

SMART INDIA HACKATHON 2022

Ministry/Organization: Ministry of Electronics and Information Technology (MEITY)

PS Code: PK847

Problem Statement: Voice based delivery of academic records

Team Name: FridayNight

Team Leader: Harmanjit Singh

Institute Code: 1-3688291341

AICTE/AISHE Code: U-0385

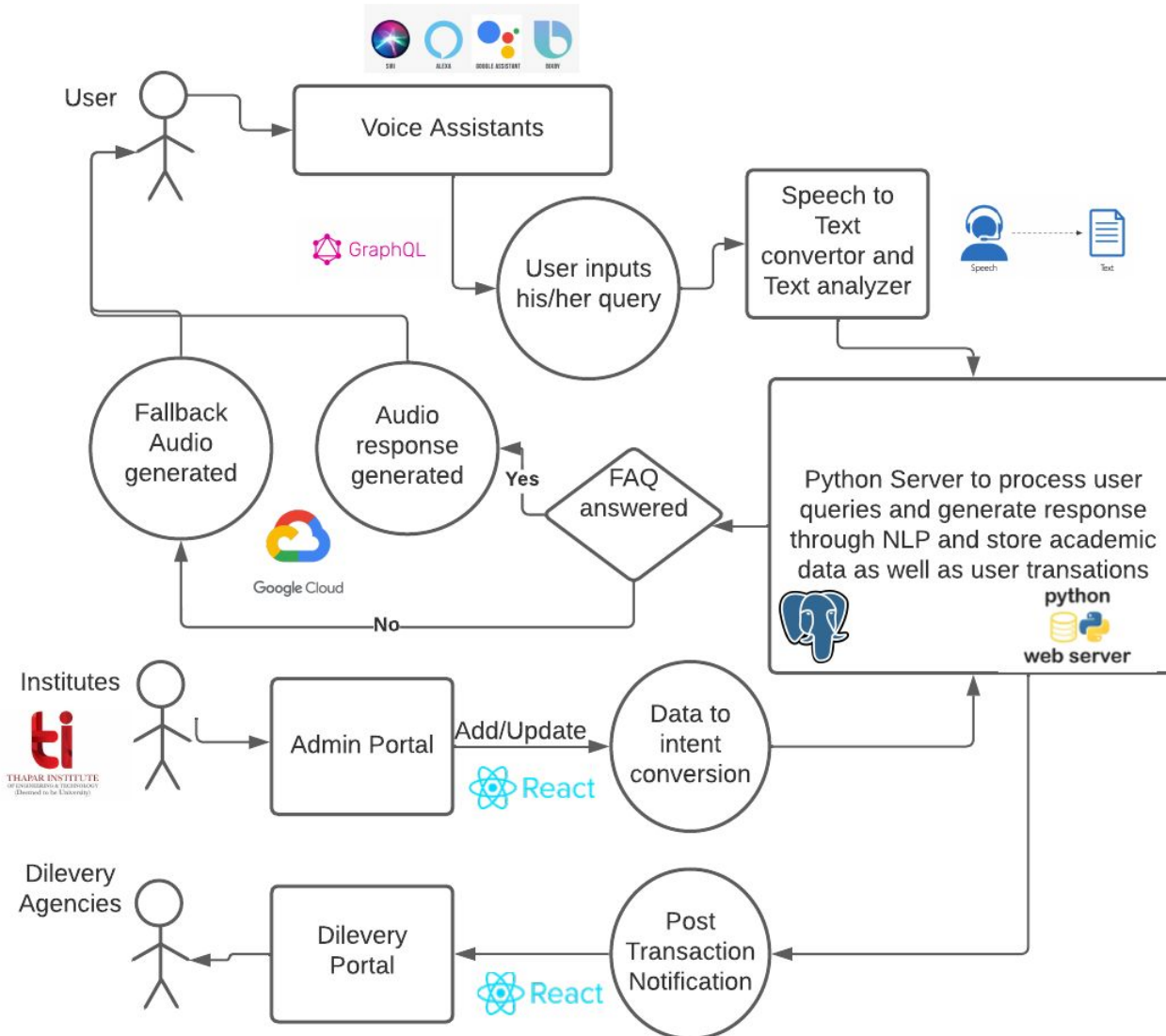
Institute Name: Thapar Institute of Engineering and Technology

Theme: Smart Automation

Solution to the Problem Statement

- We plan to create a **Natural Language Processing based server** that communicates with users in their **regional language** via **voice**.
- The server responds to all the queries related **to the User's Academic records and Certificates** from **our backend**.
- There will be a **separate portal** that will **generate notifications** for both delivery agencies and users to **provide the status of certificate deliveries**.
- The bot would be fluent in majority of our Indic-Regional languages like **Hindi, Punjabi, Marathi, Tamil, Telugu, English**, etc.
- A **user wallet** will be created as a user registers. It will be used for future payment transactions.

Workflow



❖ Use Cases:

- **Real-time user response** using NLP based **self training model** to answer queries through **multilingual** speech support.
- **Postgres database** for easy database access to students, delivery fee transactions and PDF generation for certificates.
- **Django admin panel** will be available to **institutes** to update or add student records.

❖ Interface:

- **React based** responsive and cross platform website with user-friendly UI for delivery agency, maximum user reach and experience.
- **GraphQL** for easy data rendering between Cloud server and **React frontend**.
- **Django/Python for query management** and voice assistant and database support.

❖ Data Interpretation:

- Google cloud supported backend and database services.
- User-friendly **self training model for exponential increase in intents' service**

❖ Add-On Features:

- **Easy to use UI/UX** for certificate generation
- **One time Payment Setup** and **Alexa & Google Assistant** voice support for users

Tech Stack/ Methodology

1. **Python:** Cloud server based on python to generate responses in voice.
2. **Language Corpus:** We use NLTK, iNLTK, and Google database for different language corpora.
3. **Google Cloud:** To deploy the project container.
4. **React JS:** Interface to showcase status.
5. **GraphQL:** To build a stable API for public release.
6. **PostgreSQL:** Database service for storing user records and transactional data.
7. **Alexa & Google Assistant:** For Voice Interaction.

USPs

- ★ **Compatibility** with many voice assistance.
- ★ **Fully secured Postgres database.**
- ★ **Fluent in majority of the Indian languages.**
- ★ Separate portal available to Delivery agencies and **Admin portal** for all institutes.

Team Members' Details

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Team Member 2 Name: Kunal Khullar

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Team Member 3 Name: Mahira Modi

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Team Member 4 Name: Manya Thakur

Branch: Btech	Stream: CS	Year: III
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Team Member 5 Name: Manroop Parmar

Branch: Btech	Stream: EC	Year: III
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Team Mentor 1 Name: Dr. Jasmeet Singh

Category: Academic	Expertise: Natural Language Processing	Domain Experience: 10
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Team Mentor 2 Name: Akriti Singhal

Category: Industry	Expertise: Server Side Programming	Domain Experience: 1
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