



# Internet Voting – **Are We Ready?**

*As the world has become more Internet-focused,  
will the electoral process follow suit?*

*Perfect opportunity for better voting experience*

# Online Voting System

*Guide : R. Kranthi Kumar*

A. Bharanidhar Reddy  
G. S. S Krishnam Raju  
V. Vinay Kumar  
G. Naveen Kumar

---

# Agenda

---

- ❖ Abstract
- ❖ Existing system
- ❖ Drawbacks of existing system
- ❖ Proposed system
- ❖ Advantages in proposed system
- ❖ Project requirements
- ❖ Methodology
- ❖ Work plan and distribution of work
- ❖ UML Diagrams
- ❖ Screenshots
- ❖ Other Features
- ❖ Testcases
- ❖ Future Scope
- ❖ Conclusion
- ❖ References

---

# Abstract

---

- A *voting system* consists of a protocol which must be followed for a vote to be considered valid, and which define how votes are cast, counted and aggregated to yield the final result of the election.
- An individual can cast the vote from home. In case of no internet one can go to the nearby mee-seva center.
- Our idea is to collaborate the voting process with the Aadhaar card.
- With the help of fingerprint, individual's identity can be verified.

# Existing System

## Voting Procedure



## Electronic Ballot Marker



## Manual and Paper based



## Votes Counting Machine



---

# Drawbacks of existing system

---

- ❖ Expensive and time consuming
- ❖ Too much paper work
- ❖ More manpower
- ❖ Errors during data entry
- ❖ Malfunctioning of EVMs
- ❖ Low voting percentage

# Proposed System

Online voting system with fingerprint using Aadhaar card.

- ❖ Voter can cast the vote online.
- ❖ Aadhaar card is used to retrieve the complete details about the voter.
- ❖ Finger print scanning is used to verify the voter.



+



+



---

# Advantages of Proposed System

---

- ❖ No paper work
- ❖ Register and cast vote from anywhere
- ❖ Prevent voters from voting more than once
- ❖ No manual errors
- ❖ Lesser voter waiting time - no long queues

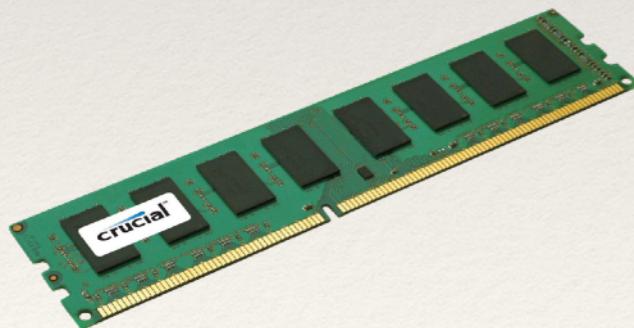
# Project Requirements

## Software Requirements

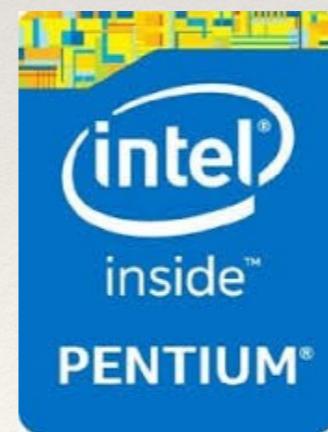


## Hardware Requirements

RAM : minimum 4GB



Processor : minimum



Fingerprint Scanner



---

# Methodology

---

The application will consist of **3** modules.

## **1. Administrative module**

- ▶ The system administrator controls the entire voting system.
- ▶ Administrator can access the voters' and candidates' information and monitor the results.

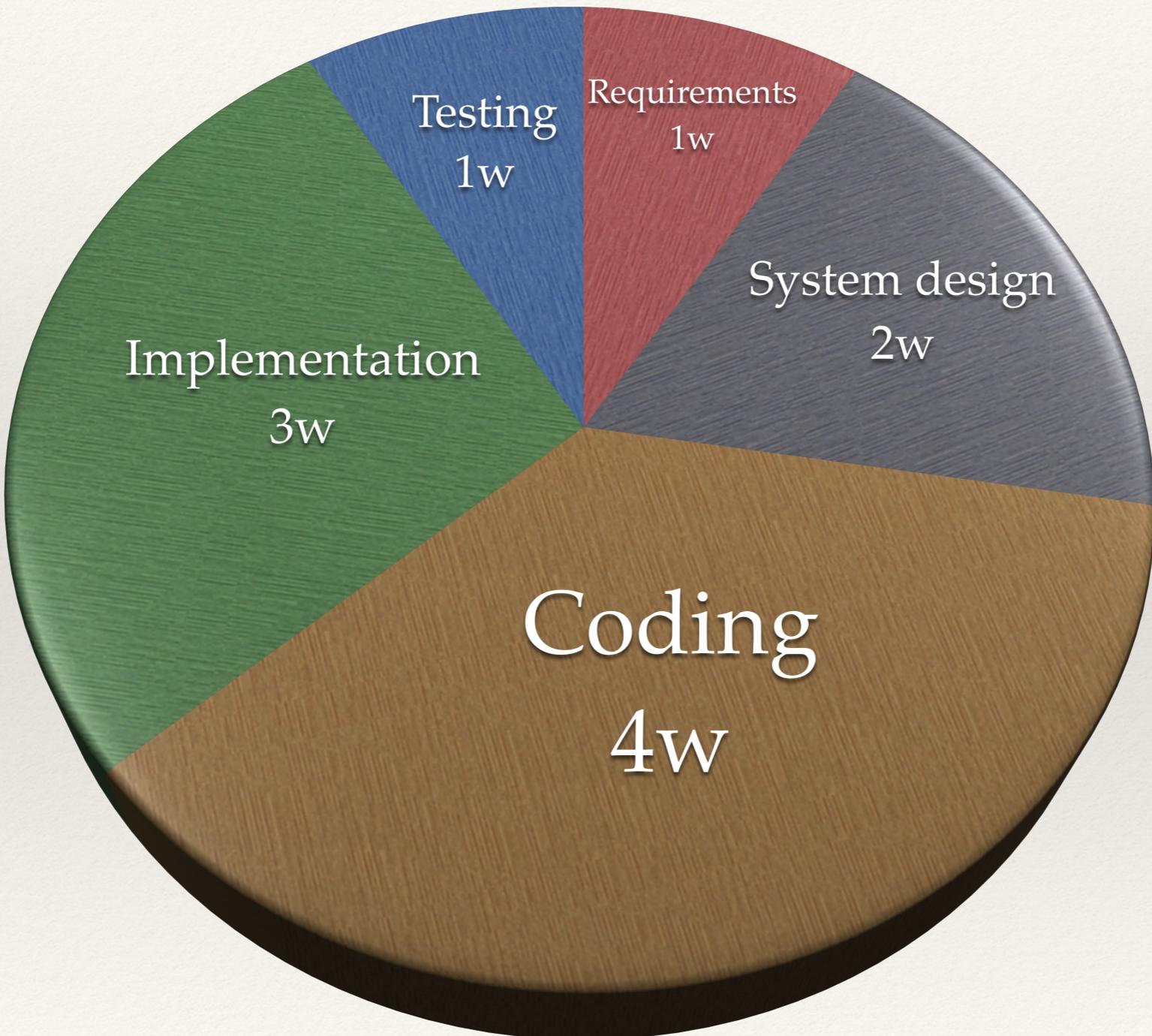
## **2. Server module**

- ▶ Server computer stores application programs and data files.
- ▶ Security measures are also considered.

## **3. Client Module**

- ▶ The voter can cast the vote in the client computer.
- ▶ Vote count of the candidate is updated in the server.

# Work Plan



# Distribution of work

Responsibilities

Design

Back End Coding

Security measures (testing)

Coordination & Maintenance

People

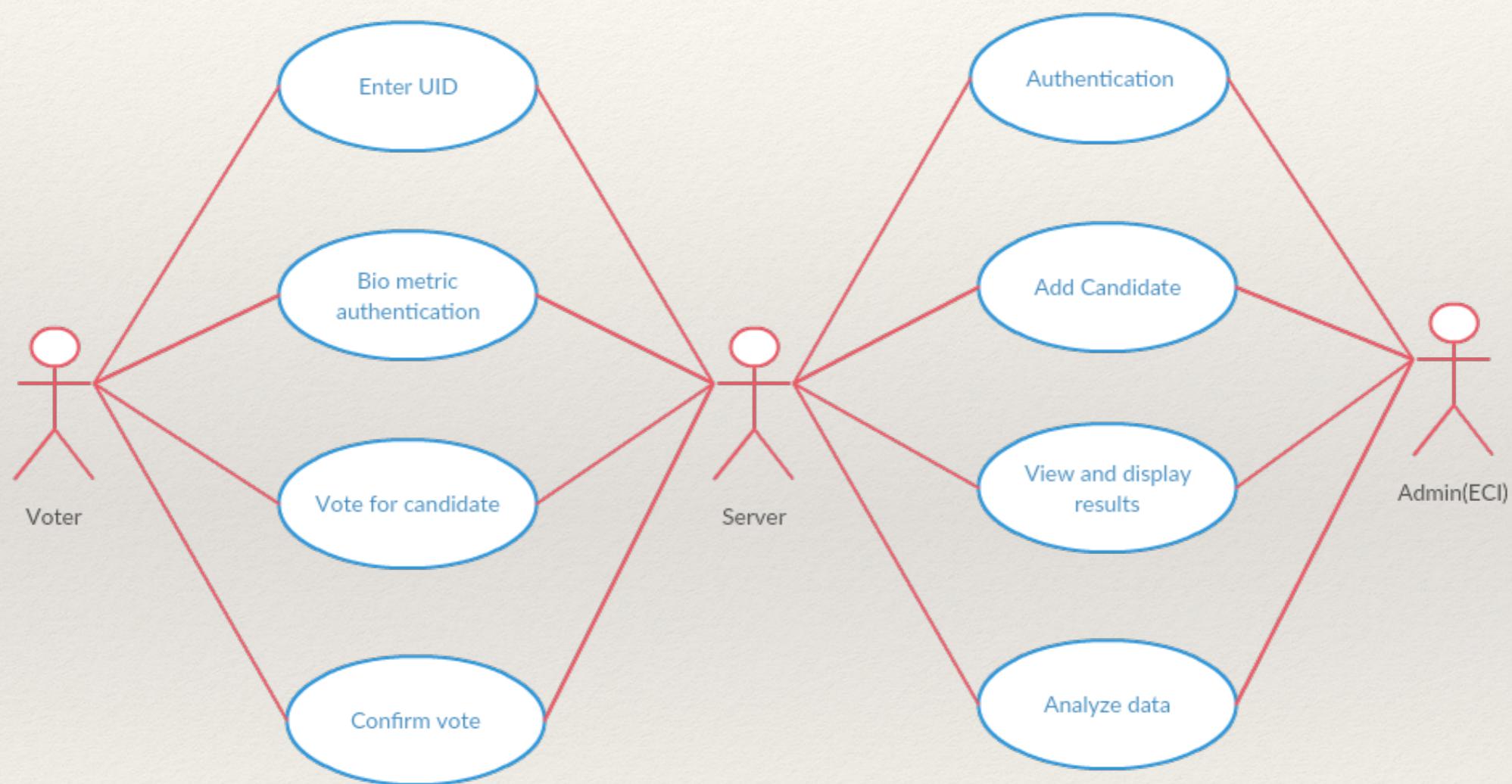
Vinay, Naveen

Bharanidhar, Vinay

Bharanidhar, Krishnam

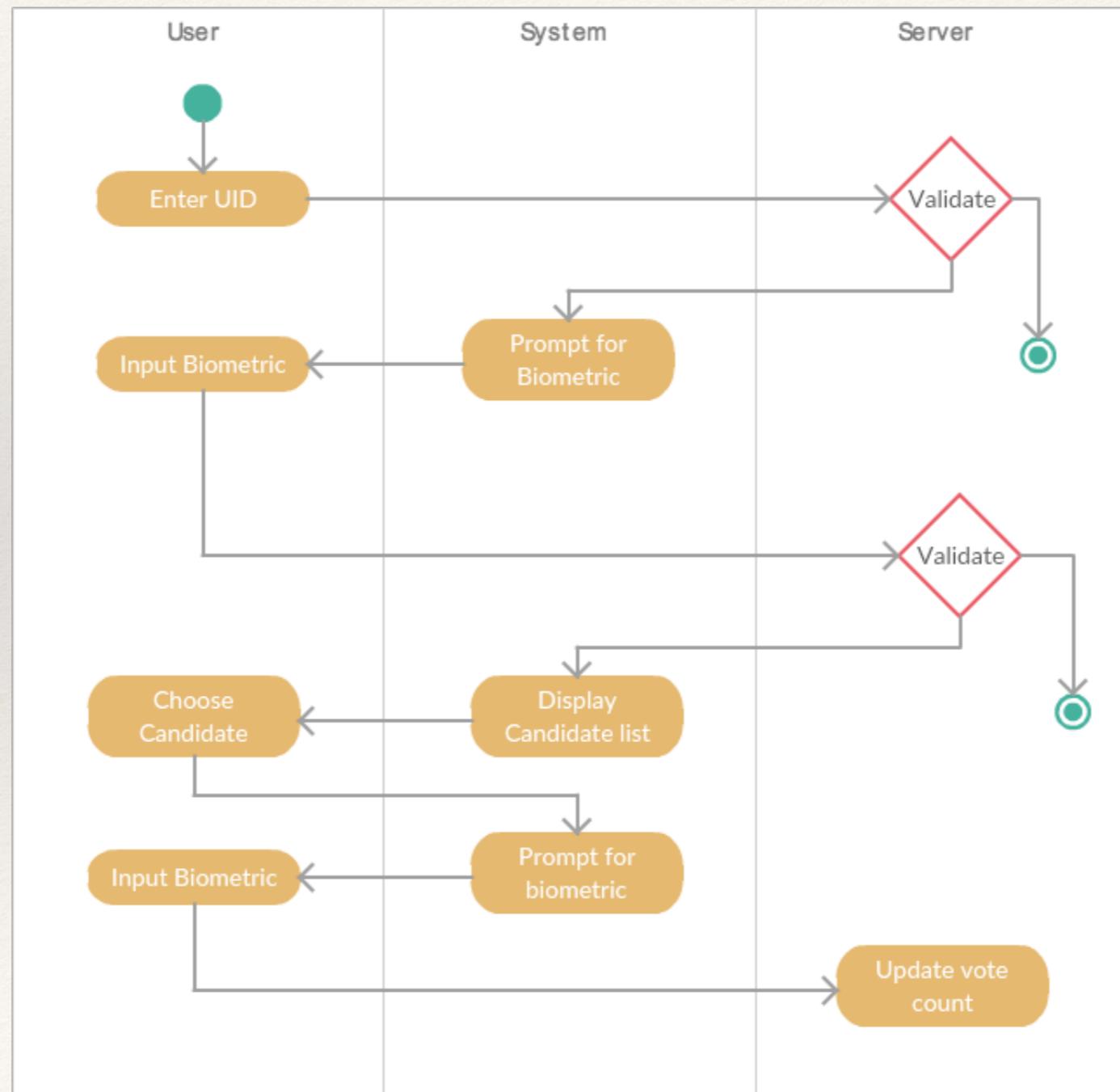
Naveen, Krishnam

# Usecase Diagram



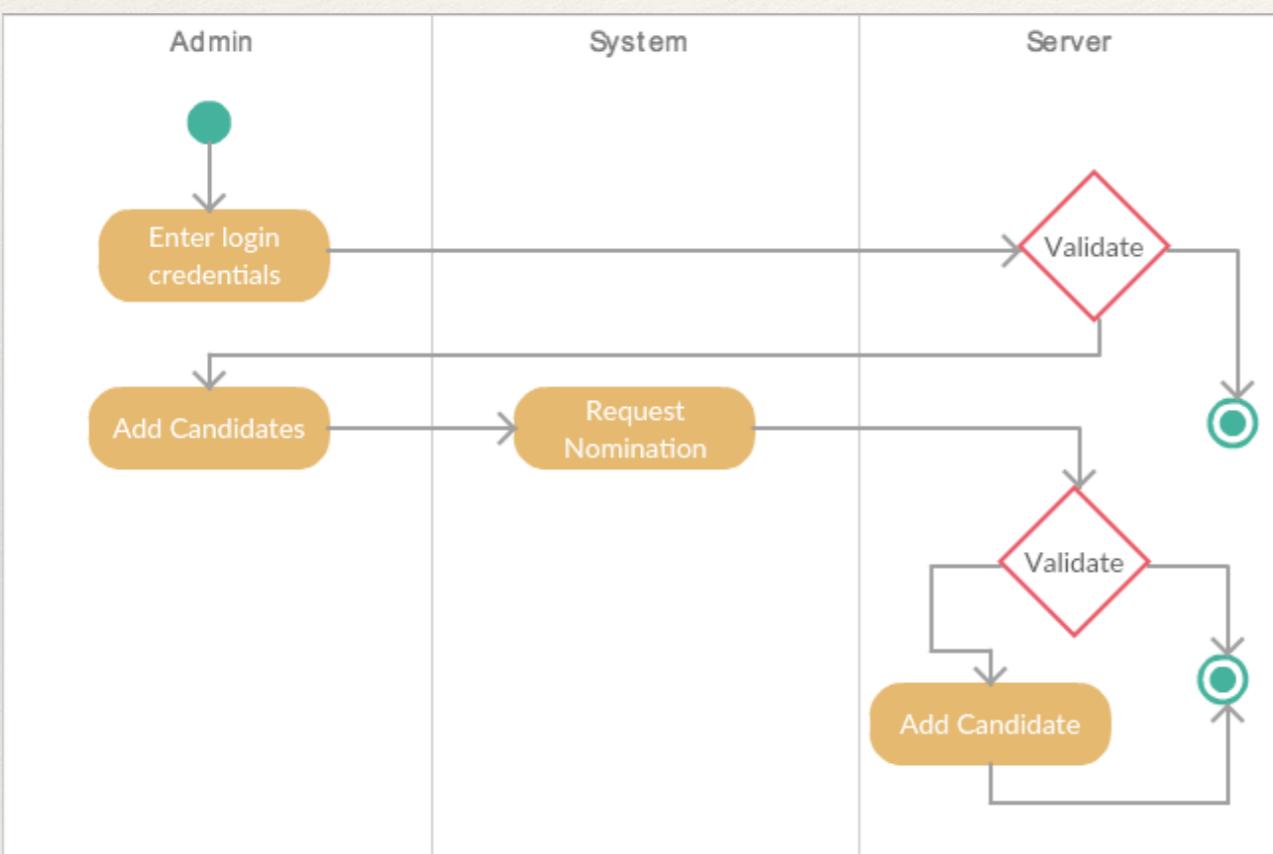
# Activity Diagram

## For User Login and Casting Vote

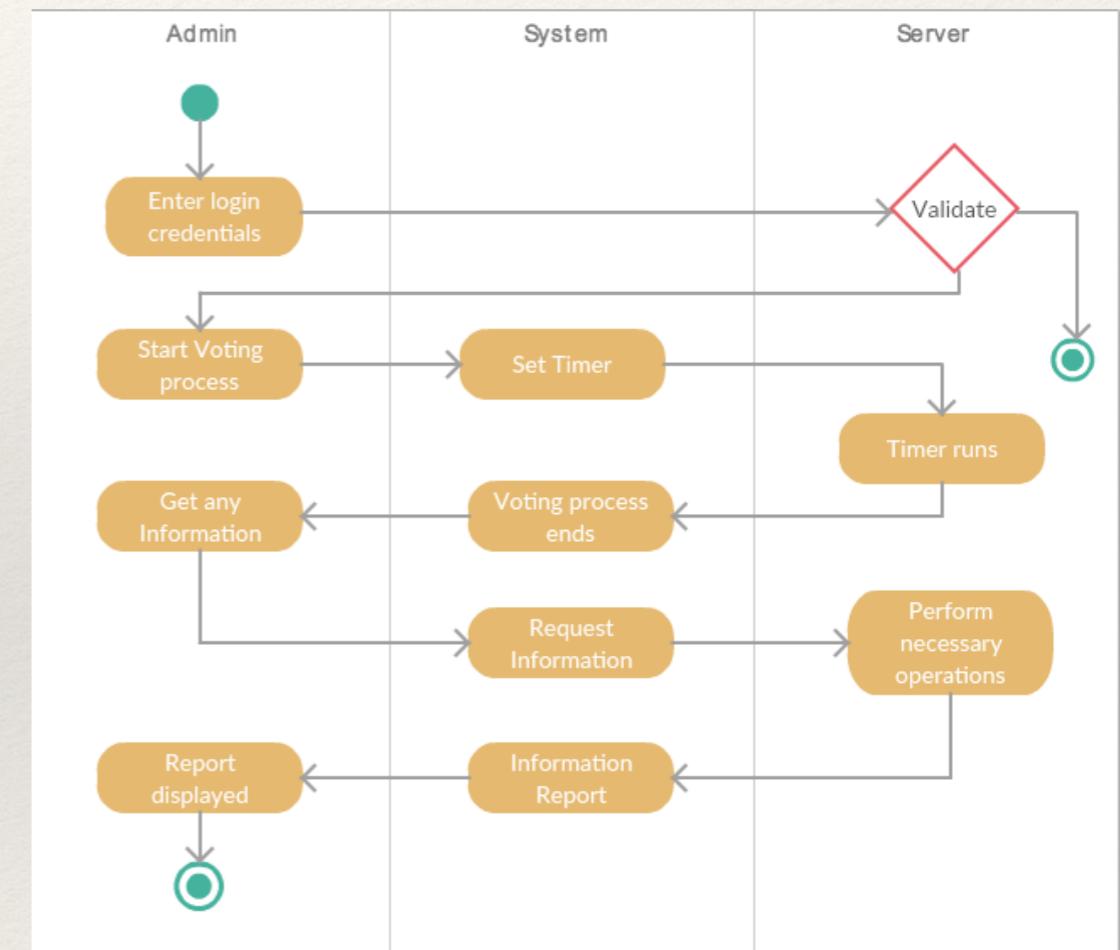


# Activity Diagram

For Admin Adding Candidates

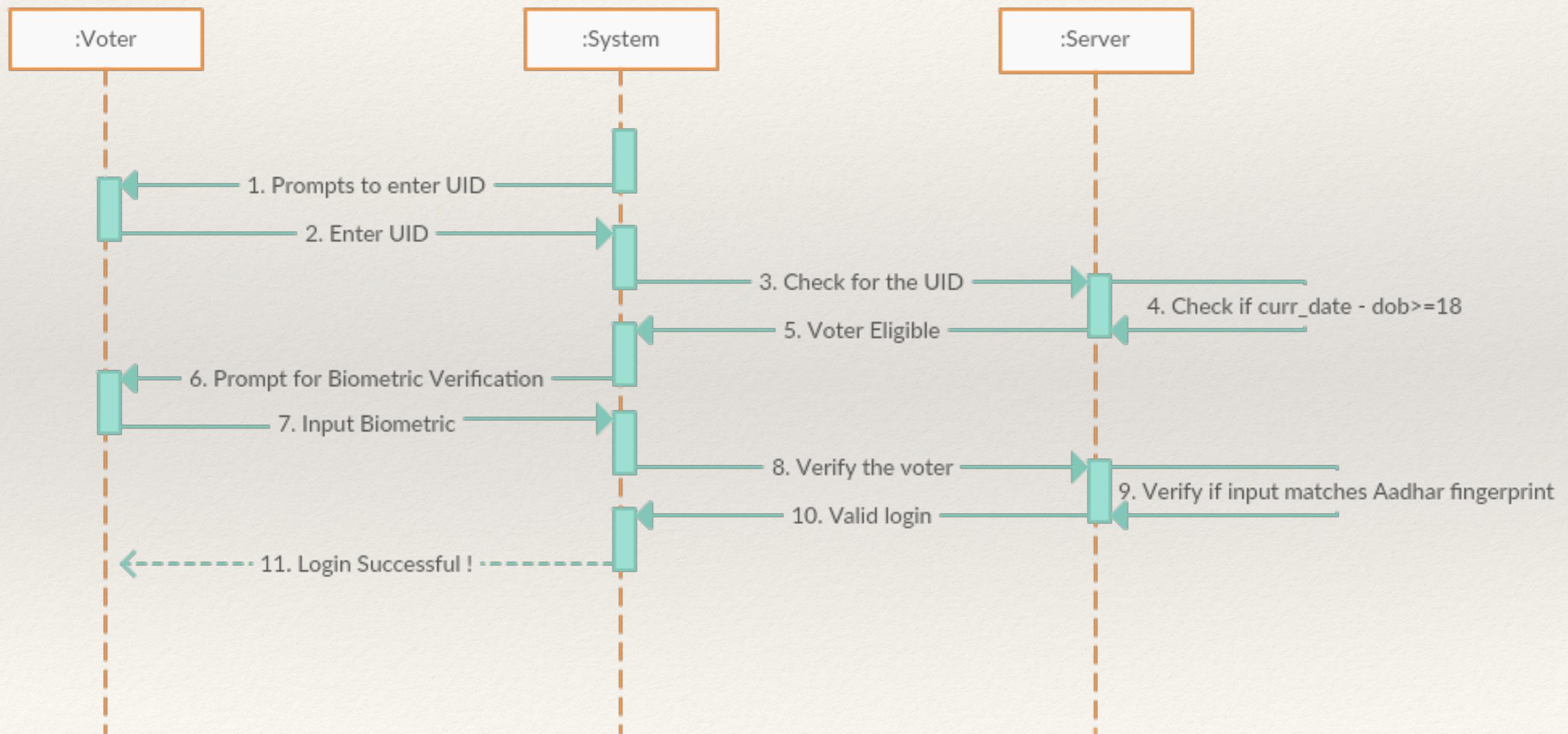


For Admin managing voting process



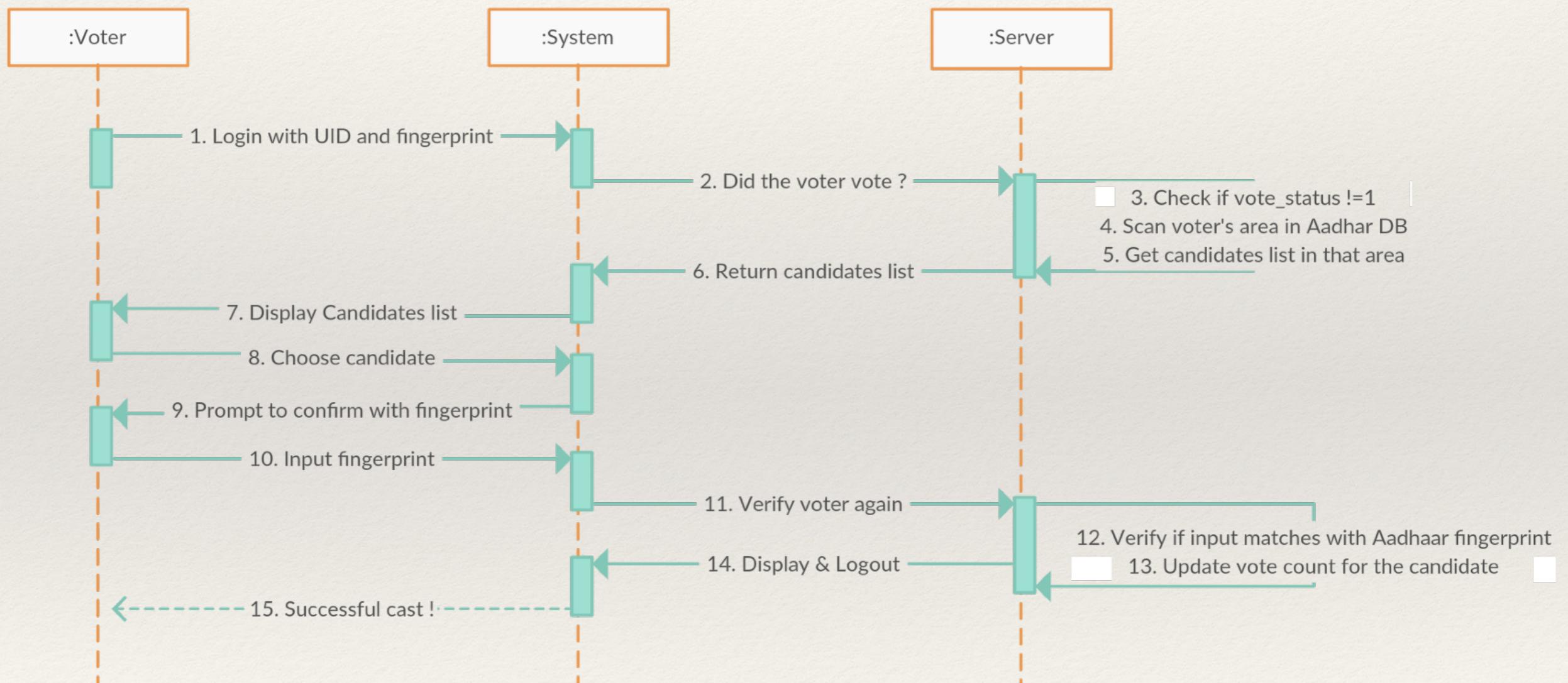
# Sequence Diagram

## For User Login



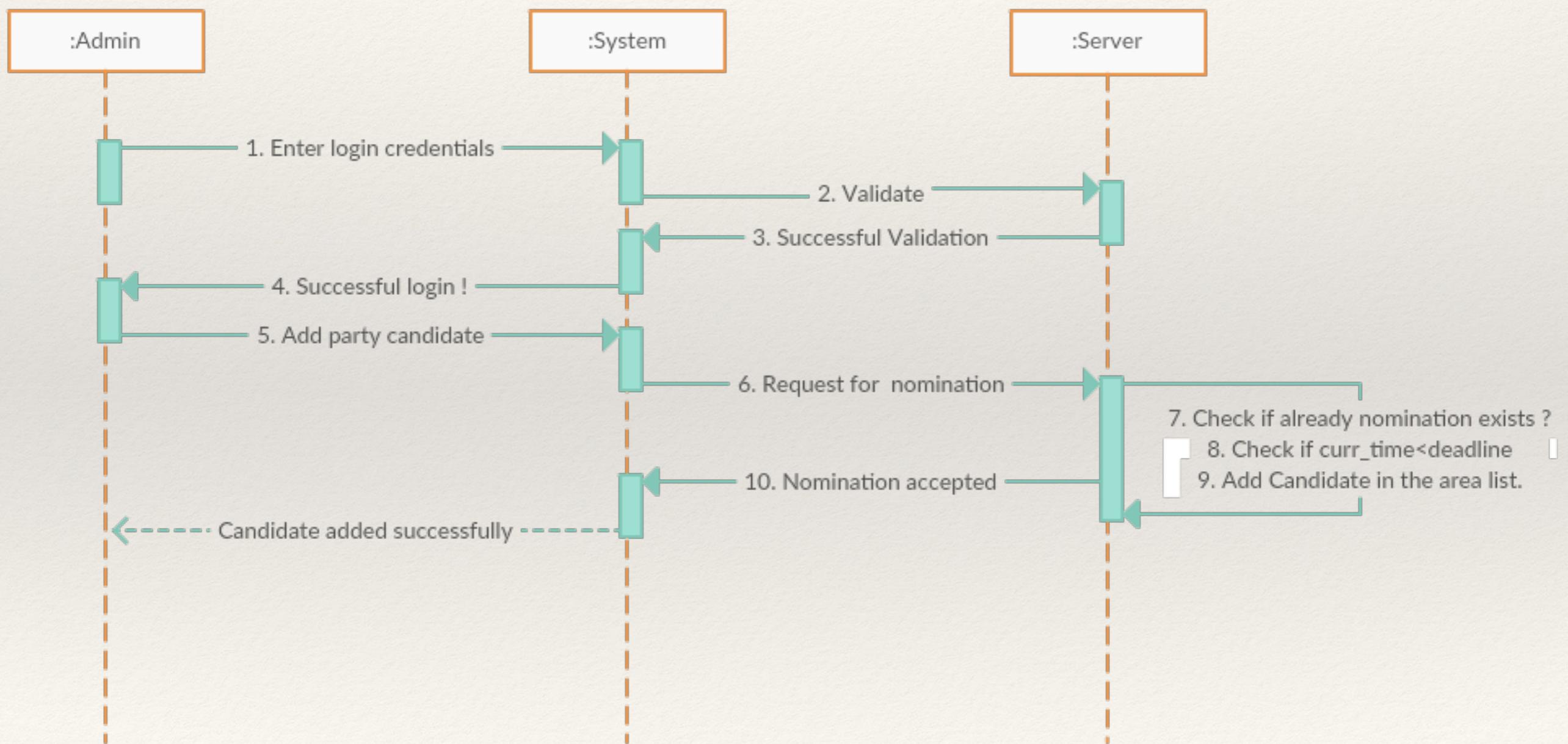
# Sequence Diagram

## For User Casting Vote



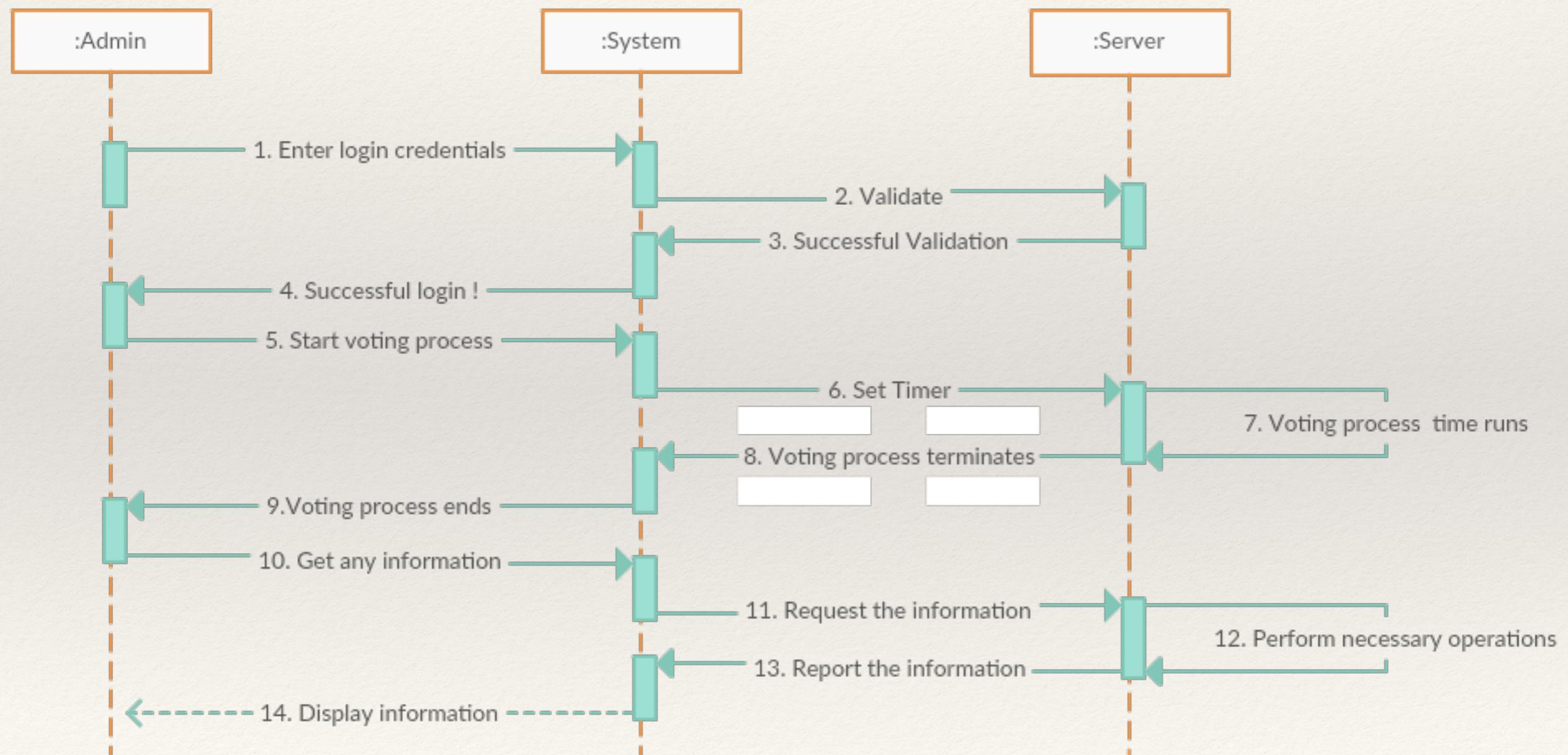
# Sequence Diagram

## For Admin Adding Candidates

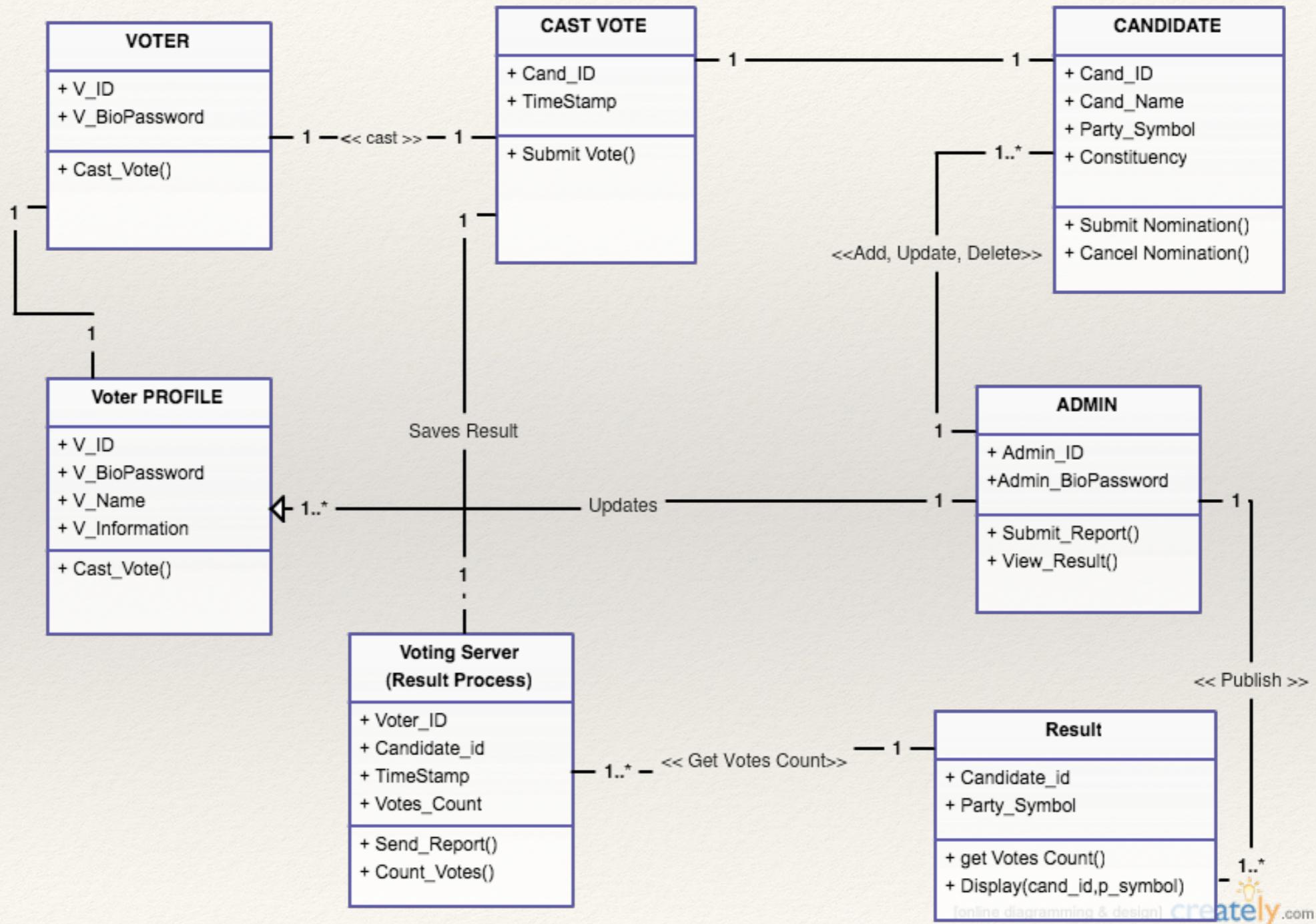


# Sequence Diagram

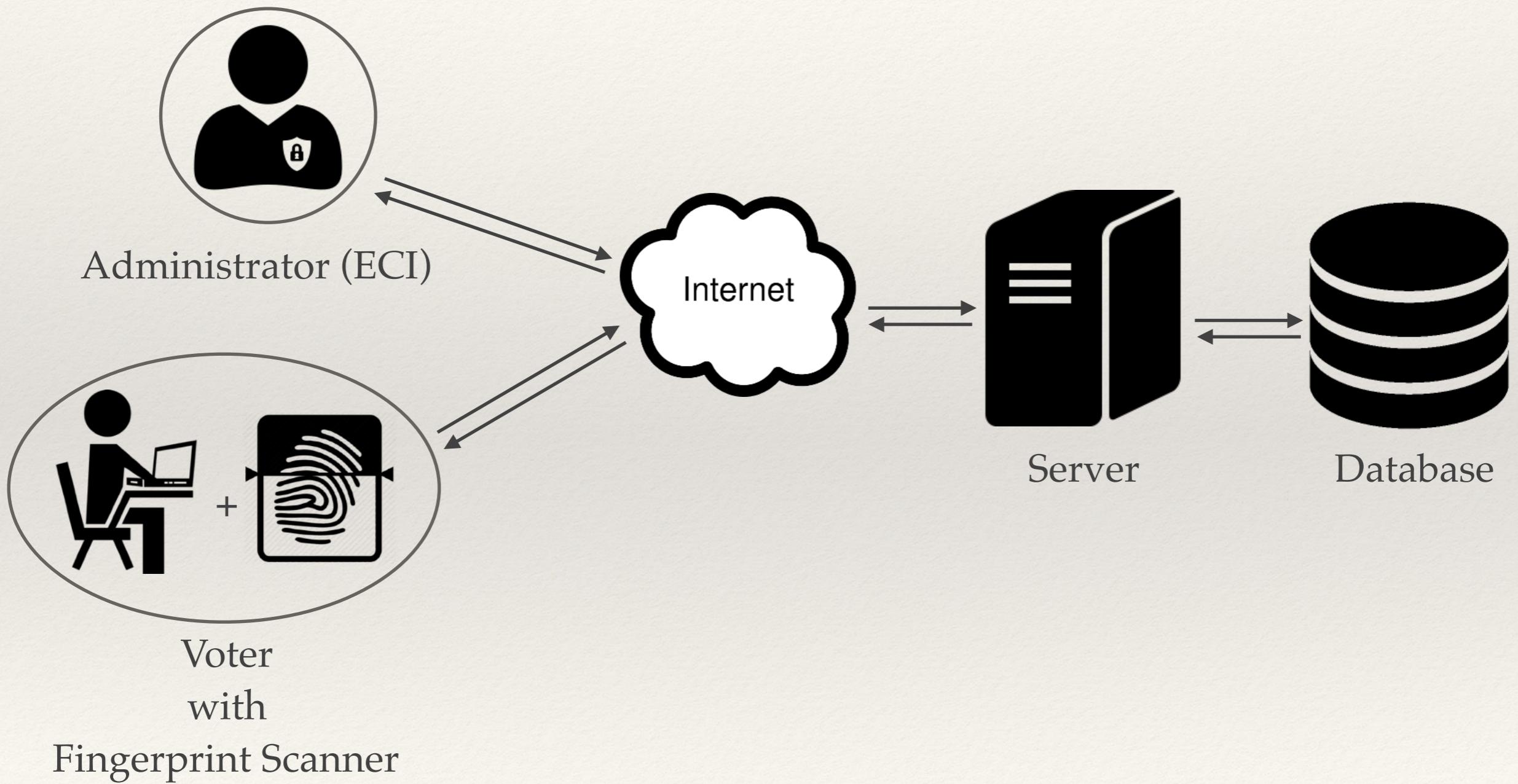
For Admin managing voting process



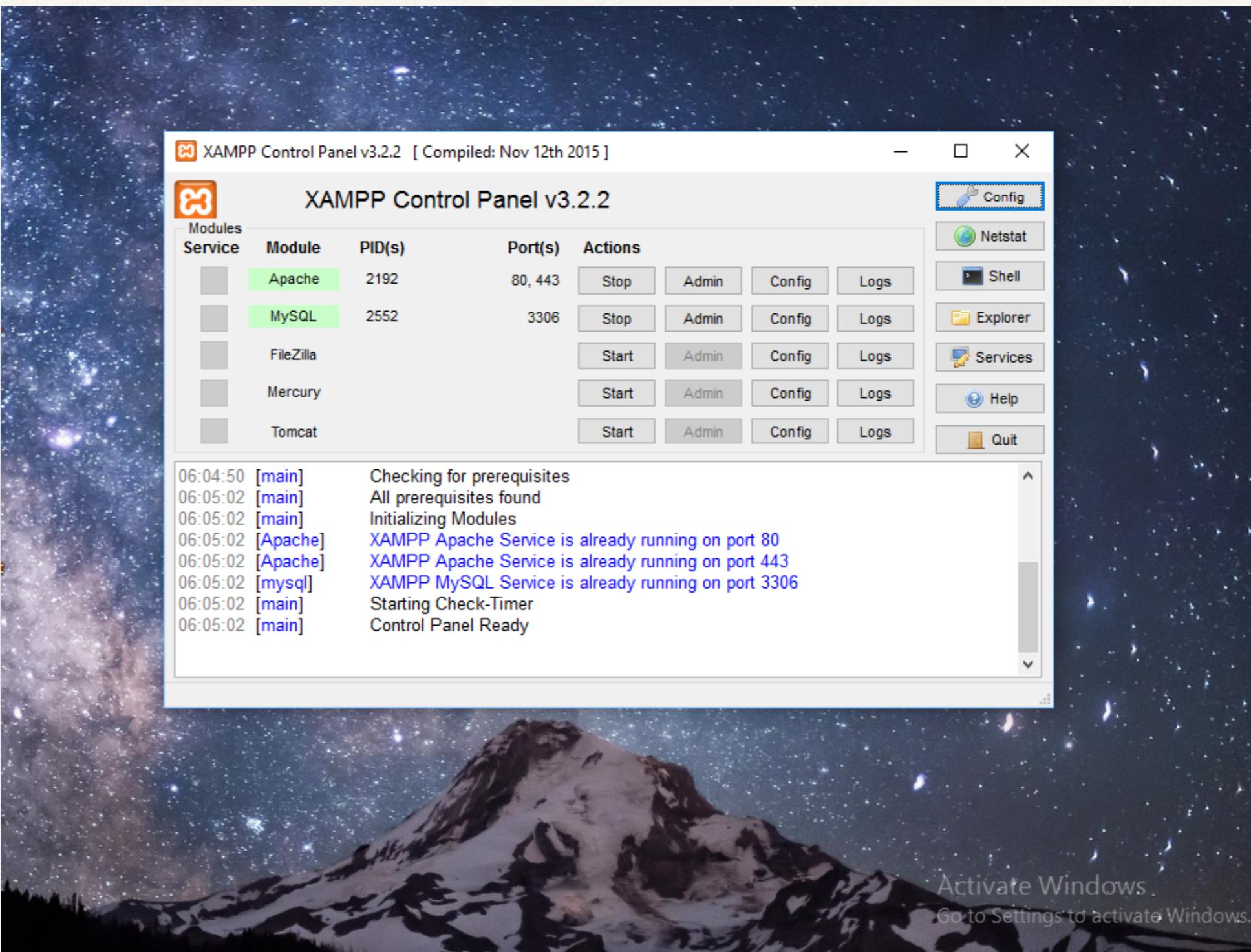
# Class Diagram



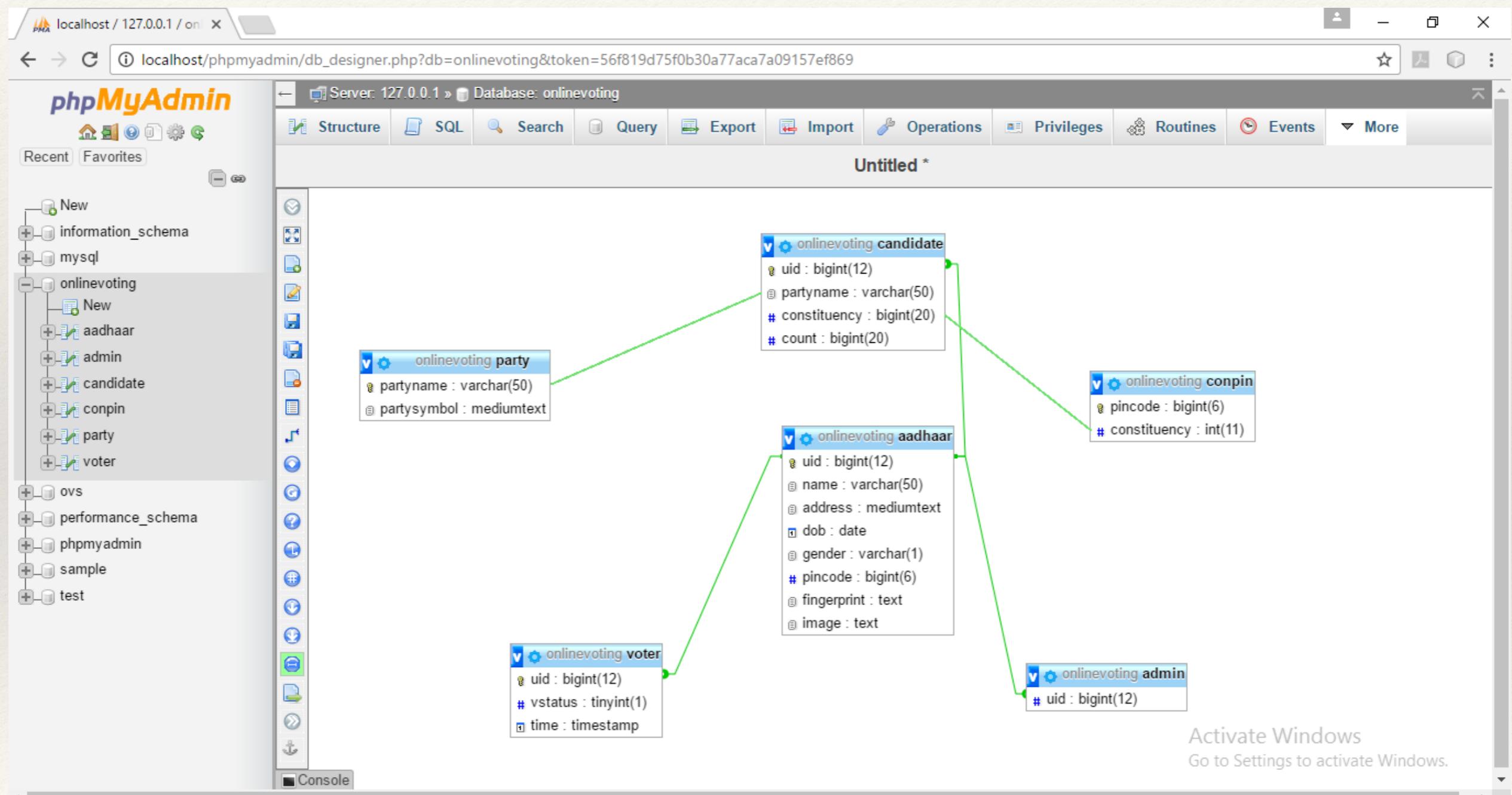
# System Architecture



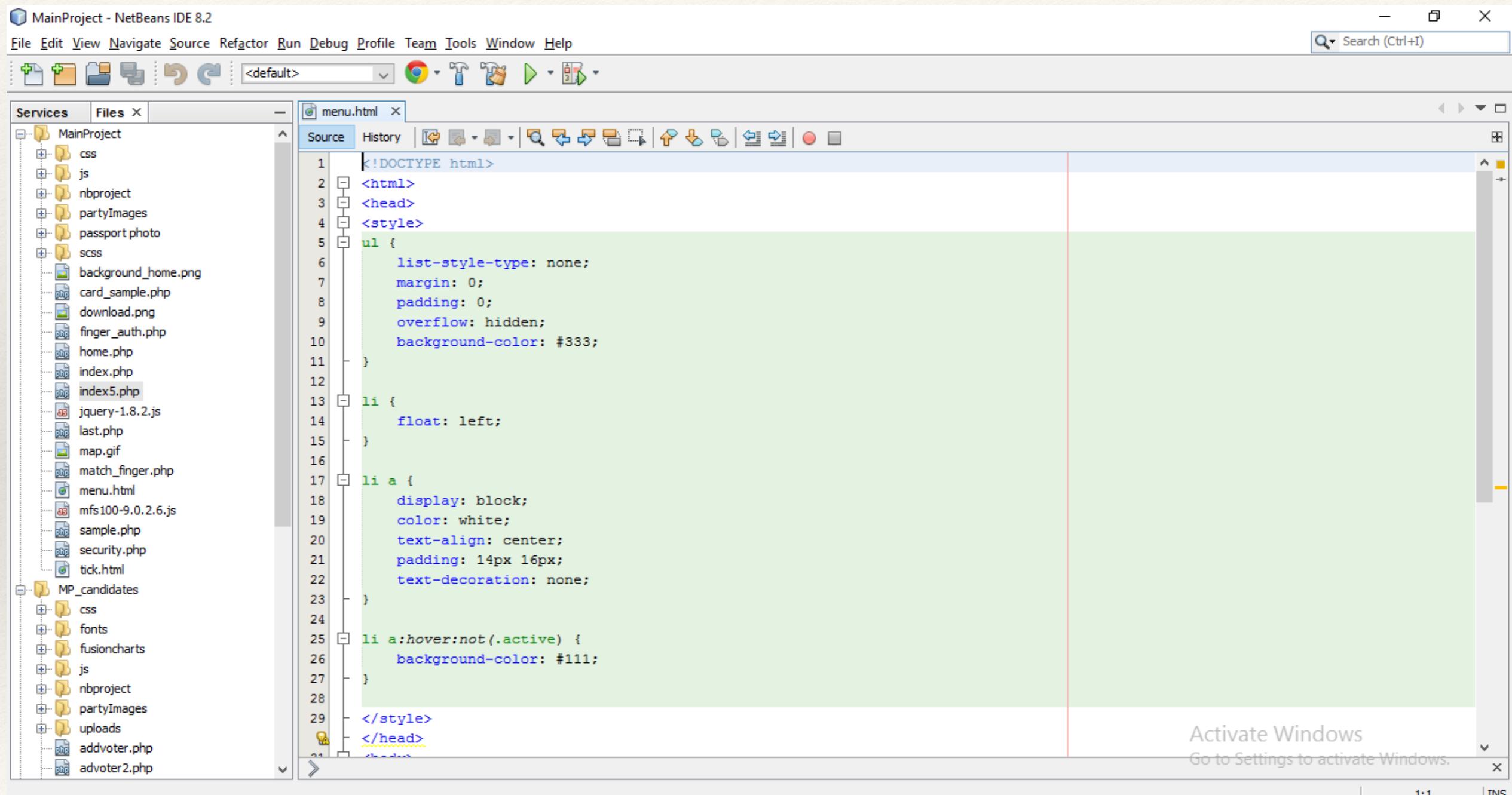
# Server Software (XAMPP)



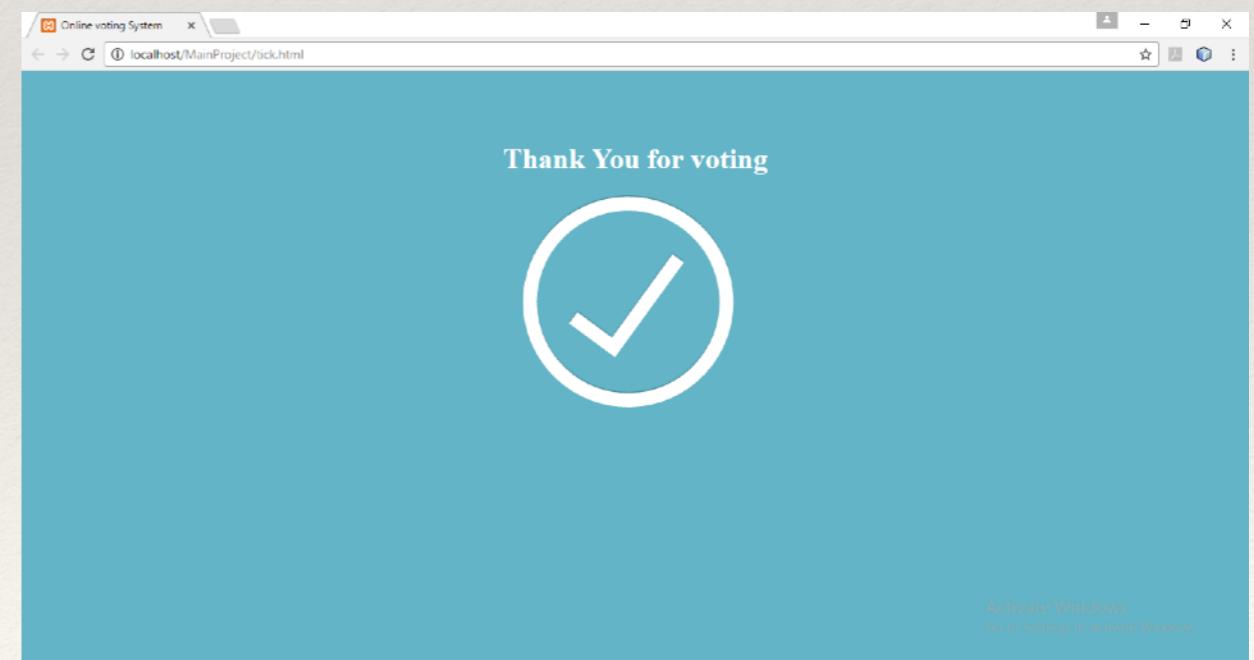
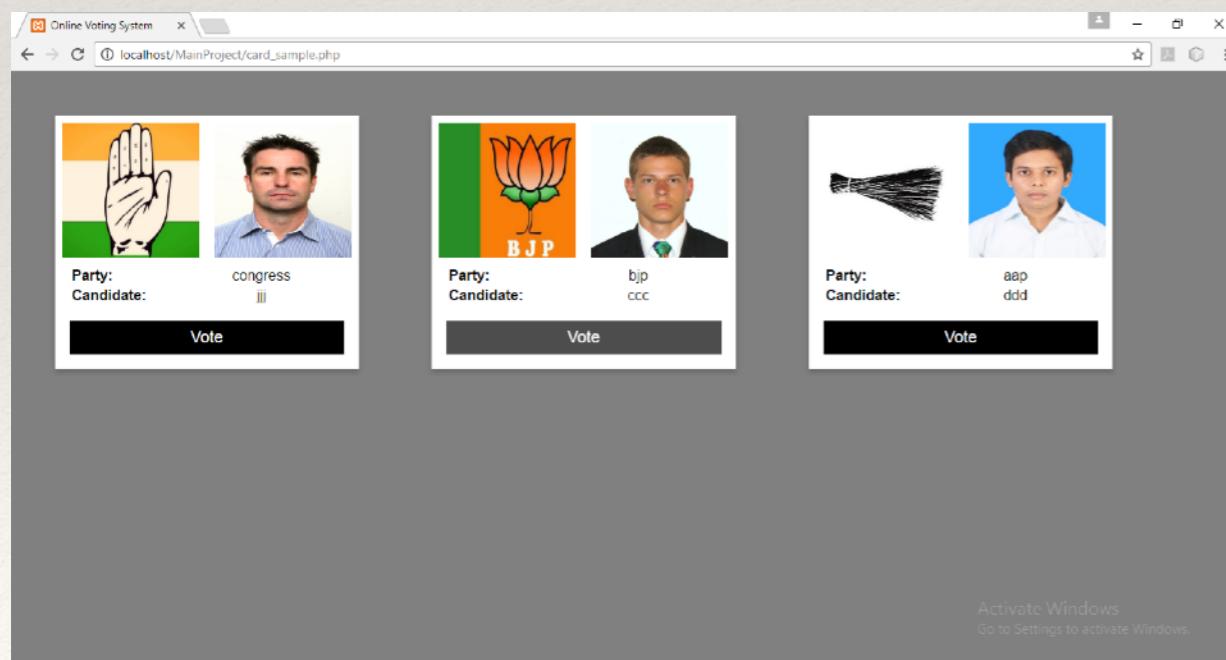
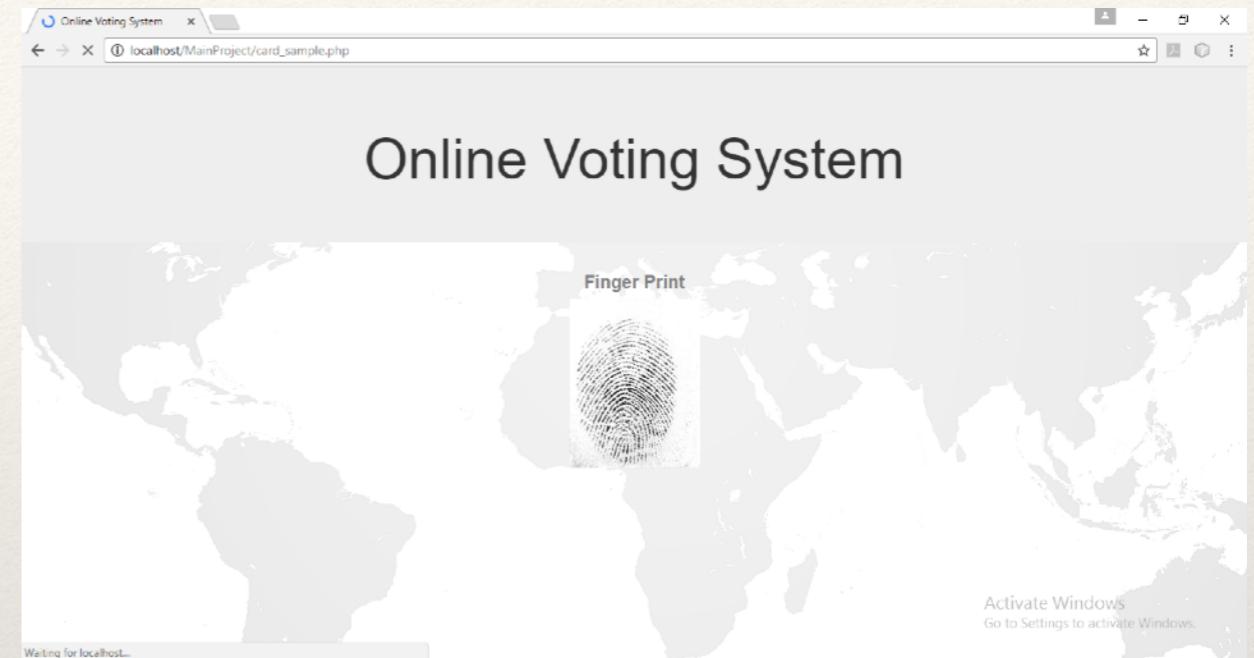
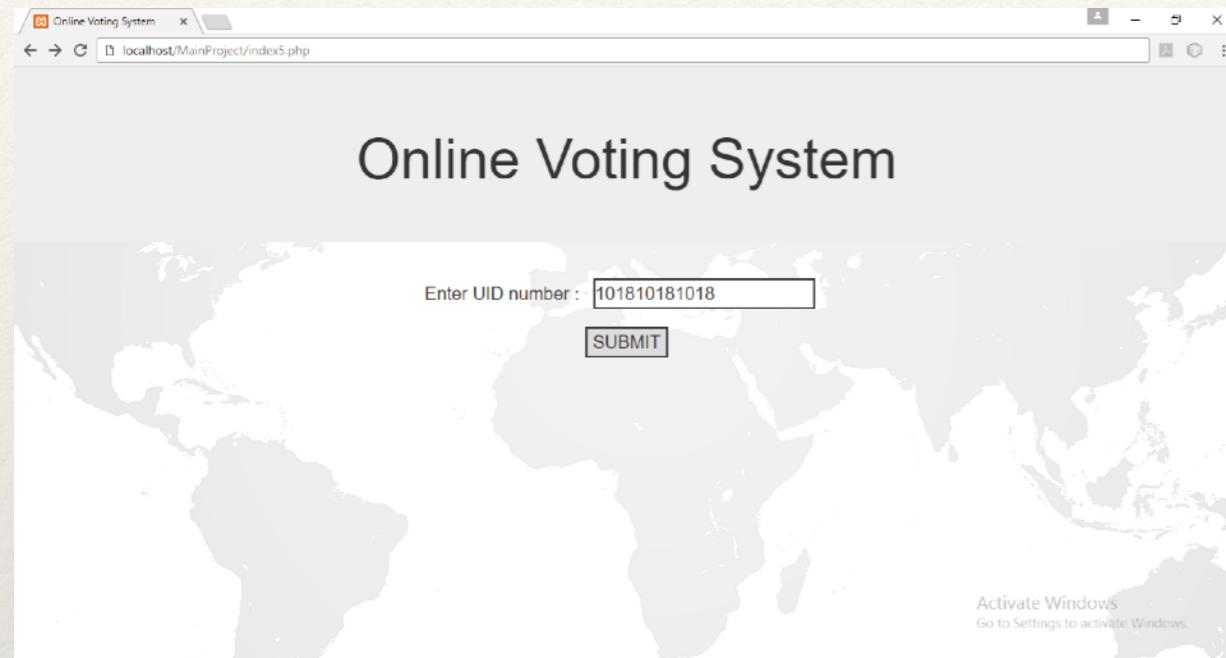
# Database (phpMyAdmin)



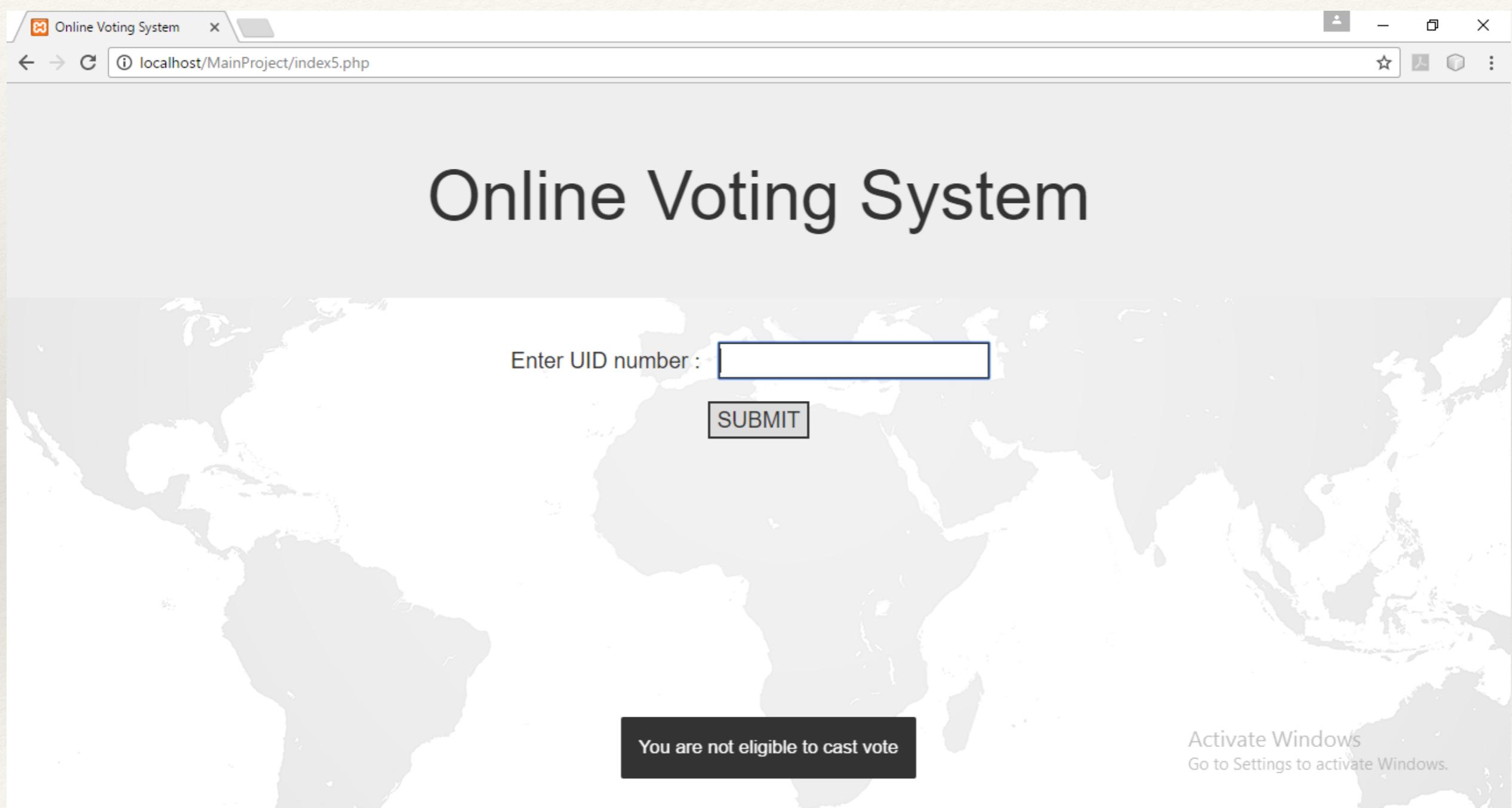
# IDE (NetBeans)



# Client side

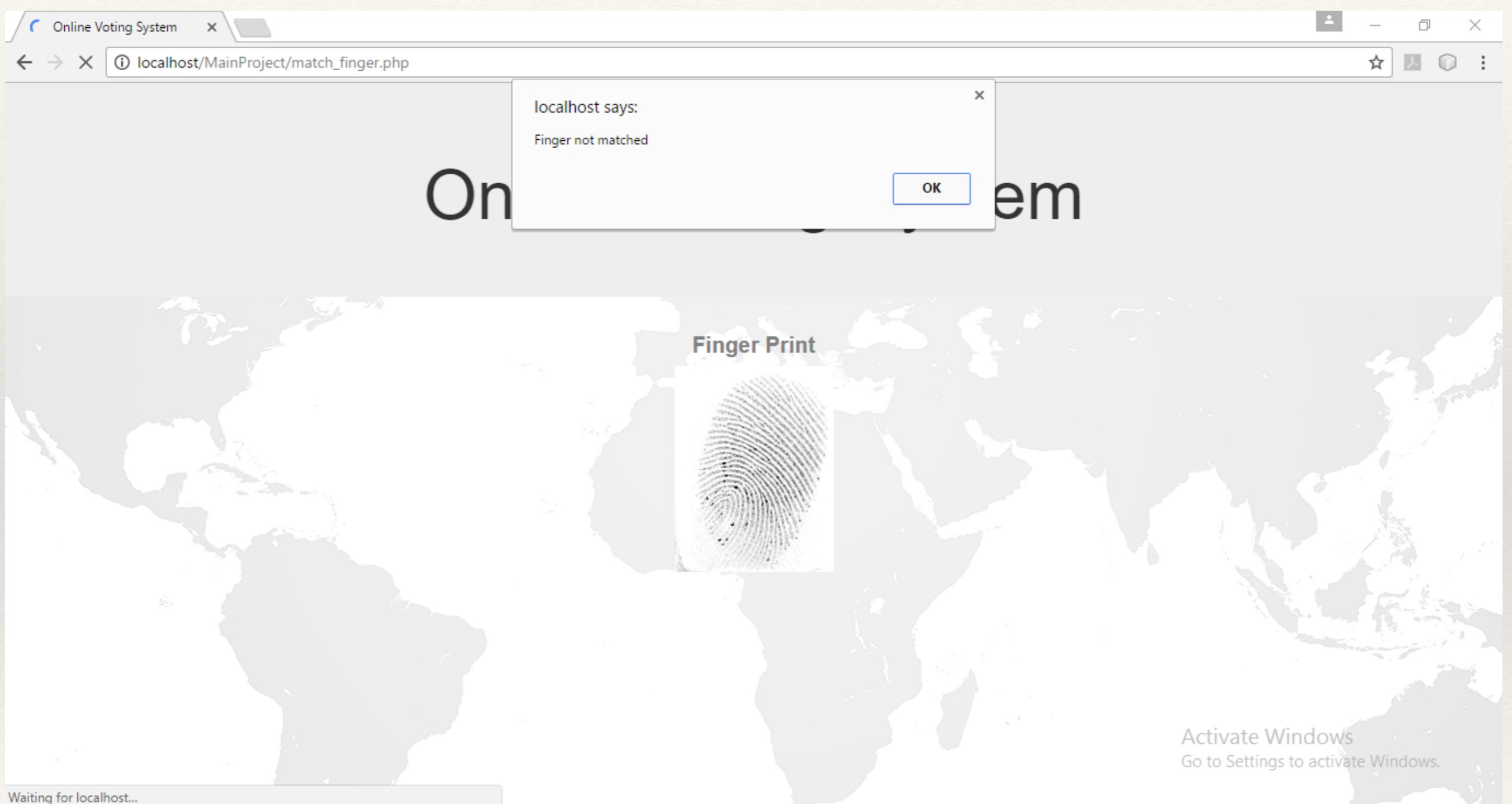


# Client side (contd...)



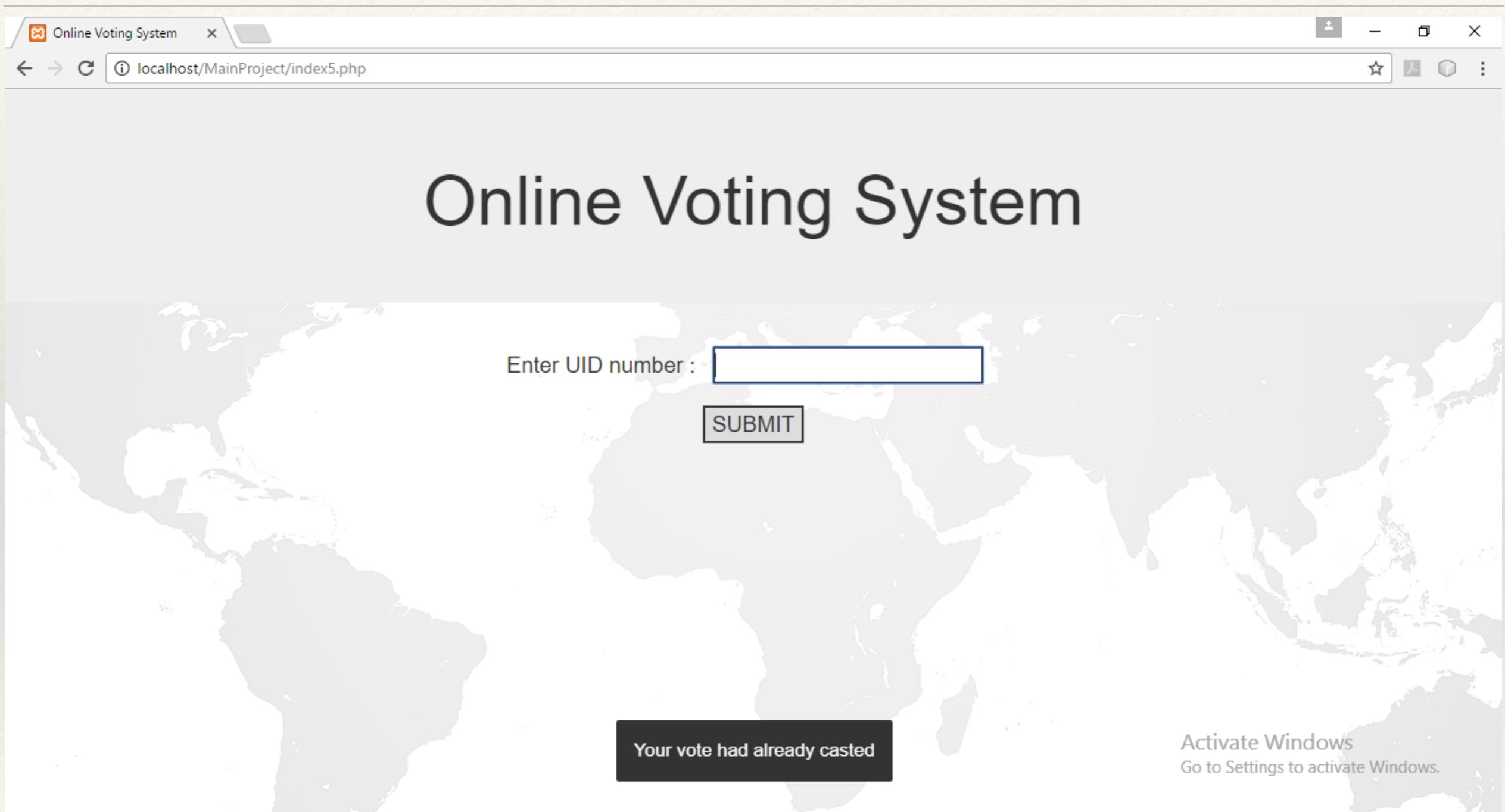
If the voter's age is below 18 years

# Client side (contd...)



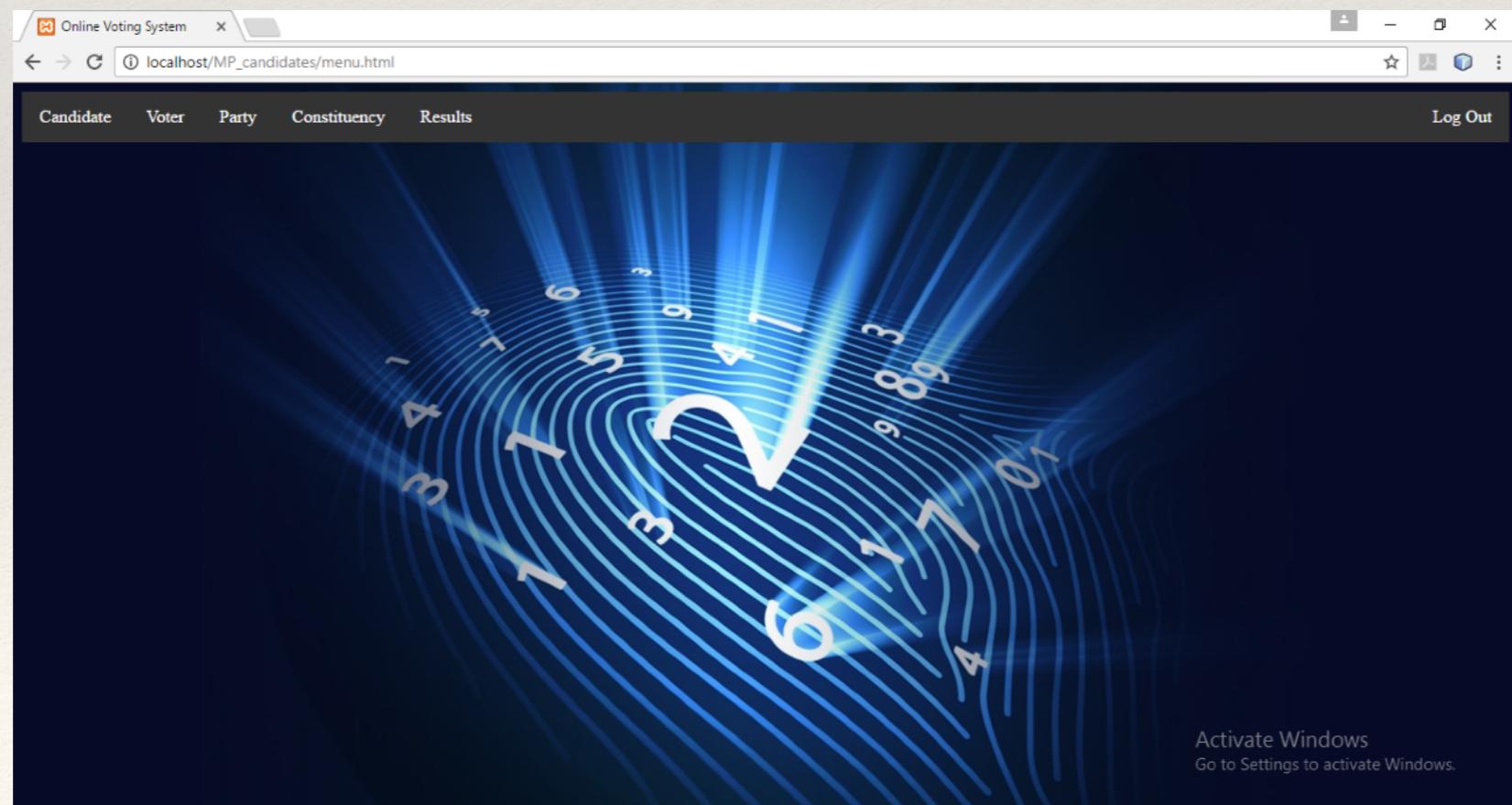
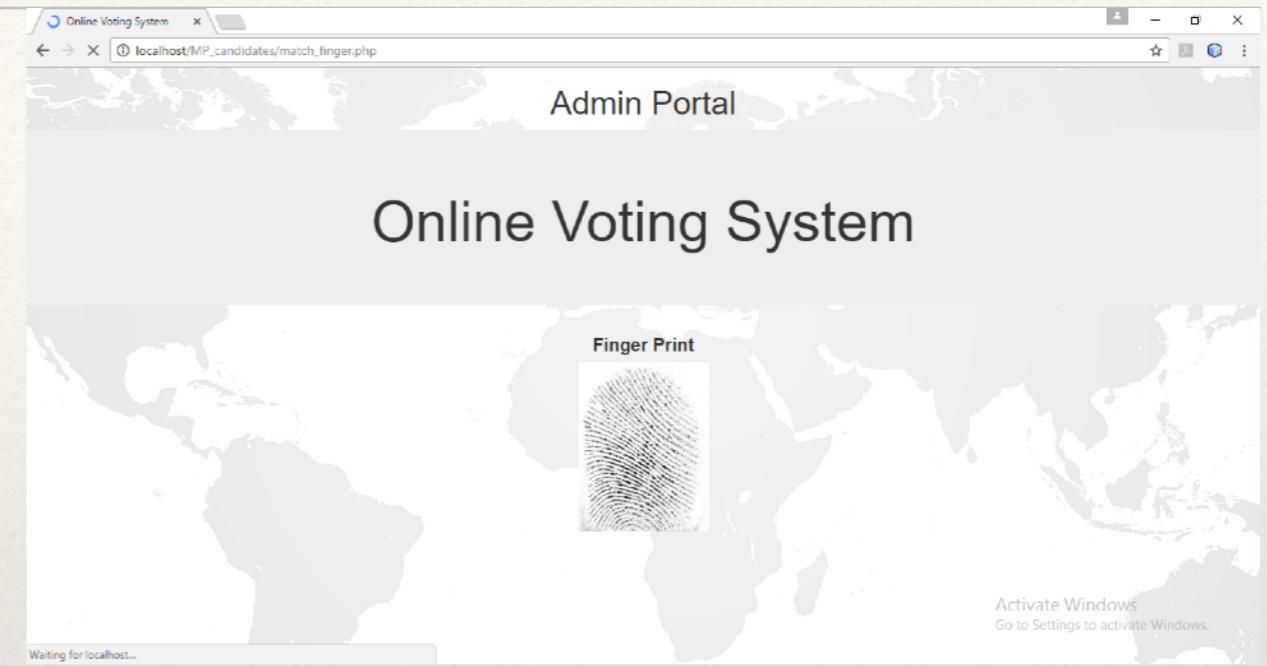
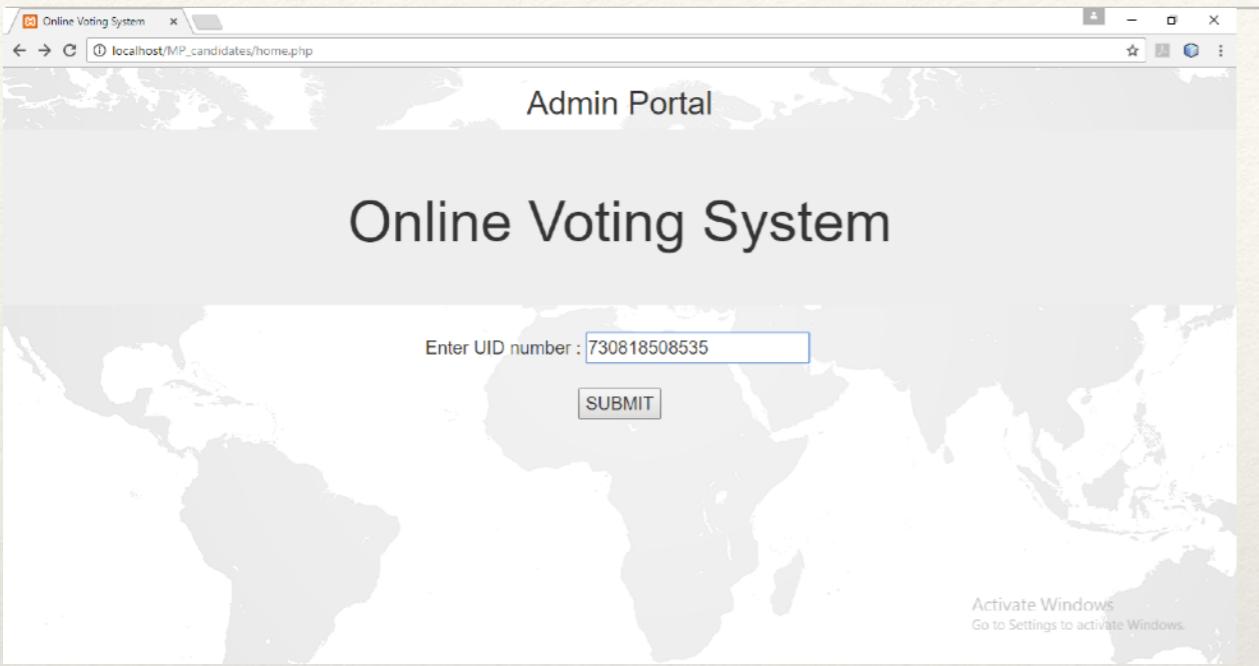
When the voter places his/her finger on the fingerprint scanner, but does not match with that in Aadhaar database

# Client side (contd...)



If the voter has already casted his/her voter

# Admin side



# Admin side (contd...)

Candidate Voter Party Constituency Results Log Out

Add Candidate Remove Candidate

UID  
102110211021

Party/Symbol  
congress

Constituency  
105

**ADD CANDIDATE**

Activate Windows  
Go to Settings to activate Windows.

This screenshot shows the 'Add Candidate' form on the admin side. It includes fields for UID (102110211021), Party/Symbol (congress), and Constituency (105). A large blue 'ADD CANDIDATE' button is at the bottom.

Candidate Voter Party Constituency Results Log Out

Add Candidate Remove Candidate

UID\*  
102110211021

Party/Symbol\*  
congress

Constituency\*  
105

**ADD CANDIDATE**

**candidate added successfully**

Activate Windows  
Go to Settings to activate Windows.

This screenshot shows the same 'Add Candidate' form after a successful submission. The 'candidate added successfully' message is displayed below the form. The UID field now contains '102110211021'.

Candidate Voter Party Constituency Results Log Out

Add Candidate Remove Candidate

UID  
102110211021

Constituency  
105

**REMOVE CANDIDATE**

Activate Windows  
Go to Settings to activate Windows.

This screenshot shows the 'Remove Candidate' form on the admin side. It includes fields for UID (102110211021) and Constituency (105). A large blue 'REMOVE CANDIDATE' button is at the bottom.

Candidate Voter Party Constituency Results Log Out

Add Candidate Remove Candidate

UID\*  
102110211021

Party/Symbol\*  
congress

Constituency\*  
105

**ADD CANDIDATE**

**Candidate removed successfully**

Activate Windows  
Go to Settings to activate Windows.

This screenshot shows the same 'Remove Candidate' form after a successful submission. The 'Candidate removed successfully' message is displayed below the form. The UID field now contains '102110211021'.

# Admin side (contd...)

The screenshot shows a web browser window titled "Candidates Zone" with the URL "localhost/MP\_candidates/index.php". The page has a dark blue header with navigation links: "Candidate", "Voter", "Party", "Constituency", "Results", and "Log Out". A central modal dialog box is open, titled "Add Candidate". It contains three input fields: "UID \*", "Party/Symbol \*", and "Constituency \*". Below the inputs is a large blue button labeled "ADD CANDIDATE". At the bottom of the page, a note states "min. 25 yrs required". In the bottom right corner, there is a watermark-like text: "Activate Windows Go to Settings to activate Windows."

If the candidate's age is below 25 years

# Admin side (contd...)

Screenshot of the Admin side interface for adding a candidate.

The page title is "localhost/MP\_candidates" and the URL is "localhost/MP\_candidates/newaddv.php".

Navigation menu: Candidate, Voter, Party, Constituency, Results, Log Out.

Form fields:

- UID: 102110211021
- Name: Amit Agarwal
- Gender: Male (radio button selected)
- Date Of Birth: 19-05-1971
- Upload Image: Choose File (Amit Agarwal.jpg)
- FingerPrint: Capture
- Address: Amberpet, Hyderabad, Telangana.
- Pin Code: 500015
- Submit button

Activation message: Activate Windows Go to Settings to activate Windows.

Screenshot of the Admin side interface for adding a voter.

The page title is "localhost/MP\_candidates" and the URL is "localhost/MP\_candidates/newaddv.php".

Navigation menu: Candidate, Voter, Party, Constituency, Results, Log Out.

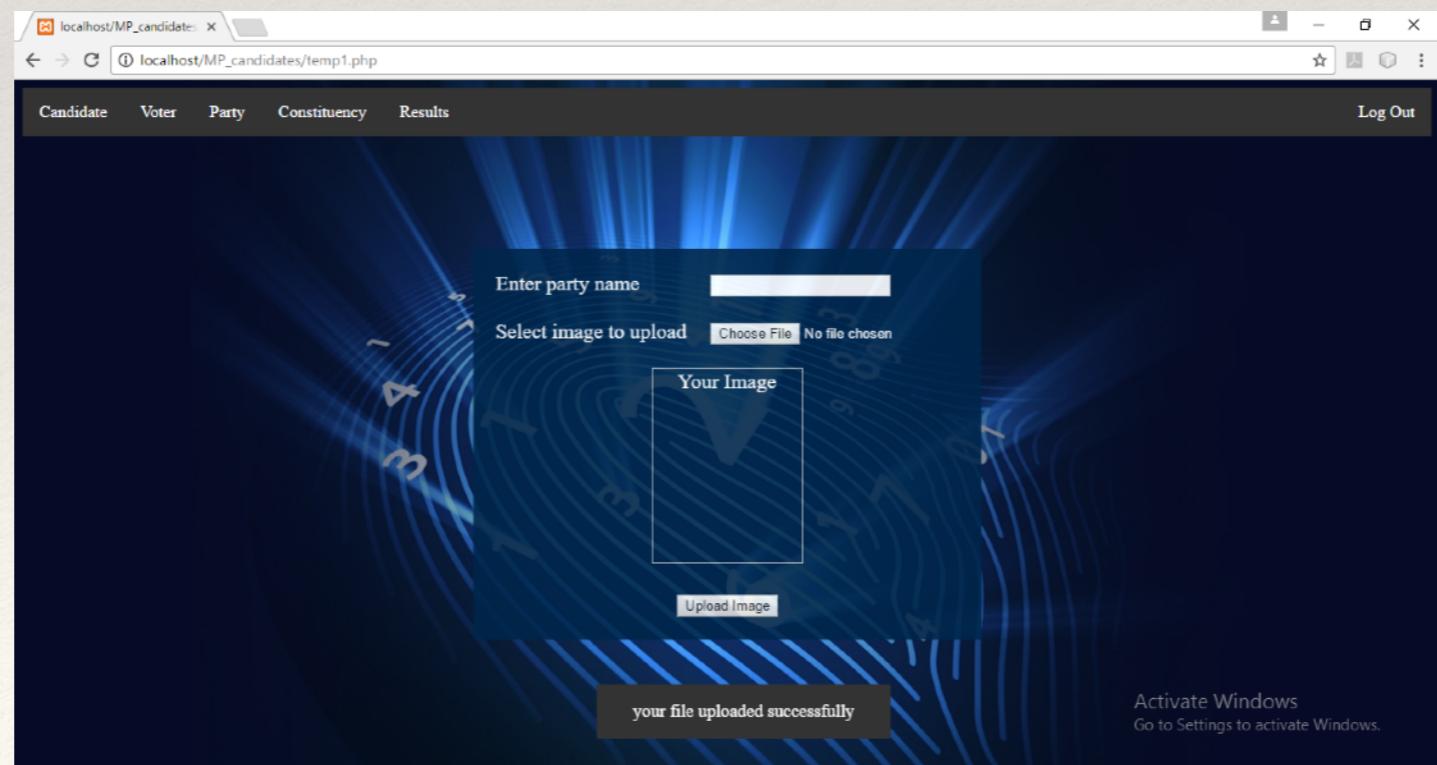
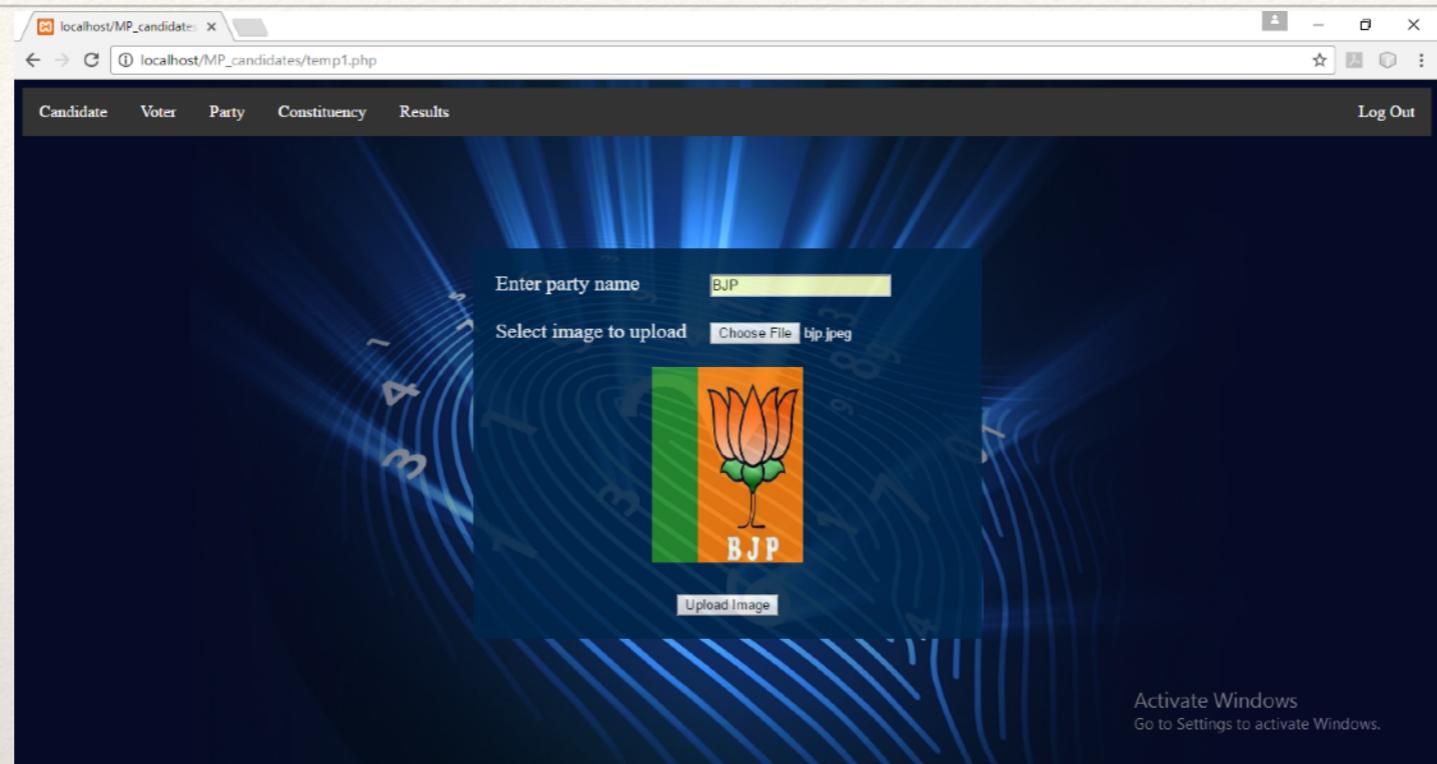
Form fields:

- UID: (empty field)
- Name: Voter Name
- Gender: Male (radio button selected)
- Date Of Birth: dd-mm-yyyy
- Upload Image: Choose File (No file chosen)
- FingerPrint: Capture
- Your Image: Placeholder box labeled "Your Image"
- Finger Image: Placeholder box labeled "Finger Image"
- Address: (empty field)
- Pin Code: (empty field)
- Submit button

Success message: Voter successfully added!

Activation message: Activate Windows Go to Settings to activate Windows.

# Admin side (contd...)

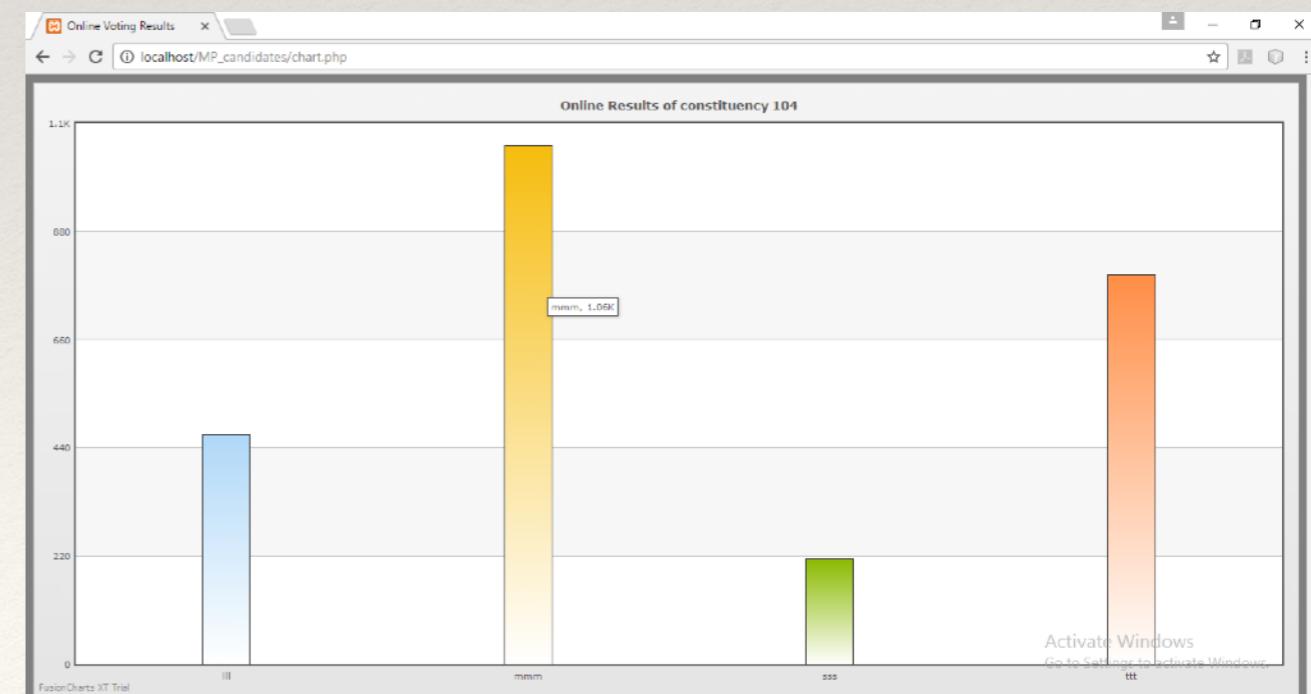
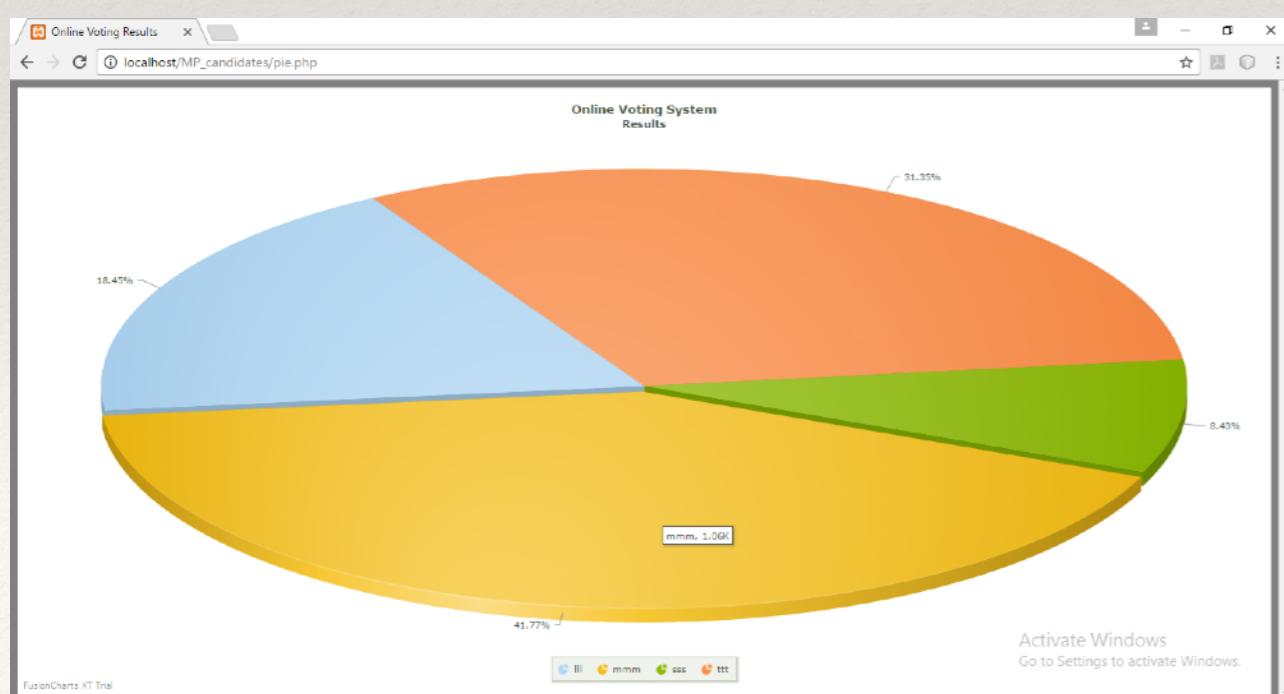
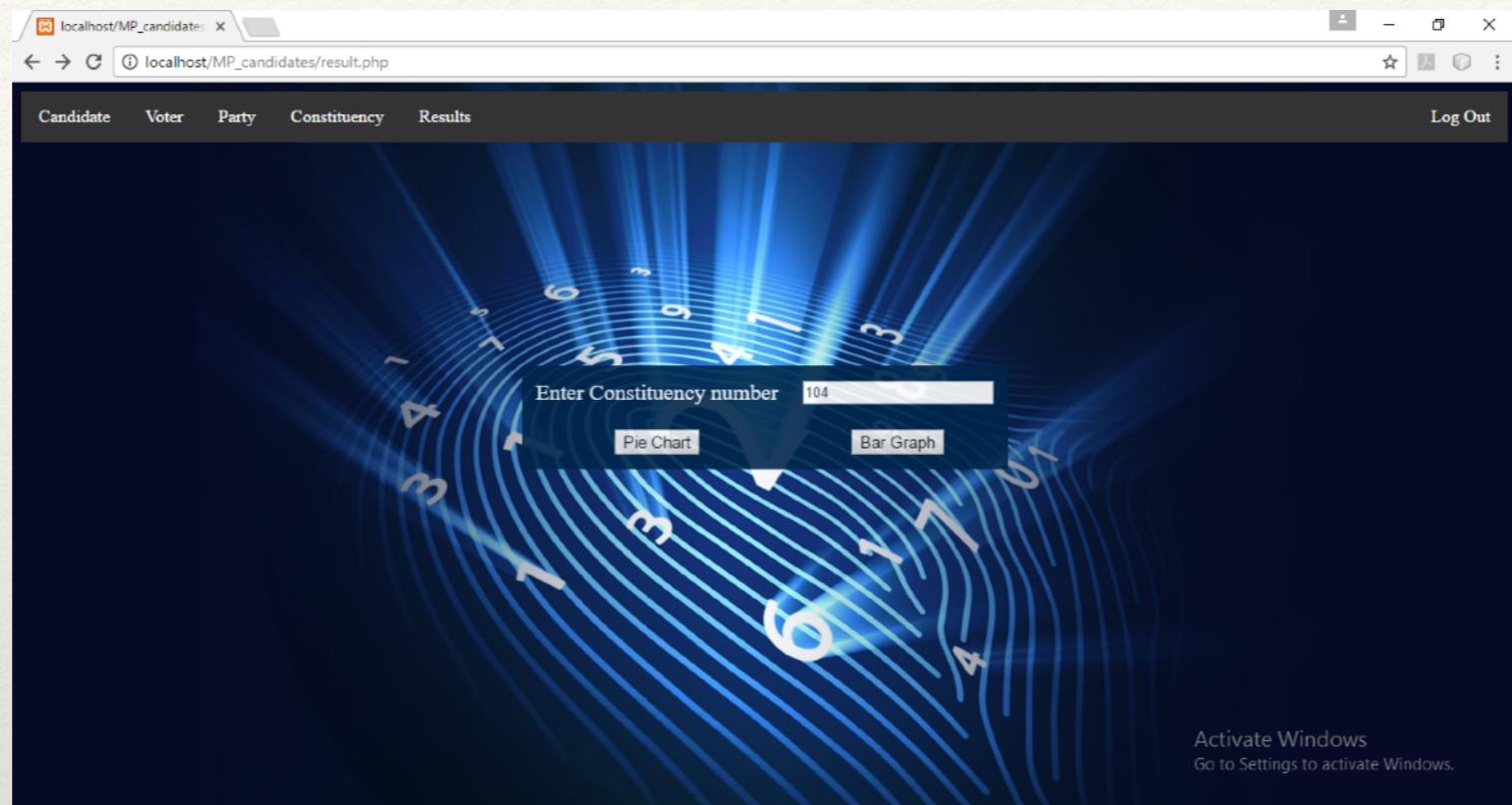


# Admin side (contd...)

Screenshot of a web browser showing the 'conpin.php' page. The URL in the address bar is 'localhost/MP\_candidates/conpin.php'. The page has a dark blue background with a circular pattern of numbers (1, 3, 4, 6, 7, 8, 9, 0). At the top, there is a navigation bar with links: Candidate, Voter, Party, Constituency, Results, and Log Out. Below the navigation bar is a form with two input fields: 'Enter Pincode' containing '500023' and 'Enter Constituency' containing '105'. A 'Submit' button is located below the inputs. In the bottom right corner, there is a watermark-like text: 'Activate Windows Go to Settings to activate Windows.'

Screenshot of a web browser showing the 'conpin.php' page after a successful submission. The URL in the address bar is 'localhost/MP\_candidates/conpin.php'. The page layout is identical to the previous screenshot, featuring a dark blue background with a circular pattern of numbers. The 'Enter Pincode' field is now empty, and the 'Enter Constituency' field is also empty. A 'Submit' button is present. In the bottom left corner, a success message box displays the text 'Pincode and constituency are successfully added!'. In the bottom right corner, there is a watermark-like text: 'Activate Windows Go to Settings to activate Windows.'

# Admin side (contd...)



---

# Other Features

---

Other features involved in the application are :

- 1) The Aadhaar uid field only allows numerical digits and a fixed length of 12 digits.
- 2) The Admin cannot submit any of the forms that are partially filled.
- 3) The back button of the browser is functionally disabled for the voter.
- 4) The size and file type of the image to upload has been restricted.
- 5) The fingerprint data of an individual is highly secure.

# Test cases (Client side)

S.No.	Test case	Expected	Observed
1	Can the person aged below 18 be able to vote	No	No
2	Can the person who has already casted his/her be able to vote again	No	No
3	Can a person vote to more than one candidate	No	No
4	Can the person vote to a candidate multiple times	No	No
5	Can the person vote to a candidate who does not belong to his/ her constituency	No	No

# Test cases (Admin side)

S.No.	Test case	Expected	Observed
1	Can a candidate aged below 25 contest in elections	No	No
2	In a constituency, can two candidates of the same party exist	No	No
3	Can the candidate cast his/her own vote	Yes	Yes
4	Can the independent candidates choose or upload their symbol for voting	Yes	Yes
5	Can the admin view the results during the voting process	Yes	Yes

---

# Future Scope

---

- ❖ Retina Scanning and other types of biometric techniques like face and voice recognitions can be used for authentication.
- ❖ Mobile based voting i.e.; mobile applications can be developed to cast the vote as most of the mobile devices today have inbuilt fingerprint scanner.
- ❖ Data mining concepts can be applied on the results obtained from this application and the knowledge acquired can be used by ECI for various purposes.
- ❖ Besides politics, this application can be customised based on the requirements of the organisation and can be generalised for various voting purposes.

---

# Conclusion

---

After implementation of this project we can change the face of today's voting system making it more secure and corruption less. It will give a fair chance to every leader to win on the basis of his/her capability and not on the basis of strength of money and power. The scope of the project can be raised to the society, institutional or nation level by using a more secure and efficient database management system that could handle hundreds, thousands or millions of users.

---

# References

---

## **Research and Technical Papers:-**

Web Based Secured e-voting system by Adam Alpaslan and Metin Bilgin

Online Voting System Using Biometric Security Akash Wagadre, Bhagyashree B. Thorat, Stuti Sharma

## **Books:-**

Learning PHP, MySQL & JavaScript with JQuery, CSS and HTML5 (4e O'Reilly) by Robin Nixon

Bootstrap: Responsive Web Development by Jake Spurlock

## **Websites:-**

[www.w3schools.com](http://www.w3schools.com)

[www.getbootstrap.com](http://www.getbootstrap.com)

[www.codepen.io](http://www.codepen.io)

*Thank You*