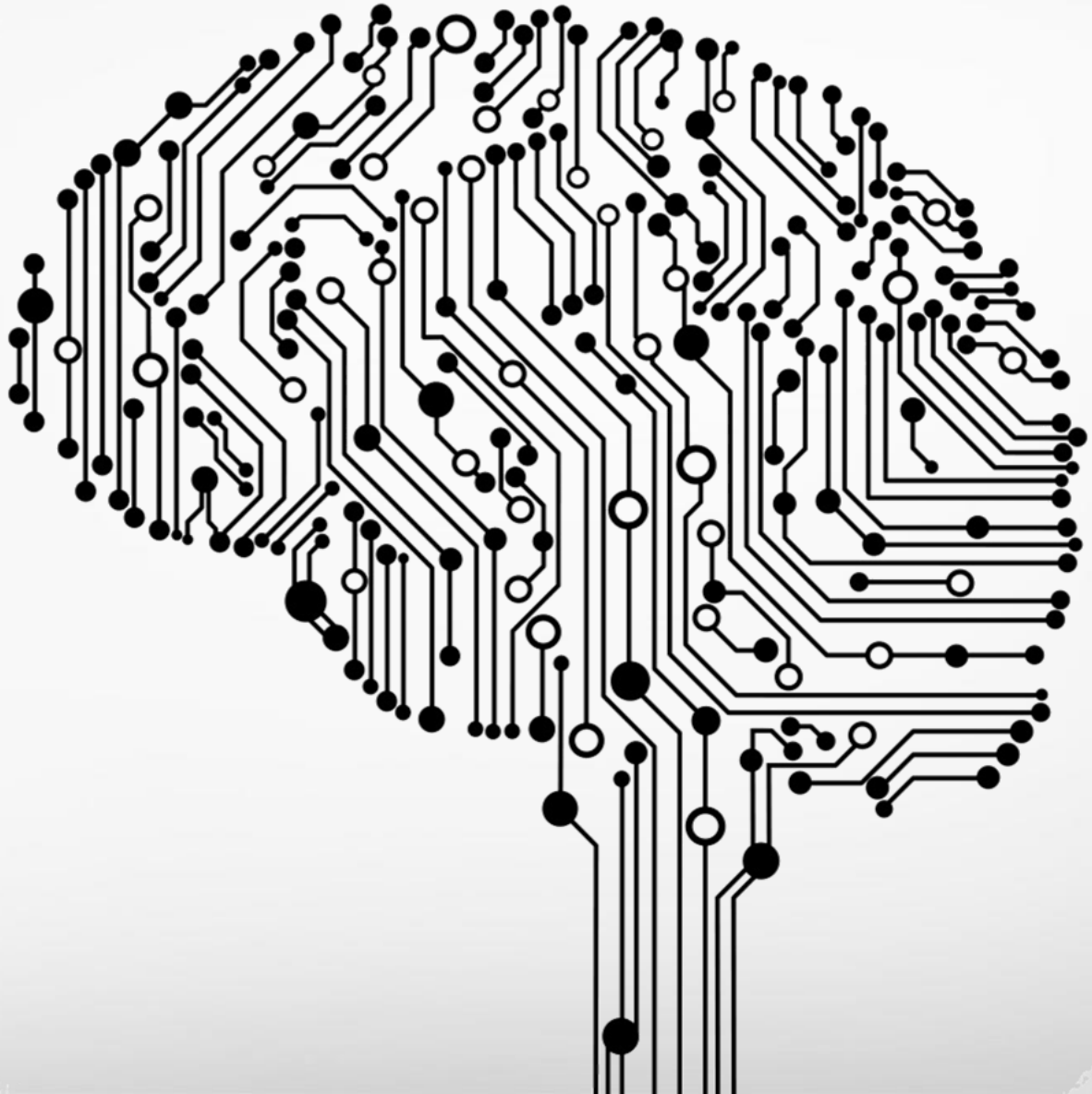
Microsoft

Microsoft Bot Framework Best Practices



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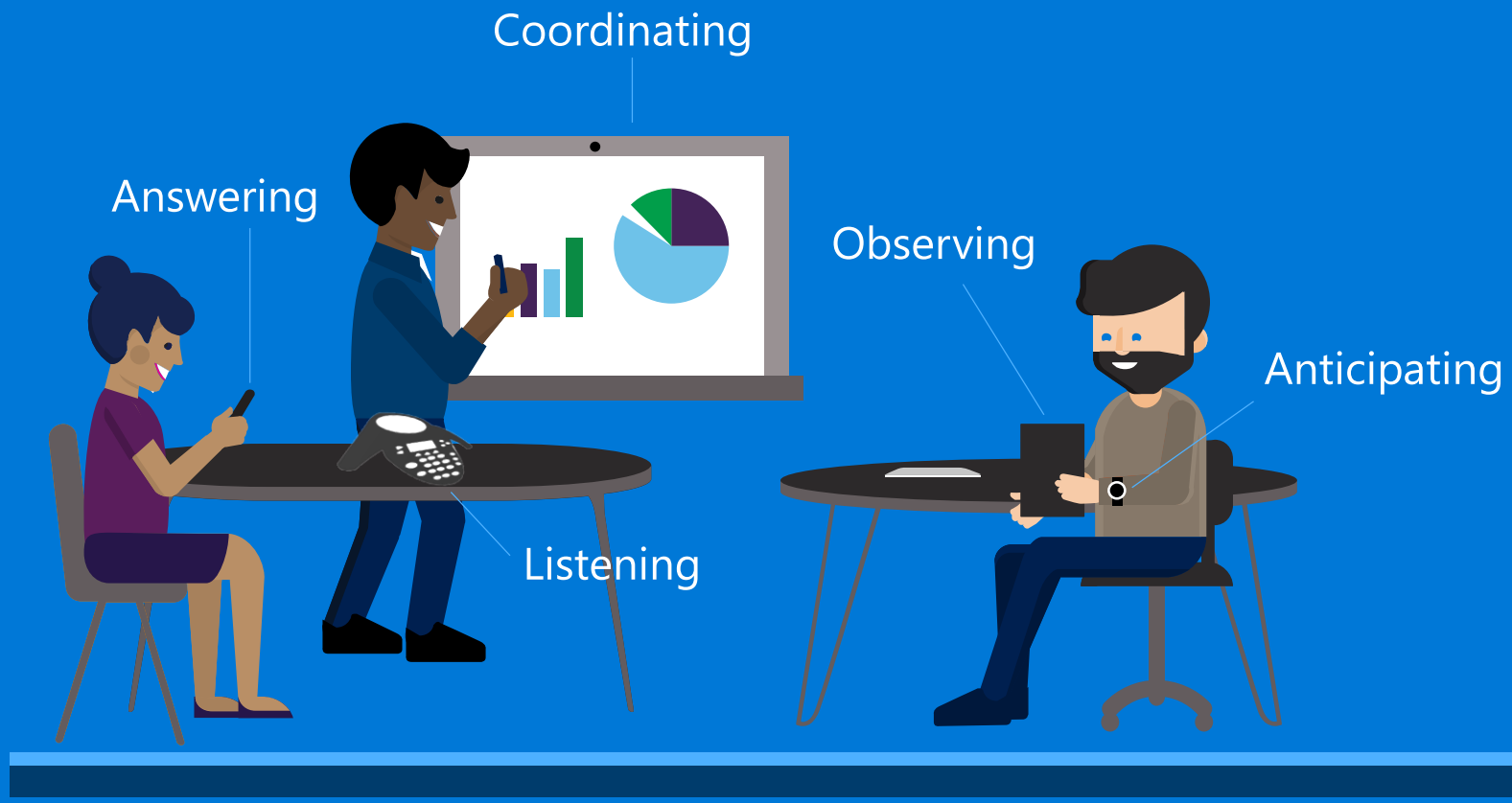
We learn and
use technology.

Technology learns us
and discovers ways to be helpful.



1980s: **PC**

- Desktop

1990s: **Internet**

- Search
- User “visits” websites

2000s: **Mobile**

- Social
- User download apps from App Stores

The future: **Conversations**

- Natural language between people and technology
- Conversational canvas
- Bots and agents

Conversations as a platform

Developers

The new canvas

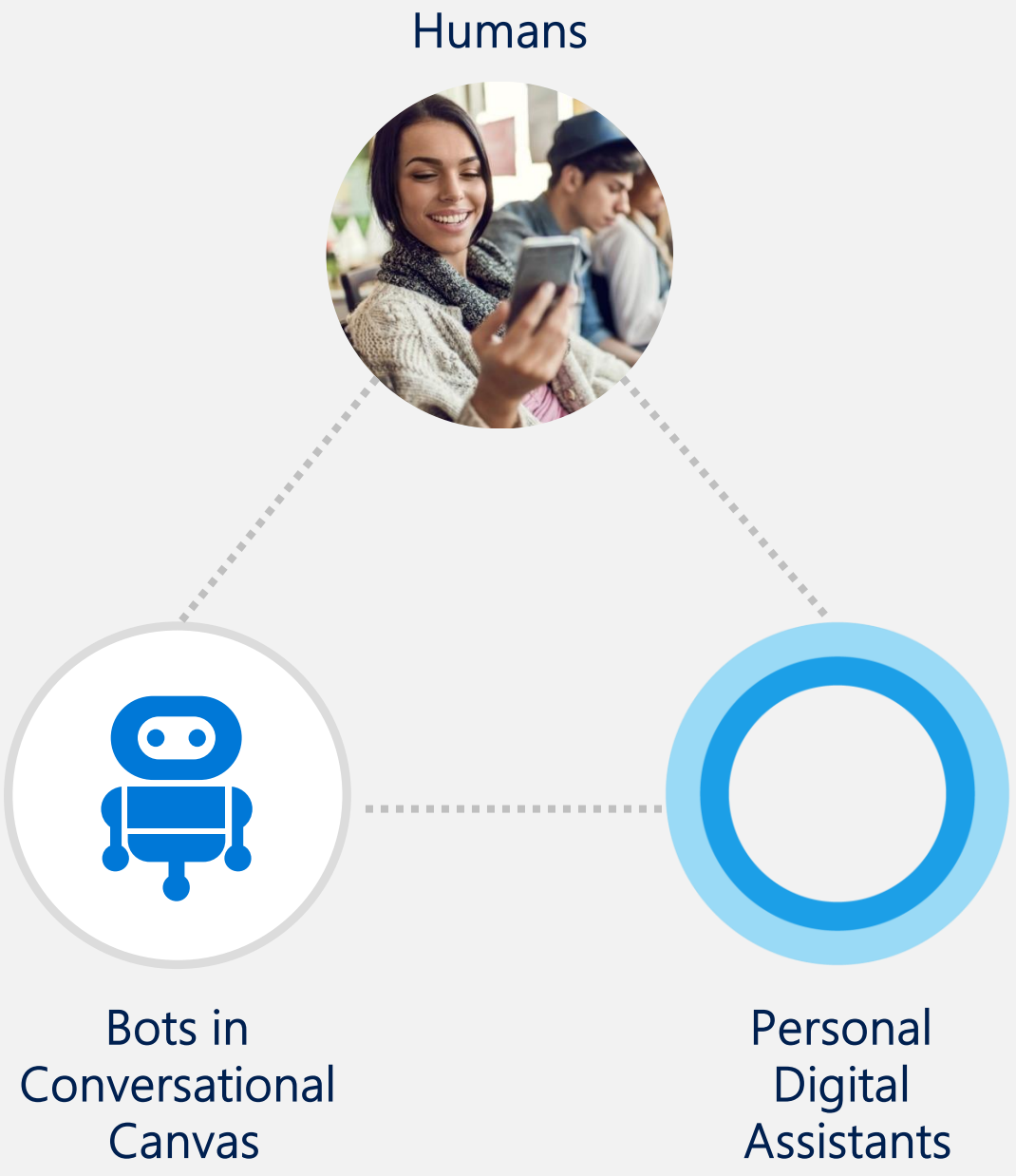
Businesses

The new opportunity

Individuals

More personal way to discover, access, and interact

Conversations as a platform



Over **1 billion** created account with **700 million active users**

806 million MAU of Weixin & WeChat, increase of 34% YoY

Users in China spend **70 minutes** per day on WeChat

Average revenue per UU more than **$7 per year**

Transforming engagement

Productivity task completion
Enhance productivity through task automation and through automated workflows

Reach customers anywhere, on any platform or device

Engage with customers and users in a natural way, conversationally and in context

Expose your products and services via messaging platforms, where users are already highly engaged

Improve customer experience and reduce the need for human assistance

Microsoft AI Portfolio

People

Agent

Cortana

Applications

Office 365

Dynamics 365

SwiftKey

Pix

Customer Service and Support

Skype

Calendar.help

Services

Cortana Intelligence

Cognitive Services

Bot Framework

Cortana Devices SDK

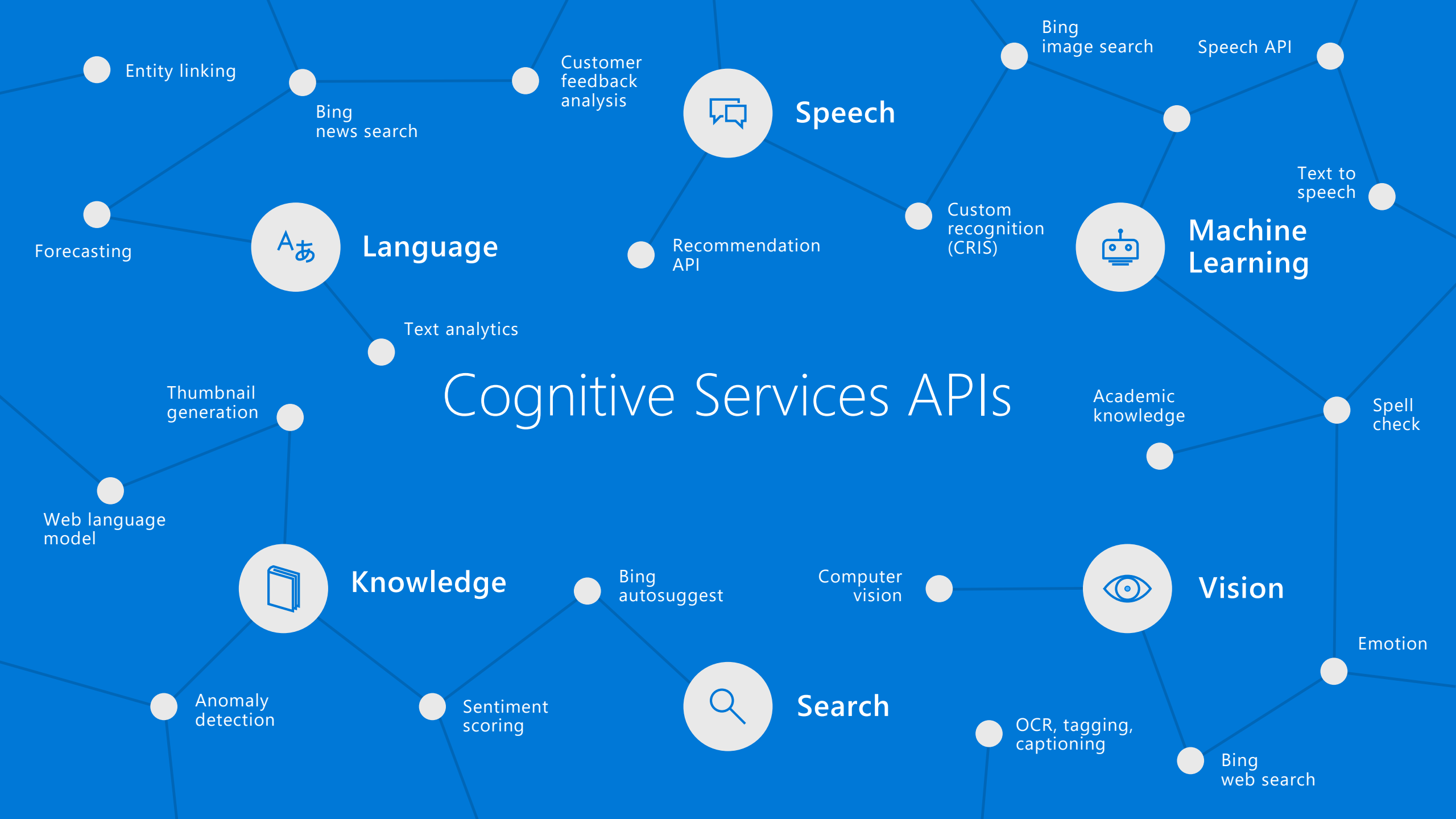
Cognitive Toolkit

Infrastructure

Azure Machine Learning

Azure N Series

FPGA


Cognitive Services APIs
Entity linking
Bing news search
Customer feedback analysis
Speech
Bing image search
Speech API
Text to speech
Custom recognition (CRIS)
Machine Learning
Forecasting
Language
Recommendation API
Text analytics
Thumbnail generation
Academic knowledge
Spell check
Web language model
Knowledge
Bing autosuggest
Computer vision
Vision
Emotion
Anomaly detection
Sentiment scoring
Search
OCR, tagging, captioning
Bing web search

Build applications that understand people

Intelligence

- Cognitive Services
- Bot Framework
- Cortana

Vision	Speech	Language	Knowledge	Search
Computer Vision	Speaker Recognition	Text Analytics	Academic Knowledge	Bing Search API
Face	Speech	Bing Speller	Entity Linking Service	Bing Image Search API
Emotion	CRIS	Web Language Model	Knowledge Exploration Service	Bing Video Search API
Video	Translation Services	Linguistic Analysis	Recommendations	Bing News Search API
Content Moderator		Language Understanding Intelligent Service	QnA Maker	Bing Auto Suggest API

- Faces, images, emotion recognition and video intelligence
- Spoken language processing, speaker recognition, custom speech recognition
- Natural language processing, sentiment and topics analysis, spelling errors

- Complex tasks processing, knowledge exploration, intelligent recommendations
- Bing engine capabilities for Web, Autosuggest, Image, Video and News

Your Bot Framework Bot

Bot Builder

Tools and services to build great bots that converse wherever your users are.

- Open source SDK on Github for Node.js, .NET and REST
- From simple built-in prompts and command dialogs to simple to use yet sophisticated 'FormFlow' dialogs
- Support for rich attachments (image, card, video, doc, etc.); support for calling (Skype)
- Online/offline chat Emulator
- Add bot smarts with Cognitive Services for language understanding and more

Developer Portal

Connect your bots to text/sms, Skype, Slack, Facebook Messenger, Office 365 mail and other channels.

- Register, connect, publish and manage your bot through your bot's dashboard
- Automatic card normalization across channels
- Skype channel auto-configured
- Embeddable Web chat control
- Host your bot in your app via the Direct Line API
- Fast, scalable message routing
- Bot Directory for discovery and trial

Cognitive Services

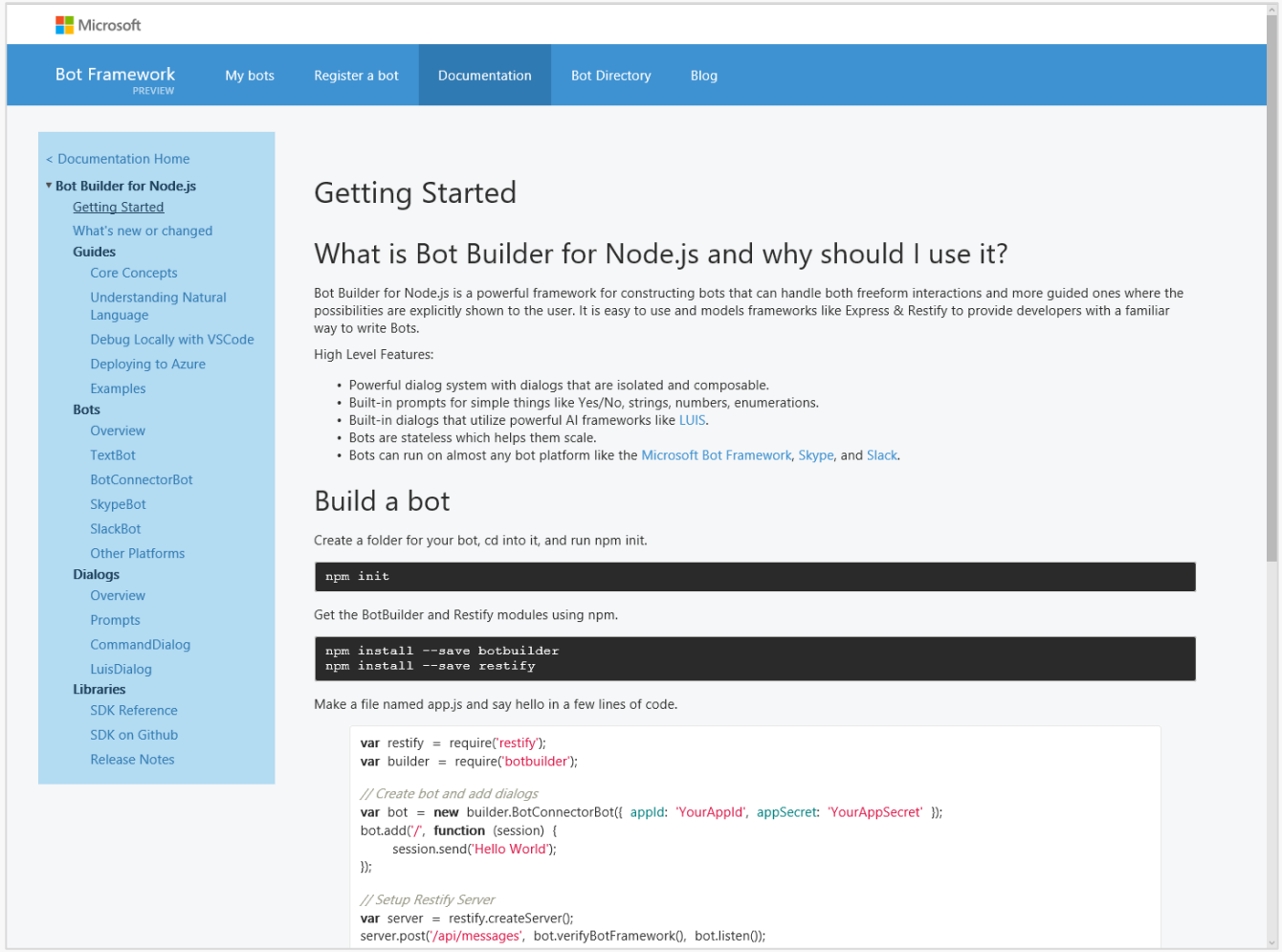
23 purpose-built ML and AI services to add predictable, configurable intelligence into any software

- Parse natural language (LUIS)
- Real-time transcription and translation services for voice
- Vision and face detection algorithms
- Sentence diagramming
- Web language (hashtag) parsing
- Many more

Bot Builder SDK

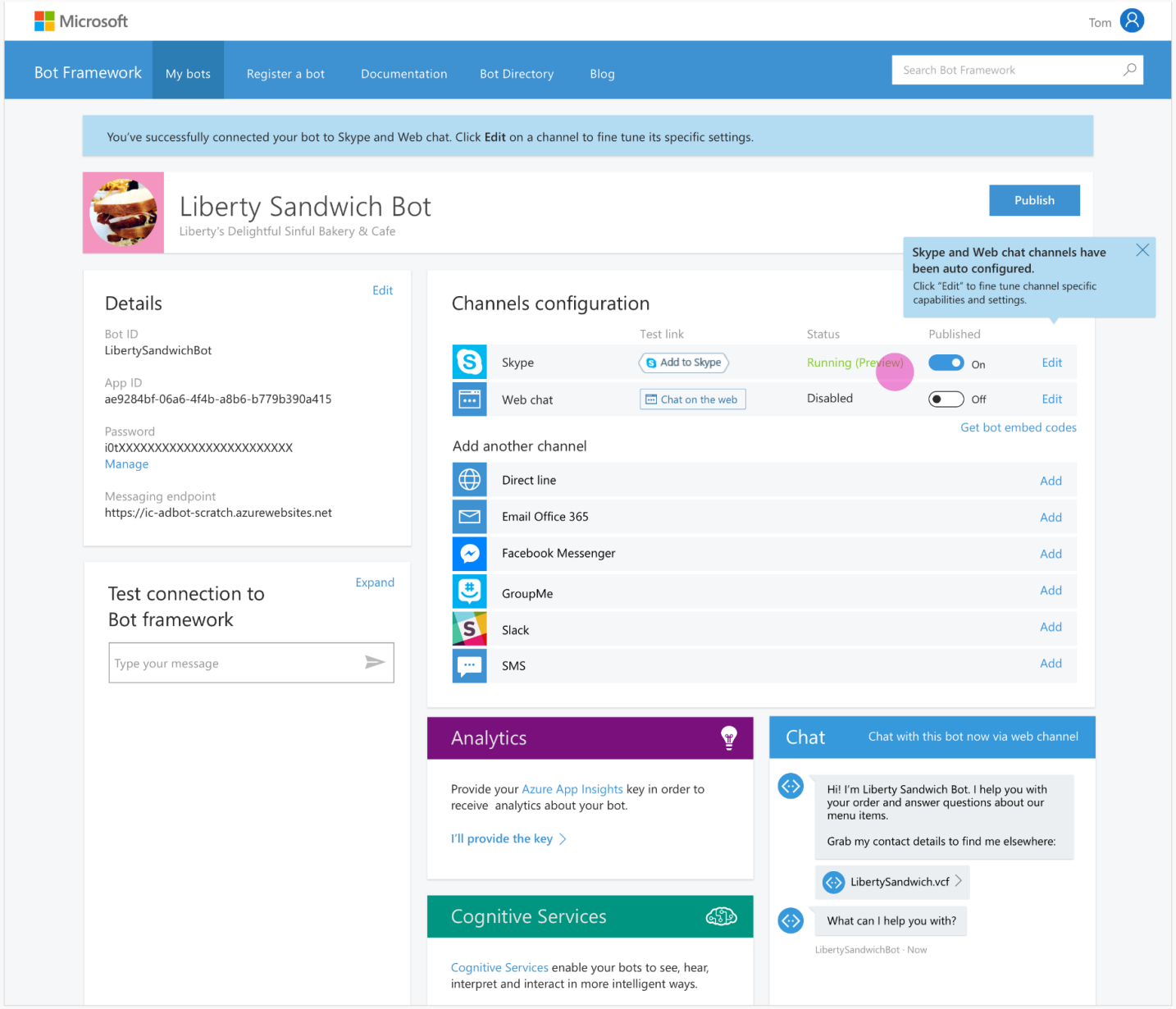
Node.js, .NET and REST

- Dialogs to model conversation
  - Dialogs are reusable
  - Types of Dialogs include:
    - Built-in prompts
    - Yes/No, String, Number, Choices
    - FormFlow and form slot filling (branching, disambiguation, multi-turn)
  - Conversations are scalable to multiple machines
- Rich interactions
  - Support for rich attachments (image, card, video, doc, etc.); support for calling (Skype)
  - Service extensions for language understanding (LUIS) and translation
- Online/offline Chat Emulator
- Samples



Developer Portal

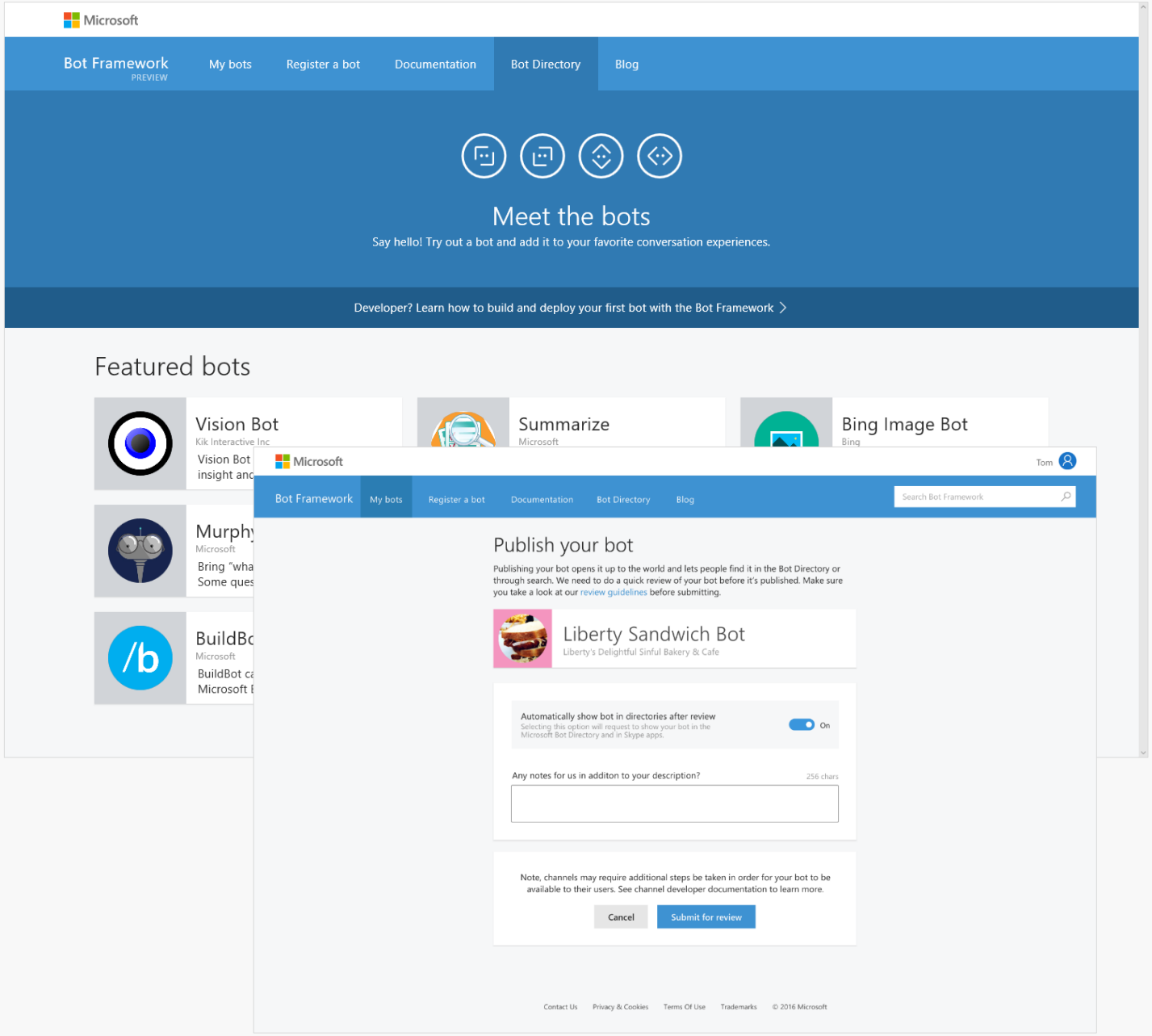
- Register your bot
- Connect to channels
- Test
- Publish
- Manage
- Measure



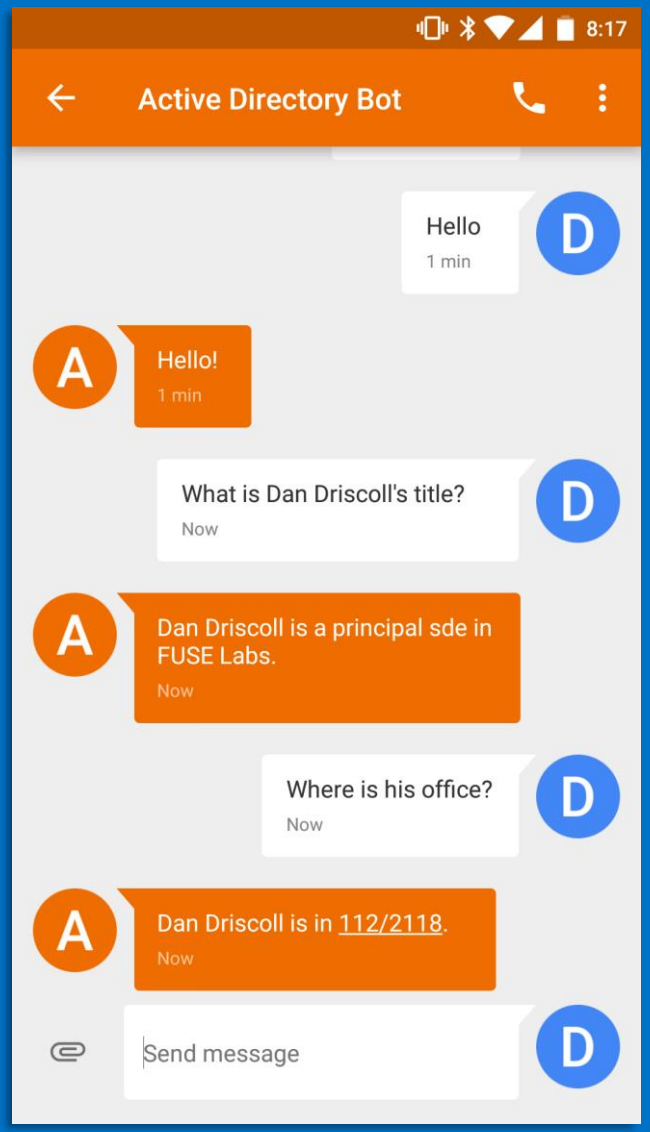
Bot Directory

Public Directory of Bot Framework Bots

- Users can discover, try, and add bots to the conversation experiences on which the bot is configured (no app required)
- Bots are public at developer discretion; bots must be submitted for review in order to appear in the directory
- Searchable



Language Understanding Intelligent Service (LUIS)



Who is John?

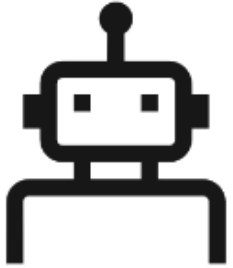
Where does Sue work?

What is Erika's phone number?

Examples of **intent detection**

Examples of **entity extraction**

Building a Bot



Hi, I'm [Bot name]

I love to....add the service description of the bot here

PERSONALITY TRAITS

GOALS

MY VOICE & TONE CHANGES WHEN I'M...

Getting started | Being proactive | Troubleshooting | Sensing a problem | Wrapping up

MY RELATIONSHIP WITH MY USERS

THINGS I MUST DO

THINGS I NEVER DO

The dev is the easy bit...

Introduce yourself

Knowledge and Tasks

UX / Language sophistication

Translation

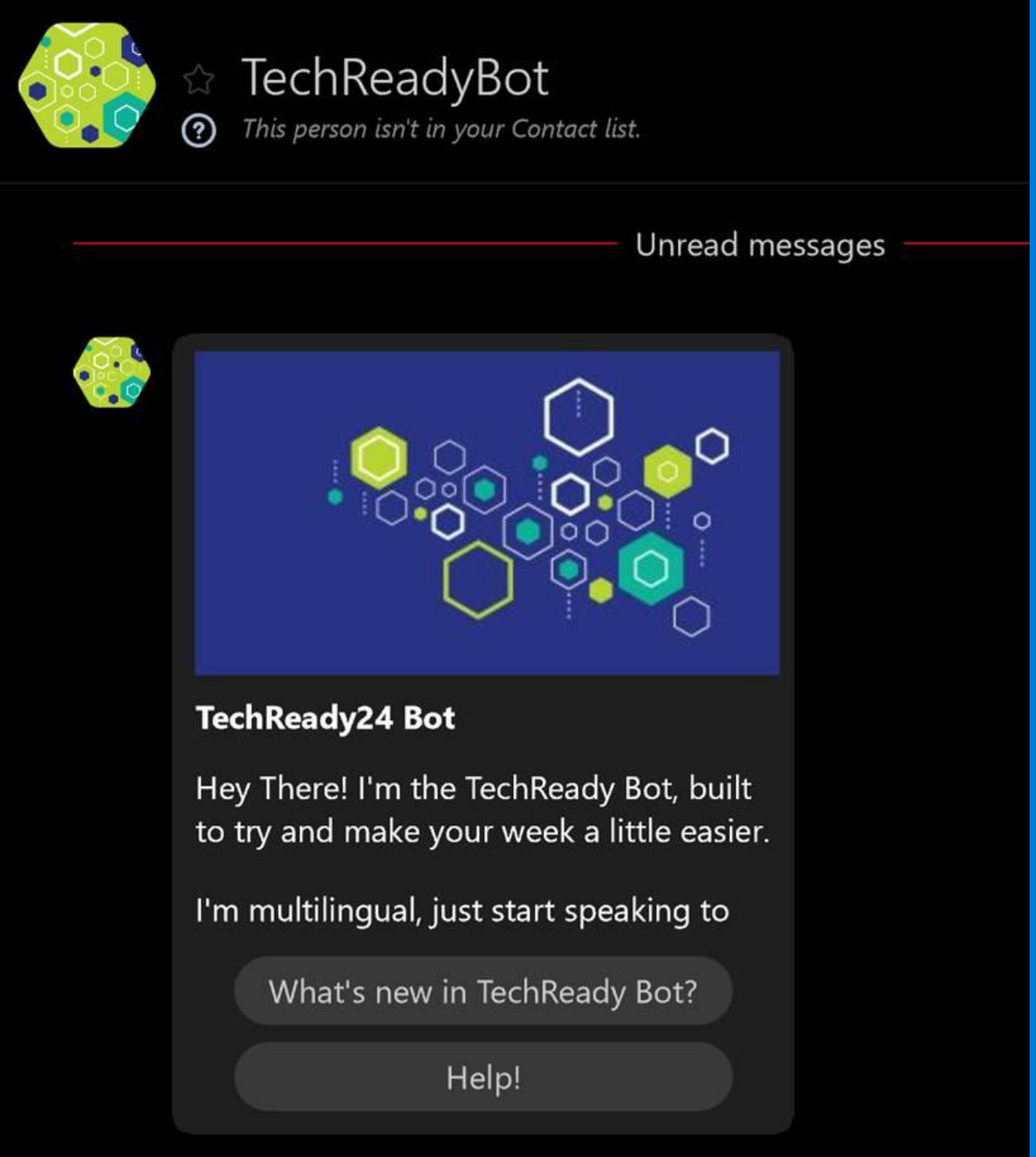
General Knowledge

Personality

Search Powered

Exception Handling

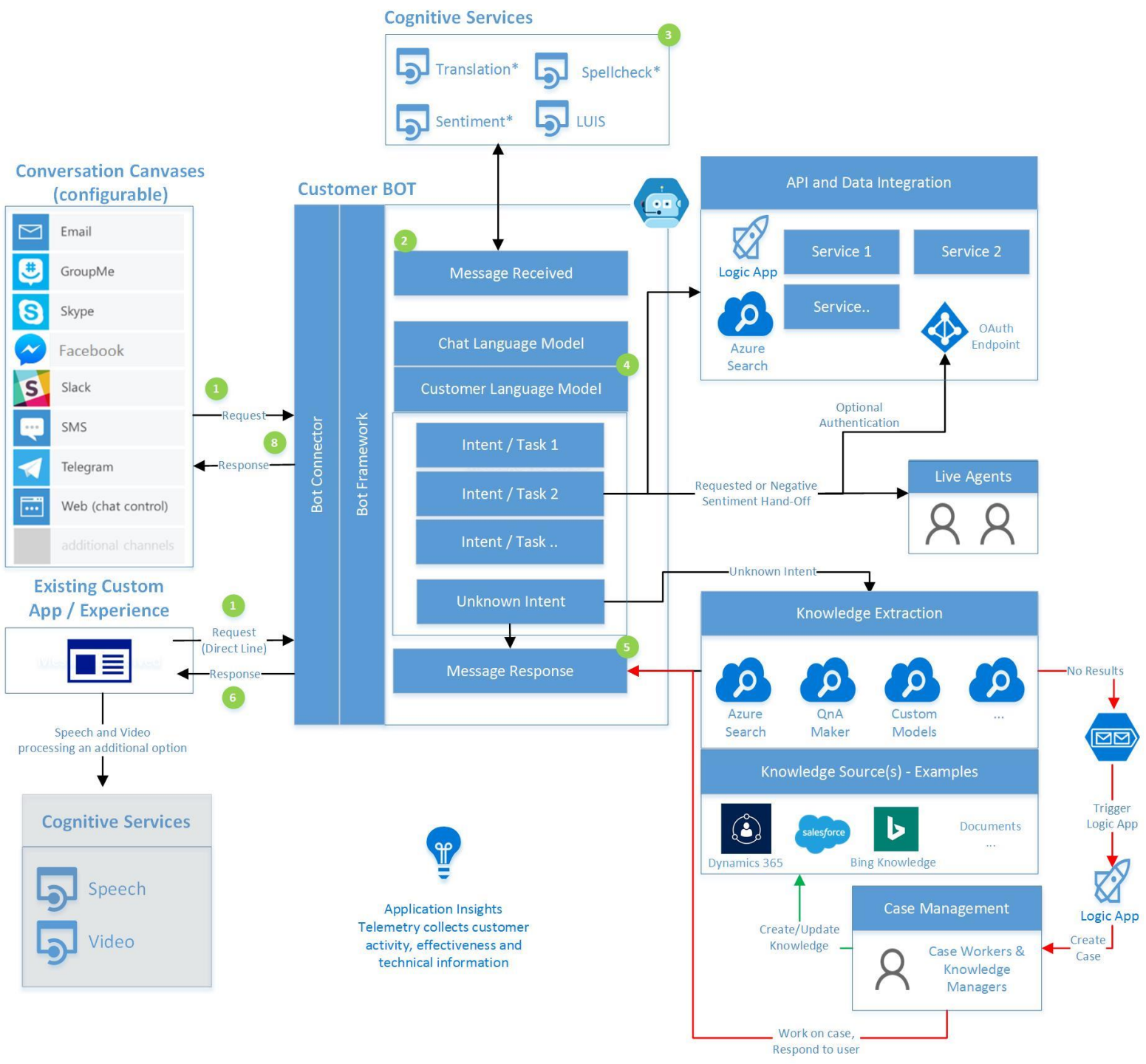
Attachments



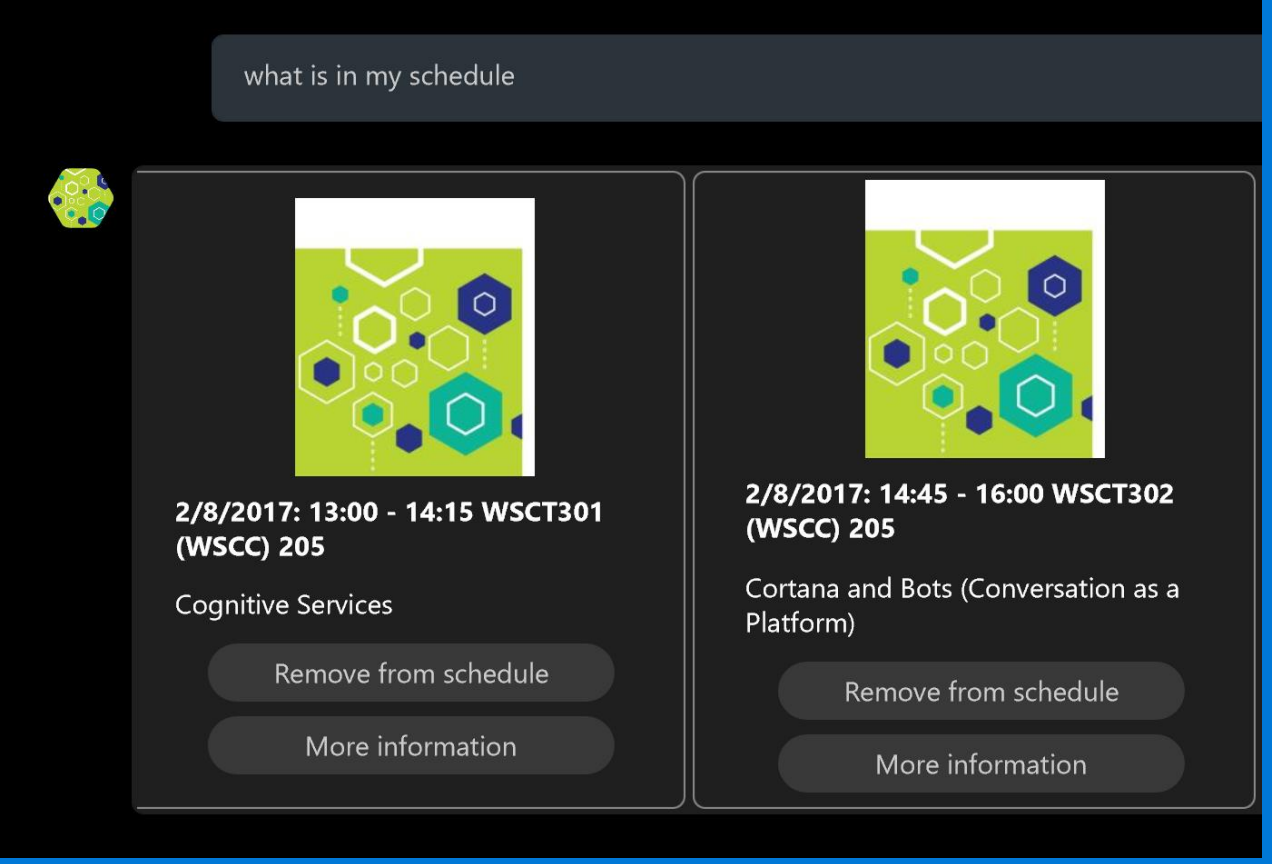
Introduce Yourself

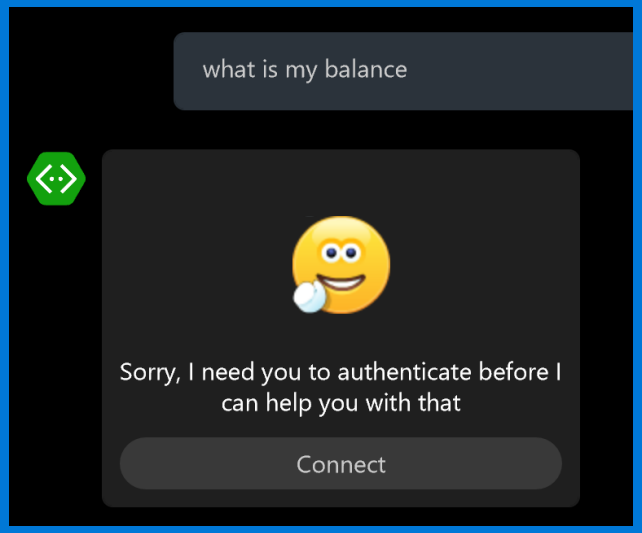
```
private async Task<Activity>
HandleSystemMessage(Activity
message)
{
   ...

   else if (message.Type ==
ActivityTypes.ConversationUpdate)
    {
      // Your introduction here
    }
```



Knowledge and Tasks





UX and language sophistication

was ist hololens

Microsoft HoloLens ist der erste holographische Computer unter Windows 10. Es ist völlig ungebunden – keine Drähte, Telefone oder Anschluss an einen PC benötigt. Microsoft HoloLens können Sie Hologramme in Ihrer physischen Umgebung und bietet eine neue Möglichkeit, Ihre Welt zu sehen.

Unterstützung von Bild

* Powered by Dynamik 365 Knowledgebase * (39,41 %)

Half, die Antwort auf Ihre Frage?

Ja

Nein

Teilweise

Translation

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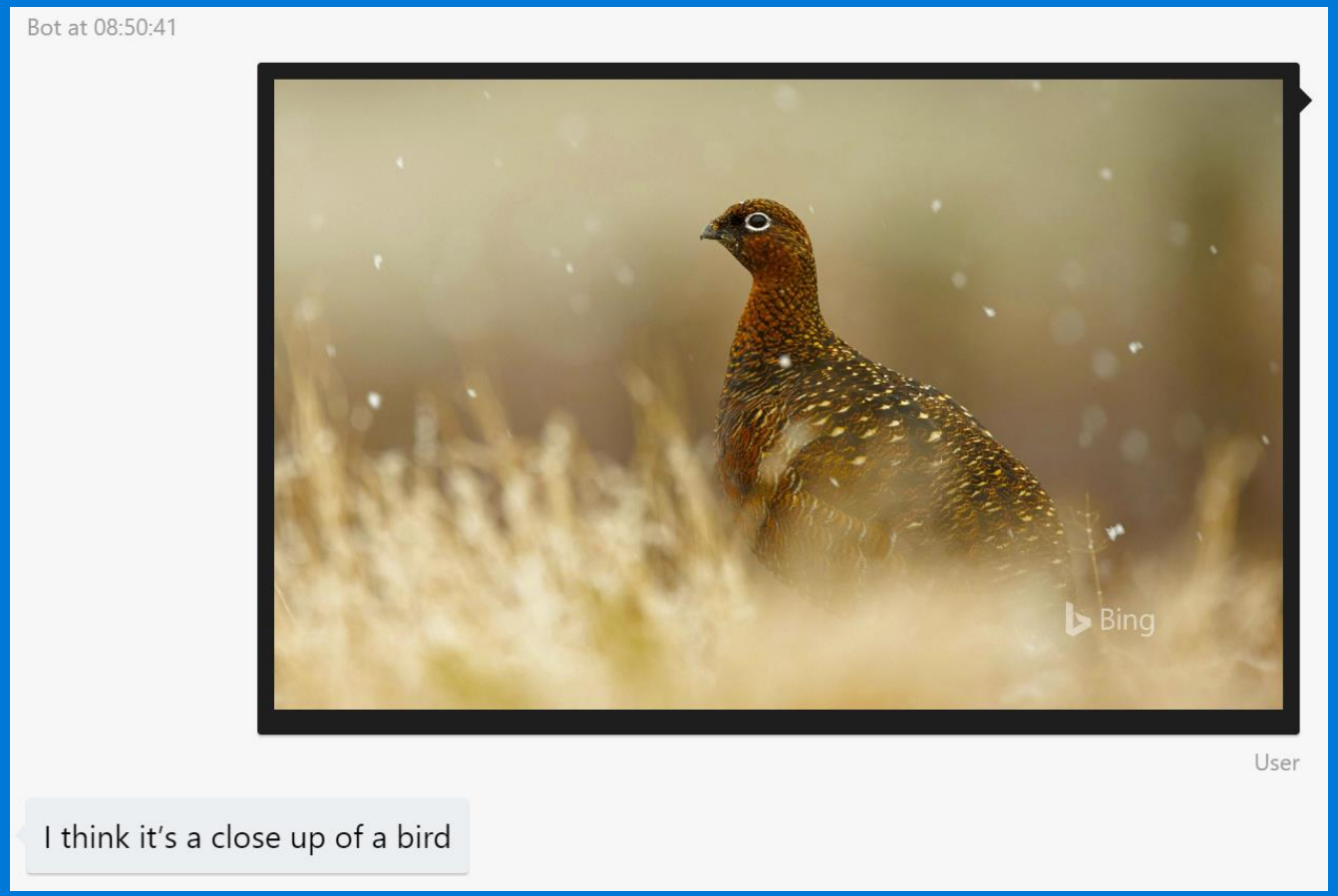

Attachments

Next steps

Experiment! Start with understanding the end users needs…

Sign up for a free Azure Trial
https://azure.microsoft.com/en-us/free/

Microsoft Bot Framework
https://dev.botframework.com/

Cognitive Services
https://www.microsoft.com/cognitive-services/en-us/

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