Nawa – Social Listening & Sentiment Analysis Platform

# 1. Project Overview

Nawa is an AI-powered social listening and sentiment analysis platform designed to help brands monitor, analyze, and respond to online conversations across social media, forums, blogs, news sources, and Google Maps. The platform provides actionable insights to improve brand reputation, customer engagement, and marketing strategy.

# 2. Business Requirements

## 2.1 Objective

The objective of Nawa is to empower brands with real-time insights from online conversations. By collecting data across multiple platforms and analyzing public sentiment, Nawa helps brands understand how they are perceived (loved, hated, or neutral) and how their performance compares to competitors. This enables data-driven decisions to improve brand engagement, reputation, and marketing effectiveness.

## 2.2 Core Features

- Brand sentiment diagnosis: Detect if a brand is loved, hated, or neutral based on collected comments.  
- Daily, weekly, and monthly trend analysis.  
- Competitor benchmarking: Compare sentiment, activity, and reach.  
- Influencer detection and engagement insights.  
- Alerts for spikes in mentions or negative sentiment.  
- Support for Arabic and English, including dialects.  
- Customer Persona Detection: Analyze user demographics and behavior to build persona profiles.  
- Common Keyword & Phrase Extraction: Identify recurring words used with the brand (e.g., 'healthy', 'expensive', 'clean'), grouped by sentiment and theme.

## 2.3 Dashboard Capabilities

The dashboard should provide the following analytics:  
- Activity Levels: How active the brand is across each social platform.  
- Sentiment Overview: Loved / Neutral / Hated summary over time.  
- Social Media Comparison: Benchmark against competitors.  
- Engagement Trends: Monitor daily, weekly, and monthly changes.  
- Top Posts and Mentions: Most engaging or influential content.  
- Geo Insights: Breakdown of sentiment and mentions by region.  
- Persona Insights: Breakdown of customer personas interacting with the brand.  
- Word Cloud and Keyword Analysis: Frequent words used when mentioning the brand.

## 2.4 Target Users

- Marketing & PR teams  
- Brand managers  
- Social media analysts  
- Agency partners

# 3. Technical Requirements

## 3.1 Data Collection

- Integrate with APIs (Twitter/X, Instagram, Facebook, TikTok, YouTube, Reddit).  
- Google Maps and Google Reviews integration (branch-level insights).  
- Use NLP to extract sentiment and diagnose brand perception.  
- Topic modeling and emotion tagging.  
- Scalable data storage and processing pipelines.  
- Ethical web scraping for platforms without APIs.

## 3.2 Sentiment, Emotion & Persona Analysis

- Use pretrained models and fine-tune on Arabic data.  
- Multi-language support with local dialect handling.  
- Entity and aspect-based sentiment analysis.  
- Emotion classification (joy, anger, sadness, etc.).  
- Keyword & Phrase Mining: Extract top recurring words and tag them by sentiment and context.  
- Persona Detection via Text Profiling: Analyze bios, content tone, and posting patterns to cluster user types.

## 3.3 Dashboard and Reporting

- Build using React.js or Vue.js for responsive UI.  
- Backend services with Python or Node.js.  
- PostgreSQL and Elasticsearch for data storage and search.  
- Visualization libraries for KPIs and trends.  
- Exportable reports (PDF/Excel).  
- RTL support for Arabic interface.  
- Daily, weekly, and monthly data refresh & trend comparisons.

## 3.4 Security & Compliance

- OAuth 2.0 authentication.  
- Encrypted data transmission and storage.  
- GDPR and Saudi local data compliance.

## 3.5 Scalability & Performance

- Cloud deployment (AWS, GCP, Azure).  
- Horizontal scaling for data ingestion.  
- Efficient API handling and rate limiting.