Wikispeech
Making Wikipedia accessible through speech technology

André Costa,
Sebastian Berlin

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Wikimania 2019

The Problem

- 25-30% auditory learners
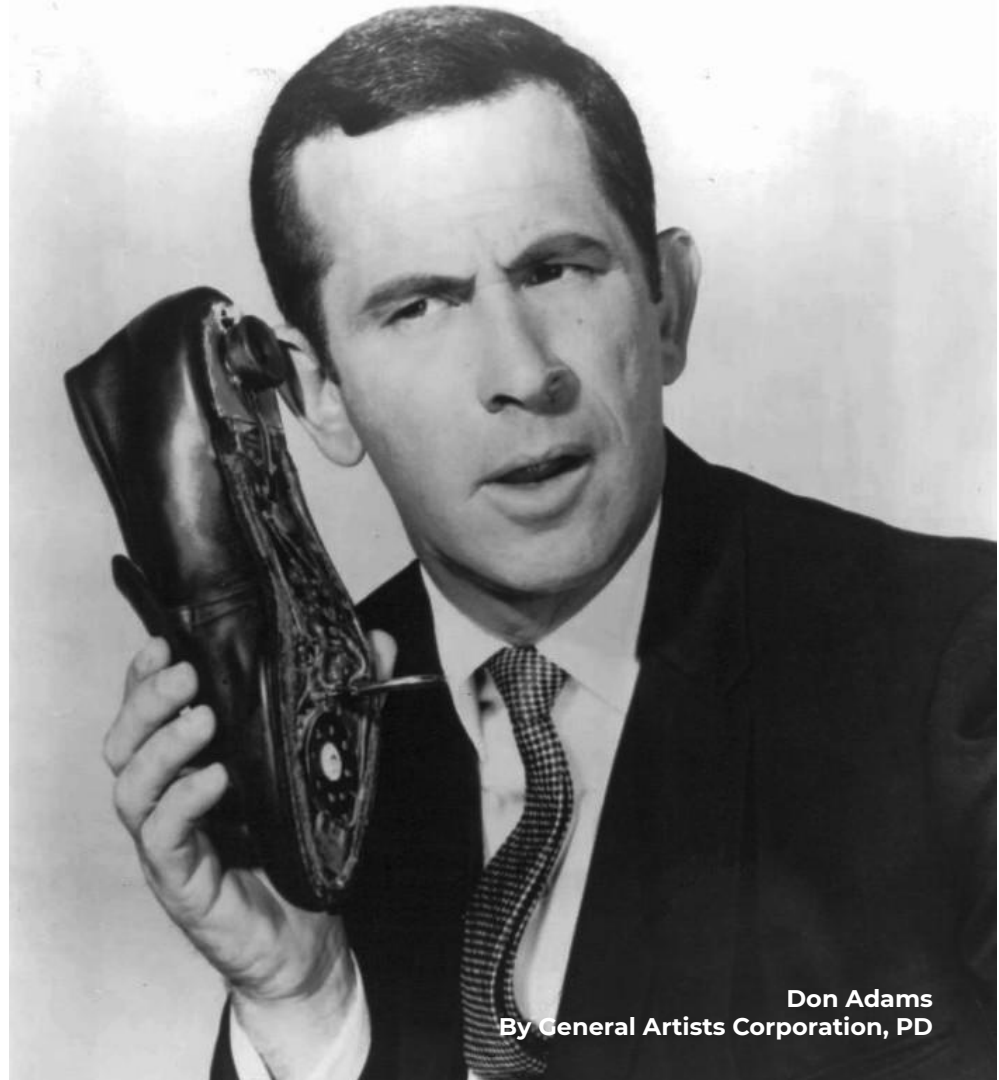- 14% illiteracy rate globally

These (potential) users are not being served by our platforms in the way they deserve.

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Painting by Harold Copping, PD

Existing solutions

- Commercially profitable languages
- Proprietary, often expensive
- Require install
- Often don't respect the privacy of your data

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Don Adams
By General Artists Corporation, PD

Wikispeech

Purpose

- Make Wikipedia accessible for anyone that faces reading difficulties
- Server based solution integrated with the wiki
- In the wiki spirit: users can contribute
- Modular to allow integration of more languages

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Wikispeech (2016-2018)

- Developed MediaWiki extension and TTS backend
- Text-to-speech is currently available for English, Arabic and Swedish
- Listen, highlighting, navigate and configure
- A developer version of the tool is available for testing at wikispeech.wmflabs.org

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Demo, en

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Blonde on Blonde is the seventh studio album by American singer-songwriter Bob Dylan, released on May 16, 1966, on Columbia Records. Recording sessions began in New York in October 1965 with numerous backing musicians, including members of Dylan's live backing band, the Hawks. Though sessions continued until January 1966, they yielded only one track that made it onto the final album—"One of Us Must Know (Sooner or Later)". At producer Bob Johnston's suggestion, Dylan, keyboardist Al Kooper, and guitarist Robbie Robertson moved to the CBS studios in Nashville, Tennessee. These sessions, augmented by some of Nashville's top session musicians, were more fruitful, and in February and March all the remaining songs for the album were recorded.

Blonde on Blonde completed the trilogy of rock albums that Dylan recorded in 1965 and 1966, starting with *Bringing It All Back Home* and *Highway 61 Revisited*. Critics often rank *Blonde on Blonde* as one of the greatest albums of all time. Combining the expertise of Nashville session musicians with a modernist literary sensibility, the album's songs have been described as operating on a grand scale musically, while featuring lyrics one critic called "a unique mixture of the visionary and the colloquial".

Joan Baez and Bob Dylan
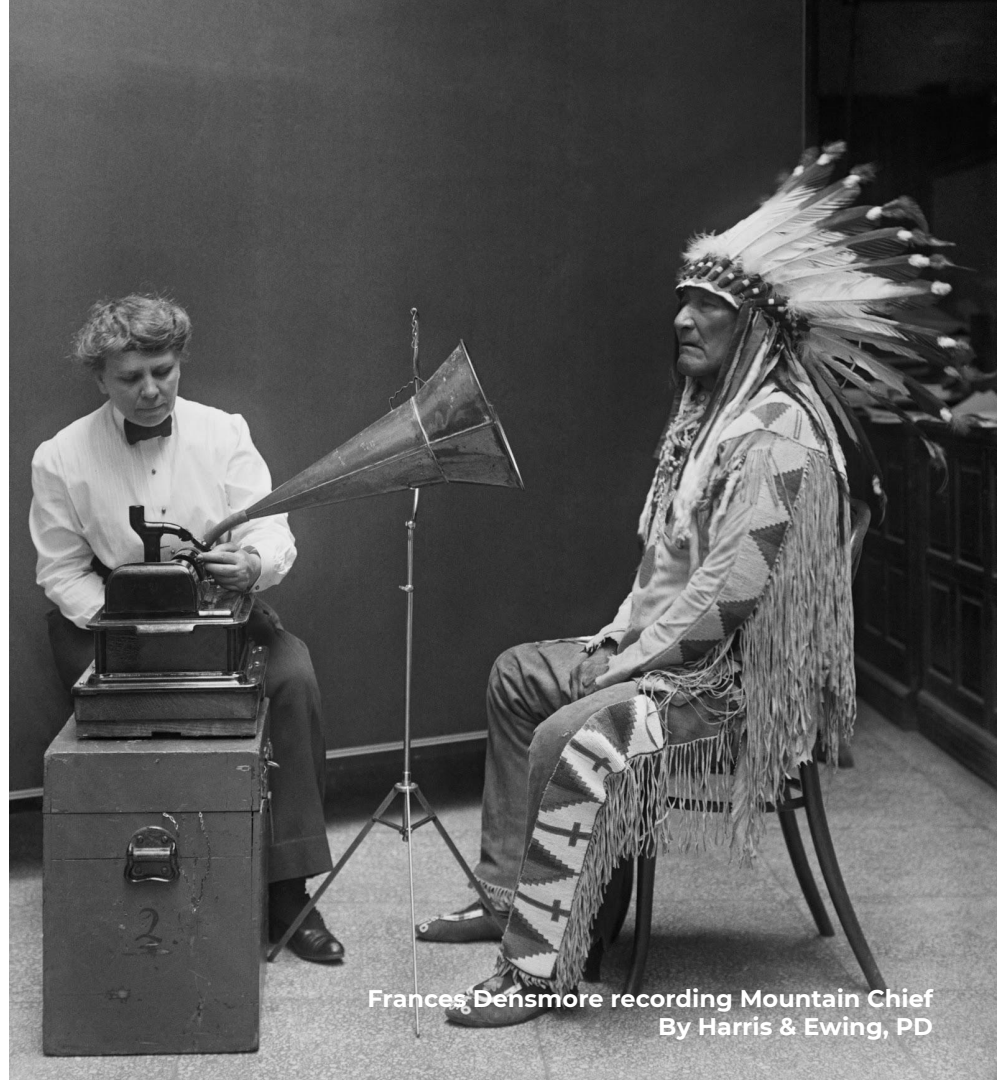
Wikispeech (2019-2021)

- Finalize the Wikispeech reader
- Adding support for community contributions:
  - Flag and fix pronunciation of words
  - Page specific annotations

Wikispeech
Speech Data Collector

The Problem

- Limited open speech data, especially beyond the larger European languages
- Speech data is the cornerstone of any modern speech technology

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Frances Densmore recording Mountain Chief
By Harris & Ewing, PD

Purpose

Free and open toolkit, allowing collection of data beyond the languages that are the most profitable for commercial products.

- Tools for crowdsourced creation of speech data
- Methodology and toolkits for volunteer driven crowdsourcing events
- Freely licensed to allow use beyond Wikimedia

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More than just recording

The tools are meant to assist with:
- i. Collection of speech recordings
- ii. Validation of the data
- iii. Annotation of the data
- iv. Creation of phonetically balanced manuscripts

Getting involved

- 2020: Volunteers needed for pilots to test tools and the methodology.
- 2021: Large scale use and data collection.

Delaying large scale crowdsourcing in part to explore the limits imposed by privacy laws (such as GDPR).

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Future uses of the data

- **More voices and new languages for Wikispeech**
- **Individual words:**
  - **Improve Wikispeech**
  - **Use on Wikidata/Wiktionary**

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Women Watching Stars
By Chōu Ōta, PD

Future uses of the data

- Language preservation?
- Oral citations?
- Research/AI on speech data
- Third party tools

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By Chōu Ōta, PD

Long term perspective

Wikispeech will make Wikipedia and its sister projects more accessible to people that are illiterate or auditory learners

… allowing more people to gain knowledge from our content

10 REDUCED INEQUALITIES

4 QUALITY EDUCATION

Long term perspective

More democratic speech collection, may prevent inadvertent discrimination in future technologies:

- Voice recognition trained on a broader spectrum of people
- More diverse voices can be represented in text-to-speech solutions.

4 QUALITY EDUCATION

10 REDUCED INEQUALITIES

5 GENDER EQUALITY

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Long term perspective

Allow more people to provide their knowledge through innovative solutions e.g. speech recognition, oral citations. Especially languages where there are no viable commercial products.

Target work to collect speech data e.g. health terminology increases reach of such information

Questions?!

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TACK!

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