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| SMARTsheet Analysis |
| October 3, 2023 |

## Project Overview

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| Badge Tick1 with solid fill | The project aims to analyze the project schedule data sourced from Smartsheet using the advanced AI chatbot, ChatGPT. The objective is to extract vital insights from this data, identify possible risks, and provide recommendations for future actions.  Utilizing Smartsheet, a renowned platform for project management, we plan to scrutinize the project schedule data, which gives us an in-depth understanding of various aspects such as task completion status, project timelines, resource allocation, and much more.  This analysis will focus on deriving patterns, trends, and anomalies within the data that might affect the project's progress and efficiency. We are particularly focused on identifying potential risks that could hinder the project's timeline or result in overspending.  After thoroughly investigating the data, the goal is to provide actionable recommendations for improvement. Also, I aim to leverage the results to optimize the project schedules, improve resource allocation, and devise strategies that enhance overall project performance. In essence, this project will serve as a risk mitigation tool, ensuring smooth project execution and robust resource management. |

## User Interface

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| Badge Tick1 with solid fill | User Interface contains 2 parts. One is for building knowledge-base and the other is for project schedule analysis.   * **Build Knowledge-Base Part**     This part has 4 Input Textboxes (Smartsheet Access Token, Sheet ID, OpenAI API Key, GPT Model Name) and 1 Output Textbox which shows the result of building.   * **Project Schedule Analysis Part**   This part can be divided into 2 small parts. One is for detailed analysis on phases and the other is for answering the user query. |

## Workflow

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| Badge Tick1 with solid fill | * **Workflow for building knowledge base**      * **Workflow for Project Schedule Analysis** |

## Code Description

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| Badge Tick1 with solid fill | * config.py   This file has the metadata for pinecone connection.   * PINECONE\_API\_KEY * PINECONE\_ENV   You can get this info from Pinecone.co.     * Input Project name * Choose Cloud Provider * Choose Paid Environment * Set Pod Limit(the number of pod number will be the maximum number of index)      * Get Environment and Value of API key * Set config.py * build\_knowledge.py   This file contains getting data from Smartsheet, preprocessing data and upserting data into pinecone indexes.   * contains\_phase\_number   This function is to detect the “Phase” in the project. It uses simple regular expression.   * preprocess\_all\_content   This function is to get dataframe from smartsheet, preprocess it and save files for upsertting into pinecone indexes   * delete\_index   This function is to delete previous indexes at beginning of build knowledge base   * buid\_pinecone\_index   This function reads data from preprocessing step, create indexes based on detected phases and upsertting data into created indexes.   * functions.py   This file generates detailed analysis on phases and answers on user queries.   * generate\_analysis   This function is to generate detailed analysis on phases. If user selects phase and click “Get Analysis” button, this function is called, then it sets embedding and pinecone, write prompt and generates detailed analysis on the phase user selected.   * generate\_answer   This function is to generate answer on user queries.  Users can query on the whole content but if they need more detailed analysis they can choose the exact pinecone index. If user asks query, it sets embedding and pinecone, write prompt and generates answer on the user query.   * interface.py   This function is to build user interface using gradio. The main interface is TabbedInterface and has 2 sub blocks. First block is the ui for building knowledge base and the second block is the ui for smartsheet analysis. |

## Conclusion

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| Badge Tick1 with solid fill | In conclusion, this project demonstrates the meticulous use of advanced technology for enhanced project management. Through integrating artificial intelligence with reliable project management tools, I have been able to provide a comprehensive analysis of your project schedule data, identify potential risks, and offer insightful recommendations for future steps.  I believe the findings delivered in the project would serve as a robust foundation for you to strategize and make effective decisions. I extend my deepest gratitude for your trust in my expertise and for giving me the opportunity to handle this important endeavor.  I am hopeful that this project will add significant value that positively impacts your project management initiatives.  Thank you for your continued trust and support!!! |