



UHackHive

Team Name: CHEELDCHAR

Team Members : Shubham Udsaria

Organization: Quantiphi Analytics

APRIL – MAY 2024



Today's Agenda

01

Overview of project

02

Architecture /
workflow

03

Technologies used

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information

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Team details

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Supporting
document

Overview of project

Brief overview covering problem statement or use case

01

Project Overview

AI Baniya

- **Key Issues faced by rural shopkeepers -**
 - Lack of accessing the available Technology that can ease their work like entering all data of buying and selling on device due to hard to understand features, regional language not supported, Less knowledgeable staff but everyone uses the phone.
 - Access to smart market analysis techs same issue as don't have that much understanding of running apps.
 - Can not add data directly through keyboard or touchpad but able to use voice input.
 - Because of all above reason still do all work manually on papers. (2nd reason is can not store all data legally we knows why. ;))
- **Our Solution -**
 - Application to manage their accounts, stocks, get deep visual data analysis as well as prediction of products to have as per previous years sale on that day (based on indian festivals).
 - All things will be managed directly through Voice only and data will be also stored in same manner (it seems same as other voice data but there is a twist. will let you know soon. :})

Project Overview

AI Baniya

- **Features -**

- **Data Inventory :** We will store data in mainly as audio format and that will also contain product pics, other necessary information (this will be a tedious and manual task. :(). Audio data storing Reason I will explain.
- **Data Entry :** Shop owner can add credit and debit entries using his voice rather typing anything in his regional language.
- **Data Analysis and Future Prediction :** On the basis of previous market data and his local data he can see that what's selling more or less, what giving more margins and mainly can see what would he should store for upcoming days so can invest money in required products only on the basis of Real time market analysis.
- **Stock Management :** His staff can count products and add data so he can see the stock available as well as any discrimination in sold and available stock to catch any thief activity or can order products in advance.
- **Different data Entry for 1no. and 2no.** (It is what it is we can not do anything :)).
- **Integration with third party services like Tally etc.** Staff can scan product to know the name.
- **Different Firms registrations.** Staff and Owner logins.

- **Benefits -**

- **Reduce manual paper entry and give more access to their data and numbers.**
- **Reduce the need of permanent accountant to make entries and add data to Tally etc.**
- **Increase Productivity and Reduce Stress of doing each thing himself.**
- **Will understand their local language and voice access will reduce gap between machine and human.**

Project Overview

AI Baniya

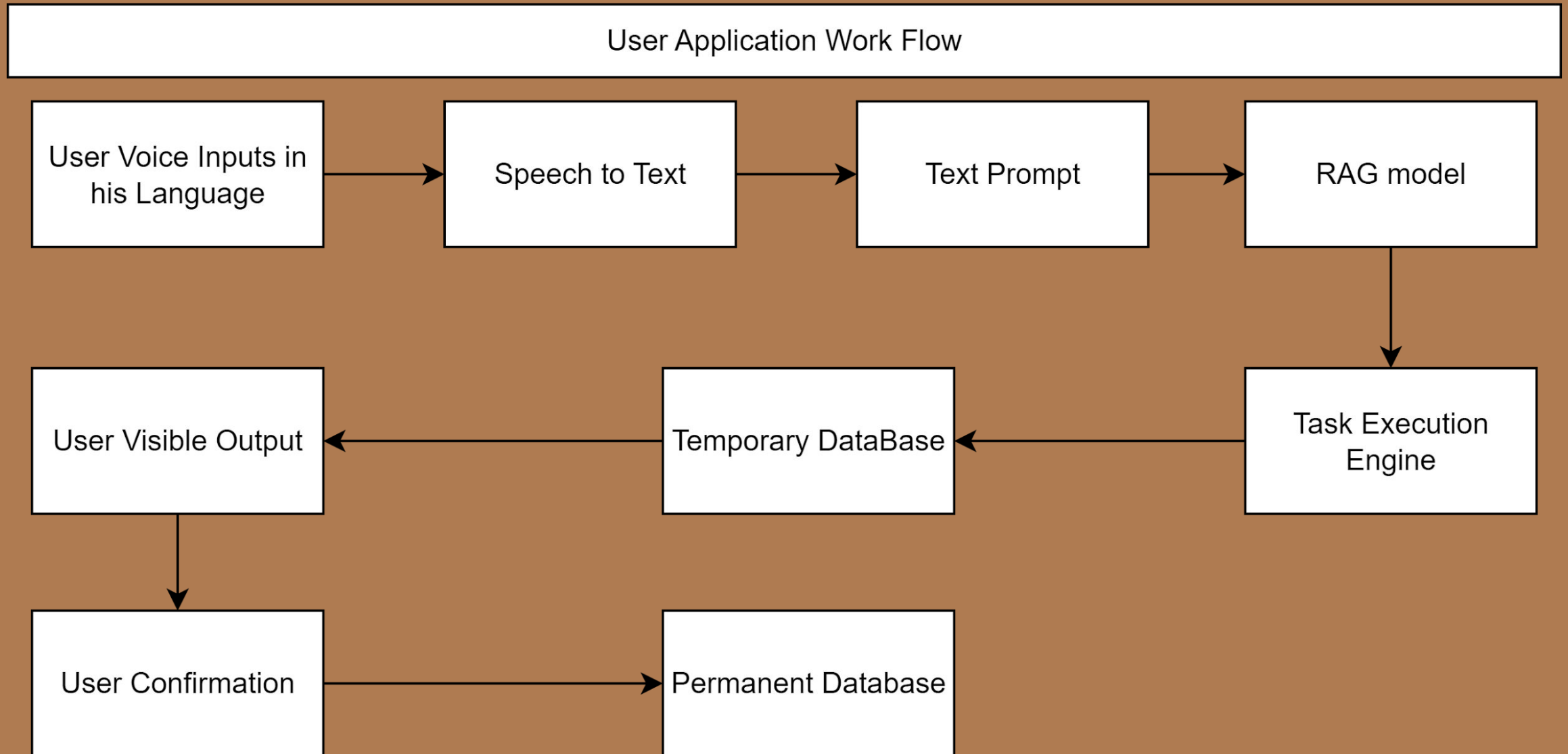
- Using Example -
 - Let's assume Manoj is a shopkeeper and run a MSME business. He doesn't have any Technology knowledge and just know to operate normal Phone apps but can not use computer much also really slow in Typing.
 - Customer Ram came and start giving order but as he can not type fast he need to write all things in papers so the loss is he can don't access to data seamlessly, need to add this data to different different books and so on.
 - Now here we have our Application and we fully work on voice commands which can be in hindi or any other language.
 - Now What Manoj will do. Open the application and say “मम फर्म में राम अग्रवाल की सामान की लिस्ट बनाओ” now app will start to add items into Ram account now Manoj will add items. “50kg गेहू नया वाला 100rs/kg से” and so on... Now app will automatically create the list of goods. Now after taking order he can remove, add, change in the existing value and also can decide to store into which database. Now in same manner he can have data analysis, credit/debit records, inventory records and all. Now another feature is to recognise products and adding their names and tags to it in voice embeddings or multimodal embeddings. Now let's say new employee come and don't know the varieties and all so he can simply click picture and get name, price and other records so no one need to explain him.
 - Now all these data can be transferred or analysed according to need and can send to accountant to add into Tally or something.
 - In simple terms all normal Account applications/features (khatabook, tally, dukan, cashbook etc.) in one app and can be run directly through voice to increase the ease of use. LLM/RAG model will help to understand the command and divide them into tasks to execute.

Architecture / workflow

Architecture / solution diagram and related details

02

Solution design



Technologies used

Details of technology Stack adopted, covering why a particular tool/technology was selected

03

Technology Used

- **Python Language -**

- To develop the Task Execution Engine , UI, and integrate all the APIs & Data.

- **GCP services -**

- **Speech to Text (Hindi, other languages) -**

- Convert the Voice task and words into Text to fetch the commands.

- **Gemini 1.0 pro API (RAG model) -**

- Use to process the prompt and guide system what to execute

- **Vision Warehouse/AutoML model -**

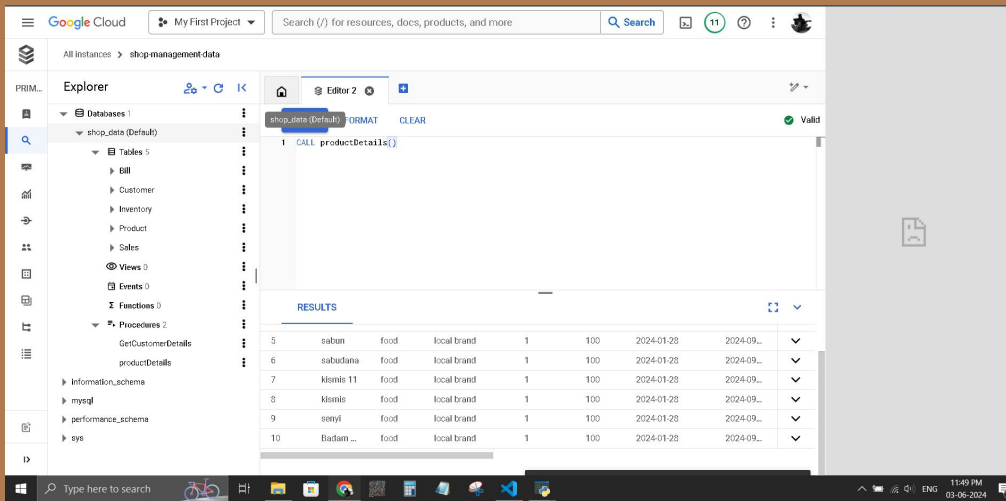
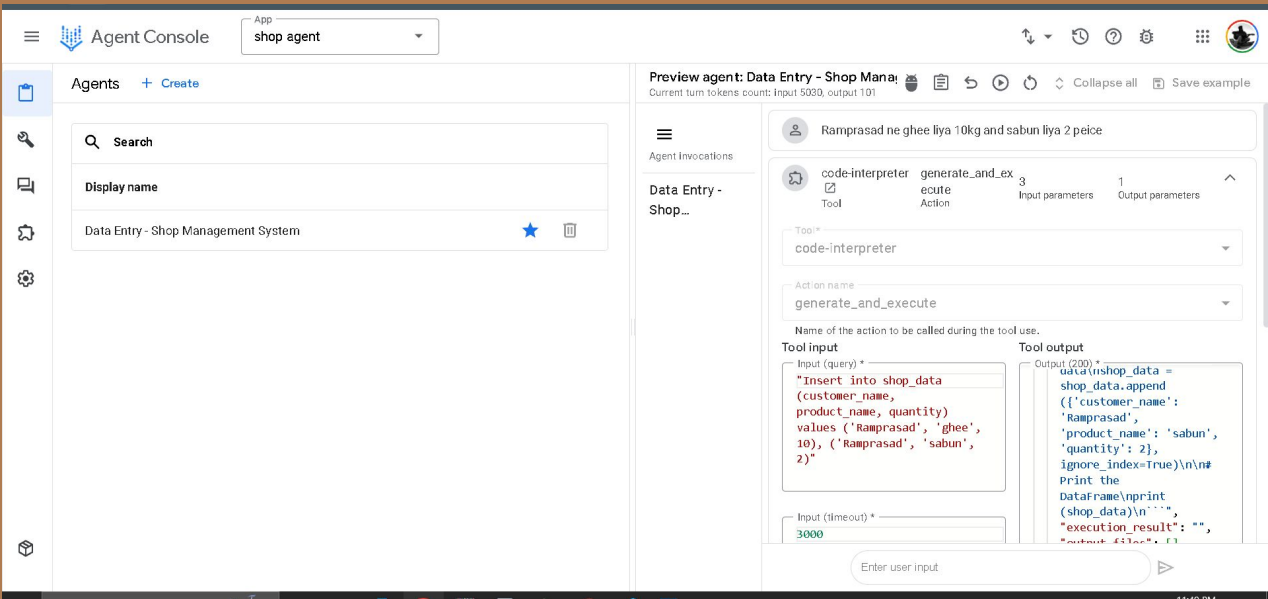
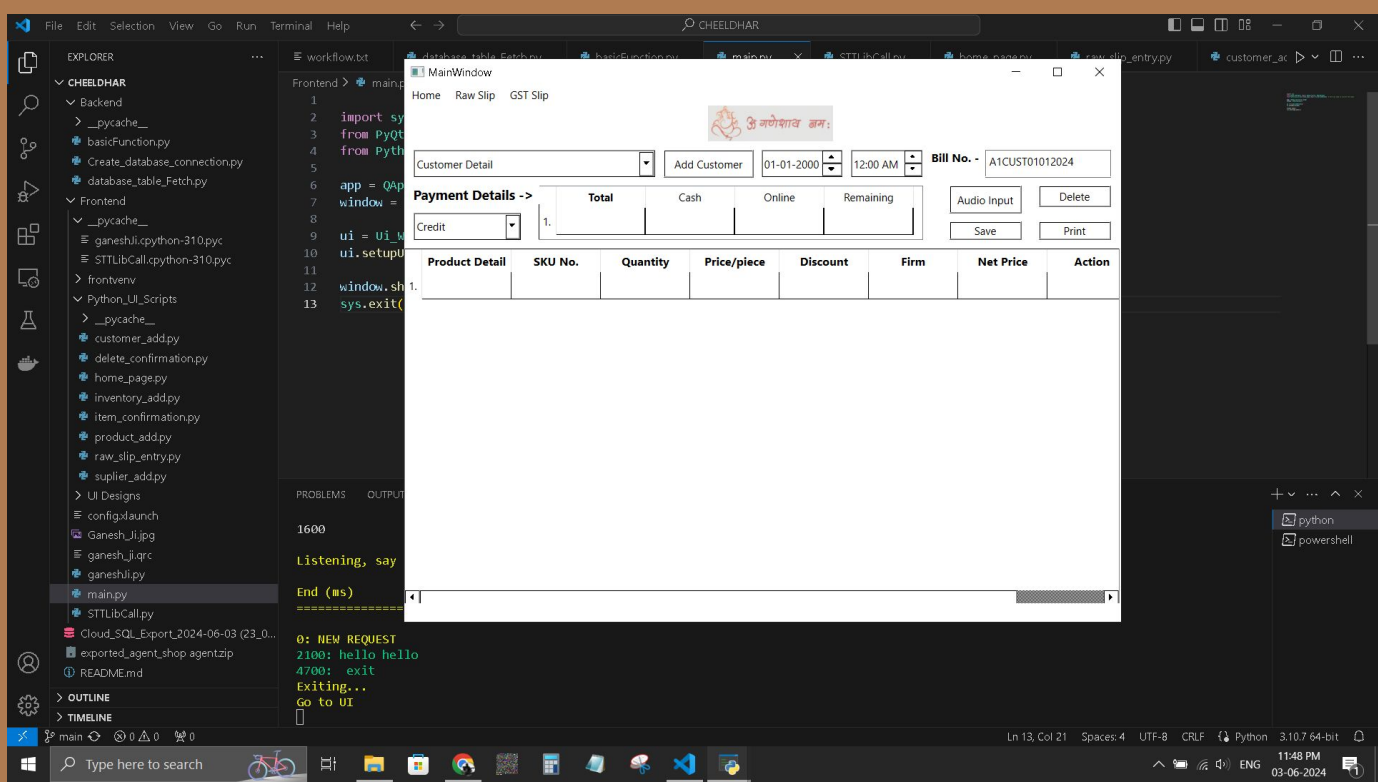
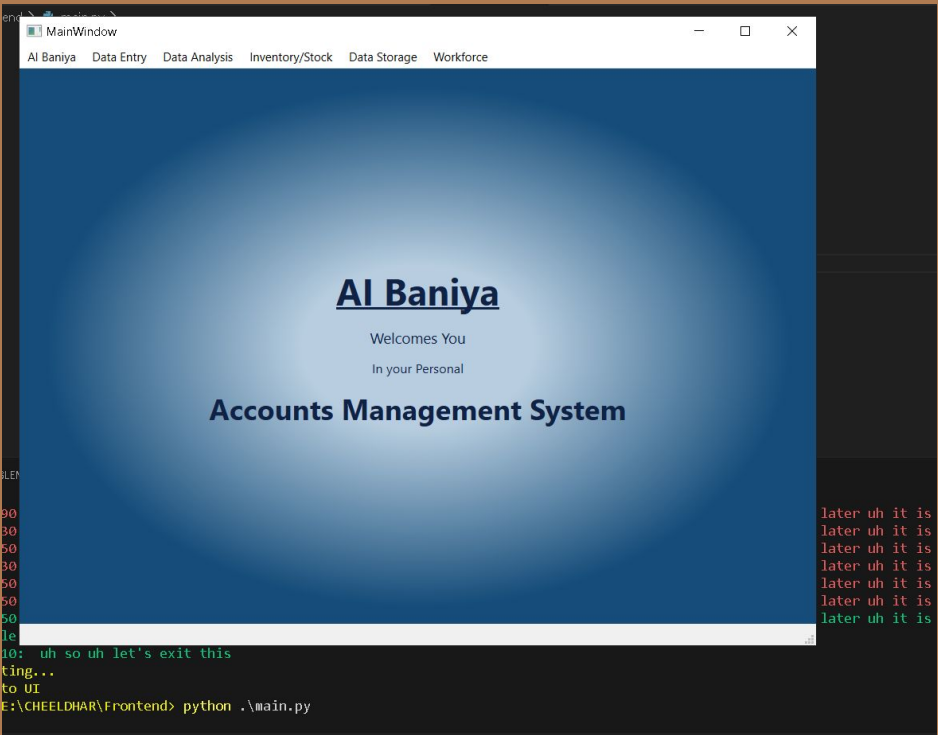
- Use to process videos/images and audios to store and search into them.

- **Vertex AI pipeline and cloud function -**

- To create and host application and run all the things on cloud

- **BigQuery/CloudSQL/Cloud bucket -**

- To Store Temporary and permanent data to use in further



Team details

Team members' names, organization, years of experience, skills and location

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Team Details



Shubham Udsaria

Machine Learning Engineer at Quantiphi Analytics

2+ years Experience

Focus - Computer Vision, Triton, Vertex AI, Gen AI

Sardarshahar, Churu, Rajasthan, India

Supporting Documents

Links , references etc.

Supporting Link/ Document

- KhataBook case study - <https://medium.com/@anoopjoyjoy/khatabook-app-to-superapp-f2b452255598>
- LLM Automation - https://www.youtube.com/watch?v=EsCa_bO-MuY
- Task Execution Engine (TEE) -

<https://medium.com/@manoranjana.raiguru/building-a-task-execution-engine-with-llm-279ec88f0157>

- **My GITHUB link - <https://github.com/anonymousTechpreneur/CHEELDHAR>**

- **My Drive Link - https://drive.google.com/drive/folders/1UbaYWJlR-Pc2cedcvuUOefP5B-x_qH8y?usp=sharing**

- **Recording - https://drive.google.com/drive/folders/1QPYcR7CtZ8nsO9VN9r3ffVjk3_uBdUkp?usp=drive_link**

Thank you

