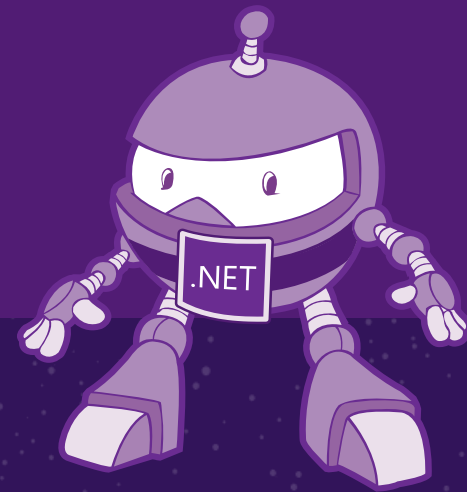


Give our apps a human side with AI



Marco Minerva
Microsoft MVP
<https://about.me/marcominerva>



We're living the AI revolution

Machine Learning and Artificial Intelligence
aren't the End

Machine Learning and Artificial Intelligence
are a Mean: it's up to us to leverage them to
give our apps a real added value

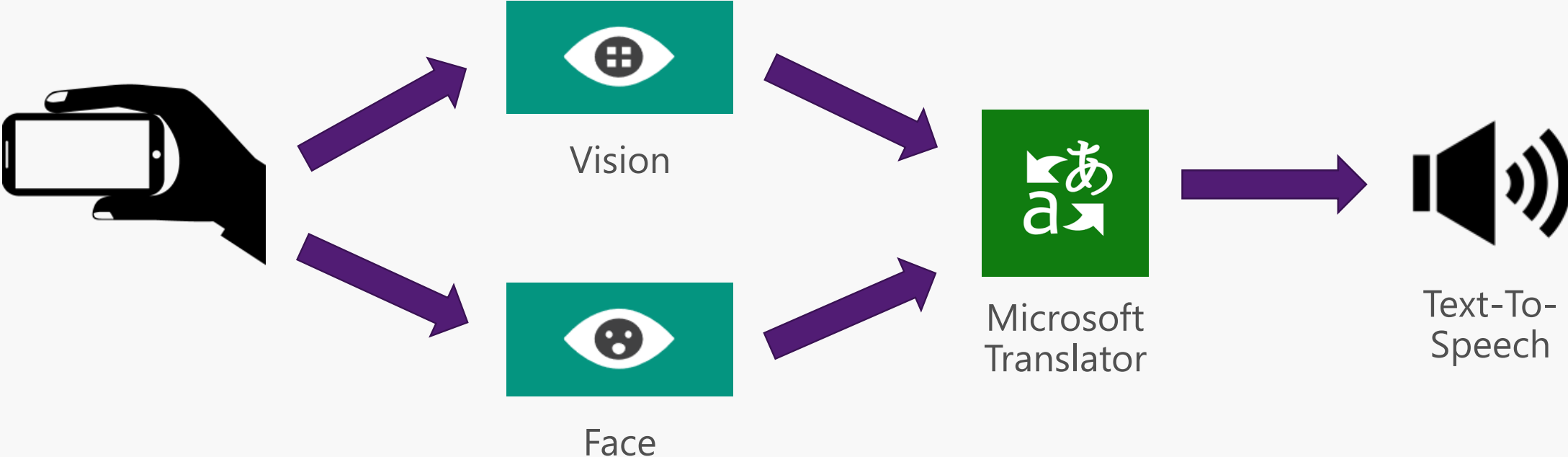
Once upon a time, in 2016...

<https://youtu.be/R2mC-NUAmMk?t=10>

The See4Me project

- An application for «seeing» the world
- Build for vision impaired people
- Use Vision, Face and Translator services to describe pictures, people emotions and age and read them in the user local language
- «Point and Click»

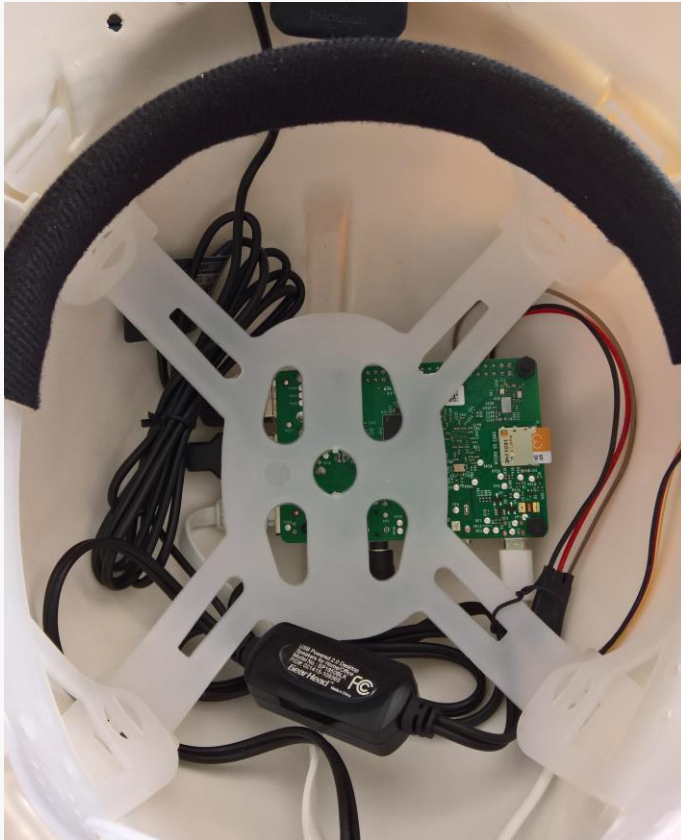
How it works



Demo
See4Me



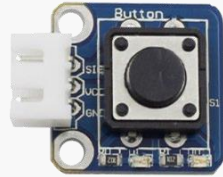
The «Cognitive Helmet»



The Windows 10 IoT Core version



Raspberry Pi 3



Push Button



LifeCam HD-3000



Earphones

Demo

See4Me



Create Cognitive Services resources on Azure

- portal.azure.com

The screenshot displays the Microsoft Azure portal interface. At the top, the navigation bar shows 'Microsoft Azure' and a search bar. Below this, the breadcrumb trail indicates 'Dashboard > New > Cognitive Services'. The main content area is titled 'Cognitive Services' and shows the configuration for a resource named 'all-cognitive-services'. The left-hand navigation pane includes sections for 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', and 'Diagnose and solve problems', followed by a 'RESOURCE MANAGEMENT' section with 'Quick start', 'Keys and Endpoint', and 'Pricing tier'. The main configuration area is divided into two columns. The left column lists properties: Resource group (cognitive-services), Status (Active), Location (West Europe), Subscription (Visual Studio Enterprise with MSDN), and Subscription ID (5b1d0cb9-1133-4077-9c50-e4557463acdb). The right column lists: API type (All Cognitive Services), Pricing tier (Standard), Endpoint (https://westeurope.api.cognitive.microsoft.com/), and Key1 (redacted). A 'Manage keys' link is provided below the key. A small text box on the right side of the page contains a warning: 'Multiple services with a single API key. ... of products and services. Where you send personal data to this service, you are responsible for ... ms in the Online Services Terms do not apply to Bing Search Services. ... controls that may be used to disable new deployments.'

How to call Cognitive Services: via REST

```
public async Task<IEnumerable<BingImage>> SearchImagesAsync(string query, int count = 100)
{
    using var client = new HttpClient
    {
        BaseAddress = new Uri("https://api.cognitive.microsoft.com/bing/v7.0/")
    };

    client.DefaultRequestHeaders.Add("Ocp-Apim-Subscription-Key", AccountKey);

    var queryString = new Dictionary<string, string>
    {
        ["q"] = query,
        ["count"] = count.ToString()
    };

    var uri = "images/search?" + string.Join("&", queryString.Select(q => $"{q.Key}={q.Value}"));

    var response = await client.GetAsync(uri);
    var content = await response.Content.ReadAsStringAsync();
    var values = JToken.Parse(content)["value"].ToString();
    var results = JsonConvert.DeserializeObject<IEnumerable<BingImage>>(values);

    return results;
}
```

How to call Cognitive Services: via SDK

- NuGet packages Microsoft.Azure.CognitiveServices.*

```
public async Task<IEnumerable<ImageObject>> SearchImagesAsync(string query, int count = 100)
{
    var client = new ImageSearchClient(new ApiKeyServiceClientCredentials(AccountKey))
    {
        Endpoint = "https://api.cognitive.microsoft.com"
    };

    var result = await client.Images.SearchAsync(query, count: count);
    return result.Value;
}
```

Demo

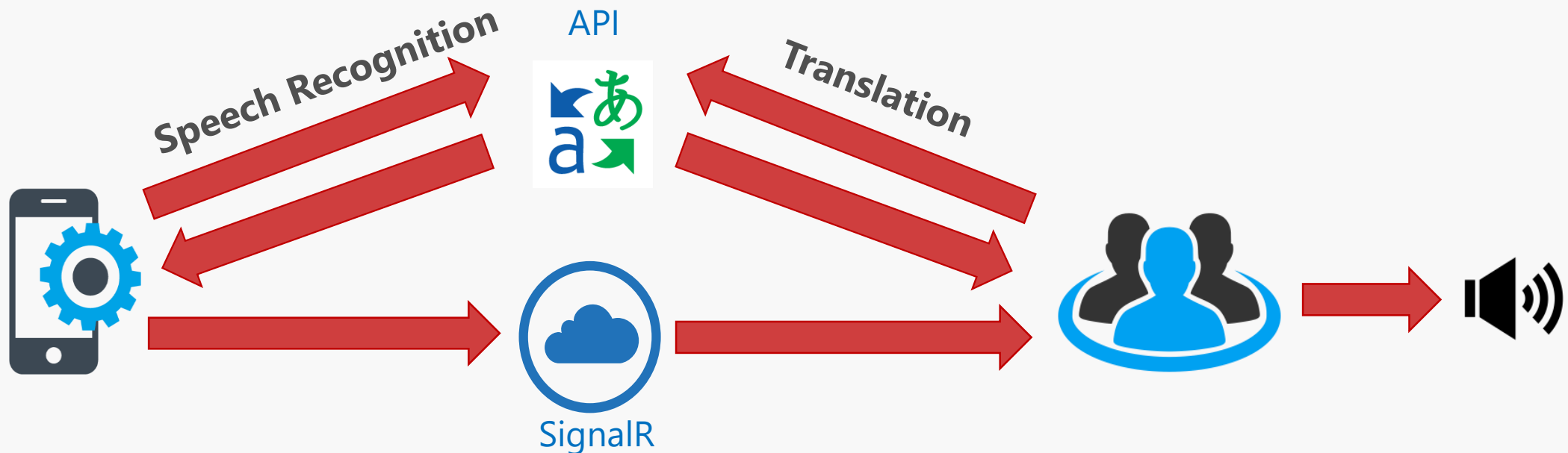
Cognitive Services



.NET

Case study: Multilanguage chat

- Speech and Translator Service
- Communication via SignalR
- Deployed on Azure
- Available for Windows and smartphone



Demo

Multilanguage chat



Resources

- <https://github.com/DotNetToscana/See4Me>
- <https://github.com/marcominerva/AI-Samples>
- <https://github.com/marcominerva/MultilanguageChat>
- <https://docs.microsoft.com/en-us/azure/cognitive-services/cognitive-services-apis-create-account-cli>
- <https://docs.microsoft.com/en-us/azure/cognitive-services>

Thanks! Questions?



Marco Minerva - @marcominerva
Microsoft MVP – Windows Development
<http://about.me/marcominerva>

