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How to name intents in DialogFlow (API.AI)

Note: As I have gained more experience, I have also changed my views on this topic somewhat. Please read my updated article on [naming conventions](#).

If you have been using API.AI for a while, and especially if you are designing somewhat complex chatbots, you would have seen the limitations of API.AI's user interface when you are seeing the Intents.

UI Limitations

These are the limitations I see in the current UI.

1. You cannot preview the Intent details by selecting an intent from the Intents list view
2. In the Intents list view, the follow up intents show up as collapsed and not expanded, by default
3. Expanding the follow up intents tree, and clicking into an intent, and then coming back, does not preserve the expanded/collapsed state of the intents

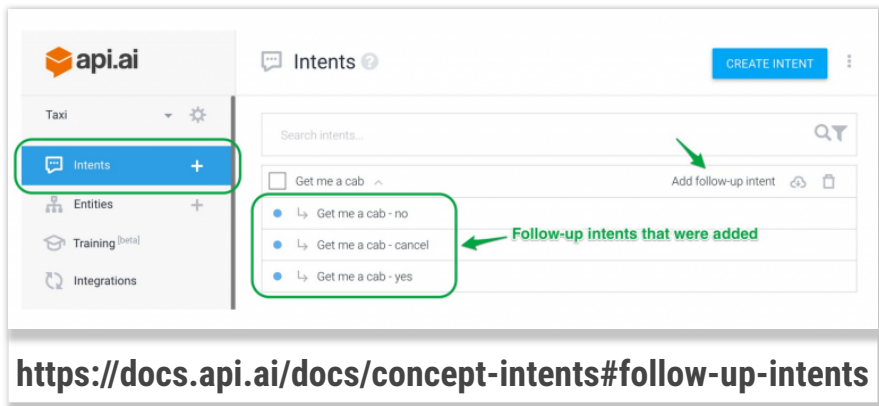
And they lead to the following problems:

1. One of the best reasons to use follow up intents is to create phone tree like behavior, and the current API.AI UX is not very intuitive for that use case.

2. The further you go down the tree, the harder it is to keep track of your intents

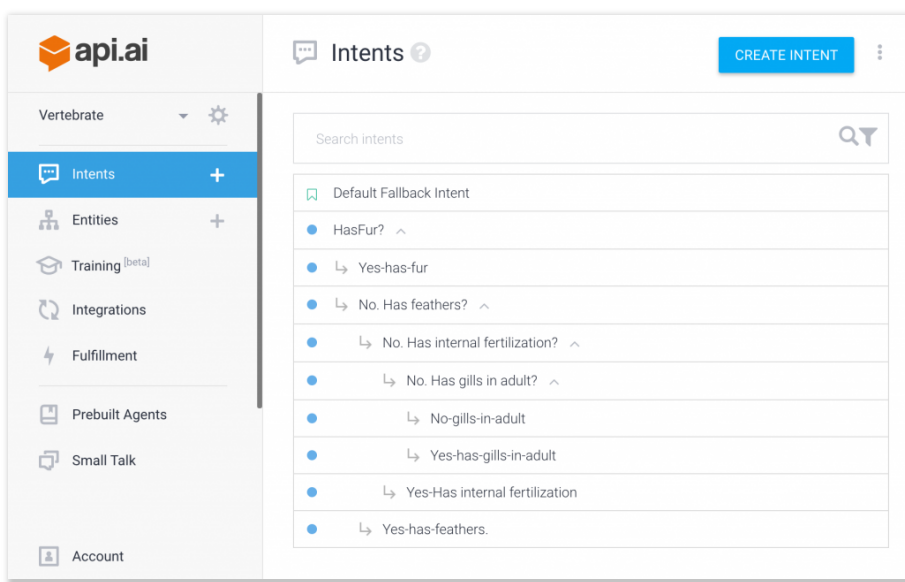
1 Phone trees

Take a look at the example given in the documentation for follow up intents:



Don't the intents make it obvious what the user is asking for? However, remember that in this example, the conversation is driven by the user making the first inquiry ("Get me a cab").

In the typical phone tree use case, it is the agent which makes the first inquiry (in response to user saying Hello, usually). Take a look at the intents for an example chatbot I made which can be used as a template for phone tree chatbots - the [dichotomous key chatbot](#). It is used to figure out what type a particular vertebrate is (mammal/bird/fish/reptile/amphibian) by asking a series of yes/no questions.



Here, when the user says Hello, the chatbot assumes it is simply going to start the phone tree (this is a simplified chatbot used as a teaching example, but the problem is a common one).

The first question it asks is if the vertebrate has fur? You can notice the first problem right away. The user says Hi, and the bot asks something (somewhat) unrelated. But when seen from the Intents list view, it just looks like it is the user who is asking the chatbot "HasFur?", which is more than mildly confusing.

2 Going down the tree

This is a really challenging one for collaborating on API.AI agents:

When you click an intent which is a few layers down the tree, you cannot simultaneously see where you are on the tree. This is really bad for the user experience.

There are probably a couple of things that API.AI can do. They could have a way to preview the Intent while remaining in the Intents list view. Another option is to add a free form description text field just under the intent name in the intent details view, where users can add descriptions of how you reached that Intent from the top of the tree.

My suggestion

So I modified my dichotomous tree chatbot intents to look like this:

🔖	Default Fallback Intent
●	Hi: HasFur? ^
●	↳ Hi: Has Fur? > Yes:Mammal
●	↳ Hi: HasFur? > No: Has feathers? ^
●	↳ Hi: HasFur? > No: Has feathers? > No: Has internal fertilization? ^
●	↳ Hi: HasFur? > No: Has feathers? > No: Has internal fertilization? > No: Has gills in adult? ^
●	↳ Hi: HasFur? > No: Has feathers? > No: Internal fertilization? > No: Gills in adult?>No:amphibian
●	↳ Hi: HasFur? > No: Has feathers? > No: Internal fertilization? > No: Gills in adult? > Yes: Fish
●	↳ Hi: HasFur? > No: Has feathers? > No: Has internal fertilization? > Yes: Reptile
●	↳ Hi: HasFur? > No: Has feathers? > Yes: Bird

If you are familiar with the concept of breadcrumbs in web development, you can see straightaway that I am using the same convention with an additional twist.

So it uses the following format for naming intents:

Q1:A1>Q2:A2>Q3:A3 and so on

where Q1,Q2, Q3.. = User message (or query), A1, A2, A3... = bot response (or answer)

Does it help?

When you are looking at the intent detail view, it is helpful to see the breadcrumbs (although API.AI does chop off the right most and doesn't show the name in a multiline field)

Limitations

There is an existing limitation on the number of characters allowed in the name of an intent (100). So you need to keep it as terse as possible. Just pretend you are composing a tweet. 😊

Overall, I don't think there is a "best way" to handle this problem. Some of this might simply be due to the cognitive powers of our own minds. I have heard this being described as "holding the stack in your head" in programming circles, where it means a programmer can look at some piece of code and already visualize all the interactions it has with adjoining (but not visible in that screen) code.

However, one thing is certain. **Spending extra time thinking about your intent names can be a big boost to your API.AI development productivity.**

Article by aravindmc / API.AI / [Leave a Comment](#)



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