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# Taming the roving camera: A framework for creating professional home movies through narrative and cinesthetic elements

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## Abstract

In this paper we present an application designed to improve the quality of amateur video production. The majority of home movie material is negatively impacted by two factors: lack of narrative content – “what to shoot?”, and the absence or inappropriate use of cinesthetic elements for effective reinforcement of content – “how to shoot?”.

We leverage the age-old communicative powers of Story to answer the what. For the second problem, the how, we turn to the corpus of aesthetic principles that constitute the film profession, which impact both technical and cinematic considerations for a given project.

## 1 Introduction

Sophisticated cameras and fancy editing suites have not solved the core problems for the home movie maker. An engaging story and technical polish are two fundamental qualities that a professional film must have if it is to have any chance of success. There must be cause and effect, and the film must be directed and edited in such a way that the cinematic and aesthetic particulars of the film medium are harnessed to further impact and reinforce content. But these are the very same elements that are often missing, understandably, from the average home movie.

## 2 Main Contribution

We have implemented a complete video production system, constituted by a *storyboard*, *direct* and *edit* life-cycle analogous to the professional film production model. The salient components of the framework are: i) a *narrative template*: an abstraction of an occasion, such as a wedding or birthday party, viewed in narrative terms (climaxes etc.), which may be easily built for a given occasion or obtained from a pre-existing library, ii) user specified *creative purpose*, in terms of recognizable genres, such as ‘action’ or ‘documentary’, which are in turn mapped to affective

goals, iii) those goals are then taken up by a battery of *aesthetic structuralizing agents*, which automatically produce a shooting-script/storyboard from the narrative template and user purpose, iv) which provides a *directed* interactive capture process, resulting in footage that v) may be *automatically edited* into a film or altered for affective impact.

The **significance** of this approach, aimed at helping the average user to create better media artifacts, chiefly lies in:

- the ability of the average user to generate home movies of a higher quality,
- flexibility to situation, user skill and creative intent,
- with low overhead (eg. inherent editing),
- while maintaining a rich index, in the form of the storyboard, useful for search and retrieval and reuse after the project has finished.

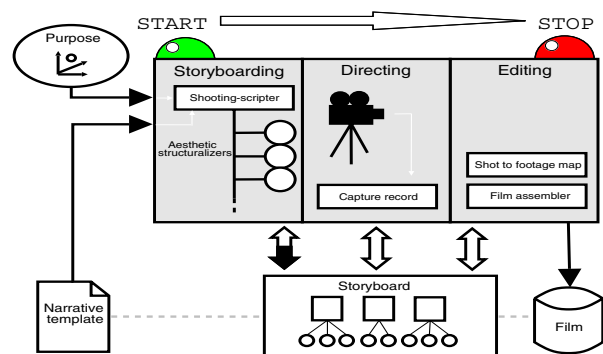


Figure 1. Overview of home video production process and system implementation.

More information can be found on this project at the CMA Lab, <http://www.computing.edu.au/svetha/cma-current/>