

Annotating Interruption in Dyadic Human Interaction

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Objectif

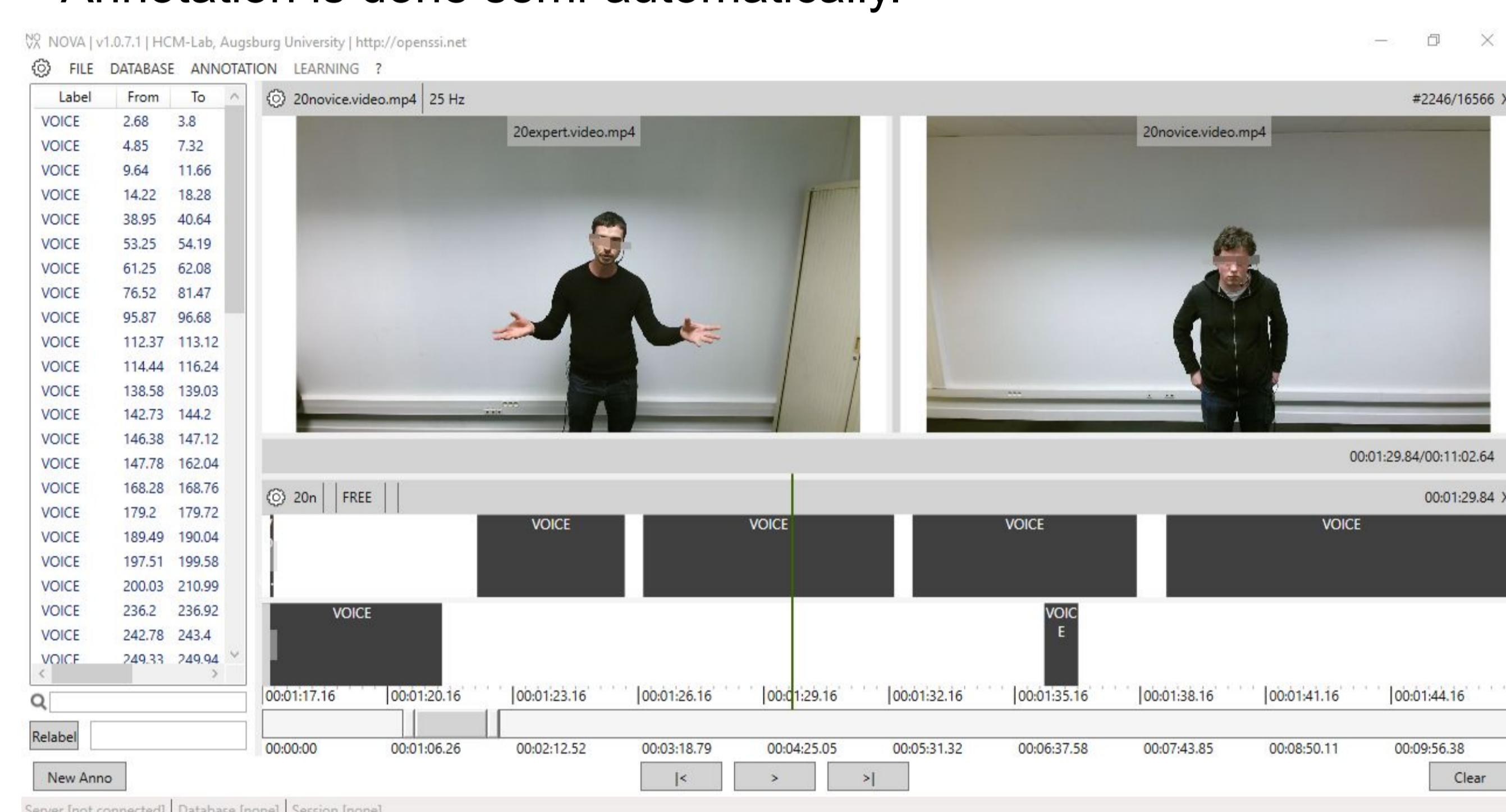
Our aim is to study interruptions in human-human interaction to understand the impact of interruption types on the on-going interaction and how the interrupter is perceived by the interruptee. To this aim, we propose a schema to annotate interruption based on theoretical models and use it to analyze a human-human dialogue corpus.

NoXi corpus

- Free dyadic conversation through 45 given topics in seven languages.
- Both participants are recorded during a screen-mediated interaction.
- Each interaction lasts about 20mn long.
- French part of NoXi corpus, 21 dyadic conversations, 7h in total.

NOVA Tool

- Annotating and analyzing behaviours in social interactions.
- Visualize data recorded with the SSI Framework.
- Display and synchronize the visual and audio channels.
- Annotation is done semi-automatically.



Corpus analysis

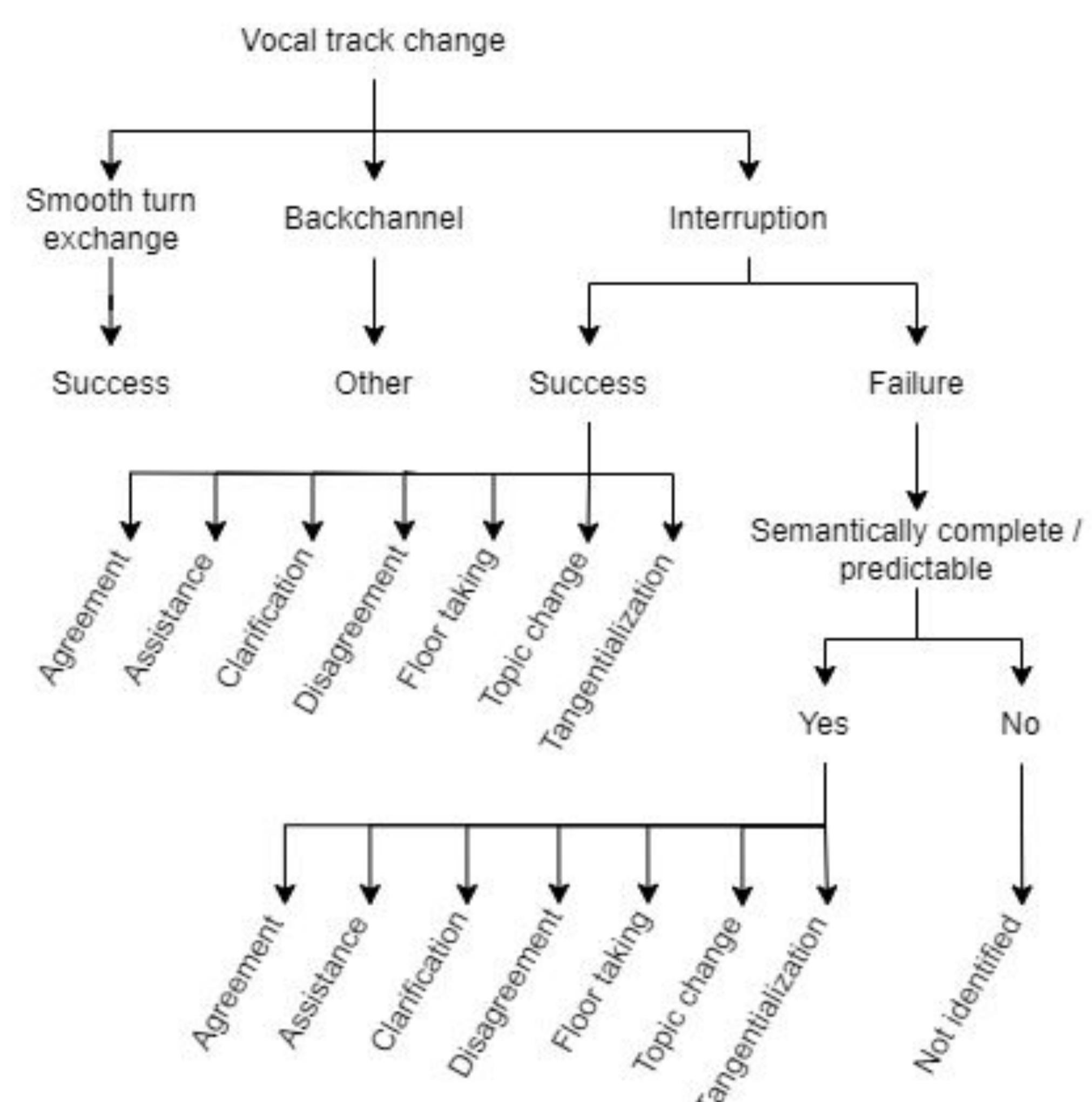
3983 annotation records of voice activity changes for the French part of NoXi:

- 1403 smooth turn exchanges
- 1651 backchannels
- 929 interruptions.
 - 759 (81.7%) successful interruptions and 170 (18.3%) failed interruptions.
 - 505 (54.36%) cooperative interruptions and 348 (37.46%) competitive interruptions

IPU length analysis:

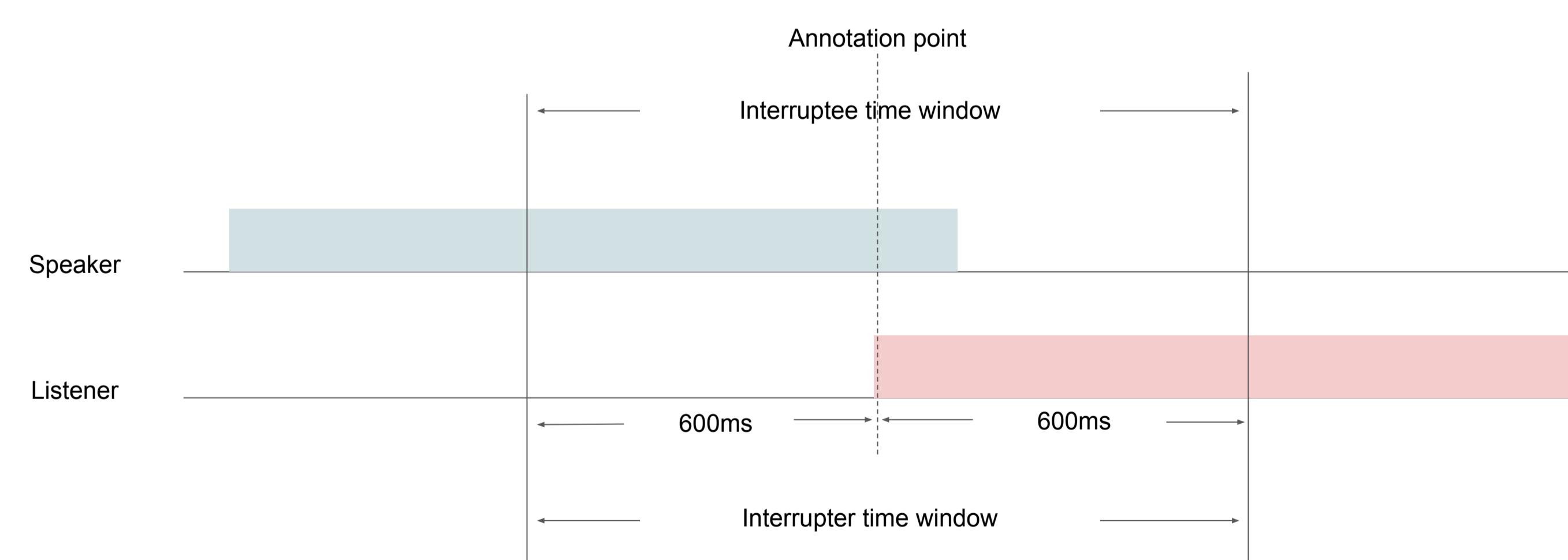
- Smooth turn exchange: 4.31s
- Interruption: 2.91s
- Successful interruption: 3.97s
- Failed interruption: 2.71s
- Cooperative interruption: 2.46s
- Competitive interruption: .4.01s
- Successful cooperative interruption: 2.58s
- Successful competitive interruption: 4.47s

Annotation schema



Future works

- Develop a multi-modality model to automatically classify the main interruption types.
- Non-verbal behaviour: Facial expression, acoustic features, gesture.
- Implementation in virtual agent system.
- Realtime classification in human-agent interaction.



Conclusion

We proposed a new annotation schema through timeliness, accomplishment and speech content level. We annotated the French part of NoXi corpus study the probability distribution and duration of each turn switch type. Our next step is to develop a multi-modality classification model to classify the interruption type during real-time human-agent interaction.

Acknowledgement

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Bibliography

The NoXi database: multimodal recordings of mediated novice-expert interactions (2017)

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