

The background features a vibrant, multi-colored gradient. It starts with a dark blue on the left, transitions through purple and magenta, and then into bright orange and yellow towards the right. A diagonal line separates the darker blue/purple area from the lighter orange/yellow area.

AWS  
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**AIM344-R**

# Crafting a conversational platform strategy

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# Agenda

- Conversational user interfaces
- A working example: A business intelligence chatbot
- Discussion: Implementing a conversational interface
- Discussion: Adapting the business intelligence chatbot to your datasets
- Discussion: Adding new types of analytics

# Conversational user interfaces

What do we want?

When do we want it?

Natural language processing!

When do we want what?

# Conversational user interfaces ...

... enable verbal interactions between a person and some form of artificial intelligence, using natural language

... can use spoken word or text inputs

... mimic human conversations

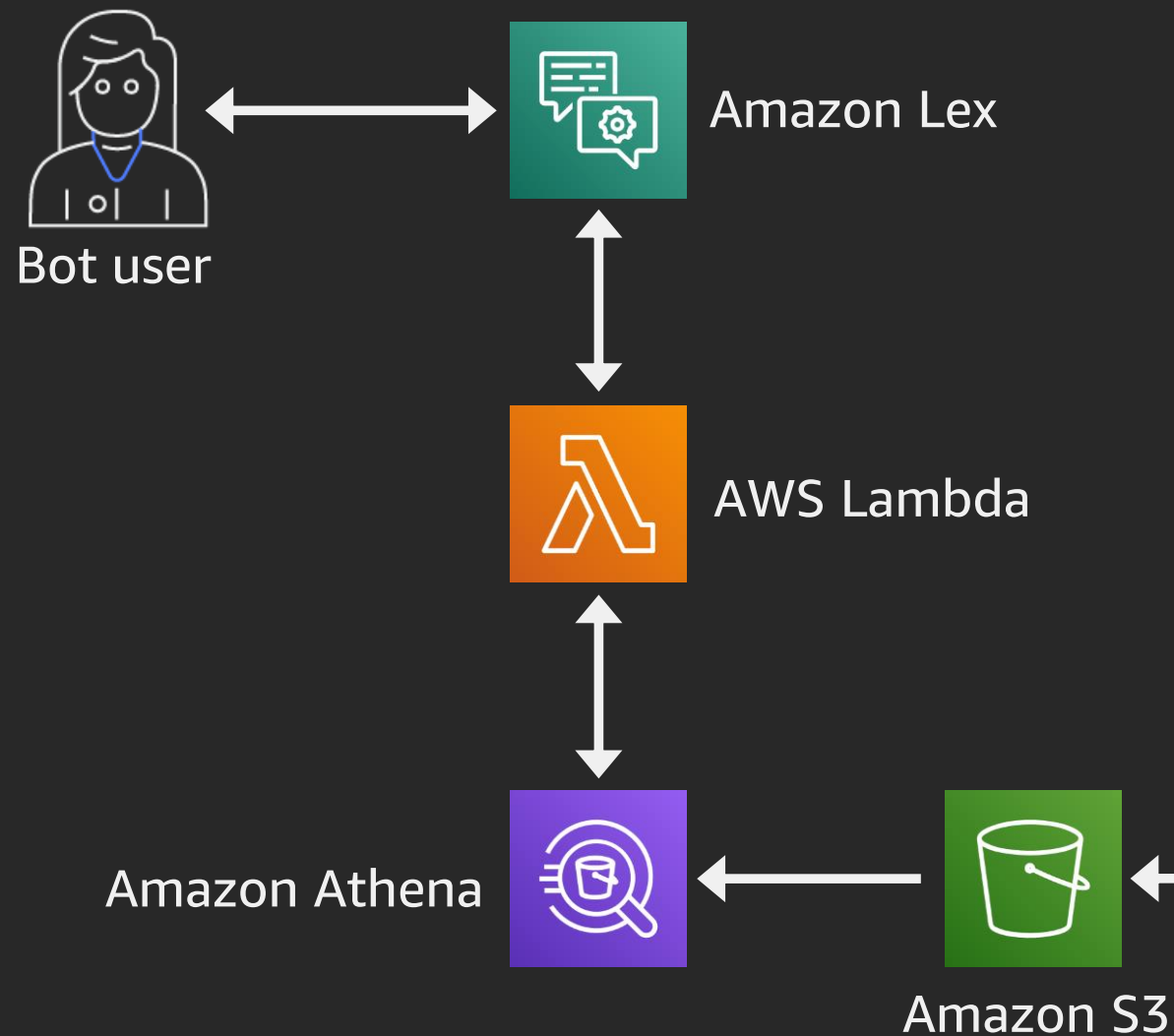
... help users accomplish a task

... keep track of the context of the conversation

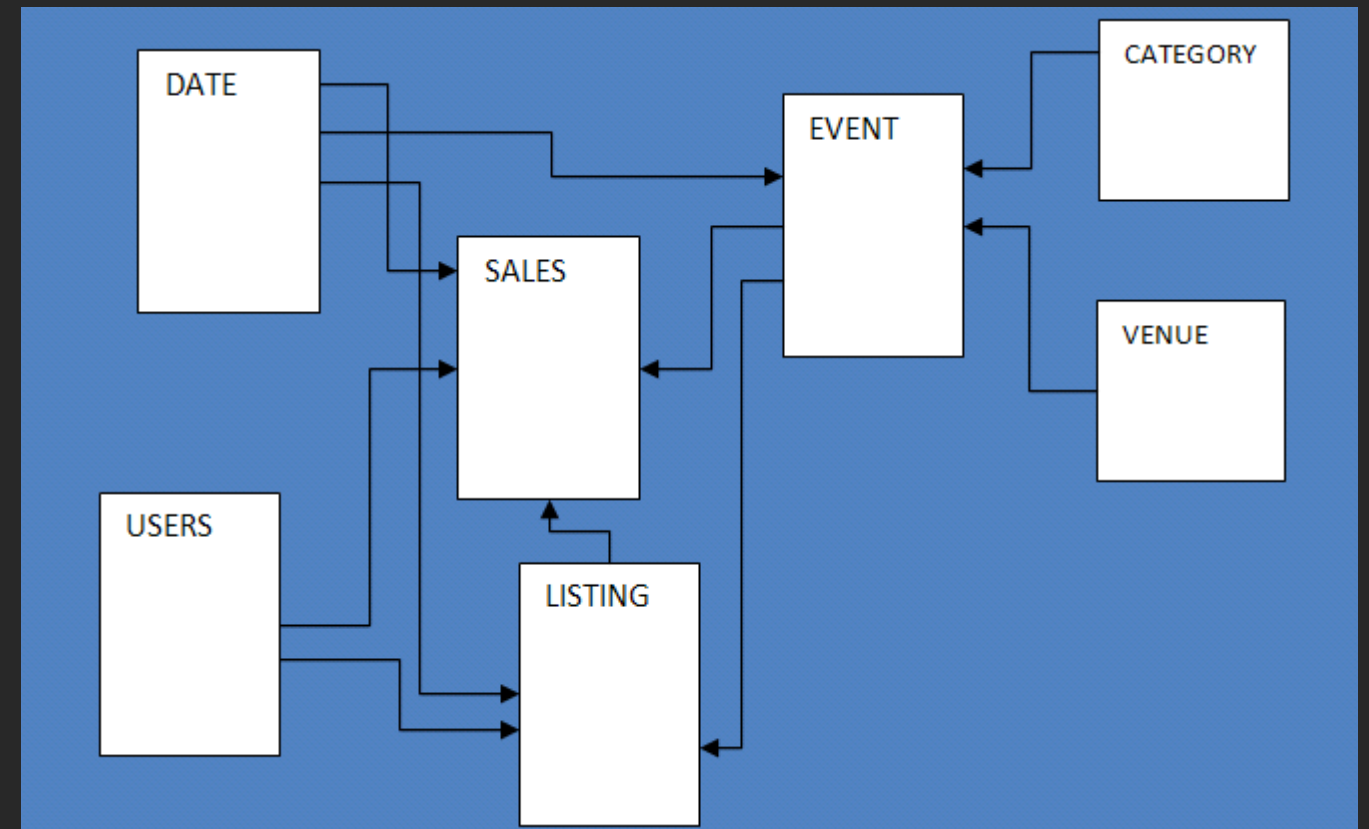
... are thought of as “voice assistants” or “bots”

# BI bot: A conversational business intelligence bot

# BI bot architecture



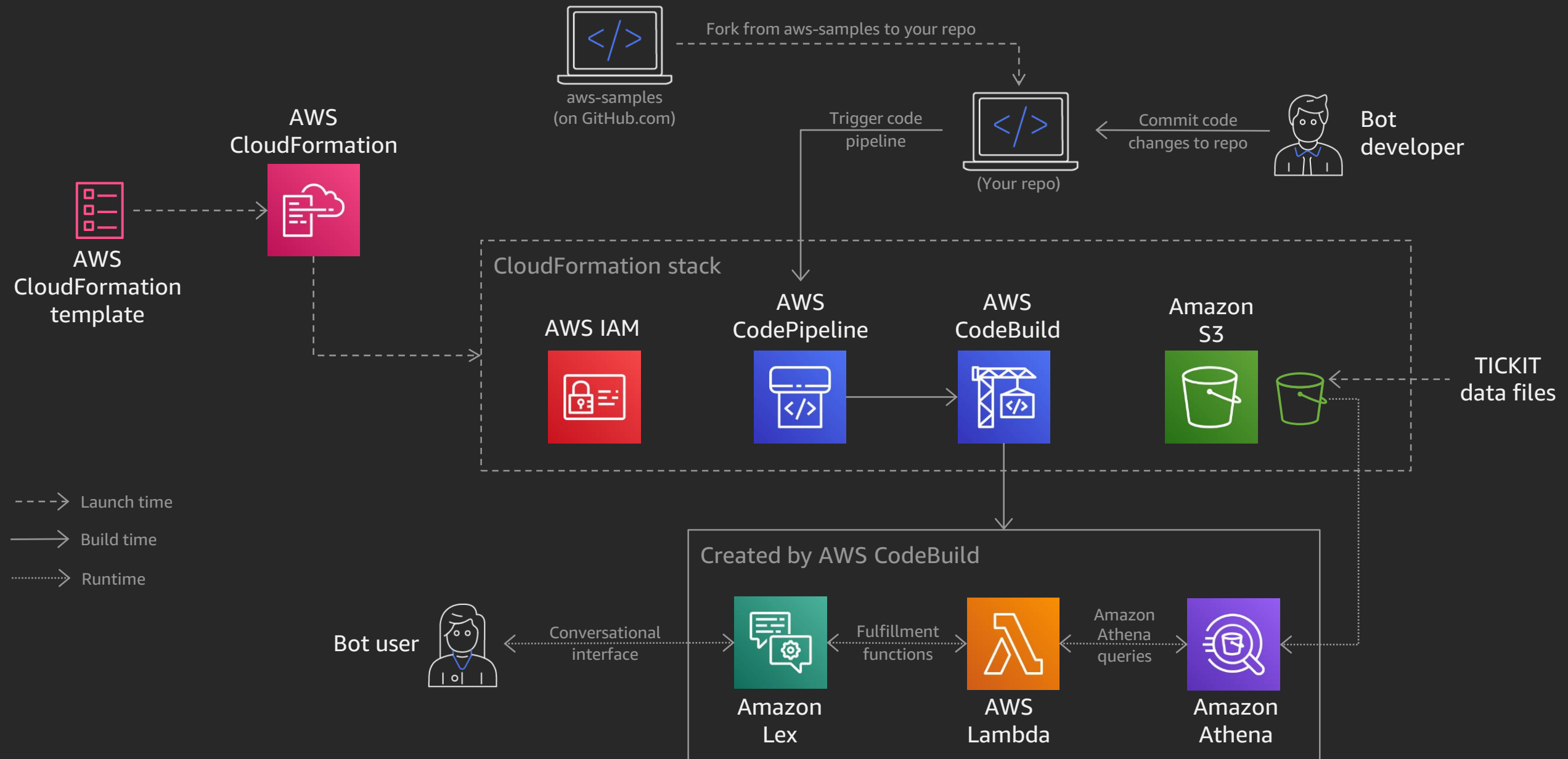
“TICKIT” database from the [Amazon Redshift tutorial](#)



CSV data files in an Amazon S3 bucket

For more details, see the AWS Machine Learning blog post at <https://amzn.to/2JVT9XV>

# BI bot pipeline



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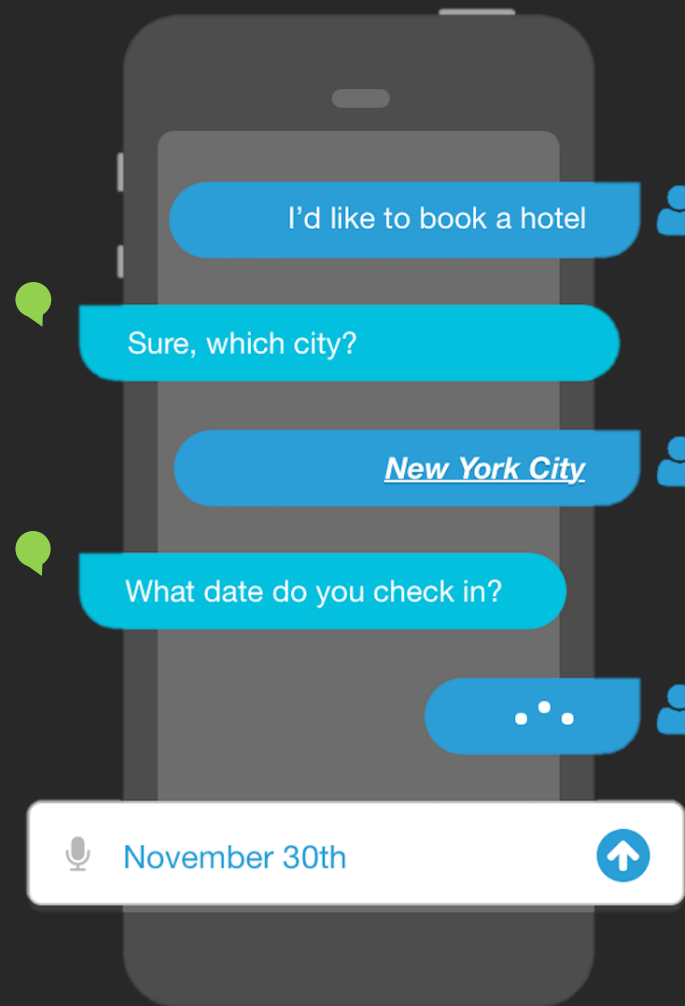


# Demo

# Building a conversational interface

# Amazon Lex

## BookHotel



### Intents

An intent performs an action in response to natural language user input

### Utterances

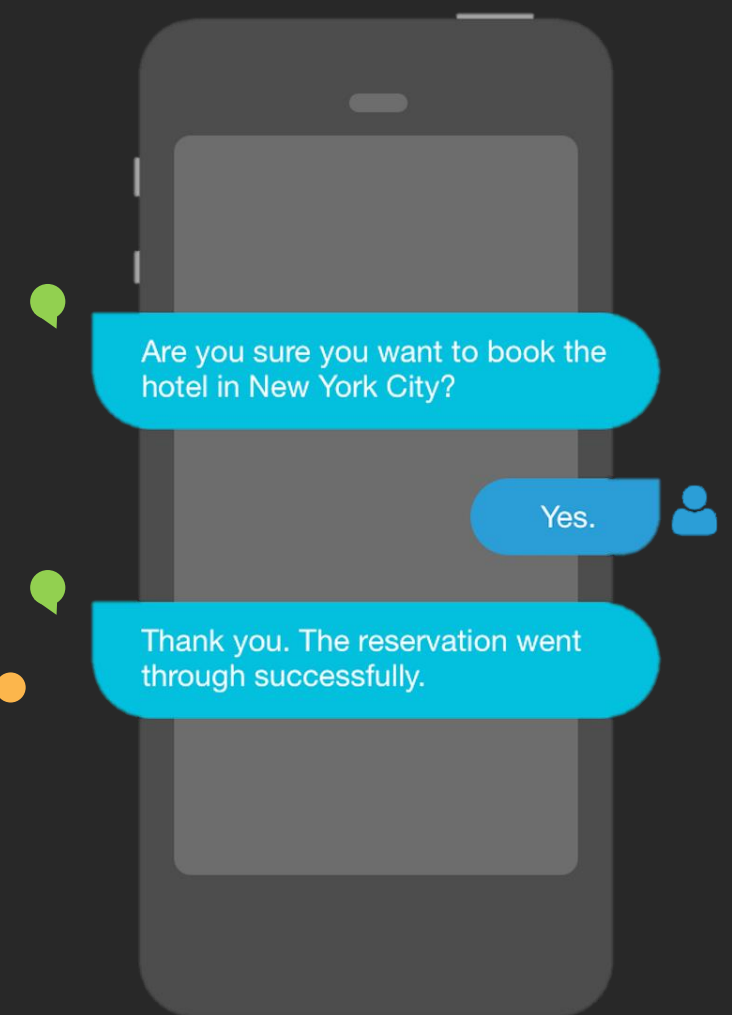
Spoken or typed phrases that invoke your intent

### Slots

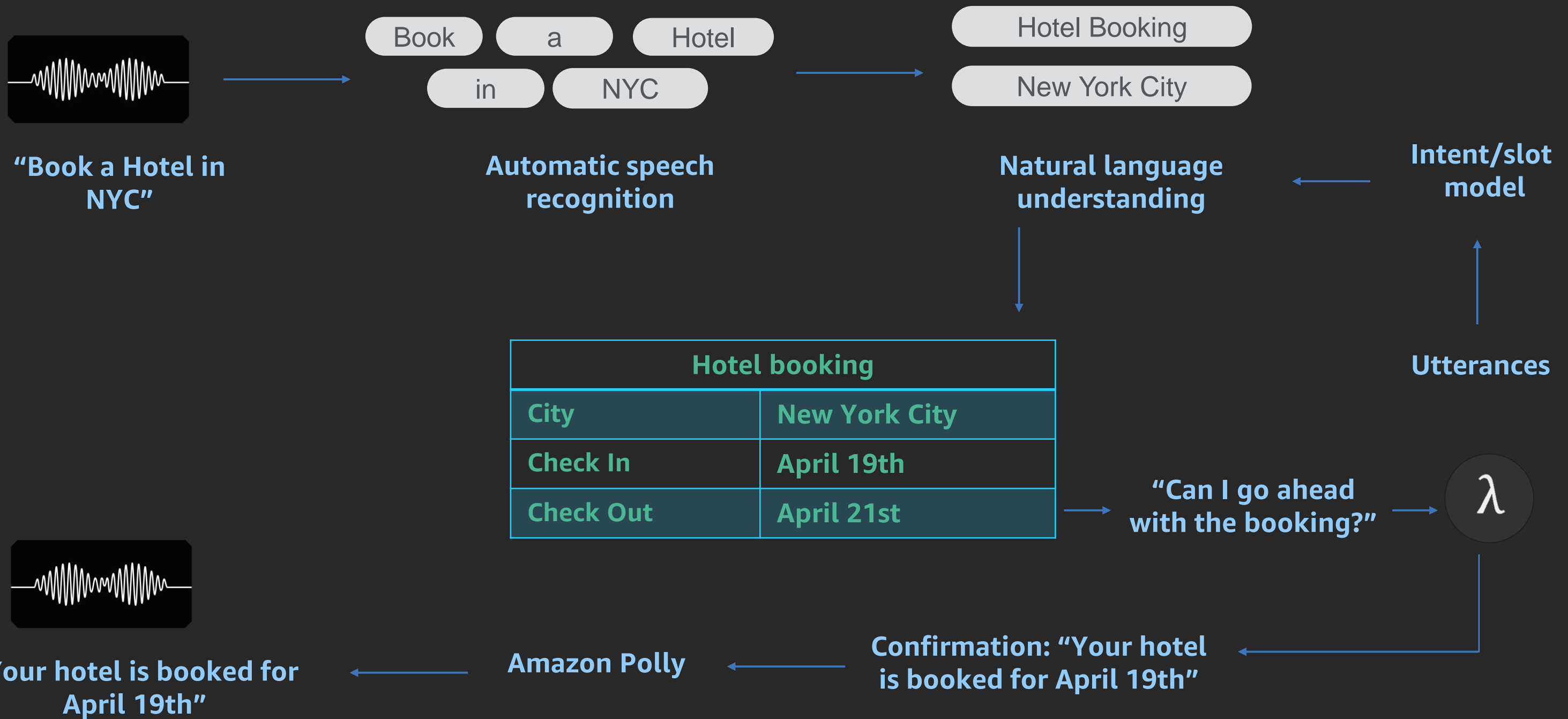
Slots are input data required to fulfill the intent

### Fulfillment

Fulfillment mechanism for your intent



# "Book a hotel"



# Building a conversational interface

Domain-specific

Structuring intents

Defining sample utterances

Leveraging the Amazon Lex  
NLU engine

Using synonyms in slots

Multi-turn conversations

- Fulfillment strategy

Maintaining conversational context

- Sharing context across intents
- Remembering slots (Count, Top, Compare)
- Remembering the last intent (Switch)
- Forgetting slots (Reset)

Adding personality

# Adapting the bot to your dataset

# Adapting the bot to your dataset

Do the existing intents make sense for your data?

- Count, Top, Compare, Switch, and Reset

Identify your facts/dimensions

Map your dimensions to slots and slot types

Define your dimensions

- See `bibot_config.py`

Adapt the utterances to your slots and dimensions

Determine how you will access your dataset

Rewrite the `SELECT` statements

- Count, Top, and Compare intent handlers

Implement user exits as necessary

- `bibot_userexits.py`

Implement additional intents

# Adding new types of analytics



# Adding new types of analytics

The current implementation has some basic “analytics”

- Count, Top, Compare, Switch, and Reset

We can add new types of analytics as needed

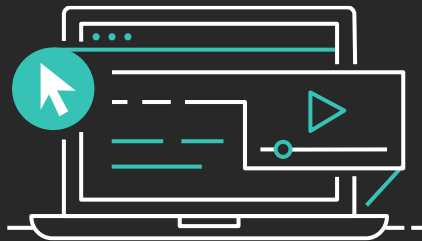
- Example: “suggest a {dimension} for {event}, {venue}, {city}...”
- As in our initial use case, “suggest an event at Venetian hotel in December” or “suggest a venue for Spamalot in California”

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# Thank you!

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