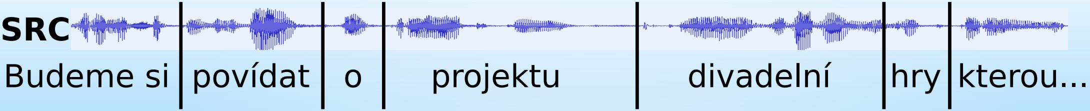
SLTev
Comprehensive Evaluation of Spoken Language Translation

Ansari E, Bojar O, Haddow B, Mahmoudi M

Spoken Language Translation

SRC

Spoken Language Translation



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Budeme si | povídat | o | projektu | divadelní | hry | kterou...

Spoken Language Translation

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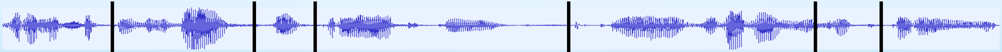

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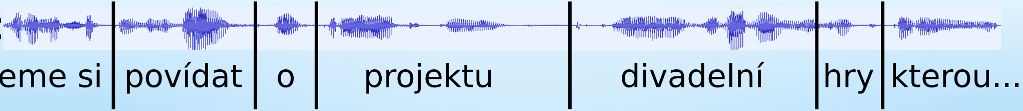

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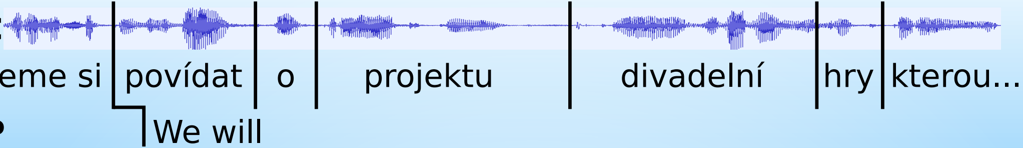

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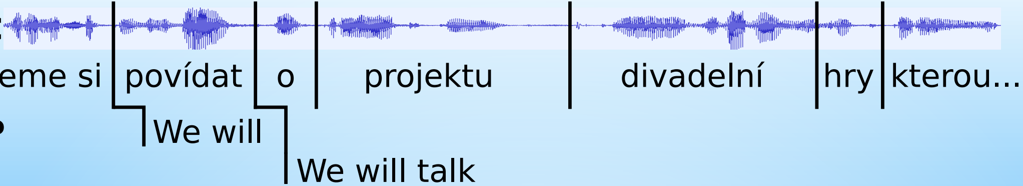

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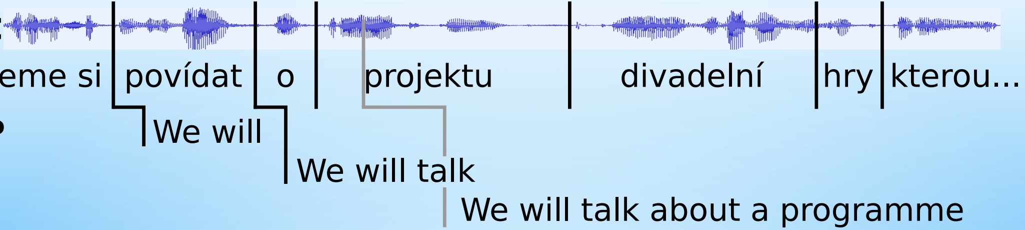

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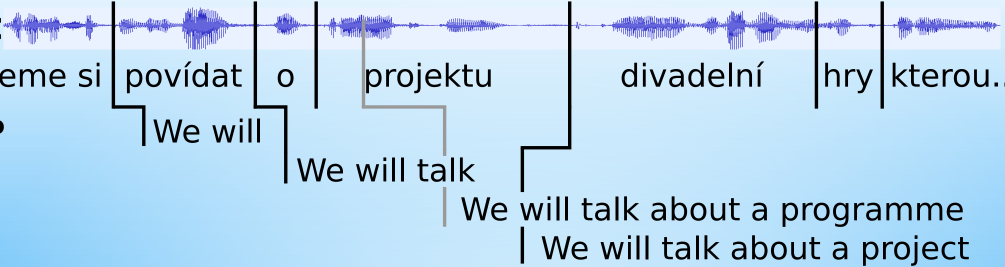
Spoken Language Translation with Revisions



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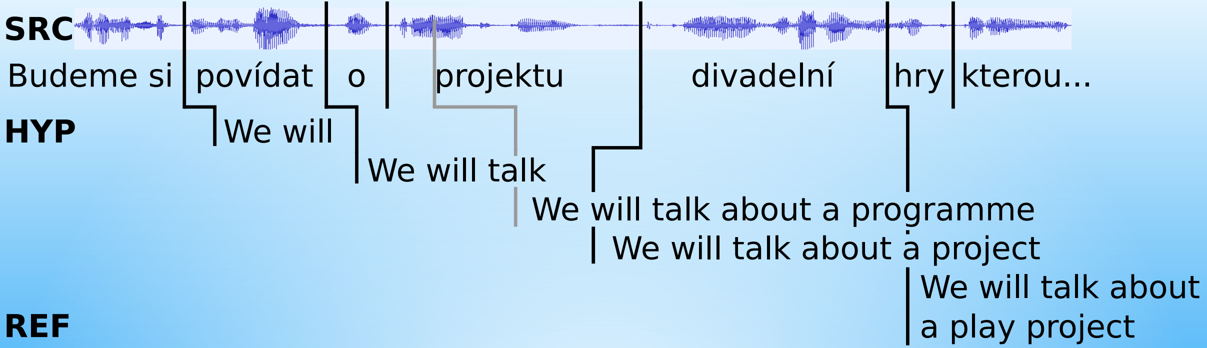

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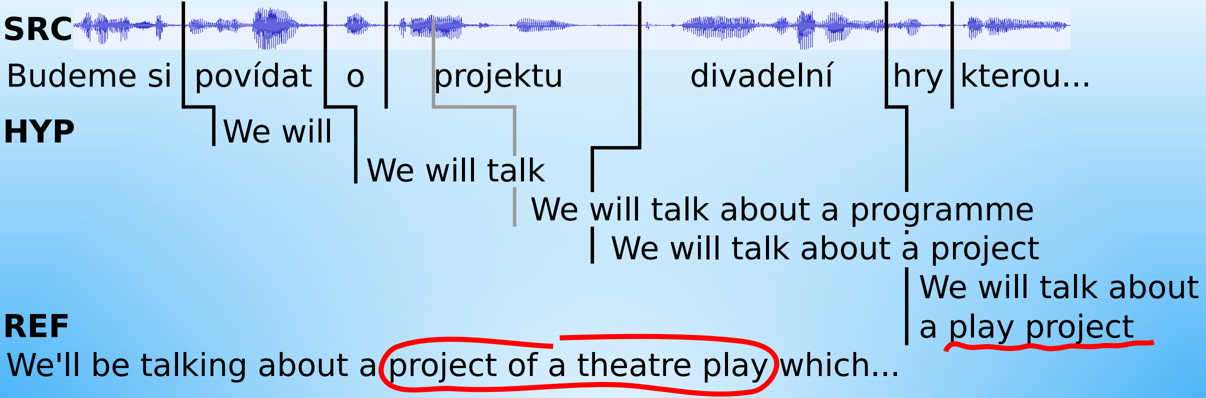
Spoken Language Translation Errors



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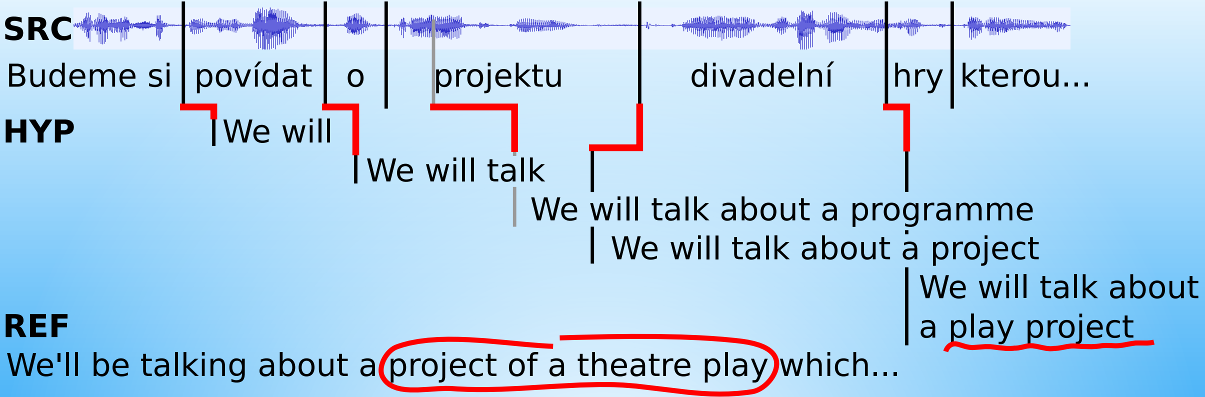
Spoken Language Translation Delay



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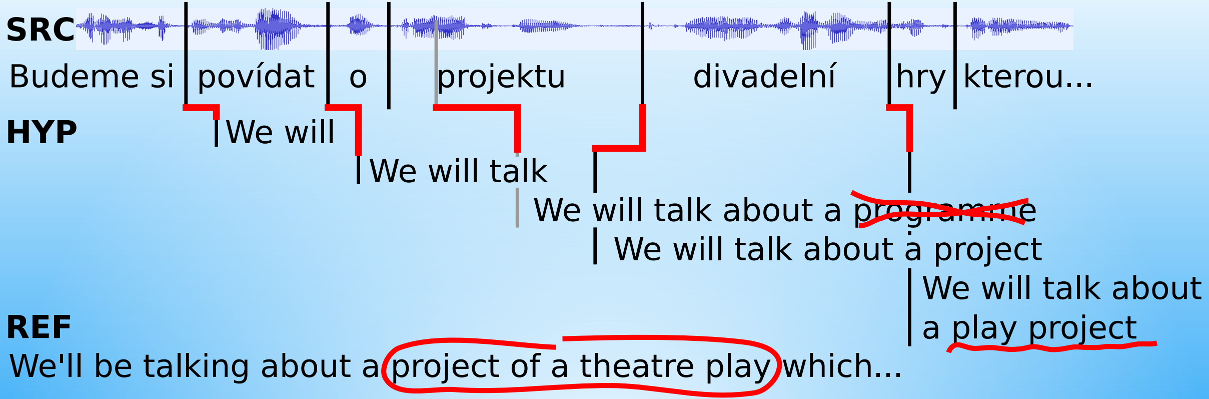
Spoken Language Translation Flicker



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SLTev – Comprehensive Evaluation of SLT

`https://github.com/ELITR/SLTev`

Installation:

- `pip3 install SLTev`

Usage:

- Provide timestamped logs, no server-client API.

SLTev evaluates:

- Quality = BLEU or chrF3 (via sacreBLEU).
- Delay = How long we had to wait *beyond necessary word reordering*.
- Flicker = How much of our reading was wasted.

SLTev Comes with elitr-testset

- Developed by the EU project ELITR.

  (See our other demo at EACL 2021: **ELITR Multilingual Subtitling**.)
- elitr-testset focuses on:
  - Multi-lingual ASR, MT and (simultaneous) SLT.
  - Continuous growth and yet reproducibility:
    - SLTev emits *fingerprints with git commit IDs*.
  - Non-native speakers and not only English source.
  - Realistic (i.e. *bad*) sound quality.
  - Diverse domains:
    - auditing, computational linguistics, NLP ...
    - oral history, debates on AI, student's mock business presentations ...

Structure of `elitr-testset`

To facilitate growth and variability, `elitr-testset` consists of:

- Assorted collection of **documents**.
- Collection of **indices** of these documents.

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- Assorted collection of **documents**.
  - Each document comes in several files, with different modalities, e.g.:
    - Original sound.
    - Original Speech Transcribed (OSt).
    - Original Speech Transcribed with Timestamps (`OStt`).
    - Text-based Translation into a target language (`TT`, e.g. `en.TTcs`).
    - sometimes even Interpreter's Speech transcribed (`IS`, `ISt`, `IStt`).
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- Collection of **indices** of these documents.
  - An **index** is a set of documents useful for a particular *evaluation purpose*.
  - Sample indices:
    - Evaluation of Czech off-line speech recognition.
    - Evaluation of English-to-Czech simultaneous speech-to-text translation.
    - Evaluation of English-to-Serbian text-only translation.
  - An index defines what are source and target/reference modalities and files.

Using `elitr-testset`

- Browse on github:

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- Use SLTev to evaluate an index for you:

  1. Obtain all documents for a given index, e.g. “SLTev-sample“ index:

     ```
     SLTev -g SLTev-sample --outdir mytestdir
     ```

  2. Run your system on files in `mytestdir`.
  3. Run SLTev to get the scores:

     ```
     SLTev -e mytestdir
     ```

     Useful options:

     - `-T your-clone-of-elitr-testset` ... so that SLTev does not download it
     - `--aggregate` ... to aggregate scores over individual files
     - `--simple` ... to show the most common scores only

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- Anything unclear or wrong? Please create github issues.

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SLTev would like to be the “sacreBLEU” for (simultaneous) SLT.

- Open-source, pip-installed.
- Estimates **quality**, **delay** and **flicker**.
- Allows *output revisions*.

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- Diverse collection of speech, transcripts, translations, interpretations.
- Versioned **index files** to allow for reproducible benchmarking.

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Enjoy and contribute!

- Send pull requests, file issues.
- Report bugs, fix existing data, donate new documents.
- Add indices for your papers, for and easy comparison.