Annotations, a key asset for video-based e-learning

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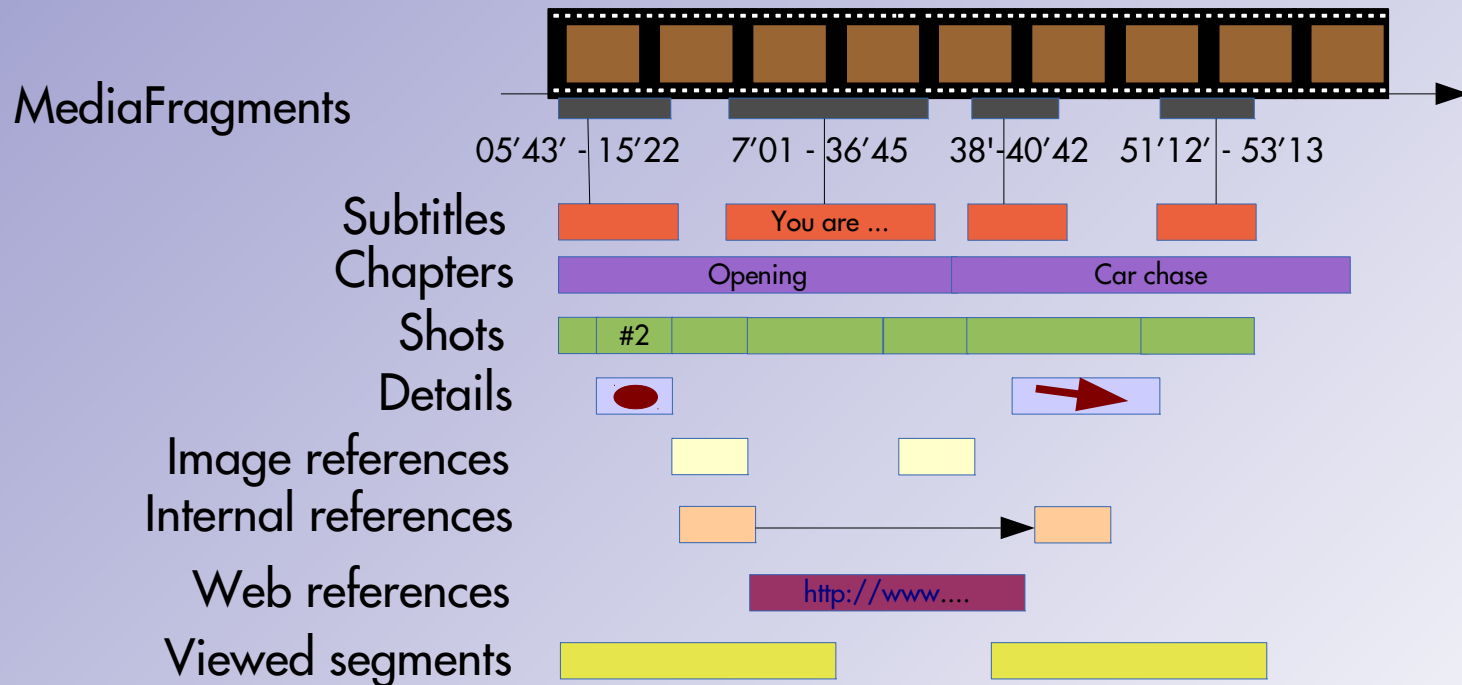# Context - video-based e-learning

Outline

- **A primer on video annotations**
- Using annotations in video-based e-learning systems
- Annotation-related challenges
- Experiments to come in the COCo project
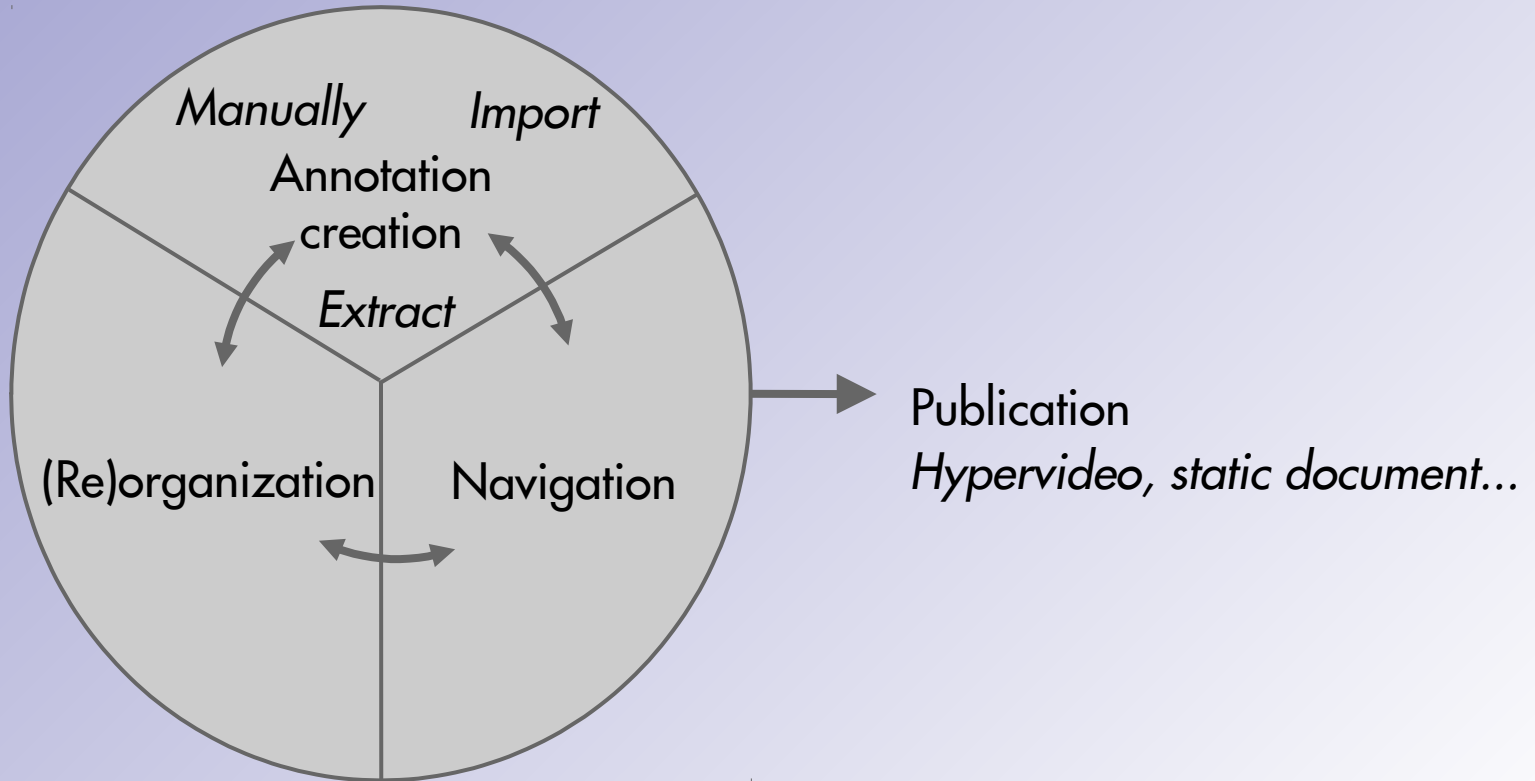
Video active reading - a scenario

Video annotation - definition

MediaFragments

05'43' - 15'22   7'01 - 36'45   38'-40'42   51'12' - 53'13

Subtitles

You are ...

Chapters   Opening   Car chase

Shots   #2

Details

Image references

Internal references

Web references   http://www....

Viewed segments

Video active reading process

Manually   Import

Annotation
creation

Extract

(Re)organization   Navigation

Publication
Hypervideo, static document...

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Video-based e-learning activities

Different activities based on
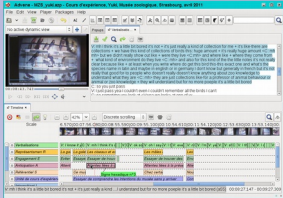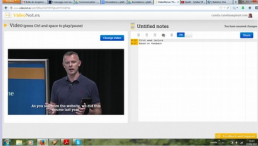- the nature of the video document
- the status of the annotator
- the status of the recipient
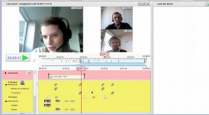
Annotations created by learners

Recipient *Video nature*	*Self*	*Peer*	*Teacher*
Learner performance	Reflexivity	Feedback	Auto-evaluation
Course	Assimilation	Collaborative assimilation	Feedback Flipped classroom
Other			Course preparation Application of an analysis grid Summary Analysis

Annotations created by teachers

Recipient Video nature	Self	Peer	Learner
Learner performance	Notes (for evaluation)	Professional training	Feedback / evaluation
Own course	Reflexivity	Counter-examples	Enrichments (additional material)
Other courses	- Concept assimilation - Professional training	- Feedback - Comments / enrichments	Comments / enrichments
Other content	Assimilation	Comments / enrichments	

Annotations created by learners

Recipient *Video nature*	*Self*	*Peer*	*Teacher*
Learner performance	Reflexivity	Feedback	Auto-evaluation
Course	Assimilation		Feedback
Other		Collaborative assimilation	Analysis

Assimilation - example

Advene

Collaborative assimilation example

VideoNot.es

Feedback - example

PolemicTweet

App. of an analysis grid - example

Matterhorn Engage player

Analysis - example

MediaThread

Reflexivity/Feedback - example

Visu

Course enrichment - example

Lecto

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Annotation model challenge

- Goals
  - Ensure interoperability
  - Ensure durability
- Support
  - Anchoring now normalized (MediaFragment)
  - From unstructured free-text annotations to semantic annotations

Semi-automatic annotation challenge

- Many efforts to do automatic generation (Translectures, linkedTV) but not perfect yet
- Provide tools that combine automatic algorithms and correction interfaces

Interfaces for manual annotation challenge

- Complex activity upon dynamic documents
  - exacerbated by collaboration features
- Device issues (mobile)
- Balance between genericity and specificity

Hypervideo production challenge

- Authoring environments
- Guided hypervideo production
- Ergonomic (design and interactivity) guidelines

Annotation-based analytics challenge

- Fine-grained analytics
  - Using explicit data from annotations

- For course re-engineering, reflexivity

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COCo project
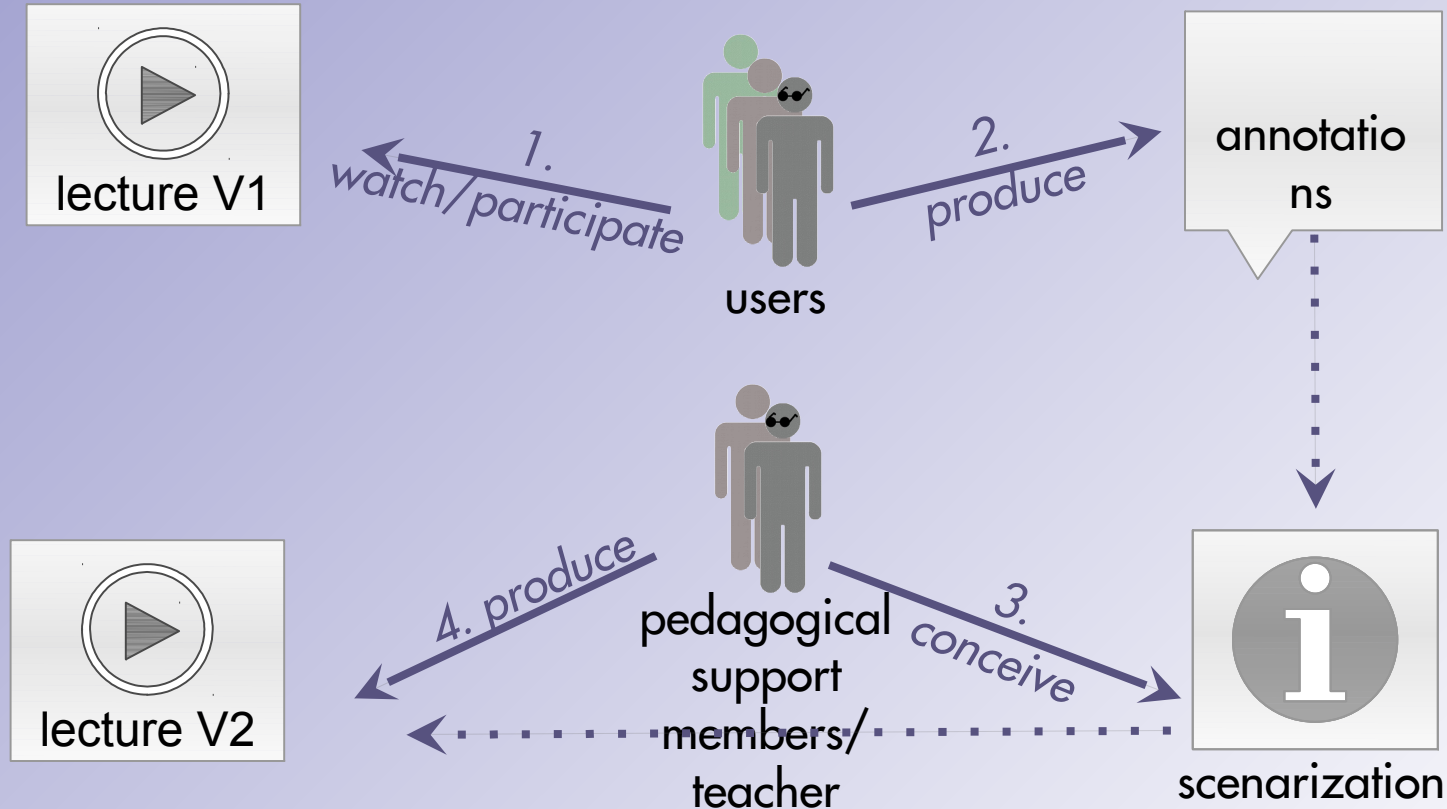
CominOpenCourseware

COCo project - goals

Creating open multimodal, video-centered contents for knowledge diffusion

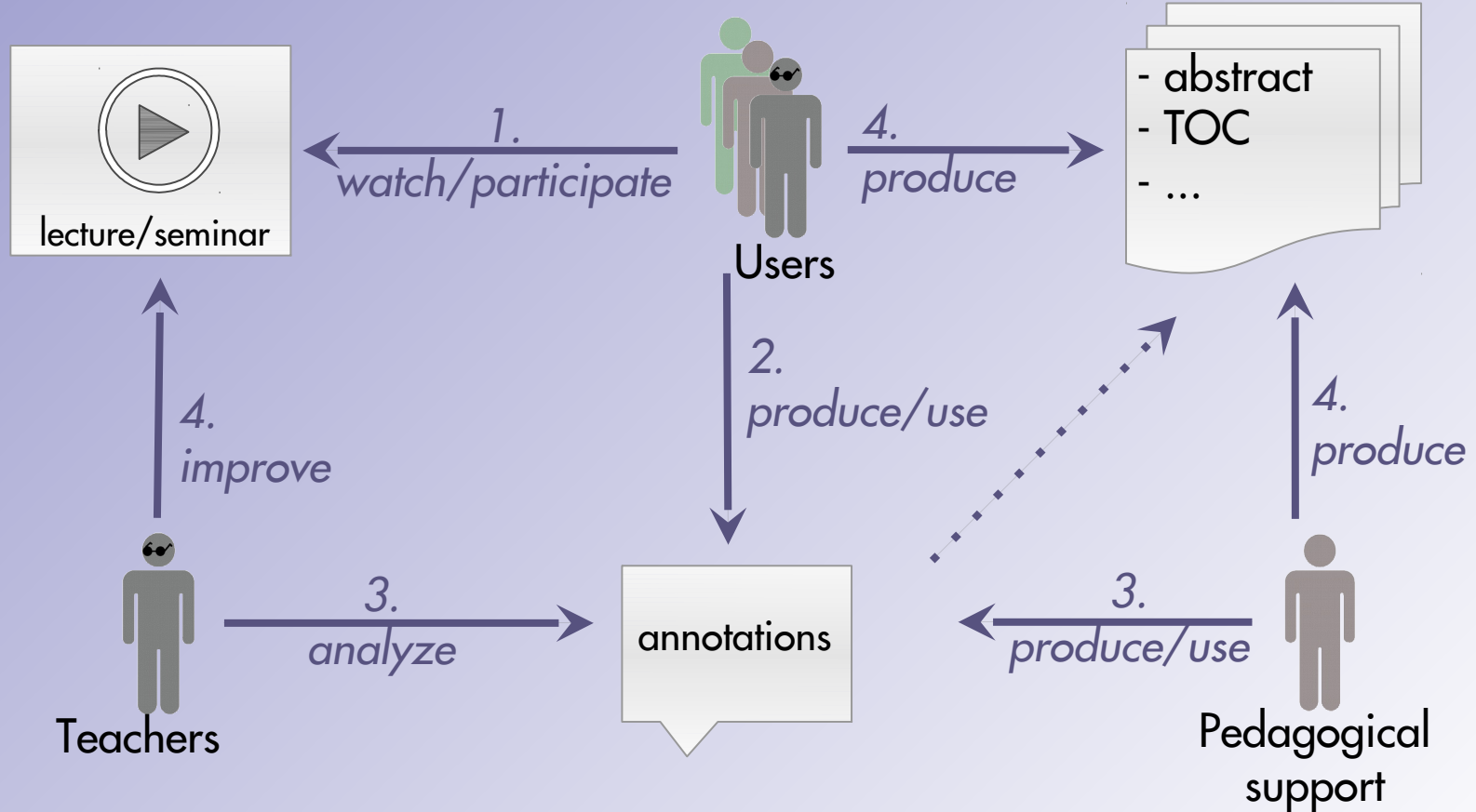Experimenting with new techniques for e-learning

COCo project - ongoing work

- Live annotation

- Iterative course conception

- Collaborative annotation of pedagogical capsules

Iterative course conception

lecture V1

1. watch/participate

users

2. produce

annotations

scenarization

3. conceive

pedagogical support members/ teacher

4. produce

lecture V2

Collaborative course enrichment

Conclusion

- Many tools and experience on video annotation

- Great potential for promoting **learner engagement** in e-learning systems through a variety of **innovative pedagogical setups**