Introduction to Project Planning

Overview

The City Analysis & Citizen Services AI project uses artificial intelligence to do two main things:

1. City Analysis – Give safety details like crime index, accident rates, and overall safety.

2. Citizen Services – Answer questions from people about government services, rules, and civic issues.

This document explains how the project will be planned, including the requirements, tools, time schedule, and risks.

Why Planning is Important

To know what features we need.

To decide which tools and technologies will be used.

To plan time and resources properly.

To understand possible risks and how to avoid them.

Requirements Planning

What the Project Must Do (Functional Needs)

1. City Analysis

Input: A city name (example: Mumbai).

Output: Report with crime index, accident rates, and safety.

2. Citizen Services

Input: A question about government or public services.

Output: AI-generated answer with useful details.

3. User Interface

A Gradio web app with two tabs (City Analysis and Citizen Services).

Simple textboxes and buttons for easy use.

Other Requirements (Non-Functional Needs)

Speed: Answer should come in 3–5 seconds on GPU.

Scalability: Should work smoothly for many queries (one after another).

Ease of Use: Interface must be simple and clear.

Reliability: Should not crash while running.

Safety: Handle input safely without misuse.

Resources and Timeline

Tools and Technologies

Language: Python

Frameworks: Hugging Face Transformers, Gradio

Platform: Google Colab with T4 GPU

Libraries: PyTorch, AutoTokenizer, AutoModelForCausalLM

Team Roles

Project Manager – Tracks work and deadlines.

AI Engineer – Works on the AI model.

Frontend Developer – Designs the interface.

Tester – Checks the system for errors.

Project Timeline

The project will be done in six phases:

First, requirements gathering will take 1 week to write down what the project must do.

Second, model setup will take 1 week to prepare the IBM Granite AI model.

Third, module development will take 2 weeks to build City Analysis and Citizen Services modules.

Fourth, interface design will take 1 week to create the Gradio app with tabs.

Fifth, testing and debugging will take 2 weeks to check performance and fix errors.

Sixth, deployment and review will take 1 week to launch the project on Google Colab and review the results.

Risks and Solutions

Possible Problems

1. Limited GPU Power – Colab GPUs may stop after long use.

2. Slow Responses – Large inputs may make AI slower.

3. Accuracy Issues – Answers may not always be perfect.

4. Too Many Users – Many queries at the same time may overload the system.

How to Solve Them

Use smaller text limits for faster results.

Save results (caching) for cities that are searched often.

Try cloud GPUs (AWS, GCP, Azure) for bigger projects.

Test the system with different types of inputs.

Give users clear instructions for better results.

Conclusion

The planning phase gives a clear roadmap for building and launching the City Analysis & Citizen Services AI. With proper time, tools, and testing, the project can be completed successfully.