

START

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[User Login/Register]

|

└→ [Is User Authenticated?]

|

  └— No → [Redirect to Login Page]

|

  └— Yes

|

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[Check if User Already Voted]

|

  └— Yes → [Display "Vote Already Cast"]

|

  └— No

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[Display List of Candidates]

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[User Selects a Candidate]

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[Prepare Block for the Vote]

|  
|— Compute SHA-256 Hash of Voter ID → [Voter Hash]  
|— Get Current Timestamp → [Timestamp]  
|— Retrieve Hash of Last Block → [Previous Hash]  
|— Get Selected Candidate → [Candidate Name]

|  
└— Combine Above Fields → Compute [Current Hash]

|

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[Create Vote Block]

Voter Hash	= e3b0...9c4d
Candidate	= "Alice"
Timestamp	= "2025-07-24 10:05:33"
Previous Hash	= 9f5b...1234
Current Hash	= a1b2...5678

[Store Block in Blockchain Database]

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[Mark User as "Voted" in Database]

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[Display Confirmation to User]

```
|  
v  
[Redirect to Results Page]  
|  
v  
END
```

## User Roles

### 1. Voter (General User)

- Can register, log in, vote once, and view results

### 2. Admin

- Can start/stop elections, view live blockchain, export results, and manage the system
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## List of Required HTML Pages

Here's a complete list of HTML pages, with a description of their **purpose** and **who accesses them**:

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## Authentication Pages

Page	Filename	Accessed By	Description
Login Page	login.html	Voter & Admin	Login form (email/username + password)
Register Page	register.html	Voter	Registration form for new users
Admin Login Page	admin_login.html	Admin	Separate login page for election admin (optional)

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## Voting Pages

Page	Filename	Accessed By	Description
Voting Dashboard	vote.html	Voter	Shows list of candidates, allows user to cast vote
Already Voted Notice	already_voted.html	Voter	Displays message if the user has already voted
Vote Confirmation	confirmation.html	Voter	Confirmation screen after successful vote
Results Page	results.html	Voter & Admin	Public view of results and blockchain visualization (read-only)

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## Admin Control Pages

Page	Filename	Accessed By	Description
Admin Dashboard	admin_dashboard.html	Admin	Admin control panel (start/stop voting, manage candidates)
Blockchain Viewer	blockchain_view.html	Admin	Shows the full blockchain (hashes, timestamps, etc.)
Export Results Page	export_results.html	Admin	Option to download blockchain data as CSV/JSON

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## Error/Utility Pages (Optional)

Page	Filename	Accessed By	Description
404 Error Page	404.html	All users	If user visits a wrong route
Unauthorized Access Page	unauthorized.html	All users	If a user tries to access admin-only areas

