Naan Mudhalvan Project Documentation

Project Title:

SmartSDLC – AI-Enhanced Software Development Lifecycle Generative AI with IBM

Team Details:

-Team Leader: S.Mohamed Javid

-Team Members:

- V.Rajesh
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Project Description:

SmartSDLC uses the Granite model from Hugging Face to speed up software development.

It provides:

- Lets users upload PDFs
- Generate clear requirements, turn prompts into code, create tests, fix bugs, write docs, and chat with an AI helper.
- This project will be deployed in Google Colab using Granite for easy setup and reliable performance.

Pre-requisites:

Before starting, ensure you are familiar with:

1. Gradio Framework→ https://www.gradio.app/guides/
2. IBM Granite Models (Hugging Face)→ https://huggingface.co/ibm-granite
3. Python Programming→ https://docs.python.org/3/
4. Git & Version Control→https://git-scm.com/docs/git

5. Google Colab T4 GPU GPU→https://www.geeksforgeeks.org/python/how-to-use-gpu-in-google-colab/

Project Workflow:

Activity 1- Exploring Naan Mudhalvan Smart Interz Portal

1. Open: https://naanmudhalvan.smartinternz.com/

2. Login Go to Projects Select SmartSDLC – AI-Enhanced Software Development Lifecycle

3. Access resources under Guided Project.

4. Open Workspace Track project progress & upload Demo link.

Activity 2-Choose an IBM Granite Model from Hugging Face

1. Go to https://huggingface.co/ Create account.

2. Search for IBM Granite Models.

3. For this project, use granite-3.2-2b-instruct (lightweight & fast).

Activity 3-Running the Application in Google Colab

1. Open https://colab.research.google.com/.

2. Create a New Notebook→Rename as Health Al.

3. Change runtime→T4 GPU.

4. Install dependencies:

!pip install transformers torch gradio -q

5. Run the provided code→ https://drive.google.com/file/d/1HV-VHnABR0OU93G3p3dL55U3h4K39w8S/view?usp=sharing

6. Output→Modeldownloads & Gradio App launches.

7. Click on generated URL→Test your application.

Activity 4-Upload Your Project to GitHub

1. Go to https://github.com/ Create→account/sign in.

2. Create a new repository (e.g., IBM-Project).

3. Enable Add README.

4. Download your Colab code→Save as .py.

5. Upload the file to GitHub→Commit changes.

Final Deliverables

- GitHub Repository:https://github.com/MJ-dev-svg/IBM-project
- Live Demo:https://b2dbd2e3a3dd2ac0ee.gradio.live
- Working Gradio Web App link from Colab
- Source Code (.py) uploaded to GitHub
- Documentation (this file)