

The Future of Web Accessibility

With Blazor and Microsoft
Cognitive Services

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Microsoft MVP
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Introduction

[Home](#)[Optimism](#)[Passion](#)[Purpose](#)

Welcome to a positive lifestyle!



Welcome on my website about a positive lifestyle. Too many people have stress that results in Burn-out, boredom and depression. I want to give you 3 easy advices for a positive and happy lifestyle. On this site you find advice on:

- Optimism
- Passion
- Purpose

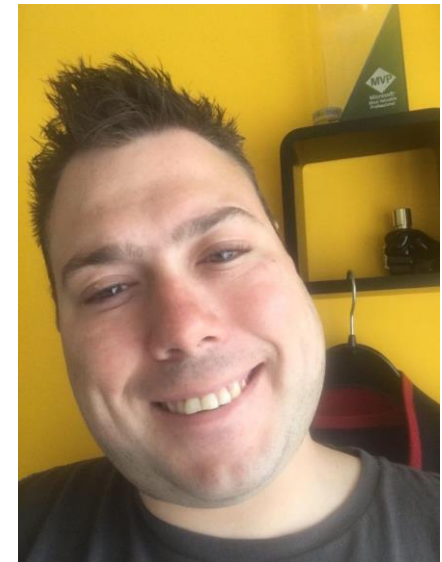
Feel free to browse around for inspiration.

Content

- Introduction
- The Basics of Accessibility – Learning Disabilities, Autism & More
- Introducing to The Future of Web Accessibility with Demo
- Step-By-Step Guide

Who am I?

- Dennie Declercq
- DDSoft
- President / Developer
- @DennieDeclercq
- #DreamingIsBelieving



Why Blazor and Cognitive Services?

Blazor

- Don't like JavaScript
- Never 'had JS under control'

Cognitive Services

- Possibilities that weren't possible
- True horse power

The basics of Accessibility

Learning Disabilities // Autism
Spectrum Disorder //
Neurodiversity // Mental Health

Difficulties

- Learning Disability
 - Reading
 - Understanding / Cognition
 - Structure
- Autism / Autism Spectrum Disorder
 - Structure
 - Confirmation
- Dyslexia
 - Reading
- Mental Health
 - Structure (sometimes)
 - Confirmation



The Power of
Text-To-
Speech in
Mobile apps

No, No, No Narrator or Voice Over

Narrator / Voice Over

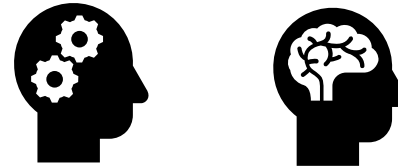
- Blind / Vision Loss



- How does it work?
- ➔ Reads sequentially whole screen

Text-To-Speech

- Learning Disability
- Dyslexia



- How does it work?
- ➔ Click a control and read aloud

Introducing The Future of Web Accessibility

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Warning



Demo

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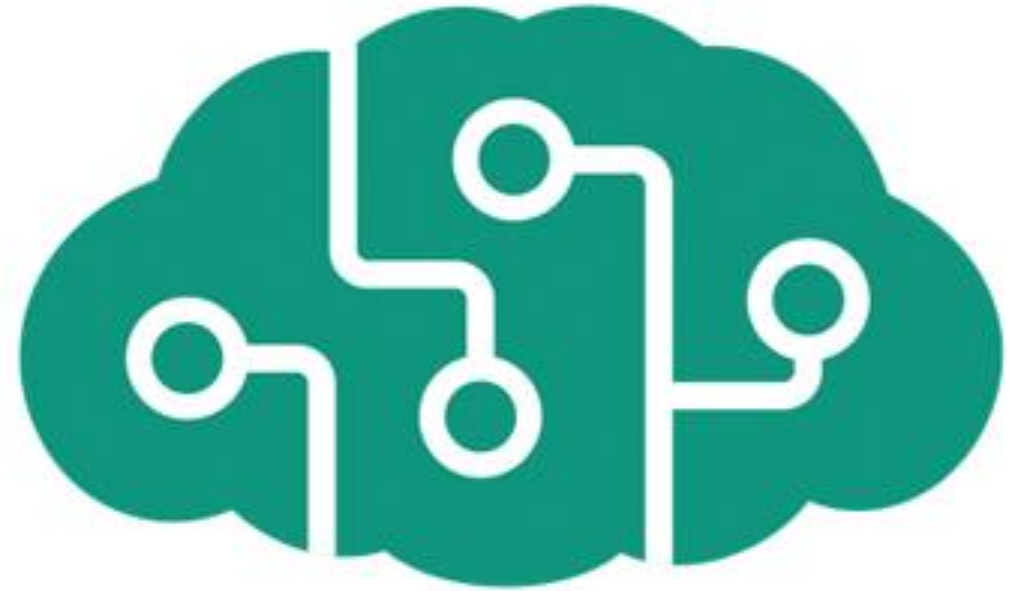
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Step-By-Step Guide to Implement

—

Microsoft Cognitive Speech



Microsoft

Cognitive Services

[Home](#) > [New](#) > [Marketplace](#) >

Speech

Microsoft



Speech

Microsoft

 [Save for later](#)

Create

Overview

[Plans](#)

[Usage Information + Support](#)

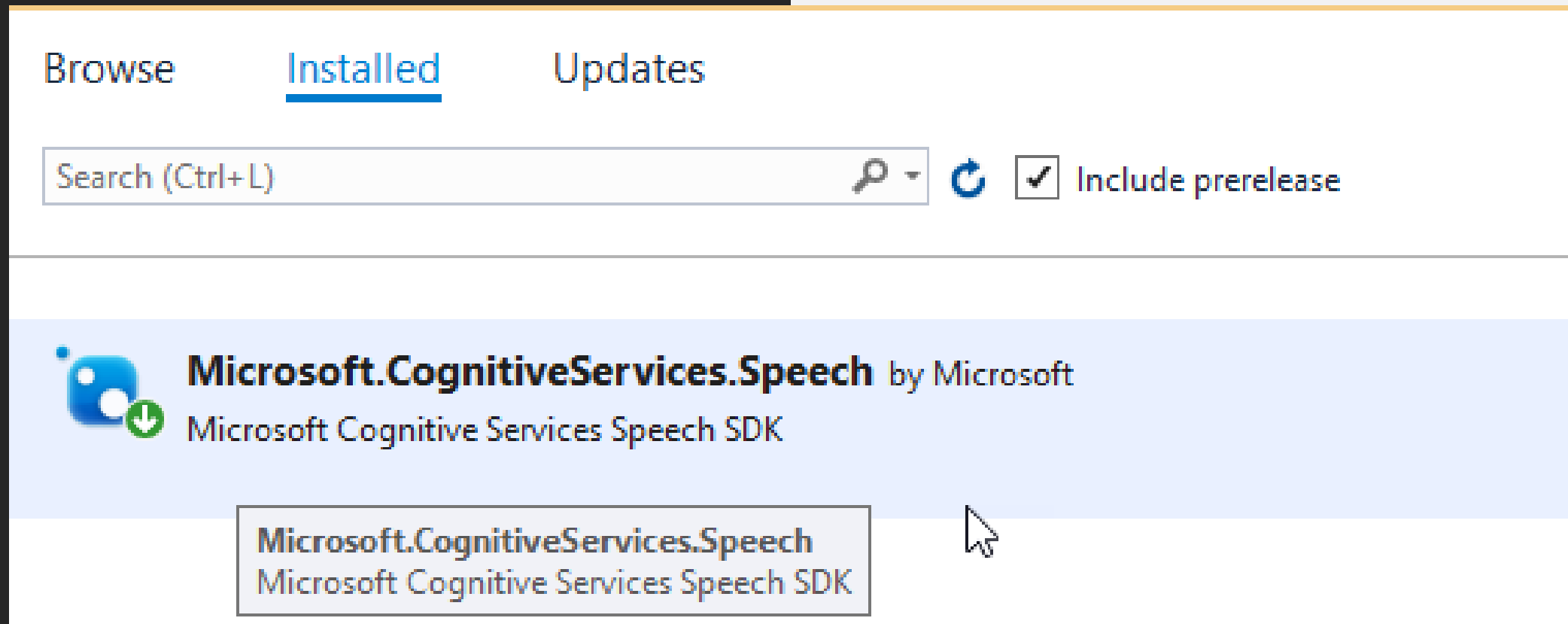
Transcribe audible speech into readable, searchable text. Add real-time speech translations to your apps and services. Convert text to audio nearly in real time. Quickly build speech-enabled apps and services using the programming languages you already work with. Customize speech systems to optimize quality for specific scenarios.

Creating a Speech Service

Demo: Creating a Speech Service

NuGet Package

Microsoft.CognitiveServices.
Speech



0 references

```
public static class KEYSDEMO
{
    public static string Key1 = "";
    public static string Region = "northeurope";
}
```

Keys.cs

Public Static Class with
connection keys to Microsoft
Cognitive Services

CSSpeechService.cs

- Code To call speech API

```
public async Task SynthesisToSpeakerAsync(string text)

    // Creates an instance of a speech config with specified subscription key and service region.
    // Replace with your own subscription key and service region (e.g., "westus").
    var config = Microsoft.CognitiveServices.Speech.SpeechConfig.FromSubscription(KEYS.Key1, KEYS.Re

    // Creates a speech synthesizer using the default speaker as audio output.
    using (var synthesizer = new SpeechSynthesizer(config))
    {
        using (var result = await synthesizer.SpeakTextAsync(text))
        {
            if (result.Reason == ResultReason.SynthesizingAudioCompleted)
            {
                // ...
            }
        }
    }
}
```

JavaScript in Host.cshtml

```
<script>
  window.getElementText = (element, text) => {
    text = element.innerText;
    return text;
  }
</script>
```

- Select HTML element:
 - Heading
 - Paragraph
 - ...

PageCode



```
graph LR; A["@inject IJSRuntime"] --> B["+ next Slides"]
```

@inject
IJSRuntime

+ next
Slides

Adding References to Elements

- Elements:
 - Headings
 - Paragraphs
 - ..
- Add: @Ref="RefName" <EL @ref="RefName">Content</EL>
- In @Code block:
 - Private ElementReferene RefName

```
<h1 @ref="PageHead">Passion</h1>
```

```
private ElementReference PageHead;
```

ReadAloud method

```
private async Task<bool> ReadAloud(ElementReference elementRef)
{
    infoFromJs = await JSRuntime.InvokeAsync<string>(
        "getElementText", elementRef);
    await speech.SynthesisToSpeakerAsync(infoFromJs);
    return true;
}
```

EventHandlers

```
private async Task<bool> ReadHead()  
{  
    await ReadAloud(PageHead);  
    return true;  
}
```


Be aware of Basic HTML Accessibility

-
- Alt
 - Usage of Headings
 - Color contrast
 - Aria
 - Aria-hidden

The background features several concentric circles in a light blue color. A dashed line of the same color starts from the left edge and curves around the text, ending on the right side.

▼ Walking over the
Demo Solution (again)

Wrap up



Thanks || Q&A

-
- Dennie Declercq
 - dennie@ddsoft.be
 - @DennieDeclercq
 - #DreamingIsBelieving