confidentiality of votes is a significant challenge.
- **Lack of transparency:** The complexity of online voting systems may make it difficult for voters to fully understand and trust the process, potentially leading to concerns about transparency.
- **Digital divide:** Not all individuals have equal access to the internet or possess the necessary technological skills to participate in online voting. This can result in the exclusion of certain demographics from the electoral process.
- **Authentication and identity verification:** Establishing a robust system for verifying the identity of voters and preventing fraudulent activities is crucial but challenging.
- **Reliability and technical issues:** Online voting systems need to be highly reliable, ensuring that technical glitches, server failures, or other issues do not disrupt the voting process or compromise the results.

Overall, while online voting offers significant potential, it is crucial to address these limitations and challenges effectively to ensure the security,

integrity, and inclusiveness of the electoral process. Thorough testing, regular audits, and continuous improvement of online voting systems are necessary to mitigate risks and build public trust in this technology.

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