The MeMAD project

Methods for Managing Audiovisual Data: Combining Automatic Efficiency with Human Accuracy

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Methods for Managing Audiovisual Data

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The MeMAD project

- Funded by the EU Horizon 2020 programme (2018 – 2020) ,
  under the work programme topic ICT-20-2017:
  Tools for smart digital content in the creative industries
- Consortium is a mix of universities and research centers,
  SMEs with products for the media industry and content creators

Aalto University

HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
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LANGUAGE MANAGEMENT

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MeMAD: Genesis of the project

1. Big steps taken in Automated Speech Recognition, Machine Translation and Video Description
2. Broadcasting and media production need to manage ever larger volumes of content
3. How to combine machine efficiency and human accuracy?
4. How to use these technologies to expand media audiences, e.g., for people with disabilities?

General objectives

1. Novel tools for digital storytelling
    - Use machine learning and processing to enable easier retrieval on larger volumes of content, across unannotated content and across languages.
    - Provide content creators with intuitive tools to better structure content and automate the delivery of content derivatives to various platforms such as social media.

2. Expand media audiences
    - Make content understandably for new audiences in foreign languages by machine-translating speech transcripts and subtitles.
    - Make content more accessible to people with disabilities, including the hearing and vision-impaired by generating content descriptions.

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General objectives

3. Understanding of multi-modal/-lingual content analysis and linking
    - Gain insights into how to best implement multimodal and multilingual analysis of audiovisual content.
4. Standardize formal models and distribution formats for describing enriched audiovisual data
    - Work with industry standardization bodies such as EBU, SMPTE and W3C to define specifications and best practices.

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Use Cases Examples

- Automated transcription, translation and subtitling

  Video editors who are editing interviews in a foreign language unknown to them can get to work without the need for interpreters because the content has been automatically transcribed and machine-translated.

Limecraft Flow

platform.limecraft.com/#productions/2336/details-screen/eyJ0YWIiOiJub25lIiwib2wiOmZhbHNlLCJiMmIiOmZhbHNlLCJzZWxlY3RlZFRocmVhZElkcyI6W10sInEiOnsiZmFjZXRzIjp7InRyYW5zY3JpcHRpb25TdGF...

BACK

MEDIA_2013_00688408.wmv

00:00:04:19

LANGUAGE: English

VIEW EDIT | EXPORT | MARK COMPLETE

Speaker1 00:00:00:00

At Yle.I'm sure you can send us some questions and Zake has asked me if you like to play with a computer and the same person has asked you quite frankly whether you're a nerd, first you should know who's a real nerd, okay, who are we known as at least the Mark Zucken Zuckenberg or Zuckerberg?So the computer types are often nerds, Peter Westermaka, who invented the Finnish Angry Birds driver's license.The most obvious nerd because it's made up the game and then there's the one who's made up this phone or something to do with the subject, Steve Jobs.The clearest nerd, then the glasses, but he's got eyes for all the nerds should have glasses for Clark Kent with glasses.But on the other hand, Clarke's not a nerd, but he's secretly a superman.So true, Clarkkent is a superman, Hermione Hermione nerd, I know everything about everything I have in my hair, but it's Harry Potter.What a lot of people know a lot about something is nerds, because on the basis of which Albert Einstein is a nerd.It's a little sad and all the other scientists and George Lucas is a nerd because he invented something of his own, namely the Starbucks u-Leppis, the nerds look really cool in the dress and always wear a shirt in his pants, and then the joy of expressing the love of literature and music.I like the movies and the machine, but if you think about us too, a lot of nerdy things, but almost something we're really interested in, I wouldn't say that nerdy being a nerd is a nerd, and if you want to know something else you don't feel like going to our blog is watching the university / Is there a place to be embarrassed?

00:00:04:19 TC

help

Use Cases Examples

- Automated subtitle translation

  Users browsing foreign European media libraries can consume this content even if it is produced in other languages. Thanks to automatically translated subtitles or audio descriptions, users can experience and understand content otherwise inaccessible to them.

LANGUAGE: English

EXPORT | MARK COMPLETE

00:01:06:06 → 00:01:13:19
and game then and the then glasses.But glasses, there's Zake

00:01:13:19 → 00:01:20:19
but on the he's the one got other who's superman.So eyes has hand,

00:01:20:19 → 00:01:27:21
made for Clarke's up all not this true, a the asked phone nerd,

+ Add Subtitle

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Peter most Westermaka, obvious some who nerd invented | because the it's Finnish questions Jobs.The made Angry | up

00:00:56:01 TC

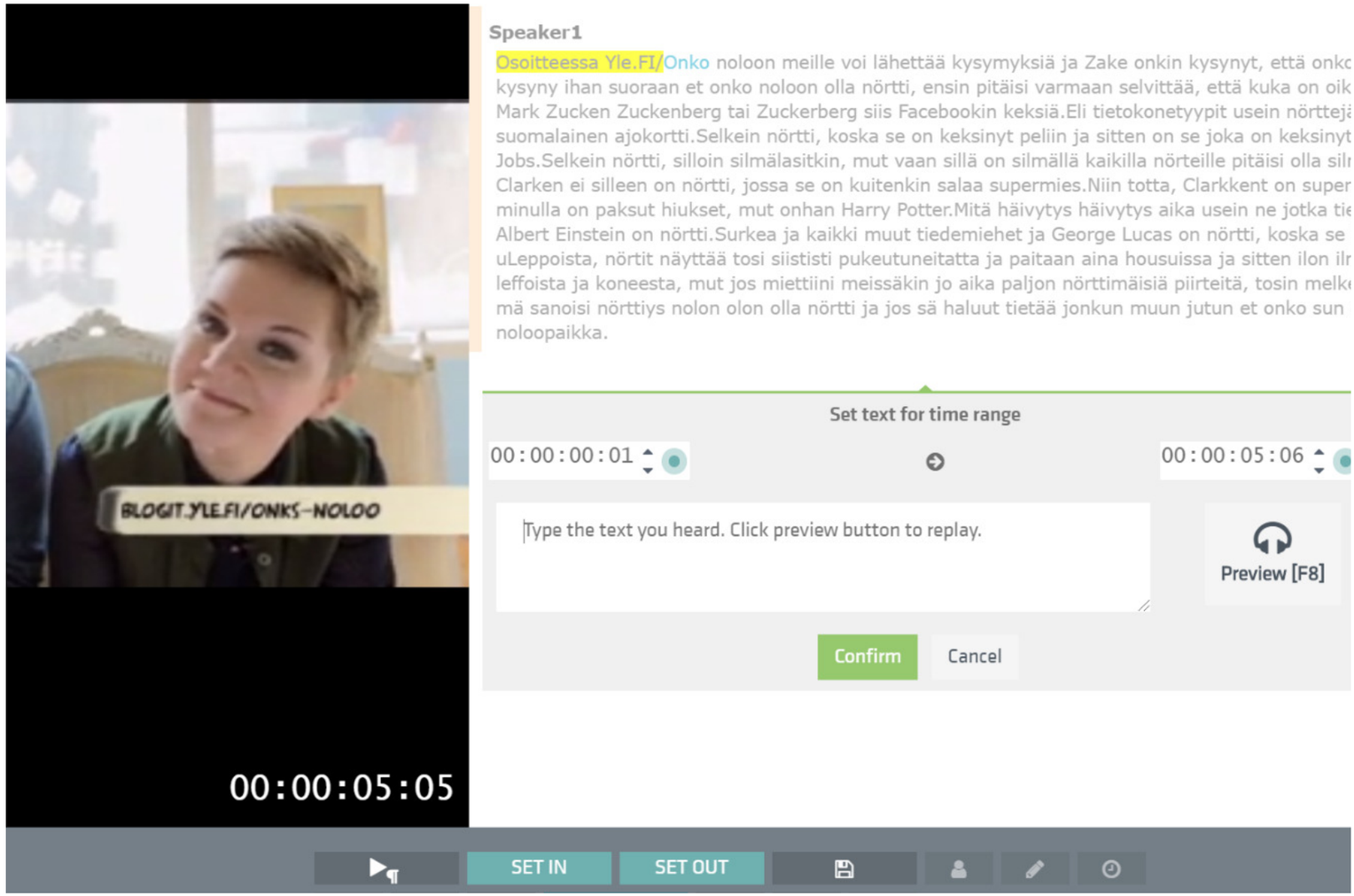
[▶] SET IN SET OUT

help

Use Cases Examples

- Human corrections of auto-enriched content deliver productivity gains

  Archivists can correct automatically tagged and enriched archival items. This must be done using an intuitive user interface such that this process will take much less time than inputting all metadata manually.



Use Cases Examples

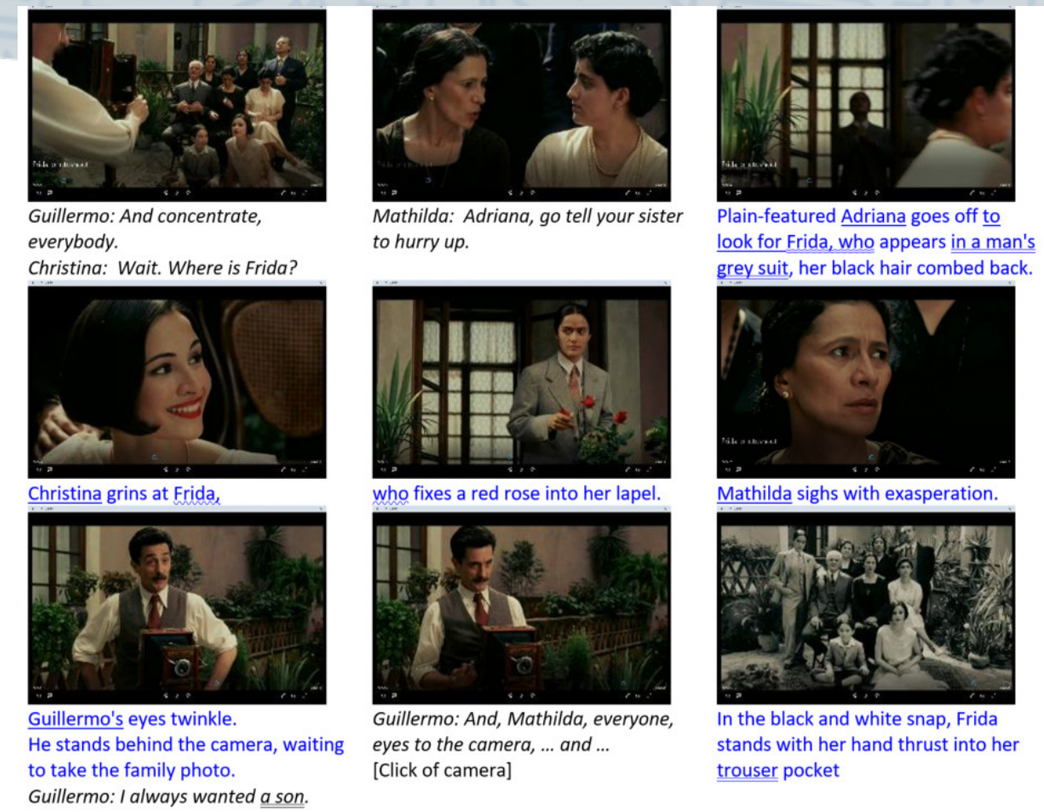
- Provide better insights into consumer content through automated enrichments

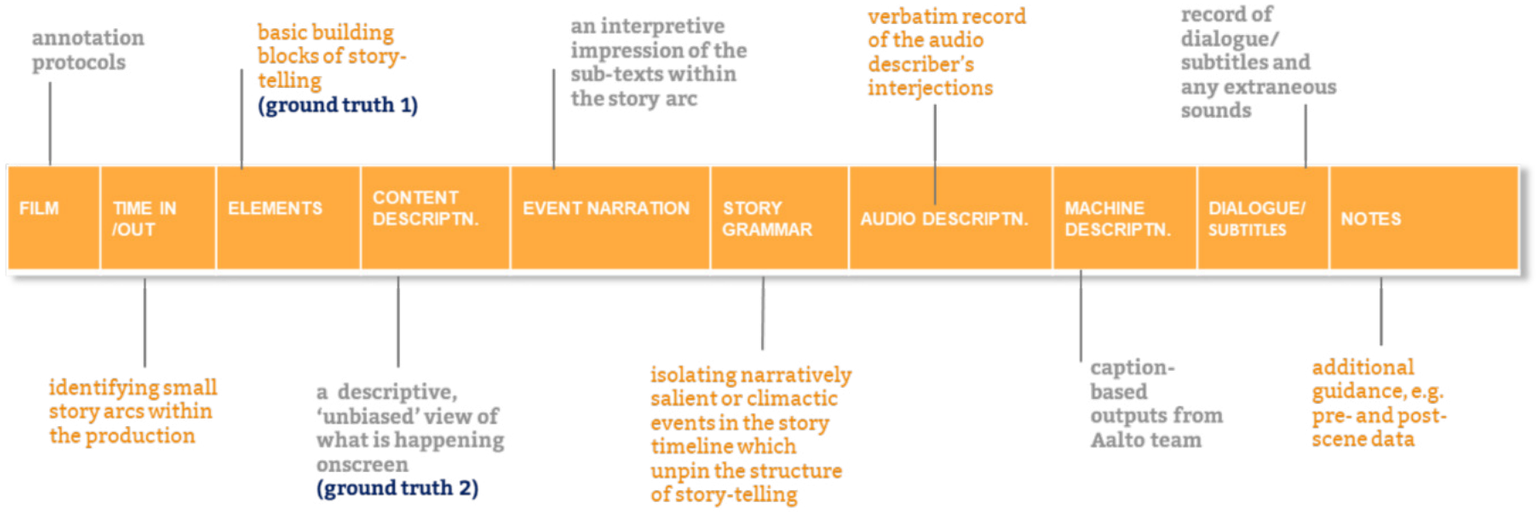
  Users watching a documentary about European politics are given information about the people on screen: names, occupations, political affiliations, …

Use Cases Examples

- Making more content accessible to the vision-impaired.

Visually impaired consumers can experience all episodes of their favorite current affairs shows, thanks to the auto-generated content descriptions that have been made available.





MeMAD Demo at the Expo

- Demonstration of the MeMAD prototype platform
  - First views of the interfaces for data visualization, transcription translation and auto-translated subtitling
  - Integrations with partner media analytics tools
- Demonstration of the MeMAD knowledge graph of structured programme metadata

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