Augmenting Online Conversation through Automated Discourse Tagging

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Overview
• Discourse functions and devices, theory applied
• Spark, a messaging architecture
• Video
• Testing of Spark’s advantages
• Questions?

Discourse functions and devices
• Discourse functions dictate the intent/content of communication
• Discourse devices are the means to carry out this intent
• Text chat lacks a lot of discourse devices
• Reinvent missing devices, e.g. with Spark

Discourse functions
• Interactional, make sure that the conversation goes on accordingly with what the producers want
• Transactional, “the pool of shared knowledge”
• Grounding
• Mapping to a computable model:
  Discourse model, entities and structure
  Rhematic: I come in peace
Discourse Devices

• Getting and acknowledging attention with visual cues
• To transmit something rhematic, intonation
• Grounding with a nod
• Producing discourse structure transitions with body language

Discourse devices, reloaded

• Text only chat is a recipe for misunderstanding, webcams suck
• Avatars, virtual bodies to the rescue
• Use good gaze control
• How about automated nodding and appropriate handwaving as well?

Spark

• Architecture to automatically diagnose and transform simple chat text to markup with discourse information
• Discourse markup transformed to behavioural markup
• Behavioural markup interpreted to direct an avatar

Markup example
Spark components

- Discourse module
  - POS with EngLite tagger
  - Finds lemma (root) of each word
  - Head phrase (noun or verb) and head phrase modifier identification
- Discourse context database
- Avatar program

Testing

- Empirical
- Objectively, time measured to finish task
- Subjectively from questions answered by participants
- Success!

Questions?