Software Requirements Specification (SRS)

Electronic Voting System (EVM) for Fair Voting

Version: 0000000.0000001

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Software Requirements Specification (SRS)

1. Introduction

1.1 Purpose:

This Software Requirements Specification (hitherto referenced as SRS) document describes the behavior and requirements of the Electronic Voting System software package.
This specification design document will detail the design of an electronic voting system for Bangladesh. This electronic voting system will enable an eligible voter to vote at any polling site statewide during an election period.

Document Conventions:

- When writing this document it was inherited that all requirements have the same priority.
- First an overall view of the system is presented and then all features and functions are analyzed in detail.
- Intended Audience and Reading Suggestions.

1.2 Project Scope:

This SRS document applies to the initial version (release 1.0) of the "Electronic Voting System" software package & our goal is pair vote casting. One of the most important and hence core activity of E-Voting system is to give ease to the administration of school. Administration can save their time. Administration can get all information about voters' .Hence a wide range of data is required to justify the contents of application which should also be updated at regular intervals. Only authorized person (admin) can access the information. System offers multiple interfaces to enter different type of data.

1.3 Audience:

Admin: An administrator.

Candidate: A person who seeks or is nominated for an office.

Voter: One who votes, a member of the electorate, or a citizen with the right to vote.

1.4 References:

www.free-project.org
www.blackboxvoting.com
www.elections.state.md.us
www.mdvotes.org
www.elections.state.md.us/registered_voters/index.html
www.spectrum.ieee.org/WEBONLY/publicfeature/oct02/evot.html
www.votewatch.us
firstgov.gov/Citizen/Topics/Voting.shtml
www.ecotalk.org/VotingSecurity.html
mainline.brynmawr.edu/~rmercuri/notable/evote.html

2. Overall Description

2.1 Product Perspective:

E-Voting system will be a desktop software application in order to provide all the required features mentioned in this document.

2.2 Product Functions:

E-Voting system provides the user with the following functions:

- Login

Login is necessary before using other features of the system. User will enter the username and password at homepage. Then user can access the desired information.

Admin Login:

Admin checks the system results by logging in the same page interface. Controller Characteristics & Environment: Controller of the system could be the ADMIN It is recommended that only one user is given this role so that everyone cannot use it for its own legal.

2.3 Operating Environment:

E-Voting system is a desktop application so the following software would be required on server machines.

- Microsoft visual studio
- MY SQL server

2.4 Design and Implementation Constraints:

In order to build an enterprise-level application, only those tools and technologies can be used which provide sufficient support for such kind of development. Therefore, our team will be limited to use highly mature and robust platform for development and deployment of the application. Keeping in view the platform independence and robustness of C# platform is a strong candidate to be used as a development and deployment platform.

Use-Case Diagram:

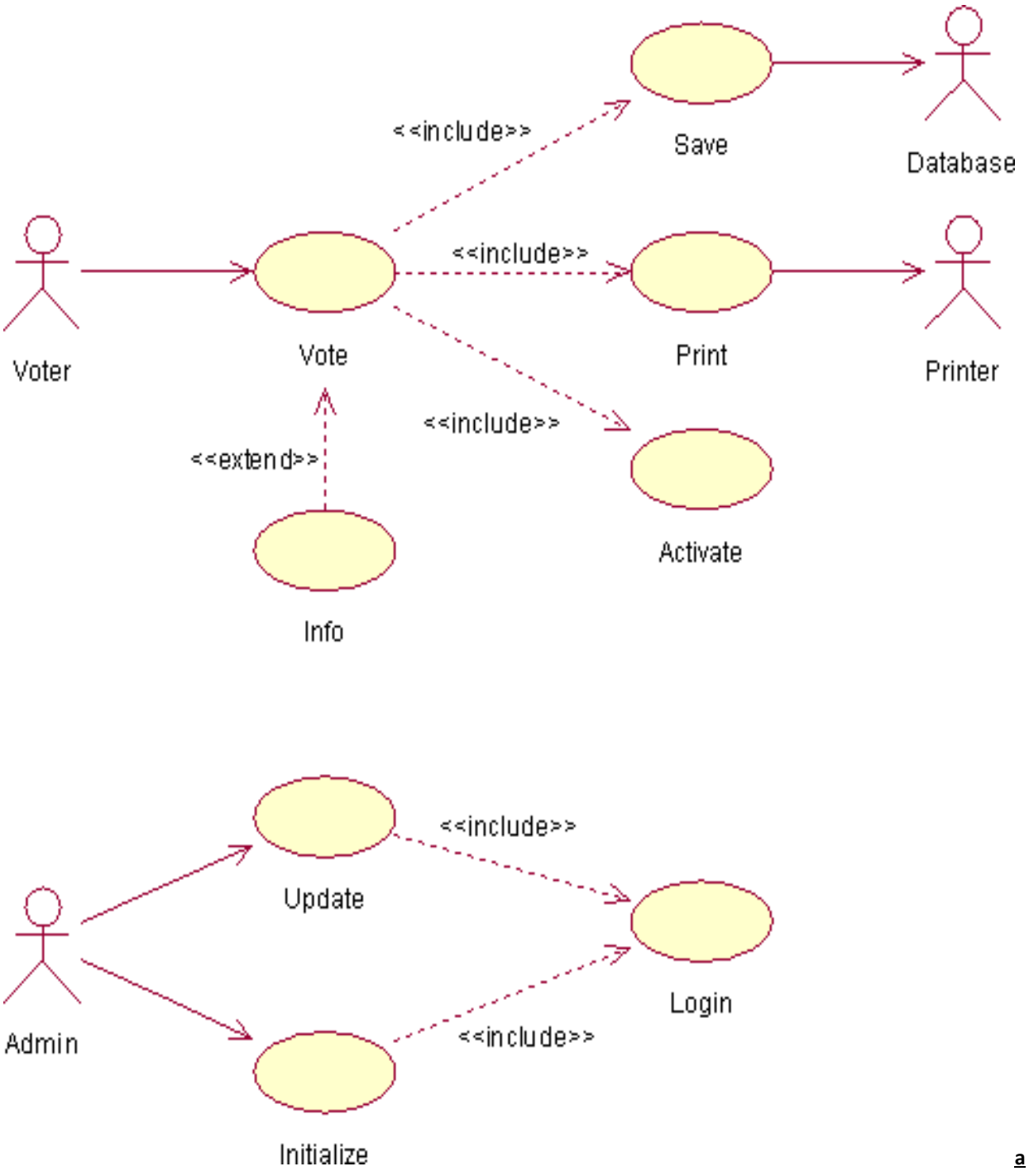

Figure 1 - Electronic Voting System Use-Case

2.5 User Documentation:

Following documentation will be provided for end users and system administrators:

- User manuals describing each screen of the system
- Deployment and configuration guides to install and deploy the application

2.6 Assumptions and Dependencies:

- It is desktop base application and only one system is required to deploy it.

3. Specific Requirements

3.1 User Interfaces:

The Electronic Voting System software user-interface will be ADA compliant and otherwise easy to use for the general electorate.

- User Interface Engine will provide interactions of SMS with user through Internet;
- Database managed by an SQL database server.
- User Interface Engine (by means of this server user interact with database)

3.2 Software Interfaces:

The Electronic Voting System software will interface with a local SQL database for writing and verifying vote-records. Commands for interfacing, connecting and writing data entries will be the same as any standard SQL client-server application.

3.3 Hardware Interfaces:

- IBM-compatible PC with Pentium processor and higher
- 50Mbytes free space on HDD
- 32Mbytes RAM

Software:
Visual Studio, SQL server
- For Server

IBM-compatible PC with Pentium and higher
256Mbytes RAM or higher
80Gbytes free space on HDD

4. System Features

4.1 Functional Requirements

- Activation will not be explicitly required for access to online help and voter information. Both options shall be available at any time during the general use of the system by a voter.
- The system will not allow multiple selections for the same ballot question. In cases where such a fault is encountered, the selections will be cleared and the voter will have to choose once more.
- During the voting process, the system will provide a means by which a voter may go back to amend previous choices. This option shall be available until the ballot is finally cast.

- The administrative functions of the system will not be visible to the voter at any time. Access to such information, and the related login screens, will only be possible through special means.

4.2 Usability:

- A voter may only cast a ballot if they are eligible to vote.
- A voter may only cast one (1) ballot per election.

4.3 Reliability:

- The "Electronic Voting System" software will be available for voter use only during normal poll hours. During this time it shall be operational for as long as is possible.
- Administrators will have 24 hour access to the system.

5. Other Non-functional Requirements

5.1 Performance Requirements:

The application should be available in minimum down-time. The application should provide user with appropriate error messages and should handle run-time exceptions in a controlled manner in order to avoid abnormal termination.

5.2 Maintainability Requirements:

The application should be designed and developed in such a way that it remains highly maintainable and flexible and future enhancements can be easily incorporated.

5.3 Security Requirements:

The application should provide protection against unauthorized access.

5.4 Software Quality Attributes

• E-Voting System is a desktop application and it is required to be deployed once on a system and then it can be easily accessed by user without any other installation. • E-Voting offers high portability and can be later moved to different systems if required.

5.5 Business Policies and Tactics:

CMS system is developing according to requirements. Main functionality and logic of system are provided by Web Server and SQL server. CMS provide end users with friendly interface and library staff with easy installation methods.

6. Other Requirements

6.1 Security:

Our E-Voting System is secure because user can only vote by entering CNIC. No other information is shown to the user on the polling interface. On the other hand ADMIN has the only
rights to check and count all votes and announce the final result. Although there are many voting apps for this purpose but their security level is not up to the mark.

6.2 Potential obstacles:

There would be some potential obstacles during development and after development of this software. This project is very lengthy, it required long period of time for development and a big team to work on it. Due to less number of team members there are fully chances of taking more time on development. One of the big potential obstacles is that our databases should work very well. It should not

show any bug or error if this happened then there would be negative impact on owner business. So to minimize these chances it should work very well every time.

6.3 Financial requirements:

• We need an Intel Pentium inside core i3 system to develop this software.

6.4 Requirements:

Technologies:

The technology requirements for the projects are short listed here.
• Visual studio professional and keen knowledge of C# language.
• Some basic programming concepts for small tasks required.
• SQL server/Oracle for database.

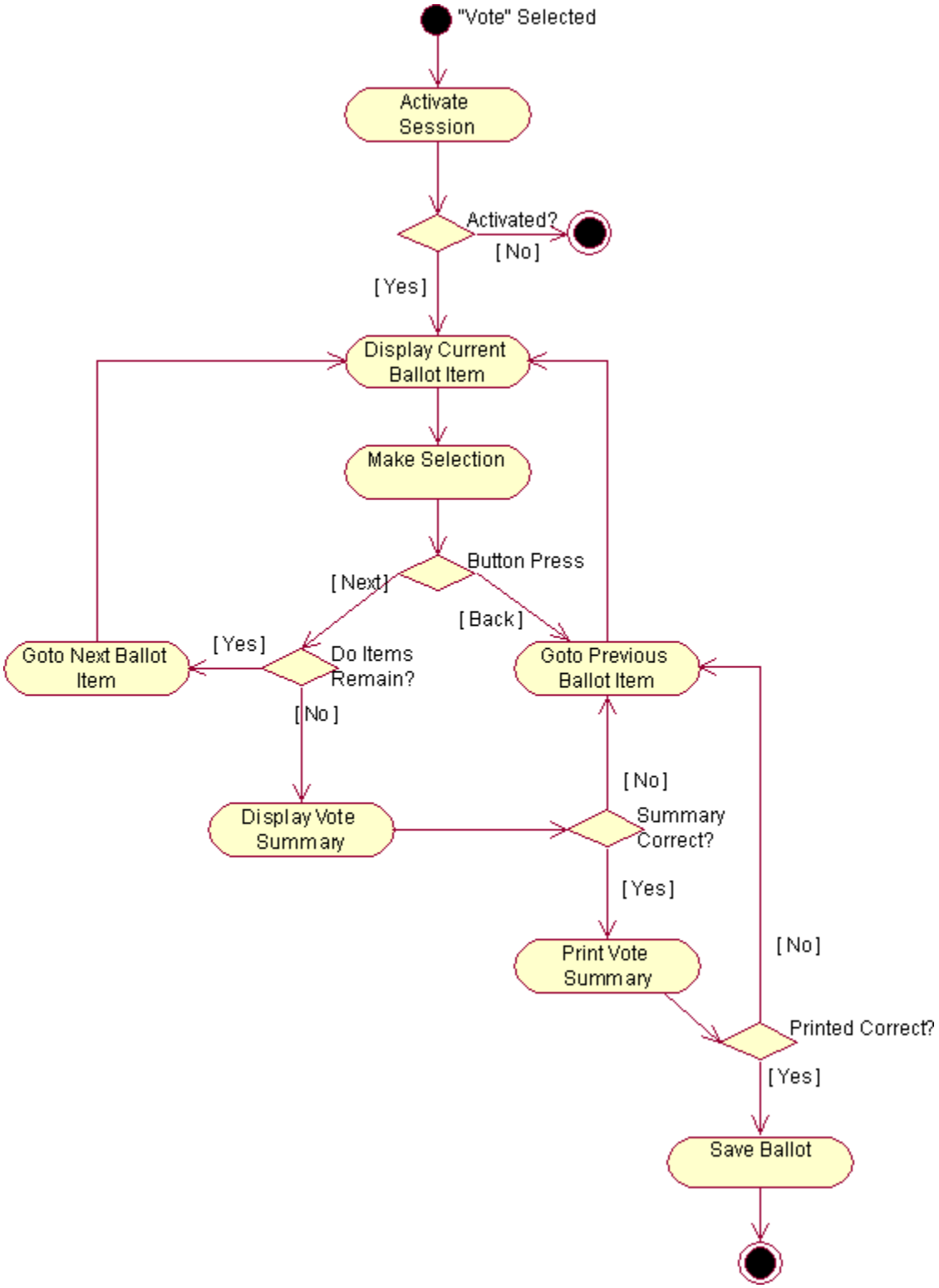

Figure 2 - Vote Activity Diagram

Policy :

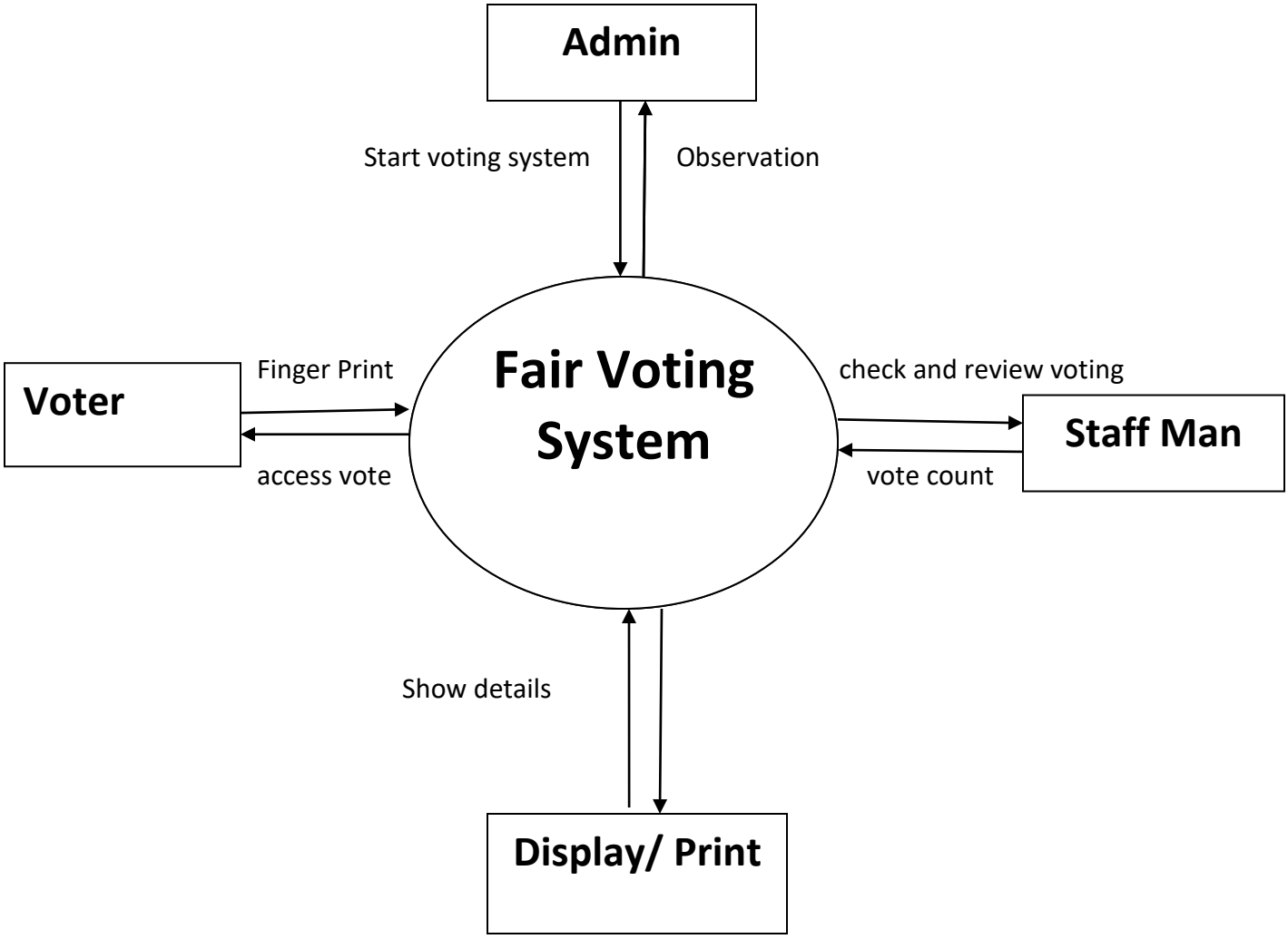

Figure 3 - Voting policy

Scope Representation Techniques:

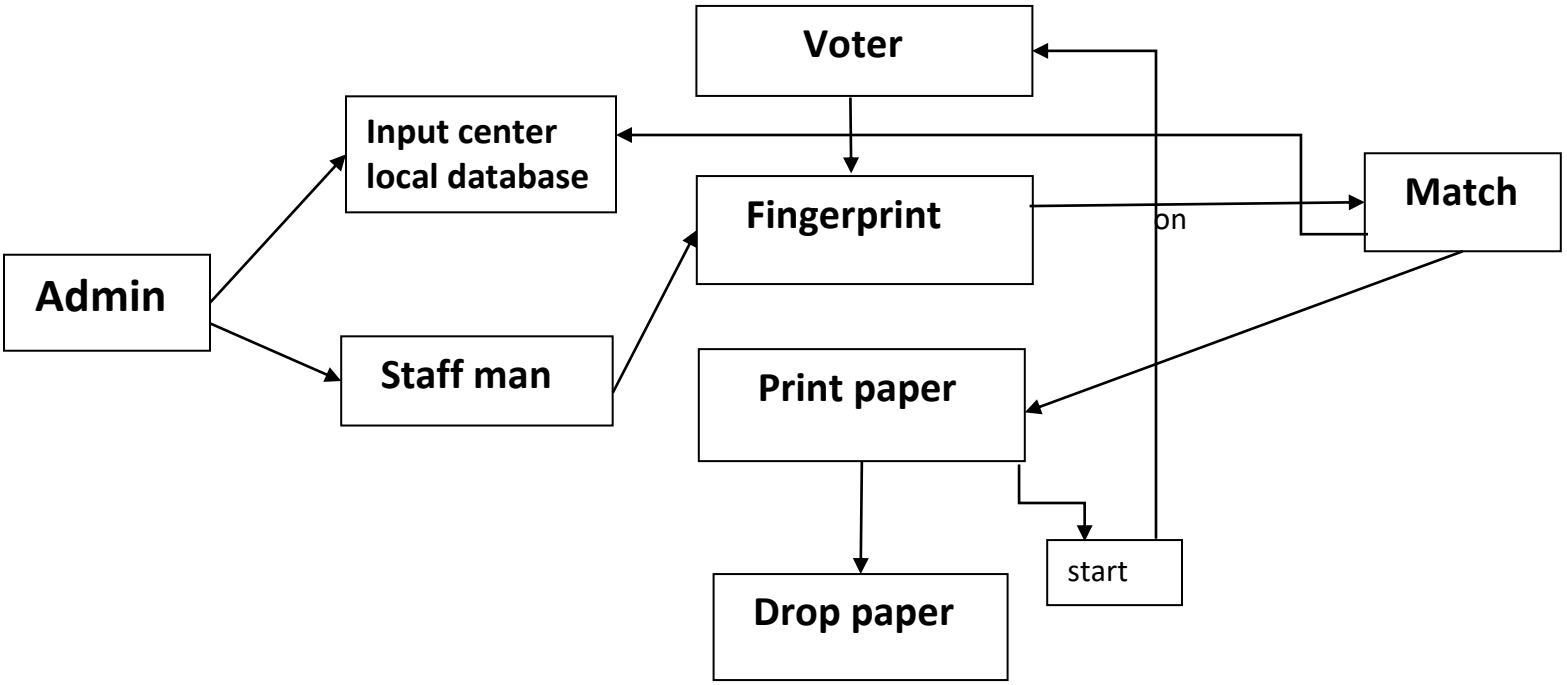

Figure 3 - Scope Representation Techniques

Block diagram:

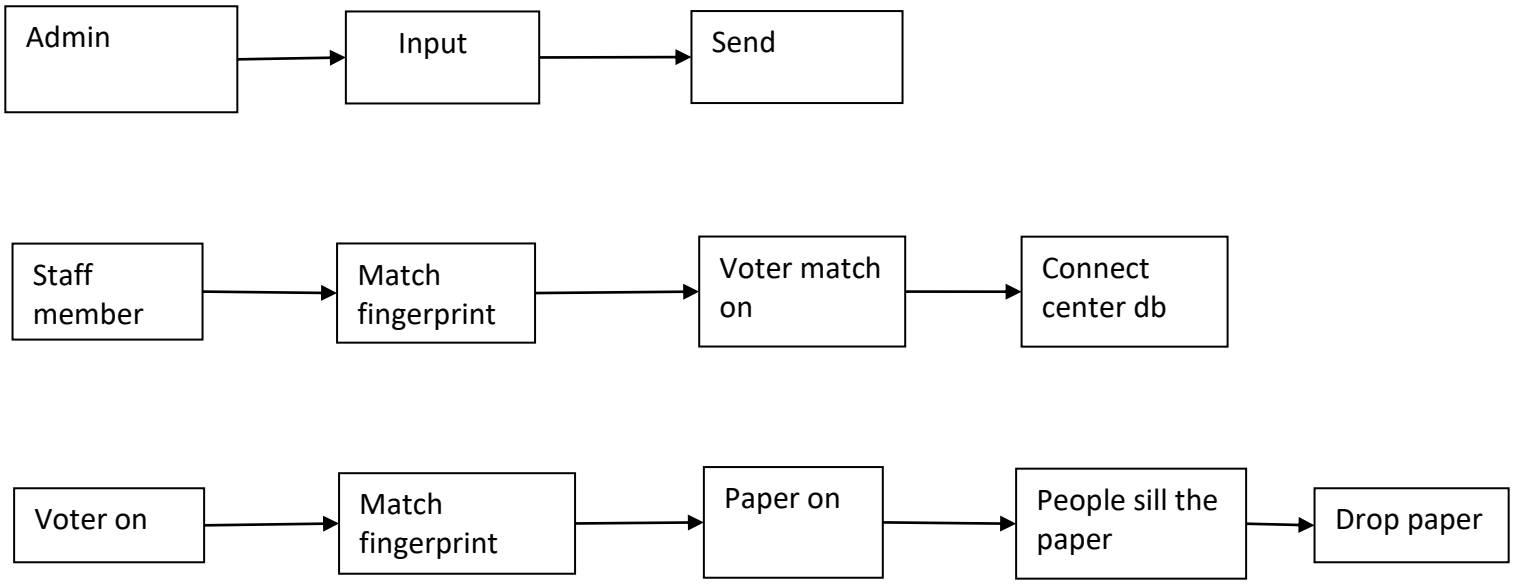

Figure 4 - Block diagram