LogSabha App – Civic–Political Engagement Platform (Web & Mobile) Scope of Work

1. Executive Summary

We will build a secure, multilingual Web + Mobile platform with:

➢ OTP login (no passwords) for citizens.
➢ Verified leader profiles (MPs, MLAs) with official data.
➢ Geo-tagged issue reporting & auto-mapping to correct constituency/ward.
➢ Status tracking for reported issues.
➢ Public engagement tools: comments, DMs, groups, polls.
➢ AI-powered features:
✓ Election prediction dashboard.
✓ Content moderation.
✓ Meme & infographic creation.
✓ Auto-translation.
✓ Sentiment analysis.

2. Objectives & Success Criteria

Objectives

➢ Frictionless access via OTP and full local-language support (all major Indian languages).
➢ Provide trustworthy leader profiles with affidavits, constituencies, and tenure history.
➢ Streamline issue reporting with auto constituency tagging & SLA tracking.
➢ Enable civil, data-backed public discussions with AI moderation.
➢ Deliver analytics & AI insights (sentiment, polls, demographics) for predictions.

3. In-Scope Deliverables

Mobile Apps (Android & iOS)
➢ OTP login, multilingual UI, offline-safe drafts, push notifications.
Responsive Web App + REST API
➢ Same core features as mobile. ➢ Admin & analytics tools web-first.
Admin Console
➢ Leader verification.
➢ Content moderation.
➢ Issue triage.
➢ Poll approvals.
➢ Roles & permissions.
➢ Audit logs.
APIs & Microservices
➢ Authentication, profiles, issues, media, messaging, polls, analytics, AI services.
Data Pipelines & AI Services
➢ Translation, moderation, geo-tagging, sentiment analysis, meme/infographic generation, prediction models.
DevOps & CI/CD
➢ Dev/Staging/Prod environments.
➢ Observability & monitoring.
➢ Backups.
➢ Security hardening.
Documentation & Handover
➢ API & infrastructure runbooks.
➢ Admin/user guides.
➢ Test reports.

4. Out of Scope (v1)

➢ Paid political ads / third-party ad networks.
➢ Election campaigning tools violating ECI rules.
➢ Deepfake / face-swap generation.
➢ On-prem deployments.

5. User Roles & Permissions

Role
Citizen User

Leader / Staff

Moderator
Admin
Data Analyst (opt)

6. Functional Requirements

6.1 Authentication & Onboarding

- ➢ OTP login via SMS/WhatsApp (voice fallback).
- ➢ Fraud detection (throttling, device binding, reCAPTCHA).
- ➢ Secure token refresh & logout from all devices.
- ➢ Optional KYC-lite (future).

6.2 Multilingual Experience

- ➢ Hindi + all major Indian languages.
- ➢ Auto-translation for UGC with view-original toggle.
- ➢ Glossary for political terms.
- ➢ Right-to-left readiness for Urdu (v1.1).

6.3 Verified Leader Profiles

- ➢ MP, MLA, Mayor, Councillor entities.
- ➢ Official data: photo, party, symbol, contacts, constituency map, tenure.
- ➢ Affidavit & Election Commission references.
- ➢ Verification workflow with periodic re-check.

6.4 Issue Reporting & Tracking

- ➢ Title, description, category, media upload.
- ➢ AI geo-tagging & constituency mapping.
- ➢ Status flow: Reported → In Progress → Resolved (+ Reopen).
- ➢ Public feed with hashtags, filters, and upvotes/downvotes.
- ➢ SLA: default triage in 48h.

6.5 Public Engagement

- ➢ AI-moderated comments (toxicity, spam, hate speech detection).
- ➢ Hashtags, topics, searchable feeds.
- ➢ DMs: WhatsApp-style messaging with attachments.
- ➢ Groups/forums by ward/interest.

6.6 Polls & Public Opinion

- ➢ Poll types: single/multi-choice, ranked, sliders, yes/no.
- ➢ Target by region/followers/global.
- ➢ Fraud prevention & anonymous participation.
- ➢ Real-time results + CSV export.
- ➢ Passive sentiment tracking.

6.7 AI Meme & Infographic Creation

- ➢ Templates for awareness/satire (policy-compliant).
- ➢ Auto-captioning & multilingual export.
- ➢ Data-to-chart conversion with watermark.

6.8 Election Prediction Dashboard

➢ Inputs: polls, sentiment, historical data, demographics.
➢ Models: ensemble + explainable AI.
➢ Views: maps, leader comparisons, trend lines.
➢ Bias audits & disclaimers.

6.9 Admin Console

➢ Verification, mapping, moderation queues.
➢ SLA config & triage tools.
➢ Poll/group management.
➢ Audit logs & permission control.

7. Non-Functional Requirements

Security & Privacy
➢ OAuth2/OIDC, short-lived JWTs, AES-256 encryption.
➢ RBAC, secure media handling, virus scanning.
➢ Compliance: IT Act 2000, CERT-In, DPDP Act 2023, ECI norms.
Performance
➢ P95 API < 400ms for core reads.
➢ Page load < 1s on 4G.
➢ Heavy AI jobs in background.
Availability
➢ 99.5% uptime, multi-AZ, automated backups (RPO 24h, RTO 4h).
Scalability
➢ Horizontal scaling, CDN, queueing for spikes.

8. System Architecture (High-Level)

Client
➢ Mobile: React Native/Flutter, offline cache, push notifications.
➢ Web: React/Next.js, responsive, PWA-ready.
Backend
➢ Node.js (NestJS) or .NET Core microservices.
➢ GraphQL + REST gateway.
Data Stores
➢ PostgreSQL, Elasticsearch/OpenSearch, Redis, S3-compatible storage.
AI Layer
➢ Python (FastAPI), NLP models, translation, moderation.
➢ Model registry & explainability tools.
Messaging
➢ MQTT/WebSockets, optional WhatsApp Business API.
Analytics
➢ Kafka/Kinesis → BigQuery/Snowflake → Metabase/Superset dashboards.

9. Technology Stack

➢ Frontend: React.js, Tailwind CSS, JavaScript (ES6+).
➢ Backend: Python, Django, FastAPI.
➢ Database: PostgreSQL, Redis.
➢ AI/ML: TensorFlow, PyTorch, scikit-learn.
➢ DevOps: Docker, NGINX, GitHub/GitLab, AWS, Certbot (SSL).

10. Data & Integrations

➢ Election Commission, MyNeta, Census data.
➢ SMS gateways, WhatsApp API, FCM/APNs.
➢ Email via SES/SendGrid.
➢ Fraud detection: device fingerprinting, reCAPTCHA.

11. AI/ML Specifications

- ➢ Translation: NMT with glossary & human override.
- ➢ Moderation: Multi-label classifier for abuse/toxicity/hate/spam.
- ➢ Geo-Tagging: GPS + NLP place extraction.
- ➢ Meme/Infographics: Text-to-image, data-to-chart, watermark.
- ➢ Sentiment & Prediction: Gradient boosting + ensemble. bias audits.

Module	Feature	Developer Questions	Notes / Decisions(Developer)	Notes / Decisions(Client Team)
6.1 Authentication & Onboarding	OTP login via SMS/WhatsApp (voice fallback)	1. Which SMS/WhatsApp provider will be used (Twilio, Gupshup, AWS SNS)?	Twilio is more suitable	Gupshup
		2. Does voice fallback mean automated voice call for OTP if	Yes	Yes
		3. Should fallback trigger automatically or manually ("Call me"	It will be automatic	Auto fallbacked,
	Fraud detection	4. What's the OTP expiry and retry limit?	It may be 2 min to 1 hr and can be changed as	5 mins/3 tries,
	Token refresh & logout Optional KYC-lite	5. Should OTP attempts be logged for fraud analytics?	Yes	Yes
		6. What are throttling limits (e.g., 3 OTPs/hour)?	We can set a limit of 3 OTPs per hour per	3 OTP/hr
	Multi-language support	7. How should device binding be implemented (UUID, Firebase	It will be UUID	Firebase ID
		8. When should reCAPTCHA be shown — every time or on	It should be everytime	On suspicious
		9. Are we using JWT or session tokens?	Yes	JWT
		10. Should logout from all devices invalidate tokens instantly or	Token session will impact on very next api call	Instant
		11. What user data is required (name + voter ID, etc.)?	Name, Age, Address, Email ID, Voter ID	Name + Voter ID
		12. Will we integrate DigiLocker or EC API for verification later?	Yes	Yes later
	Auto-translation for UGC	14. Are translations static (JSON) or dynamic (API)?	It will be static as dynamic translation may effect on speed. When admin will post data it	EN, HI, MR, BN, Static JSON
		15. Should translation run client-side or server-side?	It will be server side	Server
		16. Can users disable auto-translate globally?	Yes	Yes toggle
6.3 Verified Leader Profiles	Glossary	17. Who provides/curates glossary data — internal or external?	Internal	Internal,
	RTL readiness Entities	18. Should glossary appear as tooltip or separate screen?	As tooltip	Tooltip
	Data fields	19. Should layout auto-switch for RTL scripts?	Yes	Yes auto
	Affidavit & EC data	20. Will RTL mode apply only to Urdu or extend to Arabic later?	Yes	Urdu only v1
		21. Who provides/maintains official leader data (EC API or	EC API	EC + Manual
		22. How often should leader data refresh?	It will be done in background process and	Monthly
		23. Can users report incorrect leader data?	Yes	Yes
		24. Should constituency maps be integrated (Google Maps or	Google map	Google maps
		25. Should affidavit PDFs or links be shown directly?	No, it should be provided to authenticated	PDF link
		26. Is there an EC API to fetch affidavit data?	Will have to check with API	Yes auto
	Verification workflow	27. Who verifies profiles — admin or automation?	Depends on EC API	Admin
		28. How often should re-verification occur?	Depends on EC API	Every 6 months
	Reporting Geo-tagging	29. What media types/sizes are allowed?	jpg, png, mp3, mp4, wav etc	Images/Video
	Status flow & feed	30. Are multiple media uploads per issue allowed?	Yes	Yes (max 5)
	SLA	31. Which service handles geolocation (Google, Mapbox)?	Google	Google
		32. Can users manually edit detected location?	It should not be allowed as location is fetched	Yes (max 5)
		33. Who can change status — admin or officials?	admin or authorized role	Officials
		34. Should public feed hide sensitive info?	Yes	Yes hide
		35. How do upvotes/downvotes affect sorting?		Yes sorting
		36. Who receives SLA alerts?	admin or authorized role	Admin
6.4 Issue Reporting & Tracking		37. Is SLA configurable per issue type?	Yes	Yes
6.5 Public Engagement	AI moderation	38. Which moderation API (Perspective, custom ML)?	Custom ML	Perspective
		39. Should flagged comments auto-hide or queue for review?	Yes	Auto-hide
	Feeds	40. Are hashtags user-generated or curated?	user-generated	User generated
6.6 Polls & Public Opinion	DMs Groups/Forums Poll setup	41. Should search cover both posts and comments?	Yes	Yes both
	Targeting	42. What file types are allowed in DMs?	images and pdf	Images/pdf
	Fraud prevention	43. Should messages use end-to-end encryption?	Yes	Yes E2E
		44. Are groups open, closed, or invite-only?	Invited-Only	Closed
		45. Can moderators remove users/content manually?	Yes	Yes
		46. Max number of options per poll?	4	Max 6

		47. Can users edit/delete their vote?	Yes, with required authentication	No
		48. How is user region determined (GPS or profile)?	Profile	GPS+Profile
		49. How to prevent duplicate voting?		Device lock
	Sentiment tracking	51. Which signals define sentiment (comments, emojis)?	Comments	Reactions + Comments
6.7 AI Meme & Infographic	Template & upload	52. Can users upload custom images?	Saved image only	Yes
6.8 Election Prediction	Data inputs Model setup Updates Display	53. Which AI model for auto-captioning?	Need to research on this	GPT-Vision
		54. Should memes have app watermark?	Yes	Yes
		55. Do memes require moderation before publishing?	only admin or authorised role should right to	Yes
		56. Who supplies historical/poll/demographic data?	App admin	Gov + 3rd
		57. In-house ML models or 3rd-party analytics?	In-house models	In-house
		58. What metrics define “bias audit”?	Need to reaserch on this	Accuracy audit
		59. How often should predictions refresh?	Frequency should be high near to elections.	Weekly,
		60. Should users see raw data or just visual summaries?	Visual summary only	Visual only
live streaming		61. how long streaming supported?	Depends on infrastructure provided as huge	2 Hrs
		62. Can anyone comment during live streaming like insta ?	Yes	Yes
Auto detect location from photo or video		63. do we need to implement this of client side (app) or on backend?	On back-end	backend

Features	Categor	Description
1. Performance Benchmarks		System should ensure optimized response and processing using adaptive caching and predictive load handling. Issue reporting should complete within 45 seconds, translation
2. Legal & Accessibility Compliance		*System should strictly adhere to Government of India regulatory frameworks, including the latest IT Act, CERT-In guidelines, and Digital Personal Data Protection (DPDP) Act 2023. It must also comply with MeitY/NIC security standards, Election
3. AI Meme & Infographic Creation (Compliant with Indian Norms)	AI/ML	System should include advanced tools for generating awareness posters, political infographics, and civic memes in compliance with Government of India communication policies and Election Commission (ECI) guidelines. --- AI-assisted meme creation should allow users to generate factual, policy-based, and non-partisan visuals only.
4. Hashtag System		The system must automatically identify and display at least three trending hashtags daily based on user activity, engagement, and discussion frequency. Each hashtag (e.g., #YogiAdityanath) should open a dynamic page showing all verified data, posts, media, and issues related to that leader or topic — functioning similar to Twitter's topic-based feed.
5. Admin Console (Back-End Tools)	AI/ML	Admin section must include SLA configuration, issue triage dashboard, and management modules for polls and community groups. ---
6. Language & Moderation System	AI/ML	System should include a built-in glossary for political terms, automated multilingual translation, and AI-based moderation for detecting hate, spam, or misinformation. ---
7. Data Source Connectivity	AI/ML	Integration with official sources such as the Election Commission, MyNeta, and Census data. AI-based data cleaning and mapping should maintain structured, verified, and regularly updated datasets.
8. System Architecture		Backend should be modular (microservice-based) with GraphQL support and real-time communication via WebSockets. AI microservices should handle translation, moderation, sentiment analysis, and geo-intelligence for constituency mapping and trend
9. Analytics & Reporting	AI/ML	Implement an event-based data pipeline and AI-powered dashboards for real-time insights.
10. Multilingual Support (AI-Enabled)	AI/ML	System should support all major Indian languages with AI-assisted translation, transliteration, and contextual text correction. Include a dynamic glossary for political and governance terms to ensure accuracy and uniformity across regional communications.
11. Progressive Web App (PWA)		Web version should be PWA-ready with offline access and smart sync features.
12. Login & Verification System	AI/ML	OTP login must include reCAPTCHA and device binding. AI-based anomaly detection should identify suspicious login behaviour or multiple fake accounts. System should maintain 99.5% uptime, RPO of 24 hours, RTO of 4 hours, and API latency under 400 milliseconds with page load below 1
13. Search & Feed Structure		Feeds should support advanced filters, categories, and dynamic sorting for high engagement and better content discovery.
14. Poll System		Polls should support targeting by region, followers, or public level, with result export and fraud prevention.

15. AI-Based Voter Mood Index (Real-Time Sentiment Dashboard)	AI/ML	System should include an AI-driven Voter Mood Index that continuously analyzes public sentiment on leaders, parties, and political issues. Using NLP and engagement analytics, it should display daily mood graphs (positive / neutral / negative) for every trending topic or hashtag.
16. AI-Powered Political Hashtag Intelligence System	AI/ML	The app should feature an intelligent hashtag discovery system that automatically identifies and displays the top trending political hashtags daily based on user activity, engagement, and discussion frequency. Each hashtag (for example, #YogiAdityanath) should open a dedicated dynamic page showing all verified posts, media, public discussions, and real-time sentiment related to that leader, topic, or political issue — similar to Twitter's topic-based feed but designed specifically for India's political ecosystem. AI-driven algorithms should continuously analyze engagement data to rank hashtags contextually, ensuring the most relevant and credible

Phase -1 modules and development timeline

Modules	Features	api, architecture (In Days)	Mobile App (In Days)	Web App (In Days)	Details
System Design		7			Requirement freeze, workflow diagrams, API/integration study, UI/UX wireframes
Architecture & Setup		5			Tech stack setup (FastAPI/Node.js backend, PostgreSQL DB, Flutter for mobile), CI/CD
Database Design		5			
Citizen Front-end					
	Home Screen UI	2	3	2	Header, footer, other components
	User registration	1	3	2	Basic user information and mobile number verification
	User login				OTP verification
	User profile, update				Details of user and locality
	View MP, MLA, Mayor, Councillor entities details	3	3	3	photo, party, symbol, contacts, constituency map, tenure
	Direct message to MP, MLA, Mayor, Councillor	1	2	2	
	Follow MP, MLA, Mayor, Councillor profile	1	1	1	
	Report issues	4	1	1	AI geo-tagging & constituency mapping
	Comment		0.5	0.5	User can comment on issues
	Vote in polls		1	1	User can vote on current poll
	Join groups	2	4	3	User can join group, view profiles, comment
MP, MLA, Mayor,					
	User login	0	0	0	
	User profile, update	1	0.5	0.5	
	Issues dashboard	1	2	1	dashboard to show open, inprogress, resolved issues
	View, comment on issues	1	1	1	
Admin control panel					
	Manage MP/MLA profile	2	0	2	all these modules will have add/edit/delete/activate/deactivate features
	Manage user profile and roles	1	0	2	
	Receive/update issues	1	0	2	
	Broadcast updates	3	0	3	
	Manage reports	3	0	4	
	Manage configuration	4	0	3	
	Poll management	5	0	5	
	Development Days	**53**	**22**	**39**	
	Testing/QA	7	7	7	
	Deployment	2	2	2	
	Total Days	**62**	**31**	**48**	