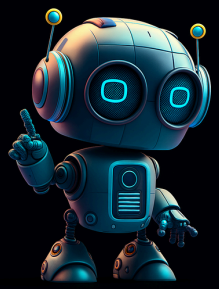
CITIZEN AI – INTELLIGENT CITIZEN ENGAGEMENT PLATFORM



Project Report Documentation

Team ID: NM2025TMID03728

Project Overview

Purpose:

The purpose of Citizen AI is to build an **AI-powered platform** that helps citizens access **government services, civic information, and city safety analysis** in a simple and intelligent way. The system provides answers to queries about policies, documents needed for services, and also gives insights on city safety, crime rates, and accidents.

Features:

- **Conversational Interface**
  - Key Point: Natural language interaction
  - Functionality: Citizens can ask questions in plain language and get accurate answers.
- **City Safety Analysis**
  - Key Point: Safety insights
  - Functionality: Provides details on crime index, accidents, and overall safety for a given city.
- **Government Services Information**
  - Key Point: Easy access to services
  - Functionality: Answers questions like how to apply for a passport, voter ID, healthcare, etc.
- **User-Friendly Interface**
  - Key Point: Modern UI
  - Functionality: Uses **Gradio** with dark theme, tabs, and examples for smooth interaction.

Architecture

- **Frontend (Gradio):**
  Provides a simple web interface with tabs for City Safety and Citizen Services. Includes textboxes, buttons, and example inputs for ease of use.
- **Backend (Python + Transformers):**
  Uses Python libraries like **Torch, Transformers, and Gradio**. Handles text processing, prompt generation, and AI model responses.
- **LLM Integration (IBM Granite):**
  The **Granite-3.2-2B-Instruct model** is used for natural language understanding and response generation.

Tools and Technologies Used

- **Programming Language:** Python
- **Libraries/Frameworks:**
  - **Transformers** – for AI model (NLP)
  - **Torch (PyTorch)** – for model execution
  - **Gradio** – for creating web-based interface
- **AI Model:** IBM Granite (Granite-3.2-2B-Instruct)
- **Deployment:** Gradio with shareable public link

System Design

Modules:

1. **City Safety Analysis Module**
   - Takes city name as input.
   - Provides detailed analysis about crime rate, accidents, and overall safety.
2. **Citizen Services Module**
   - Accepts questions from citizens (e.g., passport, voter ID, healthcare, tax policies).
   - Generates clear and helpful AI responses.
3. **User Interface Module**
   - Built using **Gradio Blocks**.
   - Dark-themed UI with tabs for City Analysis and Citizen Services.
   - Provides example queries for quick testing.

Workflow

1. **User Input**: Citizen enters a query or city name.
2. **Preprocessing**: Input is tokenized and sent to the AI model.
3. **Model Processing**: IBM Granite model generates response.
4. **Output**: System displays the result in a well-formatted textbox.
5. **Interface**: Users interact via a simple and interactive Gradio UI.

Features

- AI-driven **city safety analysis**.
- Instant answers to **citizen queries** about government services.
- **Dark-theme UI** for better user experience.
- Example queries for easy use.
- Shareable public link for deployment.

Advantages

- Makes government services more accessible to citizens.
- Provides real-time information on civic and safety issues.
- Saves time by reducing manual searching for government policies.
- Can be extended with more government data sources in the future.

Limitations

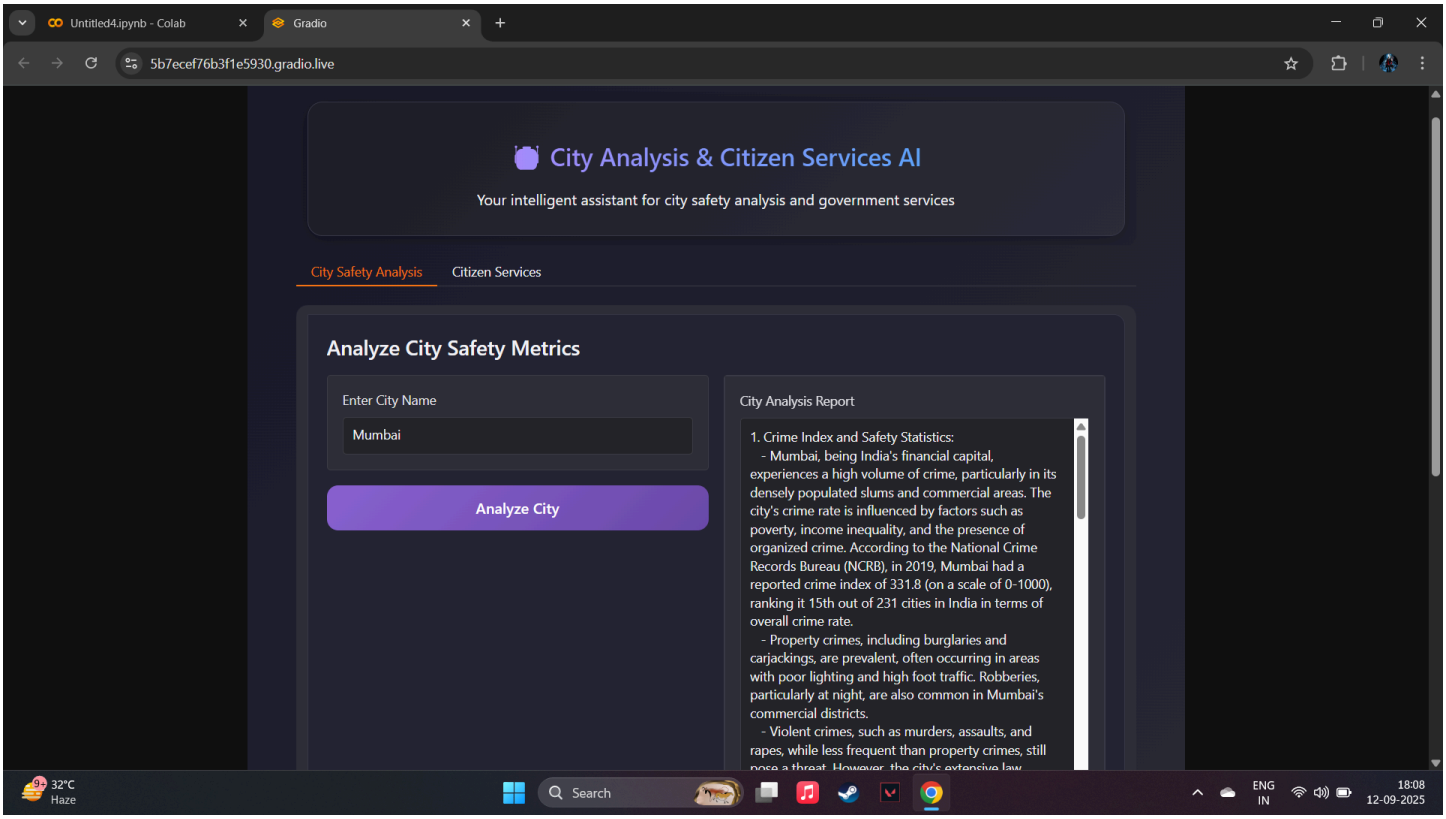
- The AI response depends on the trained model and may not always be 100% accurate.
- Requires **internet connection** to run.
- Data like crime and accident statistics may not be updated in real-time.

Future Enhancements

- Add real-time government databases for updated data.
- Provide multilingual support for wider reach.
- Integrate chat history and feedback system.

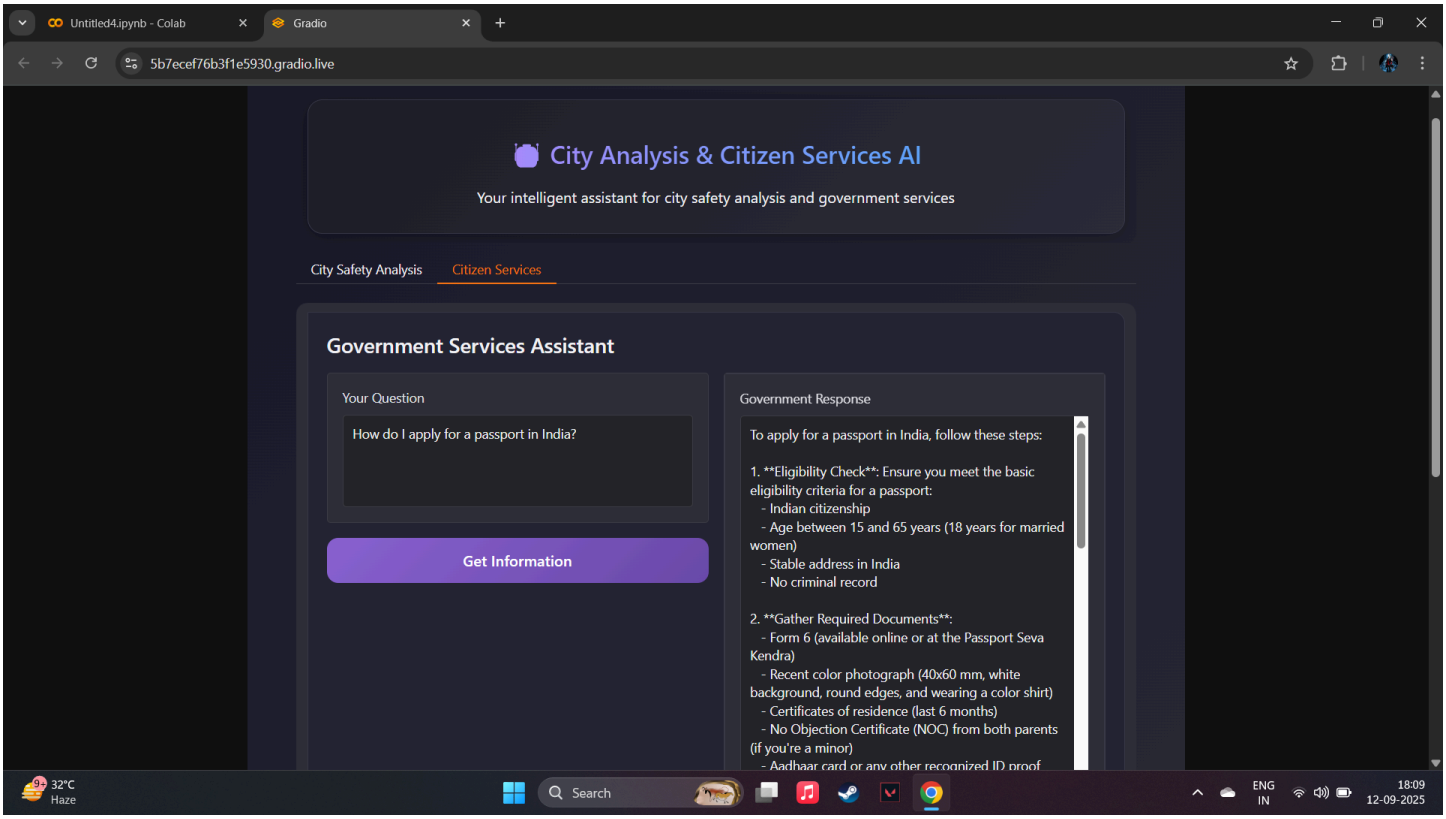
Output Screenshot - 1

City Safety Analysis :



Output Screenshot - 2

Citizen Services :



Known Issues

- Data like crime and accident rates may not always be real-time.
- Responses depend on AI model accuracy.

Conclusion

Citizen AI is an innovative platform that bridges the gap between **citizens and government services** using artificial intelligence. It provides both **city safety analysis** and **citizen service assistance**, making governance more **efficient, transparent, and citizen-friendly**.

This project can be further enhanced by integrating **real-time government databases** and **multilingual support** to reach a larger population.

Team Contribution

1. **Kishore S (Team Lead):** Project planning, AI model integration, testing, bug fixing.
2. **Jei Akash J:** Research on city safety features, Gradio interface design.
3. **Rakesh S:** Backend coding support, documentation help.
4. **Senpaha Prasath P:** UI customization, example queries, deployment.