

Guided Research: Analyzing the usage of a video annotation tool

Daniel Schosser

Software Engineering für betriebliche Informationssysteme (sebis)
Fakultät für Informatik
Technische Universität München

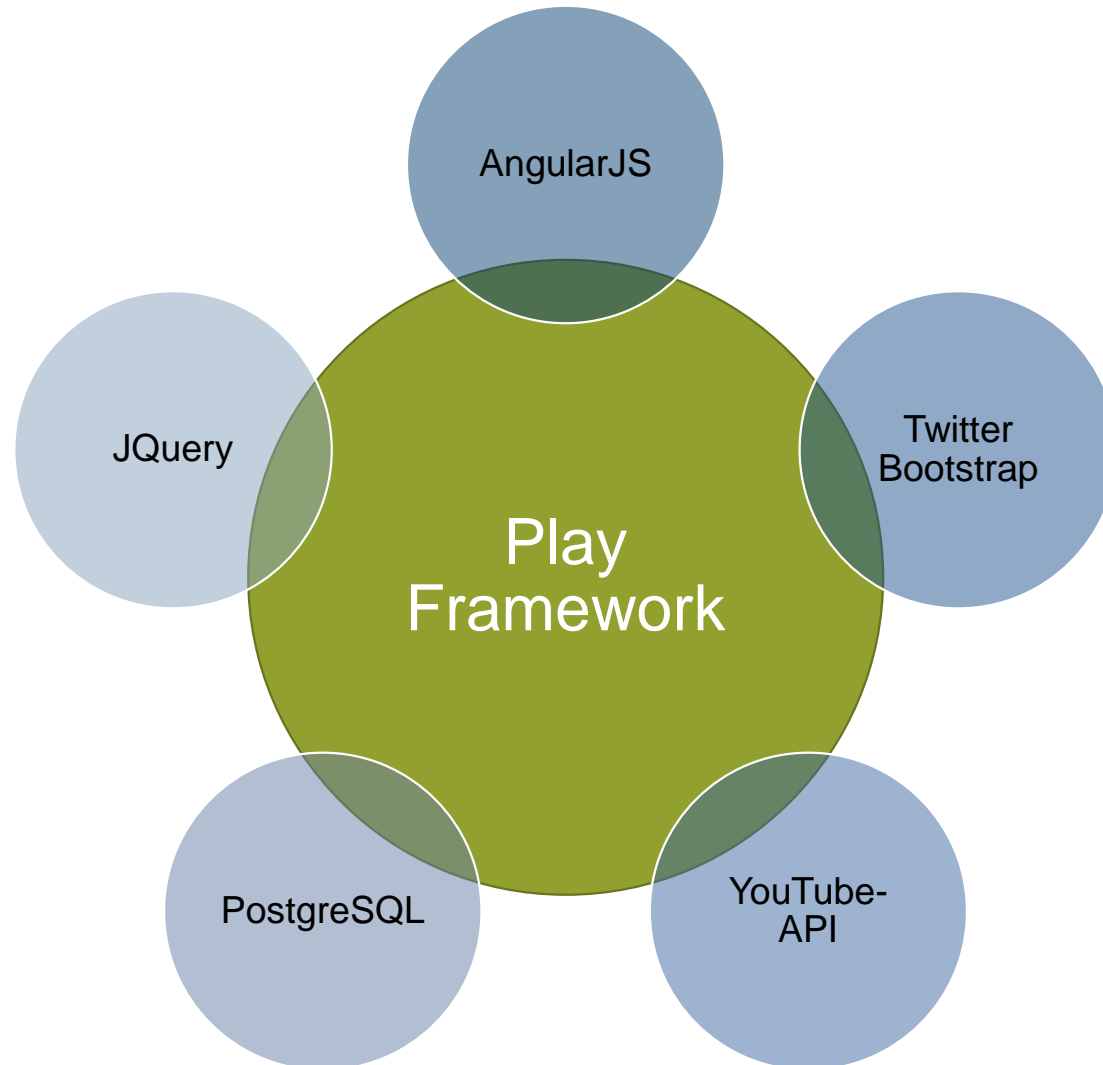
www.matthes.in.tum.de

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.

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)

The image shows a video player interface with a red AngularJS logo and a video title: "Dynamic Visualizations with AngularJS and D3 / Protractor E2E testing for AngularJS". The date "Oct 8, 2013" is displayed below the title. Below the video player, a timeline interface is shown with a green status bar indicating "Timeline is synchronized with the video". The timeline contains several note cards with text and timestamps: "my private note" (00:01), "exam-relevant" (00:05), "another one of these" (00:06), "perhaps we need this" (00:20), "what could it be?" (00:21), and "Another note" (00:30). A red "Note" button with a pencil icon is visible on the right side of the timeline. Brackets on the right side of the image group the video player and title as "Video" and the timeline interface as "Timeline".



Presenter creates event

1

Presenter starts recording

2

Audience take notes

3

Presenter stops recording

4

Merge video and notes

Presenter uploads video

1

Audience watch the video

2

Audience take notes

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>
...

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



A: Does this connect ... ?

A: Does this connect ... ?

B: ... *typing* ...

A: Does this connect ... ?

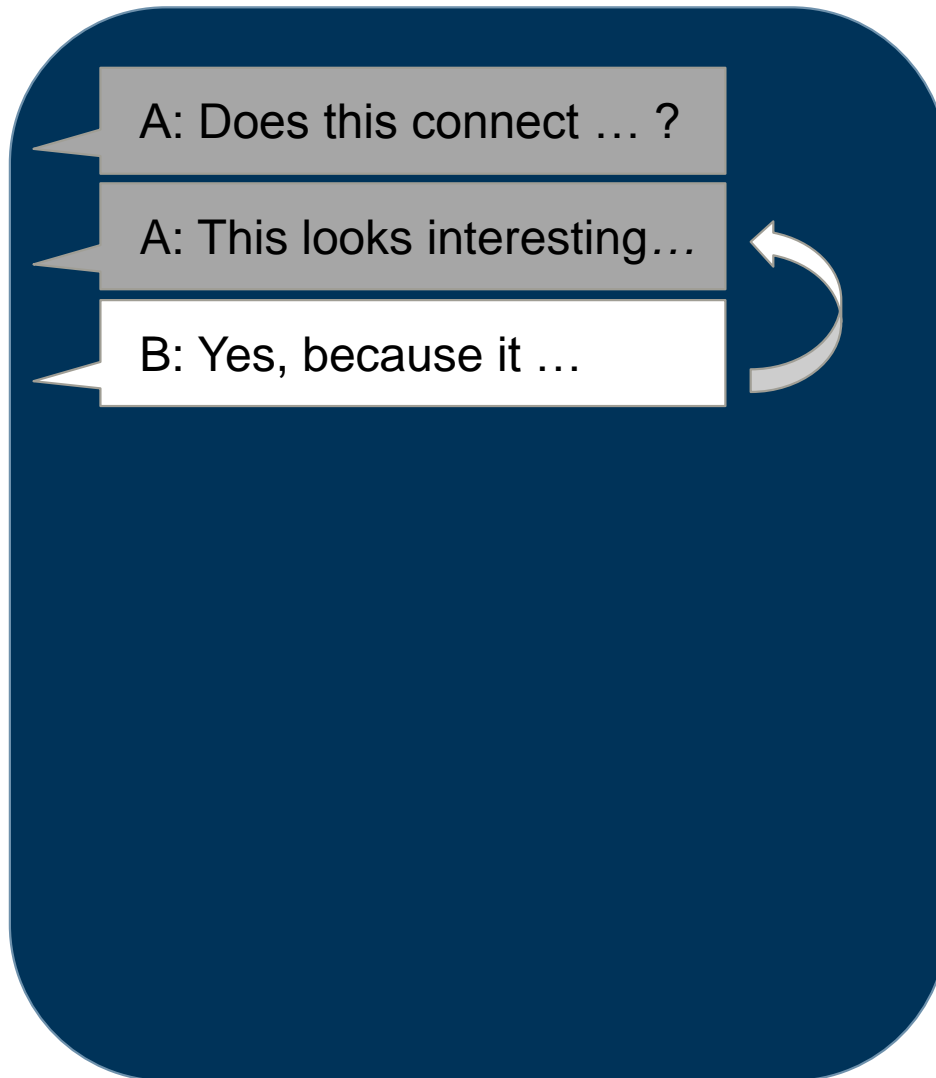
B: ... *typing* ...

A: This looks interesting

A: Does this connect ... ?

B: *Yes, because it ...*

A: This looks interesting



Sort by send-time instead of start time

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

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

- Analyze Notes
 - Intuitive vs. Long thought
 - Mostly notes from category <X>
 - ...

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

- Analyze Notes
 - Intuitive vs. Long thought
 - Mostly notes from category <X>
 - ...

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

- 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>

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 synchronized with the video

Currently there are no past notes for this video. If you progress in the video and pass some notes, they will appear here.

my private note 00:01	exam-relevant 00:05	another one of these 00:06	perhaps we need this 00:20
what could it be? 00:21	Another note 00:30		

TIME
00:00

Note

Some title 00:35	This is important 00:50	I am a note 01:14
---------------------	----------------------------	----------------------