CITIZEN AI: Intelligent Citizen Engagement Platform

1.INTRODUCTION:

Citizen AI: Intelligent Citizen Engagement Platform

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2. PROJECT OVERVIEW:

The Citizen AI platform is a cutting-edge, AI-driven solution designed to enhance citizen engagement, improve government services, and foster a more responsive and inclusive community. Here's a comprehensive overview

- **Conversation Interface:**

A Conversation Interface in a Citizen AI Platform enables citizens to engage with government through natural chat or voice

It creates an intelligence engage system for faster services transparent communication and data-driven governance

- **Policy Summarization:**

Citizen Al uses policy summarization to present complex rules in simple, clear anguage for citizens.

This makes governance more transparent, accessible, and easy to understand for everyone.

- **Resources Forecasting**

Citizen AI applies resource forEcasting to predict future needs and demands.

This helps governments ensure efficient allocation and timely delivery of public services.

- **Eco- Tip Generator**

Citizen Al's eco tip generator gives citizens daily suggestions to live sustainably. It promotes green habits and community-wide environmental awareness.

- **Citizen Feedback Loop**

Citizen Al's feedback loop collects and analyzes public opinions in real time. This ensures comtinuous improvement of services and stronger citizen trust.

- **KPI Fore Casting**

Citizen Al usEs KPI forecasting to prcdict key performance outcomes of public services. This Enables data-driven planning and proactive governance.

- **Anomaly Detection**

Citizen AT's anomaly detection spots unusual patterns in citizen data or service use. This helps ensure carly issuc detection and quick corrective action.

- **Multimodal Input Support**

Citizen Al's multimodal input support lets citizens interact via text, voice, or images. It ensures inclusive, accessible, and user-friendly engagement for all.

- **Streamlit to Gradio Ui**

Citizen Al can shift from Streamlit to Gradio Ul for more interactive, flexible citizen engagement.

This enables seamless A/ demos, faster prototyping, and user-friendly interfaces.

3.ARCHITECTURE:

The architecture of Citizen Al integrates data sources, AI models, and citizen-facing interfaces.

It ensures secure, scalable, and efficient intelligent engagement across services.

- **LLM Integration**

Citizen AI's LLM integration enables natural, human-like conversations with citizens.

It provides context-aware answers and personalized service delivery.

- **Vector Sector**

Citizen AI's vector search orgunizes and retrieves information with high accuracy.

lt enables fast, relevant, and context-aware citizen query responses.

- **ML Modules**

Citizen Al's ML modules analyze pattcrns in citizen data to improve decision-nmaking.

They enable predictive insights and smarter public service delivery.

4.SETUP INSTRUCTION:

Set up Citizen AI by deploying AI/ML models with secure data integration across services.

Then configure multichannel interfaces (chat, voice, web) for citizen interaction.

- **Prerequisites**

A citizen engagement platform requires secure infrastructure and integrated data sources.

It also needs AI/ML tools with multilingual, accessible user interfaces for effective interaction.

- **Installation Process**

The installation process involves configuring servers, databases, and AI/ML environments. Next, deploy the citizen-facing UI with security, multilingual, and accessibility features.

5.FOLDER STRUCTURE:

The folder structure includes separate modules for data, models, APIs, and UI components.

It ensures organized development, easy scaling, and smooth maintenance.

6.RUNNING THE APPLICATION:

Run the Citizen AI application by starting backend services and launching the UI interface.

Citizens can then interact in real time through chat, voice, or web platforms.

7.API D0CUMENTATION:

The API documentation provides detailed endpoints, request/response formats, and authentication methods.

It enables developers to integrate and interact with the Citizen AI platform efficiently.

8.AUTHENTICATION:

Citizen AI uses secure authentication methods like OAuth, JWT, or API keys.

This ensures only authorized users access services and sensitive citizen data.

9.USER INTERFACE:

The Citizen AI user interface offers intuitive chat, voice, and web interactions.

It ensures easy, accessible, and engaging citizen engagement across platforms.

10.TESTING:

Testing Citizen AI involves validating AI responses, system workflows, and data integration.

It ensures accuracy, reliability, and seamless citizen interaction.

11.KNOWN ISSUES:

Known issues may inchude misinterpretation of queries, latency in responses, or integration bugs.

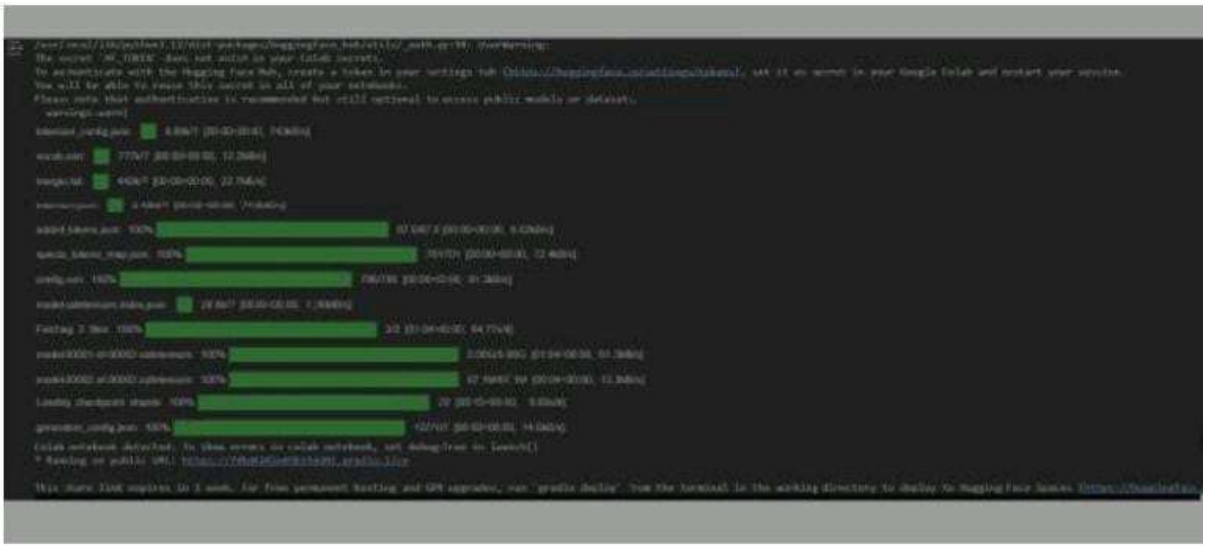
Addressing them ensures improved accuracy and smoother citizen engagement.

12.FUTURE ENHANCEMENT:

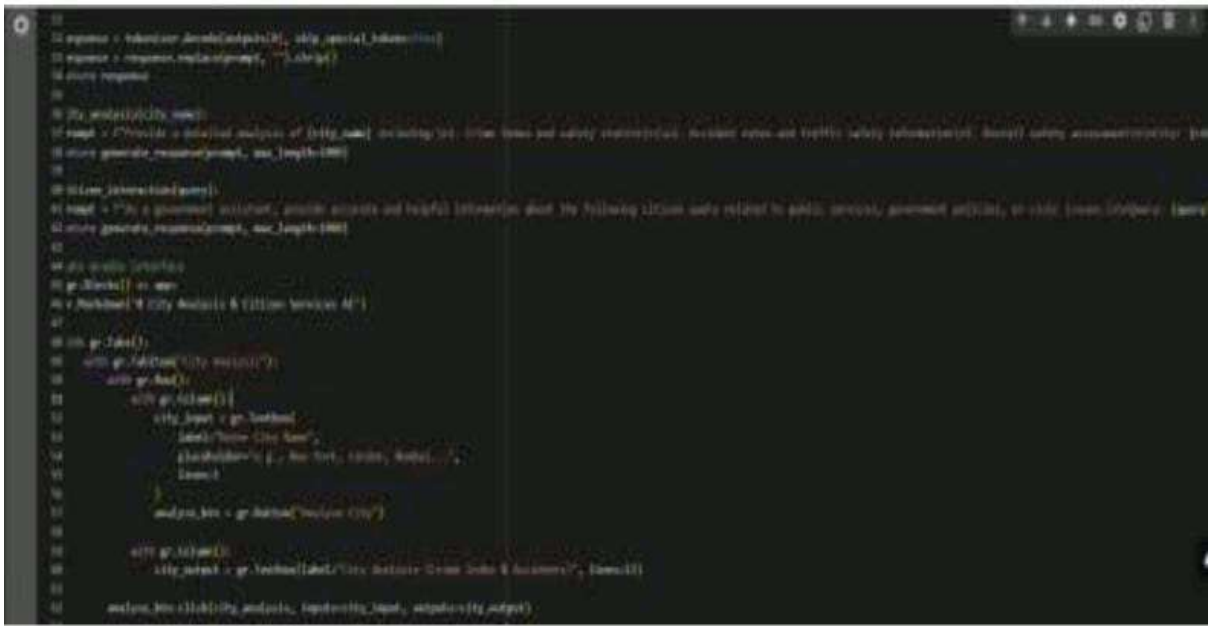
Future enhancements include advanced multilingual support, predictive analytics, and proactive citizen alerts.

These upgrades aim to increase engagement, efficiency, and personalized public services.

13.PROJECT SCREENSHOT:



```python
import gradio as gr
import torch
from transformers import AutoTokenizer, AutoModelForCausalLM

# Load model and tokenizer
model_name = "ibm-granite/granite-3.3-2b-instruct"
tokenizer = AutoTokenizer.from_pretrained(model_name)
model = AutoModelForCausalLM.from_pretrained(
    model_name,
    torch_dtype=torch.float16 if torch.cuda.is_available() else torch.float32,
    device_map="auto" if torch.cuda.is_available() else None
)

if tokenizer.pad_token is None:
    tokenizer.pad_token = tokenizer.eos_token

def generate_response(prompt, max_length=1024):
    inputs = tokenizer(prompt, return_tensors="pt", truncation=True, max_length=512)

    if torch.cuda.is_available():
        inputs = {k: v.to(model.device) for k, v in inputs.items()}

    with torch.no_grad():
        outputs = model.generate(
            **inputs,
            max_length=max_length,
            temperature=0.7,
            do_sample=True,
            pad_token_id=tokenizer.eos_token_id
        )
```



```
63
64      with gr.TabItem("Citizen Services"):
65          with gr.Row():
66              with gr.Column():
67                  citizen_query = gr.Textbox(
68                      label="Your Query",
69                      placeholder="Ask about public services, government policies, civic issues...",
70                      lines=4
71                  )
72                  query_btn = gr.Button("Get Information")
73
74              with gr.Column():
75                  citizen_output = gr.Textbox(label="Government Response", lines=15)
76
77          query_btn.click(citizen_interaction, inputs=citizen_query, outputs=citizen_output)
78
79  aunch(share=True)
```

THANK YOU…