Minka Link

Sowing participation, harvesting community.
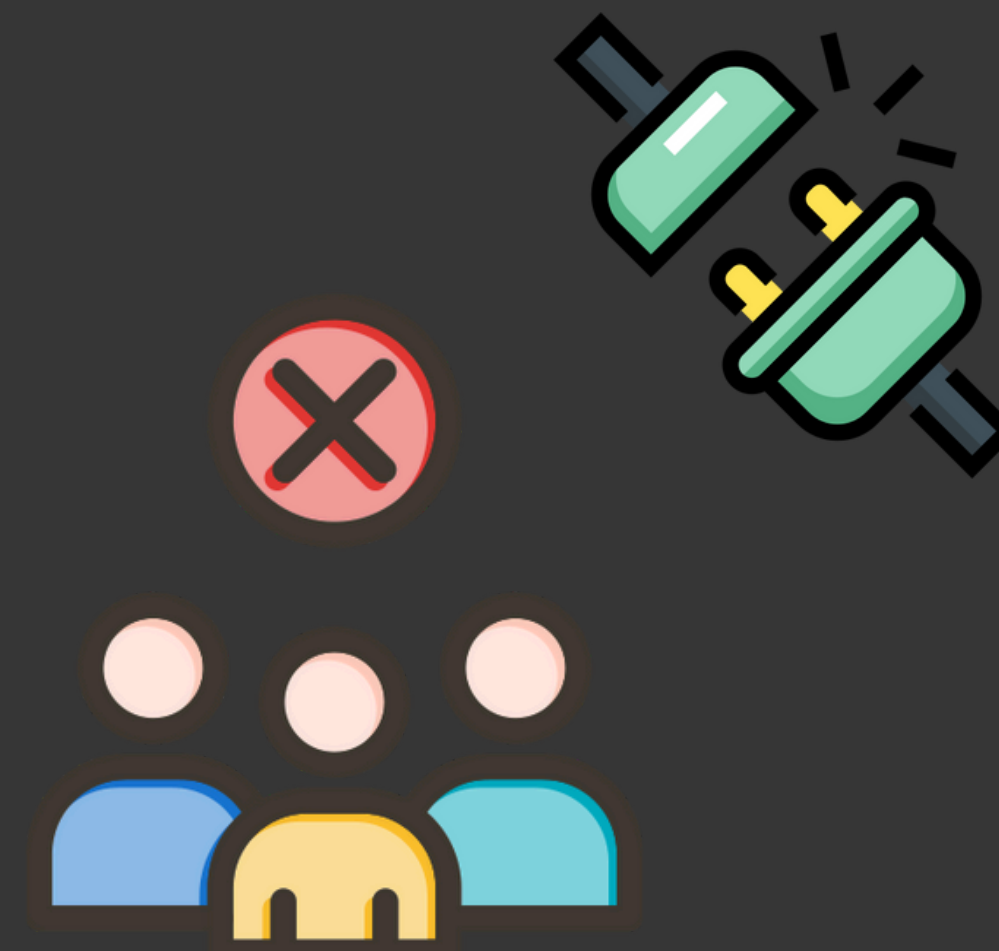
iNTEGRANTES:

- Subia Ariel
- Konig Pablo
- Condori Gaston
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THE PROBLEM TO SOLVE

Problem Description:

- **Disinformation:** Civic information is not clear, neutral, nor reliable. Broken
- **Processes:** Channels for reporting problems are manual and opaque.
- **Fragmentation:** Lack of a single platform for guidance, knowledge, and action.

ABOUT

What it is:

Minka Link is a virtual assistant application. Its design focuses on providing information and assistance on civic, governmental, and public service topics. The system uses artificial intelligence to understand and respond to queries expressed in natural language. It is capable of managing multiple knowledge domains and maintaining contextual conversations.
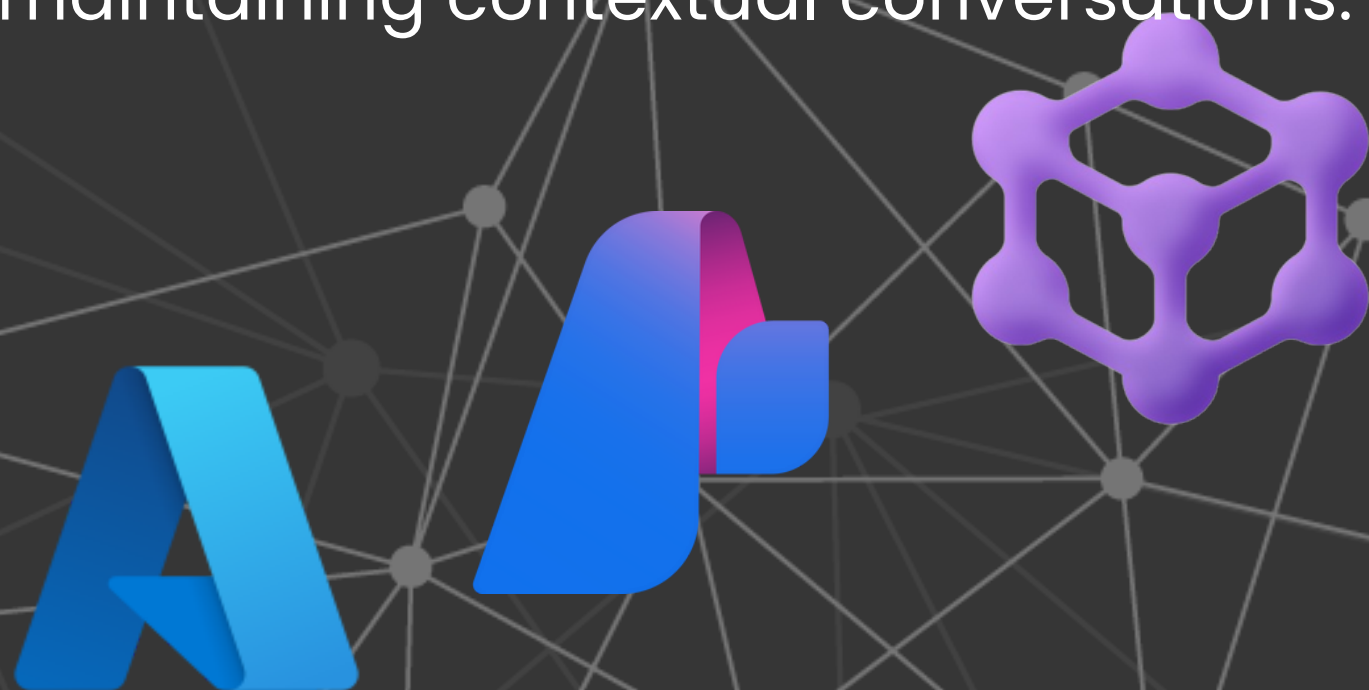
Technology:

- Microsoft Agent Framework
- Azure OpenAI Service
- Azure AI Foundry
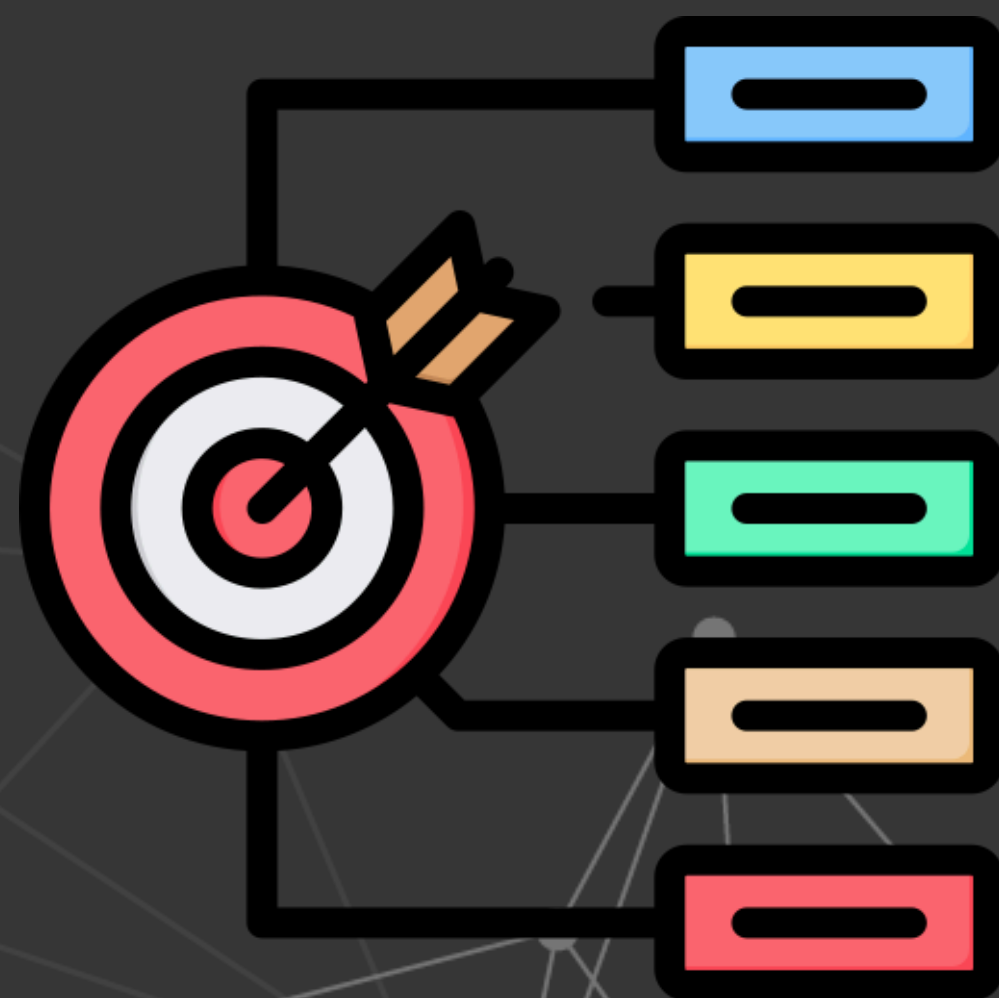- Azure Bing Search

Data and Knowledge Sources:

- Azure Translator
- Azure Speech Services
- Azure Content Safety

Data & Business Intelligence (BI):

- Azure Cosmos DB
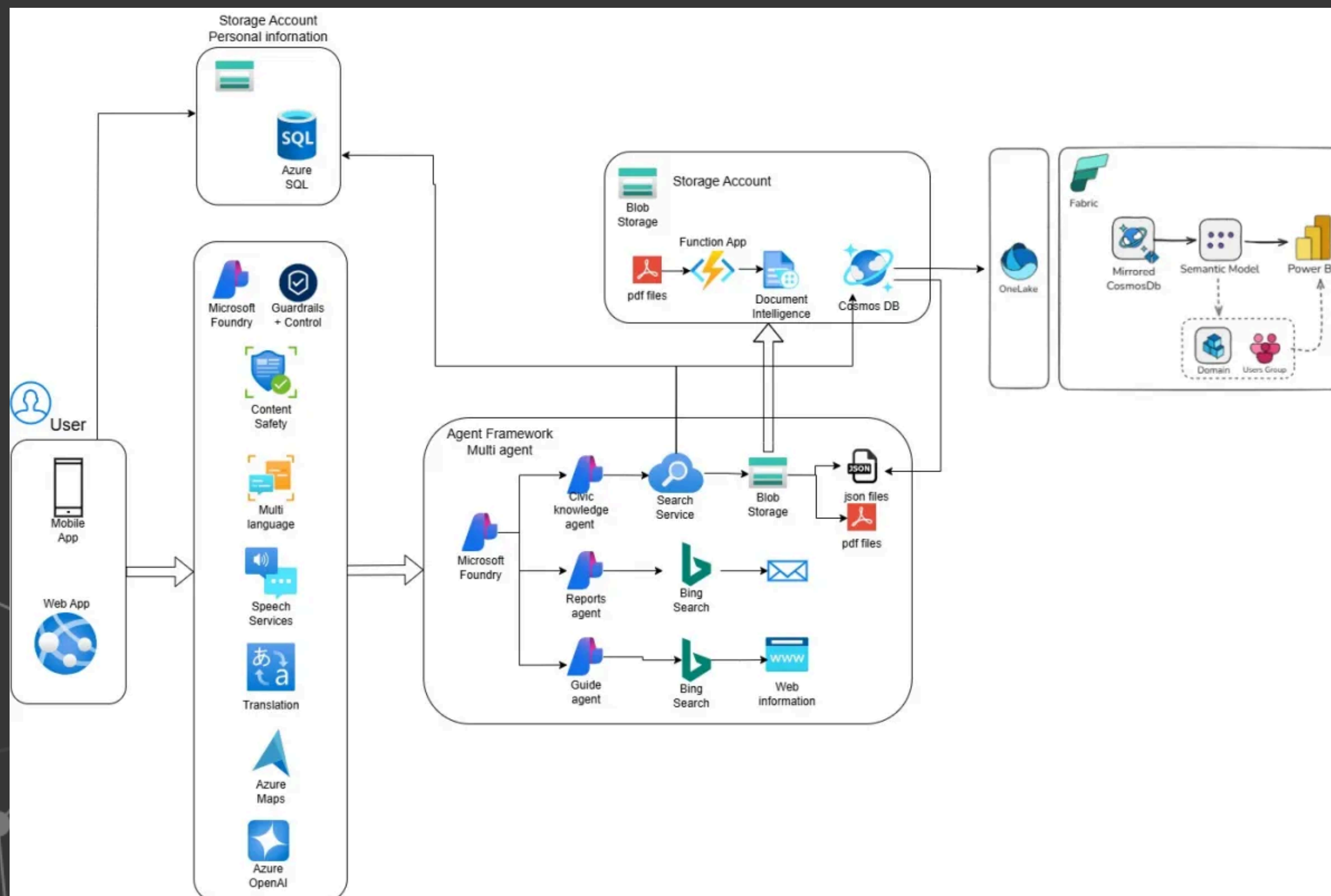- Microsoft Fabric / OneLake
- Power BI

PROJECT GOALS

Main Objective:

- **ZERO Disinformation:** Veracity in responses based on official sources (.gov) and absolute neutrality.
- **ZERO Friction:** conversation transformed into structured data for automated complaint management.
- **ZERO Barriers:** inclusion and total multilingual assistance and persistent memory for civic context.
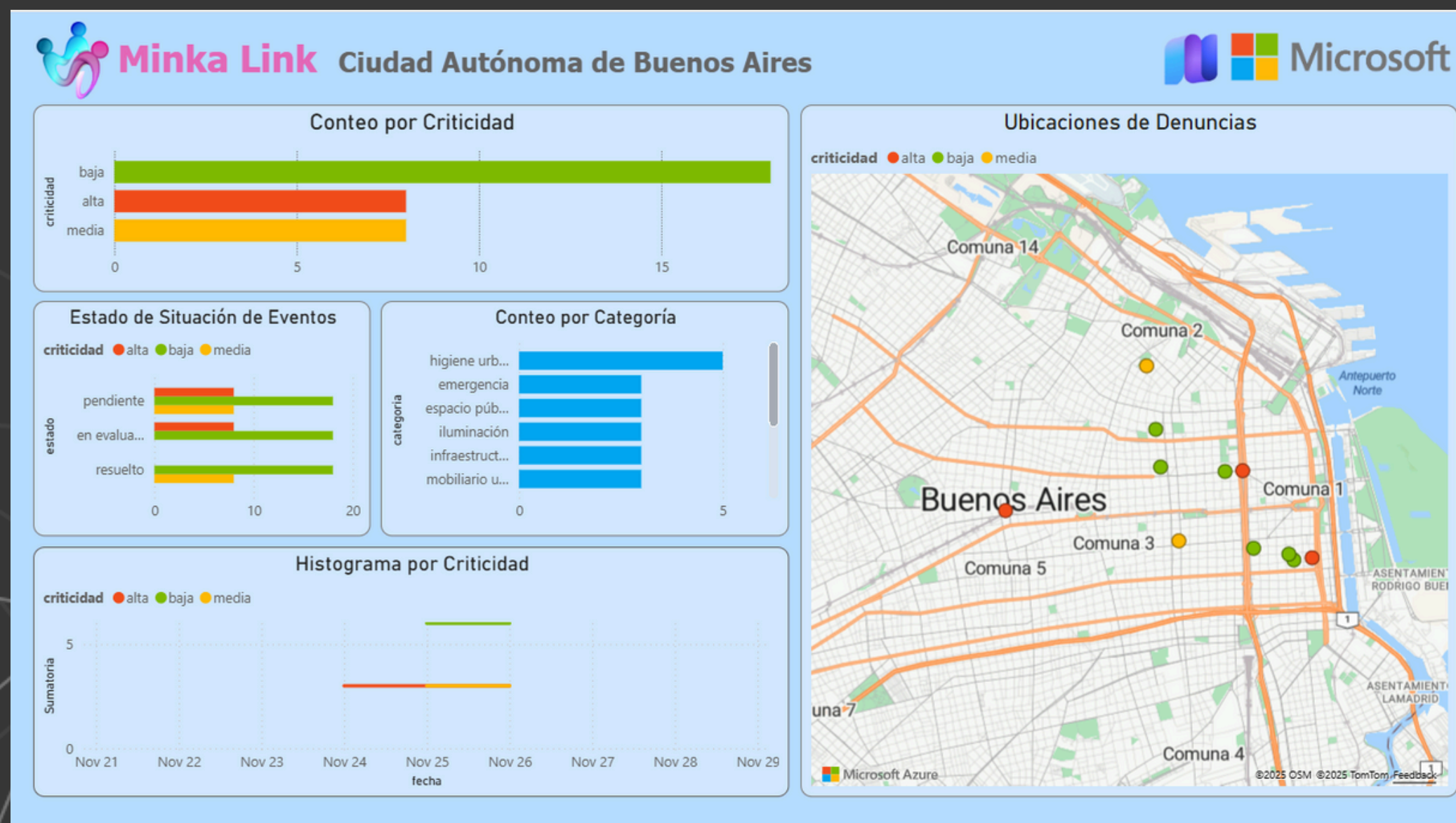
SOLUTION COMPONENTS AND ARCHITECTURE

Civic Chat se basa en el Microsoft Agent Framework MAF y la potencia de Azure OpenAI.

- Orquestación: Usamos el patrón Handoff.
- Precisión: Bing Search Grounding.
- Memoria: El Memory Manager.
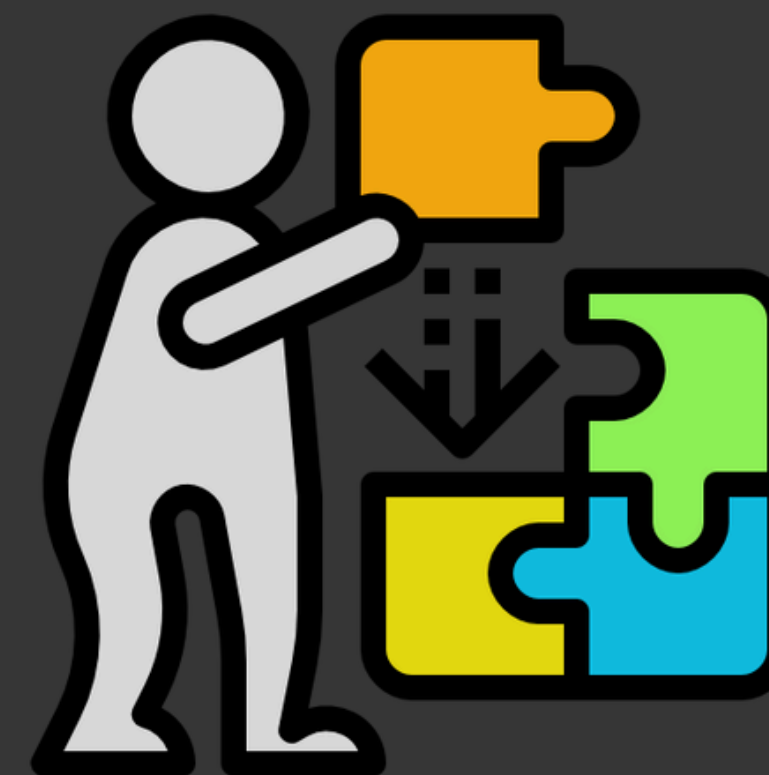
DASHBOARD AND ANALYTICSIN REAL TIME

Minka Link is an end-to-end solution that transforms civic data into a strategic insight for the government:

- **Capture and Storage:** Structured complaints are extracted by AI and saved in Cosmos DB.
- **Governance:** Microsoft Fabric replicates the data via Mirrored CosmosDB, utilizing OneLake to ensure governance and security.
- **Visualization:** Government officials access a Power BI Dashboard to visualize metrics and the location of complaints in real time.

SOLUTION OVERVIEW

Minka Link is a specialized agent system built on the Microsoft Agent Framework and Azure OpenAI
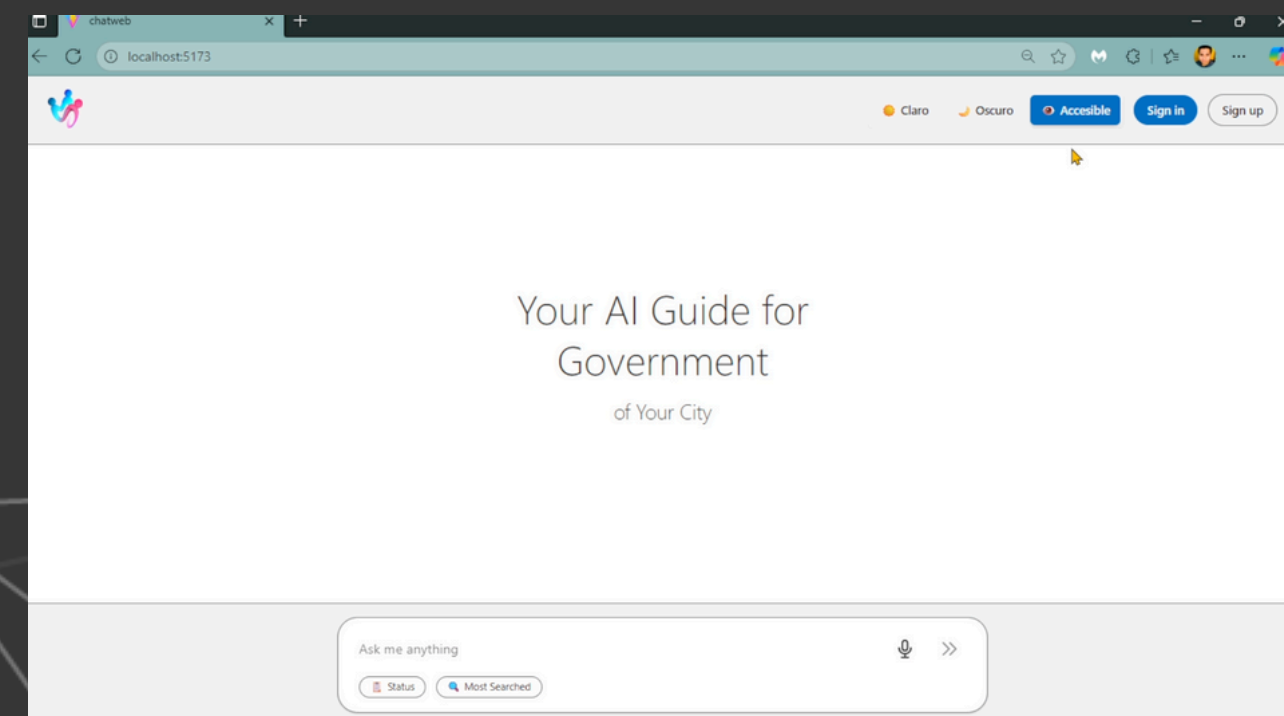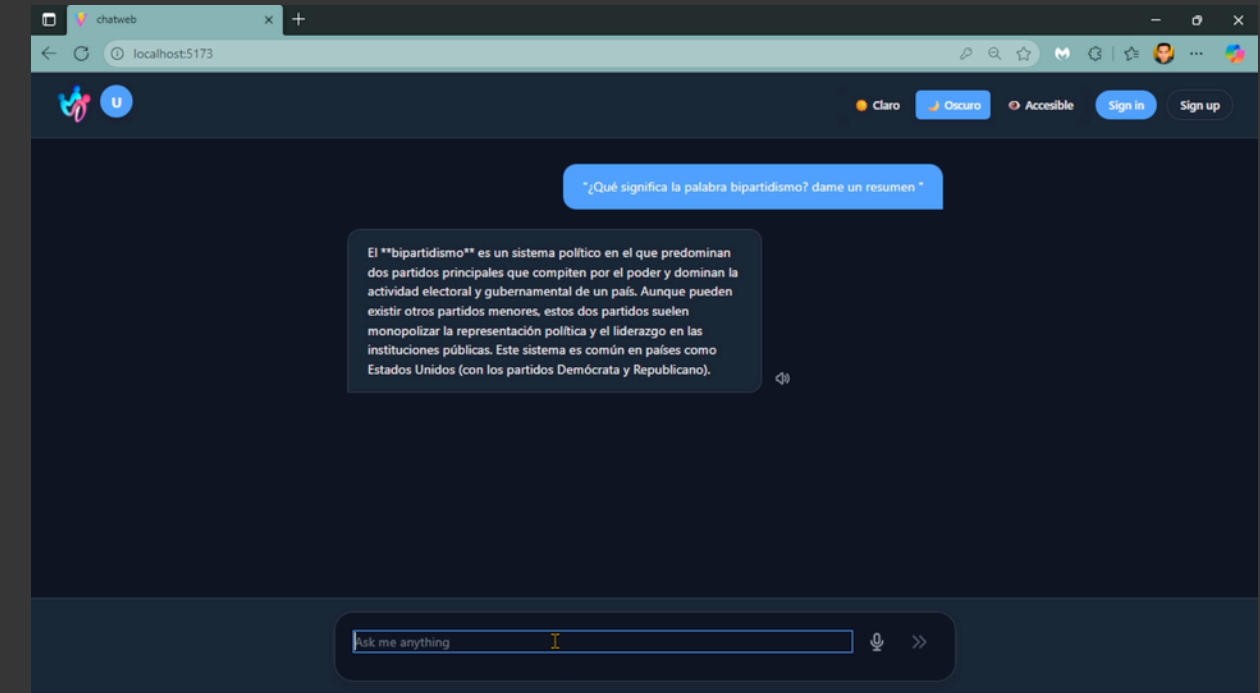
- **Central Platform:** Specialized Agent System built on the Microsoft Agent Framework and Azure OpenAI.
- **Value Pillars:** The Knowledge Agent uses Bing Search for compliance and neutrality; AI structures complaints for automatic routing.
- **Total Inclusion:** Architecture prepared for Multilingualism (Azure Translator) and Contextual Personalization (Persistent Memory/UI Accessibility).
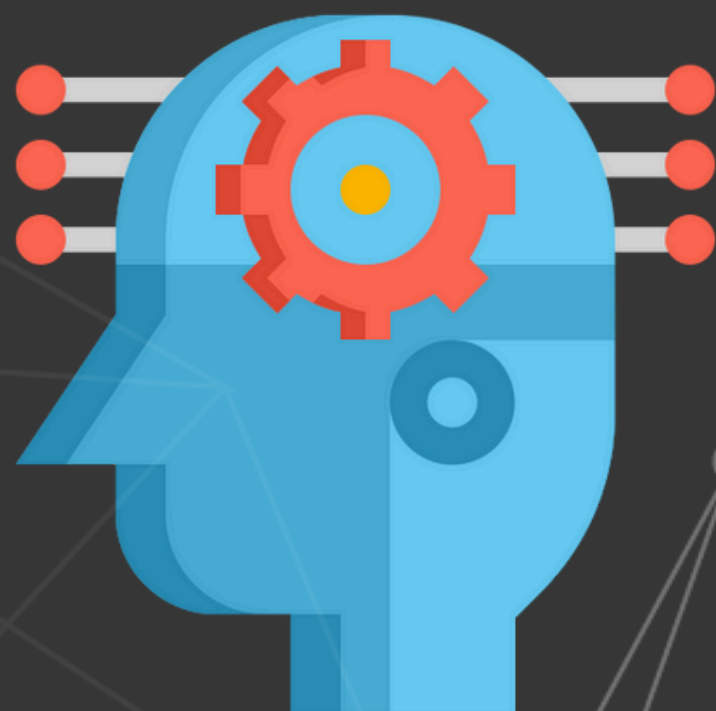
USER INTERFACE FUNCTIONALITY

User Interface Functionality:

- Interaction Architecture (Microsoft Agent Framework)
- Orchestration Flow: Handoff Pattern with Intent Classifier
- State Management: ContextProviders (Persistent Memory)
- Verifiable Precision: Knowledge Agent utilizes Bing Search Agent (Grounding)
- Data Structure: AI Entity Extraction High Contrast Mode (or Mode for Chromatic Visual Impairment)

KEY LEARNINGS

Our Core Strengths
- **E**ffective Routing: The handoff pattern proved to be the optimal solution for intelligent routing and system modularity.
- Memory Resolved: The implementation of ContextProviders stably resolved the challenge of persistent memory.
- Processable Data: Structured extraction (JSON) was validated, proving the value connection with Fabric/Power BI.
- Priority: Finalization of Bing Search Grounding to ensure 100% data freshness.

FUTURE CHANGE

Microsoft

What's Next:

- **The Future Voice Support (STT/TTS):** Hands-free interaction using Azure Speech Services.
- **Sign Language:** Exploration of video recognition for sign language input (Inclusion).
- **Total Multilingualism:** Complete implementation of Azure Translator for global support and document translation.
- **Azure Content Safety:** Integration of the tool for ethical moderation and guardrails.
- **Encryption and Anonymization:** Advanced protection of sensitive data in complaints.
- **Entity Recognition (NER):** More precise and granular data extraction.
- **Data Governance:** Design refinement for data partitioning and access control by jurisdiction.