Project Proposal: Aura.AI – The Real-Time City Vibe Tracker

Vision: "To become the emotional radar of the world by decoding public mood in real time through AI- powered storytelling and sentiment visualization."

Objective

Aura.AI aims to transform the way we understand and interact with cities by decoding their collective emotional state in real time. The application aggregates sentiment signals from live social media (e.g., Twitter), news articles, and weather APIs to visualize the emotional tone of a city or region. Users can receive Gen-Z-style summaries, vibe alerts, and query historical mood patterns using LLMs. This empowers travelers, influencers, brands, and citizens to make emotionally-informed decisions.

- To capture and analyze real-time social sentiment across multiple platforms.
- To generate region-wise emotional summaries and headlines using generative AI.
- To visualize emotional intensity and type (positive, negative, mixed) on a heatmap.
- To enable hyper-personalized vibe tracking by location.
- To support influencers, travelers, marketers, and everyday users in mood-aware decision-making.
- Support RAG-powered queries for event memory and context
- Provide predictive alerts based on mood patterns and weather correlations

Data Description

Source	Description
Twitter	Real-time tweets via RapidAPI, processed using VADER for sentiment classification.
NewsAPI	Local and global news headlines used for event recognition and emotional framing.
WeatherAPI	Real-time weather data to correlate mood shifts with environmental conditions.

NEWS API: https://newsapi.org/
WEATHER API: https://www.weatherapi.com/
TWITTER API: https://rapidapi.com/davethebeast/api/twitter241/playground/apiendpoint_310ad185-b110-4c1a-93c2-fac77ebb6713
DATA Format: JSON streams from REST APIs.
DATA Processing: Data is cleaned, geotagged, and sent through sentiment analysis pipelines (VADER for initial classification, LLMs for narrative generation).
DATA Storage: MongoDB/Firebase for current data; Faiss vector store for embedding and retrieval of past mood states.

Architecture

Low Fidelity Wireframe: https://drive.google.com/file/d/1bKir0I2HzYgszjzv0Xz96Wd53Q0DFZD7/view

Use Case & Architecture: https://leafy-khapse-121754.netlify.app/aura.html

User engagement funnel: https://leafy-khapse-121754.netlify.app/funnel.jpg

Key Features

1. Sentiment Aggregation: Aggregates real-time emotional data from social media, news, and weather platforms.

2. LLM-Based Summarization: Generates regional emotional summaries and headlines using advanced language models.
3. Geo-Emotional Visualization: Displays sentiment intensity on an interactive, city-level emotional heatmap.
4. Location-Aware Mood Feed: Delivers personalized emotional updates based on user location or city selection.
5. Real-Time Alerts: Sends instant notifications for significant emotional shifts in selected regions.
6. Mood Trend Forecasting: Predicts future emotional states using historical sentiment and weather patterns.
7. Audience Insight Dashboard: Offers sentiment-driven dashboards for influencers and brands to optimize engagement.
8. RAG-Based Mood Archive: Enables contextual search of past emotional events via vector-based retrieval.

Tech Stack

Layer	Tools & Frameworks
Frontend	React.js, Next.js, Mapbox, Leaflet, D3.js
Backend	Python, FastAPI / Flask
LLMs	HuggingFace Transformers, VADER, OpenAI/Gemini APIs
Storage	MongoDB, Firebase, Faiss (Vector Store)
Deployment	Docker, Render, Vercel

Problem It Solves

Problem	Aura.AI Solution
1. People are overwhelmed by traditional, impersonal news.	Replaces dry headlines with emotionally resonant summaries.
2. Brands & creators lack emotional context for audiences.	Offers mood insights for better audience engagement.
3. No way to visualize collective public sentiment live.	Provides a live, interactive emotional heatmap of cities.
4. Hard to know when a city is in a “good vibe.”	Sends alerts for emotional shifts in user-selected regions.
5. Social media is chaotic and fragmented.	Unifies scattered data into one meaningful, emotional story.

Conclusion

Aura.AI reimagines urban interaction by bringing the emotional heartbeat of cities to the surface. Through the seamless integration of real-time data streams, advanced sentiment analysis, and LLM-powered storytelling, it transforms chaotic digital noise into meaningful emotional insights. With interactive mood heatmaps, predictive vibe alerts, and conversational access to historical sentiment, Aura.AI empowers users—from everyday citizens to global brands—to make emotionally intelligent decisions. By turning public mood into a tangible, visual experience, Aura.AI isn't just tracking vibes—it's redefining how we engage with the world around us.