Generating video documentaries from annotated media repositories

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Talk Outline

- Motivation
- Example
- Scenarios
- Technical details
  - Annotations
  - Editing Process
- Conclusions
Video Documentaries on the Web

- Traditional video authoring: there is only one final version, what is shown is the choice of the author/editor
- Proposed video authoring:
  - Annotate the video material semantics
  - Show automatically what the user asks to see, using presentation forms a film editor would use

Video material

- Focus on video interviews about controversial issues
- **Interview with America** video footage with interviews and background material about the opinion of American people after 9-11
  - [www.interviewwithamerica.com](http://www.interviewwithamerica.com)
Example: What do you think of the war in Afghanistan?

“I am never a fan of military action, in the big picture I don’t think it is ever a good thing, but I think there are circumstances in which I certainly can’t think of a more effective way to counter this sort of thing…”

What do you think of the war in Afghanistan?

I am not a fan of military actions

I cannot think of a more effective solution

War has never solved anything

Two billions dollar bombs on tents
Scenarios

- Augmenting one interview with man-on-the-street opinion ("Vox Populi" documentary)
- Overview of the content of video footage:
  - Example: trailers ("Voices of Iraq")
  - Browse the content by opinion

The annotations

- Rhetorical
  - Rhetorical Statement
    (mostly verbal, but visual also possible)
  - Argumentation model: Toulmin model
- Descriptive
  - Question asked
  - Interviewee (social)
  - Filmic next slide
Filmic annotations

Continuity, e.g.
- lighting conditions
- background sound
- gaze direction of speaker
  - left, centre, right
- framing continuity
  - close-up, medium shot, long shot
- camera movement
  - none, pan left/right, shaking, tilt up/down,
    zoom in/out

Statement encoding

☐ Statement formally annotated:
  - <subject> <modifier> <predicate>
  - E.g. “war best solution”

☐ A thesaurus containing:
  - Terms (155)
  - Relations between terms: similar (72),
    opposite (108), generalization (10),
    specialization (10)
  - E.g. war opposite diplomacy
Connect statements

- Using the thesaurus, generate related statements and query the repository “war best solution”, “diplomacy best solution”, “war not solution”

- Create a graph of related statements
  - nodes are the statements (corresponding to video segments)
  - edges are either support or contradict

Semantic Graph

![Semantic Graph Diagram]

- diplomacy best solution
- war best solution
- war not solution

= support
= contradict
Toulmin model

Claim

- Data
- Qualifier
- Warrant
- Backing
- Condition
- Concession

57 Claims, 16 Data, 4 Concessions, 3 Warrants, 1 Condition

Analysis of the Example

Two billions dollar bombs on tents

Claim: I am not a fan of military actions

Contradict: I cannot think of a more effective solution

Weaken: War has never solved anything

Support: We cannot think of a more effective solution

I am not a fan of military actions
Facts and features

- Annotations: 1 hour annotated, 15 interviews, 60 interview segments, 120 statements
- Partially tunable: examining the Segment graph gives feedback on the quality of the annotations and the thesaurus

![Segment graph]

1. = support
   2. = contradict

Controlling the Bias

- Video documentaries are not neutral account of reality: the selection and editing of the footage expresses a point of view
- Editing strategy:
  - Balanced
  - Pro opinion X
  - Against opinion X
- We use:
  - Logos (the statements)
  - Ethos (based on user profile)
  - Film editing (e.g. framing, gaze)
Vox Populi interface

Conclusions

- Automatic generation of video interviews augmented with supporting and/or contradicting material
- The user can determine the subject and the bias of the presentation
- The documentarist can add material and let the system generate new documentaries
Pointers & Acknowledgments

- This presentation and a Demo available at:
  http://www.cwi.nl/~media/demo/IWA/

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