Dialogflow | Machine Learning

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GDG Abomey-Calavi
Building a simple conversation
Build engaging conversations for the Google Assistant using Dialogflow

Learn how to use Dialogflow, Google’s tool for building amazing conversational experiences that help your users get things done.

It uses Google’s AI to make it easy to build apps that are fluent in natural language. You will learn how to use Dialogflow to build exciting conversational experiences for the Google Assistant.

This session will demonstrate how to take advantage of Dialogflow's powerful, easy-to-use features to build engaging conversational Actions for users on the Google Assistant for making enquiry about the sessions in today’s I/O 2018 extended.

My blog on Dialogflow for beginners
Intent matching helps you figure out what a user wants. Intent is created for anything a user might request, hence, for each intent you create an example of various ways a user might communicate during a conversation.

For instance, I can ask what time I/O 2018 extended is started today in 3 different ways and add the following responses:

“How late can I come in?”
“What are your hours?”
“When will I/O Extended start?”

“I/O Extended is is between 8am and 4:30pm on June the 2nd 2018"
“I/O has started”

Dialogflow : Terms and definitions
Entity extraction helps you extract things your users mention. When a user expresses their intent, they want your agent to act on specific pieces of information contained within the statement. In Dialogflow, built-in system entities are used to retrieve information such as time, date, names, places and number from a user’s intent.

You can also create your own developer entities by providing a list of words or phrases that fit a given concept.

So, when you create an intent and add example phrases, Dialogflow will recognise each entity that might be present. You can annotate any entity that Dialogflow did not recognize automatically. When a user says something that matches an entity, the value for any matching entity will automatically be extracted. This value can then be used in your backend code to give the user what they are asking for.
Dialog control helps you direct the flow of your conversation. There are two types of dialogs to consider when building voice interaction scenarios:

- **Linear dialogs** which the aim of which is to collect the information necessary to complete the required action. In the example above, we need to know if the participant wants to:
  - confirm attendance,
  - subscribe to a codelab session
  - give us feedback about I/O
Non-linear dialogs which may have several branches, depending on users’ answers. This takes twists and turns based on changes in context, user’s statement is interpreted in the context of what is said before.

This implies that when you have yes/no questions, the response taken into account is dependent on the question that comes before it. In the example above, we can introduce a non-linear dialog this way:

Confirm attendance, Output context:confirm-attendance
— Agent: Do you want to confirm attendance?
  attendance.yes, input context:confirm-attendance, output context: confirm-notification
  attendance.no, input context: confirm-attendance
— User: Yes
notification.yes, input context: confirm-notification
— Agent: Should I send you a list of codelabs sessions?
— User: Yes, please
notification.no, input context: confirm-notification

When the user answered the first question, our agent knows the user is confirming attendance, as a result it asks about sending a list of codelabs sessions.

When the user answered the second question, our agent knows the user is confirming to receive the list of codelabs sessions

To learn more visit: https://dialogflow.com/docs/getting-started/basics
An action is a third party experience for the Assistant

Step 1: login to Dialogflow on https://console.dialogflow.com/
Step 2: create an agent
Step 3: insert training phrases and responses on Welcome Intent
Step 4: Create a simple custom Intent
Step 5: Create a complex custom Intent
Step 6: Define parameters on complex custom Intent
Step 7: Creating entities
Step 8: Create a follow up Intent
Step 9: Integrate your app
Step 10: Try out your actions..
#AoG: login to Dialogflow then create a new agent
#AoG: Insert training phrases and responses on the Default welcome Intent

**Default Welcome Intent**

- **Text response**
  1. Welcome to Google I/O 2018 Extended at OPEN SI building, Cotonou
  2. Welcome to Google I/O 2018 Extended, how may I help you please?
  3. Enter a text response variant
#AoG : Create a simple custom Intent : Hours

**Dialogflow**

- **Hours**
  - When will I/O extended start?
  - What are your hours?
  - How late can I come in?

**Action and parameters**

**Responses**

**DEFAULT**

Text response:

I/O Extended is between 8am and 4:30pm on June the 2nd 2018
# AoG: Create a complex custom Intent: Confirm attendance

## Confirm attendance

- Can I confirm my attendance **today** at 4 p.m.
- Can I attend I/O Extended **on Saturday**?
- I would like to confirm my attendance for 4 p.m.
- I would like to confirm my attendance

**Action and parameters**

**Responses**

**Default**

- **Text response**
  - Okay, I have confirmed your attendance for Sdate at $time$. I will be expecting you!
# AoG: Create an Entity: AttendanceInfo

<table>
<thead>
<tr>
<th>AttendanceInfo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define synonyms</td>
</tr>
<tr>
<td>event</td>
</tr>
<tr>
<td>code</td>
</tr>
</tbody>
</table>

### Agent

**User Says**
confirm my attendance

**Agent**
What time do you want to come in?

**Contexts**
- confirm_attendance_dialog_context
- c31dd5a3-b5c0-476b-a26f-96b644ff2940

**Entity saved**
#AoG : Create a follow up Intent: Confirm Attendance - custom

Confirm attendance - custom

- Attendance
  - @Attendancenotice
  - $Attendance
  - You can attend...

Responses

- Default
  - confirm_attendance_dialog_context
  - c31d5a3b5c0-47b0-a2cf-98b444f2940
  - 4_d_dialog_context
  - confirm_attendance_dialog_params_time

Text response

Okay, your attendance for $Attendance is confirmed on #Confirmattendance followup_date at #Confirmattendance followup_time. See you then!
#AoG: Click on Google Assistant then click “Test”
#AoG : Try your Actions...

Welcome to Google I/O 2018 Extended at OPEN SI building, Cotonou

I want to confirm my attendance please

What time do you want to come in?

Suggested input
cancel
Just for fun...

- Hey Google what is my name?
- Ok Google, sing a song for me please
- Hey Google, send a message to Micrette on whatsapp (I am still learning bla bla bla...)
- Hey Google what is in the news?
- Okay Google, thank you!
Fulfilment in Dialogflow
Setting up Webhooks using Dialogflow

Your web service will receive a POST request from Dialogflow in the form of the response to a user query matched by intents with webhook enabled.

https://www.pubnub.com/blog/setting-up-webhooks-using-dialogflow-pubnub-functions/
Training a complex AI model
complex AI training phrases

https://dialogflow.com/docs/dialogs

https://chatbotslife.com/api-ai-lets-create-a-movie-chatbot-in-minutes-f68d8bb568f9
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