

Project Charter

Project Name: *CitiSense: A SMART Web Application for Automated Bilingual Feedback Processing with Sentiment Analysis and Data Visualization*

Purpose

The purpose of the CitiSense project is to address the time-consuming, manual processing of feedback data currently handled by the IRAD department of the Department of Science and Technology – Science and Technology Information Institute (DOST-STII). The project responds to the growing need for automated sentiment analysis tools that support both English and Tagalog inputs, enabling faster, data-driven decisions. This initiative aligns with DOST-STII’s strategic goal to enhance public science communication and increase responsiveness to stakeholder feedback.

High-level project description

CitiSense is a web-based system that leverages Natural Language Processing (NLP) to automatically analyze and classify textual feedback in English, Tagalog, or a mix of both. The system processes sentiment as positive, neutral, or negative and presents the results in a real-time interactive dashboard. Key features include:

- NLP model for bilingual sentiment analysis (minimum 85% accuracy).
- Real-time data visualization through charts and keyword trends.
- Seamless integration with DOST-STII’s existing feedback collection systems.

High-level milestone schedule

The project has begun officially in **July 2025**, starting with the selection and initial fine-tuning of the Natural Language Processing (NLP) model tailored for bilingual sentiment analysis. In **August**, the development of the backend using Django will commence alongside the initial implementation of the frontend using React. By **September**, the team aims to complete a working prototype of the sentiment analysis system capable of processing and classifying feedback.

In **October**, efforts will shift toward integrating a data visualization dashboard that will display sentiment trends and keyword insights in real time. **November** will be dedicated to system testing using actual feedback data from the IRAD department, ensuring that the application meets performance and usability expectations. During **December**, final enhancements, usability improvements, and interface refinements will be applied based on testing feedback.

The project will conclude in **January of 2026**, with the full deployment of the CitiSense system and formal turnover to the IRAD department of DOST-STII for integration into their operations.

Rough cost estimate and budget

Estimated Budget: PHP 0 (Open-source development)

Cost Breakdown:

- o NLP Model: Free (HuggingFace open-source models)
- o Backend: Django (open-source)

- Frontend: React (open-source)
- Database: MySQL (open-source)
- Hosting: Free tier services (Vercel for frontend, Render/AWS for backend)

Funding Sources:

- DOST-STII support (non-monetary, testing data and validation)
- Team resources (QuadThink student-led development)

Stakeholders

Primary Stakeholder:

- IRAD Department, DOST-STII – End users and beneficiaries

Other Stakeholders:

- Researchers and Data Analysts at DOST
- Other Government Agencies with similar feedback systems
- Future Project Developers
- Educational Institutions (for research and learning applications)

Project manager

Name: Mark Marabi

Position: Project Lead, QuadThink Team

Project manager's responsibilities

- Oversee the full development lifecycle
- Ensure adherence to the timeline and deliverables
- Manage collaboration with IRAD stakeholders
- Facilitate testing, documentation, and deployment
- Report regularly on progress and challenges

Project manager's authority

- Coordinate team assignments and workload
- Make technical decisions regarding design and implementation
- Resolve conflicts within the development team
- Communicate directly with stakeholders for feedback and validation
- Approve sprint outputs and initiate changes as needed

Formal declaration of sponsor's support

Name: [To be filled with actual DOST-STII sponsor name]

Position: Division Head, IRAD – DOST-STII

Authority: Project sponsor and approving authority on behalf of DOST-STII

Sponsor Statement of Support:

“As the sponsor of the CitiSense project, I fully endorse its development and implementation to enhance the feedback analysis capabilities of the IRAD department. I recognize the value of automating sentiment classification and visualization for better decision-making and institutional responsiveness. I am committed to supporting the QuadThink team in developing a solution aligned with DOST-STII's mission.”

