

Title: Chatbot on Hotel FAQs using Dialogflow and integration with Kommunicate

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1. Introduction

The project report is based on making a chatbot using a tool which is Dialogflow by Google. I have used dialogflow to create a chatbot which is named JD which helps any user with frequently asked questions by the users or customers.

Chatbots are trained and programmed software which communicates with the users as if they are human agents answering various queries asked by the user.

For adding more features into the chatbot I then integrated the dialogflow chatbot to a new software kommunicate.

2. About Dialogflow



The console is used to create, build, manage, fine-tune, and test your agents. With it, you can:

- Create [agents](#) that define the conversational experience.
- Create [intents](#) that map user input to responses
- Create [entities](#) to extract useful data from user input
- Control conversation paths with [contexts](#)
- Add [events](#) that are triggered by occurrences outside of the conversation
- [Integrate](#) with other conversational platform.

- Implement [fulfillment](#) to connect your service when using integrations
- Test your agent via the [simulator](#)

3. Topic of the Chatbot

The chatbot that I made is for hotel FAQs.

The main topics that are covered in these questions are related to

- Hotel room
- Restaurant
- Parking
- Amenities
- Bookings
- Online booking information
- Pets
- Special food requests
- Childcare
- Food
- Location etc

The chatbot is trained for various kinds of questions related to the topics mentioned as well as many others which are generally asked by customers regarding a particular hotel or chain of hotels.

4. About the project

4.1. Link to the chatbot

Kommunicate

<https://www.kommunicate.io/livechat-demo?appId=147223d1cc71d2a0890c896b6e45c8e02&botIds=jd-nib7n&assignee=jd-nib7n>

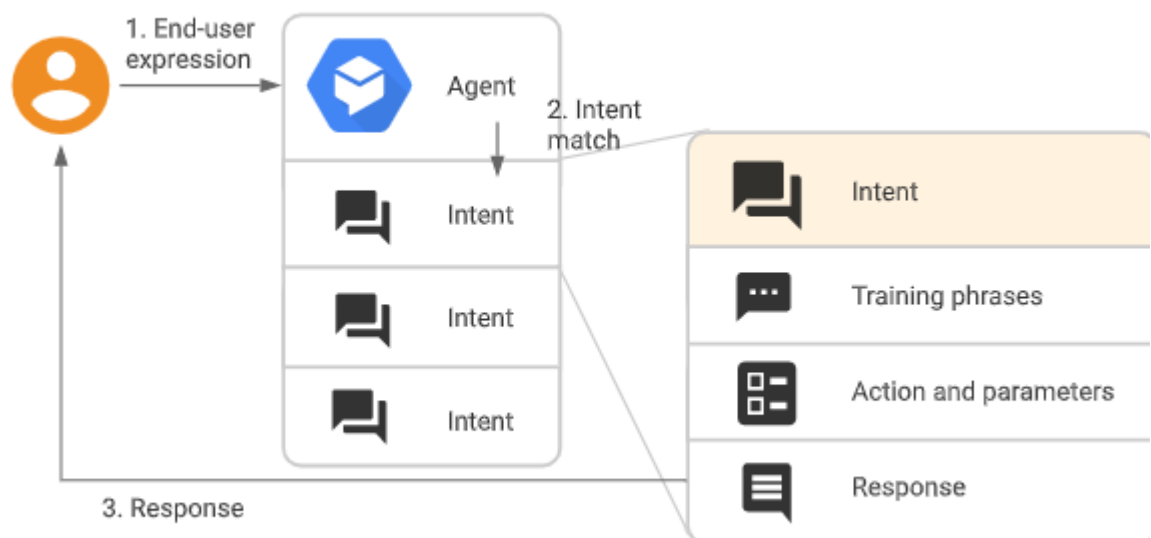
Dialogflow

<https://bot.dialogflow.com/28ce7c81-3335-44e8-9d09-a67ac73d1cb9>

4.2. About the interface

- Dialogflow has a very user friendly interface. Creating a chatbot in dialogflow is very practical and very easy. For my chatbot first of all I created an agent which is my chatbot JD.
- Once I created the agent then we can add some entities which are related to the questions.
- I have made many entities which help the chatbot to learn and figure out the context of a word related to the questions asked by the user. While making entities, three key points to remember are entity type, entity entry and entity reference value.
- Once we have defined the entities we can use them while making various intents and follow up intents.
- Intents are the main part of a chatbot which helps us to train our chatbot as we add training phrases in these intents and then with reference to these questions we add response that the chatbot will return corresponding to each question.
- While adding response we also add prompts and can ask user for certain information at runtime to make the chatbot's response more human like.

4.3. Workflow



Intents

Intents		CREATE INTENT	⋮
		1 OF 2	→
●	account&support		
●	cancellation ▾		
●	changeTravelPlanswithoutNotice		
●	check-in ▾		
●	check-out		
●	Greetings ▾		
●	HotelGiftCard		
●	laundry_service		
●	localFoodRestaurant		
●	location		
●	lost and found		
●	negation		
●	Order ▾		
●	out of house guests		
●	parking ▾		
●	payment		
●	pet		
●	reception		
●	restaurant booking ▾		
●	room type		
		1 OF 2	→

Intents		CREATE INTENT	⋮
Search intents		🔍	🔍
		2 OF 2	
●	room_bookings ▾		
●	Seating_restaurant		
●	shuttle service		
●	smallchildren		
●	spa		
●	special request_food		
●	specialRequestRoom		
●	swimmingpool		
●	Thanks		
●	Waiter_drinks ▾		
●	weather		
●	wifi		

Training phase

The screenshot shows the 'room_bookings' training phase in Dialogflow Essentials. The left sidebar contains navigation options: JD_Paradise, Intents (selected), Entities, Knowledge [beta], Fulfillment, Integrations, Training, Validation, History, and Analytics. The main area displays the 'room_bookings' intent with a 'SAVE' button. Below the intent name, there is an 'Add output context' section with a dropdown showing '2 room_bookings-followup'. The 'Events' section is collapsed. The 'Training phrases' section is active, showing a search bar and a list of phrases: 'i want to book a room', 'i want to book rooms', 'i want a room', and 'i want to book 2 rooms'. A 'Add user expression' button is also present.

Dialogflow Essentials Global

JD_Paradise en

Intents +

Entities +

Knowledge [beta]

Fulfillment

Integrations

Training

Validation

History

Analytics

room_bookings SAVE

2 room_bookings-followup Add output context

Events ?

Training phrases ? Search training phrase

Add user expression

i want to book a room

i want to book rooms

i want a room

i want to book 2 rooms

Action and parameters

The screenshot shows the 'room_bookings' action and parameters configuration in Dialogflow Essentials. The left sidebar is the same as in the previous screenshot. The main area displays the 'room_bookings' intent with a 'SAVE' button. Below the intent name, the 'Action and parameters' section is active, showing a table of parameters. The table has columns: REQUIRED, PARAMETER NAME, ENTITY, VALUE, IS LIST, and PROMPTS. The parameters listed are: room_type, number, person, adult, and Enter name. The 'Enter name' parameter is currently disabled. A '+ New parameter' button is at the bottom.

Dialogflow Essentials Global

JD_Paradise en

Intents +

Entities +

Knowledge [beta]

Fulfillment

Integrations

Training

Validation

History

Analytics

room_bookings SAVE

Action and parameters

Enter action name

REQUIRED	PARAMETER NAME	ENTITY	VALUE	IS LIST	PROMPTS
<input checked="" type="checkbox"/>	room_type	@sys.any	\$room_type	<input checked="" type="checkbox"/>	Let me check. W...
<input checked="" type="checkbox"/>	number	@sys.any	\$number	<input checked="" type="checkbox"/>	How many rooms ...
<input checked="" type="checkbox"/>	person	@sys.any	\$person	<input checked="" type="checkbox"/>	How many guests...
<input checked="" type="checkbox"/>	adult	@sys.any	\$adult	<input checked="" type="checkbox"/>	How many adults...
<input type="checkbox"/>	Enter name	Enter entity	Enter value	<input type="checkbox"/>	—

+ New parameter

Responses

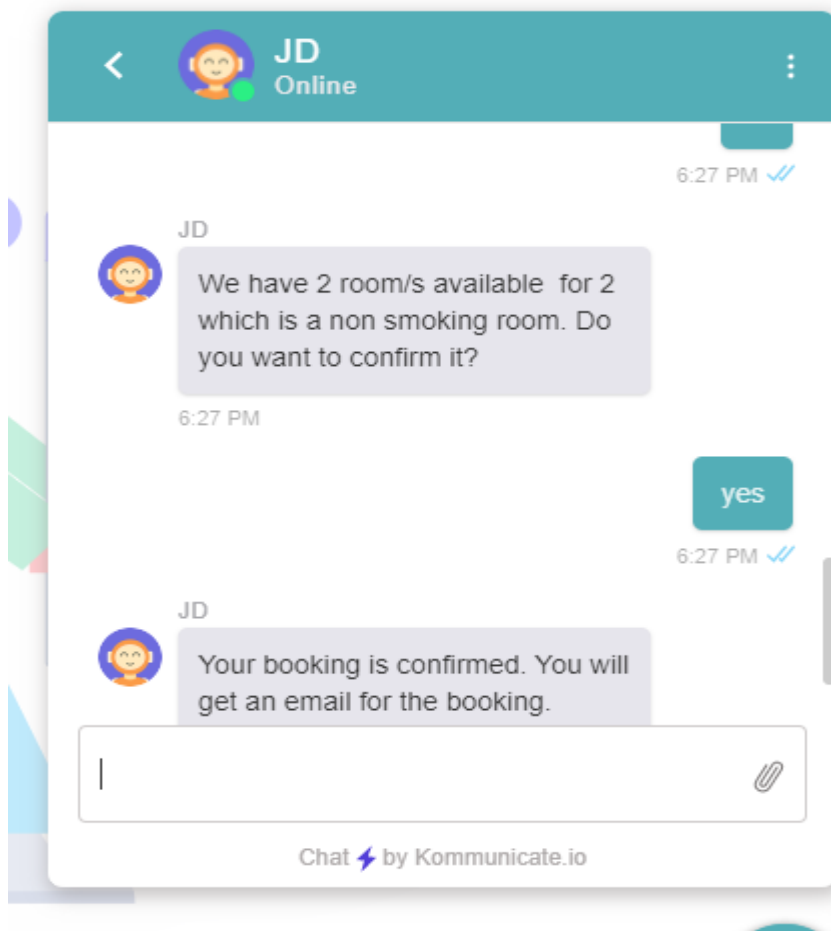
The screenshot displays the Dialogflow Essentials interface for configuring the 'room_bookings' intent. The left sidebar shows the navigation menu with 'Intents' selected. The main panel shows the 'Responses' section for the 'room_bookings' intent. It includes a 'Text Response' table with two rows: '1 We have \$number.original room/s available for \$person.original which is a \$room_type.original room. Do you want to confirm it?' and '2 Enter a text response variant'. Below the table is an 'ADD RESPONSES' button and a toggle switch for 'Set this intent as end of conversation'. The 'Fulfillment' section is partially visible at the bottom.

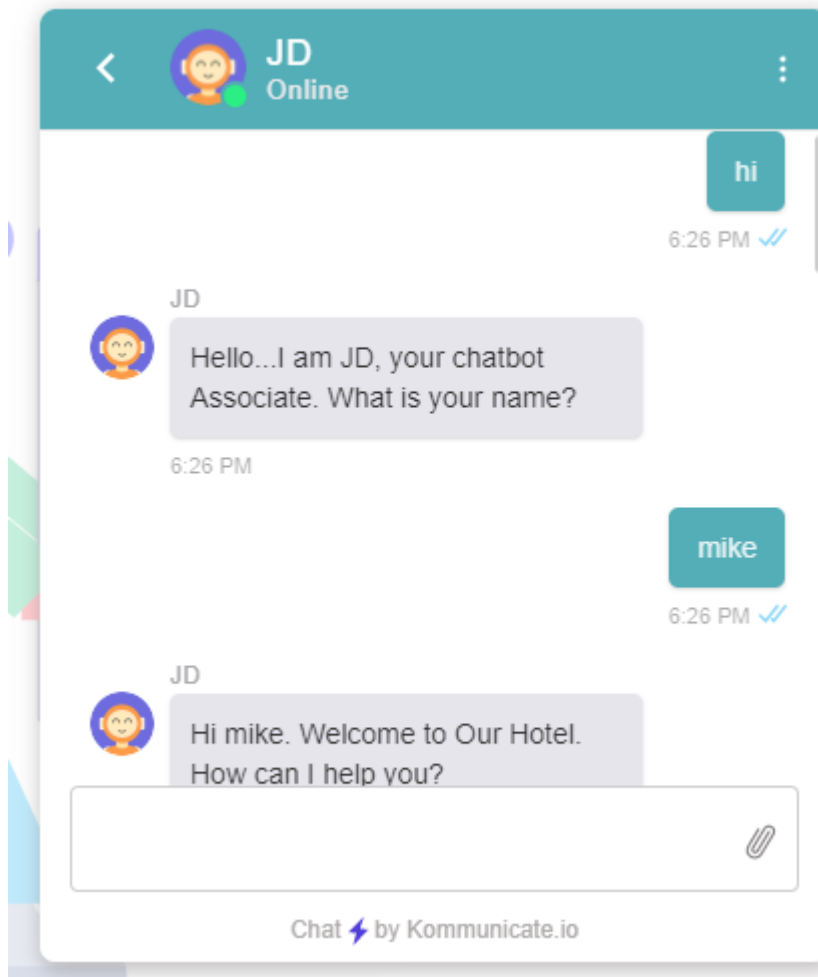
4.4. Integration

- Dialogflow is a very good tool to make chatbot as it can be integrated with a lot of tools present in the market.
- Dialogflow can be integrated with telegram, Facebook messenger ,etc for text based chatbots.
- We can also use voice recognition with dialogflow and integrate it with tools present in the market.
- I have integrated my dialogflow chatbot with kommunication because there were some features that are not supported in dialogflow like hyperlinks,etc.
- Kommunication also provides a feature using which I can at any time take control from the chatbot using he kommunication app on my mobile phone. This feature helps me to answer some questions that the chatbot is not trained to do.

4.5. Testing and training

- Dialogflow has a built-in machine learning algorithm which helps it to train the agent. Dialogflow matches the intent. You don't have to define every possible example, because its built-in machine learning extrapolates on your list with other, similar phrases.
- Testing of my chatbot can be done by web demo or using any integration tool like telegram or kommunicate..
- Before publishing the chatbot I have tested it many times using the web demo as well as the kommunicate app
- I am adding some screenshots of my testing of my chatbot.





5. References:

1. <https://cloud.google.com/dialogflow/es/docs/intents-overview>
2. <https://www.dorint.com/en/faq-frequently-asked-questions/>
3. <https://www.hotel-atlantic.com/en/faq-answers-to-frequently-asked-questions.html>
4. <https://www.youtube.com/watch?v=0SDfi3JvacE&t=839s>
5. <https://www.youtube.com/watch?v=Ov3CDTxZRQc>