



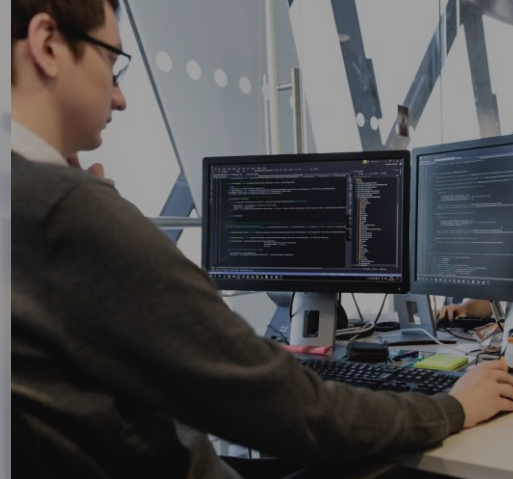
AI-100T01A

**Module 06: Integrate
Cognitive Services
with Bots and Agents**



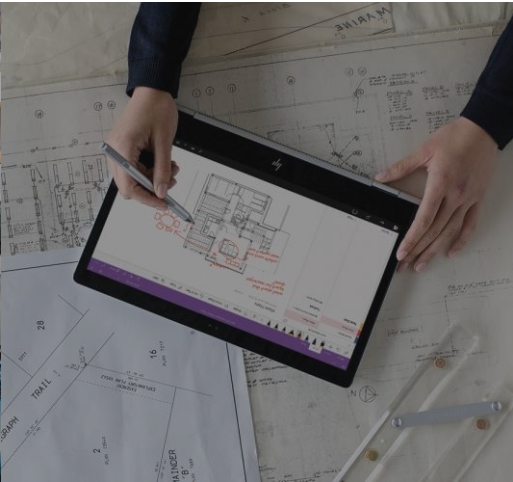
Agenda

- Understanding Cognitive Services for Bot Interactions
- Sentiment Analysis
- Language Detection
- Integrate Computer Vision



Lesson 01

Understanding Cognitive Services for Bot Interactions



Lesson Objectives

- L01 – Introduction
- L02 – Bots and Text
- L03 – Bots and Speech
- L04 – Bots and Images

Introduction

Creating a great user experience with bots or agents

- goes a long way to increasing user satisfaction and in a customer support scenario
- can help with developing a good rapport with your customers.

As the course has taught, in the context of bots, the underlying intelligence, or AI, for your bot, is a primary responsibility of the bot creator.

Bots and Text

Having a user type text into a bot is one way that a bot interacts with users

- Sentiment Analysis - text analytics APIs can help your bot determine sentiment in a conversation with the user.
- Language Detection - use language detection and then translation services to communicate with the user in their native language.
- Language Understanding - integrate your bot with LUIS

Bots and Speech

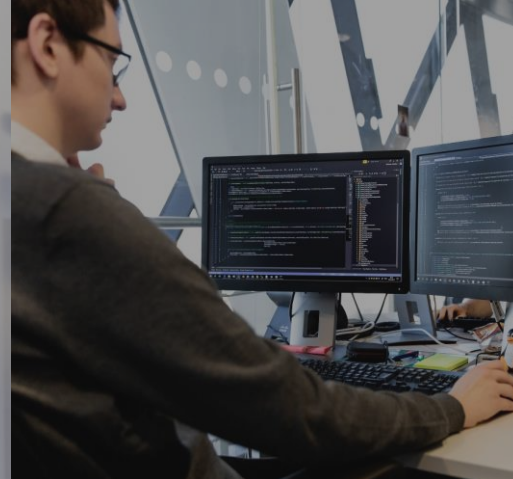
Utilizing speech services with a bot are not covered in this course but it's good to know that the option is there. One scenario uses the Azure speech service and your application to integrate with a bot in the following manner:

- accept the spoken audio
- convert that audio to text
- send the text to the bot for processing
- get the returned text from the bot
- convert it to speech using the speech services
- have the app speak it back to the user

Bots and Images

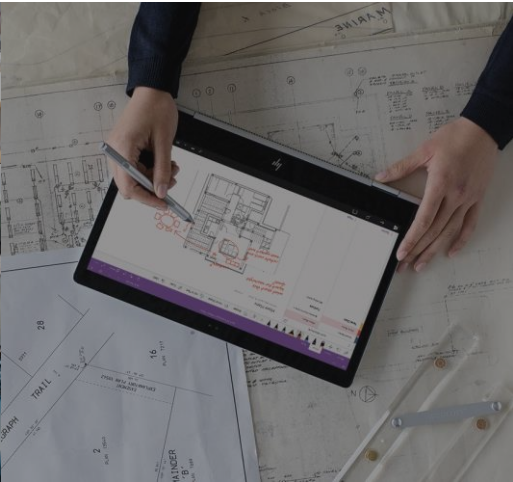
An insurance provider might decide to implement a "claims bot" that integrates with the Azure Computer Vision services.

- User interacts with the bot by snapping a picture of the scene and the damage to the vehicle.
- The bot sends the image to the computer vision service which could utilize image comparisons or even custom vision models to determine a cost estimate and perhaps a recommended repair center.
- Perhaps even determine if the damage is significant enough that they should dispatch a tow truck to recover the vehicle and have it delivered to the appropriate repair shop.



Lesson 02

Sentiment for Bots with Text Analytics



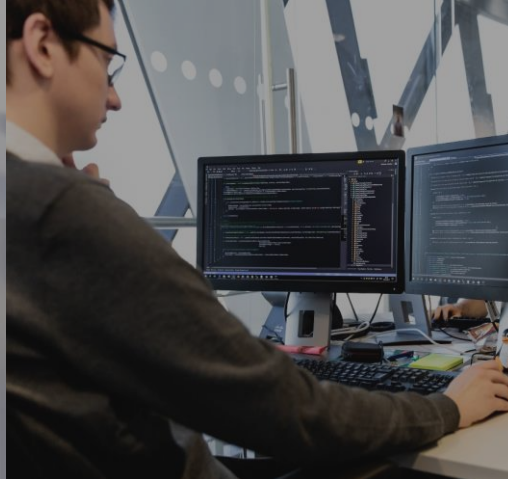
Lesson Objectives

- L01 – Sentiment Analysis
- L02- Guided Walkthrough – Test Sentiment Analysis

Sentiment Analysis Review

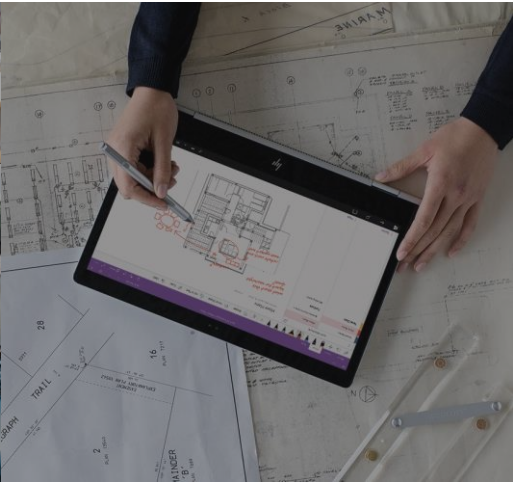
- This API returns a sentiment score between 0 and 1 for each document, where 1 is the most positive.
- The analysis models are pretrained using an extensive body of text and natural language technologies from Microsoft.
- For selected languages, the API can analyze and score any raw text that you provide, directly returning results to the calling application.

Walkthrough – Test Sentiment Analysis



Lesson 03

Detecting Language in a Bot



Lesson Objectives

- L01 – Introducing Language Detection
- L02 – Guided Walkthrough, Test Language Detection

Introducing Language Detection

- The Language Detection API evaluates text input and for each document and returns language identifiers with a score indicating the strength of the analysis. Text Analytics recognizes up to 120 languages.

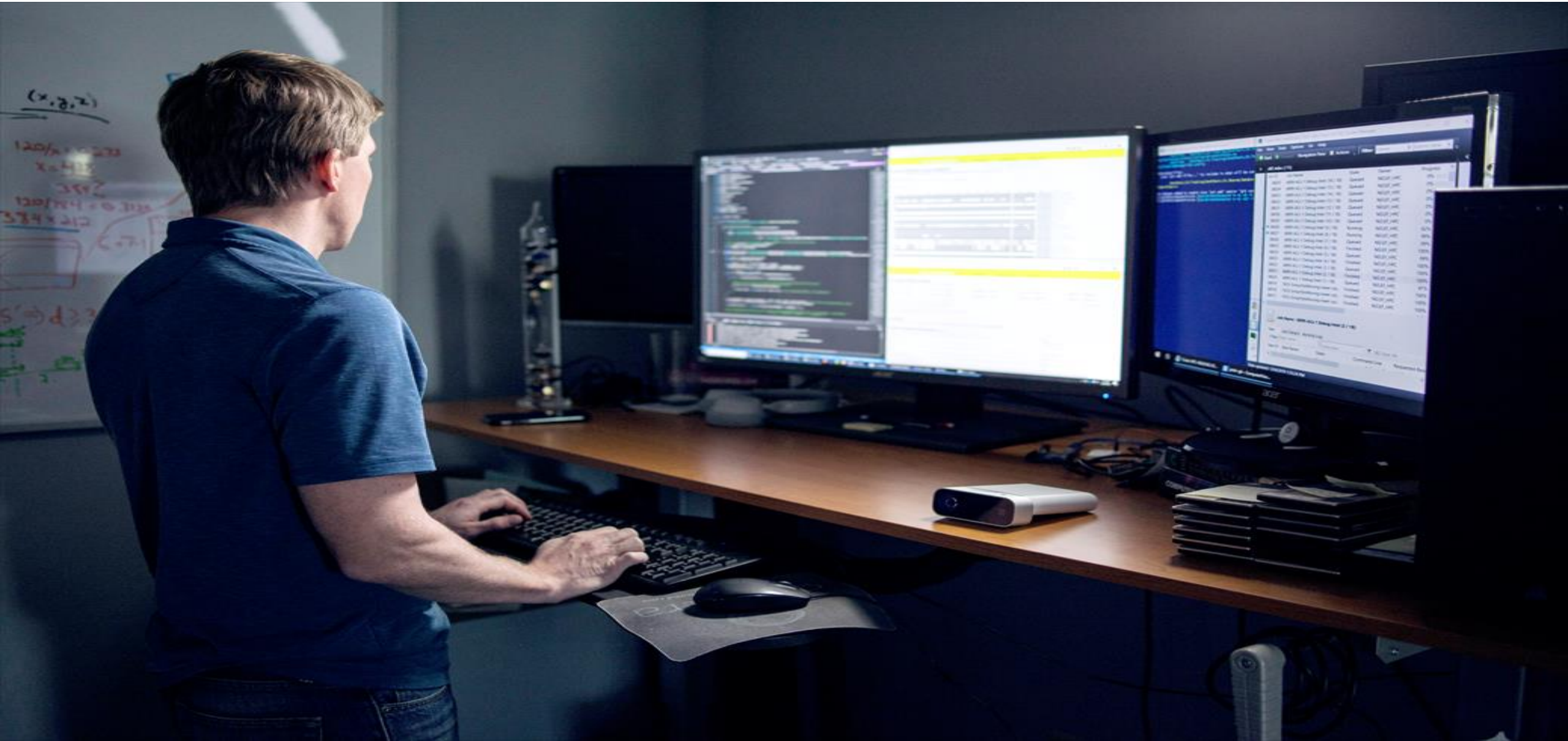
Example Request and Response

```
{
  "documents": [
    {
      "id": "1",
      "text": "This document is in English."
    },
    {
      "id": "2",
      "text": "Este documento está en inglés."
    },
    {
      "id": "3",
      "text": "Ce document est en anglais."
    },
    ...
  ]
}
```

```
{
  "documents": [
    {
      "id": "1",
      "detectedLanguages": [
        {
          "name": "English",
          "iso6391Name": "en",
          "score": 1
        }
      ]
    },
    {
      "id": "2",
      "detectedLanguages": [
        {
          "name": "Spanish",
          "iso6391Name": "es",
          "score": 1
        }
      ]
    },
    {
      "id": "3",
      "detectedLanguages": [
        {
          "name": "French",
          "iso6391Name": "fr",
          "score": 1
        }
      ]
    },
    ...
  ]
}
```


Walkthrough – Test Language Detection

Lab 8: Language Detection in a Bot



Lab Objectives

- Implement Language Detection with a Bot

Lab Scenario

- Users may interact with your bot in their native language. Your bot should provide for this scenario and react by either changing the language used for responses or simply indicate that their entered language is not supported. Either way, you will need to determine which language the user is entering initially.

Module Summary >

In this module, you have learned about:

- Cognitive Services integration with Bots
- Sentiment Analysis
- Testing Language Detection

Next steps >

After the course, consider exploring how to use some of the other cognitive services in a Bot. Some ideas would be to look at using speech translation, which is a powerful way to interact with users.

