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ParlAmericas

Artificial Intelligence and Smart
Transcriptions: Making Parliaments
More Accessible and Inclusive

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AUTOMATIC TRANSCRIPTION

The Experience of the Brazilian Chamber of Deputies

Technical solution

Software as a Service (SaaS) and cloud-based transcription API integrated into the internal system (Escriba).
Current engine: Whisper large v-3 (since 2026); first adoption was via Azure/Microsoft (2023).

Acquisition and training

- Current hiring through SERPRO, with technical requirements defined by the Department.
 - Qualified team for testing, homologation, and analysis of solutions.
 - Change management prior to training: design of the new work process.
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AUTOMATIC TRANSCRIPTION

Solution Architecture



AUTOMATIC TRANSCRIPTION

Effects of Automation

- 1 Reconfiguring the work process without replacing skilled human writing.
- 2 Productivity increase of approximately 20%, even with staff reductions.
- 3 Reducing the registration delivery time.
- 4 Automatic transcription in less than 2 minutes for a 4-minute audio segment.

Testing the Tool

Average WER: 25% (average accuracy of ~75%)

High variability depending on the context: accuracy of 50% to 92% (WER of 8% to 50%)

Determining factors: Committees or Chamber; number of members of the body; phase of the session or meeting; Public Hearings; start or end of the legislative session.

New accuracy problems: unwanted changes in the text, contractions, repetitions, hallucinations, etc.

Average transcription time: ~2 minutes 10 seconds per 4-minute audio segment.

The problem of the diary-ification of speeches

Considerations on Gender and Discourse

Where do gender biases arise?

Higher WER for female voices — pattern already documented in the international literature (Tatman, 2017; Koenecke et al., 2020). Typical causes: training datasets with under-representation of female voices, differences in timbre and prosody, complex contexts (heated debates, multiple speakers). Systematic errors also occur with proper names and in models trained predominantly in other languages.

How do we mitigate?

Mandatory human review by registration and drafting analysts on all transcribed text.
Scripts and subheadings to mitigate systematic errors in proper names.
Lexical lists and specialized vocabularies of the legislative domain (post-processing).
Maintenance of qualified human registration and drafting as a safeguard of public trust.

Automated Transcription is Just the Beginning

Post-processing of automatic transcription

Incremental improvement through the use of lexical lists, specialized vocabularies, and attempts to adapt to the legislative domain (project already started).

Search Tool — RAG

Retrieval-Augmented Generation applied to the collection, with prior organization of the corpus of speeches.

Automatic Generation of Minutes

Minutes of political, legislative, and administrative meetings in the format of the Chamber of Deputies.

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Thank you.

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