Guided Research: Analyzing the usage of a video annotation tool

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Agenda

1. Study existing approaches for analyzing behavior of learners in existing video annotation tools.

2. Determine essential data that have to be collected for the analysis of learner's behavior in context of video annotation tools.

3. Implement and evaluate prototype for automatic analysis of learner's behavior as part of own learning video annotation tool.

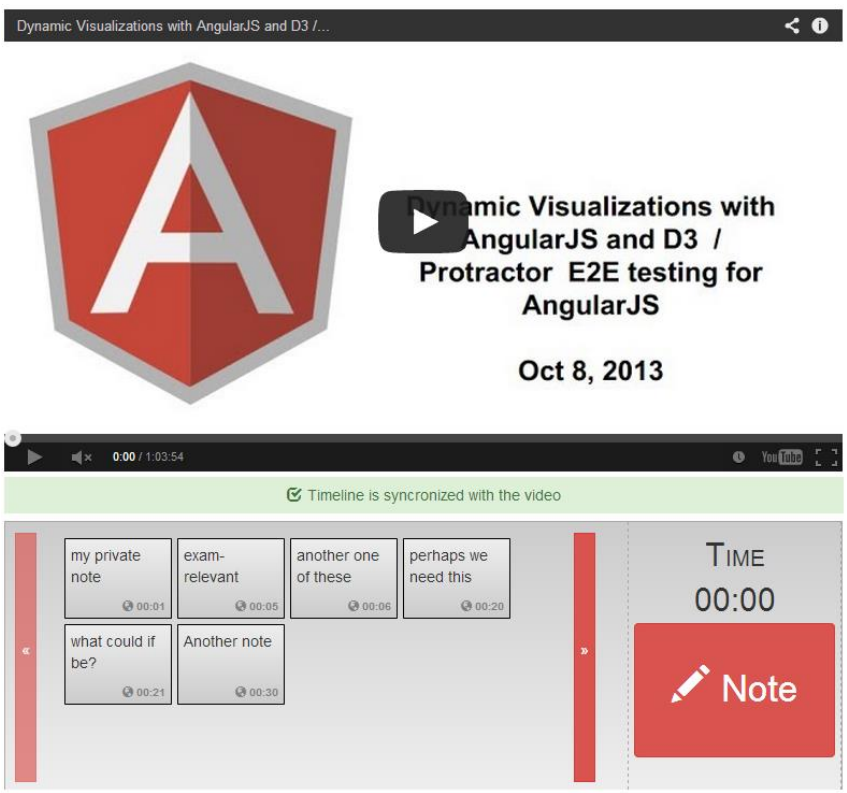
Existing approaches

Study existing approaches for analyzing behavior of learners in existing video annotation tools.

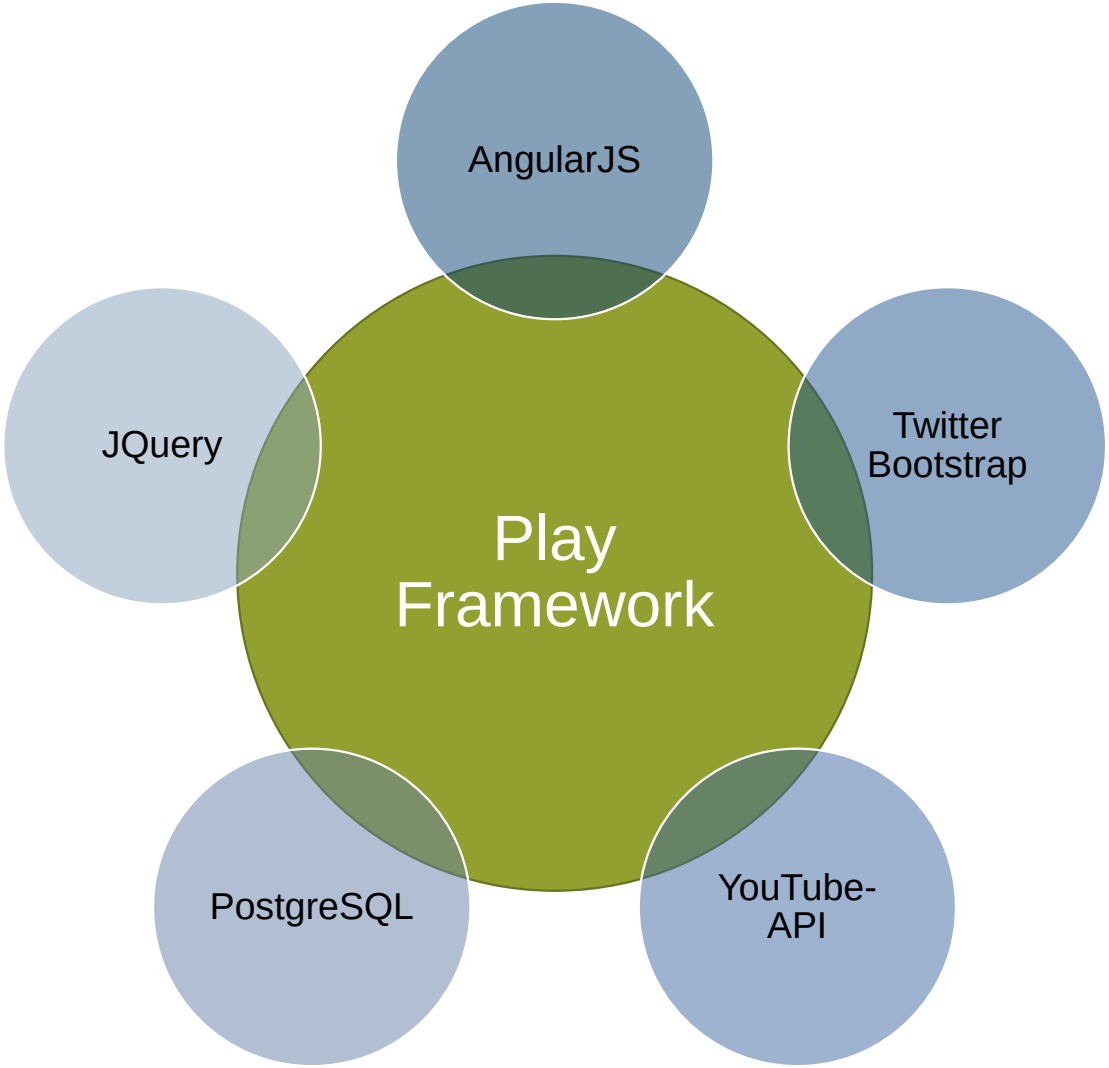
- Existing video annotation tools
  - VideoANT
  - VideoNot.es
  - Matterhorn
  - Annotating Academic Video Tool

- Analyzing behavior ~~of learners~~ in “video annotation tools”
  - YouTube
  - Comparative Analysis of multiple tools (Echo360, Omnisio, MediaSite, ePresence)

Prototype

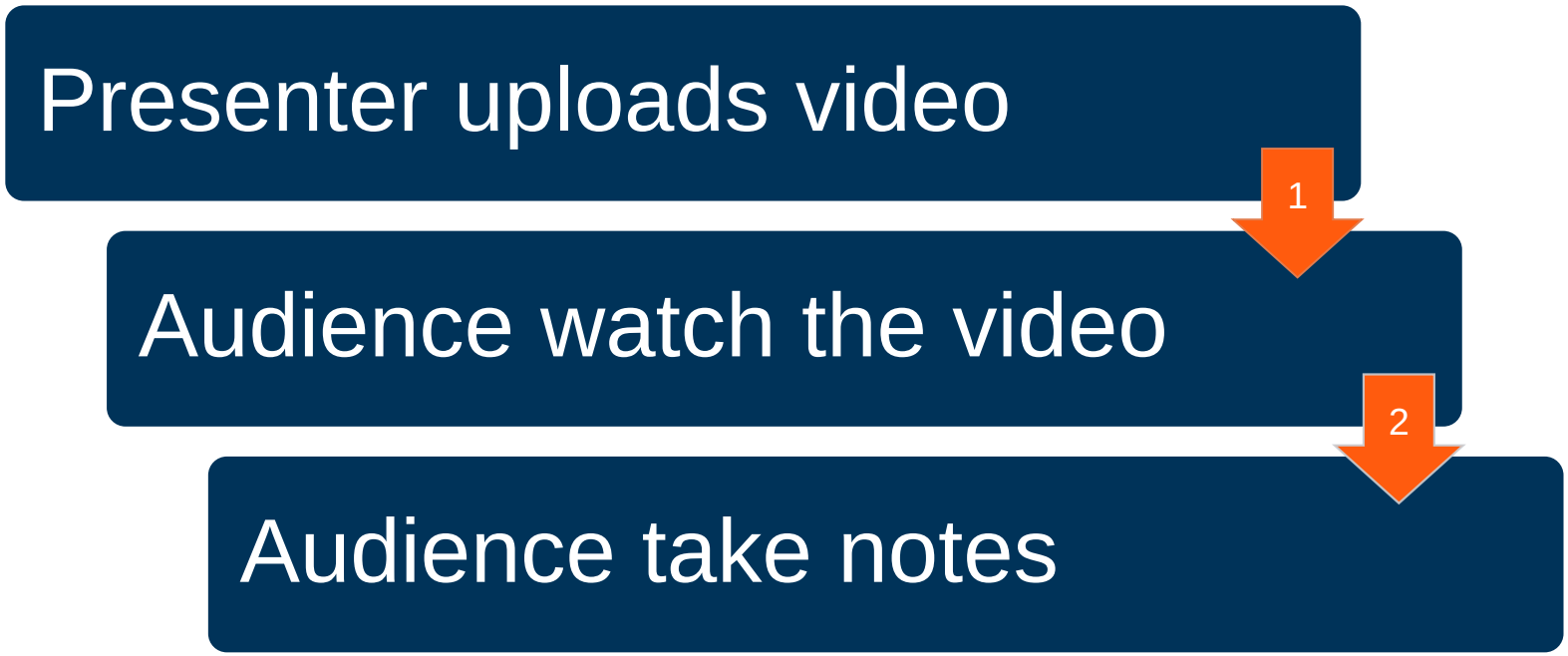

Dynamic Visualizations with AngularJS and D3 /...
Dynamic Visualizations with AngularJS and D3 / Protractor E2E testing for AngularJS
Oct 8, 2013
0:00 / 1:03:54
Timeline is syncronized with the video
my private note 00:01
exam-relevant 00:05
another one of these 00:06
perhaps we need this 00:20
what could if be? 00:21
Another note 00:30
TIME
00:00
Note
Video
Timeline

Prototype


AngularJS
JQuery
Twitter Bootstrap
Play Framework
PostgreSQL
YouTube-API

Use case #1 – live session

Use case #2 – recorded session



Database overview

Name	Purpose
User	Contains the user information
Video	Contains the video information
Note	Contains the notes

User
id <int>
…

Video
…
owner <User>
notes List<Note>
…

Note
…
video <Video>
author <User>
…

Database overview

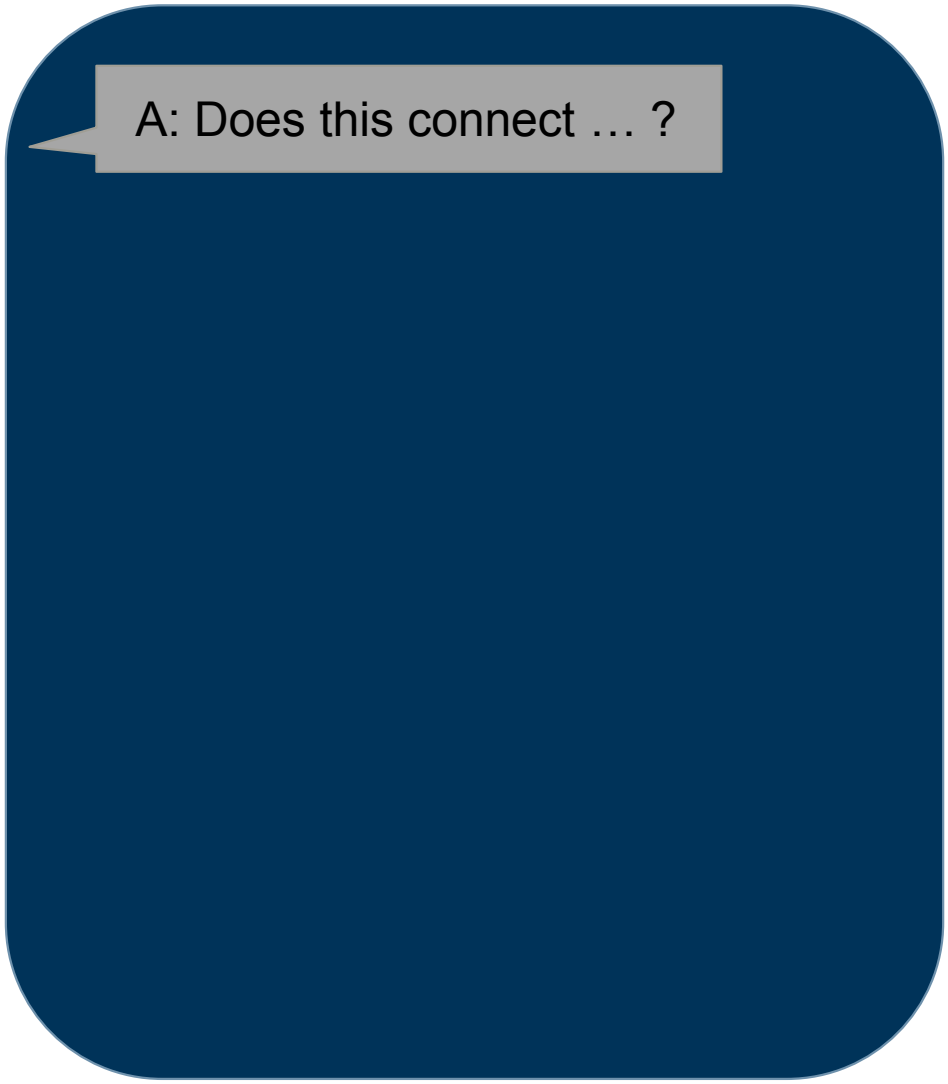
User
id <int>
email <String>
hash <String>

Video
id <int>
title <String>
description <String>
url <String>
recordingStartTime <int>
recordingEndTime <int>
isOnAir <Boolean>
owner <User>
notes List<Note>

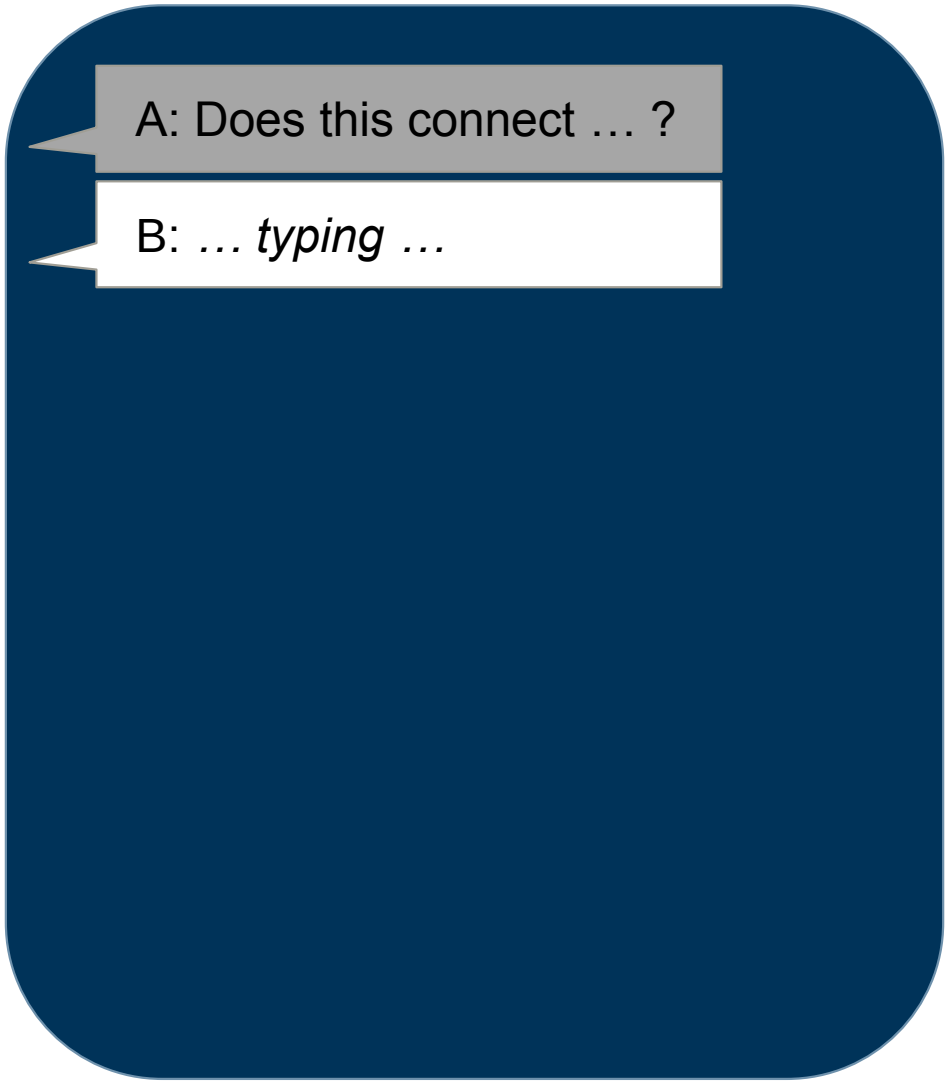
Note
id <int>
content <String>
isPrivate <Boolean>
timestampVideo <int>
timestampStart <int>
timestampEnd <int>
video <Video>

Note-Table is almost identical to the approach from “Annotating Academic Video (AAV)” Project

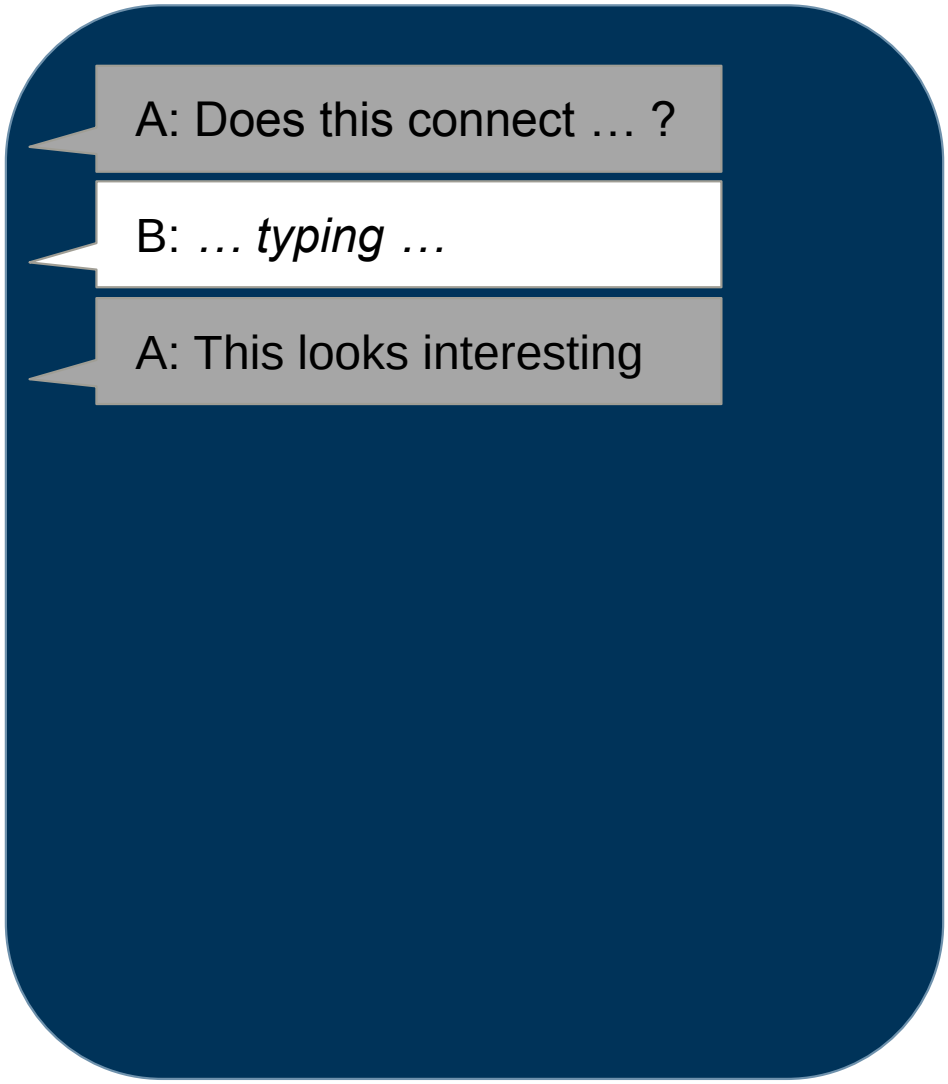
Start & end time



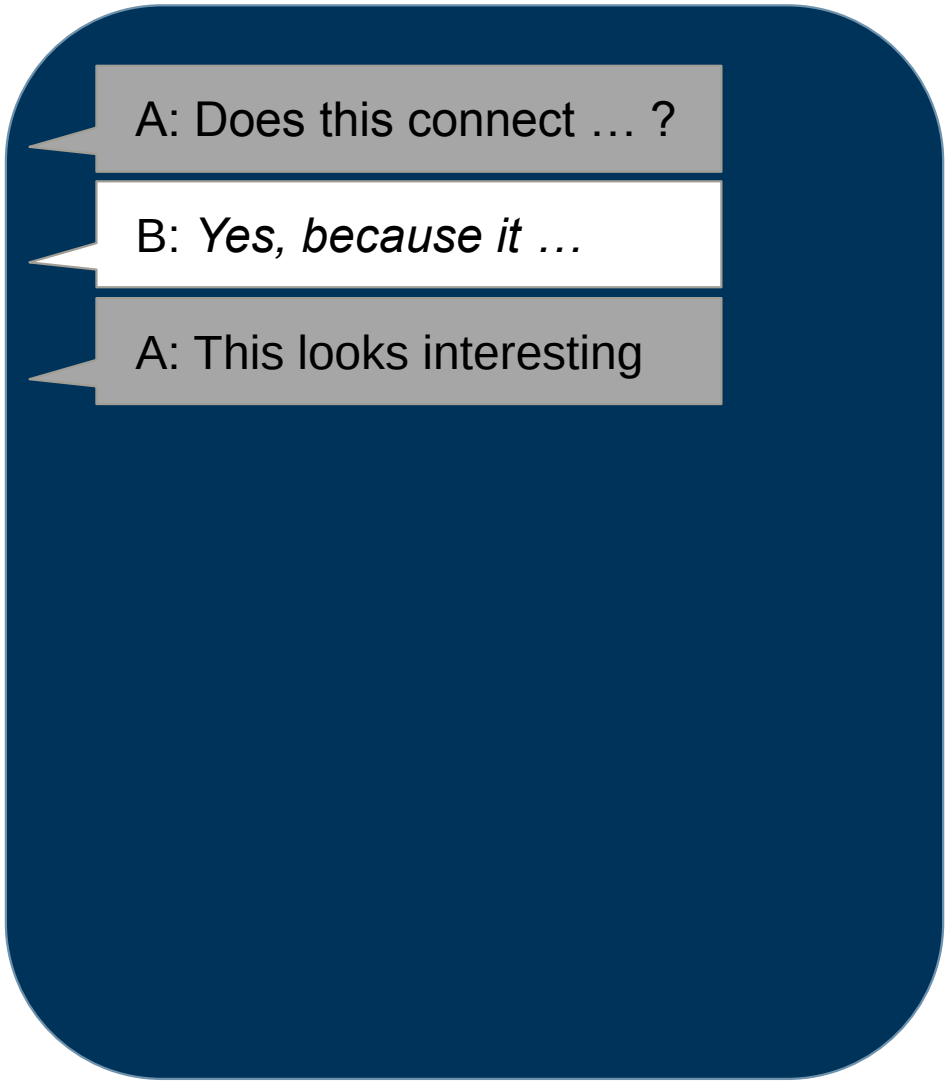
Start & end time



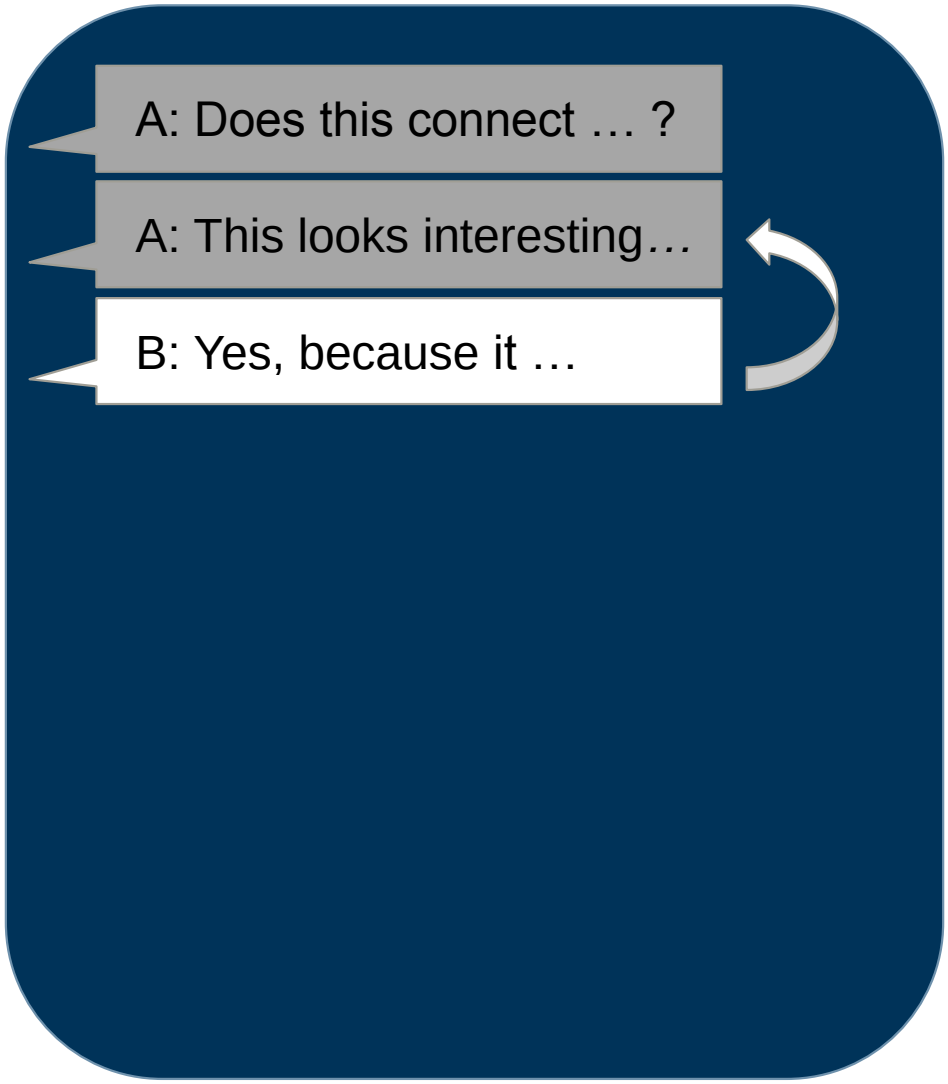
Start & end time



Start & end time



Start- & end time



Sort by send-time instead of start time

Analyzing opportunities

- Categorize Notes (tags)
  - Questions
  - Bullet points
  - Notes
  - Answers
  - …

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  - …

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- Analyze Notes
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  - …
- Analyze Video
  - Relevant/Interesting Parts
  - Content of Frame

Conclusion & future ideas

- Target group can be generic
- Different requirements for live/recorded sessions
- A lot of potential to analyze the users behavior

- Extend Prototype
  - Merging of “Live”-video and Notes
  - Analyzing features

Thank you for your attention!

Questions?

Attributes

Name	Type	Description	Default
id*	`Long`	The annotation id.	Generated at creation
text	`String`	The annotation text. Allows free text annotation.	EMPTY
start*	`Decimal`	The annotation entry timepoint in seconds.	0.0
duration	`Decimal`	Duration of the annotation in seconds.	0.0
settings	`String`	String of diverse metadata related to the annotation	NULL
tags	`String`	String of related tags.	NULL
+	logging attributes		

* = required

Source: https://github.com/entwinemedia/annotations/wiki/Rest-annotation

Backup-Slides

Prototype