

Google Cloud

PRESENTS

Agentic AI Day

Build the next generation of intelligent agents

Powered by **I2S**

Team Details

- a. **Team name:** BeeMyAI
- b. **Team leader name:** Anwesh Singh
- c. **Problem statement:** Managing City Data

About PulseAI

PulseAI is an AI-powered real-time city dashboard that acts as the digital “nervous system” of Bengaluru. In a metropolis flooded with fragmented and noisy data—ranging from traffic alerts and civic complaints to social media buzz—PulseAI intelligently synthesizes this information into clean, localized insights for both citizens and city administrators.

Using **Google Gemini’s multimodal capabilities**, PulseAI ingests data from diverse sources such as social media, citizen-submitted photos or videos, and government feeds. It analyzes this input to detect patterns, summarize ongoing events, and categorize issues like flooding, power outages, or traffic jams. For example, 15 scattered tweets about waterlogging on Old Airport Road are merged into one actionable insight: *“Avoid Old Airport Road due to flooding near HAL; use 100 Feet Road instead.”*

PulseAI also enables predictive intelligence through **Vertex AI Forecasting** and **Vision**, identifying emerging risks (e.g., early warnings of infrastructure failures or civic unrest). Citizens can report issues via a mobile-friendly interface, and the AI will instantly geo-tag, classify, and summarize these events.

Built on **Firebase Studio**, the system offers a real-time, interactive dashboard with location-specific alerts, mood maps, and a customizable notification system for users based on their area of interest.

PulseAI doesn’t just report—it reasons, predicts, and communicates. By transforming chaotic urban data into coherent narratives, it empowers city residents and authorities to make faster, better decisions.

Opportunities

How different is it from any of the other existing ideas?

Unlike traditional city dashboards that focus on static data or siloed sources, **PulseAI** is designed to be dynamic, predictive, and multimodal. It doesn't just aggregate reports — it synthesizes real-time visual, textual, and geospatial data into a unified narrative using Google Gemini. Most platforms report issues after they happen; PulseAI aims to **anticipate and contextualize** them before they escalate.

How will it be able to solve the problem?

Urban data is fragmented, noisy, and often overwhelming. PulseAI uses AI to **filter the noise, detect patterns**, and deliver clean, localized summaries. This enables faster decisions, better citizen awareness, and proactive action by administrators. Its ability to accept user-generated visual inputs and deliver predictive alerts bridges the gap between grassroots reporting and high-level insight.

USP of the proposed solution

- Real-time fusion of multimodal data (text, image, location).
- Predictive alert engine using Vertex AI.
- Citizen-friendly reporting with visual inputs.
- Personalized insights and map-based “mood” overlays.
- Seamless integration with Firebase Studio for scale and live updates.

Together, these features make PulseAI a **living, learning AI companion for the city**—not just a dashboard.

List of features offered by 'PulseAI'

Multimodal Data Fusion: Combines social media, civic feeds, and user-submitted images/videos into unified city updates using Gemini.

Geo-tagged Incident Reporting: Allows users to report issues with photos or videos, auto-tagged to map locations.

Predictive Alerts: Forecasts issues like traffic jams or power outages using Vertex AI Forecasting.

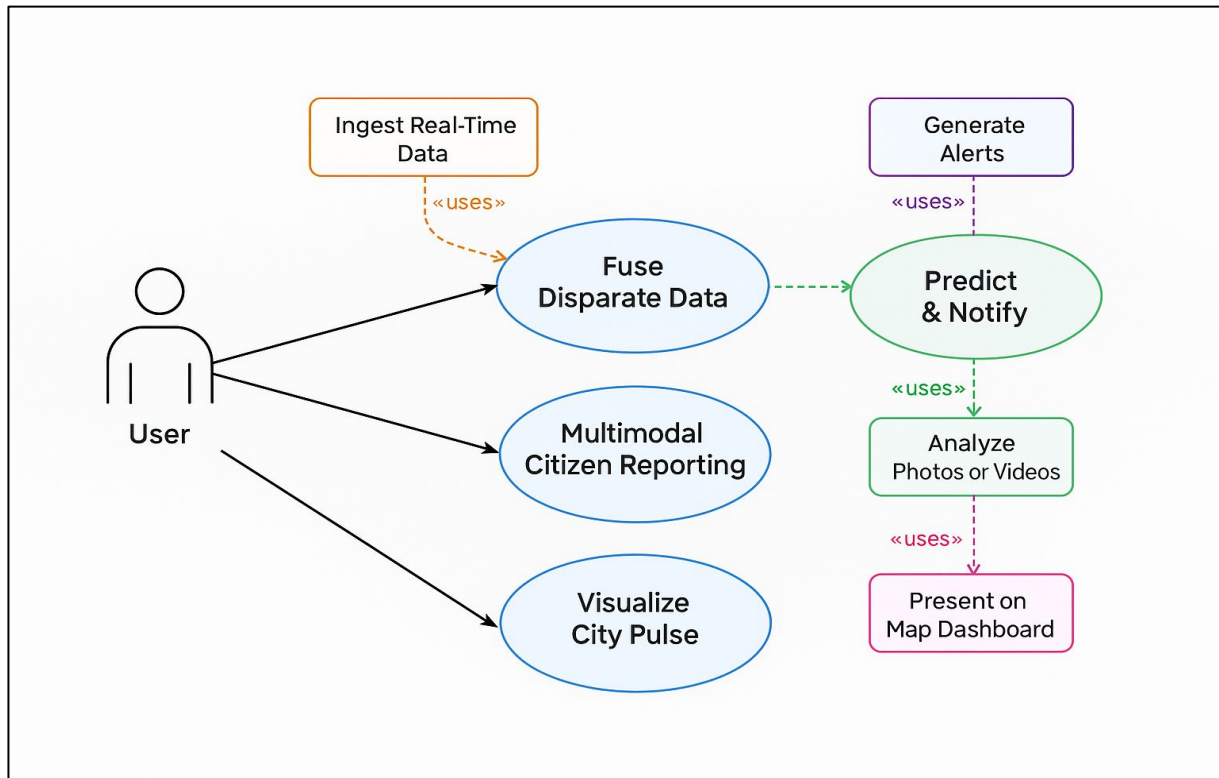
Localized Notifications: Users receive AI-curated summaries relevant to their area or interest zones.

Real-time Mood & Incident Maps: Visual dashboard overlays show public sentiment and incident hotspots.

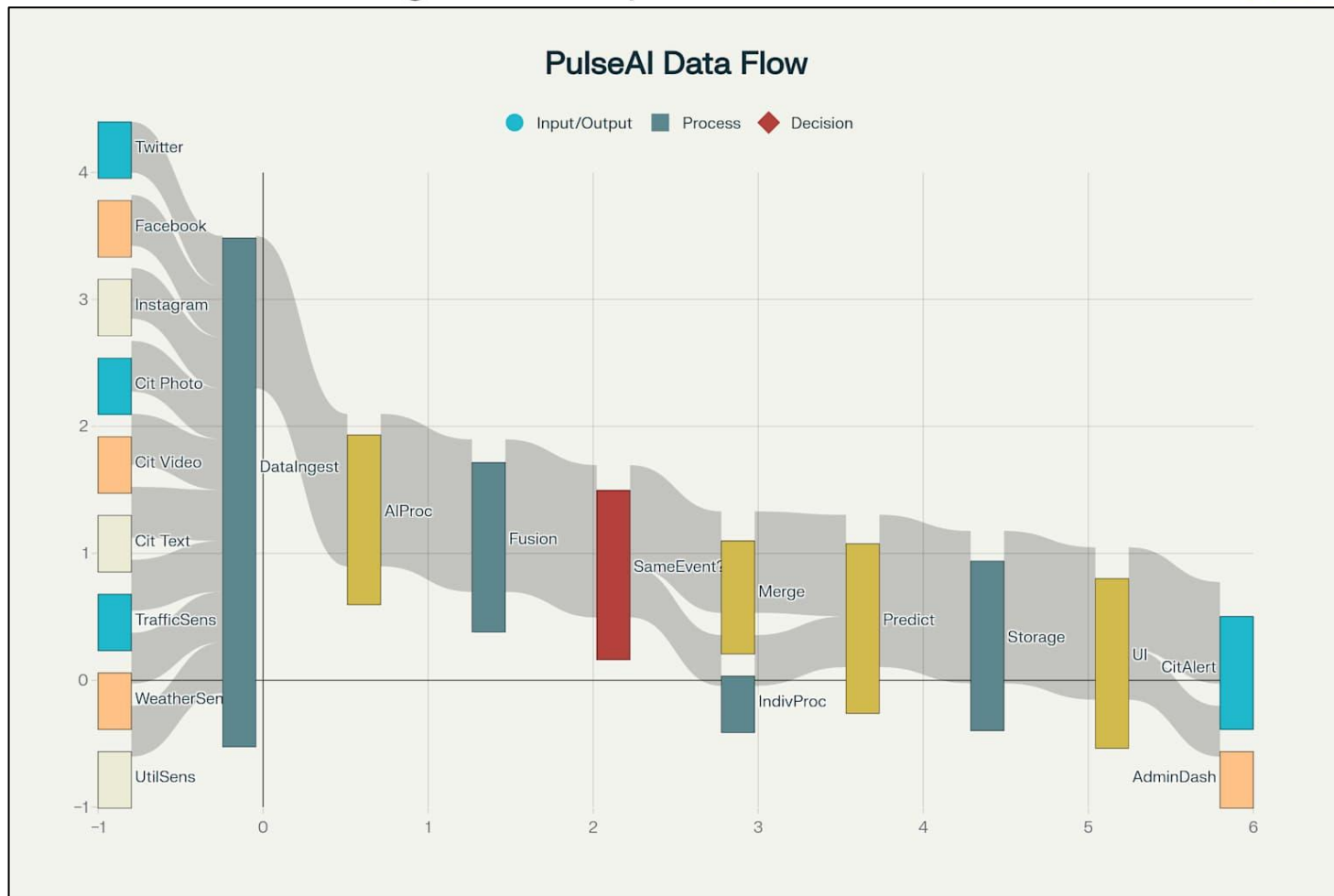
Natural Language Summaries: Converts scattered inputs into clean, actionable insights in everyday language.

Firebase-backed Scalability: Built with Firebase Studio, enabling real-time updates, hosting, and secure user data management.

Process flow diagram or use-case diagram



Process/Data flow diagram



Technologies to be used in the solution

Google Gemini 1.5 Pro

For multimodal understanding and natural language summarization of text, images, and video reports.

Vertex AI Vision & Forecasting

For analyzing crowd-sourced media, detecting anomalies, and predicting urban patterns like traffic or outages.

Firebase Studio & Firebase Firestore

For scalable backend, real-time data storage, and managing user-generated content.

Firebase Cloud Functions & Cloud Messaging

To trigger smart notifications and automate real-time workflows based on city events.

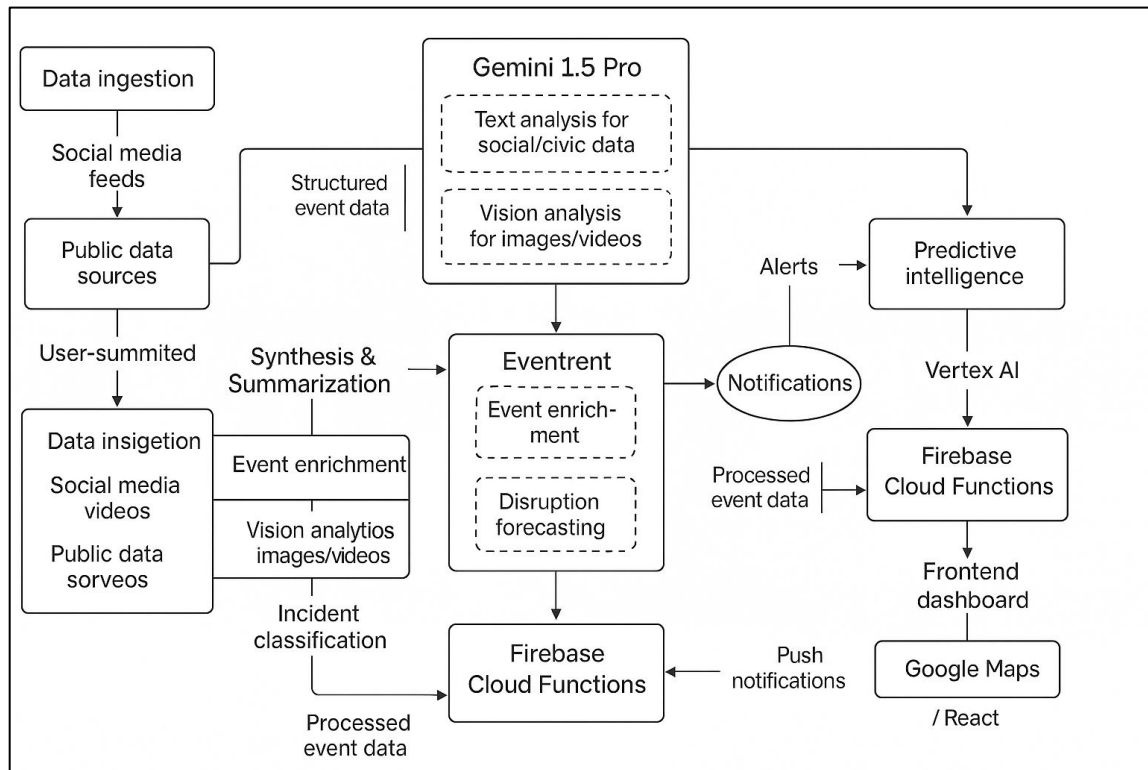
Google Maps API

For geo-visualization of incidents, routing suggestions, and map-based dashboards.

Flutter Web / React (Frontend)

For building a responsive, interactive UI that works across devices.

Architecture diagram of the proposed solution



Final Words

In a city that never slows down, information should never hold us back.

PulseAI isn't just a dashboard—it's a companion that listens to the city's heartbeat and speaks up when it matters most. From helping a commuter avoid a flooded street to guiding emergency services in real-time, *PulseAI* transforms noise into clarity, chaos into action.

We believe that technology should not only be smart—it should be **empathetic, local, and alive**.

With PulseAI, the city becomes more than a place to live.

It becomes a place that responds.



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Thank you!

