Team Details

a. **Team name: CoderGang**
b. **Team leader name: Prasom Jain**
c. **Problem statement: Managing City Data Overload**

Brief about the idea

1) **PulseFusion 360** is an agentic AI platform that transforms Bengaluru's raw, chaotic urban data into a **living city dashboard** and **personalized alert stream**.

2) A robust **data fusion engine** ingests and unifies inputs from social media, citizen submitted photos, CCTV snapshots, IoT sensors, and official government feeds.

3) **Multimodal Gemini models** analyze and verify content, remove duplicates, extract geo-location, severity, and public sentiment for accurate situation awareness.

4) A **predictive intelligence layer** detects early civic stress patterns (e.g., water shortage signals in a locality) and issues proactive alerts before escalation.

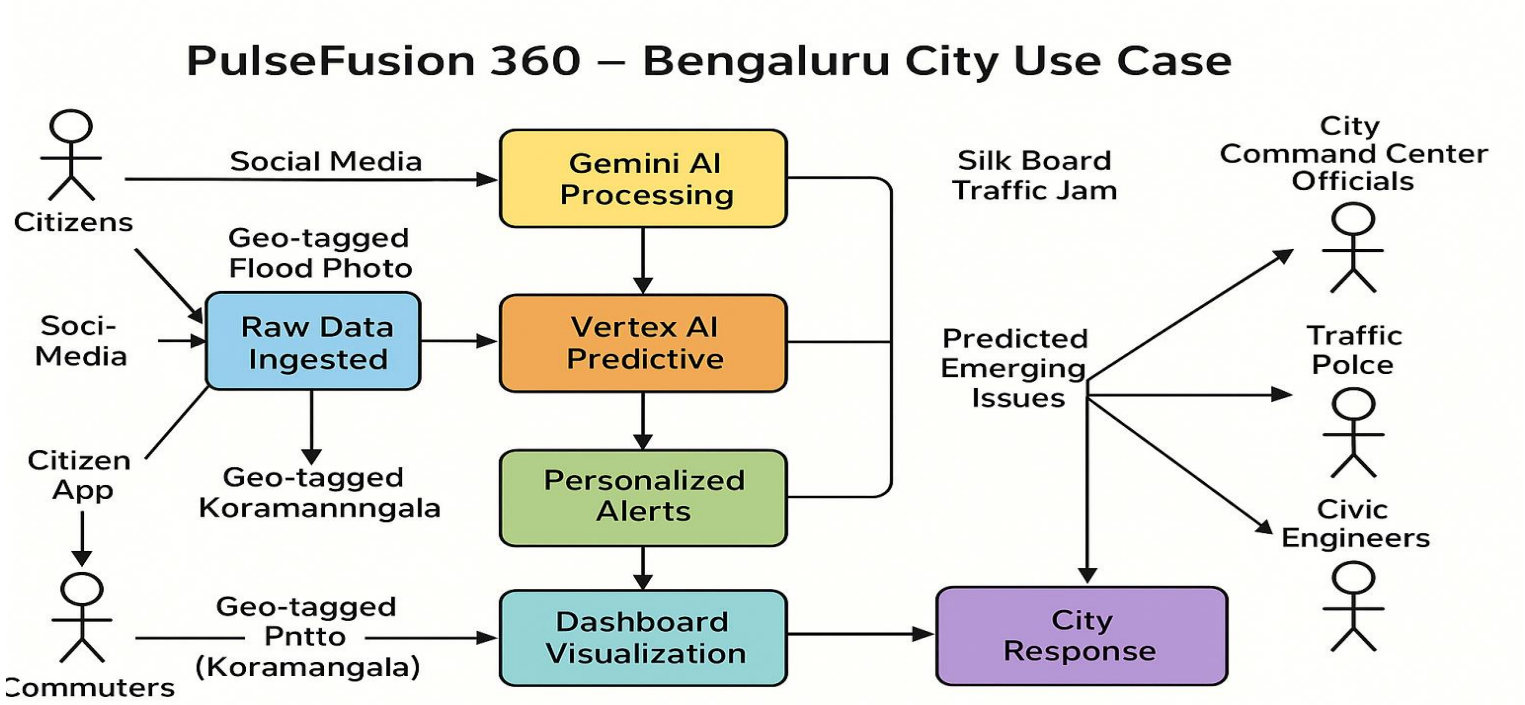
5) A **smart notifier system** delivers tailored event summaries to each user based on their location, routine, and interests enabling faster decisions and real-world civic response.

Opportunities	**A) 12M+ citizens in Bengaluru generate untapped civic signals daily across platforms.** **B) Demand for real-time, AI-driven urban awareness is rapidly growing in smart cities.**
Differentiation	**A) Uses Gemini multimodal AI for text + image + video synthesis.** **B) Delivers personalized alerts and mood maps unlike generic dashboards.**
Problem Solving	**A) Converts noisy data into verified, deduplicated insights.** **B) Predicts issues early using Vertex AI Forecast.** **C) Bridges gaps between civic departments by providing a unified real time situational view.**
USP	**A) One authoritative pulse of the city.** **B) Fully built with Google AI & Firebase Studio.** **C) Supports voice + local language UX.**
Scalability & Impact	**A) Can be scaled to other Tier-1 and Tier-2 cities with minimal retraining.** **B) Modular architecture supports future integrations (e.g.,IoT sensors).** **C) Empowers both government officials and citizens with insights.**

List of features offered by the solution

- ✓ **Smart Civic Summaries**: Combines multiple reports about the same issue (e.g., 10 traffic tweets) into one clear alert using Gemini AI.
- ✓ **Predictive Alerts**: Detects early signs of city problems like power cuts or traffic jams before they spread.
- ✓ **Multimodal Analysis**: Understands images, videos, and text together helps verify events from citizen photos or CCTV.
- ✓ **Local Language Support**: Users can speak or read alerts in **Kannada or English**, breaking literacy and language barriers.
- ✓ **Real-time City Dashboard**: Shows live events and public mood on a map using Firebase Studio and Google Maps.
- ✓ **Personalized Notifications**: Sends only relevant updates to each user based on their location and daily routine.

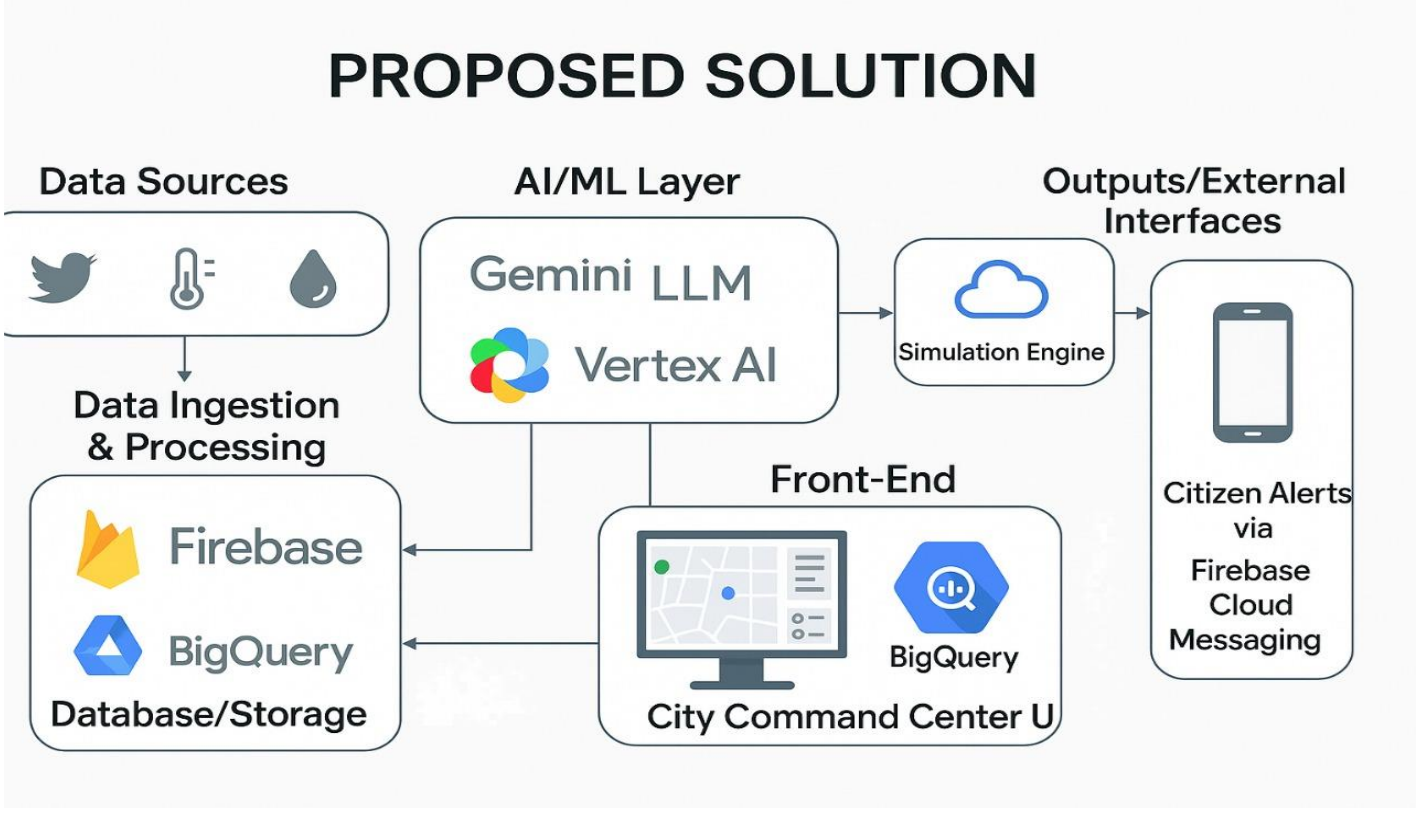
Process flow diagram or use-case diagram



Technologies to be used in the solution

- **Google Gemini (LLM & Vision):** Central AI brain handles natural language understanding and summarization of diverse data.
- **Google Vertex AI:** ML platform – to develop, train, and deploy predictive models.
- **Firebase (Firebase Studio & Cloud Functions):** Serverless backend and data pipeline.
- **Google Maps Platform (Maps API) and Mapbox:** Geospatial visualization – We use Maps API (or Mapbox) for the interactive city map UI.
- **Google Earth Engine / 3D Maps (optional):** Digital twin & simulation visualization.
- **Frontend Tech (React/Next.js):** React (or Next.js) will present the command center UI with the map, charts, and chat interface

Architecture diagram of the proposed solution



Wireframes/Mock diagrams of the proposed solution

- **Hierarchical Layout**
  The UI adopts a clean and structured hierarchy headlines, descriptions, and CTAs (like *View Live Dashboard* and *Report an Issue*) are clearly distinguished, improving readability and focus.

- **Intuitive Dashboard with Real-Time Visuals**
  The second image features an interactive map with live traffic alerts and accident reports, supported by toggleable dark/light modes. This provides instant situational awareness to users.

- **Data-Driven Widgets for Civic Monitoring**
  Widgets like “Complaints by Ward,” “Congested Areas,” and “Upcoming Public Events” allow quick visual interpretation of key civic metrics using graphs and timelines.

- **Citizen Engagement Made Easy**
  Features like the *Civic Complaint Tracker* and *Report Accident* button promote public participation, making it user-centric and action-oriented.

- **Unified Insight from Multiple Data Sources**
  The UI emphasizes a single platform integrating over 50+ data streams, providing a comprehensive, AI-powered snapshot of city dynamics at a glance.

PULSE OF BENGALURU

Home Insights How it Works Dashboard Contact

Bengaluru, Decoded in Real-Time

A smart lens into the city's civic pulse — from traffic jams to public events, all in one place.

Empowering citizens and administrators with live, AI-driven urban insights

View Live Dashboard | Report an Issue

Live Traffic Insights
Detect bottlenecks, diversions & congestion in real-time.

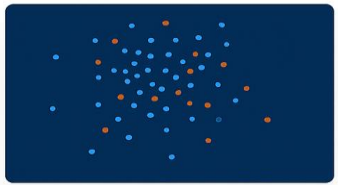
Civic Complaint Tracker
Unified platform for citizen-reported issues across wards

Public Event Monitor
Know what's happening across the city – testivals, protests & gatherings

Your City at a Glance

A unified, AI-powered dashboard showing real-time updates across 50+ data sources.

Explore Map Now



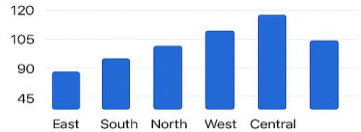
Pulse of Bengaluru

Live, AI-driven urban insights at your fingertips

DARK MAP | LIGHT MAP

Congested Areas
32 in total

Complaints by Ward



Upcoming Public Events

25 Karaga Festival
Basavanagudi

27 Music Concert
Indiranagar

30 Cycling Marathon
Cubbon Park

Upcoming Public Events

25 Karaga Festival
Basavanagudi

27 Music Concert
Indiranagar

30 Upcomin Public Events

Google Cloud

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Thank you!