Electronic Voting System

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project titled **"Electronic Voting System: Voting System without corruption,"** submitted by Md. Banozir Ahamed,ID No: 142-15-4084 and Md. Mostafijur Rahman, ID No: 142-15-3640 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree Bachelor of Science (B.Sc) in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 6th May 2018.

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DECLARATION

We hereby declare that,this project has been done by us under the supervision of **Mr. Raja Tariqul Hasan Tusher**, Lecturer, Department of CSE Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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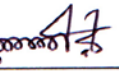

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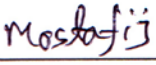

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Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Using the decade old election system to collect votes from the citizens is no longer considered efficient due to the various recurring errors. So, time has arrived that the paper based primordial voting system which has already proven itself an inefficient and slow procedure is changed immediately. The system that is being followed currently, from data collection procedure to counting of the votes is a manual process. Here we are proposing an automated electronic voting system. It starts with automated registration system that will provide the secured database of the voters' information. Voter details will be stored against their finger prints in the main database. The election commission authority is authorized to access the details but they aren't authorized for modifying or changing the details. Modification of the voters' information requires the fingerprint of the particular voter. So, the system will help to minimize the corruption done by others, and hopefully corruption may be diminished at some point of time. In this system Voter will select his/her preferable candidate by providing his or her opinion on a touch screen where all candidates' voting sign is displayed. Four layered network systems will be used here for sending the votes from client to the main database there are three application servers, and a client. Among them one application server will work as dispatcher. The encrypted votes will be sent from the client to the dispatcher through an application server and this layer will send those votes to main database through another application server. They will be counted there automatically which will take lesser time than the manual system. So, the result will be faster, more accurate and reliable.

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CHAPTER 1

Introduction

1.1 Introduction

Electronic Voting System would have Candidate enrollment, report confirmation, auto-produced finger print ID which converted to User ID and go for applicant and Voters. Administrator Login which will be dealt with by Election Commission. Candidate Login which will be taken care of By Candidate, Voters will get Unique ID and Password, using which they can vote in favor of a Candidate just once per Election. The task is helpful for Election Commission, Voters as the can become acquainted with the competitor foundation and pick shrewdly, and notwithstanding for Candidate. The product framework enables the Candidate to login in to their profiles and transfer every one of their subtle elements including their past point of reference onto the framework. The administrator can check every Candidate points of interest and confirm the records, simply subsequent to checking Candidate's Finger ID and Password will be created and can evacuate flawed records. The product framework enables Voters to see a rundown of Candidates in their general vicinity. The administrator has general rights over the framework and can direct and erase any subtle elements not relating to Election Rules.

1.2 Motivation of work:

One of the central point to be dealt with in a voting procedure is verification and approval of voters. Numerous conditions should be checked to guarantee these elements. Real conditions include:

1. Check legitimacy of voter
2. Approve genuine voters to vote
3. Stay away from twofold vote throwing by any person

1.3 Objectives:

- The framework won't enable the voter to vote at least two applicants.
- The framework will enable the client to vote in favor of one time for a specific decision.
- The framework will validate the client through his unique finger impression so the client is extraordinarily distinguished.

1.4 Expected Outcome:

- Fingerprint Based Voting Project is an application where the client is perceived by his finger design.
- The framework enables the voter to vote through his unique mark. Unique mark is utilized to particularly distinguish the client.
- Voter can vote the applicant just once; the framework won't enable the possibility to vote in favor of the second time.
- Once the client has the client id and secret word from the administrator the client can login and vote in favor of the applicant who are assigned.
- The framework will enable the client to vote in favor of one time for a specific race
- Admin can include any number of applicants when the new decision will be declared.
- Admin can see the race come about by utilizing the race id. Indeed, even client can see the decision result.

1.5 Report Layout

Chapter 1: Introduction

In this chapter we have discussed about the introduction, motivation, objectives and expected outcome of the project. Later followed by the report layout.

Chapter 2: Background

We discuss about the background circumstances of our project. We also talk about the related works, comparison to other candidate systems, the scope of the problem and challenges of the project.

Chapter 3: Requirement Specification

This chapter is all about the requirements like business process modeling, the requirement collection and analysis, the use case model of the project and their description, the logical data model and the design requirements.

Chapter 4: Design Specification

In this chapter all the designs of the project. Front-end design, back-end design, interaction design and UX and the implementation requirements

Chapter 5: Implementation and Testing

This chapter contains the implementation of database, front-end designs, interactions, test implementation and the test results of the project.

Chapter 6: Conclusion and Future Scope

We discussed about the conclusion and the scope for further developments which pretty much derive about the project.

CHAPTER 2

Background

2.1 Introduction

For a democratic country public opinion is the most important determinant to establish a government and voting is the process through which people display their opinion and help to setup a democratic government. So, the voting system should be reliable, accurate and it must be transparent.

Let's consider the following points:

- The system that exists currently in Bangladesh is totally paper based and manual that takes lots of time and the government has to bear the financial expenses for this purpose.
- The voters are registered just before the poll so the election commission gets some time in hand for making all the necessary arrangements with in this short period of time. They just add the new voters with the previous voters so that the people who have deceased by this time may be considered as the existing voter if they are not informed. So people may not bestow their faith on the voters list as it contains numerous fake voters.
- Again, the authority itself may be corrupted and can allow some fake voters to participate. If any voter stays abroad or misses the registration processes somehow due to prior obligations or unavoidable circumstances, he or she wouldn't be considered as a voter unless or until s/he informs the authority and in this case most of the time people don't show any interest upon this process.
- Any voter may change his place of residence between two elections and regarding this case if the authority is not informed they are not considered as the voter of that area though he is a voter as per the constitution. Therefore, he misses the opportunity to confer his opinion. Even if he is registered voter of his new locality it is often seen that he is still existing voter of his old area. Thereby he can vote twice which is illegal.
- Sometimes people ruin their votes by stamping on two or more signs mistakenly. This is also a drawback of paper-based voting system.
- While casting the votes the acting officers present in the centers marks a voter with a black ink on his or her nail but it is removable. So, there is a chance for casting illegal votes.

- Again, these votes are counted manually so the process becomes a gradual one which may be inaccurate as well.

All these problems together made people think about inventing a new system that will reduce corruption, increase accuracy and fast paced. The concept of electronic voting system comes from this necessity.

2.2 Related Works

2.2.1 The national committee
Electronic voting system
Tallinn 2005

2.2.1.1 Overview:

The subject of e-voting has been effectively talked about in Estonia on various levels since the start of this century. There exists an opportunity and inspiration to actualize such a venture with the motivation behind offering voters a probability of e-voting at neighborhood government gathering races of 2005, for:

There exists a lawful reason for completing e-voting which is laid out in the accompanying lawful acts:

- Local Government Council Election Act, § 50;
- Riigikogu Election Act, § 44;
- European Parliament Election Act, § 43;
- Referendum Act, § 37.

An open key foundation empowering secure electronic individual confirmation utilizing advanced marks and ID-cards has been made – presently (August 2005) more than 800,000 ID-cards have been issued, implying that the vast majority of the qualified voters are secured.

This review gives a general depiction of the specialized and hierarchical arrangement of the arranged e-voting framework. This record:

- Defines the extent of e-voting, at the end of the day, characterizes the subject with regards to the decision procedure all in all,
- Specifies the framework prerequisites,
- Specifies the taking an interest gathering of the framework and depicts their parts,
- Specifies the engineering of the e-voting framework, the general depiction of usefulness, conventions and calculations,
- Analyses and depicts conceivable security risks and inspects the consistence of the framework to security necessities.

This archive examines to some degree however does not focus on:

- Exact detail of the security level of framework parts,
- Specification of information structures,
- Choice of programming and equipment stages,
- Technical structure of the framework's system – server excess, organize safety efforts to be utilized (firewalls, interruption location frameworks), engineering of system associations.

2.2.1.2 Benefits of Electronic Voting system, Tallinn 2005:

The proposition could keep up the real standard of e-voting; which is of being like general voting framework.

The framework was consistent with the race enactment and standards and was in any event as secure as general voting.

Hence e-voting must be uniform and private, so the national board of trustees could effectively make the framework indistinguishable and furthermore keep up the most elevated amount of security.

The national advisory group guaranteed single vote in favor of a solitary individual by re-voting and considering the keep going given vote on their site. They will again orchestrate conventional arrangement of voting if any individual needs to change his assessment and this vote will get higher inclination than e-vote. The way toward gathering votes was secure, solid and responsible.

2.2.1.3 Limitations of Electronic voting system, Tallinn 2005:

The national leading group of trustees didn't absolutely get away from the standard voting system. Along these lines the system couldn't hack down the cost rather there was an upsurge in the cost as they are coordinating both the e-voting session and the customary voting structure.

The strategy is monotonous as the national board empowers the voters to vote on their page from 6th day to fourth day before the standard study. In this way the methodology takes no under 7 to 8 days to circulate the result.

2.3 Comparative Studies:

Project of Electronic Voting System	**Others Applications**
Online & offline base database	Offline base database
One-time login system.	Login several times.
Finger Print recognized by finger print sensor.	Not Finger Print recognized.
Manufacturing cost low	Manufacturing cost high.
User friendly User Interface	Not much more user friendly

2.4 Scope of the Problem:

Week project plan and respective tasks:

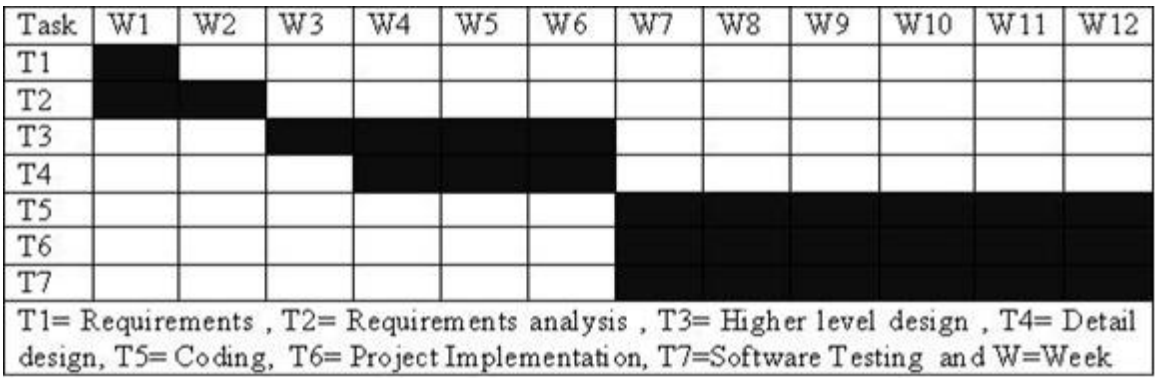

Fig 2.1: Scope of the works

In the above Fig.2.1 is showing the Scope of the works week project plan and respective tasks.

2.5 Challenges

When you need to accomplish something then certainly you need to confront a few difficulties and impediments.

Therefore, our venture has a few difficulties as well.

Initially, we confront some issue while improvement as we are new in this stage. We attempted to actualize it as most ideal as mistake free still we require all the more testing to guarantee it.

Besides, our undertaking is about Finger Print Voting System. So, we safeguard the protection of voters. Additionally, we should must locate the genuine voter who is voted only one time. All those things may challenge for us.

CHAPTER 3

Requirement Specification

3.1 Business Process Modeling

Actually, business process modeling is a technique which is used for representing the process of a system. And the current process may be improved, analyzed and automated. In here we have defined our business model using the Data Flow Diagram. Data Flow Diagram describes how the data is processed in our system. In the following figure we draw a level-1 Data Flow Diagram for our system. Figure 3.1 shows the Data flow diagram of the system.

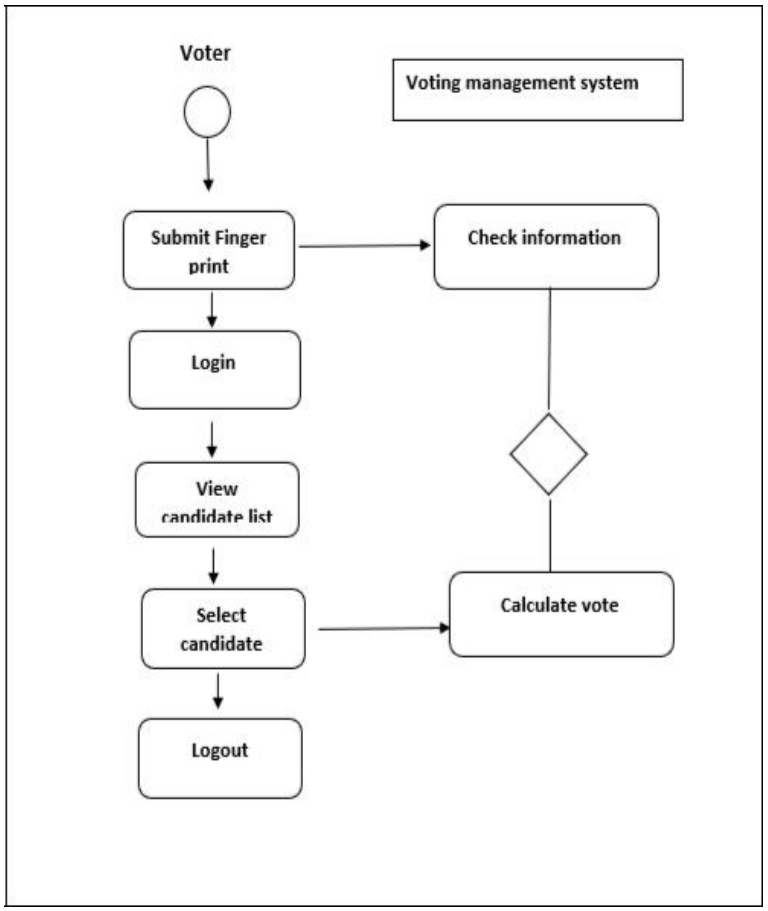

Figure 3.1: Business Process Model

3.2 Waterfall Model:

The Waterfall demonstrate is the primary procedure display in which we can see the linier consecutive life cycle which is appeared in Figure 3.1. is a successive programming advancement process, in which advance is viewed as streaming to downwards and it is less iterative? By thinking about the period of Conception, Initiation, Analysis, Design, Construction, Testing and Maintenance.

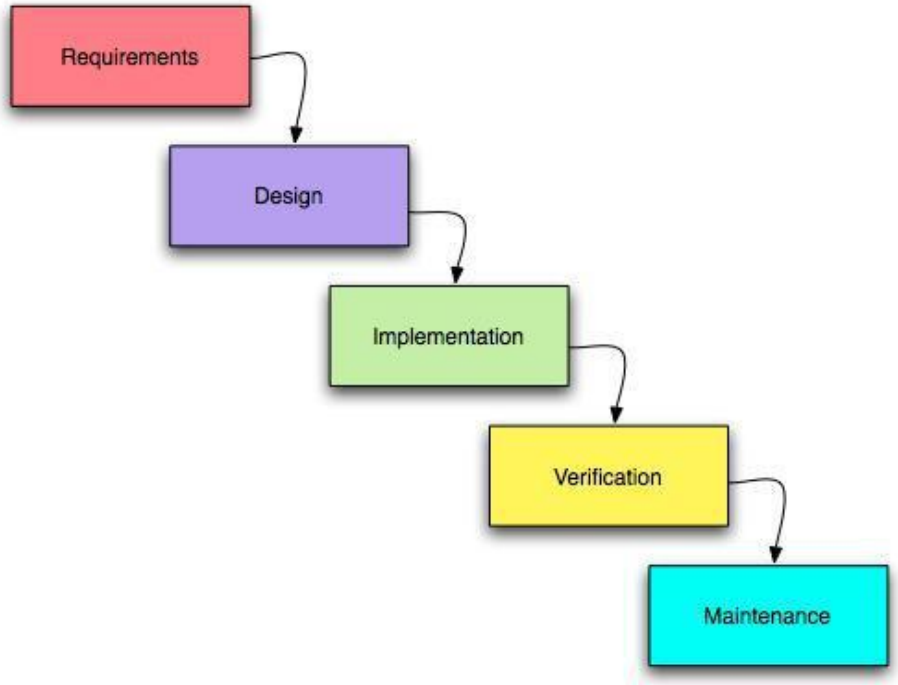

Figure 3.2: Waterfall Model

3.3 Use Case Modeling and Description:

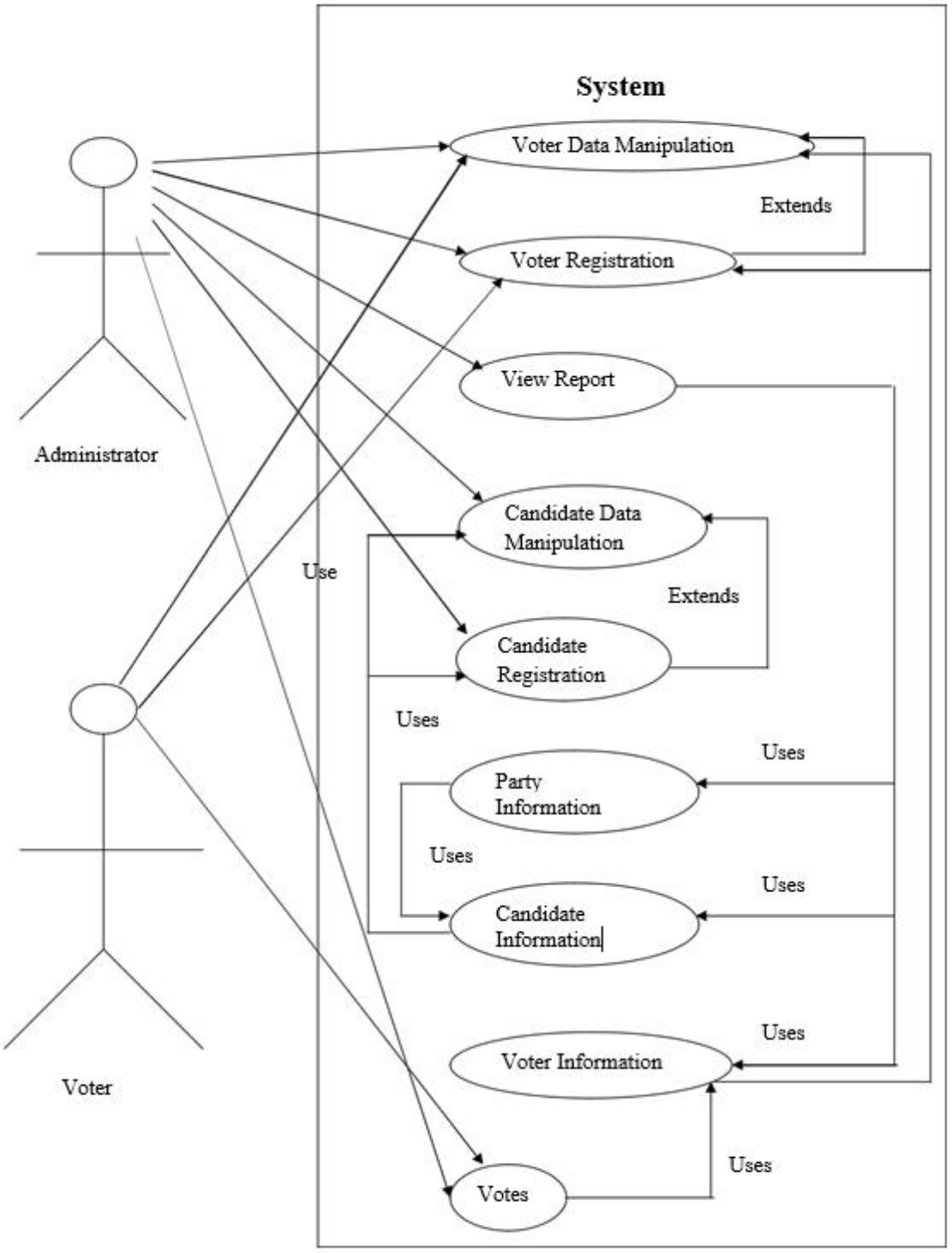

Figure:3.3 Use Case Model

3.3.1 Analysis of Use Case Diagram:

The system proposed here for electronic voting has two dynamic performing specialists. One is the executive and another is the voter.

The administrator has the unique vitality to control the voter unobtrusive components even the cheerful purposes of intrigue. The central commitment of the official is to enrollment of the voters. Head is affirmed to see the inconspicuous components of the cheerful and moreover voters in spite of the way that he isn't endorsed for changing the purposes of enthusiasm without the one of a kind finger impression of the voter or the candidate.
An administrator is allowed to see each one of the reports like contender result, an area result or even political social event result. He is moreover responsible for conveying the result.

Voter is accountable for simply settling on the decision. If there comes any alteration in the voter unpretentious components it is voter's commitment to go to the pro and let them know with the objective that the experts can modify the purposes of enthusiasm taking the fingerprints of that voter.

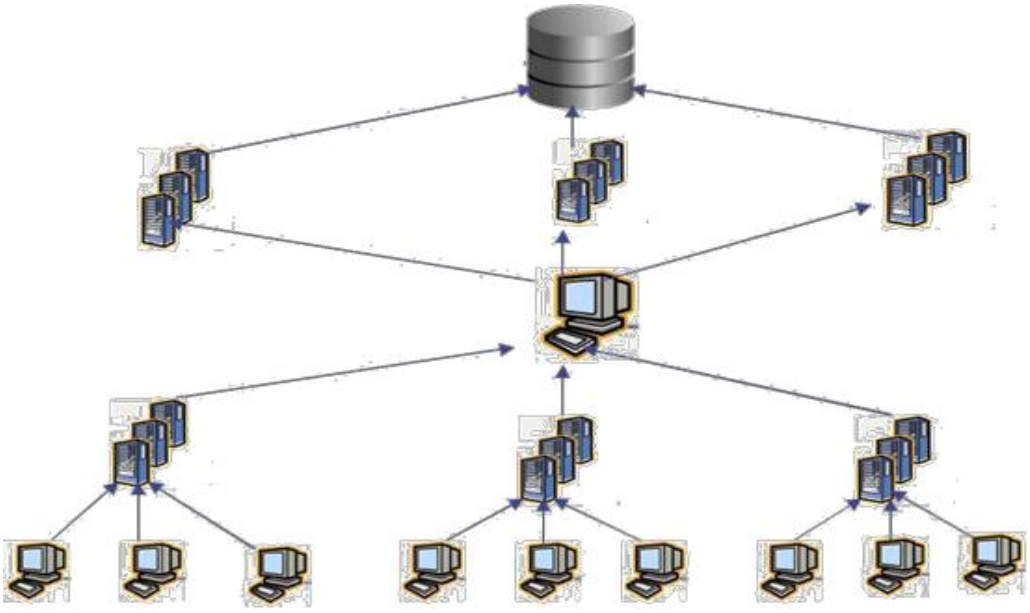

Fig:3.4 Network System Structure

3.3.2 Network System Structure:

A three-layered framework system has been proposed here for utilization of this electronic voting structure. There will be different clients in the most root level that is it may be in Police Station level or sub-district level of a country. In any case, it is critical to have a huge number of clients in the root level.

In the area level there will be a committed application server for those police home office or sub-region clients under that district. These clients together make a cluster. These application servers in this level won't recognize packages from some other gathering under another application server. In the division level there will be some dispatcher for each division. These dispatchers will in like manner be submitted for those districts under that division. There will be a layer of utilization server layer after the dispatcher through which the dispatcher will pass the encoded vote to the guideline database.

Principal database will have a couple of areas for each constitute. The mixed vote will be checked first to see whether the id of the voter is blasted or not. If it is darted then it won't be passed however if it isn't blasted then the vote will be sent to that segment held for that seat.

The client's commitment is to get the exceptional check and the vote and a short time later encode them. A brief timeframe later it will send the package to the application server through radio associated framework. These committed application servers will go them through another radio associated framework to the dispatcher. Up to this radio associated framework is being used as the framework will be secured for simply sending bundles and a radio association organize gives 4 kbps speed which is sufficient thus.

Dispatcher's commitment is to look through the accompanying application server which isn't involved comfortable point. So the more application server the structure would have in this level the speedier it will work. The encoded vote will be passed to that server and after that it will be particularly passed to essential database. Here from dispatcher to the essential database a fiber optic framework will be used as the dispatcher needs to manage a considerable number packages at any given minute so it will require a predominant paced and moreover secured mastermind structure.

3.4 Logical Data Model:

Consistent information demonstrates for the most part speaks to the structure of an area of data. The consistent model likewise mirrors the semantics of the data setting. As a database we utilize localhost. The structure for the localhost is given in Figure 3.5.

Figure 3.5: Logical Model

3.5 Design Requirements:

In the Requirements investigation stage, the initial phase in the check procedure, the prerequisites of the proposed framework are gathered by dissecting the necessities of the client. This stage is worried about setting up what the perfect framework needs to perform. The client prerequisites archive will normally portray the framework's utilitarian, interface, execution, information, security, and so forth necessities not surprisingly by the client. It is utilized by business examiners to convey their comprehension of the framework to the clients. There are distinctive techniques for get-together prerequisites of both delicate and hard philosophies including; interviews, polls, archive examination, perception, discard models, utilize cases and status and dynamic perspectives with client.

CHAPTER 4

Design Specification

4.1 Front-end Design

In any application the front-end configuration is the visual piece of an application. By which the client communicates with. In the viewpoint of outlining, Front-end configuration is a standout amongst the most basic sections for the application. It speaks to the presentation layer and client can straightforwardly speak with this.

It is critical to develop a direct and reasonable front-end plan or GUI for the client of an application. In this manner, while building up the application we attempted to keep our outline as straightforward as conceivable with the goal that the client can undoubtedly get to the application. We connect our application front-end configuration as takes after: In figure 4.1 it shows the splash screen of our Web application.

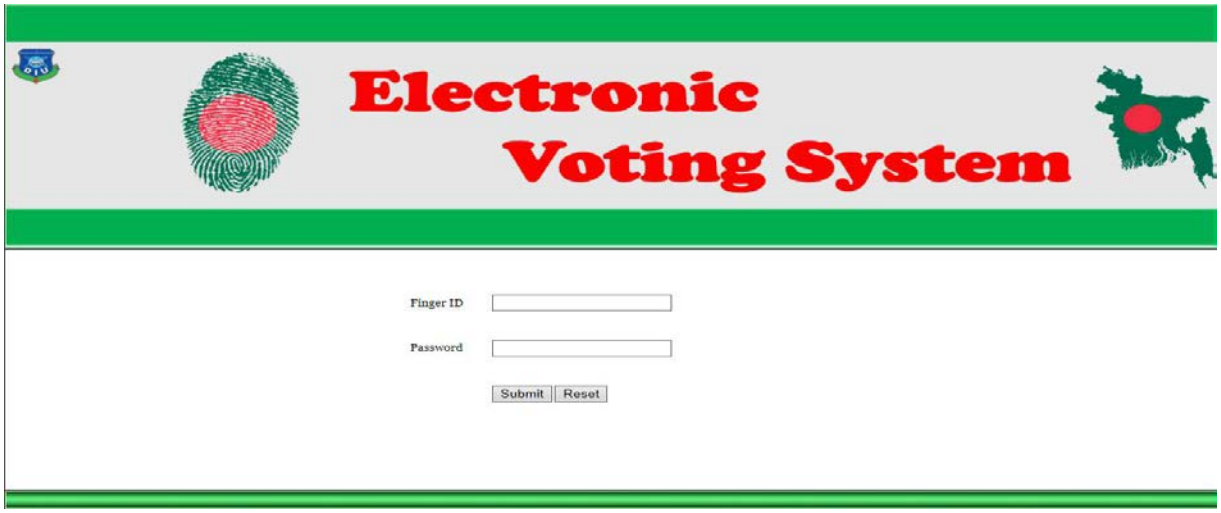

Figure 4.1: Splash UI

In Figure, 4.2 shows the Login screen of our web application. If someone wants to vote, they need to register first the admin registered all voters by using their Name, NID number, Finger ID number, Password and Photo.

Figure 4.2: Registration Activity

In Figure, 4.3 shows our login window that contains two mandatory fields one is username and other is password.

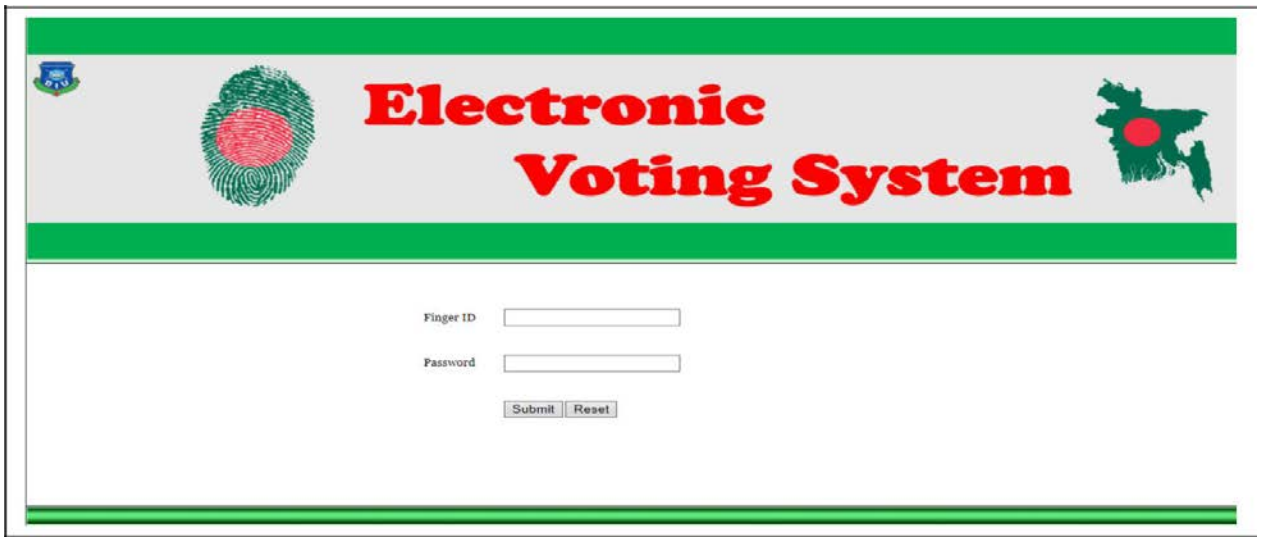

Figure 4.3: Login Activity

In figure 4.4 shows the voting system. Where the voter voted their candidate.

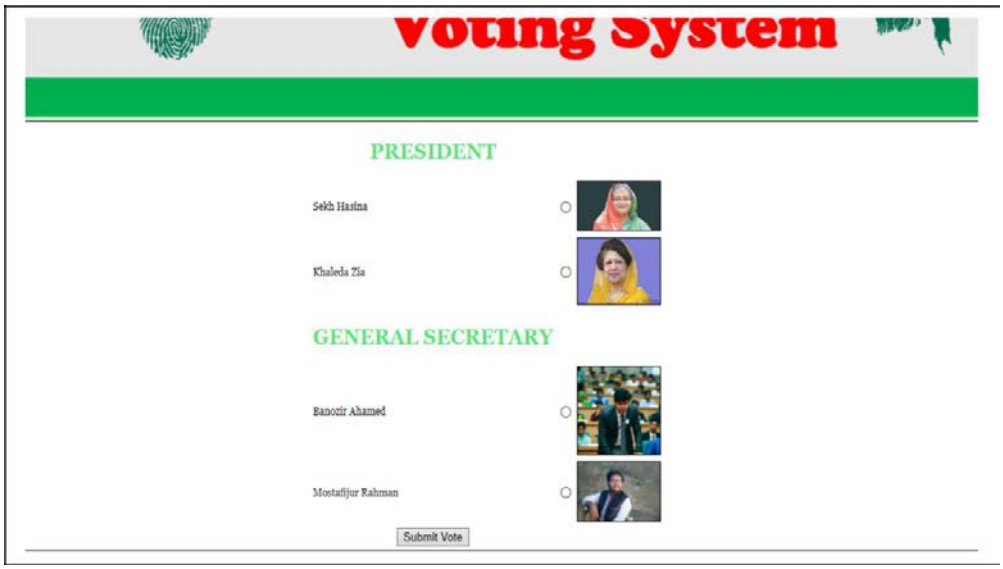

Figure 4.4: Voting system

In Figure, 4.5 shows how to add a candidate post.

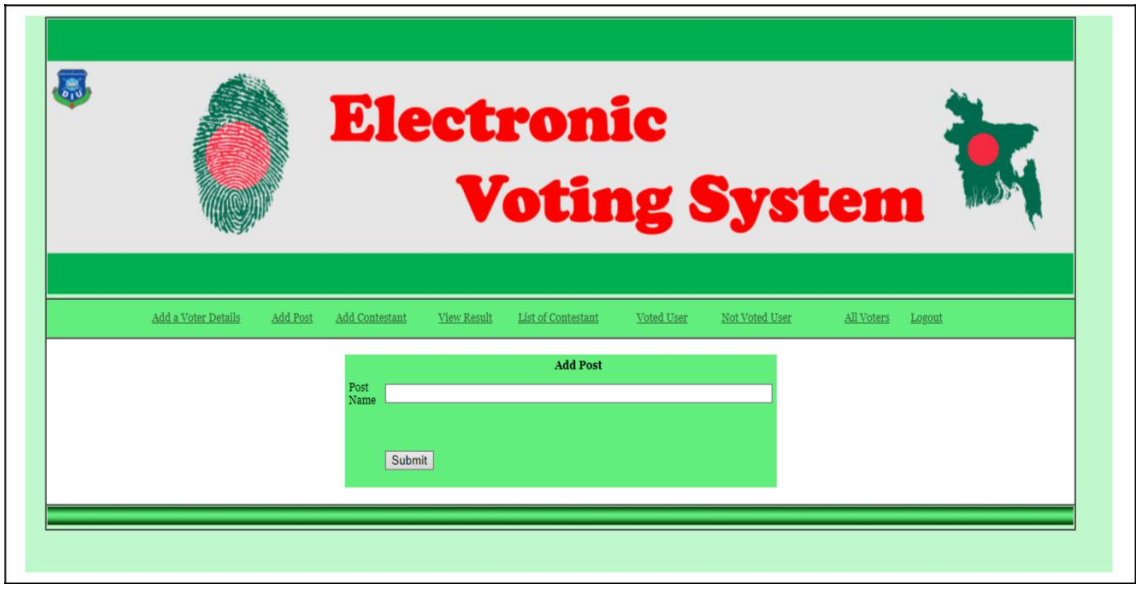

Figure 4.5: Candidate post

In Figure, 4.6 shows the process of how to add a candidate information by using full name, post, nick name and picture.

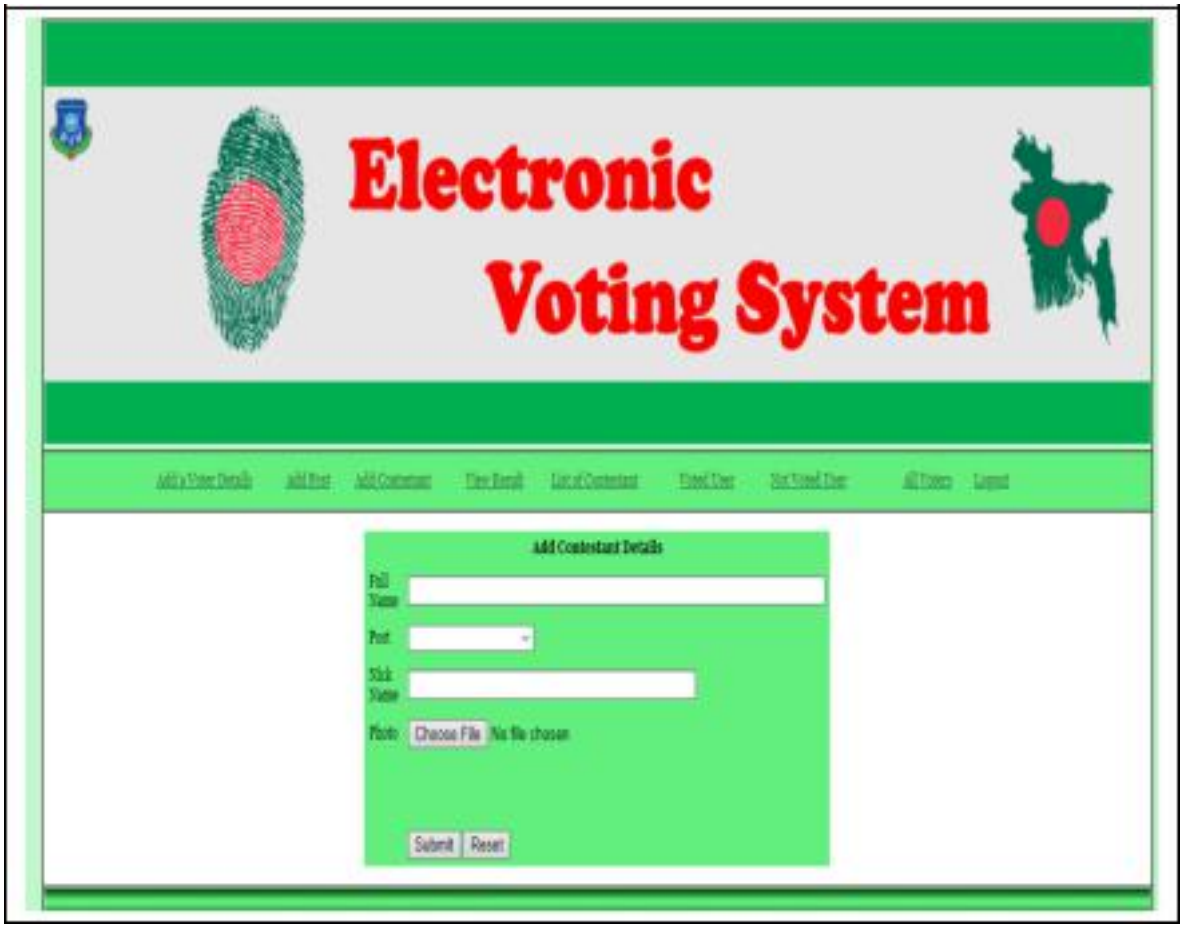

Figure 4.6: Candidate information

In Figure, 4.7 shows total list of candidates with their post.

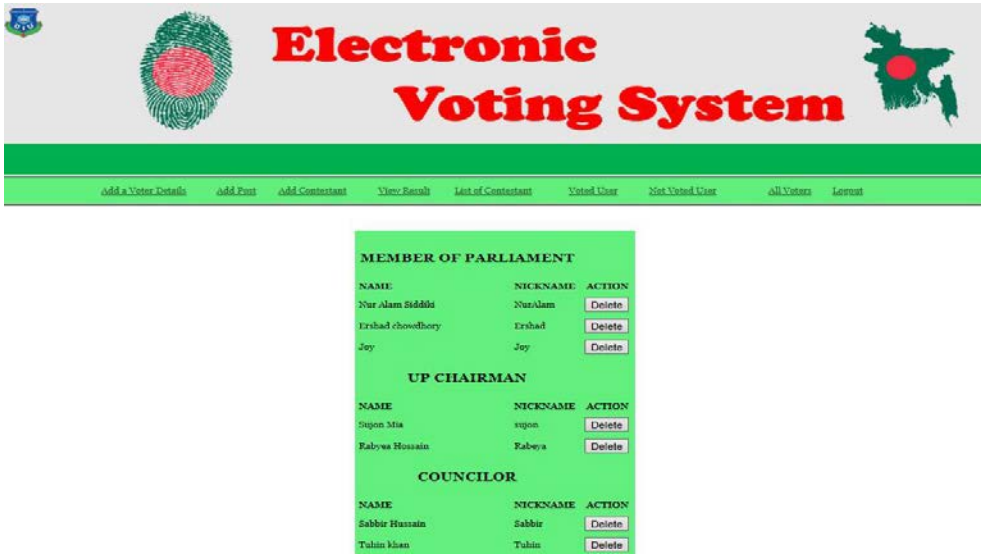

Figure 4.7: List of candidates

In Figure, 4.8 shows the result of election.

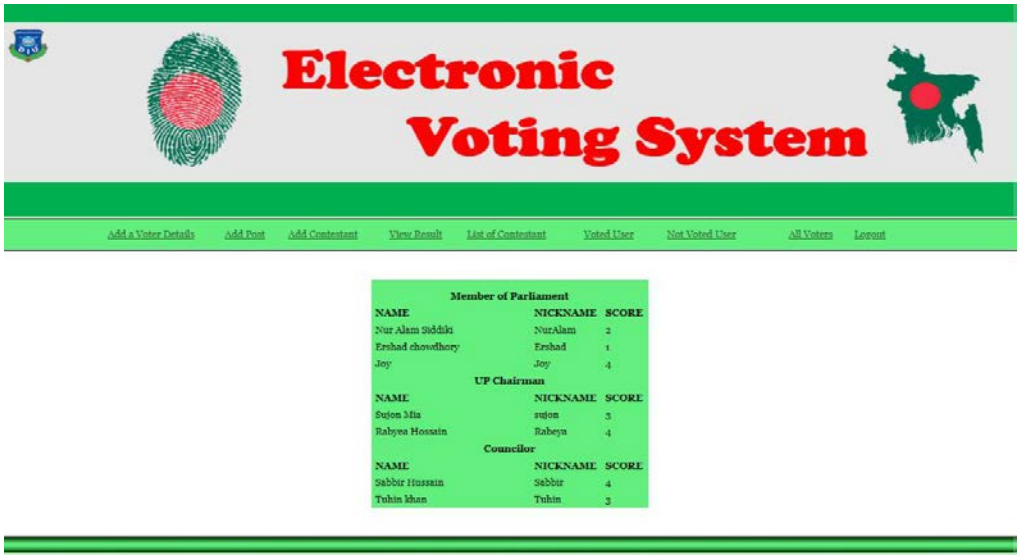

Figure 4.8: Result

In Figure, 4.9 shows the voted voter whose are voted in the election.

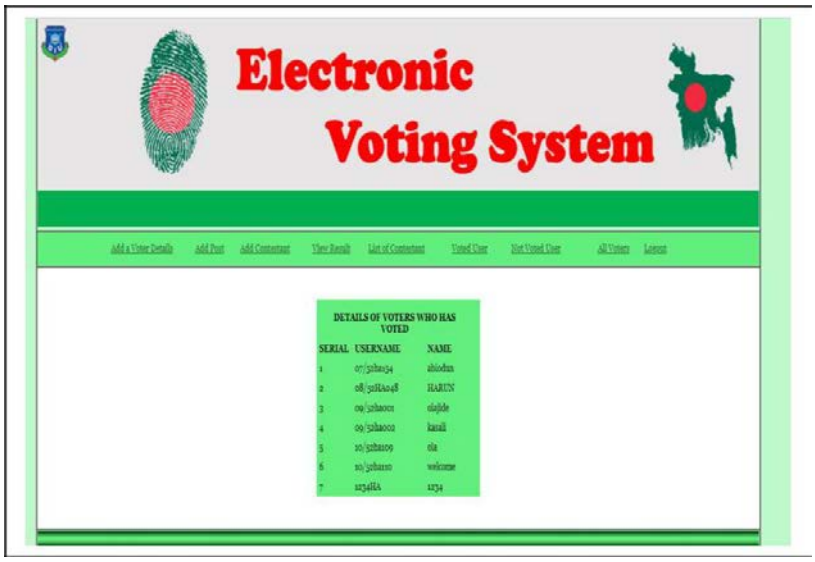

Figure 4.9: Voted user

In Figure, 4.10 shows the not voted voter. Whose are not voted in the election.

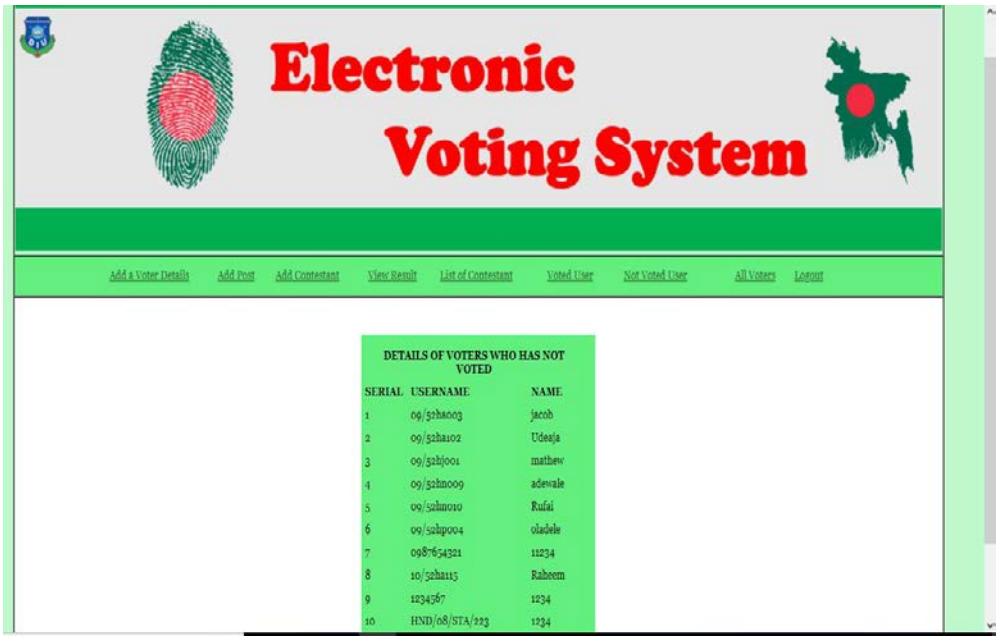

Figure 4.10: Not voted user

In Figure, 4.11 shows all the voters whose are register in the system.

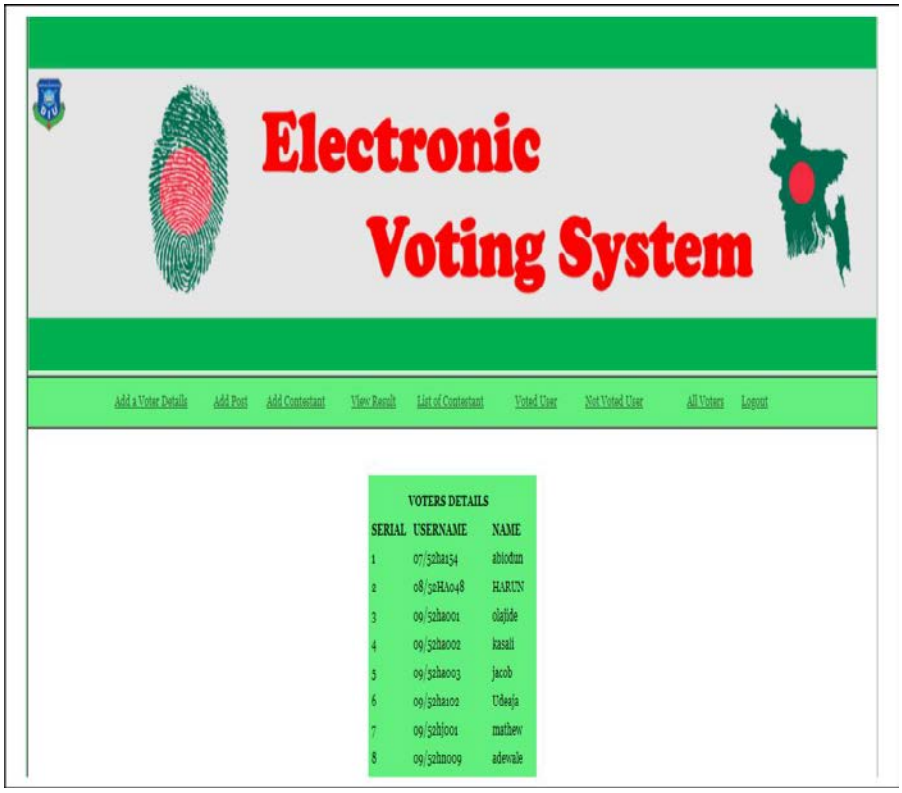

Figure 4.11: All voters

4.2 Back-end Design:

The Back-end configuration is the part that working behind of the venture. The client can't see or informing or the back-end part. There is just a single way client can communicate with the application by front-in plan. What's more, the client can't see the back-end plan and how this part is functioning. In each application back-end does nearly everything that occurs on the server of the application.

To creating and keeping up the back-end segment we utilize SQL on our web application. Our application's back-end configuration as takes after:

Figure 4.12 shows the authorized user table in SQL database. It contains the user data who are register into our process.

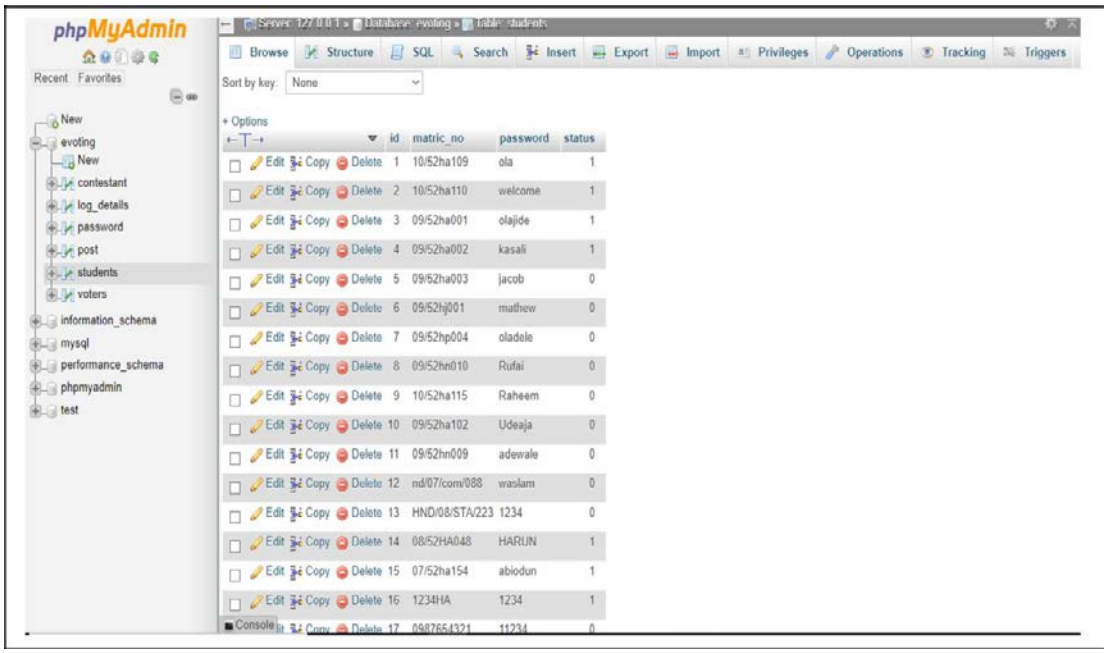

Figure 4.12: User Table

Figure 4.13 shows full SQL database of the web app which contains all law agencies and user login and registration information.

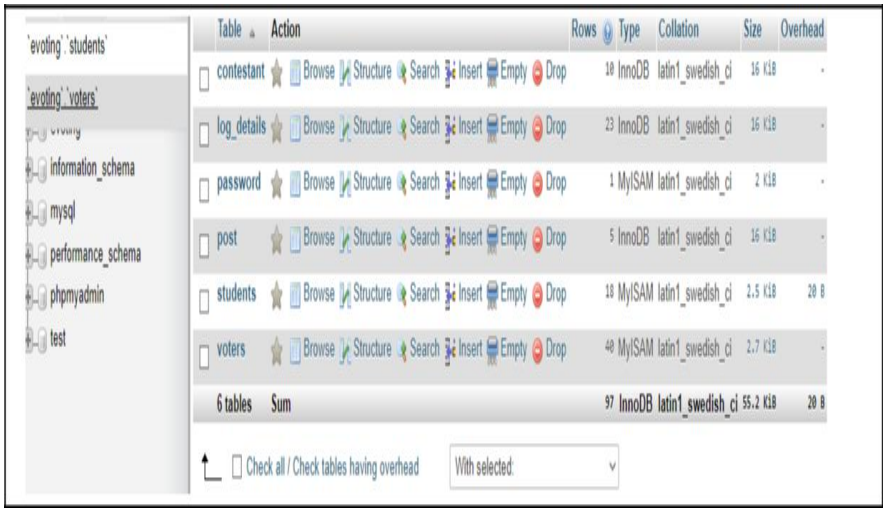

Figure 4.13: Full SQL Database.

Figure 4.14 shows the candidate database.

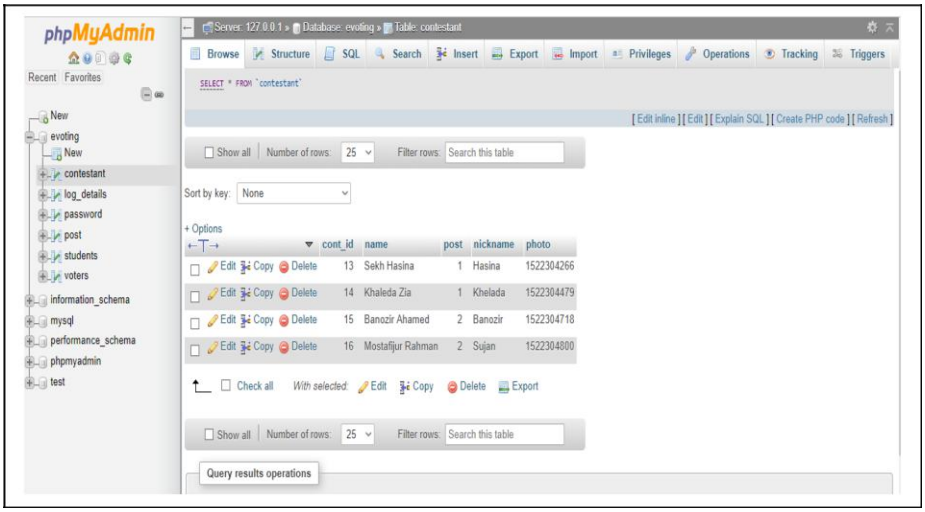

Figure 4.14: Candidate database

4.3 Implementation Requirements:

4.3.1 Human Resources

This project has been finished by two members and our supervisor.

4.3.2 Technologies

To develop our project, we use several types of technologies. This technology is some software's, programming language, some design tools. this technology is such as JavaScript, PHP, JQuery, MVC, MySQL and Testing Tools.

4.3.2.1 JavaScript

JavaScript is a standout amongst the most basic, adaptable and viable dialects used to broaden usefulness in sites. Utilizations run from on screen visual impacts to handling and ascertaining information on pages effortlessly and in addition stretched out usefulness to sites utilizing outsider contents among a few other helpful highlights.

4.3.2.1.2 Validation with JavaScript:

JavaScript can be utilized to approve information - A JavaScript can be utilized to approve shape information before it is submitted to a server. This spares the server from additional preparing JavaScript can be utilized to recognize the guest's program, and - relying upon the program - stack another page particularly intended for that program. JavaScript can be utilized to make treats. A JavaScript can be utilized to store and recover data on the guest's figure.

4.3.2.2 PHP

PHP is a server-side scripting dialect intended for web improvement yet additionally utilized as a universally useful programming dialect is a broadly utilized open source broadly useful scripting dialect that is particularly suited for web advancement and can be inserted into HTML.

PHP code is translated by a web server with a PHP processor module which creates the subsequent page: PHP orders can be implanted specifically into a HTML source record instead of calling an outer document to process information. It has likewise developed to incorporate an order line interface ability and can be utilized as a part of independent graphical applications.

4.3.2.3 JQuery:

JQuery is a coding dialect that is a branch from JavaScript. JQuery works like JavaScript where it's utilized to help with connection and impacts with your improvement code. JQuery is another and energizing innovation that is finding on rapidly and making the web more intuitive and charming. We utilize jQuery in light of the fact that the best highlighting for JQuery is the impacts we can achieve, with less code than what it would take with JavaScript. Most regular JQuery impacts are drop down menus, simplified components, and frame approval.

4.3.2.4 Web apps:

A web application is characterized as a chain of command of registries and records in a standard design. The best level index of your web application progression is additionally the report base of your application. Here, you will put the HTML documents and PHP pages that contain your application's UI. At the point when the framework head conveys your application into a specific server, he or she allocates a setting way to your application.

The accompanying substance in application's "archive root" index:

*.html, *.php, and so on - The HTML and php pages, alongside different records that must be noticeable to the customer program, (for example, JavaScript, template documents, and pictures) for our application. In bigger applications we may partition these documents into a subdirectory chain of importance, however for littler applications, it is for the most part substantially easier to keep up just a solitary registry for these records.

4.3.2.5 MVC:

Model– View– Controller (MVC) is an outline design for client confronting programming that isolates the portrayal of data from the client's cooperation with it. The model comprises of utilization information and business rules, and the controller intervenes input, changing over it to orders for the model or view. A view can be any yield portrayal of information, for example, a graph or an outline. Various perspectives of similar information are conceivable, for example, a pie outline for administration and a forbidden view for bookkeepers. The focal thought behind MVC is code reusability and detachment of concerns.

4.3.2 .6 MYSQL:

MySQL is fundamentally a RDBMS and boats with no GUI apparatuses to regulate MySQL databases or oversee information contained inside the databases. Clients may utilize the included order line devices or utilize MySQL "front-closes", work area programming and web applications that make and oversee MySQL databases, construct database structures, move down information, examine status, and work with information records. The official arrangement of MySQL front-end instruments, MySQL Workbench is effectively created by Oracle, and is uninhibitedly accessible for utilize.

We might want to utilize the MySQL to make database for our venture. We know MySQL is the backend database. So, we imagine that MySQL database framework is more secured for our task.

4.3.2.7 HTML:

The meaning of HTML is Hypertext Markup Language.

• Hypertext is the technique by which you move around on the web — by tapping on uncommon content called hyperlinks which convey us to the following page. The way that it is hyper just means it isn't direct.

• Markup is the thing that HTML labels do to the content inside them. They check it as a specific kind of content.

• HTML is a Language, as it has code-words and grammar like some other dialect.

The reason for a web program is to peruse HTML records and form them into noticeable or discernable website pages. The program does not show the HTML labels, but rather utilizes the labels to translate the substance of the page.

HTML components frame the building pieces of all sites. HTML enables pictures and questions be installed and can be utilized to make intuitive structures. It gives a way to make organized archives by meaning auxiliary semantics for content, for example, headings, passages, records, connections, cites and different things. It can implant contents in dialects, for example, JavaScript which influence the conduct of HTML Web Pages.

4.3.2.8 HTML and CSS:

Web programs can likewise allude to Cascading Style Sheets (CSS) to characterize the appearance and format of content and other material. Both of the HTML and the CSS models, energizes the utilization of CSS over unequivocal presentational HTML markup.

1.7 Components of Online Voting Management System

- A database
- Website
- Security system

4.3.2.9 Database:

I am will utilize MySQL in light of the fact that it is described as a free, quick, dependable open source connection database. It lacks some refinement and offices, yet it has a dynamic improvement group and, as it goes from discharge to discharge, more capacities are included. I pick this database in light of the fact that,

- Its special stockpiling motor design MySQL execution is high and lightweight.

- Supports expansive number of inserted applications which makes MySQL extremely adaptable.

- Use of Triggers, Stored techniques and perspectives which enables the designer to give a higher profitability.

- Allows exchanges to be moved back, confer and crash recuperation.

- Triggers and cursor.

CHAPTER 5

Implementation and Testing

5.1 Implementation of Database:

Database Server and Administration Tools

The database server enables the framework to store and recover data that will be utilized by the framework. The organization devices enable the database organization to roll out reinforcements or any vital improvements to the site's database. Since one of our destinations is to limit the cost of this framework, we picked MySQL Server for our database needs. MySQL was picked on the grounds that it is a trusted and extremely mainstream open-source database framework that is accessible for nothing out of pocket and accompanies a huge number of helpful organization instruments (MySQL Query Browser, MySQL Administrator and MySQL Instance Manager). These GUI-based apparatuses suit for the normal PC client regarding ease of use.

MySQL Server rendition 5.1.1 together with MySQL GUI Tools form 5.0 RC9a (Windows XP) was utilized for the framework and both are accessible at www.mysql.com.

5.1.1Web Server:

The web server permits any PC with a web or neighborhood association with have a site. It does this by partner a specific organizer on the nearby machine with the PC's IP address (WAN or LAN). When somebody from an alternate PC endeavors to get to the IP address of the facilitating PC utilizing HTTP, they are diverted to picked root envelope indicated in the web server's setup document.

With the end goal of the Online Voting Management framework, we chose to utilize the prominent open-source web server called Apache, which is accessible at http://www.apache.org/.Apache Web Server variant 2.0.59 was picked because of its full similarity with adaptation 5.2.2 of the PHP Server.

Another favorable position of Apache Server is that it is packaged with OpenSSL (v0.9.7j) open-source security bundle. This bundle will enable us to secure our associations when credit buys are made on the site.

5.1.2 PHP Server:

The PHP Server enables the host PC's program to execute PHP code and view PHP site pages. PHP rendition 5.2.2 was utilized for the Online Voting Management framework. Despite the fact that form 6.0 was accessible, this more established rendition of PHP is completely perfect with the variant of the Apache Web Server that was utilized. The PHP Server is accessible at http://www.php.net/.

5.1.3 FTP Server:

The FTP server enables records to be exchanged to the facilitating PC server utilizing the File Transfer Protocol. This should be possible by means of the web, which permits the online business site's documents to the refresh from any area that has a web association. The freeware War FTP Filezilla v3.5.0 was utilized to achieve the errand of setting up a completely practical FTP site. The FTP webpage permitted the advancement and testing of the site to be done from various areas. It additionally enabled records to be downloaded and transferred to and from the server easily. The War FTP Filezilla accompanies a broad security include that guarantees that exclusive approved clients access the site's documents. Confirmation is finished utilizing a username and secret key. The FTP Filezilla is accessible at http://filezilla-project.org.

5.1.4 Apache HTTP Server:

XAMPP is a free and open sourcecross-platformweb server arrangement stack bundle, comprising basically of the Apache HTTP Server, MySQL database, and mediators for contents written in the PHP.XAMPP which is utilized just as an advancement apparatus, to permit web specialists and developers to test their work alone PCs with no entrance to the Internet. To make this as simple as could be allowed, numerous imperative security highlights are incapacitated as a matter of course.

5.2 Implementation of Front-end Design:

5.2.1 JavaScript:

JavaScript is a standout amongst the most straightforward, adaptable and viable dialects used to broaden usefulness in sites. Utilizations run from on screen visual impacts to preparing and ascertaining information on site pages effortlessly and also stretched out usefulness to sites utilizing outsider contents among a few other helpful highlights.

5.2.2 PHP:

PHP is a server-side scripting dialect intended for web advancement yet in addition utilized as a broadly useful programming language. PHP is a broadly utilized open source universally useful scripting dialect that is particularly suited for web improvement and can be installed into HTML.

PHP code is deciphered by a web server with a PHP processor module which creates the subsequent website page: PHP charges can be installed specifically into a HTML source report instead of calling an outside document to process information. It has additionally advanced to incorporate a charge line interface capacity and can be utilized as a part of independent graphical applications.

5.2.3 JQuery:

JQuery is a coding dialect that is a branch from JavaScript. JQuery works like JavaScript where it's utilized to help with connection and impacts with your advancement code. JQuery is another and energizing innovation that is discovering on rapidly and making the web more intelligent and pleasant. We utilize jQuery in light of the fact that the best highlighting for JQuery is the impacts we can achieve, with less code than what it would take with JavaScript. Most normal JQuery impacts are drop down menus, intuitive components, and frame approval.

5.3 Testing Implementation:

5.3.1 Introduction:

Testing is the way toward setting up the current of blunders. The primary point of testing is to discover mistakes. I made a test arrangement to test my framework. I have utilized three sorts of test technique in this undertaking, which is given underneath: -

• Module testing (counting approval test)
• Integration testing
• Acceptance testing

5.3.2 Logging In:

The voter entered the finger print ID ―1020 and password ―123456, which were allotted to the voting site voter when the framework was introduce and arranged. The page invigorated and showed the primary organization site page. This was the normal yield of the experiment.

5.3.3 Website Administration Functions:

The user accessed the website administration page by typing the URL (www.evoting/admin).This took the user to the Login page, where the user was prompted for a user finger ID and a password. This was the expected output of the test case.

5.3.4 Logging off:

The signed in client tapped on the Logoff catch at the highest point of the site. This revived the page and gave the client the Account Logout page, which educated the client that effectively

logged off and that that it was sheltered to leave PC. The client at that point tapped on the login catch ensure that he/she was logged off, the site page revived and gave the Account Login page. This was the normal yield of the experiment.

5.4. Test Results and Reports:

I utilized every one of the three boards allotted for voter, hopeful, and overseer. The task was acted in the nearby host with every single conceivable choice. The testing included utilizing some spurious records and embeddings them to populate the database and to check whether the highlights are delivering comes about appropriately. The testing procedure included:

- Testing for the client enlistment process.
- Testing for the fruitful login process.
- Testing for shape approval.
- Testing for making arrangement plan and reschedule arrangement.
- Testing for settling arrangement.
- Testing for include updates and expels from the framework interface by the clients.
- Testing for sending and accepting notices legitimately.
- Testing for appropriate record age and upkeep.

The undertaking was effectively tried and few bugs were settled. It was found amid the testing that a few highlights would be simpler to execute in some elective way, and their usage strategies were changed.

Security testing includes the testing of Software so as to distinguish any defects promotion holes from security and powerlessness perspective. Following are the primary perspectives which Security testing ought to guarantee:

- Confidentiality.
- Integrity.
- Authentication.
- Availability.
- Authorization.
- Software is secure against known and obscure vulnerabilities.
- Software information is secure

CHAPTER 6

Conclusion and Future Scope

6.1 Conclusion:

Bangladesh is creating nation. This task is exceptionally basic for our creating nation. By this product corporate individuals, ordinary individuals can spare their opportunity and can use their sparing time with other significant work. This improvement forms are extremely incredible commitment for moving into the IT Bangladesh. It should assume extremely incredible parts for socio - monetary advancement process. By unique finger impression voting framework level of voting could be expanded. Significance of the product is rousing for building up this electronic programming instruments. This ought to be awesome player for specialist expert, surveyor and for the most part individual in line for limiting their costs and improving time and cash.

6.2 Limitations:

- Need Fingerprint device to recognized real voter.
- Need to internet connection for open our server.

6.3 Future Scope:

• Integrate and alter it for other framework like school or varsity president decision and so forth.

• In promote renditions we can go for Oracle Database.

• Android and iPhone application can be produced to incorporate with the framework since it is being well known.

• Implementation Interactive voice reaction (IVR) that will enable the framework to collaborate with people utilizing voice and key cushion reaction.

REFERENCES

[1] "Cryptographic Algorithms for Protection of Computer Data During Transmission and Dormant Storage," Federal Register 38, No. 93 (May 15, 1973).

[2] Data Encryption Standard, Federal Information Processing Standard (FIPS) Publication 46, National Bureau of Standards, U.S. Department of Commerce, Washington D.C. (January 1977).

[3] Carl H. Meyer and Stephen M. Matyas, Cryptography: A New Dimension in Computer Data Security, John Wiley & Sons, New York, 1982.

[4] Dorthy Elizabeth Robling Denning, Cryptography and Data Security, Addison-Wesley Publishing Company, Reading, Massachusetts, 1982.

[5] D.W. Davies and W.L. Price, Security for Computer Networks: An Introduction to Data Security in Teleprocessing and Electronics Funds Transfer, Second Edition, John Wiley & Sons, New York, 1984, 1989.

[6] Miles E. Smid and Dennis K. Branstad, "The Data Encryption Standard: Past and Future," in Gustavus J. Simmons, ed., Contemporary Cryptography: The Science of Information Integrity, IEEE Press, 1992.

[7] Douglas R. Stinson, Cryptography: Theory and Practice, CRC Press, Boca Raton, 1995.

APPENDIX

Appendix A: Project Reflection

The reason for this informative supplement is about task reflection. From Spring 2017 semester we began our adventure to make this application. The fundamental element of our application is Finger Print Voting System. Additionally, utilizing our application individuals can undoubtedly vote their competitor and this procedure is extremely protected and secure. Right off the bat, we fabricate a model for our venture then we actualize our undertaking well ordered. After numerous diligent work and investing a considerable measure of energy at last we could achieve our objective.

Appendix B: Related Applications

Table Appendix B: Related applications

SL NO	Name	Feedback
1	The national committee Electronic voting system	-has some major bug. -easy to use it.
2	Online Election System	-need more user friendly feature. -need to add offline version.

Plagiarism Report

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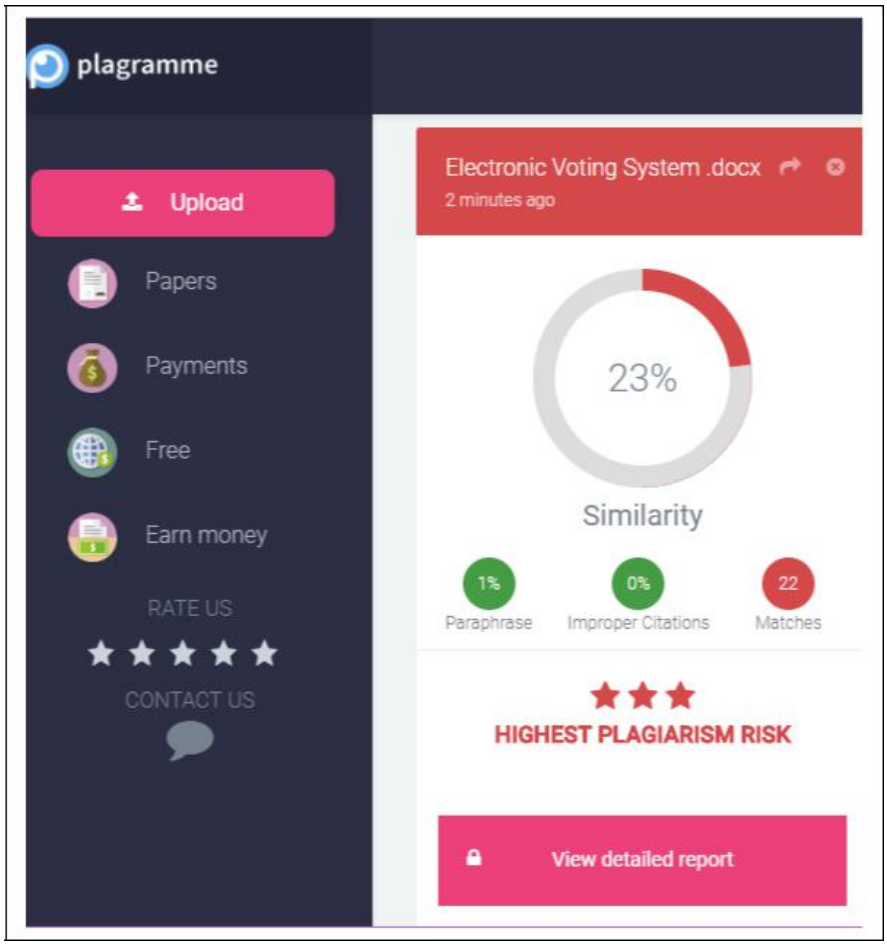

Figure: Plagiarism Report