

# Integrated Platform Environment (IPE)

ByteBrains\_AI

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# Introduction

- ▶ The Integrated Platform Environment (IPE) is a Gen-AI enabled platform designed to enhance support operations by combining below into a unified solution powered by OpenAI.
  - ▶ AI-Powered Chat Interface
  - ▶ Real-time Telemetry Dashboard
  - ▶ Knowledge Base Management
  - ▶ Automation Engine
  - ▶ Role-Based Access Control
  - ▶ AI-Powered Task Automation
  - ▶ Task Management System
  - ▶ Task History
  - ▶ Log Analysis
  - ▶ Anomaly Detection
  - ▶ Recommendation Engine

# Demo



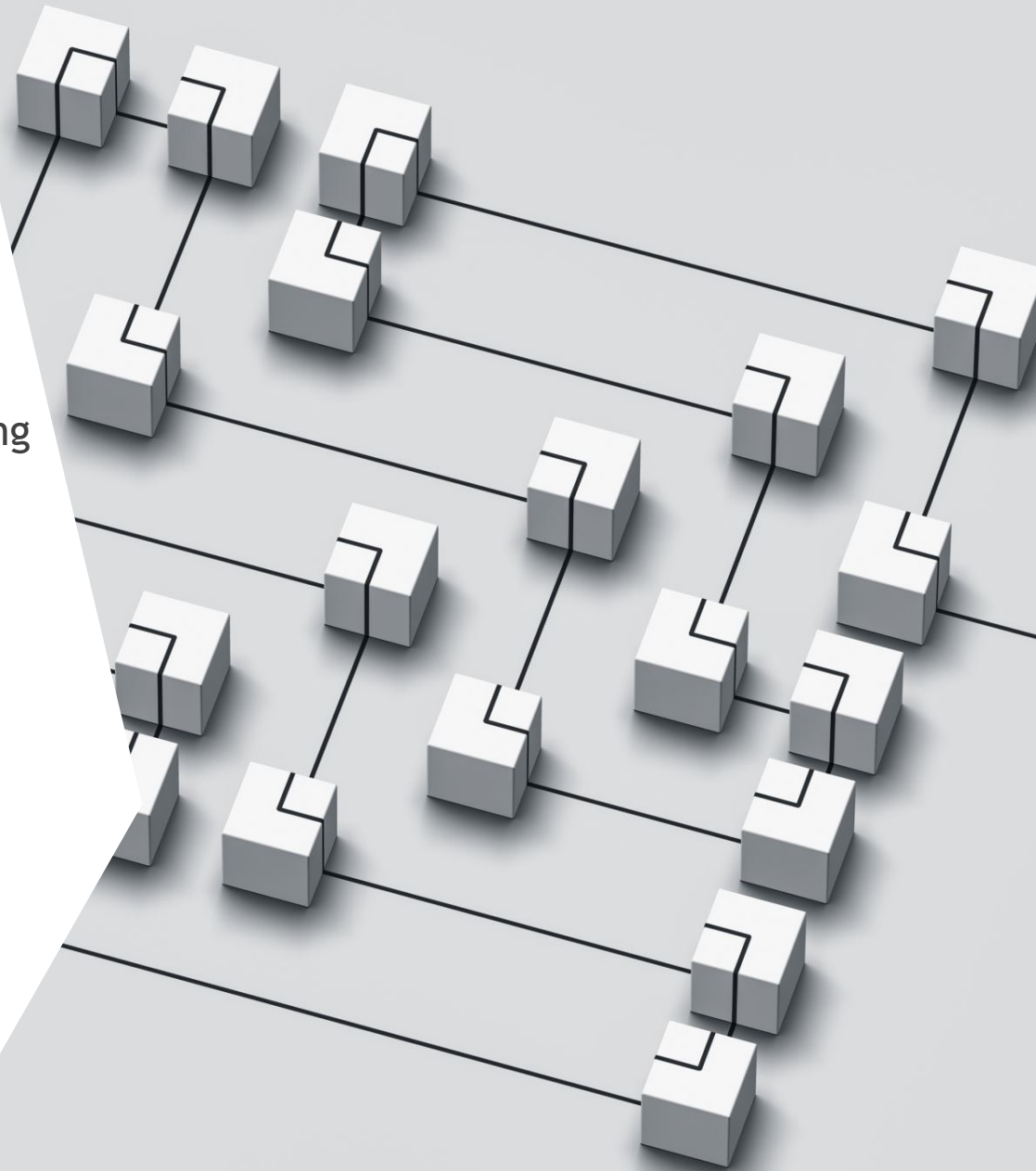
Live Demo



[Video Demo](#)

# Inspiration

- ▶ Platform support teams face challenges due to context switching between multiple tools for troubleshooting, running Ansible scripts, and reviewing telemetry and CI data.
- ▶ This platform consolidates these tasks into a unified interface for faster issue resolution and improved operational efficiency.



# What It Does

- ▶ AI-Powered Chat Interface
- ▶ Real-time Telemetry Dashboard
- ▶ Knowledge Base Management
- ▶ Automation Engine
- ▶ Task Management System
- ▶ Log Analysis
- ▶ Anomaly Detection



# How We Built It



Technologies Used:  
Python, Open AI GPT 3.5  
Turbo LLM, Streamlit,  
Chroma DB

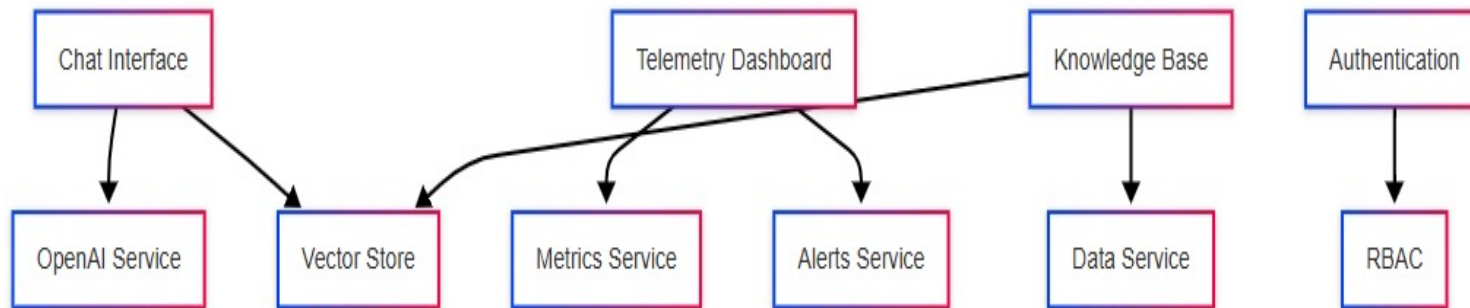


Tools Used: PyCharm CE,  
Git

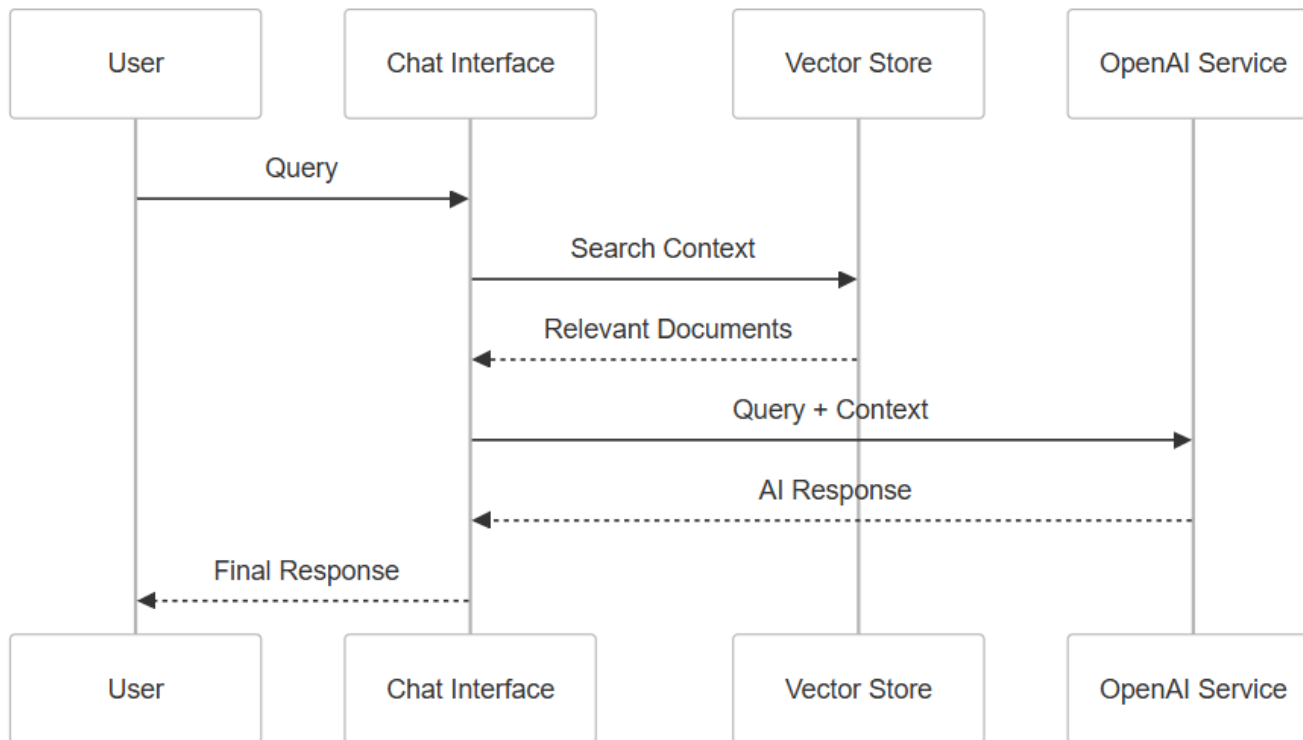


Security: JWT-based  
authentication, Role-  
based access control,  
Secure token refresh

# Data Flow diagram



# Sequence Diagram





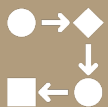
# Challenges We Faced



Dataset preparation and data consistency across sources

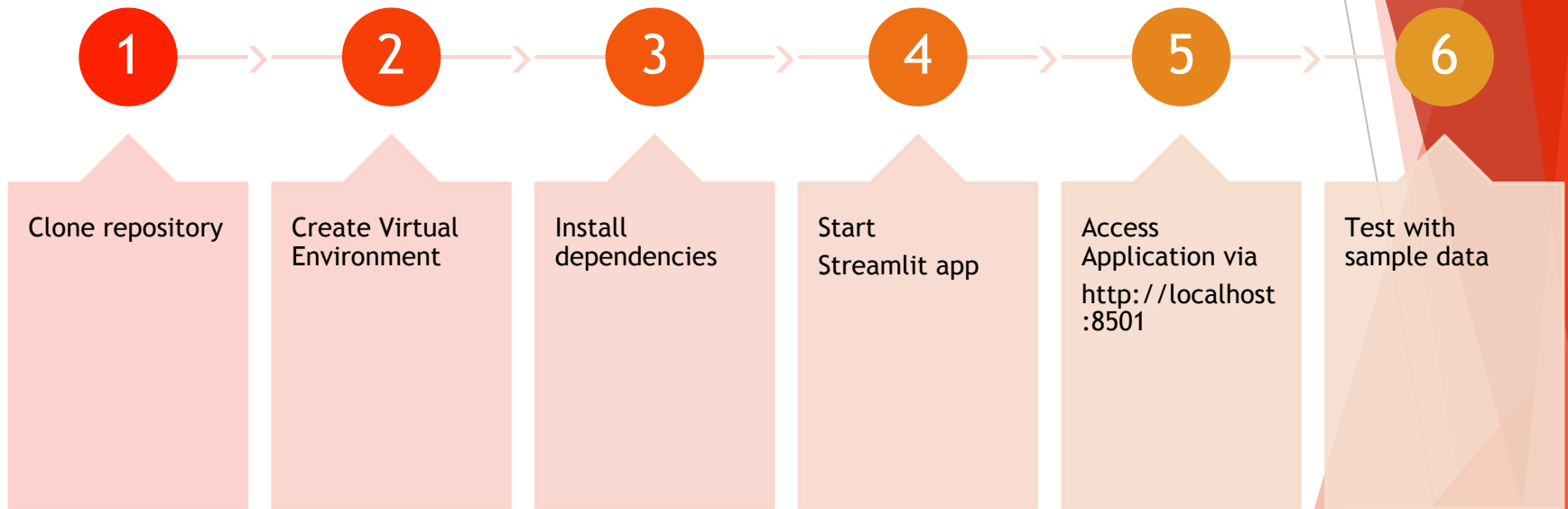


Identifying the most suitable Python packages for implementation



Determining the optimal approach to solve the problem statement effectively

# How to Run



# Tech Stack



Frontend: Streamlit Python Library



Backend: Python 3.10



Database: Chroma DB



LLM Model: OpenAI API Turbo 3.5

# Documentation



System Integration -  
[docs/markdown.md](#)



System Architecture -  
[docs/system\\_architecture.md](#)



Test Cases - [docs/test\\_cases.md](#)

# Team

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- ▶ Rajiv Kumar
- ▶ Venkata Aditya Vajapeyajula
- ▶ Veerendranadh Valeti
- ▶ Satyanarayana Pampana

Thank you