**Project Title: AI-Powered Text-to-SQL System for Customer Data**

**Project Description:**

This project aims to develop an AI-powered system that allows customers to interact with their data using natural language queries. The system will process customer questions, convert them into SQL or Pandas operations, execute the queries, and present results in textual and graphical formats.

**Key Features:**

1. **Conversational Query Interface:**
   * Customers can ask questions about their data in natural language.
   * The AI bot will engage in dialogue to refine queries when needed.
2. **Text and Data Sources:**
   * A long text file containing detailed customer information will be used for contextual understanding.
   * A CSV file will store structured customer data for querying.
3. **Query Conversion & Execution:**
   * The AI will convert natural language prompts into SQL or Pandas operations.
   * Queries will be executed on the CSV dataset to extract relevant insights.
4. **Result Presentation:**
   * Responses will be provided in text format with clear explanations.
   * Graphs and visualizations (e.g., bar charts, line graphs) will be generated based on query results.
5. **Context-Aware Responses:**
   * The AI will leverage the text file to enhance understanding and provide more accurate responses.
   * It will remember previous user inputs for a coherent conversation flow.
6. **Data Integrity & Security:**
   * Query execution will be optimized to prevent unnecessary data exposure.
   * Access control mechanisms will ensure that users can only retrieve authorized information.

**Expected Outcomes:**

* A seamless conversational experience for querying customer data.
* Accurate SQL/Pandas query generation from natural language prompts.
* Dynamic graph generation for better data visualization.
* Enhanced user engagement and data-driven decision-making.