



Simon Says



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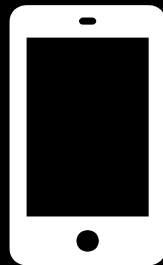
Adrian Rembisz



Założenia

- Prosta aplikacja sterowana głosem
- Możliwość uruchomienia na kilku platformach
- Test wydajności silnika rozpoznawania mowy





Speech to text

Za pomocą za pomocą Windows.Media.SpeechRecognition



Możliwości

- Speech to text
- Text to speech
- Wbudowane UI
- Constraints
- Continuous dictation
- Funkcje asynchroniczne



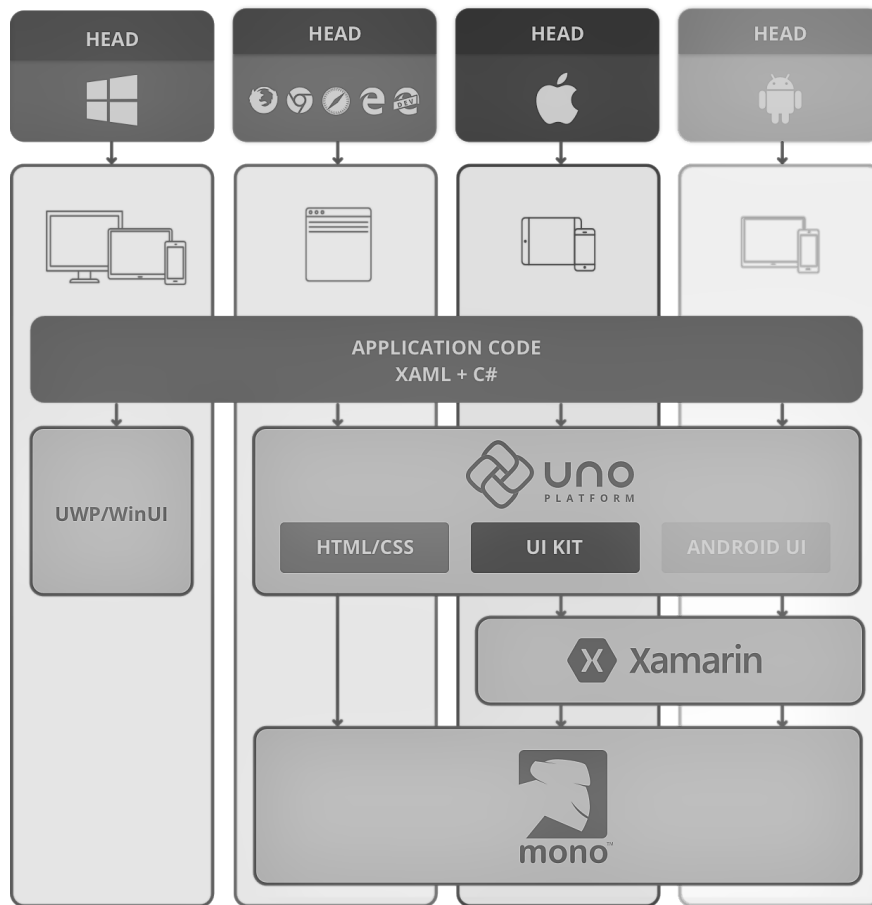
Jeden kod na wielu platformach

- Xamarin
- Mono





Uno Platform





Uno platform c.d.

Implementacja Windows.Media.SpeechRecognition
na inne platformy

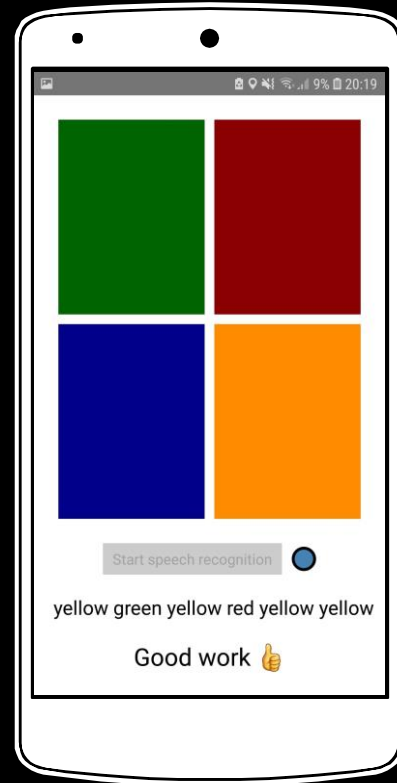


Supported Features

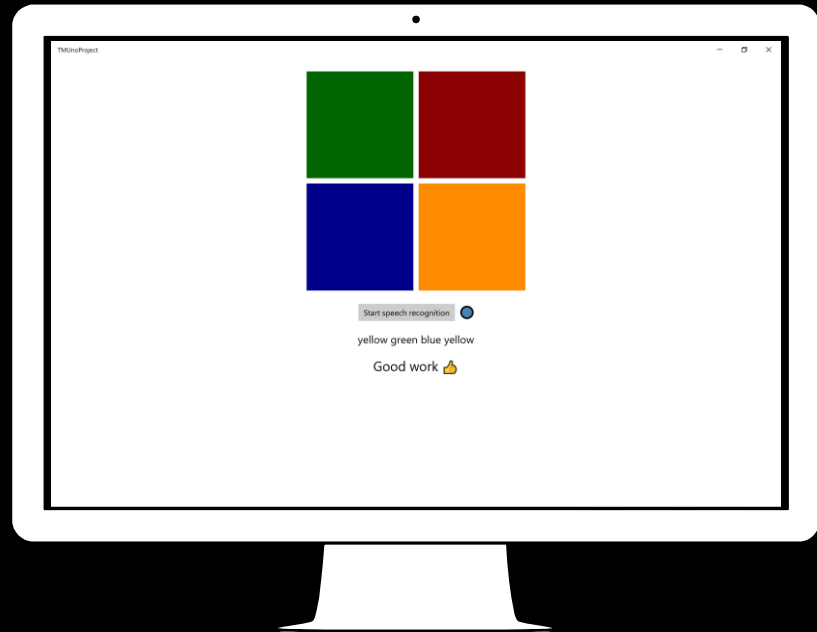
Following features of `Windows.Media.SpeechRecognition.SpeechRecognizer` are currently supported:

Feature	iOS	Android	Remarks
<code>SpeechRecognizer()</code>	X	X	
<code>SpeechRecognizer(Language)</code>	X	X	
<code>Constraints</code>	-	-	
<code>ContinuousRecognitionSession</code>	-	-	
<code>CurrentLanguage</code>	X	X	
<code>State</code>	X	X	
<code>SupportedGrammarLanguages</code>	-	-	
<code>SupportedTopicLanguages</code>	-	-	
<code>SystemSpeechLanguage</code>	-	-	
<code>Timeouts</code>	X	X	
<code>UIOptions</code>	X	X	Not used
<code>CompileConstraintsAsync()</code>	X	X	Always return Success (implemented to meet UWP constraint that requires <code>CompileConstraintsAsync()</code> to be called before <code>RecognizeAsync()</code>)
<code>Dispose()</code>	X	X	
<code>RecognizeAsync()</code>	X	X	
<code>RecognizeWithUIAsync()</code>	-	-	
<code>StopRecognitionAsync()</code>	X	X	
<code>TrySetSystemSpeechLanguageAsync(Language)</code>	-	-	
<code>HypothesisGenerated</code>	X	X	
<code>RecognitionQualityDegrading</code>	-	-	
<code>StateChanged</code>	X	X	

Android project



Desktop project





Pomiary skuteczności systemu

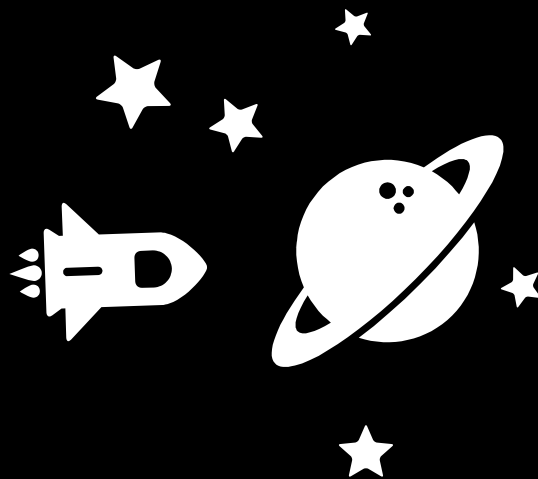
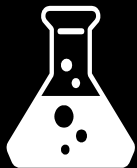
- SNR: 40 dB 😊
- SNR: 30 dB 😐
- SNR: 20 dB ☹️



Źródła

- <https://docs.microsoft.com/pl-pl/uwp/api/Windows.Media.SpeechRecognition>
- <https://docs.microsoft.com/en-us/windows/uwp/design/input/speech-recognition>
- <https://docs.microsoft.com/en-us/windows/uwp/design/input/define-custom-recognition-constraints>
- <https://docs.microsoft.com/en-us/windows/uwp/design/input/enable-continuous-dictation>
- <https://platform.uno/how-it-works/>
- <https://platform.uno/docs/articles/features/SpeechRecognition.html>

Kod źródłowy: <https://github.com/VGFP/TMUnoProject>



Prezentacja aplikacji



Dziękujemy
za uwagę