

Watson Interactive Sign Language

using IBM Watson's Visual Recognition.

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WISL

We Hear You ...

Watson Interactive Sign Language

- Visual Recognition Main Concept
- Our Idea
- WISL
- Pros and Cons
- Future improvements

Visual Recognition Main Concept

Visual Recognition understands the contents of images, find human faces, approximate age and gender, and find similar images in a collection.



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Our Idea



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WISL (Watson Interactive Sign Language)

Our application contains three stages:

- **Unlocking the App:**
You can unlock our application simply by gesturing to the webcam of your computer with the V signal.



WISL (Watson Interactive Sign Language)

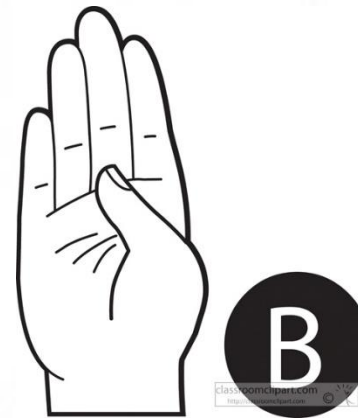
- Choose a preferred language:

Our application accepts two languages:

English



Deutsch



WISL (Watson Interactive Sign Language)

- **Turning your gestures into action**

In this part, the user should choose one of the following actions:

“A” to open Google maps.

“B” to open Google translate.

“C” to open YouTube.

“V” remotely controlling the music of another Laptop.







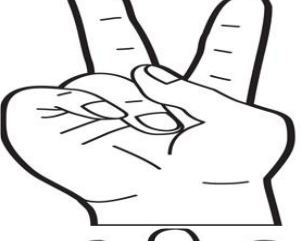



“5” Sending an e-mail to a predefined user.

WISL (Watson Interactive Sign Language)

Remotely controlling the music of another Laptop:

- We created a server which contains mySQL database and PHP page.
- When the user gesture with letter “V” the application will send a request to PHP page with binary signal “1”.
- Then a running background application on the remoted device will check for this binary signal in the web application, every two seconds.
- When the signal is found the action will start and the signal on the PHP page will rest to “0”.

WISL

Gesture	Action
 	Google Maps
 	Google translate
 	YouTube
 	Remote a Music Player
 	SOS

The background of the slide is a blurred, high-angle photograph of a modern building's interior. It shows a staircase with a glass railing on the right side, leading down. The walls and ceiling are light-colored, and the overall atmosphere is bright and airy. The text is overlaid on the left side of the image.

To the application...

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Pros & Cons

Pros:

- Using Google Visual Recognition: the application responds only when a gesture (finger) is shown, this will limit the error of choosing a random class from our define classes on Watson visual recognition.



Google Research

Cons:

- Limited training for Watson classifier.
- Using existing dataset to train the classifier.
- Limited number of frames, 1 frame per 5 seconds.

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Future improvements...

- Full understanding of all gestures made by muted people (alphabet / words)
- Real time processing of images (30 frames/sec)



Future improvements...

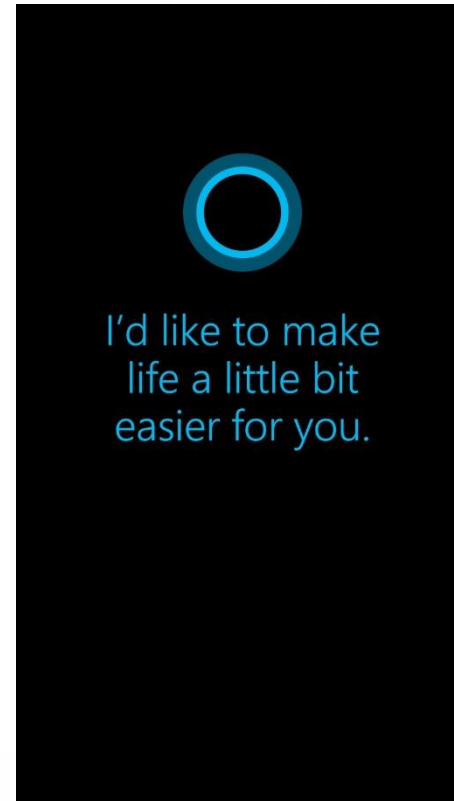
- Using WISL with IOT applications



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Future improvements...

- Connecting WISL with a personal assistant (Siri, Cortana, Bixby...)



Future improvements...

- Gesture to text
- Gesture to speech



Thank you for your attention