Methods and Terminology for Phonetic Aspects of Incremental Disfluency Synthesis

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1. Terminology
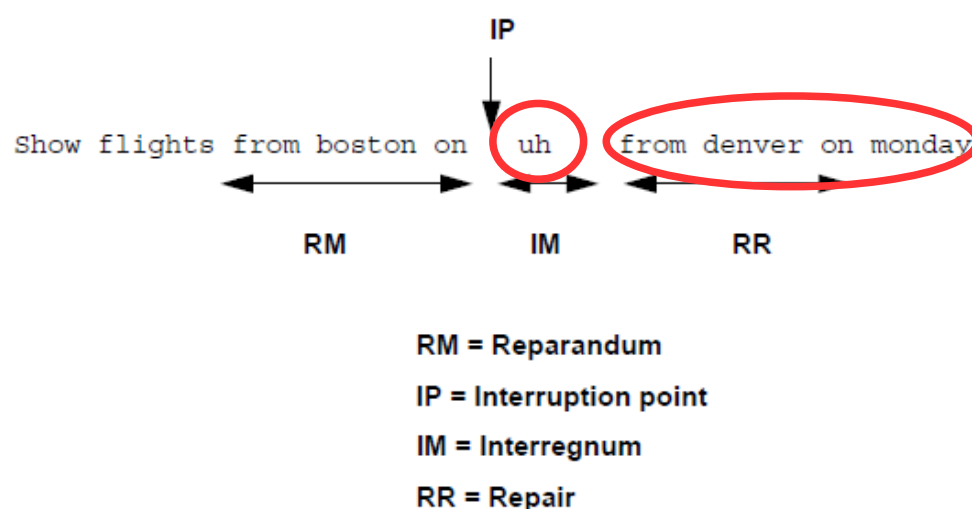
Disfluencies **(DF)**: Cover term for anything that leads to an audible hesitation, break or deviation from expected fluent speech production. Describes the underlying macro structure.

Disfluency Elements **(DFE)**: Cover Term for phonetic surface phenomena resulting from DF. Describes the audible micro-structure.

For enriching incremental speech synthesis, **DFE**s will be included.
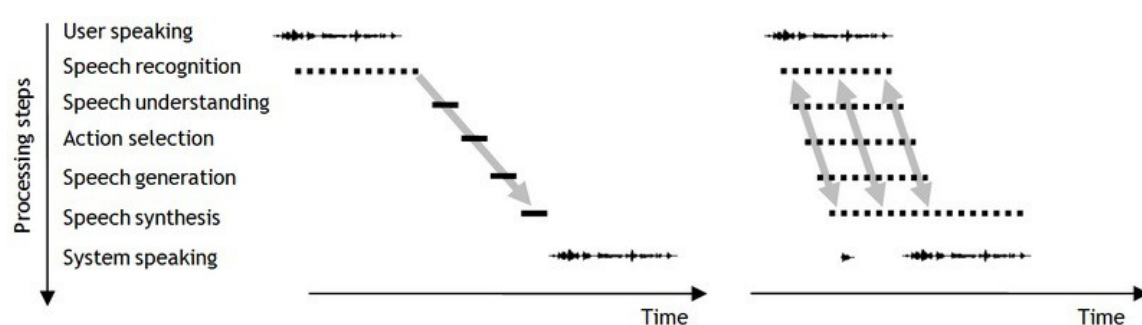
2. Shribergian DF structure

Highlighted: DFEs

RM = Reparandum
IP = Interruption point
IM = Interregnum
RR = Repair

(Shriberg 1994)

3. Incrementality in Dialogue Systems

Why include DFEs into speech synthesis?

(Skantze 2013)

4. Selected DFEs (open list)

	Category	DFE
DF	Simple	**Len**ghtenings, **S**ilent **P**auses, **F**illed **P**auses
	Complex	**Rep**etitions
	Artifacts	**Fra**gments*, **R**epai**r**s**

*due to word cutoffs
**different repair types arise depending on how production after the DF continues. We do not intend to synthesize them specifically, but depending on the content chosen, they will occur automatically.

5. Method Packages (draft)

System requirement 1: Buying Time

- The system is out of content, due to changes in speech plan, delays in delivery from the generator, etc.
- Try to bridge the appearing gap with as simple DFEs as possible (see 4.)
- If possible, apply LEN, if more time needed: SP, more: FP.
- Still more time needed? Try some REP

System requirement 2: Interrupt and Correct

- Something wrong has been (or is still being) uttered
- Depending on urgency, choose apropriate IP (may cause fragment)
- Continue with corrected material (leads to some kind of RR)
- If necessary, insert buying time package (see above).

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