**MINOR PROJECT REPORT**

**ON**

**VOTING SYSTEM**



**Submitted in partial fulfillment of the diploma of Computer Engineering**

**SUBMITTED BY:**

**Pragati Thukur (130610304026)**

**Priyadarshini (130610304030)**

**Rajni Devi (130610304037)**

**Ritu Kumari (130610304040)**

**Shardul Shandil (130610304046)**

**SUBMMITED TO:**

**Mrs. Anita Bhardwaj**

Certificate

I hereby certify that the work which is being presented in the Diploma Minor Project Report entitled “VOTING SYSTEM”, in partial fulfillment of the requirement for the award of the Diploma in COMPUTER ENGINEERING and submitted to department of Computer Engineering of Government Polytechnic for Women Kandaghat HP is an authentic record of my own work carried out during a period from 1 July 2016 30 July 2016 under the supervision of Mr. Pankaj K Pathik Computer Engineering.

**Project Guide: Head of Department:**

**Mrs. Anita Bhardwaj Mr. Pankaj Pathik**

**Mr. S. K. Gautam**

**Principal of**

**G.P.W. Kandaghat, Distt. Solan**

**ACKNOWLEDGEMENT**

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The Success behind anything always involves many people. The same thing is with my project. But the first personality that comes to my mind is “Mrs. Anita Bhardwaj”. She has helped us in all the way that a guide can. My sincerer thank for her help & inspiration guidance.

I leave the second for the people who really mean for us that are our family, elders and at last our group.

Pragati Thukur

Priyadarshini

Rajni Devi

Ritu Kumari

Shardul Shandil

**INDEX**

* Introduction
* Project Description.
* Analysis.

* Why Java Used?
* Client Server Technologies.
* Feasibility Study.
* Hardware & Software Requirements.
* Design Documents.
* E-R Diagram.
* Use Case Diagram.
* Class Diagram.
* Object Diagram.
* Sequence Diagram.
* Collaboration Diagram.
* Activity Diagram.
* Deployment Diagram
* Testing & Debugging Strategies
* Conclusions & Recommendations.
* Bibliography

Introduction

***Existing System***

The Existing System of Election is running manually.

The Voter has to Visit to Booths to Vote a Candidate so there is wastage of Time.

The Voter has to manually register into the Voter List. Also Vote counting has to

be filling manually.

All the Information of the Voter or Candidate is to be filling in manually.

Voter must be present in his/her Constituency to give his/her Vote.

There are Electronic Voting Machines used which Takes More Cost.

**Manual Voting Process**

**Physically**

**Visits**

**Voter**

**Voter Booth**

**Enter in Queue.**

**Wait in queue until**

**Front queue is empty**

**Wait for few**

**Days/month for**

**Declaring a result.**

**Registers vote to**

**Particular one**

**Candidate.**

**Voter sees the candidate’s name**

***Need for the System***

It was decided to Computerize the System in order to overcome the following problems :-

1. To increase the Voting Percentage.
2. To make Voter easy to Vote from anywhere.
3. Time Wastage.
4. To avoid thing like Booth Capturing.

***Scope of the System***

The Scope of the System is as Follows:

1. Voter can Vote from any where for his/her Constituency.
2. Vote count will make easy and fast.
3. No any Vote will be rejected.

***Goals of the System***

Goals of the System are as Follows:

1. It Maintains all The Information of all the Candidates and Votes.
2. It checks Voter have Voted or Not.
3. You can see All the Information Related to any Voting System Online.
4. It Increase the Voting Percentage.
5. Finally It makes Easy Voting by Avoiding problems like

* Security,
* Booth capturing*.*

The actual purpose of going for this system is to make the organizational process to get speed up.

**Project Descriptions**

**Overall Description:**

**Number of Databases:**

The project consists of 3 databases which are as follows

**Voter:-** This Table contain all Voter Details. The Voter is client side Entity and it has Following attribute.

|  |  |  |  |
| --- | --- | --- | --- |
| Voter\_id\* | Voter\_Name | Voter\_age | Voter\_addr |

**Candidate**:- This Table contain Detail information about Candidate. Candidate is Server side Entity. It has following attributes.

|  |  |  |  |
| --- | --- | --- | --- |
| Candidate\_id\* | Candidate\_Name | Candidate\_dsc | VotingPanel\_id |

**Voting Panel**:- Voting Panel contain Different types of Voting Panels,

It is a server side Entity. It has following attributes.

|  |  |  |
| --- | --- | --- |
| VotingPanel\_id\* | VotingPanel\_Name | VotingPanel\_dsc |

**Property**:- Property are the Authentications required for a particular Voting Panel ,It Is a server side Entity. It has following attributes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Prop\_id\* | Prop\_Name | Min\_age\_limit | Nationality | VotingPanel\_id |

**Result:**- Result table store the Result of Different Voting Panels, it is a server side Entity. It has following attributes.

|  |  |  |  |
| --- | --- | --- | --- |
| Result\_id\* | Result\_type | Vote\_count | VotingPanel\_id |

Analysis

#### Features of the Language Used

#### In my project, I have chosen *Java* language for developing the code.

#### About Java

#### Initially the language was called as “oak” but it was renamed as “Java” in 1995. The primary motivation of this language was the need for a platform-independent (i.e., architecture neutral) language that could be used to create software to be embedded in various consumer electronic devices.

* Java is a programmer’s language.
* Java is cohesive and consistent.
* Except for those constraints imposed by the Internet environment, Java gives the programmer, full control.

Finally, Java is to Internet programming where C was to system programming.

#### **Importance of Java to the Internet**

Java has had a profound effect on the Internet. This is because; Java expands the Universe of objects that can move about freely in Cyberspace. In a network, two categories of objects are transmitted between the Server and the Personal computer. They are: Passive information and Dynamic active programs. The Dynamic, Self-executing programs cause serious problems in the areas of Security and probability. But, Java addresses those concerns and by doing so, has opened the door to an exciting new form of program called the Applet.

#### Java can be used to create two types of programs

***Applications* and *Applets*:**

An application is a program that runs on our Computer under the operating system of that computer. It is more or less like one creating using C or C++. Java’s ability to create Applets makes it important. An Applet is an application designed to be transmitted over the Internet and executed by a Java –compatible web browser. An applet is actually a tiny Java program, dynamically downloaded across the network, just like an image. But the difference is, it is an intelligent program, not just a media file. It can react to the user input and dynamically change.

#### **Features of Java Security**

Every time you that you download a “normal” program, you are risking a viral infection. Prior to Java, most users did not download executable programs frequently, and those who did scanned them for viruses prior to execution. Most users still worried about the possibility of infecting their systems with a virus. In addition, another type of malicious program exists that must be guarded against. This type of program can gather private information, such as credit card numbers, bank account balances, and passwords. Java answers both these concerns by providing a “firewall” between a network application and your computer.

#### **Portability**

For programs to be dynamically downloaded to all the various types of platforms connected to the Internet, some means of generating portable executable code is needed .As you will see, the same mechanism that helps ensure security also helps create portability. Indeed, Java’s solution to these two problems is both elegant and efficient.

#### **The Byte code**

The key that allows the Java to solve the security and portability problems is that the output of Java compiler is Byte code. Byte code is a highly optimized set of instructions designed to be executed by the Java run-time system, which is called the Java Virtual Machine (JVM). That is, in its standard form, the JVM is an interpreter for byte code.

#### **Java Virtual Machine (JVM)**

The Java virtual machine is an important element of the Java technology. The virtual machine can be embedded within a web browser or an operating system. Once a piece of Java code is loaded onto a machine, it is verified.

**Overall Description**

**Java Source**

# Java Source

**Java Byte Code**

**Java VM**

Java

. Class

# Java Source

# Java Source

## Java byte code

# Java VM

Java

. Class

#### Picture showing the development process of JAVA Program

Java programming uses to produce byte codes and executes them. The first box indicates that the Java source code is located in a. Java file that is processed with a Java compiler called javac. The Java compiler produces a file called a. class file, which contains the byte code. The. Class file is then loaded across the network or loaded locally on your machine into the execution environment is the Java virtual machine, which interprets and executes the byte code.

#### **Java Architecture**

Java architecture provides a portable, robust, high performing environment for development. Java provides portability by compiling the byte codes for the Java Virtual Machine, which is then interpreted on each platform by the run-time environment. Java is a dynamic system, able to load code when needed from a machine in the same room or across the planet.

#### **Compilation of code**

When you compile the code, the Java compiler creates machine code (called byte code) for a hypothetical machine called Java Virtual Machine (JVM). The JVM is supposed to execute the byte code. The JVM is created for overcoming the issue of portability. The code is written and compiled for one machine and interpreted on all machines. This machine is called Java Virtual Machine.

***Compiling and interpreting* *Java Source Code***

**Source**

**Code**

**………..**

**………..**

**………..**

**…………**

# PC Compiler

**Macintosh**

**Compiler**

**SPARC**

###### Compiler

**Java**

**Byte code**

**(Platform**

**Indepen**

**dent)**

**Java**

**Interpreter**

**(PC)**

**Java**

**Interpreter**

**(Macintosh)**

**Java**

**Interpreter**

**( Spare )**

During run-time the Java interpreter tricks the byte code file into thinking that it is running on a Java Virtual Machine.

*Simple*

Java was designed to be easy for the Professional programmer to learn and to use effectively. If you are an experienced C++ programmer, learning Java will be even easier. Because Java inherits the C/C++ syntax and many of the object oriented features of C++.

*Object-Oriented*

Java was not designed to be source-code compatible with any other language. This allowed the Java team the freedom to design with a blank slate. The object model in Java is simple and easy to extend, while simple types, such as integers, are kept as high-performance non-objects.

*Robust*

The multi-platform environment of the Web places extraordinary demands on a program, because the program must execute reliably in a variety of systems. The ability to create robust programs was given a high priority in the design of Java. Java is strictly typed language; it checks your code at compile time and run time.

Client Server Technologies

#### **Client Server:-**

#### **Overview :-**

With the varied topic in existence in the fields of computers, Client Server is one, which has generated more heat than light, and also more hype than reality. This technology has acquired a certain critical mass attention with its dedication conferences and magazines.

The typical client either a PC or a Work Station connected through a network to a more powerful PC, Workstation, Midrange or Main Frames server usually capable of handling request from more than one client. However, with some configuration server may also act as client. A server may need to access other server in order to process the original client request.

The key client server idea is that client as user is essentially insulated from the physical location and formats of the data needs for their application. With the proper middleware, a client input from or report can transparently access and manipulate both local database on the client machine and remote databases on one or more servers. An added bonus is the client server opens the door to multi-vendor database access indulging heterogeneous table joins.

#### What is a Client Server

Two prominent systems in existence are client server and file server systems. It is essential to distinguish between client servers and file server systems. Both provide shared network access to data but the comparison dens there! The file server simply provides a remote disk drive that can be accessed by LAN applications on a file-by-file basis. The client server offers full relational database services such as SQL-Access, Record modifying, Insert, Delete with full relational integrity backup/ restore performance for high volume of transactions, etc. the client server middleware provides a flexible interface between client and server, who does what, when and to whom.

**Feasibility Study**

The success of any system resides particularly form the user point that is, does the system provides you the proper information, easy to operate. The crucial part is deciding upon the requirement, to provide him the possible solution .The system should meet the user needs, the system should be economical. the system be easily maintained and enhanced.

Feasibility study is conducted to test the operational, economical and technical feasibility of the system.

**Operational Feasibility :**

The system provides a user-friendly interface and is therefore easy to use. Operating the system requires no programming knowledge anybody with basic computing knowledge can use the system. Therefore the system is operationally feasible.

**Economic Feasibility :**

Apart from the development cost and the cost incurred in setting up resource to use the system, the system helps saving administrative expenses on phones/Faxes/personal visits. But the cost incurred in the

Developing and setting up necessary Hardware to use the system is unavoidable. The cost involved in developing and implementing the system is not high, the system definitely helps improving processes. The system is developed using software which is easily available everywhere.

**Technical Feasibility :**

As the system is developed using java, it is platform independent. Server need to have higher processing capabilities as at a time many use the system simultaneously. The technology used is one of the latest hence the system is also technically feasible.

# Hardware & Software Specifications

# Required Hardware:

* Pentium III Processor.
* 128 MB RAM.
* 10GB Hard Disk space.
* Ethernet card with an Internet and Internet zone.

## Required Software:

* Windows 2000 XP, Windows 98 operating system.
* Internet explorer 5.0 and Netscape navigator.
* UML VP Suite.

**Documents Design**

**Design Document :**

The entire system is projected with a physical diagram which specifics the actual storage parameters that are physically necessary for any database to be stored on to the disk. The overall systems existential idea is derived from this diagram.

ER-Diagrams

* + The entity Relationship Diagram (ERD) depicts the relationship between the data objects.
  + The ERD is the notation that is used to conduct the date modeling activity the attributes of each data
  + object noted is the ERD can be described resign a data object

Descriptions.

* + The set of primary components that are identified by the ERD are

 Data object  Relationships

 Attributes  Various types of indicators.

* + The primary purpose of the ERD is to represent data objects and
  + Their relationships.

**Unified Modeling Language Diagrams**

* + The unified modeling language allows the software engineer to

Express an analysis model using the modeling notation that is governed by a set of syntactic semantic and pragmatic rules.

* + A UML system is represented using five different views that describe the system from distinctly different perspective. Each view is defined By a set of diagram, this is as follows.

**Structural model view**

* In this model the data and functionality are arrived from inside the system.

 This model view models the static structures.

**Behavioral Model View**

* It represents the dynamic of behavioral as parts of the system, depicting the interactions of collection between various structural Elements described in the user model and structural model view.

**Implementation Model View**

* + In this the structural and behavioral as parts of the system are represented as they are to be built.

**Environmental Model View**

In this the structural and behavioral aspects of the environment in which the system is to be implemented are represented.

UML is specifically constructed through two different domains they are

* + **UML Analysis modeling, which focuses on the user**

**Model and structural model views of the system.**

* + **UML design modeling, which focuses on the behavioral**

**Modeling, implementation modeling and environmental Model views.**

**Use Case Diagrams**

Use cases model the system from the end users point of view, with the

following objectives

* **To define the functional and operational requirements**

**of the system by defining a scenario of usage.**

* **To provide a class and unambiguous description**

**of how the end user and the system interact with one**

**another.**

* **To provide a basis for validation testing.**

**Use Cases**

The actors who have been recognized within the system are

1. **System administrator**
2. **Voter**

**Collaboration Diagram**:

A Collaboration Diagram show the interaction organized around the object in the interaction and their links

To each other. Unlike sequence diagram the collaboration diagram show the relationship among the relation

Ship among the Object. Collaboration Diagram does not show the time as, Separate dimension .So,

Sequence number determines the sequence of messages. Collaboration diagram cross between the

Symbolic diagram and sequence diagram.

**Uses:**

1. Describe the specific scenario by duplicate the moment of messages between the object.

2. Show the spatial organization of object and there interaction rather than interaction.

**View:** Dynamic.

**Sequence Diagram:**

UML Sequence Diagram is the Dynamic Modeling technique as are, Collaboration and Activity Diagram.

It Validate and Flush the Logic of Usage scenario. Sequence diagram show the object and messages involve in

An interaction it shows the timing of messages but not relationship among the object.

**Class Diagram:**

Class Diagram describe the static nature of the system of the system .It describe the type of object in the system

To the other object and common semantic. In Class diagram following are different **visibility modes,**

1. + public
2. # protected
3. – private
4. $ static attribute
5. / Derived attribute
6. \* Primary Key

**Use Case Diagram:**

A use case is a set of scenario that describe on interaction between the user and system. A use case diagram.

Show the relationship between the actors and use cases. Three main components are,

1. Actor
2. Use cases
3. System Boundary

**Activity Diagram:**

Activity diagram are the dynamic modeling technique. It describe the activity of control and it can initiate

The control activity. It can model the flow of control activity to activity. An activity represents the some

Class operation in the system that result is change in the state of system.

It is used to model work flow and business model and interaction of internal operation because activity

Diagram is special kind of state chart diagram.

Testing Strategies & Debugging

Testing is the process of detecting errors. Testing performs a very critical role for quality assurance and for ensuring the reliability of software. The results of testing are used later on during maintenance also.

* *Psychology of Testing*

The aim of testing is often to demonstrate that a program works by showing that it has no errors. The basic purpose of testing phase is to detect the errors that may be present in the program. Hence one should not start testing with the intent of showing that a program works, but the intent should be to show that a program doesn’t work. Testing is the process of executing a program with the intent of finding error.

* *Testing Objectives*

The main objective of testing is to uncover a host of errors, systematically and with minimum effort and time. Stating formally, we can say,

* Testing is a process of executing a program with the intent of finding an error.
* A successful test is one that uncovers an as yet undiscovered error.
* A good test case is one that has a high probability of finding error, if it exists.
* The tests are inadequate to detect possibly present errors.
* The software more or less confirms to the quality and reliable standards.

*Types of Testing*

* **Unit Testing**
* **Link Testing**

*Unit Testing*

Unit testing focuses verification effort on the smallest unit of software i.e. the module. Using the detailed design and the process specifications testing is done to uncover errors within the boundary of the module. All modules must be successful in the unit test before the start of the integration testing begins.

In this project each service can be thought of a module. There are so many modules like Login, HWAdmin, MasterAdmin, Normal User, and PManager. Giving different sets of inputs has tested each module. When developing the module as well as finishing the development so that each module works without any error. The inputs are validated when accepting from the user.

In this application developer tests the programs up as system. Software units in a system are the modules and routines that are assembled and integrated to form a specific function. Unit testing is first done on modules, independent of one another to locate errors. This enables to detect errors. Through this error resulting from interaction between modules initially avoided.

*Link Testing*

Link testing does not test software but rather the integration of each module in system. The primary concern is the compatibility of each module. The Programmer tests where modules are designed with different parameters, length, type etc.

*Integration Testing*

After the unit testing we have to perform integration testing. The goal here is to see if modules can be integrated properly, the emphasis being on testing interfaces between modules. This testing activity can be considered as testing the design and hence the emphasis on testing module interactions.

*System Testing*

Here the entire software system is tested. The reference document for this process is the requirements document, and the goal us to see if software meets its requirements.

*Acceptance Testing*

Acceptance Test is performed with realistic data of the client to demonstrate that the software is working satisfactorily. Testing here is focused on external behavior of the system; the internal logic of program is not emphasized.

In this project ‘Network Management of Database System’ I have collected some data and tested whether project is working correctly or not.

Test cases should be selected so that the largest number of attributes of an equivalence class is exercised at once. The testing phase is an important part of software development. It is the process of finding errors and missing operations and also a complete verification to determine whether the objectives are met and the user requirements are satisfied.

*White Box Testing*

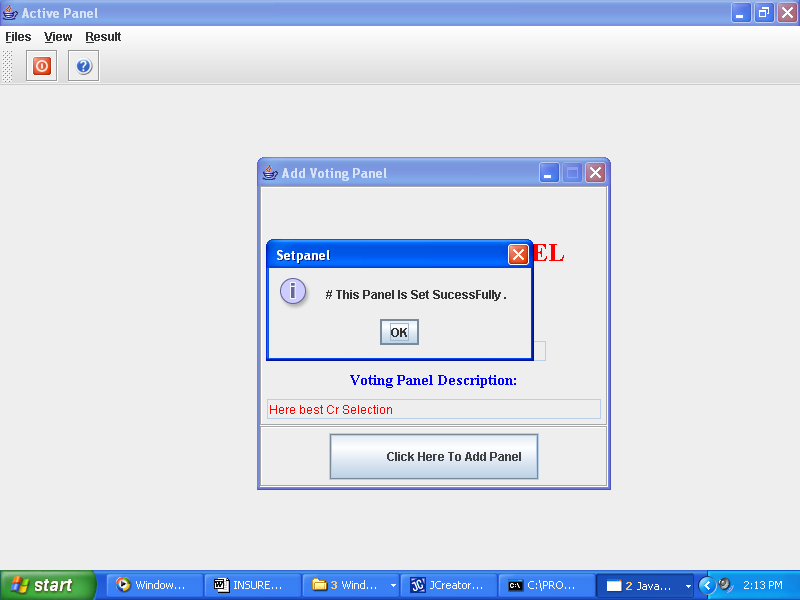
This is a unit testing method where a unit will be taken at a time and tested thoroughly at a statement level to find the maximum possible errors. I tested step wise every piece of code, taking care that every statement in the code is executed at least once. The white box testing is also called Glass Box Testing.

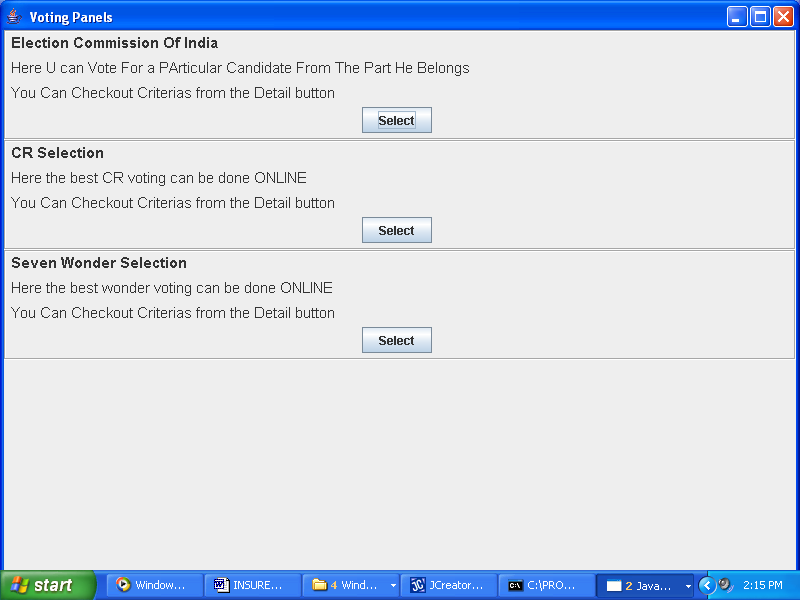
*Black Box Testing*

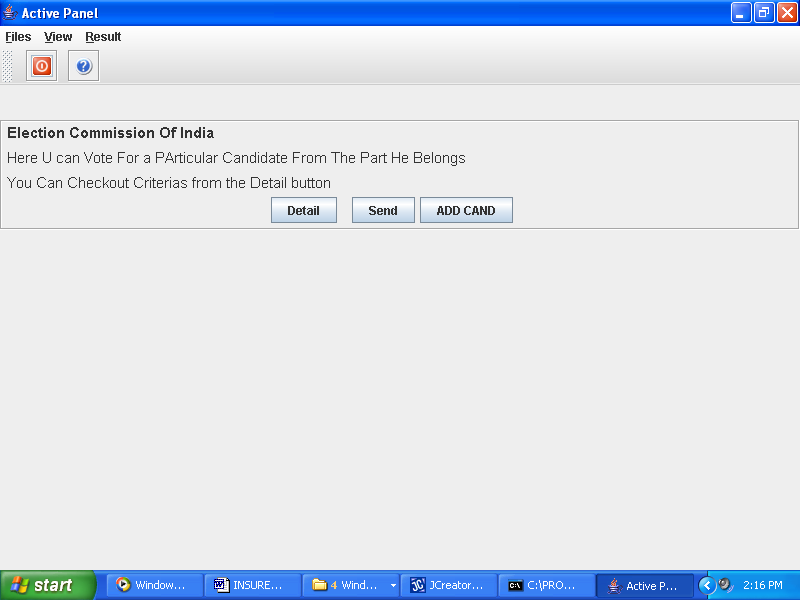
This testing method considers a module as a single unit and checks the unit at interface and communication with other modules rather getting into details at statement level. Here the module will be treated as a block box that will take some input and generate output. Output for a given set of input combinations are forwarded to other modules.

Input & Output Layout

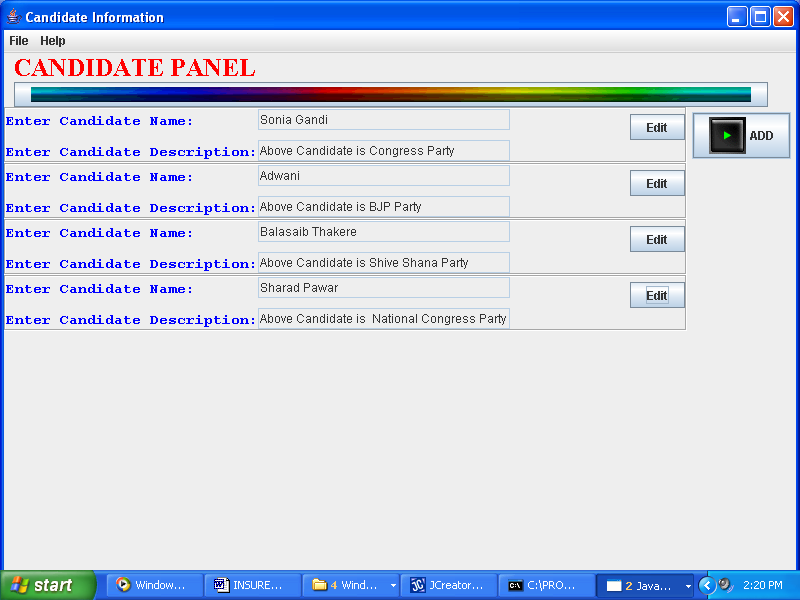


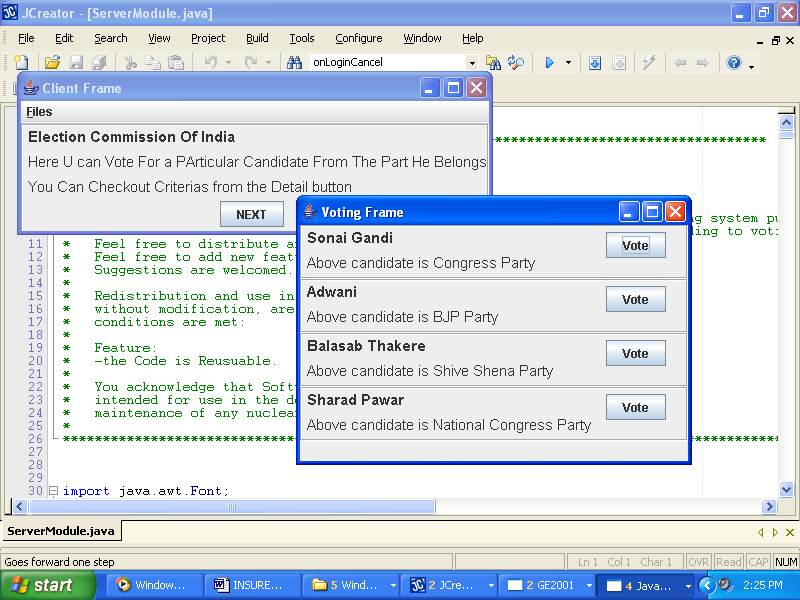


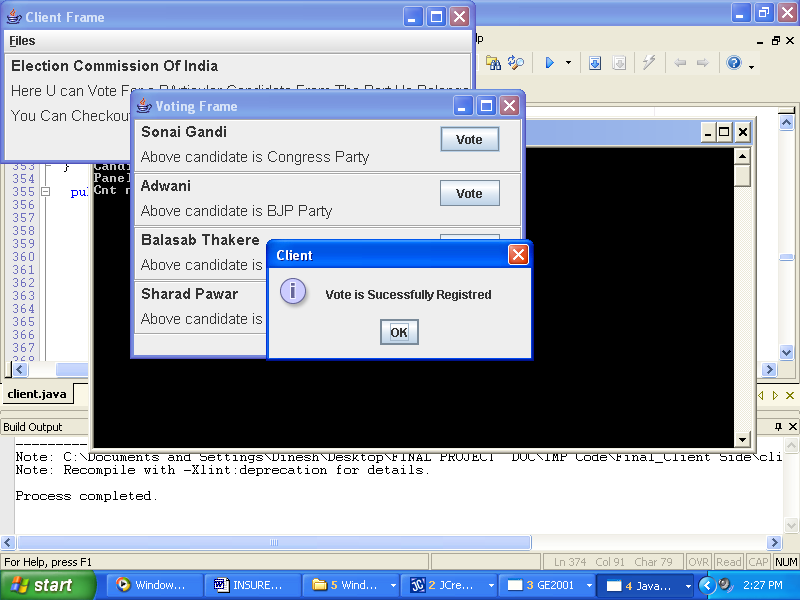


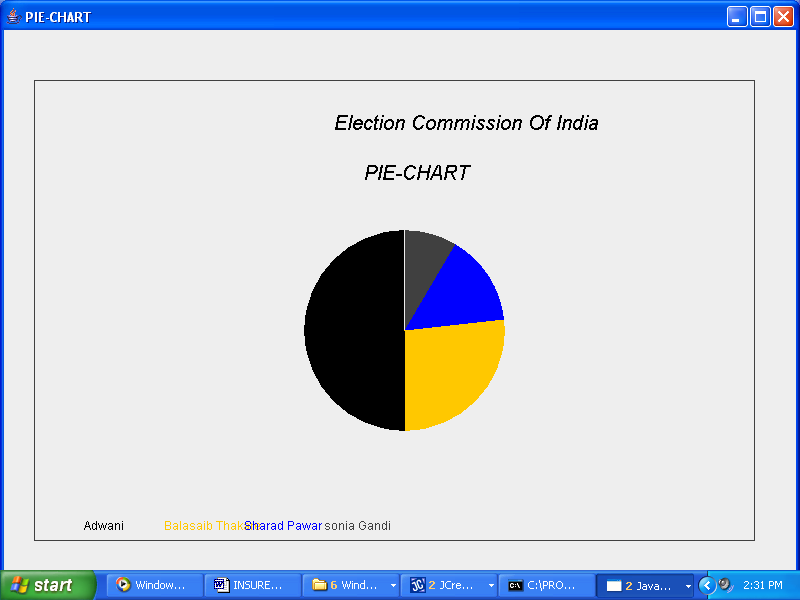


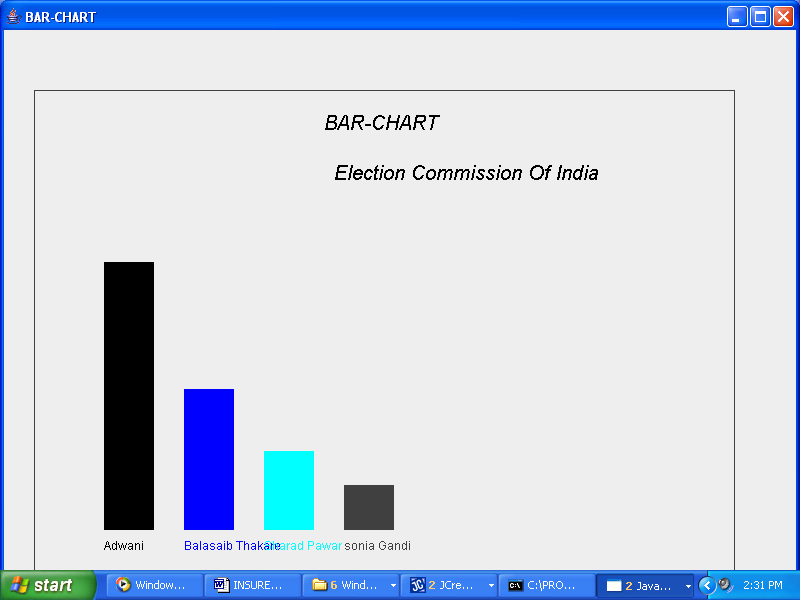
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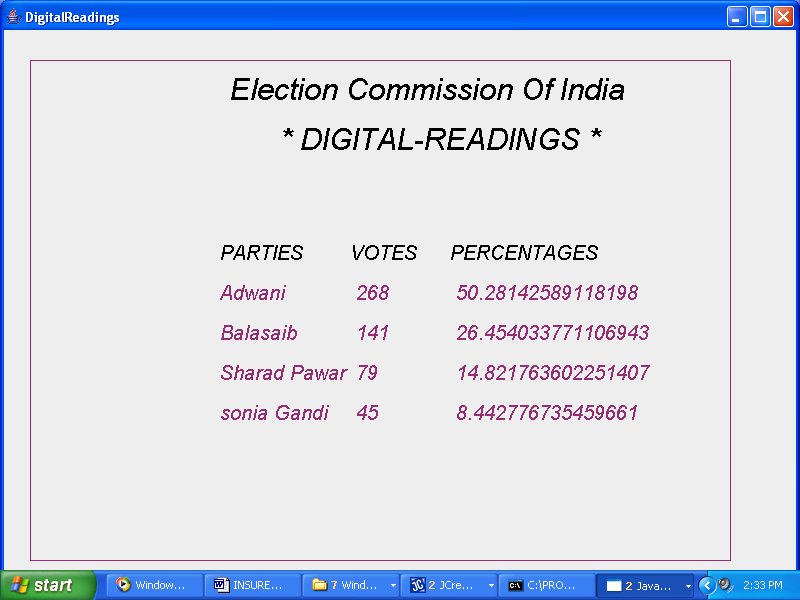












Conclusions & Recommendation

**Conclusions And Recommendations :-**

The entire project has been developed and deployed as per the requirements.

Stated by the user, it is found to be bug free as per the testing standards that is implemented. Any specification-untraced errors will be concentrated in the coming versions, which are planned to be developed in near future. The system at present does not take care off the money payment methods, as the consolidated constructs need SSL standards and are critically to be initiated in the first face; the application of the credit card transactions is applied as a developmental phase in the coming days. The system needs more elaborative technicality for its inception and evolution.

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