A Project Report

on

Ur Info: Online Voting System

Submitted in partial fulfillment of the
requirement for the award of the degree of

Bachelor of Computer Applications

Under The Supervision of
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SCHOOL OF COMPUTING SCIENCE AND ENGINEERING DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING / DEPARTMENT OF COMPUTERAPPLICATION
GALGOTIAS UNIVERSITY, GREATER NOIDA
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SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
GALGOTIAS UNIVERSITY, GREATER NOIDA

CANDIDATE'S DECLARATION

I/We hereby certify that the work which is being presented in the project, entitled **"Ur Info: Online Voting System"** in partial fulfillment of the requirements for the award of the **BACHELOR OF COMPUTER APPLICATION IN COMPUTER SCIENCE AND ENGINEERING** submitted in the School of Computing Science and Engineering of Galgotias University, Greater Noida, is an original work carried out during the period of **JANUARY-2022 To MAY 2022**, under the supervision of **Ms. Nishtha rawat, Assistant Professor**, **Department of Computer Science and Engineering** of School of Computing Science and Engineering , Galgotias University, Greater Noida

The matter presented in the project has not been submitted by me/us for the award of any other degree of this or any other places.

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This is to certify that the above statement made by the candidates is correct to the best of my knowledge.

Supervisor Name

(Ms.Nishtha Rawat, Assistant Professor)

CERTIFICATE

The Final Thesis/Project/ Dissertation Viva-Voce examination of **19SCSE1040128– UJJAWAL KUMAR, 19SCSE1040125–SIDDHARTHA KULSHRESHTHA** has been held on _____ and his/her work is recommended for the award of **BACHELOR OF COMPUTER APPLICATION IN COMPUTER SCIENCE AND ENGINEERING**

Signature of Examiner(s) **Signature of Supervisor(s)**

Signature of Project Coordinator **Signature of Dean**

Date: MAY, 2022

Place: Greater Noida

Abstract

Internet voting systems have gained popularity and have been used for government elections and referendums in the United Kingdom, Estonia and Switzerland as well as municipal elections in Canada and party primary elections in the United States. Voting system can involve transmission of ballots and votes via private computer networks or the Internet. Electronic voting technology can speed the counting of ballots and can provide improved accessibility for disabled voters. The aim of this paper is to people who have citizenship of India and whose age is above 18 years and of any sex can give their vote through online without going to any physical polling station. Election Commission Officer (Election Commission Officer who will verify whether registered user and candidates are authentic or not) to participate in online voting. This online voting system is highly secured, and its design is very simple, ease of use and also reliable. The proposed software is developed and tested to work on Ethernet and allows online voting. It also creates and manages voting and an election detail as all the users must login by user name and password and click on his favorable candidates to register vote. This will increase the voting percentage in India. By applying high security it will reduce false votes

Table of Contents

List of Table

List of Figures

Acronyms

B.Tech.	Bachelor of Technology
M.Tech.	Master of Technology
BCA	Bachelor of Computer Applications
MCA	Master of Computer Applications
B.Sc. (CS)	Bachelor of Science in Computer Science
M.Sc. (CS)	Master of Science in Computer Science
SCSE	School of Computing Science and Engineering
DFD	Data flow diagram
GUI	Graphical user interface
E-R diagram	Entity Relationship Diagram

CHAPTER-1

Introduction

Voting schemes have evolved from counting hands in early days to systems that include paper, punch card, mechanical lever and optical scan machines. Electronic voting systems provide some characteristic different from the traditional voting technique, and also it provides improved features of voting system over traditional voting system such as accuracy, convenience, flexibility, privacy, verifiability and mobility. But it suffers from various drawbacks such as Time consuming, Consumes large volume of paper work, No direct role for the higher officials, Damage of machines due to lack of attention, Mass update doesn't allows users to update and edit many item simultaneously. These drawbacks are overcome by Online Voting System. Online Voting System is a voting system by which any Voter can use his/her voting rights from anywhere in the country. We provide a detailed description of the functional and performance characteristics of online voting system. Voter can cast their votes from anywhere in the country without visiting to voting booths, in highly secured way. That makes voting a fearless of violence and that increases the percentage of voting.

rubber sheet model. Local binary pattern LBP is performed for face images where face image is divided into cells then for each cell an 8-digit binary number is computed which converted to decimal form then histogram is computed over cells, finally all histograms are concatenatedto give feature vector . In the third stage: matching scores from each matcher are arrived, then these scores are normalized by min-max rule to convert scores between 0 and 1 . In the fourth stage: fusion at score level is performed where normalized scores are combined using sum and product rules. The objective of this research is as follow: First designing and implementing monomodal systems for the biometric recognition of fingerprint, iris and face; second designing and implementing a multimodal biometric system of the combined biometrics by fusing the scores that arise from each matcher. Three biometrics are used here to give high degree of discrimination when we have large number of users or population. Third: carrying out intensive tests on the fingerprint, iris and face databases using the proposed schemes to conclude the best of them.

Literature Survey

This software is being developed for use by everyone with a simple and self explanatory GUI. This is software that can be used by people to vote in an election. All the user must do is login and click on his favorable candidates to register his vote. The development and testing is done on Ethernet. While online voting system has been an active area of research in recent years, the use of insecure Internet, well documented cases of incorrect implementations reported recently. These challenges are to be resolved so that public should cast their vote in secure and convenient way. Proposed online voting system is a voting system by which any Voter can use his/her voting rights from anywhere in country. Online voting system contains:

a) Voter's information in database.

b) Voter's Names with ID and password.

c) Voter's vote in a database.

d) Calculation of total number of votes.

Various operational works proposed in the system are: Recording information of the Voter in database.

Mohan Reddy Paluggulla says that, During the 1960s, few could have anticipated the effect that an undesired scholarly system of four centralized computer PCs, living at various colleges and research focuses, would have on the eventual fate of interchanges. This was the forerunner to the present web, which at present has around 2.8 billion clients around the world.Fast web associations are presently being seen as a fundamental item in the worldwide urban just as country showcase, and are treated as a key monetary pointer. This paper presents another innovation and operational show for Information Systems (IS), distributed computing what's more, electronic casting a ballot is presented as a basic component for improving resident joint effort through expanding resident investment in the basic leadership process. Electronic casting a ballot frameworks give some trademark not the same as the customary casting a ballot procedure, and furthermore it gives improved highlights of casting a ballot framework over conventional casting a ballot framework, for example, exactness, accommodation, adaptability, protection, unquestionable status and versatility. However, it experiences different downsides, for example, Time devouring, Consumes extensive volume of pare work, No direct job for the higher authorities, Damage of machines because of absence of consideration, Mass refresh doesn't permits clients to refresh and alter numerous thing at the same time. These downsides are overwhelmed by Online Voting Framework. Cloud use over the

conventional electronic casting a ballot framework will advance into another idea of incorporated approach for casting a ballot framework for better precision and less number of weakness of the votes in the decision.

This paper manages configuration, fabricate and test a web based casting a ballot framework that encourages client (the individual who is qualified for casting a ballot), competitor (Candidate are the clients who are going to remain in decisions for their particular gathering), Election Commission Officer (Election Commission Officer who will check whether enrolled client and hopefuls are credible or not) to partake in web based casting a ballot. This web based casting a ballot framework is very verified, and it's configuration is straightforward, convenience and furthermore dependable. The proposed programming is created and tried to take a shot at Ethernet and permits web based casting a ballot. It additionally makes and oversees casting a ballot and a race detail as every one of the clients must login by client name and secret key and snap on his great contender to enroll vote. This will expand the casting a ballot rate in India. By applying

high security it will diminish false votes, As said by Ankit Anand and Pallavi Divya.

Pankaj Kumar Malviya says that, The E-casting a ballot framework utilizing cloud is presented recently for Indian casting a ballot situation in this paper. The proposed model is more verified for recognizing the voter. All security passwords of voters is endorsed with the fundamental database of E-casting a ballot Commission of India then after Authentication of the voter he/she will ready to cast a ballot to the balloter .In this model voter can cast a ballot from anyplace any voting public of India. The primary concern of this proposed model is to give a security level by level. In this model votes tallying will be done consequently. This framework salvage an enormous time and E-casting a ballot official of India effectively expose the outcome inside a couple that is all.

Distributed computing is utilized for information putting away in circulated condition and these information can be gotten to effectively from anyplace whenever. E Voting can be thought of as Good Governance in India. Current E-Voting framework has a few issues of including votes,fraud in making sham votes and pool of security. In any case, to settle such issues distributed computing offers quantities of chances, yet the advancements of distributed computing advances are still at diaper days organize. In this paper, we speak to the overview of distributed computing, survey of various techniques utilized for cloud

based E-Voting framework over the aadhar- card, SMS and Traditional System. The primary point of this paper is to discover the difficulties looked in current E-Voting framework and protection issues, which are vital part of E- Voting, As mentioned by Ms.Bhargabi Jadav and Ms.Aneri Desai .

Activity before commercial enterprise them. Once printed, the results area unit created available to the general public on your vote web site and anyone are ready to verify the results by downloading a file containing votes and receipt codes, As said by Lauretta O.Osho When the elector submits a ballot, the results square measure encrypted and unbroken anonymous. The elector is issued a receipt and is currently blocked from pick for this election once more. Once vote has concluded the results area unit instantly tabulated. You can read the leads to the Election Manager together with varied reports on vote.

PROJECT DESCRIPTION

Existing System

Remote voting is exercise into two different ways. Proxy voting: The person who is unable to be physically present authorized other person onbehalf of

him Close envelope ballet: In this the person cast is voter, enclosed in an envelope and post to register post. The problem with this system is that not always the ballets are riched in time. The proxy person may exercise other ballet then the one synthesised the person.

Proposed System

In propose system remote and user's can exercise. In the proposed system we can get the result without manually counting. The computerized counting is simple.

Scope of Study

The scope of the work is that it will use the ID and pass- word created by user to register him/her in the voting site, through this all the details of voter are saved in database. And it will act as the main security to the votes system.

Advanced technology:

It is an advanced technology used now a day. It increases the internet knowledge of the users which is very necessary for current generation.

Internet:

It is an online facility and hence very useful for the users. Voters can vote from anywhere at any time in India.

E-Mails:

Election Commission can send the error report to a particular user if he/she entered false information.

Image:

Image is being captured through online and that image is being validated with the image on the database.

Technologies to be used

This project will be a Web application to be developed in PHP having

- Database Design (My SQL)
- Form Design (HTML 4.0)
- Coding (PHP)
- Testing (WAMP SERVER)
- Reporting Tool (Data Report)

OVERALL DESCRIPTION

2.1 Goals of proposed system

1. **Planned approach towards working: -** The working in the organization will be well planned and organized. The data will be stored properly in data stores, which will help in retrieval of information as well as its storage.

2. **Accuracy: -** The level of accuracy in the proposed system will be higher. All operation would be done correctly and it ensures that whatever information is coming from the center is accurate.

3. **Reliability: -** The reliability of the proposed system will be high due to the above stated reasons. The reason for the increased reliability of the system is that now there would be proper storage of information.

4. **No Redundancy: -** In the proposed system utmost care would be that no information is repeated anywhere, in storage or otherwise. This would assure economic use of storage space and consistency in the data stored.

5. **Immediate retrieval of information: -** The main objective of proposed system is to provide for a quick and efficient retrieval of information.

6. **Immediate storage of information: -** In manual system there are many problems to store the largest amount of information.

2.2 Background

ONLINE VOTING SYSTEM is a voting system by which any Voter can use his\her voting rights from any where in India. ONLINE VOTING SYSTEM contains-:

- Voter's information in database.
- Voter's Names with ID.
- Voter's vote in a database.
- Calculation of total number of votes.

Various operational works that are done in the system are:-

- Recording information of the Voter in Voter database.
- Checking of information filled by voter.
- Discard the false information.
- Each information is sent to ELECTION COMMISSION OF INDIA.

This is a system that can be used by user to cast vote in an election. All the voters have to login and click on cast vote to his/her chosen candidates to submit his/her vote. The research development and testing are done on LAN. On other hand online voting software is been in research for many years, researched cases of wrong implementations reported in recent years. These factors are need to be resolved so public can cast their vote in a secured and fitting environment.

2.3 Project Requirements

Hardware Requirements (Processor *RAM Disk Space)*

Pentium II, Pentium III, Pentium IV, Higher 128 Mb or Higher 130 Mb

Software Requirements (Operating *System Database)*

Win-98, Win-XP, Linux, My SQL

2.4 User Characteristics

Every user should be:

- ✓ Comfortable with Internet Browser.
- ✓ He must have brief knowledge of voting system.
- ✓ He must also have basic knowledge of English too.

2.5 Constraints

- ✓ GUI is only in English.
- ✓ Login and password is used for identification of Voter.

2.6 Definitions of problems

• **Not User Friendly:** The existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.

• **Difficulty in report generating:** We require more calculations to generate the final result so it is generated at the end of the session. And the voter not get a single chance to change his\her vote.

• **Time consuming**: Every work is done manually so we cannot generate report in the middle of the session or as per the requirement because it is very time consuming.

2.7 International Status on E-voting System:

This section provides an overview on E-voting experience in various countries. It also proposed the various E-voting systems which are implemented at international level. There are some countries where the E-voting system is implemented are:

- BRAZIL:

In Brazil, the E-voting system was being implemented by the Electoral Court in 1996 when computerized election database was completely introduced. The work done on E-voting project was held by the Aerospace Technical Center (ATC) and the National Institute for Space Research (NISR). The name of first E-voting machine is

CEV known as (Collector of Electronic Votes). These Brazilian machines are used for voter authentication, vote casting and calculation. A paper trail was also included in the system and later eliminated due to technical issues with the printers. After advanced research on the system in 2011, biometrics E-voting machines were introduced and start implementing in elections in 2012.

- INDIA:

E-voting machines are used in India since 2002. The current voting machine consists of two units a Balloting Unit and a Control Unit. The poll administrator handles the control unit and voters cast their vote through balloting unit. This E-voting system did not provide paper trail when it was introduced. In order to re-verify the votes the election management decided to introduce a Voter-Verified Paper Audit Trail (VVPAT) system and was used in 2014 general elections in some constituencies. Alongside remote internet voting is also started to be tested in India in 2011 in Gujarat state.

- UNITED KINGDOM (UK):

U.K started electronic voting projects in 2002; and try out various technologies for voting and counting such as remote voting or touch-screen voting machines etc. They test out various system by allow voters to cast their votes using different electronic methods such as IVR technology (voting over the telephone), PC-based systems and mobile devices via SMS service. They also tested KIOSKS voting (devices placed in public places). Although there are still concerns in many projects of E-voting so they try out more secure implications in their projects and implemented soon the electronic voting.

- UNITED STATES OF AMERICA (USA):

Different types of E-voting systems are in used in America, including optical scan systems, DRE voting machines and punch card voting systems. Since 2012, the E-voting systems in use are: DRE machines and optical scans system. Later on these systems also provided a paper audit trail for a verification purpose. Some states also used internet facility for the vote. In Current election process the

US election site was also hacked. So from overall scenario the US election government still improved their security and verifiability in the election process and also in researched of new projects of electronic voting.

- PHILIPPINES:

In 2010 the Philippines government implemented optical scan voting system. On testing of machines it is found that 76,000 machines have fault memory cards. The machines also have some software faults and give miscounted votes. After discovering problems, many of the machines are replaced by new machines. But at last the election management was successful in conducting fair elections and continue to use this technology in future elections.

- PAKISTAN:

In Pakistan the E-voting system first time implemented by KPK government along with NADRA in some districts and councils of Peshawar in 2015 in local bodies election. This machine can only verify the voter through biometric print and still voting can be done

through ballot papers. Now Election commission of Pakistan is working on two pilot projects one is EVM machine and second is BVM machine and prepared to implement these machines in 2018 general elections in some parts of different provinces.

- ESTONIA:

In Estonia, the company Cybernetica Ltd. was involved in the development of the E-voting system. This system includes the use of electronic signatures and smart cards for casting the vote. They also implemented Internet voting system in 2001 which offers various ways of voter authentication such as ID card number, pin codes, digital ID and mobile number. Remote Internet voting was also implemented and used in national elections in 2005 and onwards, but there are still some securities issues need to be improved.

2.8 Summary:

So according to overall background study, analysis, experience and comparison it is stated that Technology implementation and up-gradation in elections are always challenging and require careful consideration and planning. This study proposed that E-voting provides an opportunity for solving some traditional problems but also introduces new concerns. This study also discusses some typical features and technological solutions of E-voting and provides an overview of the weaknesses and strengths of this technology. At last this technology still need to be improved to enhance the efficiency and usability of the elections.

Election Management System

- Database of precincts and ballot styles
  - Necessary for voting terminal setup
  - Necessary for interpreting and reporting results.
- Prepares ballot logic and ballot layout
  - "vote for any three"
- Database of election results
  - Precinct results
  - Cast vote records (electronic ballots)
  - Event logs
- Report generation
  - County-wide summary
  - Precinct-by precinct summary
  - Turnout, blank ballots, undervotes
  - Ballot image reports
  - Event log reports

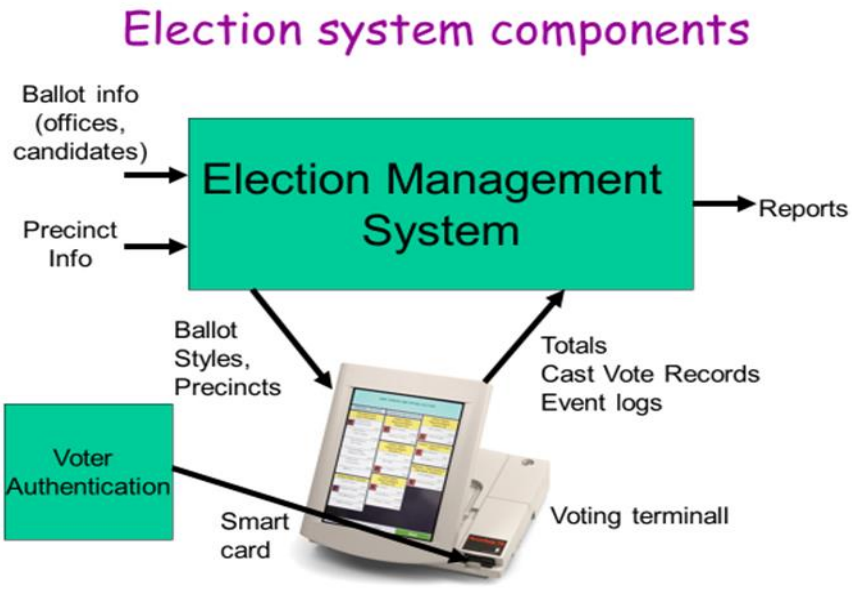


FIGURE 1- ELECTION MANAGEMENT SYSTEM

FEASIBILITY STUDY

Depending on the results of the initial investigation the survey is now expanded to a more detailed feasibility study. "***FEASIBILITY STUDY***" is a test of system proposal according to its workability, impact of the organization, ability to meet needs and effective use of the resources. It focuses on these major questions:

1. What are the user's demonstrable needs and how does a candidate system meet them?
2. What resources are available for given candidate system?
3. What are the likely impacts of the candidate system on the organization?
4. Whether it is worth to solve the problem?

During feasibility analysis for this project, following primary areas of interest are to be considered. Investigation and generating ideas about a new system does this.

Steps in feasibility analysis

Eight steps involved in the feasibility analysis are:

- Form a project team and appoint a project leader.
- Prepare system flowcharts.
- Enumerate potential proposed system.
- Define and identify characteristics of proposed system.

- Determine and evaluate performance and cost effective of each proposed system.
- Weight system performance and cost data.
- Select the best-proposed system.
- Prepare and report final project directive to management.

3.1 Technical feasibility

A study of resource availability that may affect the ability to achieve an acceptable system. This evaluation determines whether the technology needed for the proposed system is available or not.

- Can the work for the project be done with current equipment existing software technology & available personal?
- Can the system be upgraded if developed?
- If new technology is needed then what can be developed?
- This is concerned with specifying equipment and software that will successfully satisfy the user requirement. The technical needs of the system may include:

Front-end and back-end selection

An important issue for the development of a project is the selection of suitable front-end and back-end. When we decided to develop the project we went through an extensive study to determine the most suitable

platform that suits the needs of the organization as well as helps in development of the project.

The aspects of our study included the following factors.

Front-end selection:

1. It must have a GUI that assists employees that are not from IT background.
2. Scalability and extensibility.
3. Flexibility.
4. Robustness.
5. According to the organization requirement and the culture.
6. Must provide excellent reporting features with good printing support.
7. Platform independent.
8. Easy to debug and maintain.
9. Event driven programming facility.
10. Front end must support some popular back end like Ms Access.

According to the above stated features we selected PHP as the front-end for

developing our project.

Back-end Selection:

1. Multiple user support.
2. Efficient data handling.
3. Provide inherent features for security.
4. Efficient data retrieval and maintenance.
5. Stored procedures.
6. Popularity.
7. Operating System compatible.
8. Easy to install.
9. Various drivers must be available.
10. Easy to implant with the Front-end.

According to above stated features we selected MY SQL as the backend.

The technical feasibility is frequently the most difficult area encountered at this stage. It is essential that the process of analysis and definition be conducted in parallel with an assessment to technical feasibility. It centers on the existing computer system and to what extent it can support the proposed system.

3.2 Economical feasibility

Economic justification is generally the “Bottom Line” consideration for most systems. Economic justification includes a broad range of concerns that includes cost benefit analysis. In this we weight the cost and the benefits associated with the candidate system and if it suits the basic

purpose of the organization i.e. profit making, the project is making to the analysis and design phase.

The financial and the economic questions during the preliminary investigation are

verified to estimate the following:

- The cost to conduct a full system investigation.
- The cost of hardware and software for the class of application being considered.

. The benefits in the form of reduced cost.

- The proposed system will give the minute information, as a result the

  performance is improved
- This feasibility checks whether the system can be developed with the available funds. The **Online voting system** does not require enormous amount of money to be developed. This can be done economically if planned judicially, so it is economically feasible. The cost of project depends upon the number of man-hours required.

3.3 Operational Feasibility

It is mainly related to human organizations and political aspects. The points to be

considered are:

- What changes will be brought with the system?
- What organization structures are disturbed?

- What new skills will be required? Do the existing staff members have these

  skills? If not, can they be trained in due course of time?

The system is operationally feasible as it very easy for the End users to operate it. It only needs basic information about Windows platform.

3.4 Schedule feasibility

Time evaluation is the most important consideration in the development of project. The time schedule required for the developed of this project is very important since more development time effect machine time, cost and cause delay in the development of other systems.

A reliable **Online voting system** can be developed in the considerable amount of time.

DESIGN

4.1 Software Requirement Specification

4.1.1 Objective:

The main objectives of system for ***Online voting system*** are:

- The objective of **Online voting system** is to help the organization in automating the whole manual processing of the existing system.
- The main objective to develop the system is to make the accurate & efficient decisions in different tasks at different time at different situations. The existing system is manual so members of the unit generally face a lot of embarrassing situations many times. Now they need to automate the whole process so as to make it more easy and accurate.
- System should support multi-user environment.
- System should be fully automated.
- System should provide concrete security features like creating users and assigning privileges to users of the system.

- System should be capable to keep track of all the detailed descriptions of the client and the whole details of services offered by the client organization.
- Various outputs (reports) should be available online any time.
- System should be able to handle extremely large volumes of data (i.e. Large database support)

4.1.2 Scope:-

1. **Advanced technology**- It is an advanced technology used now a days. It increases the E knowledge of the users which is very necessary for current generation.

2. **Internet:** It is an online facility and hence very useful for the users.

   Voters can vote from any where at any time in India.

3. **E-Mails:** ELECTION COMMISION OF INDIA can send the error report to a particular user if he\she entered false information.

4. **E-SMS:** People they have not internet connection they can not check the emails or not have email they can be informed by SMS on their mobile.

Modules of our System

Online voting is a portal through which a voter can cast his vote by registering themselves on the online voting platform. All the information about users is entered in database by which admin can verify the user. There are different tables in database for users, candidates, result, admin. Each voter has to enter his all basic information like name, gender, state, email-id.

This is the first page of the website known as the welcome page. It has all the page options like Home, Polling Dates, Register, Login, about us, Contact us.

Home:

It is the first page of our portal, having all the feature options of the portal. It has a link of other pages such as registration page, login page, admin section, about us, chatbot(support) section. This page also gives brief description of our system about how it works, hence this page gives user the overview of whole system.

Registration:

This is the registration page, where the voter can register themselves. The users have to enter their details which are required by admin

through registration page. All the details registered on the portal are saved in the respective database. The Admin has authority to accept eligible user, otherwise he has right to reject their registration by providing reason of rejection.

User Login:

After registering into the portal, their details are saved to the database and sent to the admin. The user can Login to the portal with his unique USERNAME and PASSWORD generated through registration. There is option for FORGOT PASSWORD, in case user forget his password then user can go with option of forgot password.

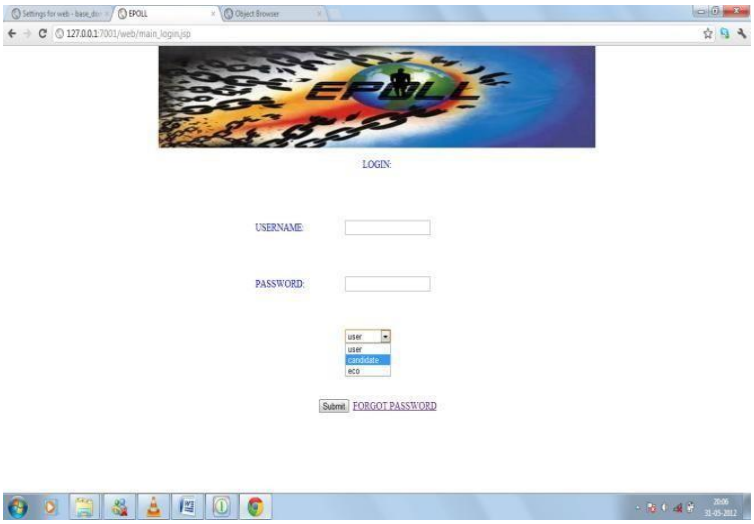


FIGURE 2: LOGIN PAGE

Admin Panel:

From here admin can login to his account and can manage whole voting process by adding new election, generating id for user, verifying the users, generating result and many more. He has the right to generate id for user by verifying the users.

VOTER LIST:

Here we can see the voters list. Every voting demographic will have separate voters

Election:

This a module which gives a list of all ongoing election, this module is accessible only to those users who have been verified by admin. By this module user can cast their vote by selecting a candidate of a particular election.

CANDIDATE LIST:

The rundown of competitors partaking in the race can be seen. It incorporates the competitors name, party name and gathering image.

4.1 Communication interface:

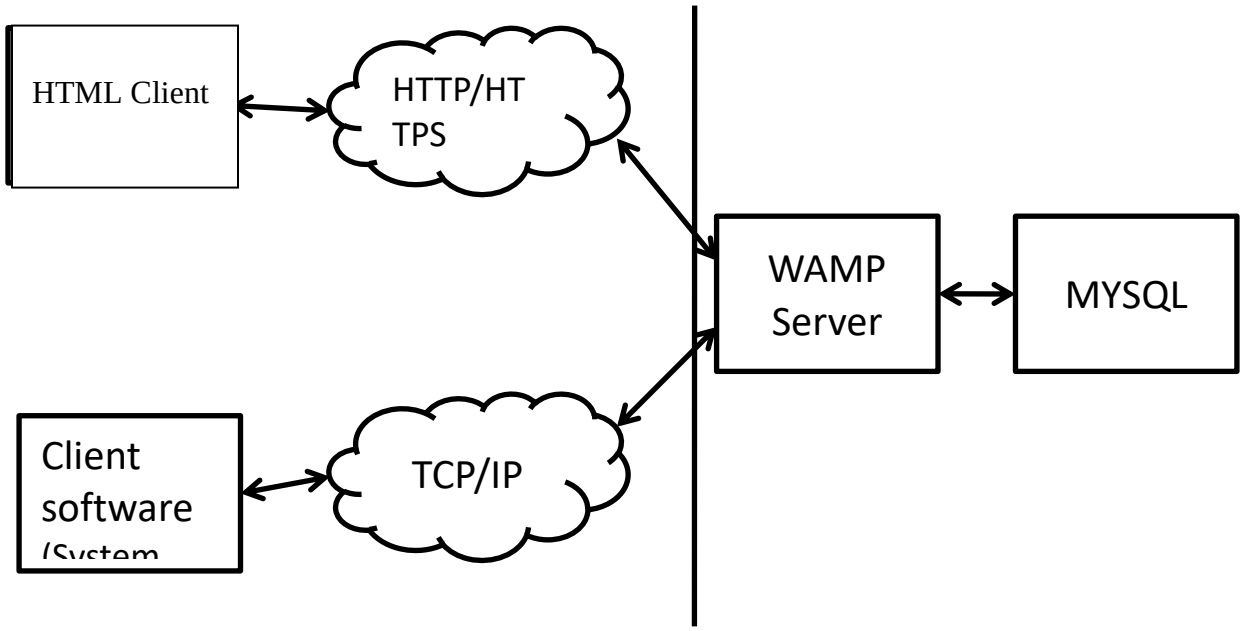


Fig 3 :Communication interface

Client side **Application server** **Database server**

The above diagram shows the connectivity between the client side, application server and database server. The client or customer can access the HTML server or client software. These are connected to the Wamp Server (WAMP) by a TCP/IP which is a communication protocol used to connect the teachers or parents to the internet. This WAMP Server now directly communicates with the database made in MYSQL. All the enquires or data will be retrieved from the database.

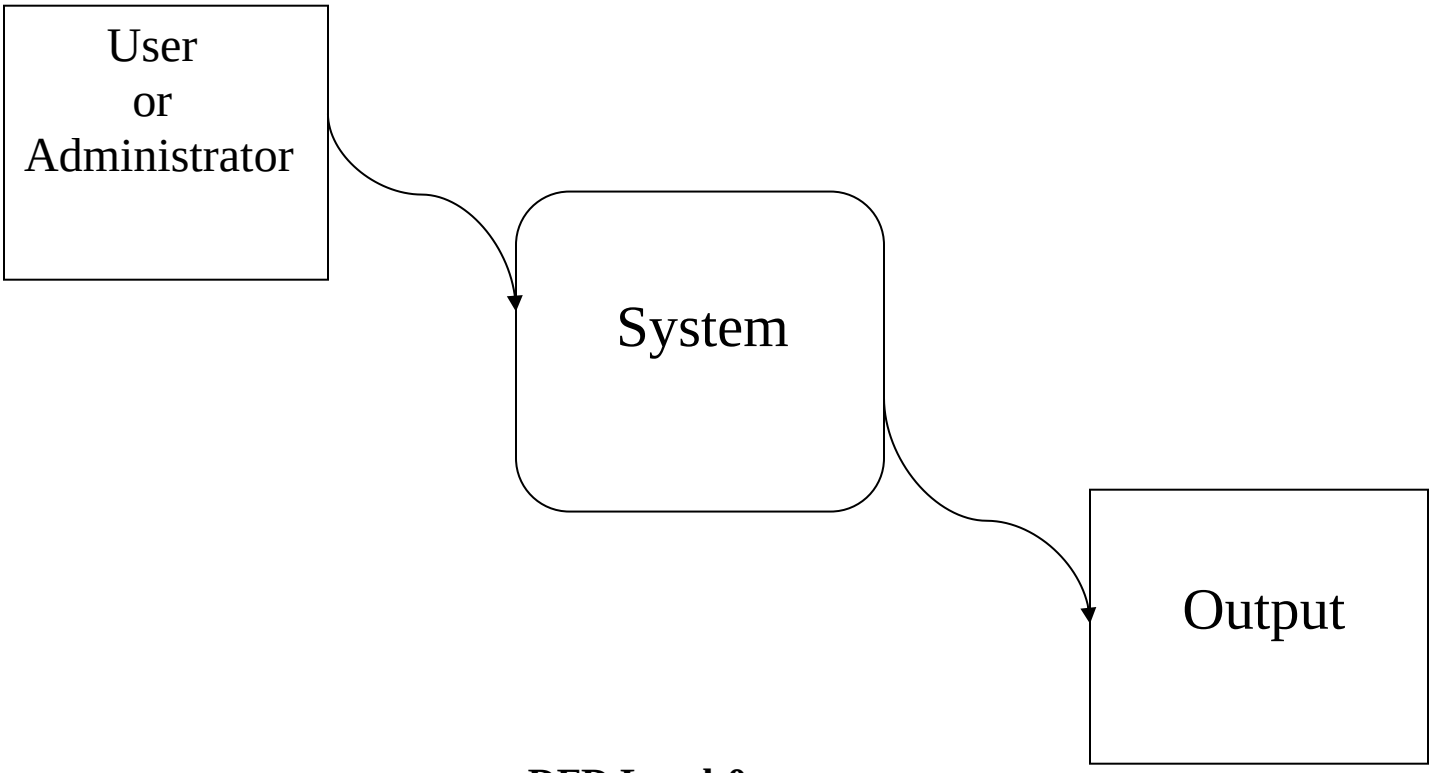
4.1.6 Summary:

“ONLINE VOTING SYSTEM” is an online voting technique. It is based on the other online services like “ONLINE RESERVATION SYSTEM” .In this system people who have citizenship of INDIA and whose age is above 18 years of any sex can give his\her vote online without going to any polling booth. There is a DATABASE which is maintained by the ELECTION COMMISION OF INDIA in which all the names of voter with complete information is stored.

In online voting system a voter can use his\her voting right online without any difficulty. He\She has to fill a registration form to register himself\herself. All the entries is checked by the DATABASE which has already all information about the voter. If all the entries are correct then a USER ID and PASSWORD is given to the voter, by using that ID and PASSWORD he\she can use his\her vote. If conditions are wrong then that entry will be discarded.

4.2 Data Flow Diagram

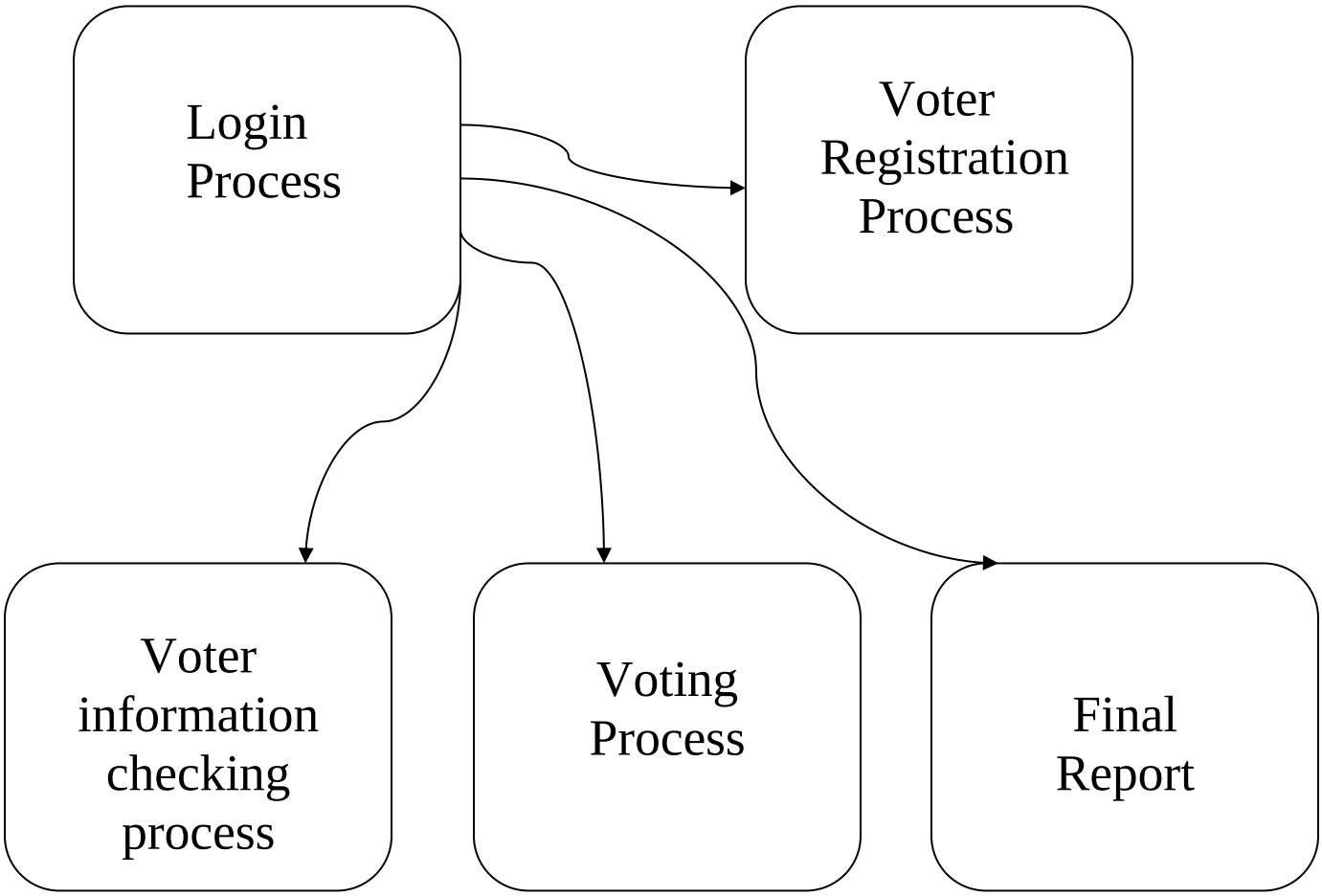
DFD: Level 0



DFD Level-0

The above diagram is a 0-level DFD that only shows the flow of data between the various and the system. In online voting system the Administrator is the controller of the system and all the decisions are made by him. The Administrator can handle the entire voter and their details, voting details etc. and view details of them and he can update that detail also.

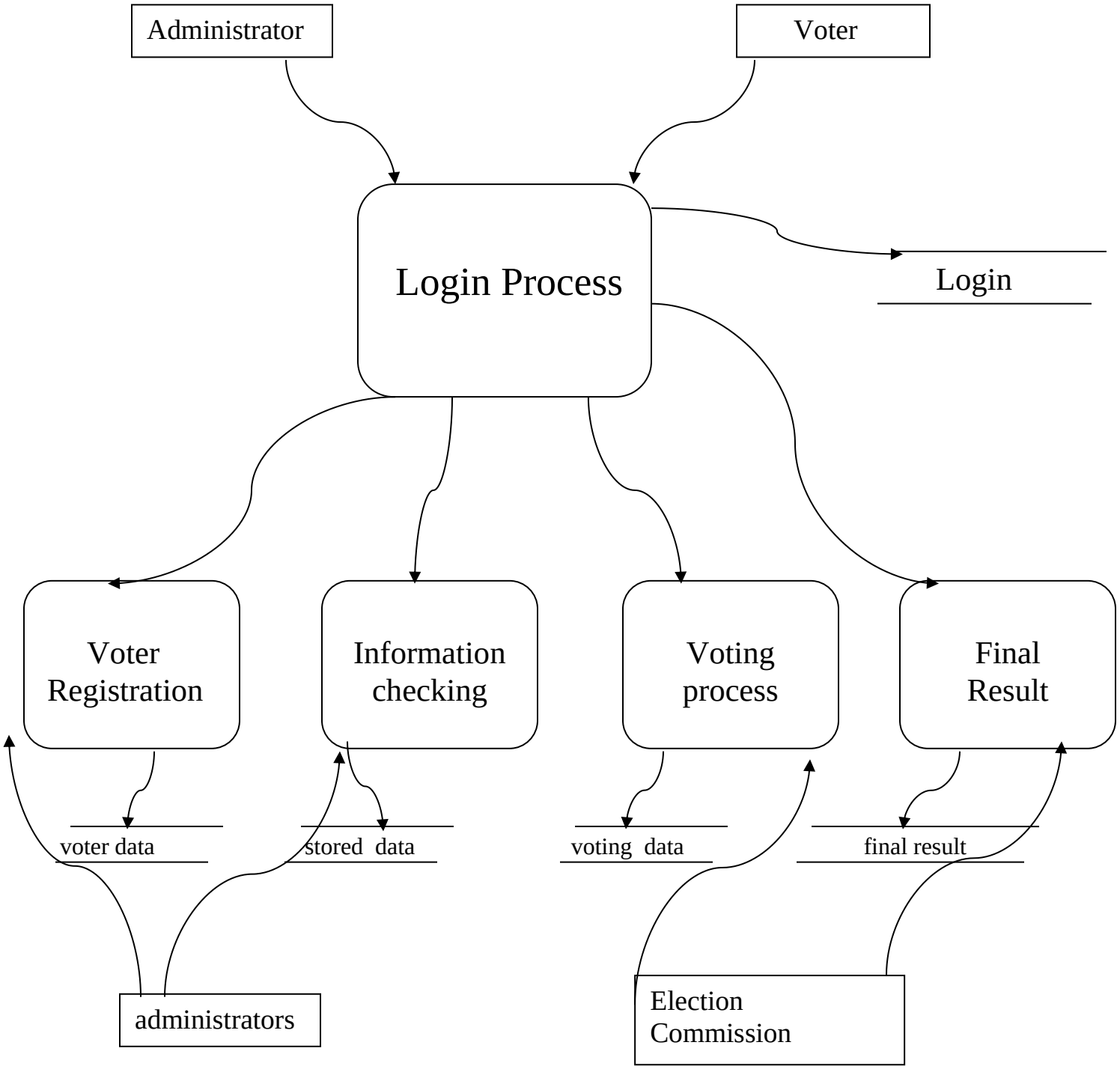
DFD: Level 1



DFD Level 1

The above shown diagram is a 1-level Data Flow Diagram for the Online voting system. According to this DFD various process are done after login process. The Administrator can register voter. The ELECTION COMMISION can register the voters and voter can use.

DFD: Level 2


Administrator
Voter
Login Process
Login
Voter Registration
Information checking
Voting process
Final Result
voter data
stored data
voting data
final result
administrators
Election Commission

DFD: Level 2.1

The above shown diagram is a 2.1 level Data Flow Diagram for the Online voting system. According to this DFD. The Administrator can register the voter information. Administrator can allow or denies the voter. A voter can give vote if all the information filled by him\her are correct.

CHAPTER-5

SYSTEM MODLING

Entity Relationship Diagram

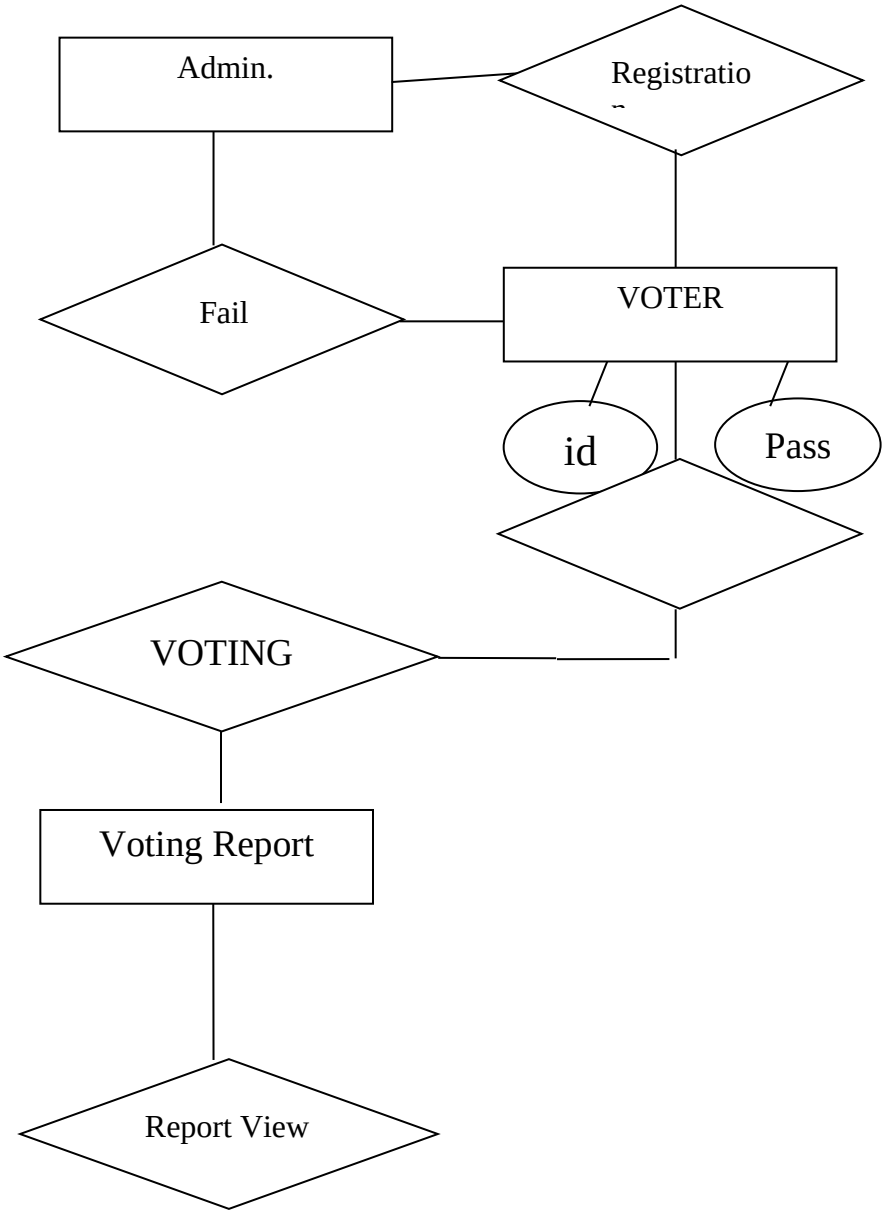


Fig.7- E-R Diagram

The **entity relationship diagram** shows the relationship between the various users and their attributes. There is a relationship between the election commission and voter.

The VOTER has different attributes to store their data to data base are follows:-

1. Name-Name contain first name, middle name, last name.
2. Age (should be above 18 years)
3. City
4. State
5. Father’s/Husband Name
6. Address
7. Phone number (Permanent)
8. Phone number (Mobile)
9. Email address

Class diagram-:

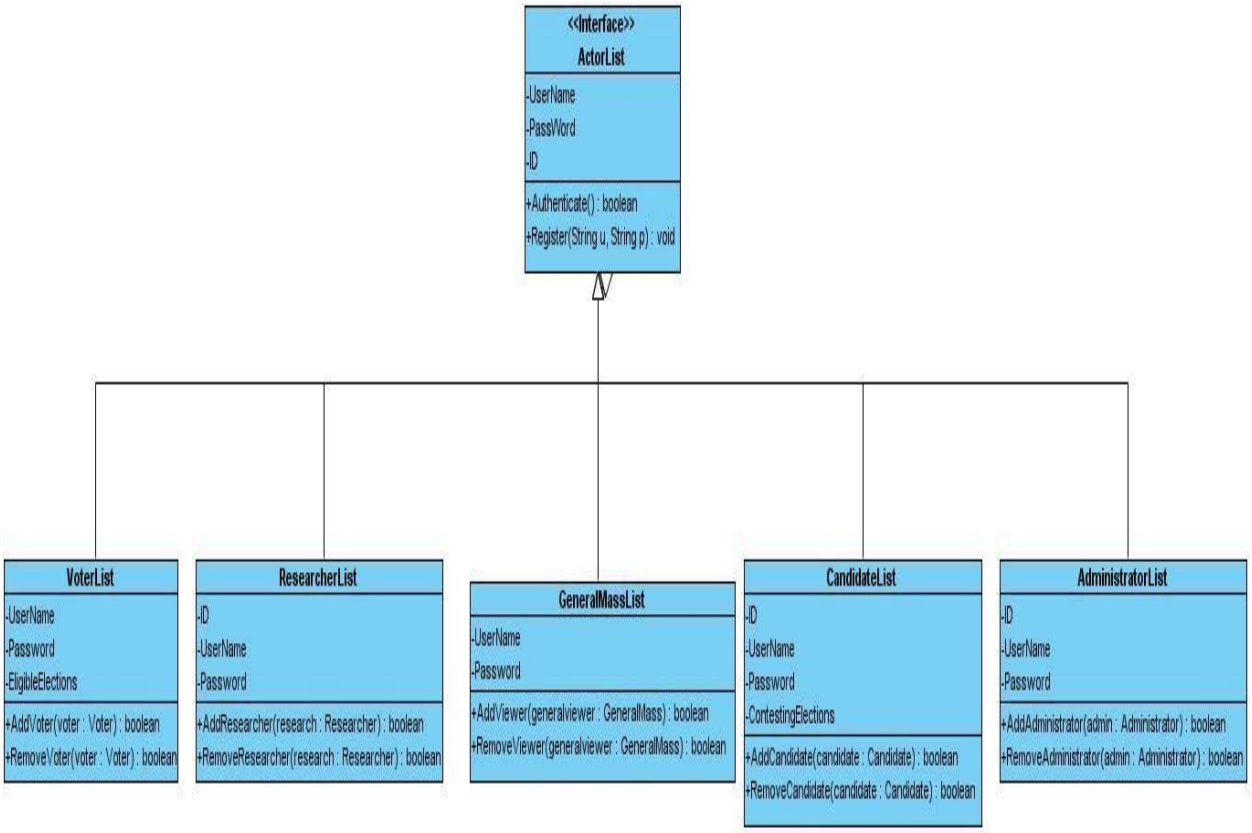


Fig: Relationship between the interface Actor List and its inheriting classes

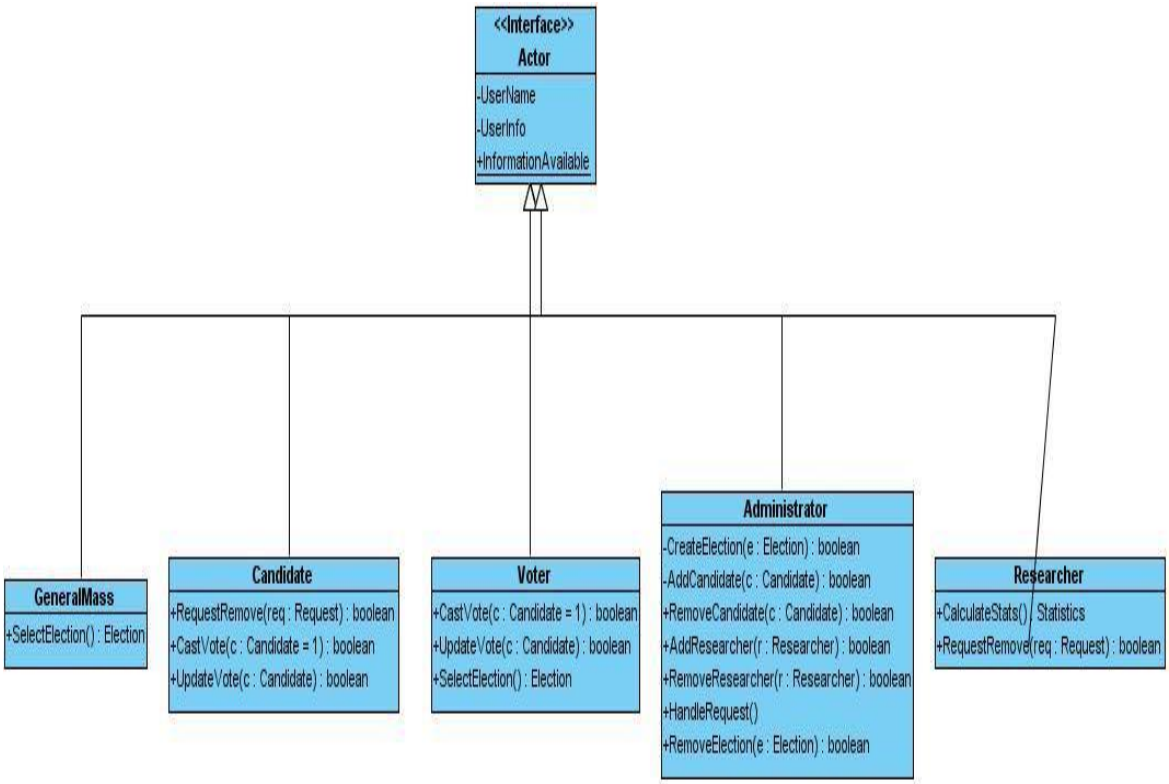


Fig: Association between Actor interface and other inheriting classes
Registration, login, and logoff modules act as mediator.

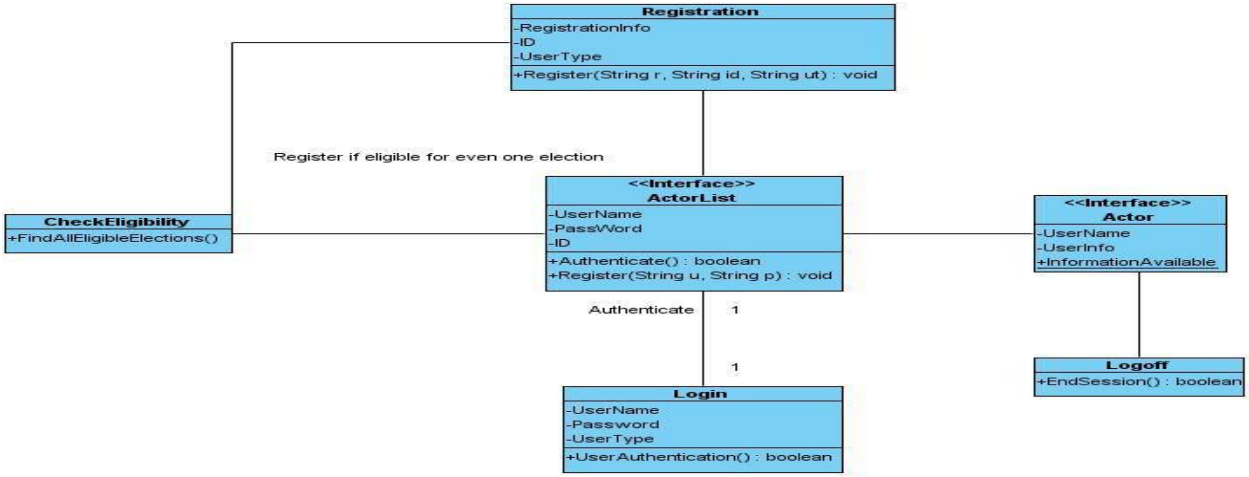


Fig: Association between Registration, Actor List, Login, Logoff

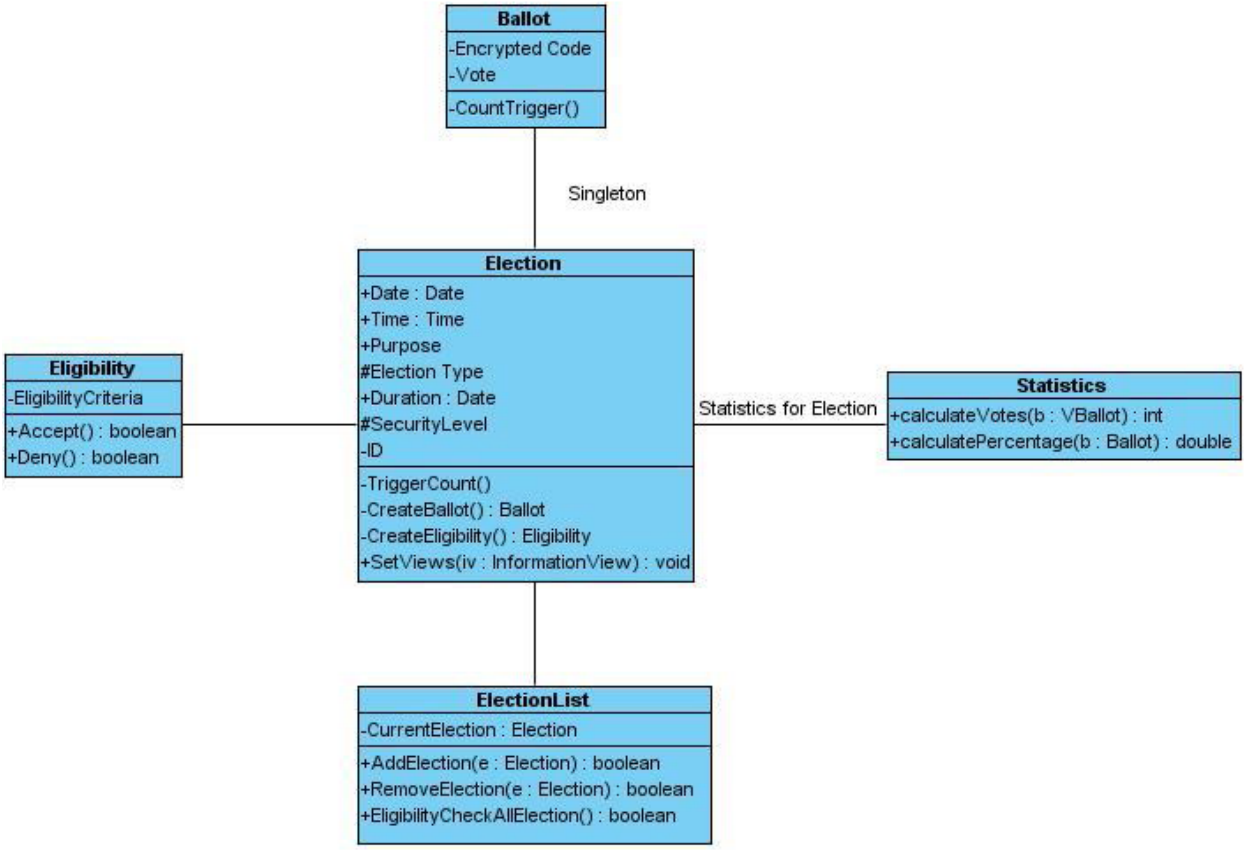


Fig: Association between Election and Ballot (Flyweight, Singleton)

Data Base Tables:-

Admin Table:-

S. No.	Field Name	Data Type	Description
1.	Login id	Varchar	Login id for Admin.(Primary key)
2.	Password	Varchar	Password for Login
3.	Name	Varchar	Name of the Administrator

Voter information Data Table:-

S. No.	Field Name	Data Type	Description
1.	Login id	Varchar	Login id for Voter(Primary key)
2.	Password	Varchar	Password for Login
3.	Name	Varchar	Name of the voter
4.	Father's/Husband name	Varchar	Voter's father or husband name
5.	House no.	Varchar	House no. of voter
6.	Address	Varchar	Address of voter
7.	City	Varchar	City of voter
8.	Mobile	Varchar	Mobile No of voter
9.	E-Mail	Varchar	E-Mail of voter

Chapter 5: Discussion, Conclusion & Future Work

This section describes the conclusion of the work with benefits. It also provides some discussion with some future research extension. Here are some paragraphs which shows over all aspects of the research are as follows:

5.1. Discussion:

It is compulsory to see the errors and benefits of each system, but the most important concern is the correctness of the necessary requirements. In second chapter we examine the different problems of the electronic voting system, and proposed a new idea of E-voting which is offline and based on android application that widely covers to overcome on problems and also increase the rate or speed of the election process. Now instantly the discussion is: Why would an offline system is the better solution for the common issues?

Different countries have already converted from paper voting to computerized voting or Electronic voting. Different measures, techniques and technology were introduced to increase or raise the voter

turnout, and decrease the number of fake and fraud attempts. The proposed offline android based voting system will deliver an error free and secure election system with an effective design. The use of a Tablet device and thumb scanner as a voting machine is a solution for many problems like speed of election process, Ballot paper elimination and counting accuracy etc. In the introduction chapter we discussed that democracy needs people to come and show their determination and in Pakistan only 55% people are casted their votes in 2013. So, the main intension of this research is to overcome on these problems faced by the voter during the elections and proposed a design that would solve these problems.

In the methodology chapter we also discussed that after requirements analysis it is important to explore which system is a solution of traditional election process. According to the survey reports Pakistan has a large number of illiterate people that still didn't know how to read and write their own names. So the main scope of this project is to develop a system which is easy for both the literate and illiterate people in addition

the polling staff also needs to be trained with new E-voting system to help voters in the voting process.

In future we also upgrade our technology to the online voting which helps the voter to vote from any locality, anywhere in the city or even out of the country. This discussion above gives a brief overview of a research which helps the out-field people to easily understand the project.

5.2. Conclusion:

In correlation to the research all of the objectives and goals of the voting areas has been achieved positively. On the research of various voting systems we analyzed the security risk that could harm the integrity and confidentiality of the voting process. The result of our study proposed that the fingerprint is recognized as the popular biometric methods, for that intention the main motive of this research is to developing a secure and efficient fingerprint E-voting system based on android application that contains GUI designed. In these research exercises, we conceive a testing methodology, improved new tools for the security analysis and suggest a new idea of the voting system. This E-voting system has the ability to reduce fraud attempts and

eliminate errors in votes counting. In addition to its scalability this system can handle various techniques and provide enhanced efficiency and reliability for the elections. This fingerprint E-voting system which is based on android application is evaluated and implemented successfully. The final result of the voting system was amazingly computable and significant with other voting system.

5.3. Future Work:

Improvements are necessary to be done in order to make a system more efficient and reliable. So we are planned to move this system to an online Cloud based ERP System. This online system will allow voters to cast their votes by various electronic ways through their mobile phones, home PC's, Net-cafes and Kiosks machines which helps the voter to vote from any locality, anywhere in the city or even out of the country through his secret ID and password. Every system will be connected through internet to the main server which will allow many people to perform voting at the same time.

References:

[1] Okediran O. O.*et al*, "A Framework For A Multifaceted Electronic Voting System," *International Journal of Applied Science and Technology*. , Vol. 1 No.4. , July2011,pp. 135-142.

[2] D.Paul and S.Kumar Ray, "A Preview On Microcontroller Based Electronic VotingMachine," *International Journal of Information and Electronics Engineering*. , Vol. 3 No. 2. , March 2013, pp. 185-190, DOI: 10.7763/IJIEE.2013.V3.295 185.

[3] Alaguvel.R. *et al*, "Biometrics Using Electronic Voting System With Embedded Security," *International Journal of Advanced Research in Computer Engineering & Technology*. , Vol. 2, Issue 3. , March 2013, pp. 1065-1072, ISSN: 2278 – 1323.

[4] Pedro. *et al*, "Remote Electronic Voting Studying And Improving Helios," M.S. thesis, Dept. Informatics Eng., Minho Univ., Braga, Portugal, December 2012.

[5] Rune *et al*, "Electronic Voting Systems," M.S. thesis, Dept. Math. Sci., Norwegian Univ., Trondheim, Norway, October 2006.

[6] M.M. Rahman *et al*, "Electronic Voting System," B.S thesis, Dept. Comput. Eng., BRAC Univ., Dhaka, Bangladesh, Jan 2007.

[7] J.Ritter, "Decentralized E-Voting On Android Devices Using Homomorphic Tallying," M.S. thesis, Dept. Appl. Sci. & Inform. Tech., Bern Univ., Biel, Switzerland, February 2014.

[8] I. Mahmud *et al*, "A Realistic Secure On-Line E-Voting System," *International Journal of Engineering Research and Applications*. , Vol. 2, Issue 5. , October 2012, pp. 425-429, ISSN: 2248-9622.

[9] H.Imad Mohammed, "Fingerprint Base Electronic Voting System," BEng (Hons). Thesis, Dept. Comput. Eng., Asia Pacific Univ., Kuala Lumpur, Malaysia, June 2012, DOI :10.13140/2.1.1108.4481.

[10] Douglas W. Jones, “On Optical Mark-Sense Scanning,” in *Towards Trustworthy Elections*, 1st ed., Iowa Univ., U.S.A: Springer Berlin Heidelberg, 2010, pp. 175-190.

[11] G. B. Shelly and H. J. Rosenblatt, “Systems analysis and design”.in*Requirements Modeling,* Boston, Mass.,U.S.A: Thomson Course Technology, 2010, pp. 142-143. ISBN:0324597665.

[12] Y. Feng*et al*, “An Electronic Voting System Using GSM Mobile Technology,” Dept. Math. Royal Holloway Univ., London, England, Tech. Rep. RHUL–MA–2006–5, June 2006.

[13] B.Arun *et al*, “Online Voting System Using Face Recognition,” B.E Inform. Tech. Thesis, Dept. Inform. Tech. ,SRM Univ., Chennai, India, Apr 2007.

[14] Douglas W. Jones, “Kazakhstan: The Sailau E-voting System,” in *Direct Democracy: Progress and Pitfalls of Election Technology,* Washington D.C, U.S.A: I.E.F.S, Sep 2010, pp. 74-95.

C. González, “The New Belgian E-Voting System,”EVOL2 / eVoting Legal Lab, Spain, rep. DER2010-16741, Jan 2012, pp. 199-211.

P.Wolf*et al*, *Introducing electronic voting: essential considerations*. Stockholm, Sweden: International Institute for Democracy and Electoral Assistance, 2011, ISBN: 978-91-86565-21-3.
V. Pran and P. Merloe, *Monitoring electronic technologies in electoral processes: an NDI guide for political parties and civic organizations*. ,Washington D.C, U.S.A: National Democratic Institute for International Affairs, 2007, ISBN: 978-1-880134-36-8.

C. B. McCormack, *Democracy Rebooted: the Future of Technology in Elections Report*., Washington D.C, U.S.A: Atlantic Council of the United States, 2016, ISBN: 978-1-61977-958-7.

B.Goldsmith and H.Ruthrauff, *Implementing and Overseeing Electronic Voting and Counting Technologies*., Washington D.C, U.S.A: International Foundation for Electoral Systems, N.D.I and United States Agency for International Development, 2013.

Electronic voting– challenges and opportunities, The Norwegian Ministry of Local Governmentand Regional Development, Norway, 2006.