Eliciting User Preferences
for Personalized Explanations
for Video Summaries

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DataTV 2020 Webinar
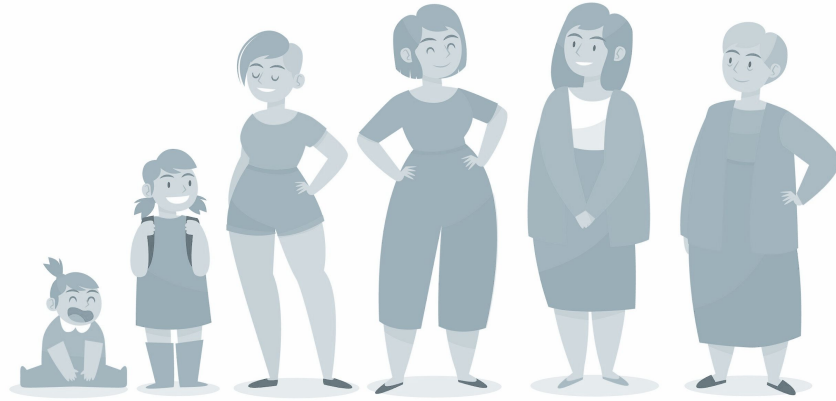
https://oana-inel.github.io
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massive amount of **digital video content** to explore

On YouTube 500h of video uploaded each minute

… one needs more than 82 years

Typical Solution:
video summaries are used to provide a quick look into long and dense video material

But, video summarization process is **not transparent** to the end users

- Certain aspects of the video could be **amplified**, **diminished** or **omitted**

- It is not clear **which** fragments of the original video were **included** in / **excluded** from the video summary

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How can we make this transparent to end users by means of *explanations*?

How to make the **representativeness** of video summaries **transparent** to end users?

Dimensions of Transparency

Semantic Coverage	● **concepts covered** in a summary and/or original video
Quantity Coverage	● **fraction of concepts covered / not covered** in the summary
Semantic Prominence	● **concept prominence** in a summary and/or original video
Distance	● **differences** between the summary and the original video.

Users prefer the most complete visual explanation, that combines the four dimensions of transparency.
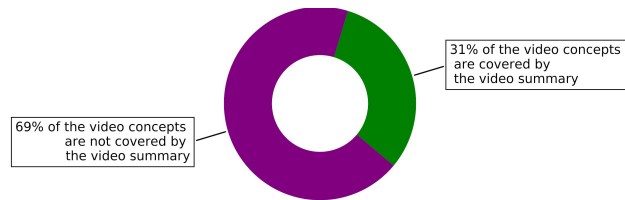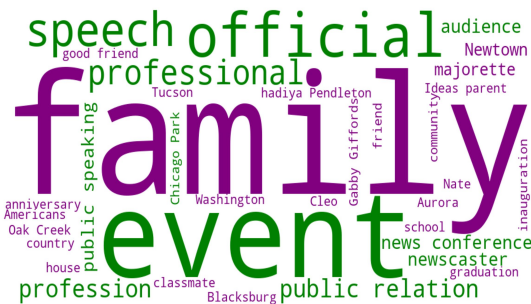
Transparency Dimensions

Semantic Coverage	Distance
Semantic Prominence	Quantity Coverage

Video Summary

31% of the video concepts are covered by the video summary

69% of the video concepts are not covered by the video summary

Video Summary Explanation

Users make use of the four dimensions of transparency to assess the representativeness of video summaries.

Video Summaries are not Representative

Semantic Coverage   Distance

"Both have small variations but do not show enough of the main topics to get an understanding of the events."

Video Summaries are Very Similar

Quantity Coverage

"... the emphasis is different, but the percentages of concepts in the video summaries are the same"

Video Summaries Representativeness is Different

Semantic Prominence   Semantic Coverage

Quantity Coverage

"The words and summary shown in this image are more prevalent to the original clip."

"covers 10% more of the video concepts"

Dataset & Code:

https://github.com/oana-inel/FAIRView-VideoSummaryExplanations

User Study - Utility:

https://tinyurl.com/FairView-UtilityStudy

User Study - Representativeness

https://tinyurl.com/FairView-RepresentStudy

Collaborators

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