A PROJECT REPORT ON

"Election Commission of India"

SUBMITTED IN
PARTIAL FULFILLMENT OF

DIPLOMA IN ADVANCED COMPUTING (PG-DAC)

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KARAD – 415110.
MH-INDIA

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MR. JAYESH PATIL

SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY, KARAD

SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY, KARAD.

CERTIFICATE

This is to certify that the project

ELECTION COMMISSION OF INDIA

Has been submitted by

Kingshuk Banerjee
and
Rajat Gorakhpuriya

In partial fulfillment of the requirement for the Course of **PG Diploma in Advanced Computing (PG-DAC AUG2017)** as prescribed by The **CDAC** ACTS, PUNE.

Place: Karad Date: 30-JAN-2018

Mr. Jayesh Patil
Project Guide

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ACKNOWLEDGEMENT

It is with great satisfaction and euphoria that we are submitting our project report on "Election Commission of India". We have completed this as a part of the curriculum of our PG-DAC course. Firstly, we would like to praise the almighty for providing us strength and courage to accomplish and complete our project successfully.

A project usually falls short of its expectation unless aided and guided by the right persons at the right time. We avail this opportunity to express our deep sense of gratitude towards
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We are deeply indebted and grateful to them for their guidance, encouragement and deep concern for our project. Without their critical evaluation and suggestions at every stage of the project, this project could never have reached its present form. Last but not the least we thank the entire faculty, especially Mr. Nitin Kudhale, and the staff members of Sunbeam Institute of Information Technology, Karad for their constant support.

Kingshuk Banerjee
&
Rajat Gorakhpuriya
DAC August 2017 Batch,
SIIT Karad

ABSTRACT

The Election Commission of India is intended to create a portal which will help to apply for voter-id card online. A voter-id card is a document which uniquely identifies a person and is used for checking whether a person is valid voter or not. In present scenario voter-id card is not being generated online, Traditionally the offline method to generate voter-id card and its maintenance was easy but as our country's population is increasing and due to the complexity of the offline method, people are struggling to register for voter-id. In this context we are developing a web application to provide features like make registration, login, generation of voter-id card and post complaints.

Our Project uses J2EE Spring Hibernate Framework with MVC(Model View Controller) architecture and database connectivity with MySQL.

The actors of this application are typically one admin and user's Client Side Validation is provided through JavaScript & jquery. In this Web Application only people who are 18 years and above can signUp. The user will have to upload a document/file for verification while applying for voter-id. The software system allows the User to login in to their profiles and upload all their details including their previous milestone onto the system.

The admin can check each user details and verify the documents, only after verifying user's ID and Password voter-id card will be generated, Admin can remove faulty accounts. The admin has overall rights over the system and can moderate and delete any details.

INTRODUCTION

1.1 INTRODUCTION

This project is a web based Voter Id card generation system. The project objective is to deliver online Voter id to the user who can register and apply for the same. This application is intended to create a portal which will help to apply for voter-id card online. A voter-id card is a document which uniquely identifies a person and is used for checking whether a person is valid voter or not. In this context we are developing a web application to provide features like make registration, login and generation of voter-id card.

In this Web Application only people who are 18 years and above can register. The user will have to upload a document/file for verification while applying for voter-id. The software system allows the User to login in to their profiles and upload all their details including their previous milestone onto the system.

PRODUCT OVERVIEW AND SUMMARY

2.1 PURPOSE

The proposed project is a smart voter id card generation system that provide users an easy way to register, login and apply for voter id card online, this is a web based application that overcomes the issues of generating voter id offline. The task sometimes becomes very tedious for the government officials to check whether the applied user is valid or not.

Our application provides solution by checking the credentials present in the database, this task is performed by an admin who can see the list of users who have registered/registered and applied for voter id. Admin can even remove or grant the voter id by checking the application against a unique government document which is uploaded by the user during the application form filling. In our application only those people who are 18 years and above can register and apply.

2.2 SCOPE

The scope of this project is very broad there are many modules yet to be implemented some of the functionalities which we implemented includes Registration, Login, Apply for voter id, Image uploading, verification, validation. This application can be used by two types of users first those who want to generate their voter id and the second type is for an admin who monitors all the requests and generates voter id if user is valid.

Improvements for future functionality

- Social Services
- Site maps
- Captcha
- Bar-graphs and Status-graph
- Maintaining records using graph
- Auto update functionality with the upgraded system
- Multi language support.

2.3 User classes and characteristics

The users of this web portal are based on the type of role, in our application there are two roles for users: Admin and User.

Admin:- This type of user is having some operational functionality. Administrator has authority to keep on checking and managing the requests sent by users. Admin can reject/accept any application upon verification. He can even generate voter id card if the user is valid.

User:- This type of user acts as a service consumer by sending requests like register and apply for voter id card

REQUIREMENTS

3.1 Functional Requirements

Basically, functional requirements describe the features, functioning and usage of a product/system/software from the perspective of the product and its users. Although referred to as “requirements”, they really are a form of design, high level. Functional requirements are also often called “functional specification” and “specification” is a synonym for design.

3.1.1 Use case for Admin :

This Administrator use case diagram gives us the brief information about the functionalities performed by an admin.

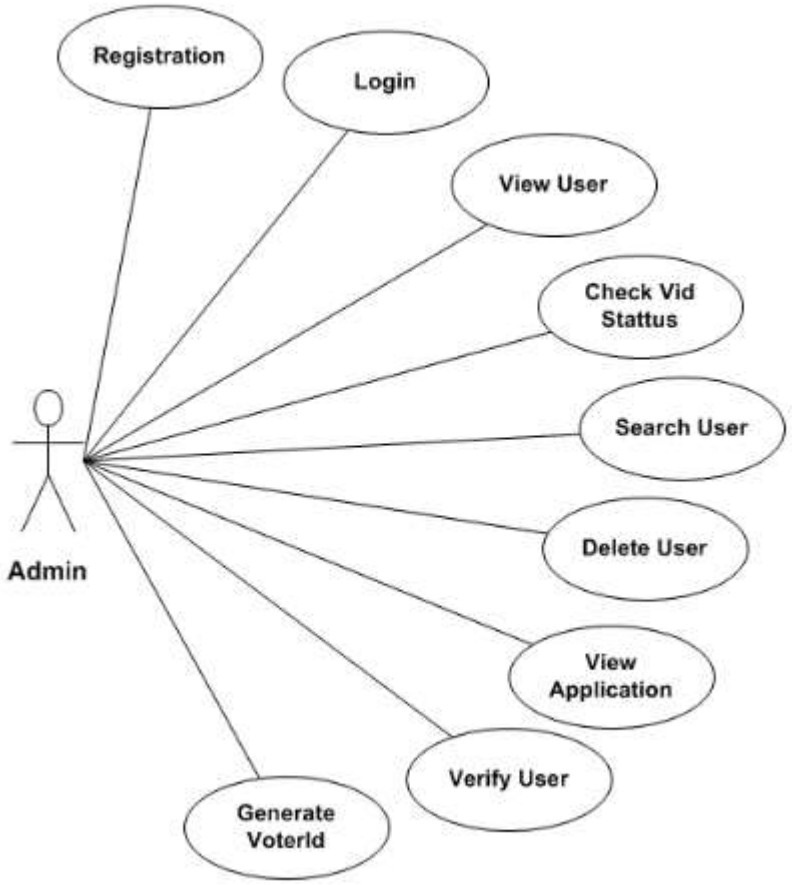


Fig 1: use case diagram for Admin

3.1.2 Use case for User :

This User use case diagram gives us the brief information about the functionalities performed by an User.

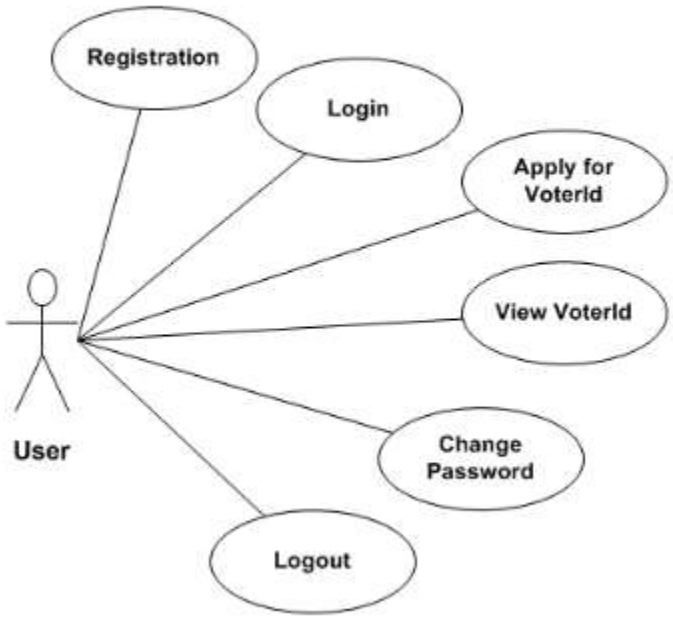


Fig 2: use case diagram for User

3.2 Non Functional Requirements

3.2.1 Usability Requirement:

Usability is the ease of use and learnability of a human-made object. The object of use can be a software-application, website, book, tool, MACHINE, process, or anything a human interacts with. A usability study may be conducted as a primary job function by a usability analyst or as a secondary job function by designers, technical writers, marketing personnel, and others. It is widely used in consumer electronics, communication, and knowledge transfer objects and mechanical objects such as a door handle or a hammer. Usability includes methods of measuring usability, such as needs analyst and the study of the principles behind an object's perceived efficiency or elegance. In human-computer interaction and computer science, usability studies the elegance and clarity with which the interaction with a computer program or a web site is designed. Usability differs from user satisfaction and user experience because usability also considers usefulness.
Usability Requirements for this project design should support the following from the perspective of its primary users:

- Efficiency of use: goals are easy to accomplish quickly and with few or no user errors.
- Intuitiveness: the interface is easy to learn and navigate; buttons, headings, and help/error messages are simple to understand.
- Low perceived workload: the interface appears easy to use, rather than intimidating, demanding and frustrating.

3.2.2 Performance Requirement:

Performance requirement within system engineering, encompasses the set of roles, skills, activities, practices, tools, and deliverables applied at every phase of the systems development life cycle which ensures that a solution will be designed, implemented, and operationally supported to meet the non-functional requirements for performance.
In this project basic performance requirements get maintain by using object oriented concepts such as major pillars of object oriented programming thought process are ‘Abstraction’, ‘Modularity’, ‘Encapsulation’, ‘Hierarchy’ and minor pillars are ‘Concurrency’, ‘Persistence’, ‘Typing’. These pillars keep the inter-functionalities for the project as ‘loosely coupled and highly cohesive’.

3.2.3 Reliability Requirement:

Reliability Requirement is requirement that emphasizes dependency in the lifecycle management of a product. Dependability, or reliability, describes the ability of a system or component to function under stated conditions for a specified period of time. Reliability requirement may also describe the ability to function at a specified moment or interval of time (Availability). Reliability is defined as the probability of success (Reliability=1-Probability of Failure), as the frequency of failures; or in terms of availability, as a probability derived from reliability, testability and maintainability. Testability, Maintainability and maintenance are often defined as a part of "reliability engineering" in Reliability Programs. Reliability plays a key role in the cost-effectiveness of systems.
In this project, to achieve the reliability requirement of the software the various programming layers have to reliable on each other inclusively.
For example in our project, we have database, POJO layer, DAO layer, Controller layer, View layer. Among these, each layer has to relay on other layer. For example, POJO layer has dependency on database, for the implementation of DAO layer it has to take some help of POJO layer and so on. This activity shows the reliability requirements of our project.

3.2.4 Portability Requirement:

Portability in high-level computer programming is the usability of the same software in different environments. The pre-requirement for portability is the generalized abstraction between the application logic and system interfaces. When software with the same functionality is produced for several computing platforms, portability is the key issue for development cost reduction. In our project, we are making it using Java technology i.e. using spring, hibernate MVC etc. if user who is going to use this project application has different operating environment then it won’t matter unless and until user has compatible JVM(Java Virtual Machine) for his/her operating system. Hence through this we achieved the Portability Requirement.

3.2.5 Security Techniques:

The term security requirement is used by different communities and groups in different ways and may require additional explanation to establish the particular context for the various use cases. Security requirements can be stated at a very high level of abstraction, FISMA and FIPS 200 articulate security requirements at such a level. Organizations take these high-level security requirements and define certain security capabilities needed to satisfy those requirements and provide appropriate mission/business protection.
Security requirements are also reflected in various nontechnical security controls that address such matters as policy and procedures at the management and operational elements within organizations, again at differing levels of detail. It is important to define the context for each use of the term security requirement so the respective communities (including individuals responsible for policy, architecture, acquisition, engineering, and mission/business protection) can clearly communicate their intent.
In this project we are not going to use the security facilities explicitly. To provide the security requirement explicitly we have to use techniques such as cryptography and tamper-resistant hardware that can be used to build trust in software tools and processes. These opportunities arise from the fact that software systems are no longer monolithic single-vendor creations. Increasingly, systems are complex, late-bound assemblages made up of commercial, off-the-shelf (COTS) elements and even mobile code. COTS offers great savings over custom-written software.
In our project, we used Java platform, Java technology/platform provides security of code up to some extents. Java is secured because of following:

- No explicit pointer.
- Programs run inside virtual machine sandbox.
- Class loader- adds security by separating the package for the classes of the local file system from those that are imported from network sources.

Byte code Verifier- checks the code fragments for illegal code that can violate access right to objects.

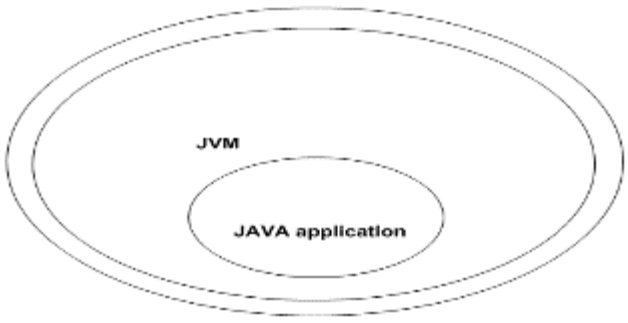


Fig 3:Security Environment in Java

PROJECT DESIGN

4.1 Data Model:

A data model organizes data elements and standardizes how the data elements relate to one another. Since data elements document real life people, places and things and the events between them, the data model represents reality. A data model is a set of symbols and text used for communicating a precise representation of an information system. A data model provides the details of information to be stored, and is of primary use when the final product is the generation of computer software code for an application or the preparation of a functional specification to aid a computer software make-or-buy decision. The figure is an example of the interaction between process and data models. Data models are often used as an aid to communication between the business people defining the requirements for a computer system and the technical people defining the design in response to those requirements. They are used to show the data needed and created by business processes.
The data model simply describes the structure of data entities and their relationships. For example, in a banking system, entities will typically include Account, Customer and Loan. Account has several attributes, such as account number, type (savings or checking), status, and current balance.A relationship may dictate that one customer can have one or more accounts, and one account is associated to one or two customers. Data modelling spans the evolution of the high-level model that displays the data entities in a given business domain into a model that shows details of how the data is stored. There are different stages of data models:

- Conceptual data model.
- Logical data model.
- Physical data model.

4.1.1 Database Design

Database design is the process of producing a detailed data model of a database. This data model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a data definition language, which can then be used to create a database. A fully attributed data model contains detailed attributes for each entity.

The term database design can be used to describe many different parts of the design of an overall database system. Principally, and most correctly, it can be thought of as the logical design of the base data structures used to store the data. In the relational model these are the tables and views. In an object database the entities and relationships map directly to object classes and named relationships. However, the term database design could also be used to apply to the overall process of designing, not just the base data structures, but also the forms and queries used as part of the overall database application within the database management system (DBMS).
The process of doing database design generally consists of a number of steps which will be carried out by the database designer. Usually, the designer must:

- Determine the data to be stored in the database.
- Determine the relationships between the different data elements.
- Superimpose a logical structure upon the data on the basis of these relationships.

Within the relational model the final step above can generally be broken down into two further steps that of determining the grouping of information within the system, generally determining what are the basic objects about which information is being stored, and then determining the relationships between these groups of information, or objects. This step is not necessary with an object database.

Table name: T_User
Primary Key:- user_Id
Description:- It tells about user information during registration.

Fig 4: User Registration

Field	Type	Constraints
user_Id	int(11)	Not Null
Fname	varchar(50)	Not Null
Lname	varchar(50)	Not Null
Dob	date	Not Null
Email	varchar(50)	Not Null
Password	varchar(255)	Not Null
State	varchar(25)	Not Null
City	varchar(25)	Not Null
Gender	varchar(10)	Not Null
role_id	int(11)	Foreign key, Not Null
userImage	longblob	Not Null
Mobile	int(10)	Primary key, Not Null

Table 1: User Registration Table

Table name: Application
Primary Key:- App_id
Description:- It tells about user application information.

Fig 5: User Application

Field	Type	Constraints
App_id	int(11)	Primary Key, Not Null
fatherName	varchar(50)	Not Null
motherName	varchar(50)	Not Null
address	varchar(100)	Not null
user_doc	longblob	Not Null
UniqueId	int(11)	Not Null
vid_status	bit(1)	Not Null
user_user_id	int(11)	Foreign Key, Not Null

Table 2: User Application Table

Table name: T_Role
Primary Key:- user_role_id
Description:- This table tells type of user

Fig 6: User Role

Field	Type	Constraints
user_role_id	int(11)	Primary key, Not Null
role	varchar(50)	Not Null

Table 3: User Role Table

4.2 Process Model:

A Process Model tells us about how the data is processed and how the data flows from one table to another to gather the required information. This model consists of the and Data Flow Diagram.

4.2.1 E-R Diagram:

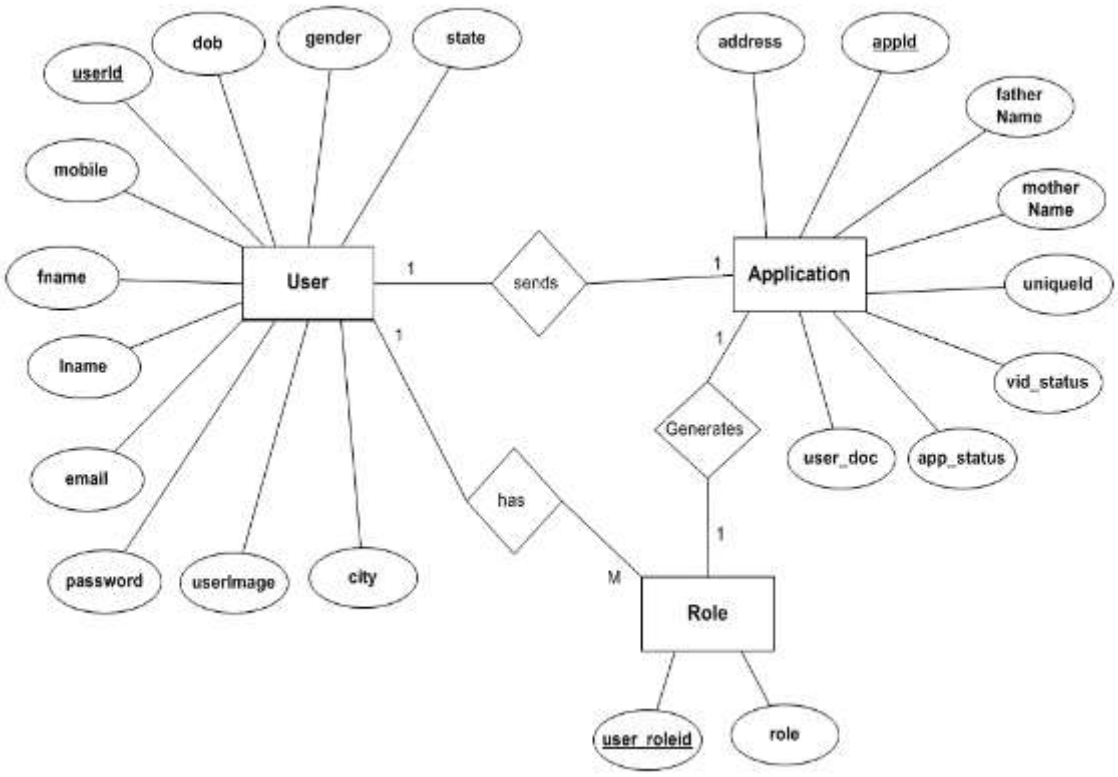


Fig 7: E-R Diagram

4.2.2 Data Flow Diagram:

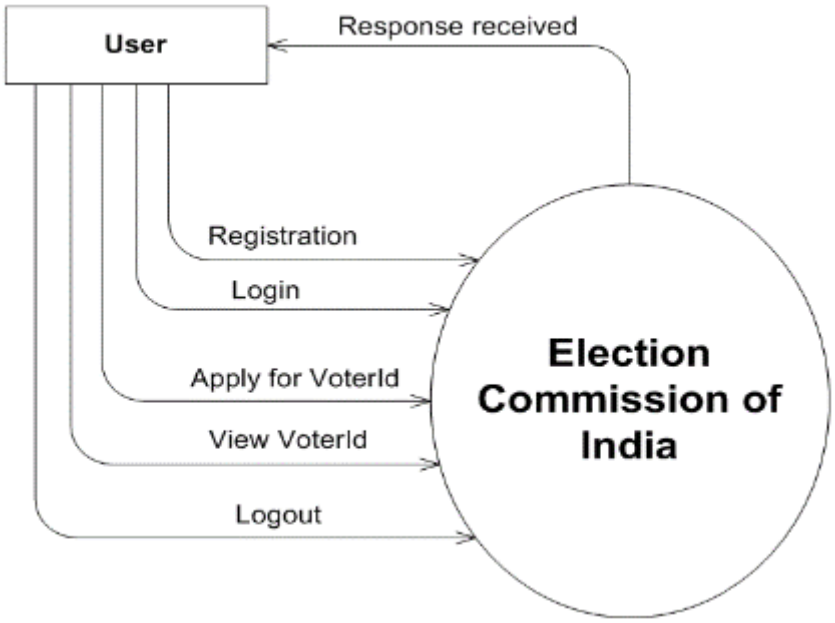


Fig 8: Data Flow Diagram level 0

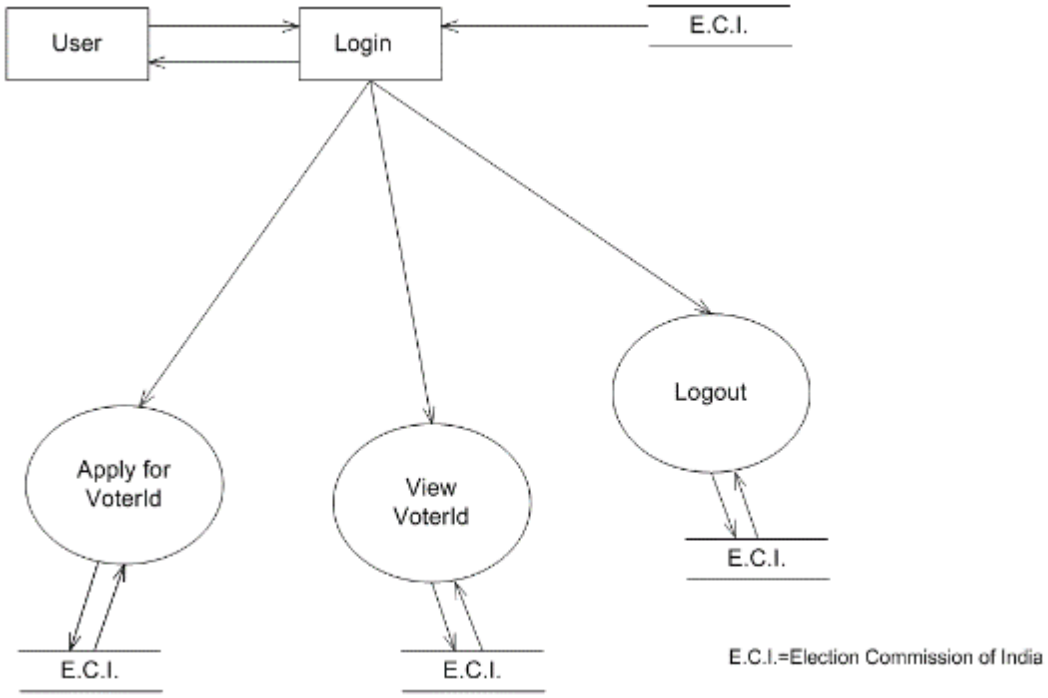


Fig 9: Data Flow Diagram level 1

4.2.3 Activity Diagram:

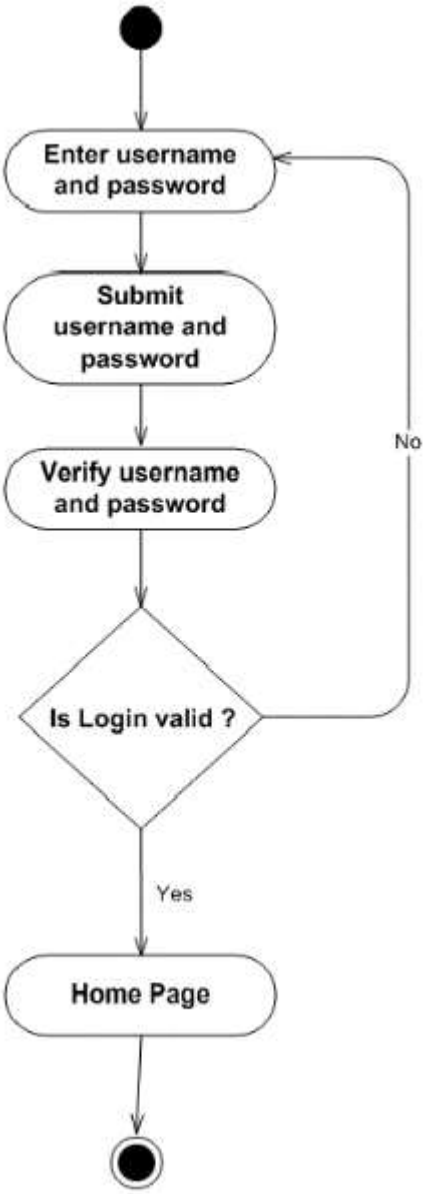


Fig 10: Login Activity Diagram

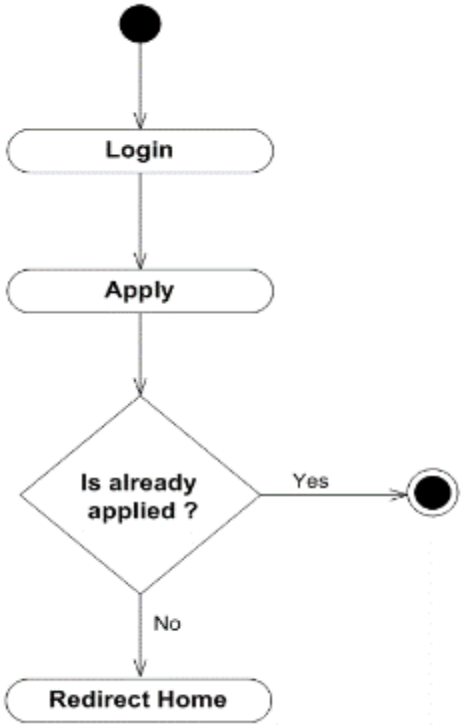


Fig 11:Apply Activity

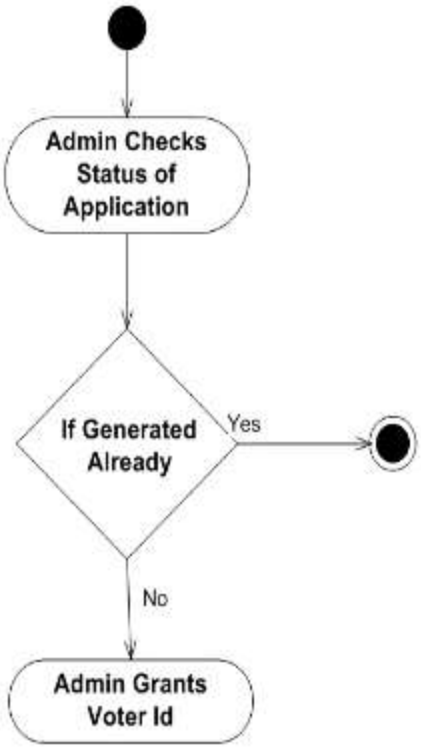


Fig 12:Generate Vid Activity

4.2.4 Class Relationship Diagram:

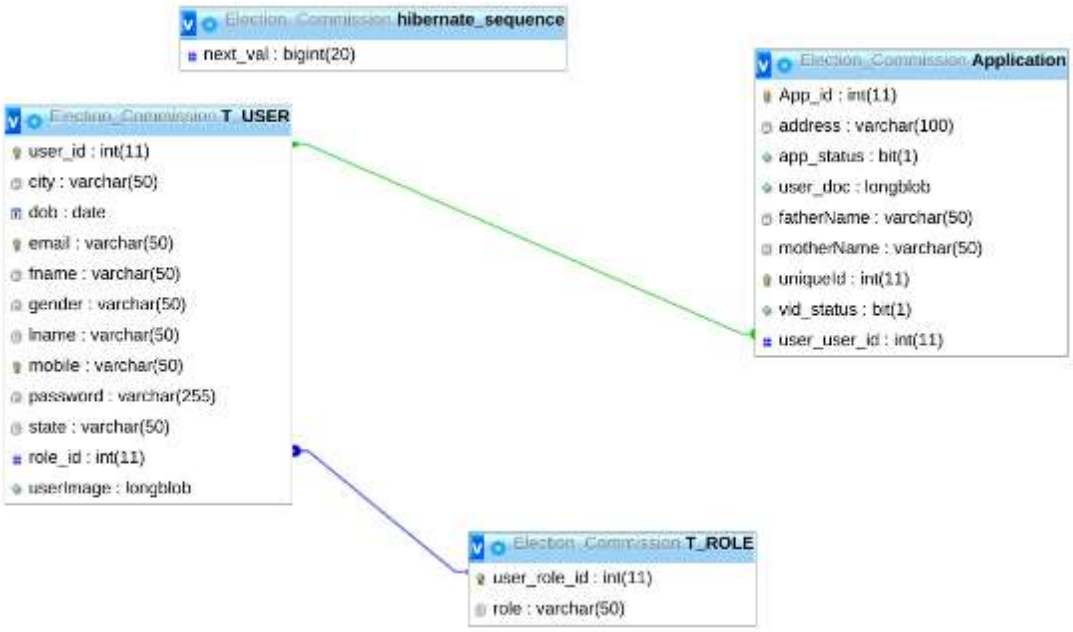


Fig 13: Class Relationship Diagram:

TEST REPORT

For User				
S.No.	**TEST CASE**	**EXPECTED RESULT**	**ACTUAL RESULT**	**ERROR MESSAGE**
1	Register page	Redirected to reg. form	OK	Nothing
2	Login page	Go to home page	OK	Nothing
3	Login validation	If enter wrong details redirect to login page	OK	Nothing
4	Apply for voter id	Redirected to apply form	OK	Nothing
5	Show voter id	Redirected to generated voter id card	OK	Nothing
6	Logout	Redirect to login page	OK	Nothing

Table 4: User Test Report Table

For Admin				
S.No.	**TEST CASE**	**EXPECTED RESULT**	**ACTUAL RESULT**	**ERROR MESSAGE**
1	Register page	Redirected to reg. form	OK	Nothing
2	Login page	Go to home page	OK	Nothing
3	Login validation	If enter wrong details redirect to login page	OK	Nothing
5	Show List of users	Redirected to User List page	OK	Nothing
6	Generate Voter id	Redirect to User List page	OK	Nothing
7	Search user	In same page, shows selected user from list	OK	Nothing
8	Logout	Redirected to login page	OK	Nothing

Table 5: Admin Test Report Table

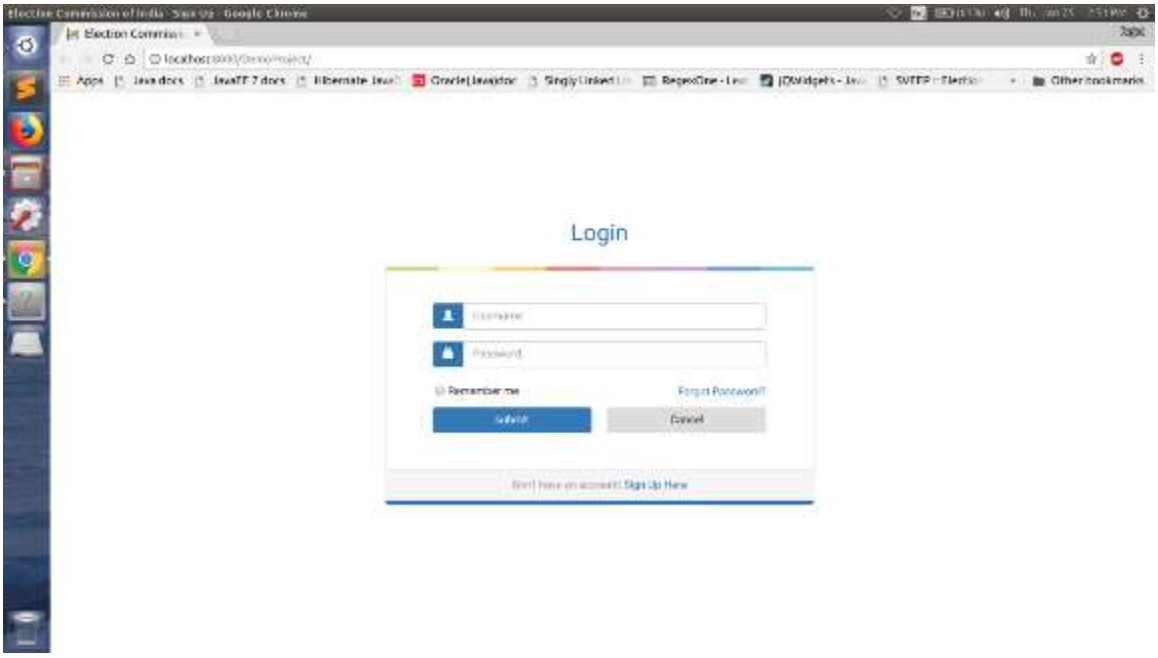
CONCLUSION

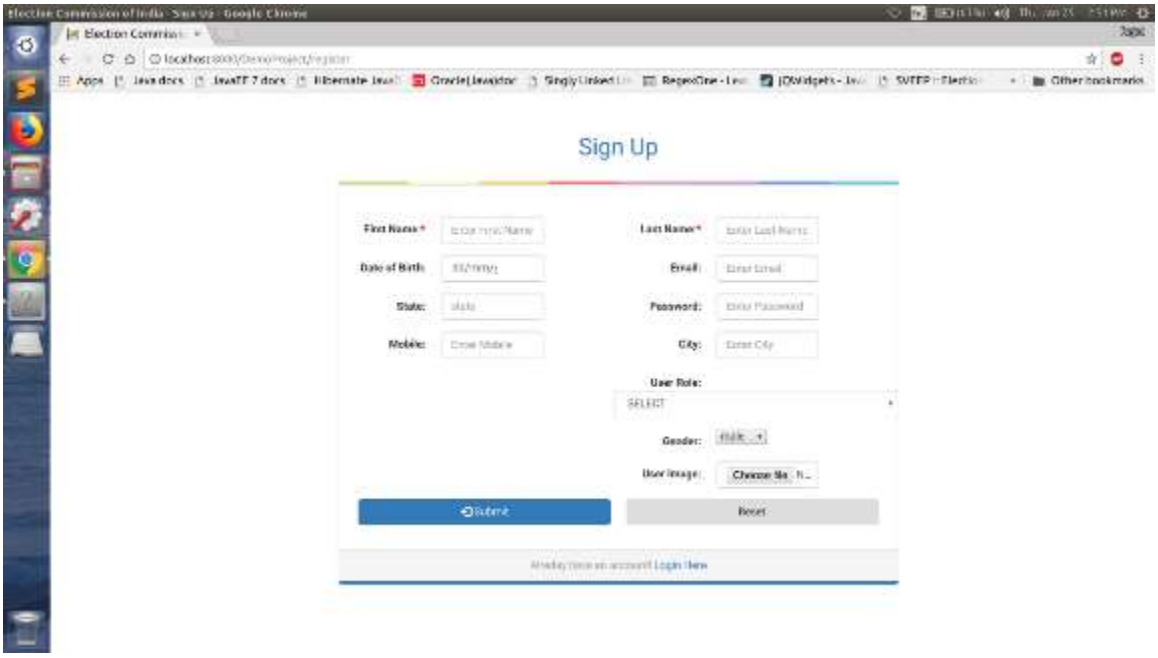
The core reason for the establishment of computerized generation of voter id is to make the current process less tedious by giving user facility to apply for voter id online.

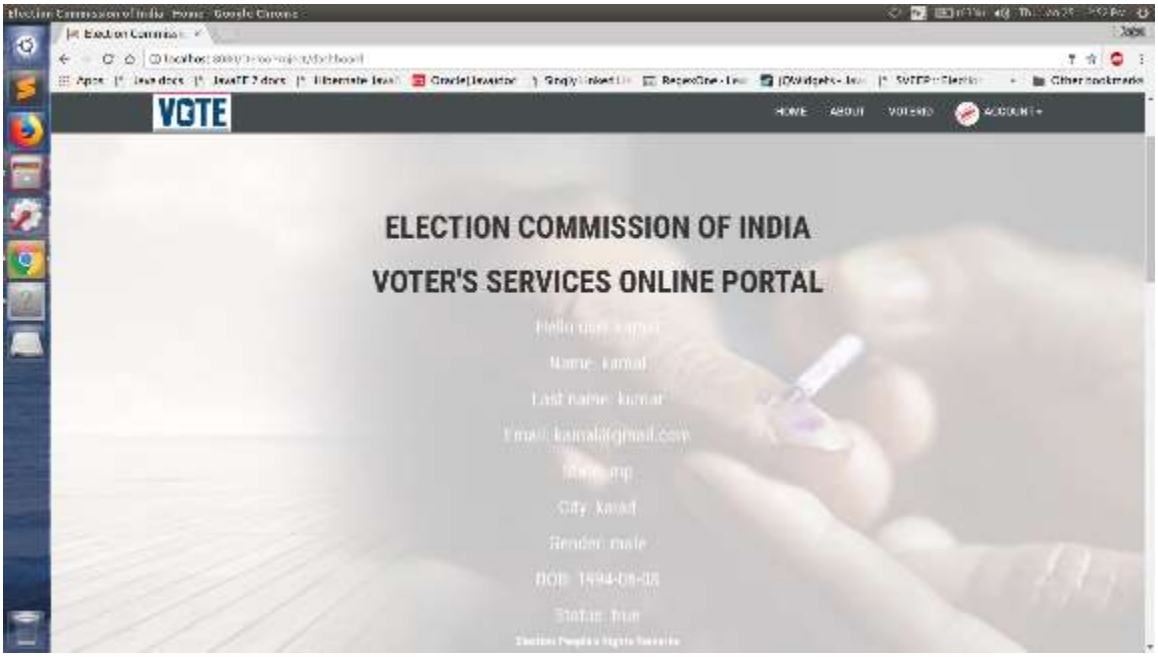
In our web application any user who is an adult can register, login and apply for voter id card. This process saves a lot of time both for user and for election commission.

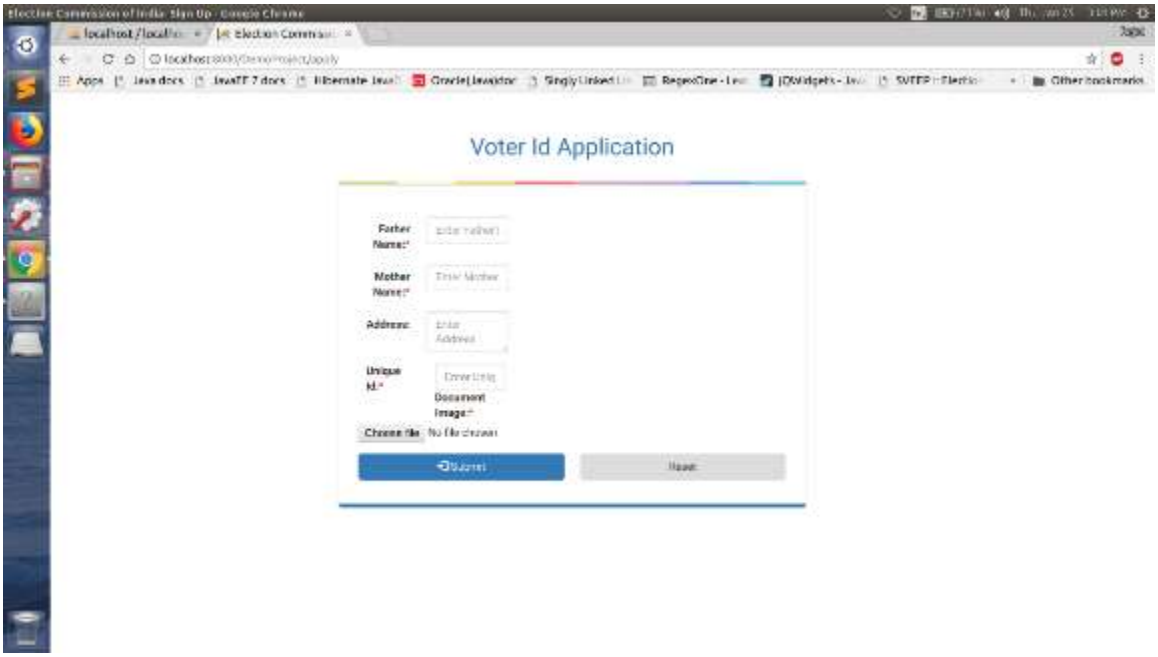
The government administrator can view list of users and can see their document for verification, if user is valid then he/she can generate voter id else reject it. The application can be further expanded by following the future enhancement.

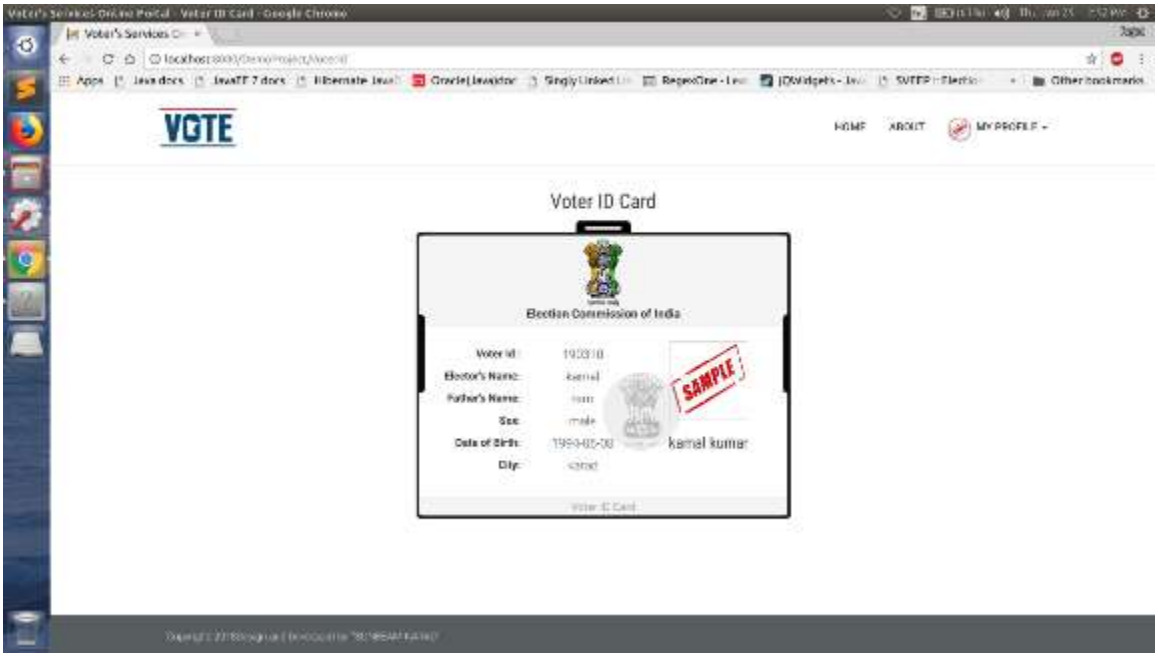
The main objective of this project is to provide better work efficiency, reliability, accuracy, and feasibility. The error occurred can be reduced to minimum and working conditions can be improved.

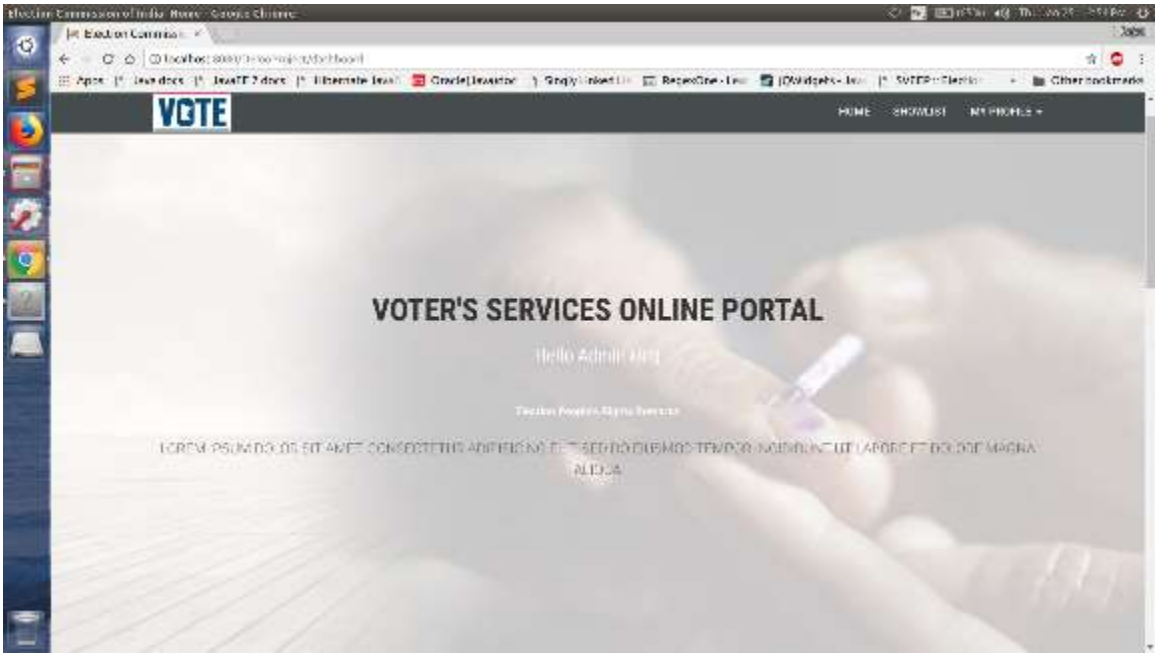

Login
Remember me
Forgot Password?
Submit
Cancel

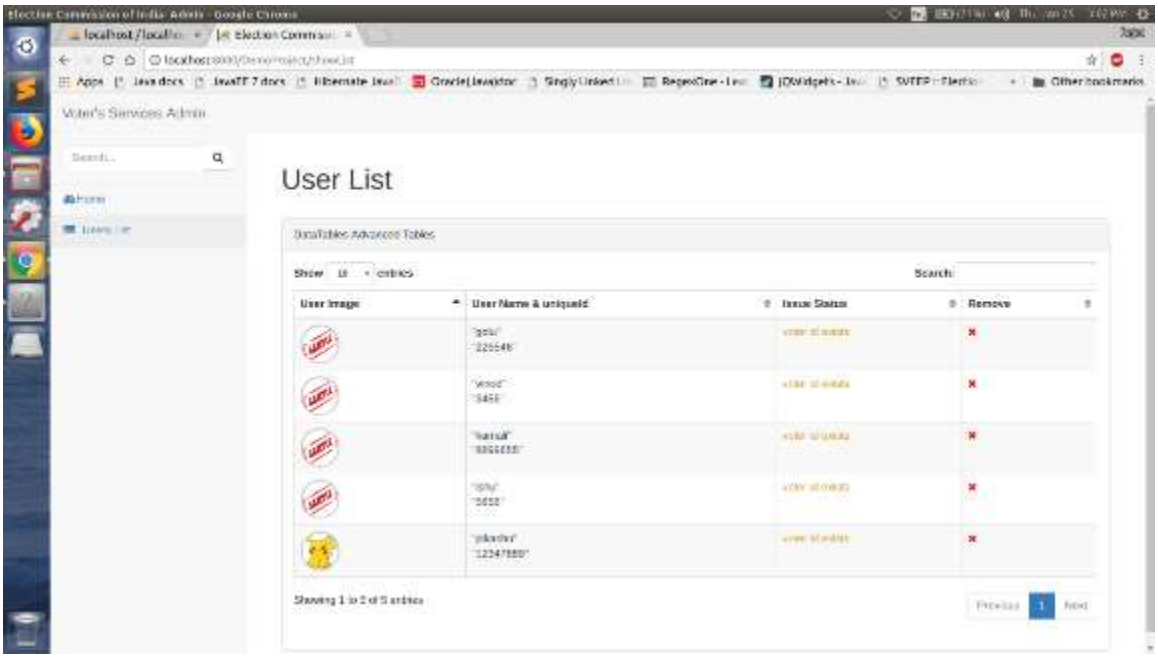

Sign Up
First Name *
Last Name *
Date of Birth
Email
State:
Password:
Mobile:
City:
User Role:
SELECT
Gender:
User Image:
Submit
Reset


VOTE
HOME
ABOUT
VOTERID
ACCOUNT
ELECTION COMMISSION OF INDIA
VOTER'S SERVICES ONLINE PORTAL


Voter Id Application
Father Name:*
Mother Name:*
Address:
Unique Id:*
Document Image:*
Choose file
No file chosen


VOTE
HOME
ABOUT
MY PROFILE
Voter ID Card
Election Commission of India
SAMPLE
kamal kumar


VOTE
HOME
VOTER'S SERVICES ONLINE PORTAL


Voter's Services Admin
User List
DataTables Advanced Tables
Show 10 entries
Search:
User Image
User Name & uniqueId
Issue Status
Remove
Showing 1 to 5 of 5 entries
Previous
1
Next

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- https://csstutorial.net
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