Theme : Chat Bot

Case Maker : IBM

Under this challenge, the participants shall be working on one of the two use cases for a chat bot.

A. IT Support ChatBot

IT Support is a group in Organization which supports various clients of its products/services. A ChatBot for IT Support Manager is expected to do the following :-

DATASET

Ticket History

Ticket #, Status, Client, Product, Severity, Date Created, Date Modified, Date Closed, Category, Time Spent (mins), Comments By, Comments
- 12345, Open, "ABC Ltd", "Product 1" , 2, 20-Aug-2017, 06-Sep-07, , Client Issue, 2, [C]-John, "What is the status?"
- 12345, Open, "ABC Ltd", " Product 1", 2, 20-Aug-2017, 07-Sep-07, , Client Issue, 20, [E]-Mike, "We have provided the resolution, please and confirm back"
- 33375, Open, "ABC Ltd", " "Product 2" ,1, 20-Aug-2017, 06-Sep-07, , Client Query, 2, [C]-John, "Who is the right contact for this issue?"

Constraints
- Status Values : "Open" & "Closed"
- Category Values : *Internal, Client Query, Client Issue
* Raised by Support Engineer

Prefix [C] in name indicates "Client"
Prefix [E] in name indicates "Support Engineer"

SLA means Service Level Agreement which is defined for each Severity Level
SLA of Severity 1 Ticket is 2 Hours
SLA of Severity 2 Ticket is 1 Days
SLA of Severity 3 Ticket is 3 Week
At the time ticket is closed, SLA is calculated as Date Closed - Date Created - Time Spent by Client

QUERIES

1. Ticket Insights
- Basic Queries
Eg. How many tickets are open/closed?
What is the % of tickets closed outside SLA, Severity wise for client "ABC Ltd."?

- Aggregation Queries (Avg, Count, Range [Min, Max], Mean etc)
Eg. What is the average time spent on tickets for client "ABC Ltd"?

2. **Sentiment / Tone Analysis**
Eg. What is the distribution of tickets for client "ABC Ltd.." based on Sentiments (+ve, -ve, neutral)?
Give me the volume of tickets with -ve tone on monthly basis for YTD?

3. **Trends Analysis**
Eg. May I know how ticket 12345 is *trending?
*Sentiments over period of time
What is the overall +score of Client "ABC Ltd. for Month of Aug, 2017"
+Score is sum of +ve Sentiments/ Total Sentiments

B. Academic Advisor ChatBot

A Chatbot to help 10+2 students seeking advice on selecting Courses based on their education profile.

Dataset

1. User Profile
Name, Address, Stream, Percentage, Gender, Hobbies
John, "House # 10 XYZ Street, Banjara Hills, Hyderabad", Science, 99, M, Interested in Cricket
Mike, "House # 5 XYZ Street, Banjara Hills, Hyderabad", Science, 95, M, I like Singing and also play Football

Constraints
Stream Values -> Science, Commerce, Arts
Hobbies is free text

2. Colleges

College Name, Course, Address, Rating , Placement (%), Cut Off (%), Year, Extracurricular Activities
ABC, B.Tech Comp Science,"Road # 10 Banjara Hills, Hyderabad", 5,95,99,2017, Sports
ABC, B.Tech Electronics,"Road # 10 Banjara Hills, Hyderabad",4,98,95,2017, Sports
XYZ, B.Com,"Road # 7 Banjara Hills, Hyderabad",4,90,95,2017, "Art"

Constraints
Rating Values -> 5 (Highest) - 1 (Lowest)
Rating is based on Facilities (Infrastructure, Faculty etc)
Extracurricular Activities Values -> Sports, Art, Music & Drama

QUERIES

1. Basic Queries
Eg. - What would be the best course for me to opt for?
- Which college has the highest average Cut Off Percentile for all the courses offered in 2017?
- How is the Cut Off Percentile trending over years for Course "B.Tech Comp Science" in Colleges having "Very Good" Setup?
- Suggest me Courses and College based on my hobbies besides high Ranking and Placement?
- Which is the best college within 5 kms from my home to consider ?

2. Aggregation Queries (Avg, Count, Range [Min, Max], Mean etc)
Eg. - Which course had the maximum cut off percentage in year 2016?
- I would like to know how many courses were offered by college "ABC"?

3. Trend Analysis
Eg. - What is trend of pass percentage for Course "ABC" in a college since 2014 till date?
- Which are the top 3 courses where cut off percentage is highest in last three years?

Some of the possible features that can be included in above two ChatBot but not limited to below are :-
- Mobile Support
- Voice Enabled
- Bilingual Support (Any Indian or Foreign Language other than English)
- Ability to learn (Feedback)
- Predictive Insights
- Integration with Slack
- Graphical Representation of Data
- Insights about Client (Problem 1) / Insights about Colleges (Problem 2)

Evaluation Criteria

- **Accuracy of Responses** : It means that Chatbot should provide contextually valid response to the queries asked
- **Conversation Coverage** : It means that Chatbot should have ability to handle wide variety of dialogues
- **Features** : *Listed above*
- **Performance** : Response Time of Queries
- **Extensibility** : Ease of adding new Dialogues/Features
- Presentation & Documentation
- Usage of BlueMix Platform/IBM Developer Journey

Key Points

- Data Set should be generated (minimum 100000 Records) with variability to draw multiple insights
- Data needs to be persisted in DB for both Chatbots.
- Capability to Ingest Data Set (New/Updated) at regular interval
- Note only sample questions are provided for Illustration.
- Use BlueMix Platform & IBM Developer Journey (code snippets) wherever possible.

Following are some of the Watson Services available in BlueMix that would be useful to quickly build the ChatBot :-
- Conversation
- Natural Language Understanding
- Tone Analyzer
- Discovery
- Speech To Text, Text To Speech etc
- Participants are expected to make valid assumptions with respect to Data set provided and can extend to make it more innovative
- Students opting for other challenges as part of Megathon are also free to leverage IBM BlueMix Platform and IBM Developer Journey

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BlueMix Support

BlueMix Registration Guidelines
https://drive.google.com/open?id=0BwtrACTYM0w3TXNJWHlKYWtnYVE
BlueMix Catalog
https://console.bluemix.net/catalog/
Developer Journey
https://developer.ibm.com/code/journey/