HR Assistant Chatbot using Dialogflow & Webhook

1. Problem Statement

Employees frequently approach HR teams for repetitive queries such as leave balance, attendance, holiday lists, and HR contact details. This increases manual workload and delays responses. The objective of this project is to build an HR Assistant Chatbot that automates these queries using Dialogflow and dynamic webhook-based responses.

2. Architecture Overview

User → Dialogflow (Intent & Entity Detection) → Python Flask Webhook (via ngrok) → Dialogflow → User

3. Intent List

1   Default Welcome Intent – Greets the user

2   Default Fallback Intent – Handles unknown queries

3   Leave_Policy – Explains company leave rules

4   Leave_Balance – Shows dynamic leave balance

5   Attendance_Status – Displays attendance details

6   Holiday_List – Lists company holidays

7   HR_Contact – Provides HR contact details

4. Entity List

1   @leave_type – casual leaves, sick leaves, earned leaves

2   @sys.date-period – this month, last month

5. Sample Conversations

User: How many casual leaves do I have?
Bot: You have 6 casual leaves remaining.

6. Technologies Used

1   Dialogflow ES

2   Python Flask

3   ngrok

4   HTTP POST & JSON

5   VS Code

7. Conclusion

This chatbot automates HR queries using conversational AI and webhook-based backend logic. It demonstrates practical implementation of Dialogflow with dynamic data handling.