Building Conversational Experiences with Dialogflow

Agenda

What is a Conversational Experience?

Chatbot Journey and Challenges

Build Engaging Conversational Interfaces
with Dialogflow

Life of a Conversation

Your Chatbot Workflow

A "conversational experience" can be represented in different ways

1   Conversational interface

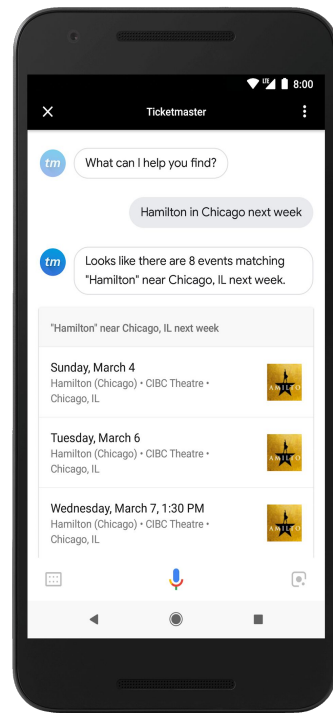**2**   Conversational UX

3   Conversational app

4   Voice bot

5   Chat bot

Defining a "conversational experience"

Any voice or chat interface that relies on Natural Language Understanding (NLU) for interacting with users.

Conversation is the new UI

72%

of people who own a
voice-activated
speaker say their
devices are often
used as part of their
daily routines.
-**Google**

60%

of consumers want
easier access to
self-serve solutions
for customer service.
-**Ovum**

91%

of survey respondents
would rather use a
knowledge base if it
were available and
tailored to their needs.
-**Zendesk**

There is a diverse set of use cases

Connecting businesses to their customers

Customer service

Commerce

Controlling IoT devices

Home entertainment

Auto

Connecting businesses to their employees

Organizational knowledge

Surfacing data and insights

Agenda

Chatbots of the past were difficult to maintain
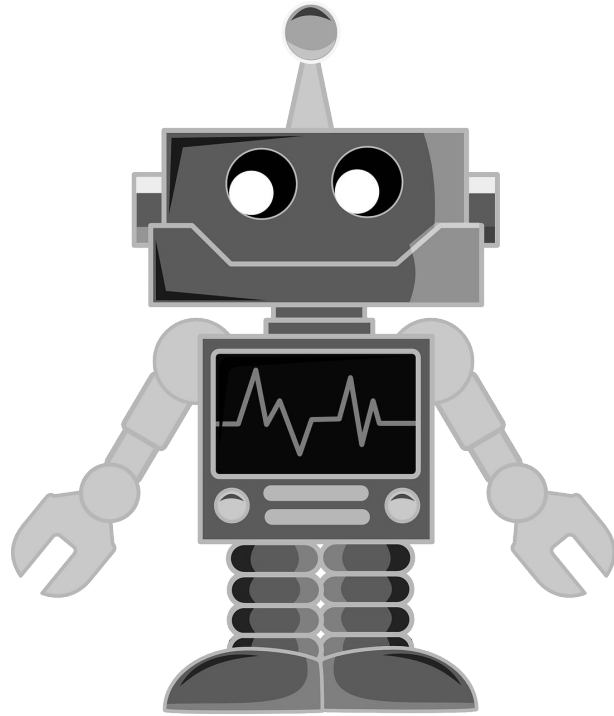
Creating engaging conversational experiences is hard without the right tools, expertise and resources.

There are challenges to building conversational interfaces

NLU doesn't grow on trees!

Few companies have the expertise to do NLU as well as consumers expect.

Maximizing reach takes effort

Building support for multiple languages, platforms, devices, and apps is complex.

Enterprise integration is critical

Integration with backend services (e.g., CRM) requires open, flexible infrastructure.

Don't try to boil the ocean

Is this a strong use case?
What can the bot do well?

Human escalation protocol is necessary

Very few chatbots have an escalation workflow in place to let a human take over the conversation when the bot cannot help.
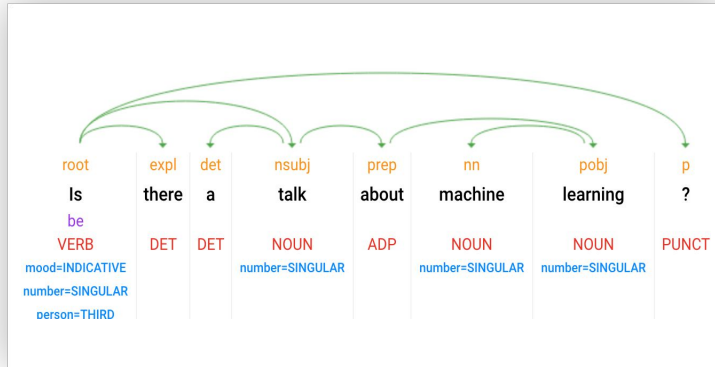
Agenda

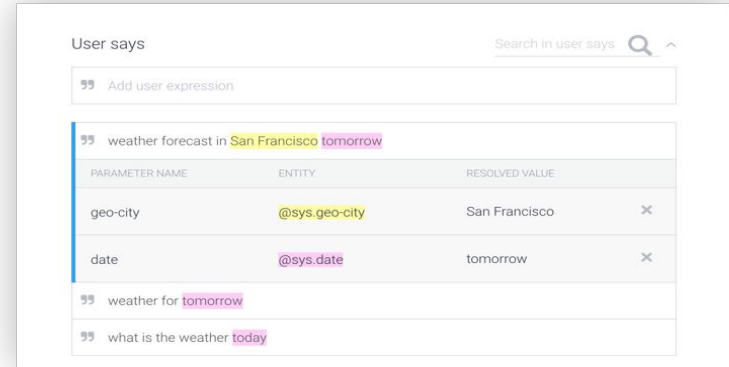# Dialogflow is a platform for building natural and rich conversational experiences

1 Dialogflow is an emerging standard for developing conversational interfaces, with a community of 600K+ developers.

2 Dialogflow users benefit from the world-class AI assets and capabilities of Google.

Dialogflow

Natural language processing is a game changer

Syntax analysis

Entity recognition

Natural language processing is a game changer

Sentiment analysis

Natural language processing is a game changer

Content classification

Multi-language support

How Dialogflow works

Training data ①

Training phrases ❓

> Add user expression

> what is the **annual pay** ?

> what is **discipline**

> what are **hours of work**

> tell me about **annual salary**

➕

Proprietary language models by Dialogflow ②

③ **Unique trained model**

User query

Response

HR-Chatbot

POWERED BY 🔷 Dialogflow

what is annual salary

Salaries shall be determined by the Executive Director, based on budget considerations and commensurate with the experience of the successful candidate. The organization shall pay employees on a bi-weekly basis, less the usual and necessary statutory and other deductions payable in accordance with the Employer's standard payroll practices. These payroll practices may be changed from time to time at the Employer's sole discretion. Currently, payday occurs every second Thursday and covers the pay period ended the previous Saturday.

Ask something...

Dialogflow benefits for users

Build faster

Engage more
efficiently

Maximize reach

Pre-built agents help you get a head start

Build faster

Start training with only a few examples

40+ pre-built agents and "small talk" features

Food Delivery
Create and manage food and drink orders

Formats
Control default units of measurement

Hotel Booking
Find, create and manage reservations for hotels

Jokes
The agent tells jokes

Navigation
Ask for directions

News
Get news stories and manage news feed

Radio
Control playing radio stations

Reminders
Schedule, edit, view and remove reminders

Language Settings
Set language preferences

Local Services
Search local services and shops

Maps
Search maps for a location

Music
Play and control your music and playlists

Analytics offer insights about needed improvements

Engage more efficiently

- Built-in, world-class natural language understanding

- Multiple options to connect with backend systems

- Training and analytics
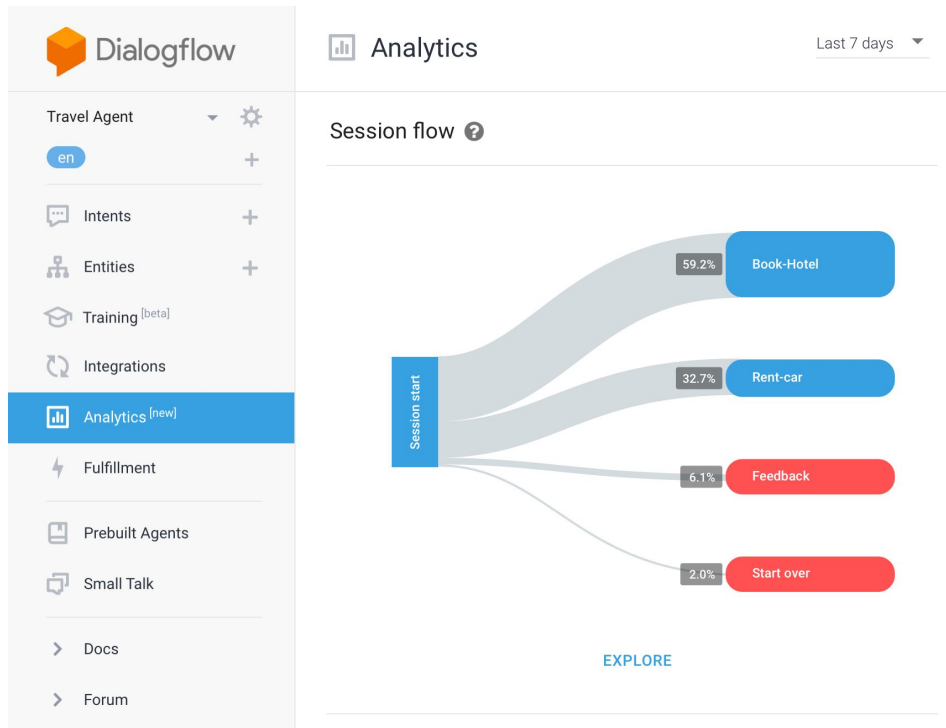
One-click integrations with most major platforms

Maximize reach

20+ languages supported (most in product category)

Build once, deploy everywhere

14 single-click platform integrations and 7 SDKs

Google Assistant — SETTINGS

Web Demo — SETTINGS

Facebook Messenger — SETTINGS

Slack

Skype

Tropo (Text messaging)

Telegram

Kik — SETTINGS

Viber

Twitter

Twilio IP

Twilio (Text messaging)

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Life of a conversation
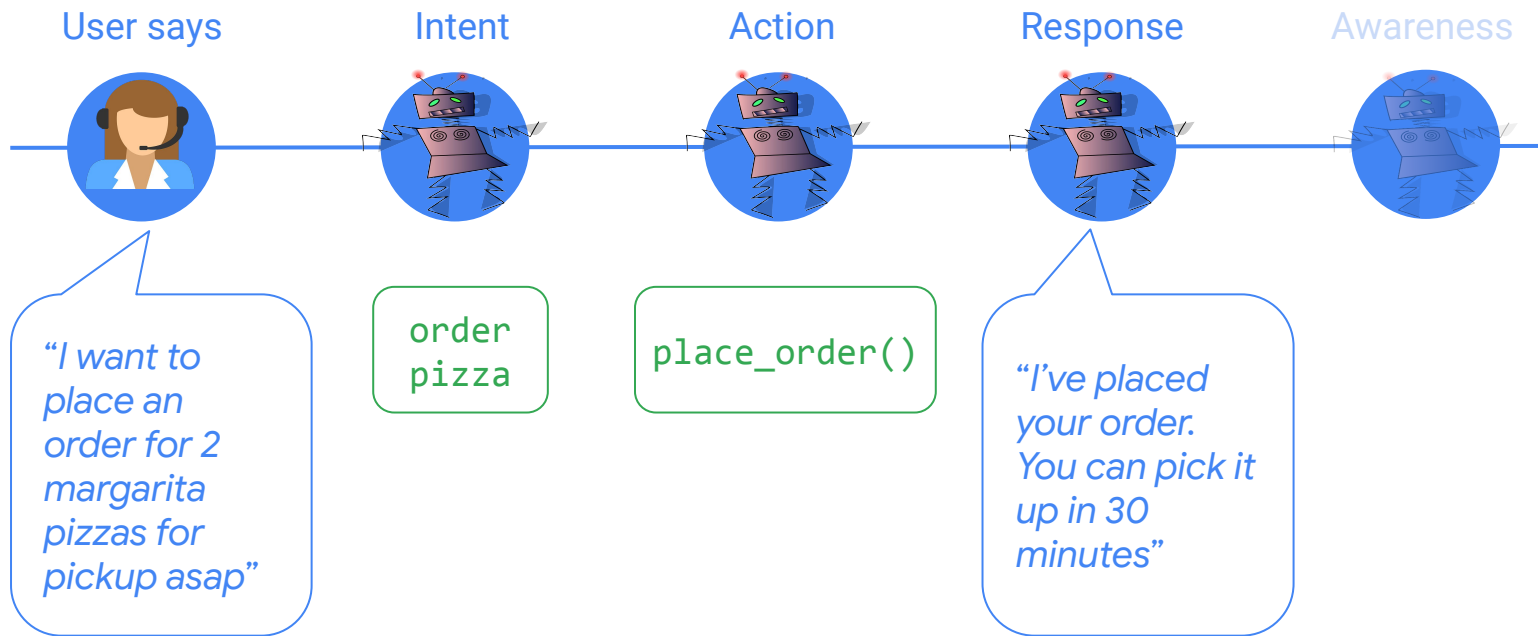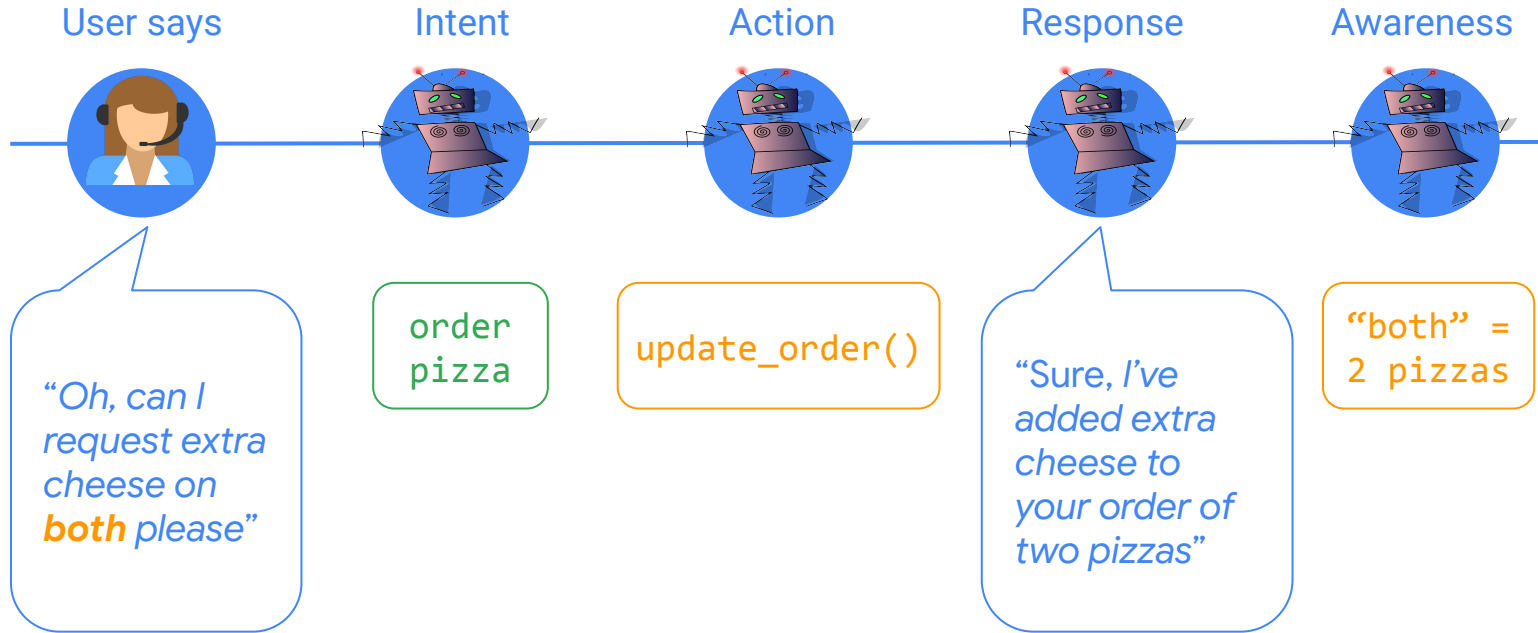
User says

"I want to place an order for 2 margarita pizzas for pickup asap"

Intent

```
order
pizza
```

Action

```
place_order()
```

Response

"I've placed your order. You can pick it up in 30 minutes"

Awareness

Life of a conversation

User says — Intent — Action — Response — Awareness

User says: "*Oh, can I request extra cheese on* **both** *please*"

Intent: `order pizza`

Action: `update_order()`

Response: "*Sure, I've added extra cheese to your order of two pizzas*"

Awareness: `"both" = 2 pizzas`

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Your chatbot workflow
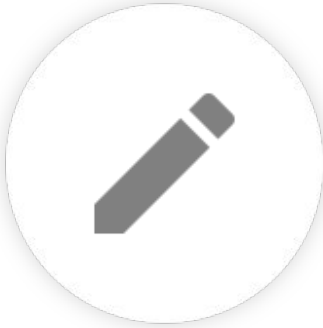
Design
What to build

Develop
How to build

Deploy
How to deliver

Your chatbot workflow

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What to build

Develop
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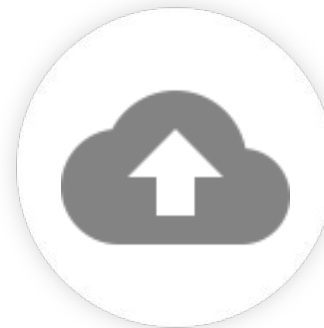
Deploy
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Create your persona

1 Core **brand attributes** ·············> knowledgeable helpful encouraging

2 Functional **design principles** ·············> data rich recommending proactive

3 **Personality** of your agent ·············> geeky eager motivating

4 **Style** guide and "bio sketch" ·············>

Example style guide

MIGHT SAY THINGS LIKE	WOULD NEVER SAY
I found ...	I did not receive a response
Up for that?	If you feel you have reached this message in error
Does that sound good?	Please select from one of the following X options
Maybe later	To help us serve you better ...
While you're at it ...	For questions related to ...
What's going on?	You have entered ...
So you can keep up to date on ...	That was an invalid ...
I'll look it up right now	We require that you ...
Sure, that's coming up	Please try again
Right around the corner from ...	For faster answers ...
That session's full, but ...	We're sorry, we are unable to ...
You might like ...	I did not understand

Example style guide

INSTEAD OF...	IS MORE LIKELY TO SAY...
allows	lets
require	need
unable to	can't
due to	because
additional	more
regarding	about
assist	help
currently	right now
please hold	one sec
remain	stay

Consider the conversation design checklist

Greetings and Goodbyes

☐ **Tell users who you are**

The Google Assistant hands off the user experience to your action, so be sure to let users know they are entering your experience.

- Does your persona tell the user who they're talking to?
- Is there a clear transition from the Google Assistant into the action, and do users know where they are now?

☐ **Give the right amount of information**

Your greeting should cater to users with varying degrees of familiarity with your actions:

- Will a brand-new user understand what your action is all about? Is the initial greeting informative without overwhelming them?
- Does your greeting sound repetitive for an experienced user? Is there a shorter, more familiar greeting for return users?

☐ **End conversations appropriately**

When users are done with the core intents fulfilled by your action, give them a chance to do something else or let them move on with their day.

- Is there an unobstructed path to the exit?
- Are simple back out requests like "nevermind" and "no, thanks" honored in the contexts where they make sense for the user?

g.co/dev/ActionsChecklist

Design Checklist

Conversational Dialogs

☐ **Sound natural**

For every dialog you write, read it aloud and make sure it:

- Is something your desired persona would say
- Has been written with voice in mind rather than just a copy of some other medium (such as a converted mobile app or website).

☐ **Be cooperative**

Does your VUI accommodate the innate rules of human conversation? To be effective, you should be as truthful, informative, relevant, and clear as the situation calls for. Read more at g.co/dev/ActionsDesign.

☐ **Take turns**

A good conversation partner knows how to give the right cues.

- DO give users enough context to respond each time you yield a turn.
- DON'T just make an ambiguous statement and then open the mic.
- DO give users a question or prompt that turns over the conversation to them.
- DON'T keep speaking after asking a question.

Conversation Repair

☐ **Prevent errors by expecting variations**

Your actions should understand input that's phrased in many alternate ways, such as "yes", but also: "yeah", "sure", "it does", "it sure does", "of course", or "definitely".

☐ **Provide helpful reprompts or pivot to another question**

Reframe questions for users when they say things your action doesn't understand or when they don't say anything at all (two very different contexts!).

☐ **Be prepared to help at any time**

Users might ask for help at any point in the conversation ("What can I do?"), so be prepared to either reprompt them or offer an explicit help dialog. TIP: Prevent confusion with intuitive commands.

☐ **Let users replay information**

Recognize and appropriately respond to user input like "what?", "repeat", "say that again", and other similar phrases.

☐ **Fail gracefully**

If users don't provide a response or one that you can't recognize after two or three tries, exit with an appropriate message.

Persona

☐ **Reflect your unique brand and identity**

If you don't already have a persona defined for your brand, create one! Find out how in our Design Tips video youtu.be/MSUPVbbhIGA.

☐ **Keep users coming back**

Think of your persona as a real person and someone that you and your users would want to interact with – even (or perhaps especially) after many encounters.

☐ **Stay consistent**

Maintain the persona throughout the entire conversation, so users don't experience jarring or confusing dialogs that feel like they're talking to multiple personalities.

Is your action ready for users?
g.co/dev/ActionsDistribute

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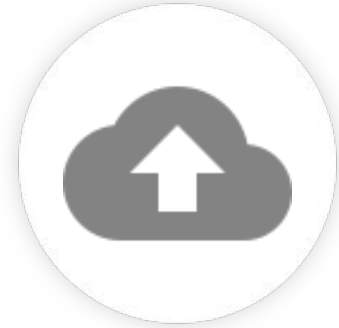https://dialogflow.com/docs/agents/AgentDesignChecklist.pdf

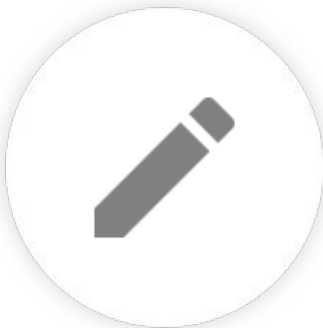# Your chatbot workflow
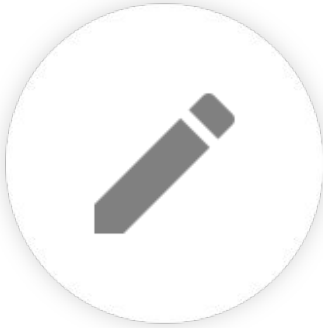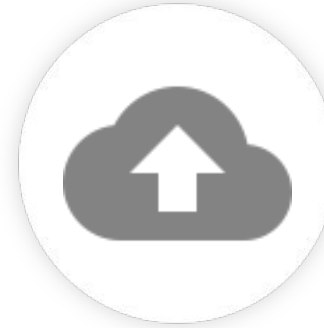
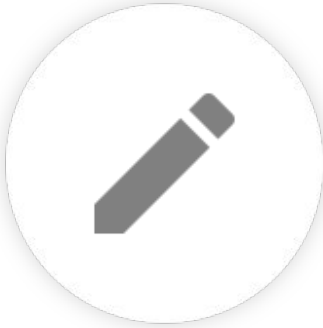**Design**
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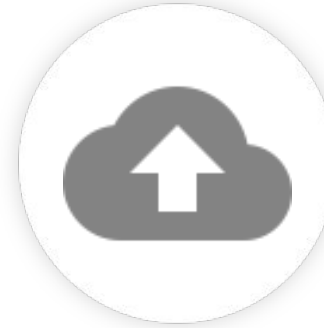**Deploy**
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Group Activity

cloud.google.com