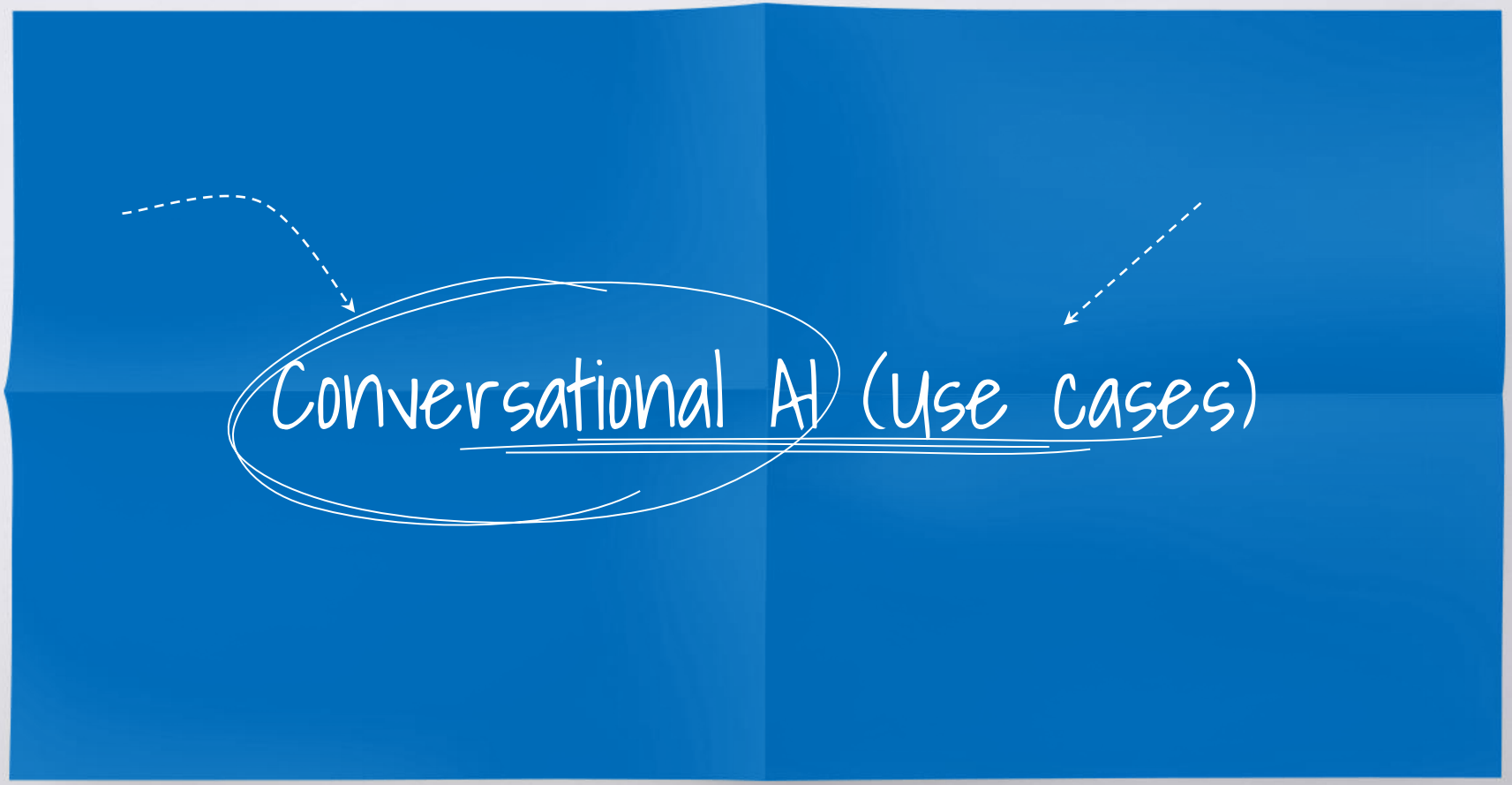
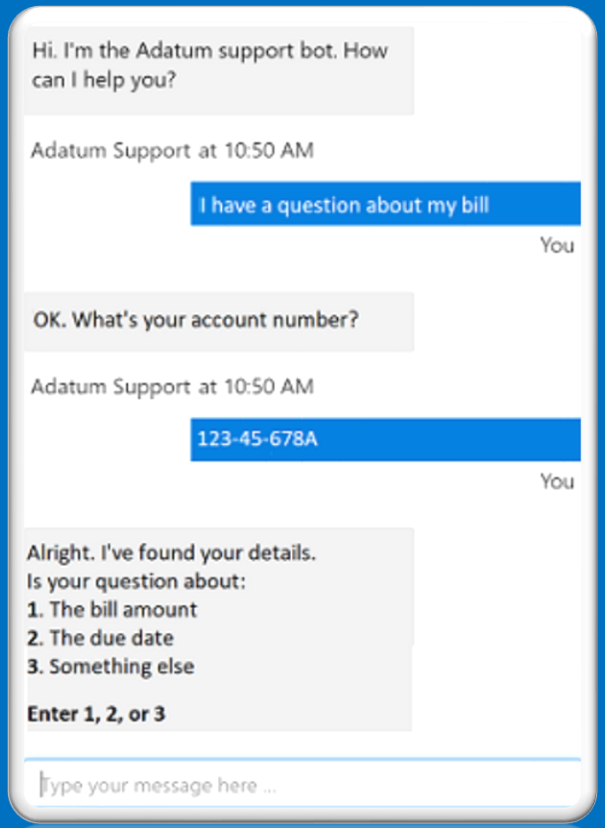

Conversational AI (Use Cases)

Conversational AI



- The capability of a AI model (also called “agent” or “Bot”) to participate in conversation.
- These Bots provide a first-line of automated support to the customers.
- Bots can be deployed over many channels, including email, social media platforms, and even voice calls.
- Use cases
  - Webchat Bots
  - Personal digital assistant
  - Telephone voice menus
- Azure service used for Conversational AI:
  - QnA Maker
  - Azure Bot Service

Source: Microsoft

Webchat bot

- A chatbot can utilize knowledge bases to conduct a real-time conversation with humans using text, speech, and other available communication channels.
- Webchat bot is a specific type of chatbot that communicates via a web channel and is typically integrated with web-enabled applications.
- Example: A travel site to interact with online customers and help with the real-time booking of their trips.
- Example:

Personal digital assistant

- A personal digital assistant is a type of bot that has knowledge of a user's needs and preferences, and the ability to act on those needs and preferences.
- A personal digital assistant is able to schedule meetings and appointments on behalf of a user as it is able to view the calendar and respond with available time slots to emails containing a request for a meeting.
- Helps you being able to talk to your phone, your navigator, your car and ask a simple questions.
- Example: Scheduling meeting and appointments

Telephone voice menus

- Telephone voice menus use speech recognition and synthesis and can reduce the workload on human operators by providing generic instructions to customers, automatically transfering calls to the relevant teams, or managing the waiting queue, all of which helps to support business operations even during non-working hours and holidays.
- Example: Capturing feedback after an interaction with a call center

Knowledge Check

Question: Find the right conversational AI solution to a scenario

Scenario
An interactive component on a banking site that understands a client's requirements and provides general answers.
An intelligent application that checks your calendar to automatically accept e-meeting invitations.
An interactive response system that transfers calls to required employee numbers.

Question: An AI solution on your smartphone can understand your voice command and send text messages while you drive a car. Which conversational AI is this an example of?

- Telephone voice menu
- Personal digital assistant
- Webchat bot

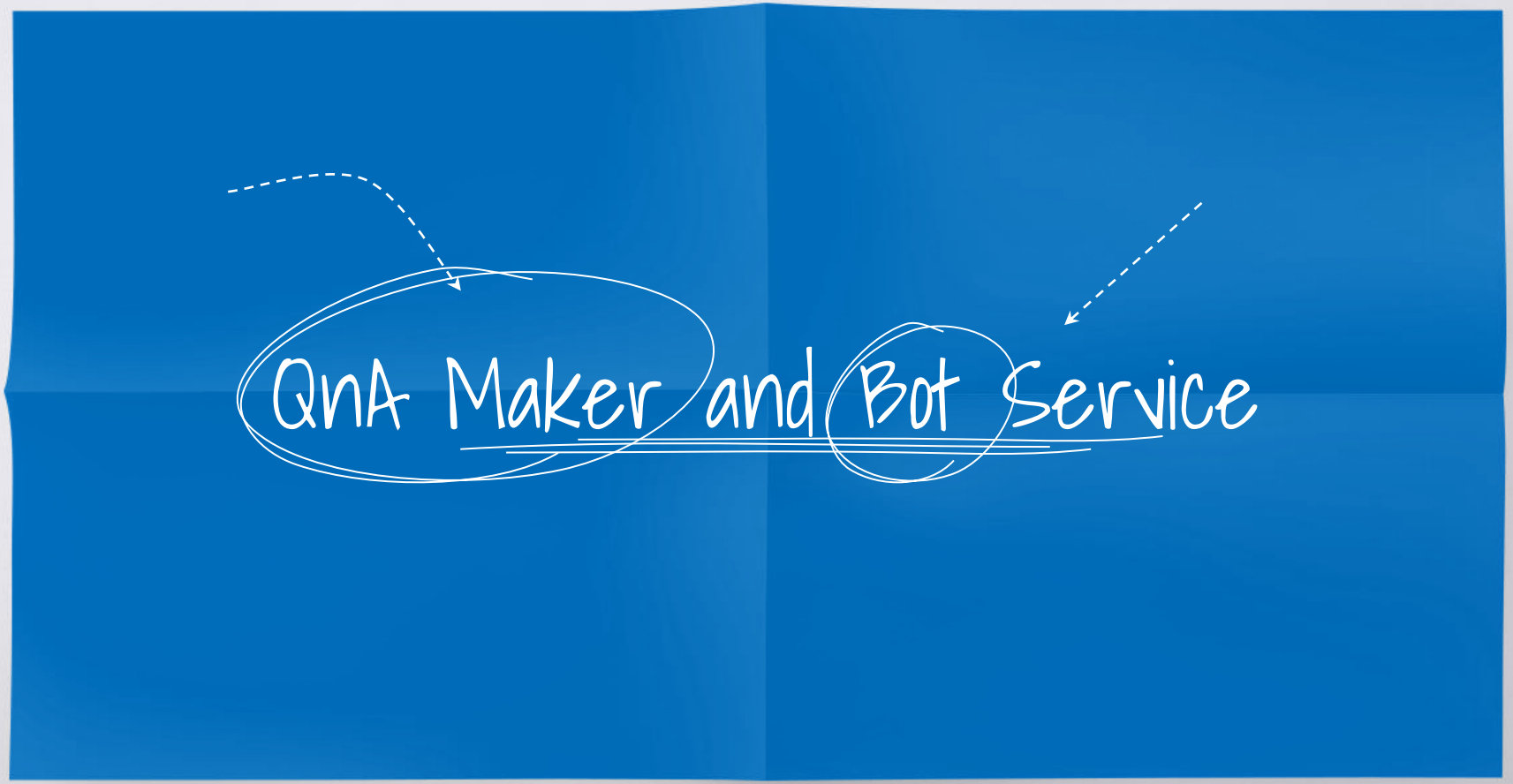
Knowledge Check

Question: Find the right conversational AI solution to a scenario

Scenario	Conversational AI Solution
An interactive component on a banking site that understands a client's requirements and provides general answers.	Webchat bot
An intelligent application that checks your calendar to automatically accept e-meeting invitations.	Personal digital assistant (PDA)
An interactive response system that transfers calls to required employee numbers.	Telephone voice menu

Question: An AI solution on your smartphone can understand your voice command and send text messages while you drive a car. Which conversational AI is this an example of?

- Telephone voice menu
- Personal digital assistant
- Webchat bot


QnA Maker and Bot Service

QnA Maker Service

- QnA Maker service create a natural conversational layer over your knowledge base. It is used to find the most appropriate answer for any input from your custom knowledge base (KB) of information.
- Type of data that you can import – FAQ's, product manuals, spreadsheets or a web page.
- When to use QnA Maker? - When you have static information or when you want to provide the same answer to a request, question, or command
- The service provides a dedicated QnA Maker portal web-based interface that you can use to import, create, train, publish, and manage knowledge bases.

Resources created with QnA Maker Service

- **QnA Maker** Is used for authoring and query prediction.
- It provides access to the authoring and publishing APIs of the QnA Maker service.
- It also uses natural language processing (NLP) capabilities to learn about specifics of questions in the knowledge base and predict at runtime which QnA pair matches as the best answer.

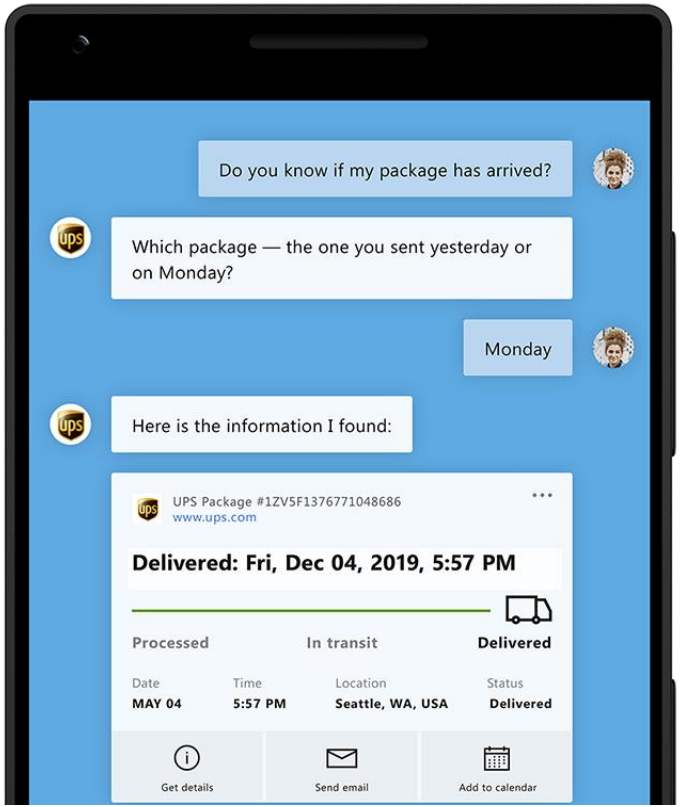
- **Cognitive Search** is used for data storage and search.
- Cognitive Search stores the QnA pairs and maintains indexes for all published knowledge bases.
- When a new query is raised by QnA Maker resource, Cognitive Service handles its execution to provide rich search experience.

- **App Service** enables access to the published knowledge bases of QnA Maker service via runtime query prediction endpoints.

- **Application Insights** is used for query prediction telemetry.
- Application Insights can collect chatbot's logs and telemetry.
- It also includes powerful analytics tool to diagnose potential issues and process telemetry data with KQL (Kusto Query Language).

Bot Framework

- Bots provide an experience that feels less like using a computer and more like dealing with a person - or at least an intelligent robot.
- The bot reasons about input and performs relevant tasks. This can include asking the user for additional information or accessing services on behalf of the user , such as taking a dinner reservation or gathering profile information
- Bots can do the same things other types of software can do - read and write files, use databases and APIs, and do the regular computational tasks.
- Users converse with a bot using text, interactive cards, and speech.
- A bot created with the Azure Bot Framework SDK can be integrated with Language Understanding (LUIS), QnA Maker or Power Virtual agents.



Knowledge Check

Question: In which two ways could you natively populate a QnA Maker knowledge base? Each correct answer presents a complete solution.

Choose the correct answers

A. Using a SharePoint list
B. Using a SQL database
C. Using a PDF document
D. Manually adding question and answer pairs

Question: : Which two Azure resources are created when a new QnA Marker service is created? Each correct answer presents part of the solution.

Choose the correct answers

A. Azure Key Vault
B. Web App Bot
C. App Service
D. Azure Cognitive Search

Knowledge Check

Question: For each of the following statements about Azure Bot Services, select Yes if the statement is true. Otherwise, select No.

Statement
The QnA Maker app can only use one knowledge base.
A knowledge base supports multiple languages.
A knowledge base consists of question and answer pairs.

Question: Which two Azure cognitive services should you combine so that your chatbot can determine user's intentions and find answers from a custom knowledge base? Each correct answer presents part of the solution.

Choose the correct answers

A. QnA Maker
B. Language Understanding Intelligence Service (LUIS)
C. Text Translator
D. Speaker Recognition
E. Form Recognizer

Knowledge Check

1. Your organization has an existing frequently asked questions (FAQ) document. You need to create a QnA Maker knowledge base that includes the questions and answers from the FAQ with the least possible effort. What should you do?

- ○ Create an empty knowledge base, and then manually copy and paste the FAQ entries into it.
- ○ Import the existing FAQ document into a new knowledge base.
- ○ Import a pre-defined chit-chat data source.

2. You need to deliver a support bot for internal use in your organization. Some users want to be able to submit questions to the bot using Microsoft Teams, others want to use a web chat interface on an internal web site. What should you do?

- ○ Create a knowledge base. Then create a bot for the knowledge base and connect the Web Chat and Microsoft Teams channels for your bot
- ○ Create a knowledge base. Then create two bots that use the same knowledge base - one bot connected to the Microsoft Teams channel, and the other to the Web Chat channel.
- ○ Create two knowledge bases with the same question and answer pairs. Then create a bot for each knowledge base; one connected to the Microsoft Teams channel, and the other to the Web Chat channel