Alexa goes Azure

Introduction

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Agenda

- Introduction
- Wording
- Accounts
- Skill Development
- Recap
- Resources

Introduction

Quelle: YouTube | https://www.youtube.com/watch?v=kty0xCgIYjA

Definition

Virtual Assistant

An intelligent virtual assistant (IVA) or intelligent personal assistant (IPA) is a software agent that can perform tasks or services for an individual based on commands. Some virtual assistants are able to interpret human speech and respond via synthesized voices.

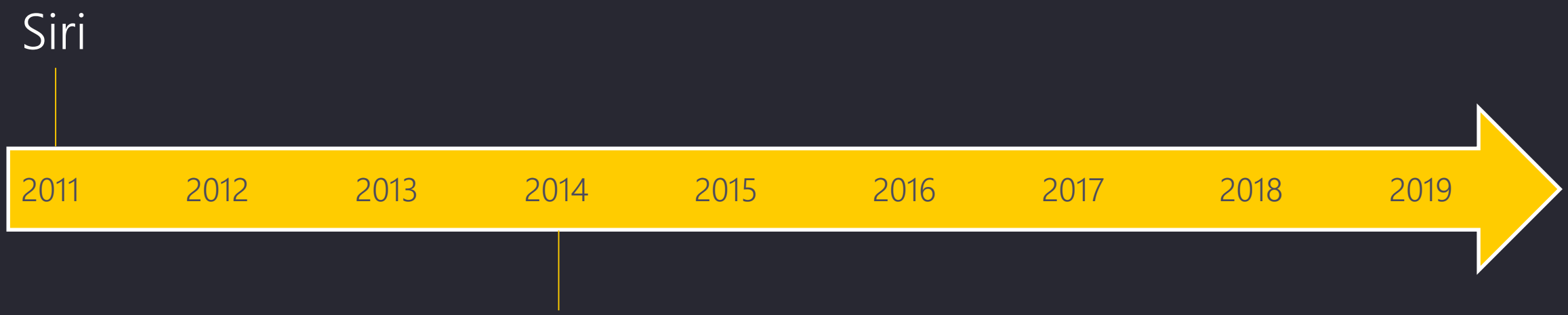
Current Voice Assistants

Current Voice Assistants

Siri

- Apple
- October 2011
- iOS, macOS, watchOS, tvOS

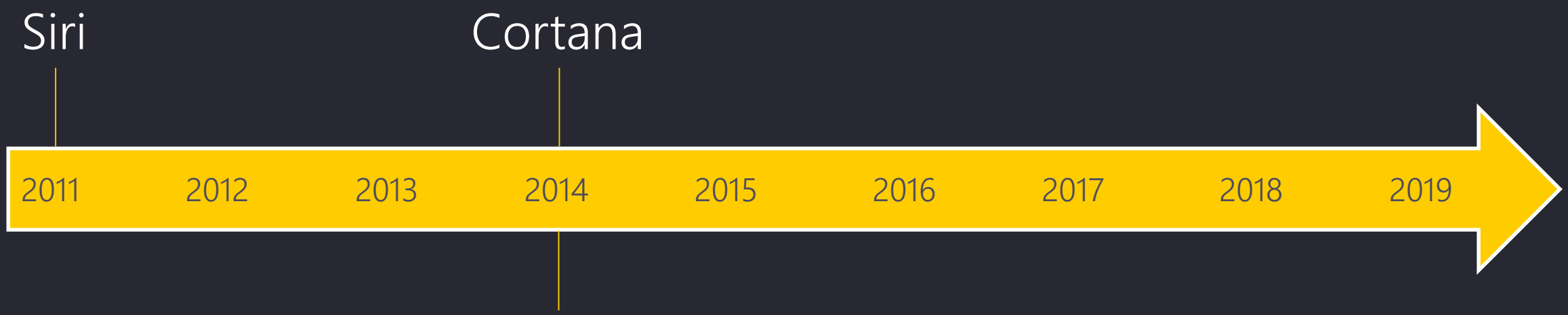
Current Voice Assistants



Cortana

- Microsoft
- April 2014
- Windows, xBox, Android, iOS

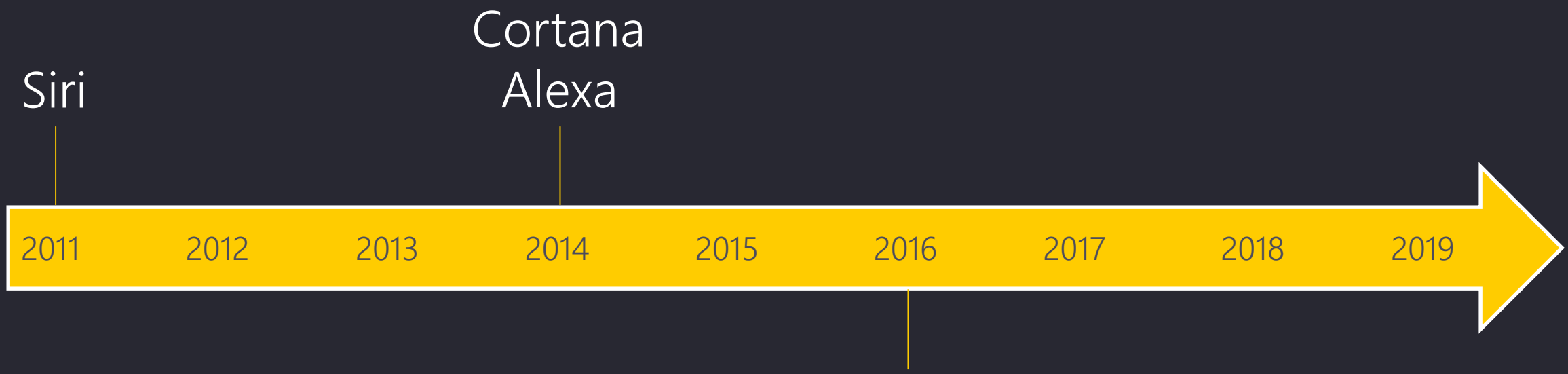
Current Voice Assistants



Alexa

- Amazon
- November 2014
- Echo Family, Android, iOS, Windows

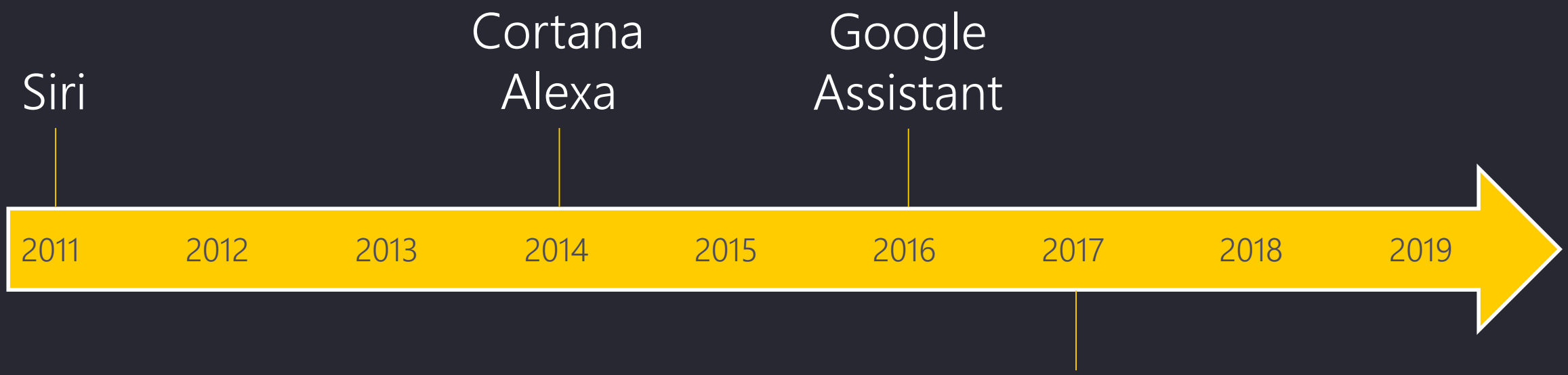
Current Voice Assistants



Google Assistant

- Google
- May 2016
- Android, iOS, Google Home

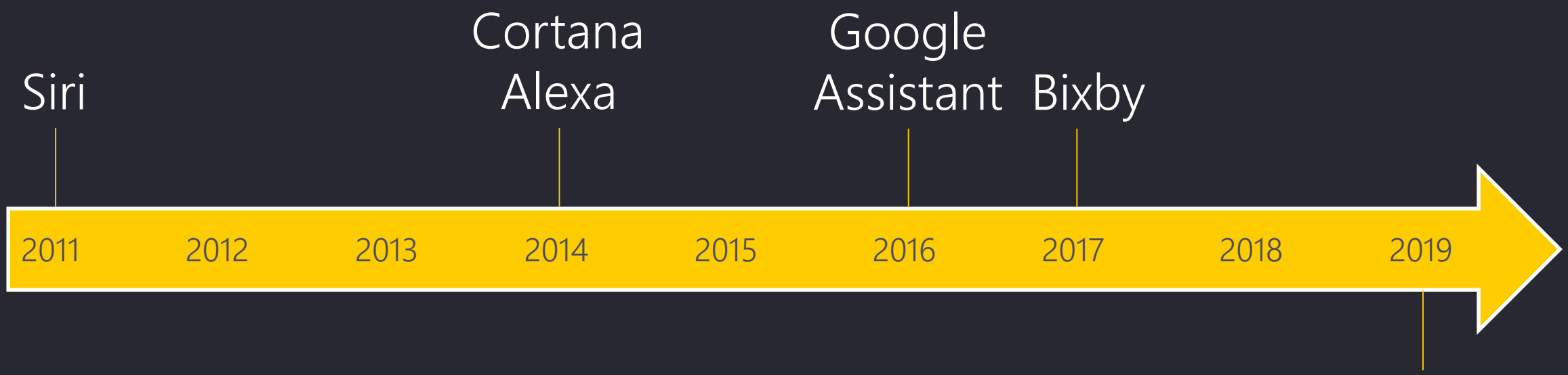
Current Voice Assistants



Bixby

- Samsung
- April 2017
- Samsung Devices

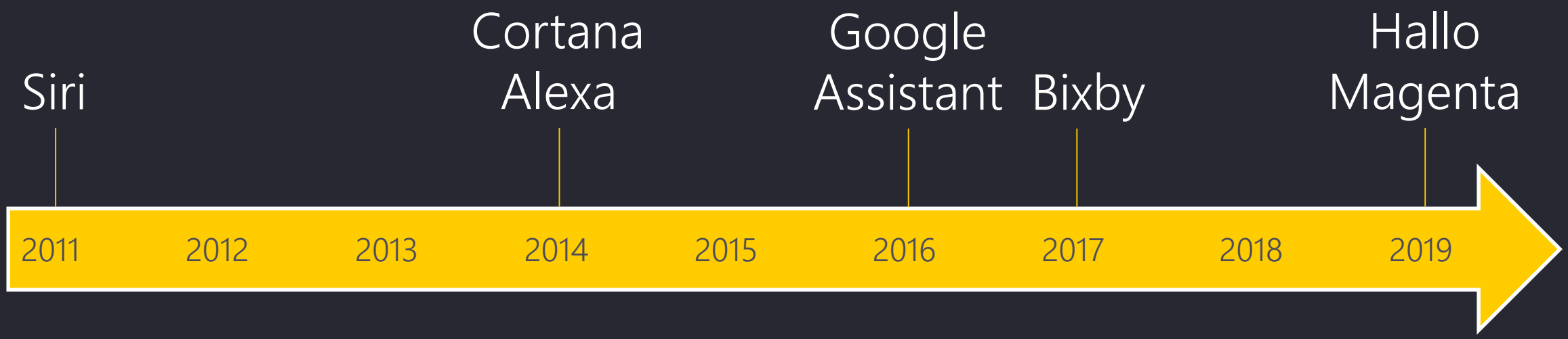
Current Voice Assistants



Hallo Magenta

- Telekom
- May 2019
- Smart Speaker

Current Voice Assistants



Skill Development

	Alexa	Cortana	Siri	Google
Manufacturer	Amazon	Microsoft	Apple	Google
Devices	Echo, Fire TV, Fire Tablet, App	Windows 10	iOS, macOS, watchOS, tvOS	Android, iOS, Google Home
Languages	DE, EN, IT, ES, JA, FR, PR	EN	-	ALL
Input	Speech & Touch	Speech, Touch & Text	Speech	Speech & Text
Portal	developer.amazon.com	developer.microsoft.com	-	developers.google.com

Wording

Wording: Skill

- Voice Experiences, which can be developed by 3rd parties
- Extends the available functions, like getting the weather
- "Voice Apps" with focused functionality
- Mostly available for free, but ISP is possible
- Be activated or deactivated via voice commands or companion apps

Wording: Invocation Name

- word or phrase used to trigger a skill
- voice's equivalent of an app icon
- usually matches the skill's name

- *Alexa start* ***Invocation Name***

Wording: Intent

- what a user is trying to accomplish
- how you define your function
- a skill can have many different intents

- *Alexa ask Invocation Name* ***for the weather***.

Wording: Utterances

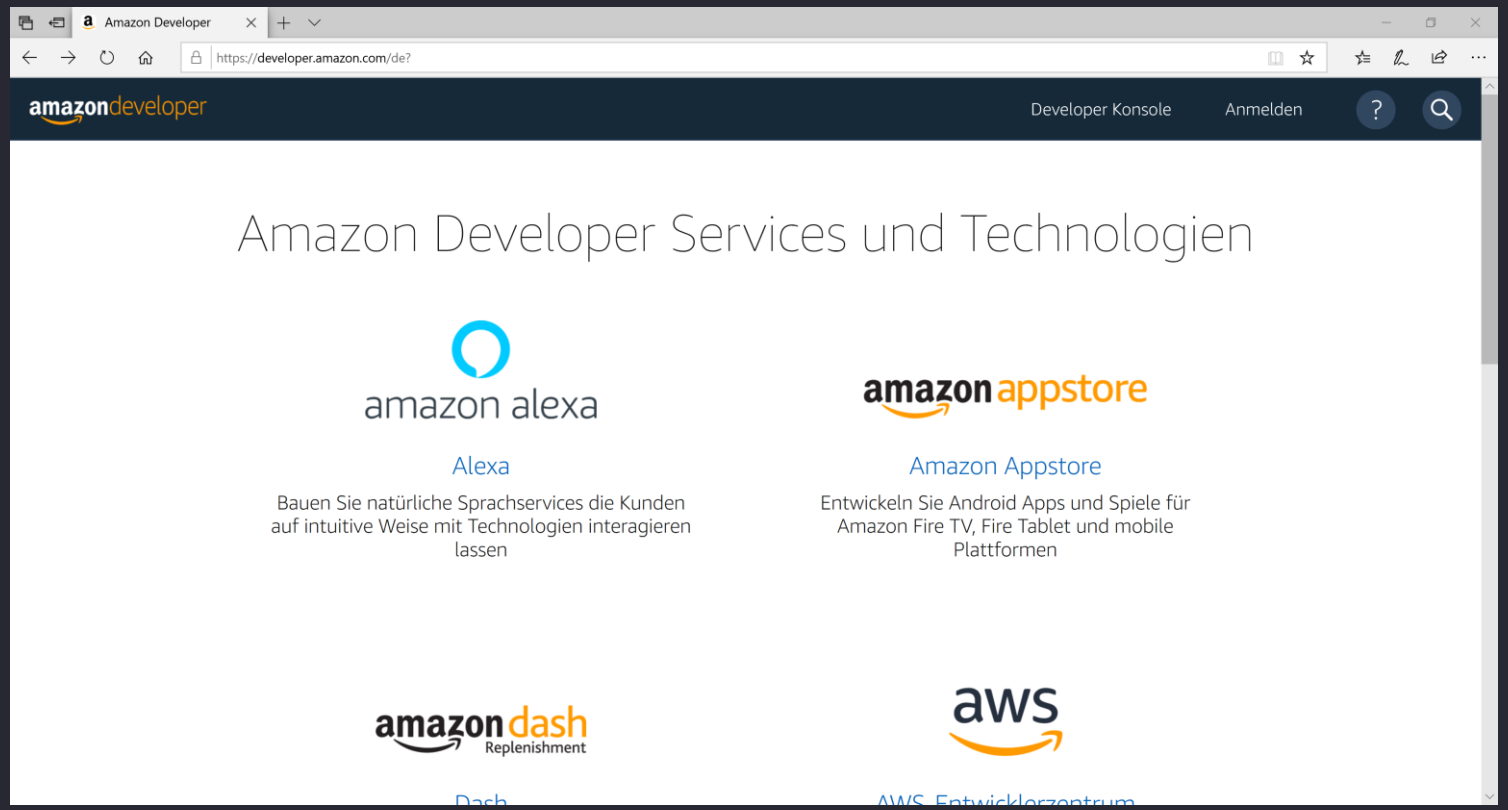
- specific phrases that people will use when making a request
- have to be coded to tell Alexa what to expect
- sometimes this means typing out dozens of very slight variations

Wording: Slot

- a variable that relates to an intent
- Amazon provides a number of built in slot types
  - dates
  - numbers
  - durations
  - time
  - names
- you can create custom slots for variables which are specific to your skill

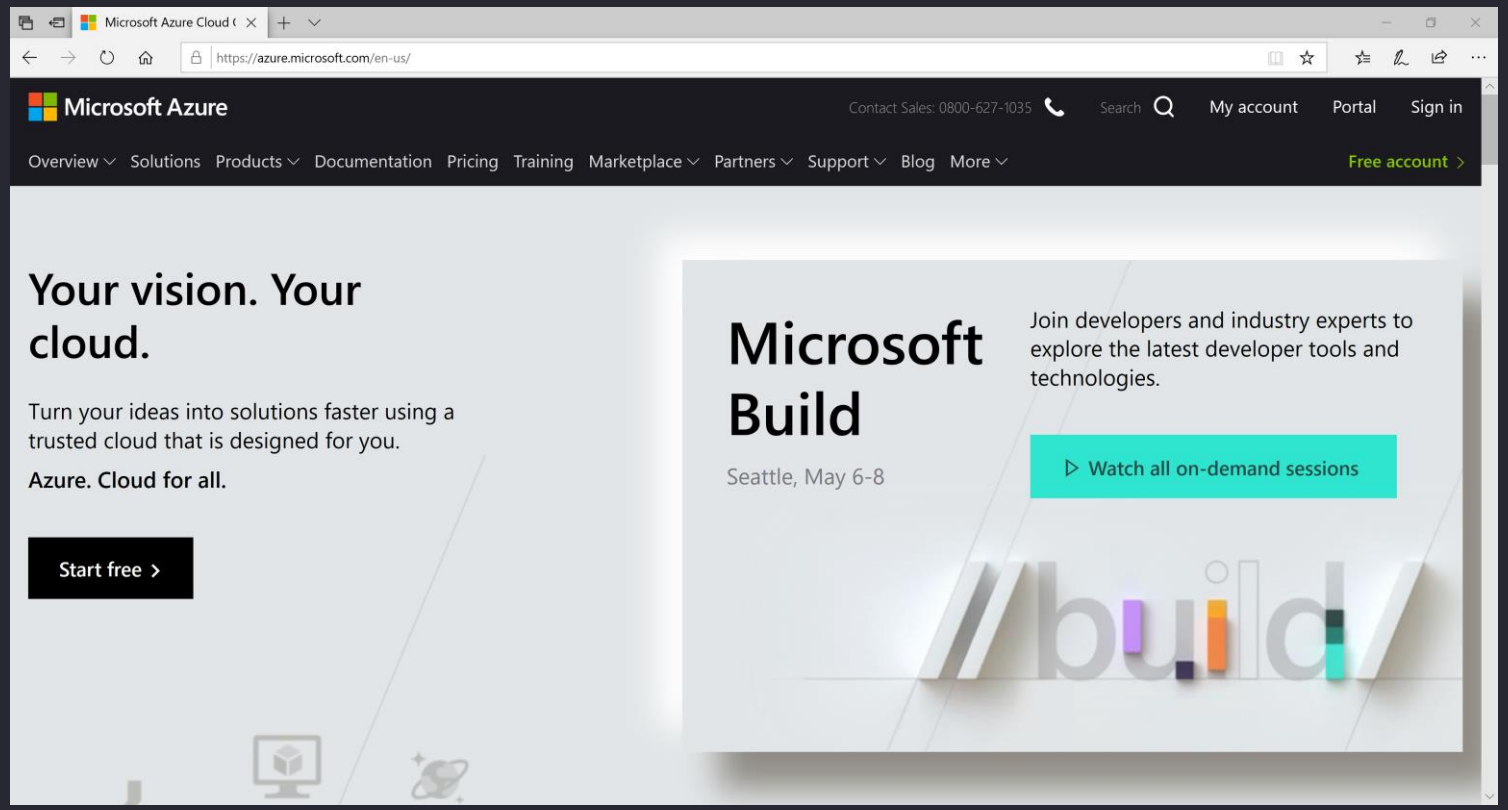
Necessary Accounts

Amazon Developer Account



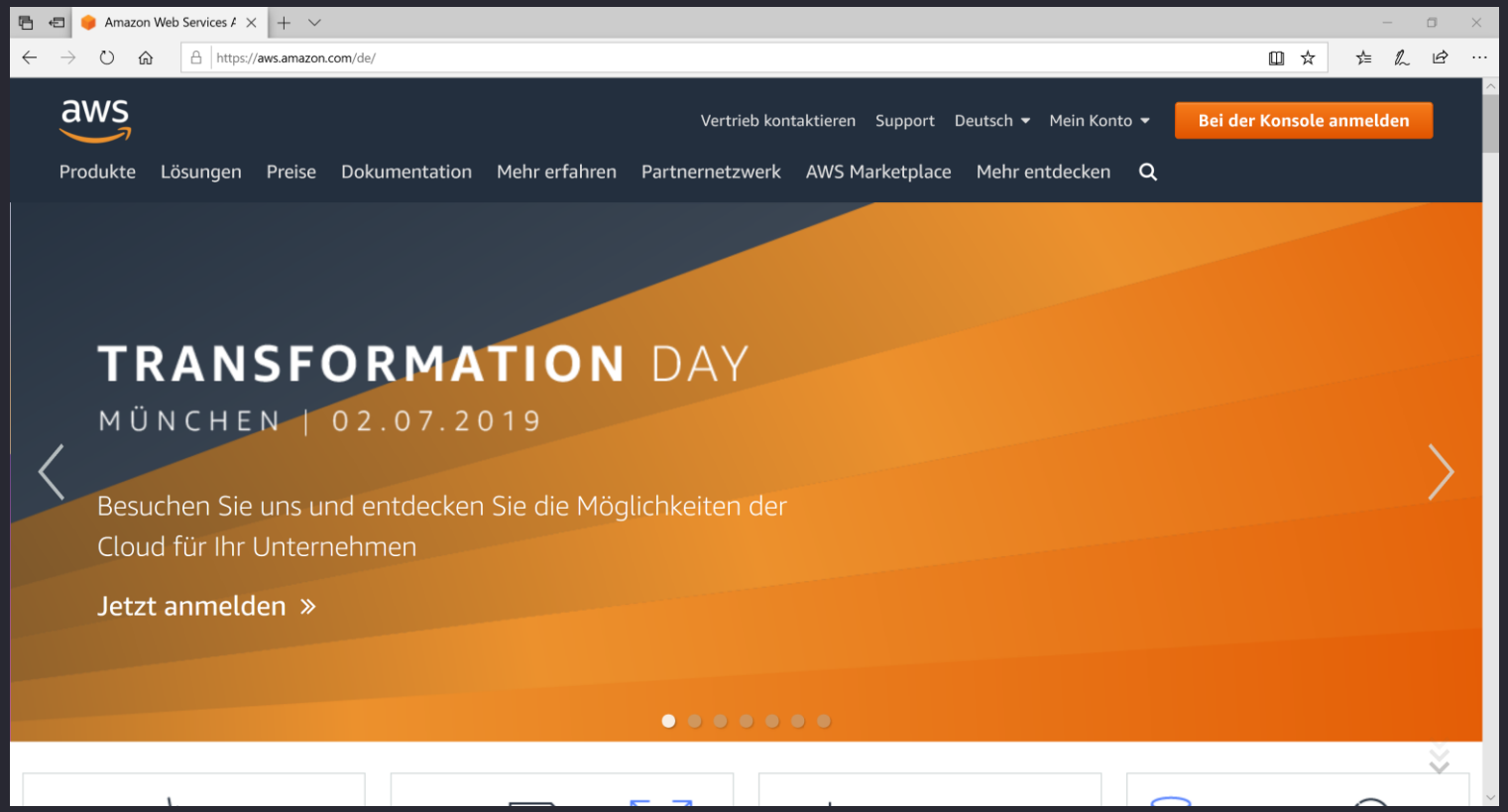
https://developer.amazon.com

Microsoft Azure Account



https://portal.azure.com

Optional: Amazon AWS Account



https://aws.amazon.com

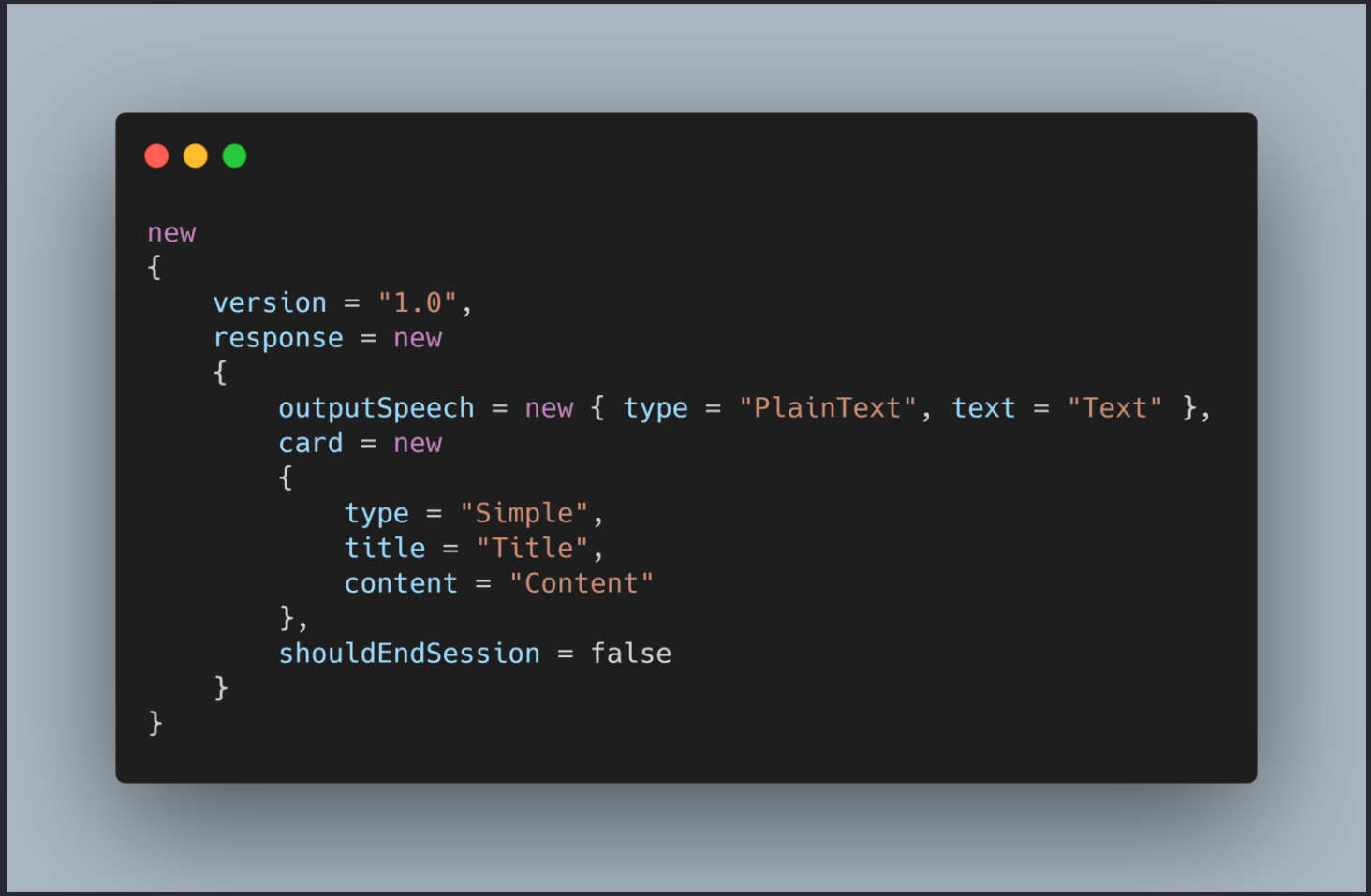
Skill Development

Recap

Alexa Skill Request


```
{
    "version": "1.0",
    "session": {
        "new": true,
        "sessionId": "amzn1.echo-api.session.9342e...",
        "application": { "applicationId": "amzn1.ask.skill.b6e98..." },
        "user": { "userId": "amzn1.ask.account.AHP6B..." }
    },
    "context": {
        "System": {
            "application": { "applicationId": "amzn1.ask.skill.b6e98cc1-fc4b-4a16-8437-df575eb55f7d" },
            "user": { "userId": "amzn1.ask.account.AHP6B..." },
            "device": { "deviceId": "amzn1.ask.device.AHWYP...", "supportedInterfaces": {} },
            "apiEndpoint": "https://api.eu.amazonalexa.com",
            "apiAccessToken": "eyJ0eX..."
        }
    },
    "request": {
        "type": "LaunchRequest",
        "requestId": "amzn1.echo-api.request.23002563-c187-443a-bac5-6b8d75f7b519",
        "timestamp": "2019-06-03T13:24:34Z",
        "locale": "de-DE",
        "shouldLinkResultBeReturned": false
    }
}
```

Alexa Skill Response



```
new
{
    version = "1.0",
    response = new
    {
        outputSpeech = new { type = "PlainText", text = "Text" },
        card = new
        {
            type = "Simple",
            title = "Title",
            content = "Content"
        },
        shouldEndSession = false
    }
}
```

Alexa.NET

```
// read content as skill request
var payload = await req.ReadAsStringAsync();
var skillRequest = JsonConvert.DeserializeObject<SkillRequest>(payload);

// get type of request
var requestType = skillRequest.GetRequestType();

if (requestType == typeof(LaunchRequest))
{
    // handle Launch Request
}

if (requestType == typeof(IntentRequest))
{
    var intentRequest = skillRequest.Request as IntentRequest;

    switch(intentRequest.Intent.Name)
    {
          // handle Intent Request
    }
}
```

https://www.nuget.org/packages/Alexa.NET/

Validate a request

```
using Alexa.NET.Security.Functions;

//...

// Get body and deserialize json
var payload = await req.ReadAsStringAsync();
var skillRequest = JsonConvert.DeserializeObject<SkillRequest>(payload);

// Verifies that the request is a valid request from Amazon Alexa
var isValid = await skillRequest.ValidateRequestAsync(req, log);
if (!isValid)
  return new BadRequestResult();

// ...
```

https://www.nuget.org/packages/Alexa.NET.Security.Functions/

Multilingualism of a Skill

```
public static ILocaleSpeech SetupLanguages(SkillRequest skillRequest)
{
    var store = new DictionaryLocaleSpeechStore();

    store.AddLanguage("en",
        new Dictionary<string, object>
           {
               { "WelcomeSpeech", "ENGLISH" }
           });

    store.AddLanguage("de",
        new Dictionary<string, object>
           {
               { "WelcomeSpeech", "DEUTSCH" }
           });

    var localeSpeechFactory = new LocaleSpeechFactory(store);
    var locale = localeSpeechFactory.Create(skillRequest);

    return locale;
}
```

https://www.nuget.org/packages/Alexa.NET.LocaleSpeech/

Resources

- Amazon Developer Console
  - https://developer.amazon.com/
- Azure Portal
  - https://portal.azure.com
- Sample Code
  - https://github.com/tsjdev-apps/dwx2019-alexa

Any questions?

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Thank you for your attention

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