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Microsoft Bot Framework

Agenda

What is a bot?

Microsoft Bot

Lifecycle

Concepts

Architecture

Cognitive Services

Demo

Comparison to other services

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What is a bot?
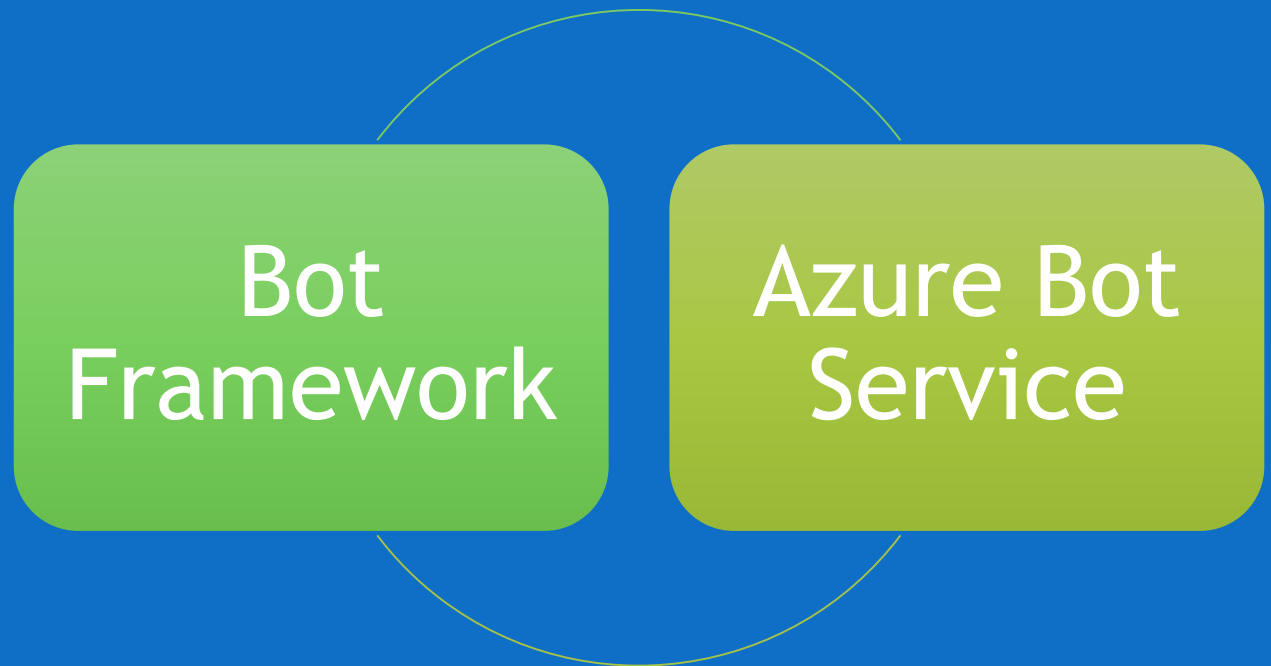
Normal piece of software

Similarities to web applications

Based on a stack of different technologies

Text, Speech and Pictures

Use of mechanisms from human-to-human communication

Microsoft and bots

Bot Framework

Azure Bot Service

Microsoft and bots

- Azure bot service is the bot offer from Microsoft
- It is part of the Azure Cloud Platform
- To build a bot, Microsoft provides the Bot Framework
- In the following, the focus is on the framework, i.e. the development of bots

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Lifecycle

Image 1

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Lifecycle

- Typical lifecycle in software engineering
- Design guidelines help with planning
- There is an SDK for development as a basic component of the Bot Framework
- Publication and hosting via azure is recommended
- A bot created with the Bot Framework and published on Microsoft Azure can be used via various software with chat functionality. (Skype, Facebook, Slack, Telegram)
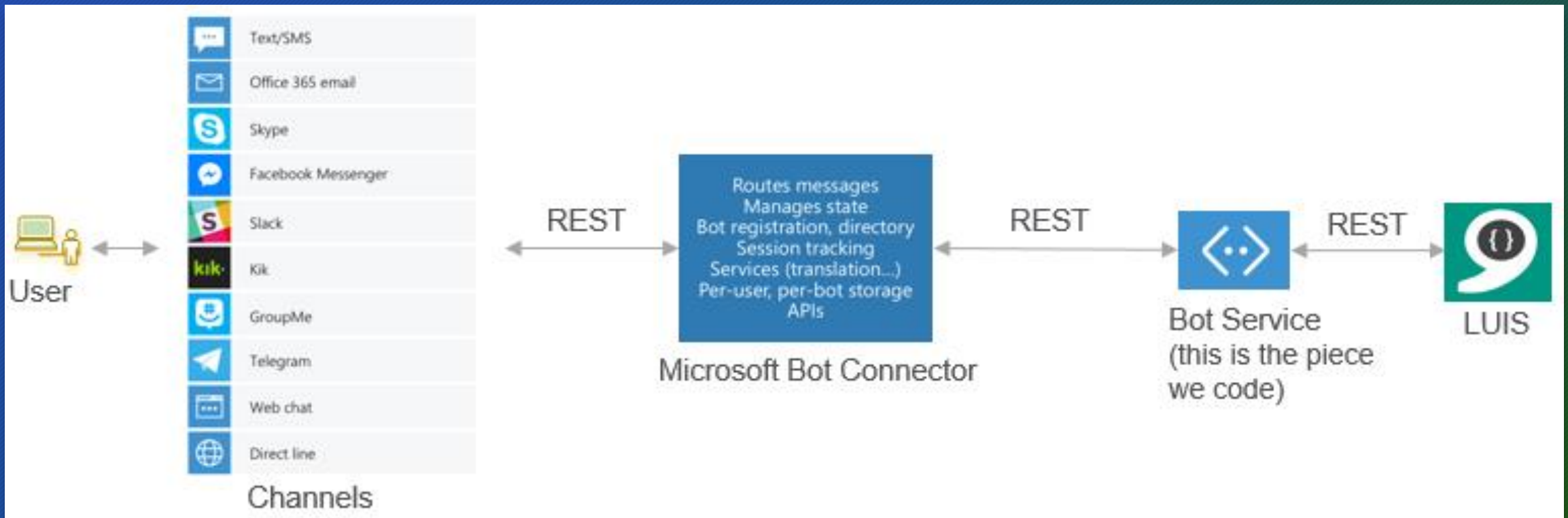
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Concepts

- Communication via REST
- State Management
- Dialogs
- Middleware

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Architecture

Image 2

Cognitive Services

LUIS

QnA Maker

Cognitive Services - LUIS

- "A machine learning-based service to build natural language into apps, bots, and IoT devices. Quickly create enterprise-ready, custom models that continuously improve" (www.luis.ai)

- Developer defines intents and gives example sentences that can also contain variables

- The bot user's message is sent to LUIS and the service responds with a JSON with an evaluation.

Cognitive Services – QnA Maker

- "Build, train and publish a simple question and answer bot based on FAQ URLs, structured documents, product manuals or editorial content in minutes." (www.qnamaker.ai)

- Based on

- User asks a question and service tries to find an answer in a knowledge base

Demo

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Comparison to other services

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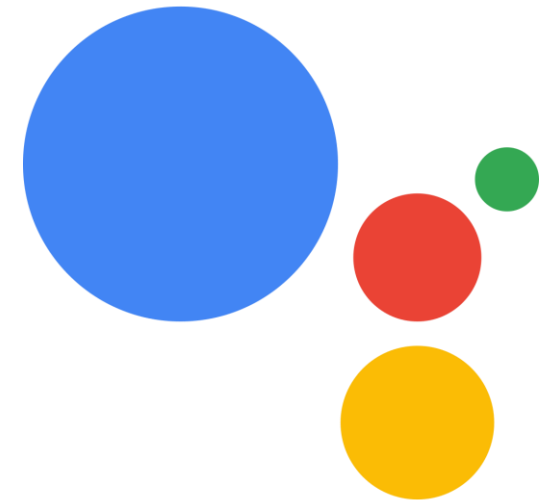
amazon alexa

Image 3

Image 4

Comparison to other services

- Difference to Google and Amazon: Various tasks outsourced to other services (but also from Microsoft)

- Amazon and Google services are intent based. A developer defines intents and the services decides via cognitive skills what the user wants

- Best service: depends on the use cases.

- Bot Framework gives you more freedom

Questions?

Sources

- https://dev.botframework.com
- https://koukia.ca/can-you-implement-a-chat-bot-with-microsoft-bot-framework-without-azure-1446ce8333bf
- https://docs.microsoft.com/en-us/azure/bot-service/?view=azure-bot-service-4.0
- https://docs.microsoft.com/en-us/azure/bot-service/javascript/bot-builder-javascript-quickstart?view=azure-bot-service-4.0
- https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-dialog-manage-conversation-flow?view=azure-bot-service-4.0&tabs=javascript

Images

- Image 1: https://docs.microsoft.com/en-us/azure/bot-service/media/bot-service-overview.png?view=azure-bot-service-4.0

- Image 2: https://cdn-images-1.medium.com/max/800/1*X8OMPKY2vf7VREX6Nn6wwA.png

- Image 3: https://en.wikipedia.org/wiki/Amazon_Alexa#/media/File:Amazon_Alexa_logo.svg

- Image 4: https://de.wikipedia.org/wiki/Google_Assistant#/media/File:Google_Assistant_logo.svg