Give our apps a human side with AI

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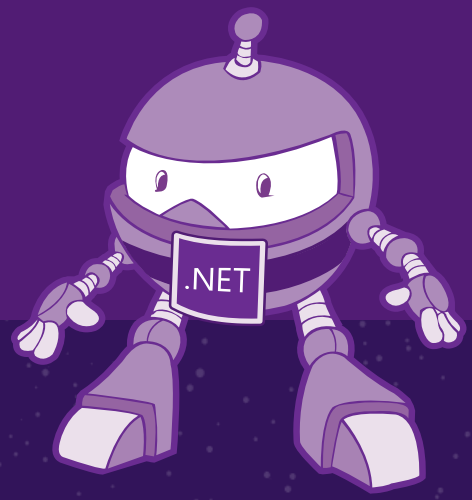


We're living the AI revolution

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

Cognitive Services

.NET

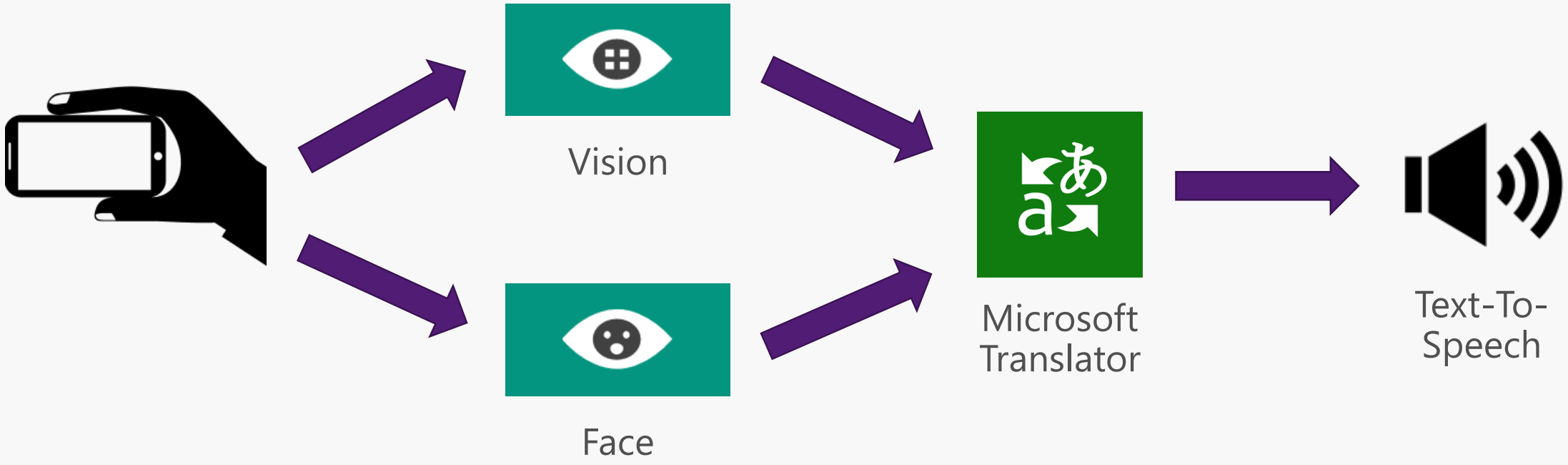
Once upon a time, in 2016…

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»

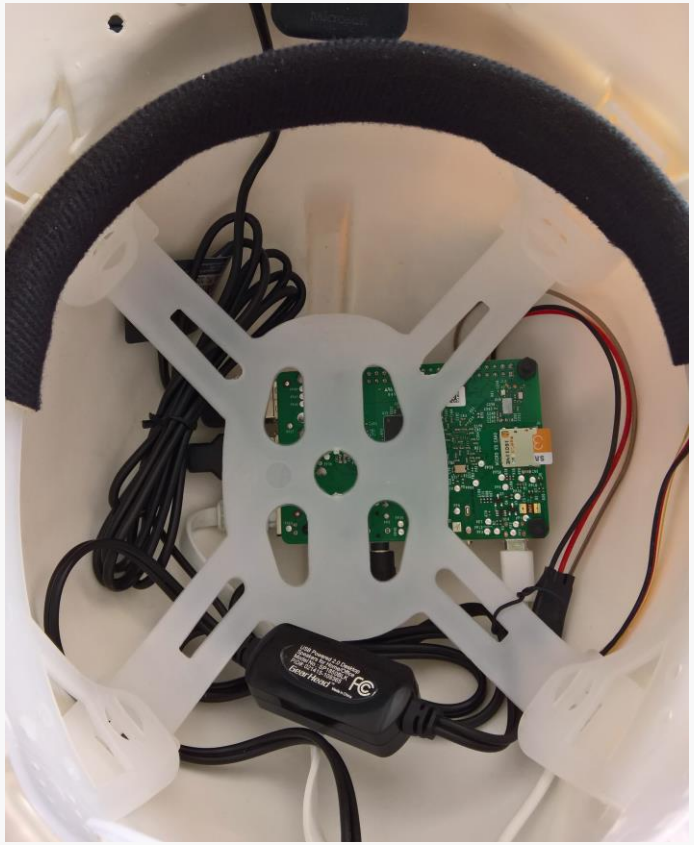
How it works



Demo

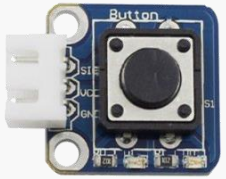
See4Me

The «Cognitive Helmet»



The Windows 10 IoT Core version

Raspberry Pi 3



Push Button

LifeCam HD-3000

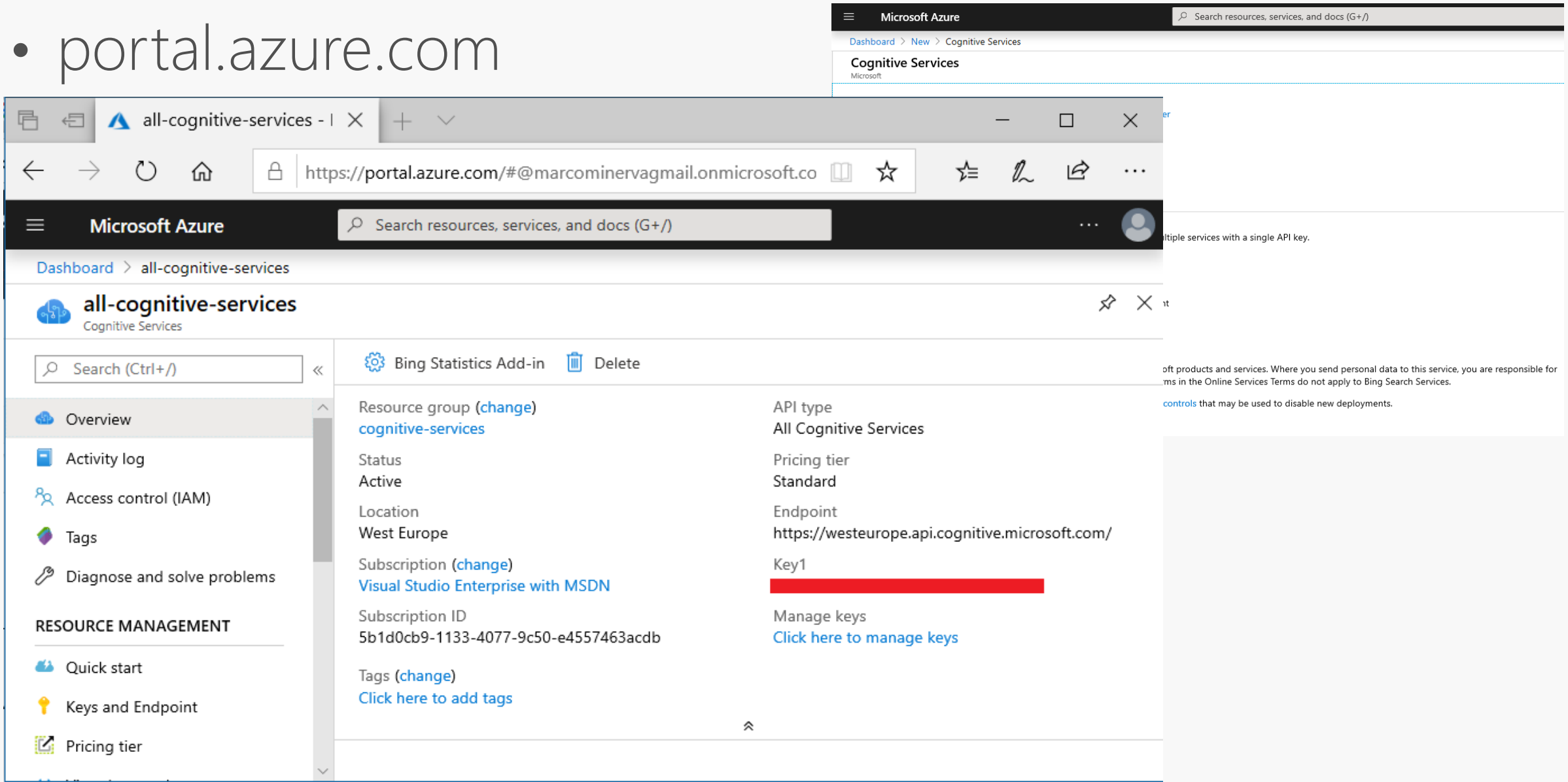
Earphones

Demo

See4Me

Create Cognitive Services resources on Azure

- portal.azure.com



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.*

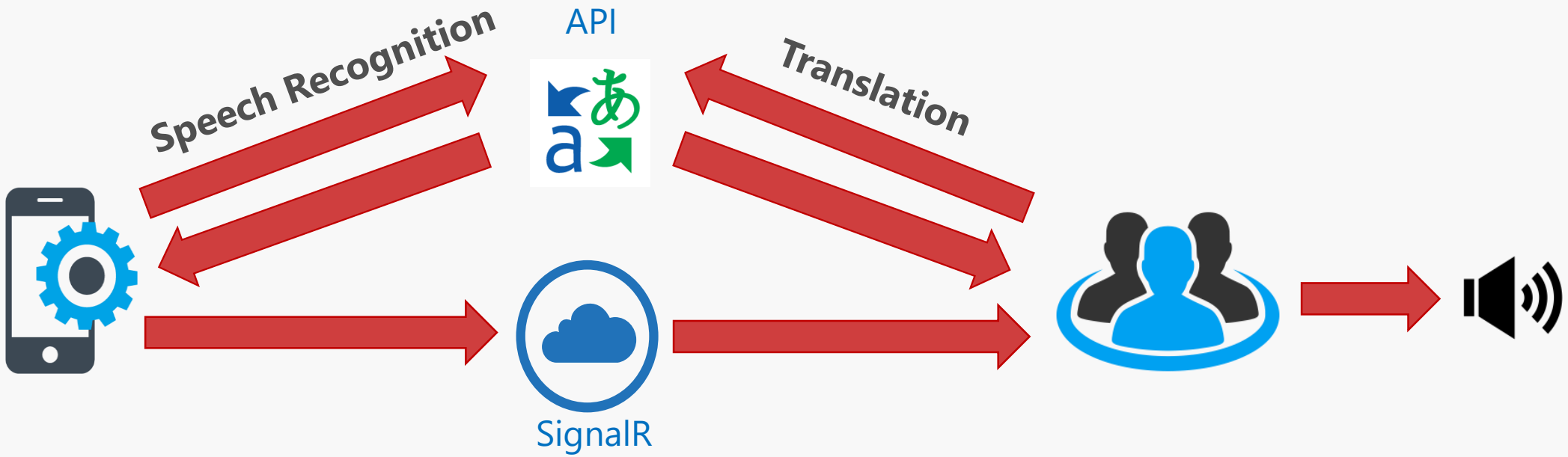
```
public async Task<IEnumerable<ImageObject>> SearchImagesAsync(string query, int count = 100)
{
    var client = new ImageSearchClient(new ApiKeyServiceClientCredentials(AccountKey))
    {
        Endpoint = "https://api.cognitive.microsoft.com"
    };

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

Demo
Cognitive Services

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?

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