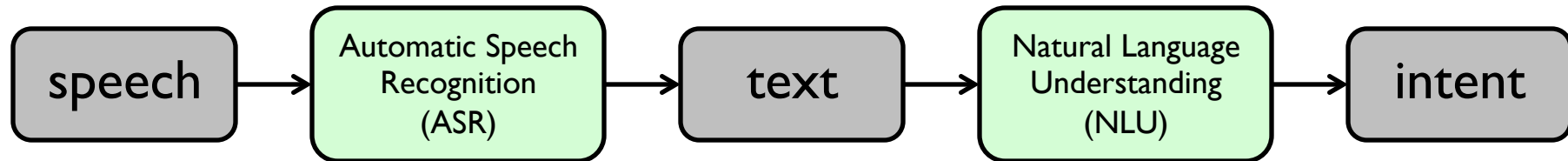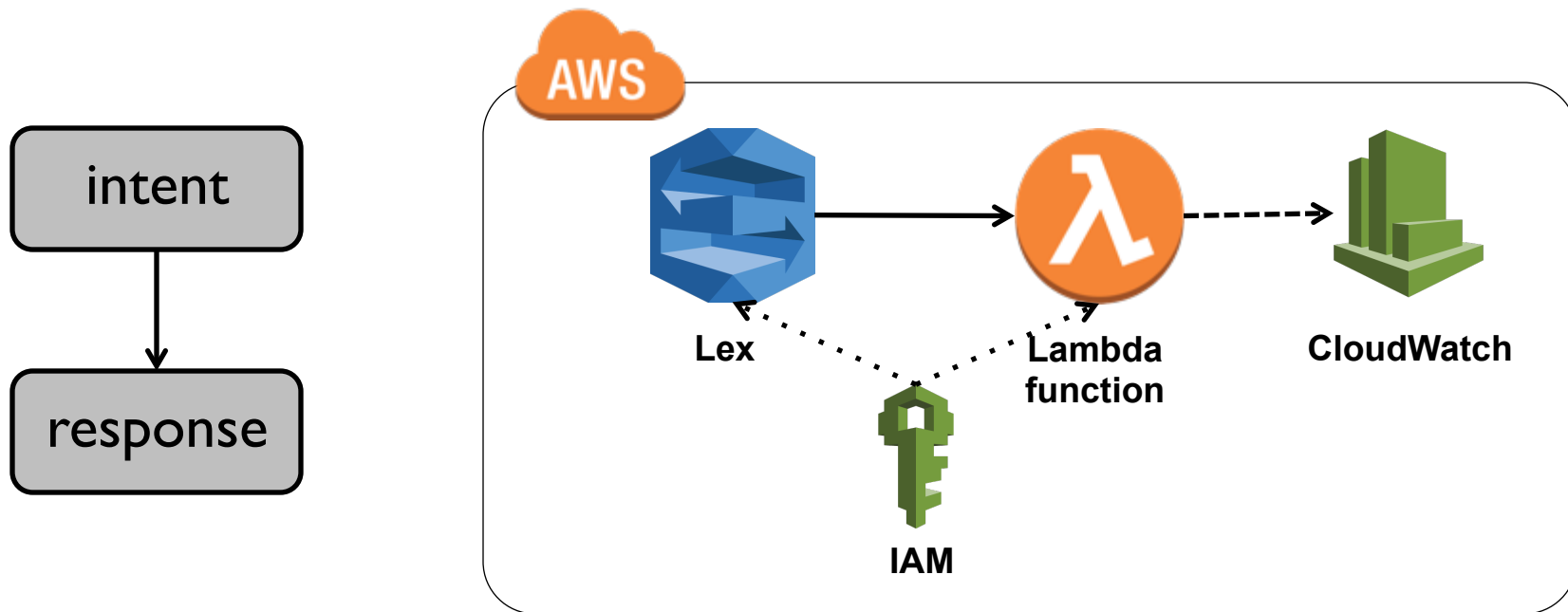# INTRODUCTION

- Overview of Class –
  - Build a basic understanding of Amazon offerings in chatbots, including Alexa, Lex, and Polly.
  - Review a working chatbot built on Lex.
  - Walk through the steps to get started building a 'Hello World' chatbot with Lex.
  - Will pause for Q&A as well as one short break.
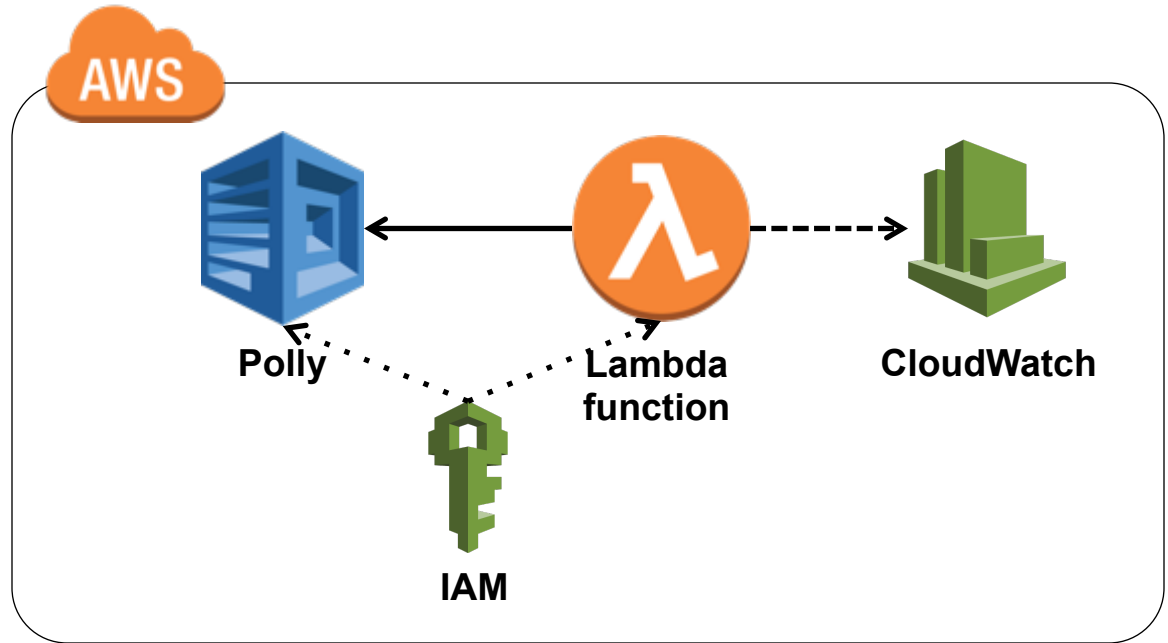- Sample Source Code –
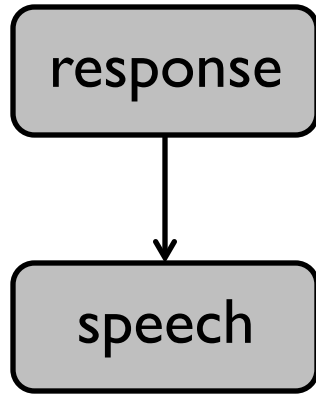 - https://github.com/terrenjpeterson/lex-hello-world

USING AWS DEEP LEARNING ENGINE

```
speech → Automatic Speech
         Recognition
         (ASR) → text → Natural Language
                        Understanding
                        (NLU) → intent
```

BUILD LOGIC TO TRANSLATE INTENT

POLLY CONVERTS TEXT BACK TO SPEECH

response

speech

AWS

Polly

Lambda function

CloudWatch

IAM

INTERFACE CONTRACT BETWEEN LEX AND LAMBDA IS STANDARD
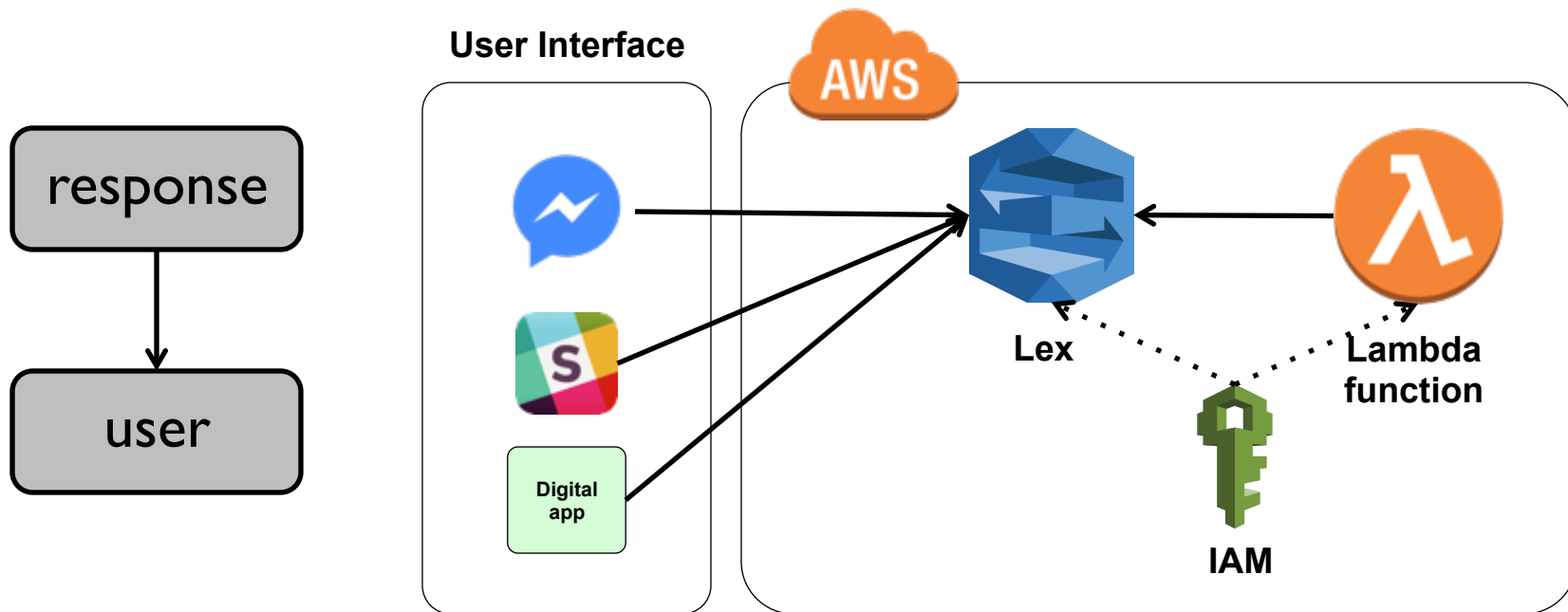
Simple Request

```json
{
    "messageVersion": "1.0",
    "invocationSource": "FulfillmentCodeHook",
    "userId": "xxxx",
    "sessionAttributes": {},
    "bot": {
        "name": "HelloWorld",
        "alias": null,
        "version": "$LATEST"
    },
    "outputDialogMode": "Text",
    "currentIntent": {
        "name": "Welcome",
        "slots": {},
        "slotDetails": {},
        "confirmationStatus": "None"
    },
    "inputTranscript": "how are you doing?"
}
```

Simple Response

```json
{
  "sessionAttributes": {},
  "dialogAction": {
    "type": "Close",
    "fulfillmentState": "Fulfilled",
    "message": {
      "contentType": "PlainText",
      "content": "Hello. I am a chatbot that can assist you."
    }
  }
}
```

INTEGRATE INTO ANY DIGITAL APP

User Interface

AWS

response

user

Lex

Lambda function

IAM

Digital app

O'REILLY

NLU INTERPRETS USER RESPONSES

Sample Utterances

Custom Slots

O'REILLY

LEX PROVIDES THE FRAMEWORK FOR LARGE BOTS

Requests

NLU

Intent #1
Intent #2
Intent #3
Intent #4
Intent #5

Function A
Function B
Function C
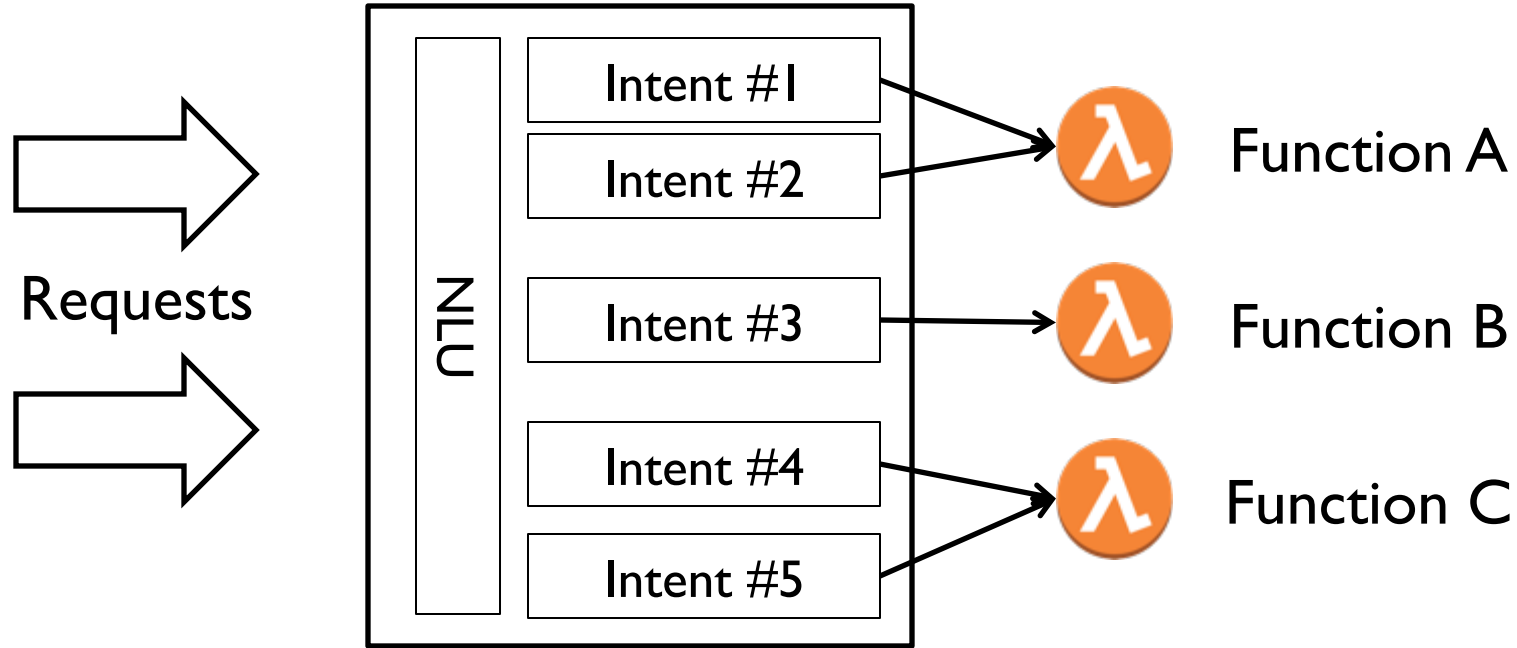
DEMONSTRATION – COMPONENT WALKTHROUGH IN AWS

- No action required by students.
- Screenshare from Instructor.

Q&A

BREAK

GETTING STARTED WITH POLLY

- Log into AWS account.
- Bring up Polly service.

GETTING STARTED WITH LEX

- Log into AWS account.
- Bring up Lex service.
- Follow instructions to create basic intents.

CREATE AN AWS LAMBDA FUNCTION

- Log into AWS account.
- Build Lambda function from Lex template.
- Copy code from 'Hello World' github repo.

Q&A

BREAK

GETTING STARTED WITH LEX

- Log into your AWS account now.
- Return to the Lex service that was created.
- Test by integrating the Lex bot with the Lambda function.

CLOSING Q&A AND DISCUSSION

- What comes next?
- Building a runtime version that can be integrated with a user interface.

THANKS & HOW TO CONTACT

Medium

@Terren_in_VA

twitter

terrenjpeterson@gmail.com

YouTube

https://www.youtube.com/user/terrenjpeterson

hackster.io

https://www.hackster.io/terren

O'Reilly: "Introduction to Amazon Alexa Skill Development" & "Amazon Alexa – Beyond the Basics"

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