An Assistant for the CSE departmental website at IITK

A Term Project for the course CS727

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What we planned to do

- A smart chat Assistant that will provide conversational experience to the users who visit the CSE Website.
- Use the Watson API or DialogFlow to achieve this.
- The Assistant will provide all the information that is found in the CSE website in a QA manner.

What we actually did

- An Assistant that provides quite a bit of conversational experience with the users who visit the CSE website.
- We used DialogFlow to achieve this.
- The Assistant provides answer to a subset of the information available in the website.

The Actors

- End App/Device
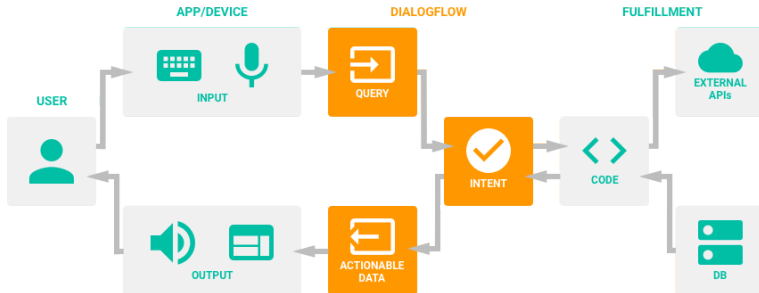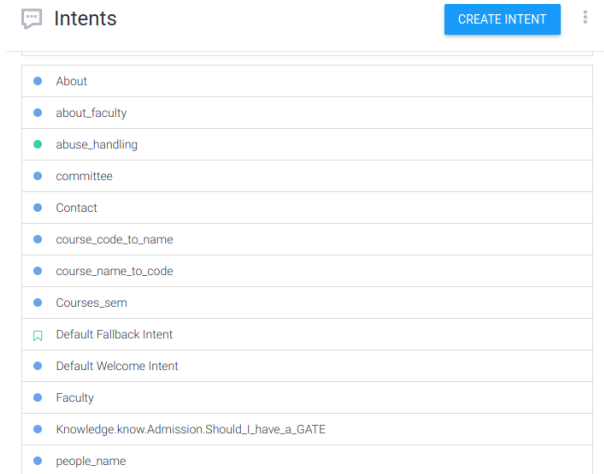- DialogFlow
- Fulfillment

The Play

Figure: Workflow of the Assistant[1]

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[1]Source : https://cloud.google.com/dialogflow-enterprise/docs/images/agents/overview.png

- Intents
- Entities
- Knowledge[beta]
- Fulfillment

Intents

Figure: Intents Used in this Project

Zooming inside an intent

Figure: Inside an Intent

Figure: Entities Used in this Project

Figure: Inside an Entity

Figure: Knowledge in DialogFlow

Fulfillment

Figure: Fulfillment Setting

Webhook

- User Defined Callback.
- Written in Python.
- Uses the Flask Web Microframework.

Capabilities of CSE-IITK-Assistant

- About the Faculties, just their designations. And also list them if asked.
- Names of the Ph.D. Students (year-wise) and Post-Doctoral Fellows.
- Links to other students' list pages.
- Research Areas and their associated faculties.
- Course names against codes and vice-versa.
- Links to some other important pages when asked accordingly (eg. Publications, webmail etc.).
- Small Talk.

Glitches and Possible Scopes of Improvement

- Sometimes the invoked intents are not what was intended.
- Failures are not automatically sent for training.
- Data is static. Retrieves information from already scraped `json` files.
- The Assistant cannot provide information about everything on the website still.
- Knowledge service from DialogFlow is still in it's beta version and sometimes performs unexpectedly.
- Extensive testing with human users and updating the agent with the questions that it cannot answer it yet.

Deployment

The Assistant is deployed in the web and can be found at
http://bit.ly/cse-iitk-assistant.