Enabling Communication Rationale via an Annotation Tool: a Document-Based Cooperation

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Context

- Mechanical Engineering Project
- Distributed collective practices involving multiple actors sharing multiple documents.
- The actors
  - exchange comments
  - modify documents
  - negotiate some parts of new documents being created
- Supporting these activities:
  - supporting communication around documents
  - supporting creation of new documents

➔ through annotation

Outlines

- **Defining Annotation**
    - **to understand which are the fragments of the project development**

- **Defining Communication Rationale**
    - **to understand the progress of the project**

- **Defining Scenarii**
    - **to trace tool functionalities**

Annotation: a Polymorphic Object

- Annotation:
  - fragment of a document

  - fragment of a conversation

A Document Fragment

– A gloss: explaining a part of a document
– An underlining mark: pointing parts of a document
– A note: paraphrasing the main point of a document
– A comment: bringing new ideas out
– A discursive comment: an arguing and organized comment built cooperatively by exchanges among authors

➔ Steps of document elaboration (text here) i.e. fragments of document linked to a document or to other document fragments

A Conversation Fragment

- – A post bound to a discussion thread,
  - A newsgroup: a "dynamic document produced collectively and interactively and which content coherence and form come from a collective and cooperative management" (M. Marcoccia)
  - A newsgroup: a polylogal conversation (M. Marcoccia)

➔ **Collaborative production of a document as a text is created from appended fragments enclosing participants' arguments**

Communication Rationale

- To trace communication within a project
- Annotations:
  - means to communicate
  - to express arguments

- Storing a structured set of annotations
  - Indexation

  ➔ representation of the "communication rationale".

Scenarii and functionalities

- Asynchronous written communication via email
- Scenario-based design of AnT&CoW
- Two main activities to support:
  - Communication
  - Indexation

➔ Communication Rationale

Communication Scenario

- Creation of a draft with computer-aided design tools
- Discussion about this draft
  - Asking for complement or verifying calculus
  - Comments anchored to the draft
- Sending documents for next design step
  - Comments enable other team to understand decisions about design and feasibility

Indexation Scenario

- Adapted classification to share and manage documents
  - author, date, content, aim, recipient,
  - part of the document/plan commented
  - step of the conception it concerns
- ➔ Classification is possibly extended as work progresses
  - ➔ Communication fragments should be indexed too

Communication Rationale Scenario

- Annotation as communication fragment are indexed

  ➔ Keep track of Communication Rationale

- Annotations could be merged to build up new documents

  – To explain choices
  – To take into account several reviews

  ➔ New documents enclose the communication rationale of the project

To Conclude: AnT&CoW

- Communicating functionalities to support interpretation (handle annotations as creating fragments of discourse and enabling discourse by creating threads of annotations)
  - Selection of document fragments (highlighting, circling…)
  - Anchoring discourse fragments to documents or other annotations (answering, multi-anchoring…)

- Browsing functionalities based on annotation indexing
  - Structuring annotations in browsable knowledge map (Topic Maps)
  - To support indexation with Natural Language Processing tools

- Interpreting functionalities: creation of new documents
  - Gather ideas emerging from exchanges around a document

  ➔ AnT&CoW: ANnotation Tool for COllaborative Work