

# Get started with Dialog flow

## 1\_ Dialog flow account

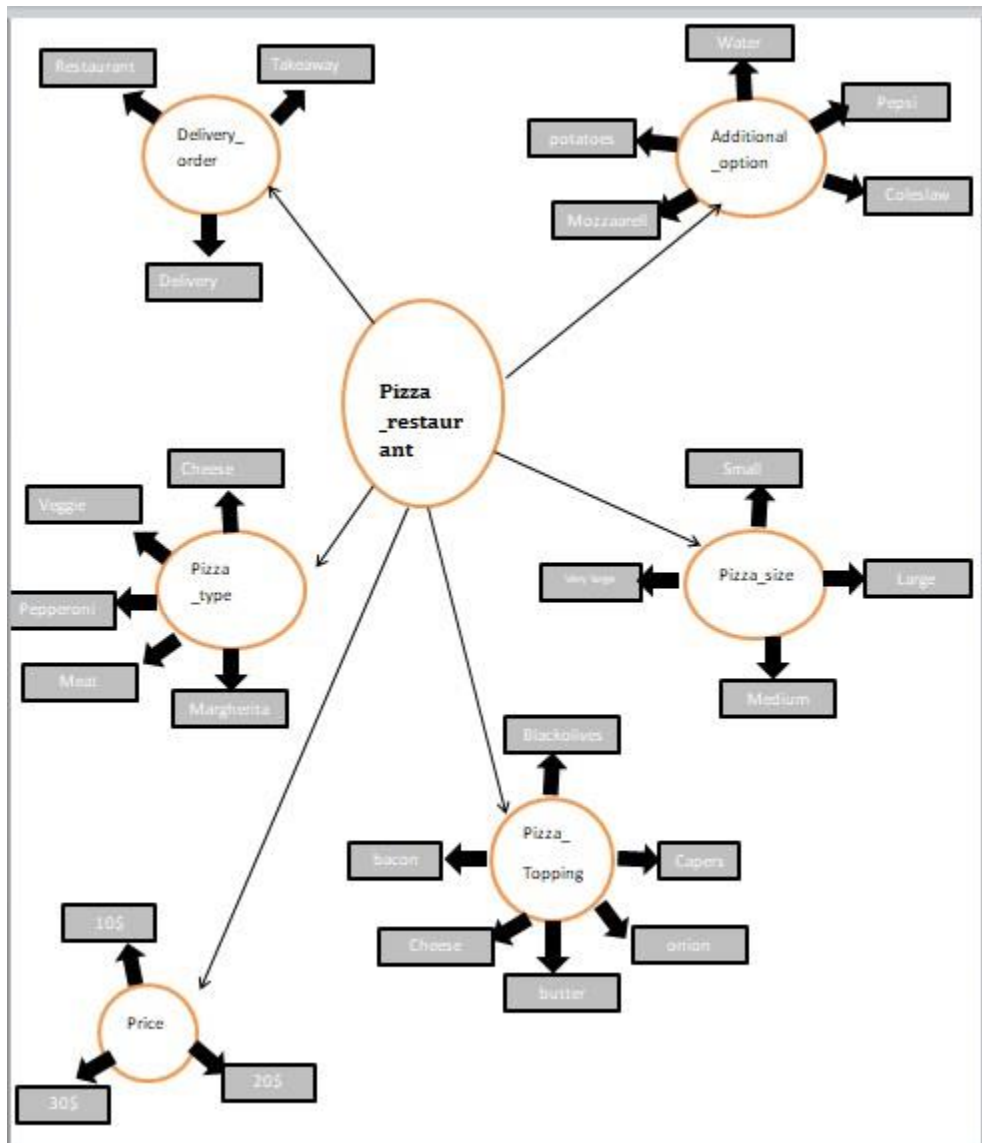
- We Create a Dialog flow account
- Then we go to Dialog flow.
- In the upper-right corner, click Go to Console.
- Click Sign in with Google.
- Allow Dialogflow to access your Google Account, and accept the Terms of Service

## 2\_ Dialog flow Chabot agent

- In this section, you create your Chabot, which Dialog flow calls an agent.
- We click Create Agent.
- In the New Agent Form, complete the following fields:
- In the Agent Name field, we enter pizza \_ restaurent.
- In the Import Existing Google Cloud Project list, click your Google Cloud project.
- Click Create




## Firstly create the ontology of the chosen material




### 3\_Create entity

- An entity is essentially a data type in Dialogflow that you can use to parameterize conversations.
- In dialog flow, We click Entities.
- Click Create Entity.
- In the Entity name field, type Topic.
- Click Allow automated expansion. This lets your chatbot recognize topic values that aren't explicitly listed in your data model.
- Clear the Define synonyms checkbox. Your web hook handles synonyms instead.

- In the Enter value field, type test. You import more values for topic in the next section, but you have to save the entity with at least one value.
- Click Save.

 Entities CREATE ENTITY ⋮

Custom System

Search entities 

@ additional_option
@ Delivering_orders
@ pizza_count
@ pizza_size
@ pizza_topping
@ pizza_type
@ price

1\_addtionaloption

# additional\_option

SAVE



- ☒ Define synonyms
- ☐ Regexp entity
- ☐ Allow automated expansion
- ☐ Fuzzy matching

Potatos	Potatos
Vegetable salad	Vegetable salad
water	water
Coca-Cola	Coca-Cola, cola
Pepsi	Pepsi
Coleslaw	Coleslaw
Cheddar cheese	Cheddar cheese
mozzarella cheese	mozzarella cheese
Click here to edit entry	

## 2\_wayof delivering order

# Delivering\_orders

SAVE



- ☒ Define synonyms
- ☐ Regexp entity
- ☐ Allow automated expansion
- ☐ Fuzzy matching



take away	take away
delivery 🚚	delivery 🚚
in restu	in restaurant
Click here to edit entry	


+ Add a row

### 3-pizzacount

pizza\_count

SAVE

☒ Define synonyms ☐ Regexp entity ☐ Allow automated expansion

☐ Fuzzy matching 



one	one, 1
two	two, 2
three	three, 3
four	four, 4
five	five, 5
Click here to edit entry	


+ Add a row

### 4\_size of pizza

pizza\_size

SAVE

☒ Define synonyms ☐ Regexp entity ☐ Allow automated expansion

☐ Fuzzy matching 




small	small
medium	medium
large	large
very large	very large
Click here to edit entry	

+ Add a row

5\_topping

pizza\_topping

SAVE

- ☒ Define synonyms  ☐ Regexp entity  ☐ Allow automated expansion  
☐ Fuzzy matching 

bacon	bacon
blackolives	<input type="text" value="blackolives"/> Enter synonym
capers	capers
mushroom	mushroom
cheese	cheese
butter	butter
onionv	onionv
<a href="#">Click here to edit entry</a>	

+ Add a row

## Training and testing the Chabot

### Training Question-Answers, Intents Development

Now that you have all the data required to train the Chabot, Then, you test the chatbot by using a built-in simulator in Dialogflow.

#### Firstly Create a Chabot intent

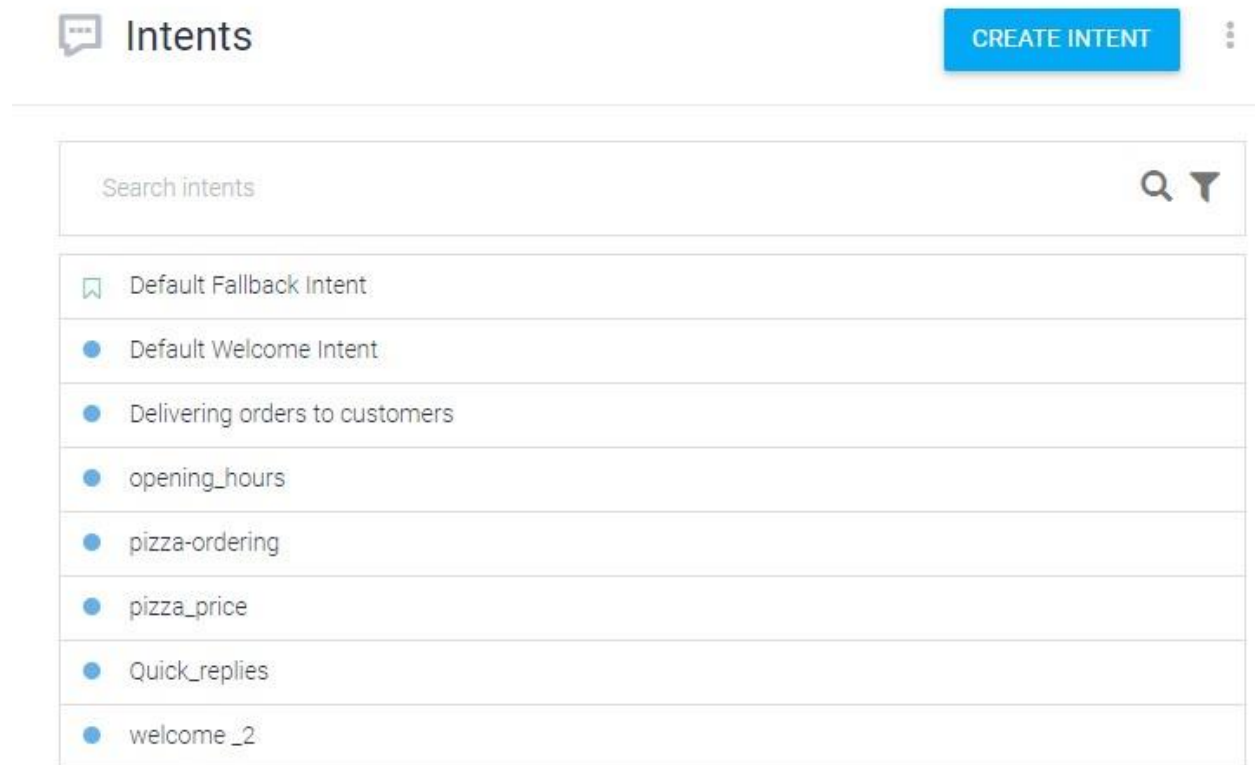
Intent in Dialogflow captures a single kind of request and response interaction between your Chabot and your user :

To create Chabot intent:

1. In Dialogflow, click **Intents**.

You only need This intent responds to requests for information about different If you want to use this chatbot to search other documents, you need to create an intent for each document.

2. Click **Create Intent**.
3. In the **Intent name** field



Intents

CREATE INTENT

Search intents

Default Fallback Intent
Default Welcome Intent
Delivering orders to customers
opening_hours
pizza-ordering
pizza_price
Quick_replies
welcome _2

4. Click **Add Parameters and Action**.
5. In the **Enter action name** field, type lookup.
6. In the Parameters table, enter the following:
  - In the **Parameter Name** field, type.
  - In the **Entity** field, type @
  - In the **Value** field, type \$

1. Click **Add Training Phrases**, and complete the following steps:
  - a. In the **Add user expression** field, enter the sample sentence

- b. Select the word
- c. Click @ pizza type: pizza type like pizza type yellow to tell Dialogflow where in your example sentence to find your pizza type parameter. After specifying the pizza type parameter in your sentence, press Enter to add the sample sentence

● pizza-ordering

SAVE

⋮

” Add user expression

” I want a large pizza

” I want a medium pizza

” i want a large mushroom pizza tomorrow

” I want to order California pizza for 3pm

” I want to order cheese pizza for 3pm

” I want a meal

” I want to order pizza 🍕

” I want an order 😊😊

” I want to make a request!

←

2 OF 2



# Action and parameters



Enter action name



REQUIRED ?	PARAMETER NAME ?	ENTITY ?	VALUE	IS LIST ?	PROMPTS ?
<input checked="" type="checkbox"/>	date-time	@sys.date-time	Sdate-time	<input checked="" type="checkbox"/>	Define prompts...
<input checked="" type="checkbox"/>	pizza_size	@pizza_size	Spizza_size	<input checked="" type="checkbox"/>	Define prompts...
<input checked="" type="checkbox"/>	pizza_type	@pizza_type	Spizza_type	<input checked="" type="checkbox"/>	Define prompts...
<input type="checkbox"/>	Enter name	Enter entity	Enter value	<input type="checkbox"/>	—

+ New parameter

• pizza\_price

SAVE



Contexts ?



Events ?



Training phrases ?

Search training phrase



” Add user expression

” what is the price of 3 large pizza cost ?

” How much does the large pizza cost ?

” what is the cost of small Cheese Pizza ?

” How much does a large pizza cost?

” What is the price of a medium pizza?

Action and parameters



Enter action name

//

REQUIRED ?	PARAMETER NAME ?	ENTITY ?	VALUE	IS LIST ?
<input type="checkbox"/>	pizza_size	@pizza_size	\$pizza_size	<input type="checkbox"/>
<input type="checkbox"/>	price	@price	\$price	<input type="checkbox"/>
<input type="checkbox"/>	pizza_type	@pizza_type	\$pizza_type	<input type="checkbox"/>
<input type="checkbox"/>	pizza_count	@pizza_count	\$pizza_count	<input type="checkbox"/>
<input type="checkbox"/>	Enter name	Enter entity	Enter value	<input type="checkbox"/>

+ New parameter

# Delivering\_orders

SAVE



☒ Define synonyms ⓘ ☐ Allow automated expansion

take away	take away
delivery 🚚	delivery 🚚
in restu	in restaurant
Click here to edit entry	

+ Add a row

- Delivering orders to customers

SAVE

” Add user expression

” Is there a place in the restaurant for 7 people?

” Is it possible to eat the order in the restaurant or is this forbidden due to Corona?

” Is delivery service available?

” Can the order be delivered to the house?

### Action and parameters



Enter action name

REQUIRED ?	PARAMETER NAME ?	ENTITY ?	VALUE	IS LIST ?
<input type="checkbox"/>	Delivering_order	@Delivering_orders	\$Delivering_orders	<input type="checkbox"/>

Click **Save**.

Dialogflow now trains the agent based on your example intentions. Training is complete when a notification message is displayed.

## Smalltalk



Based on [Actions on Google policy](#), enabling Small Talk in its entirety will cause your action to be rejected. See [Import the prebuilt agent](#) for steps on how to import and select subsets of Small Talk features that comply with Action on Google's policy.

## Small Talk Customization Progress

 18%



About agent

 22%



Courtesy

 0%



Emotions

 0%



Hello/Goodbye

 40%

ANSWER

1 Sorry, how can I help you?

2 Enter a Answer variant



QUESTION

Answer my question.

ANSWER

1 Can you repeat your question?

2 Enter a Answer variant



QUESTION

You're bad.

ANSWER

1 Sorry, how can I help you?

2 Enter a Answer variant



QUESTION


Can you get smarter?

ANSWER


1 Your opinion helps us to develop


2 Enter a Answer variant





 Dialogflow Essentials


Global ▾


 Fulfillment


 Integrations


 Training


 Validation

 History

 Analytics


 Prebuilt Agents

 Small Talk


> Docs 

Trial  
Free


Dialogflow CX <sup>[new]</sup>

 Small Talk


SAVE

 Courtesy

0%

 Emotions

0%

 Hello/Goodbye

40%

QUESTION

Bye-bye!


ANSWER

1

bye

2

Enter a Answer variant



QUESTION

Good evening!


ANSWER

1

good evening

2

Enter a Answer variant



QUESTION

Good morning!

## Validation

We get some error in validation then after solving it by replacing delivered by delivery like in entity deliver orders



Dialogflow Essentials

Global

⚡ Fulfillment

🔄 Integrations

🎓 Training

☑ Validation

🕒 History

📊 Analytics

📁 Prebuilt Agents

💬 Small Talk

> Docs

Trial Free

Dialogflow CX

☑ Validation

Search intent issues

Intent Issues

4

Default Fallback Intent

1

There are no negative examples in the agent. Please add examples into 'Default Fallback Intent' intent.

Delivering orders to customers

2

The annotated text 'delivered' in training phrase 'Can the order be delivered to the house?' does not correspond to entity type '@delivering\_orders'.

The annotated text 'delivery' in training phrase 'Is delivery service available?' does not correspond to entity type '@delivering\_orders'.

Quick\_replies

1

Intent 'Quick\_replies' does not have enough unique training phrases. Consider adding more different examples.

Try it now

Agent

USER SAYS  
good morning

DEFAULT RESPONSE  
Greetings! How can I assist?

INTENT  
Default Welcome Intent

ACTION  
input.welcome

SENTIMENT  
Query Score: 0.3

DIAGNOSTIC INFO

Pizza\_restaurant

en

Intents

Entities

Knowledge

⚡ Fulfillment

🔄 Integrations

🎓 Training

☑ Validation

🕒 History

📊 Analytics

📁 Prebuilt Agents

✓ ERROR ✓ WARNING ✓ INFO

📁 Agent Issues

🗨 Intent Issues

👤 Entity Issues

## Competency Questions and Test-Cases

### Test your chatbot

- In the Dialogflow console, click **Try me now**.

I ask need pizza response about the type of it then place the order

## Agent

USER SAYS

COPY CURL

i need The Works Pizza



DEFAULT RESPONSE



What is the pizza\_size?

CONTEXTS

RESET CONTEXTS

255e528b-445d-4558-a335-c54fb937af9  
e\_id\_dialog\_context


pizza-ordering\_dialog\_context

pizza-ordering\_dialog\_params\_pizza\_size

\_\_system\_counters\_\_

INTENT

pizza-ordering

Try it now


### Agent


---

USER SAYS

COPY CURL

large

---



DEFAULT RESPONSE

Great .Your order for what type of pizza do you prefer ? with large is placed thank you

---

INTENT

pizza-ordering

---

ACTION

Not available

---

PARAMETER	VALUE
pizza_size	[ "large" ]
pizza_type	[ "what type of pizza d o you prefer ?" ]
date-time	[ "what day do you wa nt your order?" ]

- Dialogflow provides many types of from other services to your chatbot. To view a sample web user interface


- In Dialogflow, WE click **Integrations**.
- WE click to turn on **Web Demo**.
- To open the web demo dialog, click **Web Demo**.

Entities +


Knowledge <sup>[beta]</sup>


Fulfillment


Integrations



Web Demo

 draft

 Pizza\_restaurant


POWERED BY  Dialogflow

i want Buffalo Pizza

What is the pizza\_size?

large

Great .Your order for what type of pizza do you prefer ? with large is placed thank you

Ask something... 

what is the cost of small Cheese Pizza ?

What is the pizza\_count?

3

the cost of small for three is cost

## Evaluate to isolate weaknesses

### Evaluation:

- As business's work as a chatbot developer doesn't end once their bot goes live. Due to increasing competition in every industry, customer experience became the key driver in gaining a competitive edge. After a business deploys a chatbot, it is time to track how people are using it, standing to several metrics.

### What is a metric?

- a metric is a quantifiable measure that is used to track and assess the status of a specific business process,
- Defining metrics is important. Since many of the capabilities of the chatbot will be measured through those metrics. For a newly created chatbot, those metrics can fluctuate dramatically. After implementing the chatbot, we need to monitor it closely. Since the expectations are efficiency enhancement, faster response, and greater conversion

### 7 key metrics to measure the performance of your chatbot:

- Comprehension capabilities.
- Speed.
- Scalability.
- user metrics
- commercial metrics
- Bot Metrics
- Message Metrics

#### 1. user metrics

Good chatbots should be capable of initiating conversation with the users and interact with them to share information. Also, chatbots should be built to classify the target audience, deliver meaningful messages, take direct orders from users, and navigate to layouts and more. On top of this, chatbots should also be designed to answer frequently asked questions (FAQs) of users

- **Self-service rate:**

percentage of user sessions that did not end with a contact action after using the bot. as we serve for a pizza shop there are many options customers can choose from, without needing to call our call center agents, starting from welcome and asking for pizza(size/price/type) end with ordering and delivering it.

<input type="checkbox"/>	Default Welcome Intent	Add follow-up intent		
<input checked="" type="radio"/>	Delivering orders to customers			
<input checked="" type="radio"/>	opening_hours			
<input checked="" type="radio"/>	pizza-ordering			
<input checked="" type="radio"/>	pizza_price			

- **Non-response rate:**

the amount of times the chatbot has failed to push some content following a user question (due to lack of content or misunderstanding).here we train our chatbot on certain sentences to answer on shops opening question, but when I change some words the chatbot sometimes couldn't identify it and required to ask one more time as here I asked for delivery time and the chatbot answers in a wrong way as it searched for the keywords in my question without understanding the meaning

Training phrases ⓘ
Search training phre 🔍 ^

🗨 Add user expression

🗨 what are the shop hours?

🗨 what time will you be available ?

🗨 can I know the training hour of your store?

🗨 when the store close ,please?

🗨 when the store open ,please?

🗨 when the store close and open ,please?

Agent

---

USER SAYS
COPY CURL

when you will open

---

🗨 DEFAULT RESPONSE ▼

Say that one more time?





Agent

USER SAYS

when the store close?

COPY CURL


 DEFAULT RESPONSE
 

Available from 9 am to 12 pm

available all day



Working hours from 9 am to 12 pm

Agent

USER SAYS

delivery time

COPY CURL


 DEFAULT RESPONSE
 

the service delivery is available

- **Fast frequent questions:**



as our chatbot have been learned from previous frequent questions ,so we need it to know the next expected question that customer may ask , here customer asks for pizza so the expected question will be what is the size you wanna?

Agent

USER SAYS

i wanna pizza

COPY CURL


 DEFAULT RESPONSE
 

What is the pizza\_size?

- **Total Users:**

It captures the number of people using your chatbot. This matters because its trend shows the change in the number of users and therefore the amount of data your chatbot has been exposed to. As the amount of data increased the training data set increased so we can check the number of each word repeated and train the model on them

Conversation	Date
delivery time (6)	Today
great (13)	Today
i wanna pizza (4)	Today
bad service (2)	Today
when the store close? (2)	Today
when you will open (1)	Today
hey (4)	Today

- **Active Users:**

Active users can be defined as the people who read a message in the chatbot in a defined time frame.

- **Engaged Users:**

Those users are the ones who communicate with the chatbot. They receive and send messages

## 2-Comprehension capabilities

Good comprehension capabilities of a chatbot should ensure a good texting and error free experience for the user.

- **Sentiment analysis:**


businesses can understand whether users are responding positively or negatively and make their bot more user friendly.as you see in postive words(great/good/..) we get high postive sentiment score(0.9), on the other hand in negative words(bad/worst/..)we gwt low negative sentiment score(-0.8)

Agent		
USER SAYS	COPY CURL	SENTIMENT
great		Query Score: 0.9

Agent		
USER SAYS	COPY CURL	SENTIMENT
bad		Query Score: -0.8


- **Miss spelling:**


As not all customers will write in a correct way we here train our chatbot to deal will miss spelling words and get the right answer like using auto correct we tried to write (bizzas)instead of (pizza)

Agent	
USER SAYS	COPY CURL
i wanna bizzas	
 DEFAULT RESPONSE	
What is the pizza_size?	

- **balanced text-use:**

This means that a chatbot will use a combination of both short descriptions and engaging content with clear information here chatbot answer in a friendly engaging way to get the whole order from customer in a few number of words

Agent	
USER SAYS	COPY CURL
hello	
 DEFAULT RESPONSE	
Good day! What can I do for you today?	

Agent	
USER SAYS	COPY CURL
one medium pizza	
 DEFAULT RESPONSE	
Great .Your order for what type of pizza do you prefer ? with medium is placed thank you	

### 3. Speed:

One of the prime purposes for the existence of a chatbot is to help the users instantly, directly relating it with response speed of a chatbot. When building a chatbot, it should be integrated with knowledge-based database and programmed

to fetch information and respond quickly. Hence, measuring the response rate of the chatbot plays an important role when it comes to speed. Quality chatbots should be capable of delivering responses immediately for effective interactions.as we did it in default responses.

## **4-Commercial Metrics:**

- **ROI / payback period:**

Return on investment (ROI) is critical to know for any project. Companies need to track, at least on a high level, their spending for the bot and the benefits it generates. The benefits will depend on metrics like leads generated, fallback rate, cost per fallback so that businesses can compare bot's benefits with other channels. Imagine how much money you saved by using chatbots instead of hiring a great full time customer service representatives to answer customers' queries,

- **Leads generated:**

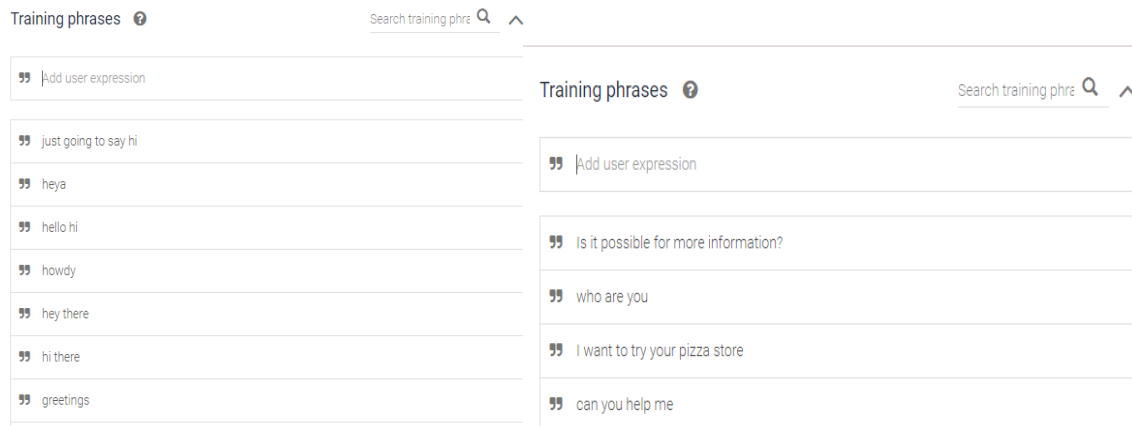
For chatbots in sales, this is one of the most important metrics. They should lead to a higher number or quality of leads captured. For chatbots in customer service, this is a less relevant metric however some customer service bots can also identify users' pain points and cross/up-sell opportunities.but think of a huge number of right orders without any human mistakes or customers' complains

## **5. Scalability:**

- Good chatbots should be designed to be scalable so that they can support numerous users and additional modules at the same time. Also, a chatbot should be built to accommodate itself in most server environments as per the various industry requirements. So regardless of any server environment, chatbot should be capable of working on either of them.as we can use the same chatboot that works with pizza restaurant can work with burger restaurant or any type of business that required a direct communication with customers' orders

## 6-Message Metrics

- **Conversation Starter Messages:** This is the number of messages where the bot starts the interaction. Mostly start with welcome or hii or intro questions



The image shows a screenshot of a chatbot training interface. It consists of two side-by-side panels, each titled 'Training phrases' with a help icon. Both panels have a search bar labeled 'Search training phrase' with a magnifying glass icon and an upward arrow. The left panel has a text input field 'Add user expression' and a list of phrases: 'just going to say hi', 'heya', 'hello hi', 'howdy', 'hey there', 'hi there', and 'greetings'. The right panel also has a text input field 'Add user expression' and a list of phrases: 'Is it possible for more information?', 'who are you', 'I want to try your pizza store', and 'can you help me'.

- **Bot Messages:** Bot messages are the total number of messages sent by the chatbot in each interaction. This measures the length of a conversation between a customer and the chatbot. We normally want the number of messages to be high, but there is one critical condition, our chatbot needs to respond correctly. In case of misunderstanding or failure to comprehend the input by the user, the chatbot will say similar words repeatedly.
- **In Messages:** This category shows the messages sent by the user. We need to see whether the user engages with the chatbot or not. If this category is significantly low, we don't need to use a chatbot. Using regular social media such as a Facebook Page or a Twitter account may make more sense, rather than using a Facebook Messenger chatbot or a voice-assisted technology.
- **Total Conversations:** Number of conversations started and successfully completed on a given day. This is the concept engaged users
- **New Conversations:** Number of new conversations started. This captures both the inexperienced users and the conversations that are initiated by the returning users on a different matter, problem, or order.

# 7-Bot Metrics

We will now introduce some other metrics that are critical for measuring the performance of a chatbot.

- **Retention Rate:** This is the percentage of users that return to using the chatbot on the given time frame. This is important since we need to keep the customer engaged to extract valuable insight regarding the customers' preferences by making them spend time on the chatbot. Higher retention rate can be achieved by promotional campaigns. The important is keeping that high through an organic process. This mostly can be achieved by providing a high-quality chatbot that meets the customers' expectations and needs.
- **Goal Completion Rate (GCR):** This captures the percentage of successful engagement through chatbot. Users will probably try to reach different information or service. For an e-commerce company's bot relevant goals can be informing the user about a product's details or purchasing a product. This shows that the number of times our bot successfully processed the input and provided the asked information. There are other ways to utilize this concept. One way is to mine data through the questions asked by the users. This would show an overall trend in consumer preferences; hence a greater emphasis can be placed on that issue while training the chatbot.
- **Goal Completion time/messages/taps:** Chatbots need to provide a seamless and efficient experience and they have plenty of substitutes such as company's web pages or apps. Minimizing the effort to complete a goal can improve user experience.

## **Overview of the Business Problems That Chatbots Solve**

- Assisting with Continued Lead Generation.
- Driving More Sales.
- Guiding Customers and Users to Better Outcomes.
- First Line Customer Service Support.
- Scaling Businesses Globally.
- Managing Risks.
- Increasing Productivity.
- Providing Entertainment.

## References

[Build chatbots with Dialogflow | Google Developers](#)

[Building a chatbot agent by using Dialogflow \(part 1\) \(google.com\)](#)