Dramatic Video Editing

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Context

Leveraging on the existing work developed separatey by Imagine and Cirma, the cooperation intends to develop an automatic system for dramatic editing of video. Imagine has already experimented in the field of intelligent editing in which an autonomous system applies the traditional syntax rules of cinematographic editing (es. 180° degree role, continuity role, etc) to select the appropriate cameras to convey actions in a dramatic scene reproduced in 3-D animation (see Galvane 2015). The same approach can also be generalised to live-action video, e.g. using the rush generation method described by Gandhi et al. 2014.

Cirma provides a computational ontology that represents the domain of dramatic elements, Drammar (Battaglino et al. 2013, Lombardo et al. 2015). For dramatic elements, we mainly intend the conflicts that stem from the characters' intentions, enacted on stage through purposed actions. The accomplishment of characters' intentions, and the elements that obstruct them, then, give rise to emotional states in the characters, which are reverberated in the audience according to the literature about drama aesthetics (Esslin 1987, Bordwell and Carroll 2012).

Film and Television history and theory has shown that the contemporary editing non only aims at the comprehension of the narrative by the audience but it also targets its emotional response. Given the relevance of dramatic conflicts and their emotional charge, we believe that their role at the expressive level of drama delivery is worth investigating as a joint research project, typically through video recorded performances (as in Gandhi et al 2014) or 3-D animation (as in Galvane 2015).

Objectives

The goal of this M2 internship will be extend the previous work of (Galvane 2015) to include dramatic elements and characters' conflicts. The role of dramatic elements, and characters' conflicts in particular, in editing, can be broken down into separate, yet related, tasks as follows: a) detection (and/or manual analysis) of dramatic elements from script/dialogue (see Cataldi et al 2013); b) integration of dramatic elements in scene annotation (see Lombardo et al. 2016); c) use of dramatic elements for the selection and editing of shots. We will use video recordings of selected theatre performances (Tenesse Williams' Cat on a hot tin roof, Arthur Miller's Death of a salesman) as an experimental test bed for validation of the proposed approaches.

The Master thesis is expected to lead to a PHD thesis on a related topic in 2018-2020.

References

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