INTRODUCTION

Our approach for a Video-Based Storytelling (VBS) System:

- Conceptual integration between Video Processing and Narrative Generation
- It enables the generation of completely novel filmic variants by recombining segments of the baseline movie

CONCEPTUAL INTEGRATION:

- Narrative Generation (NG)
  - Builds story variants in response to user input
  - Globally consistency of Actions thanks to AI Planning Techniques
- Video Processing (VP)
  - Video Shot segmentation
  - Semantic description of the shots (Intermediate level Representation)

SYSTEM OVERVIEW

USER INPUT

- Allows to choose between 2 different stories
- Permits to select the characters involved in the narration (bottom right)
- Describes the plot of the selected narrative (bottom left)
- Allows the navigation between the main actions of the story (top right)
- Displays the Play/Pause buttons for the video playback (under the video window)

APPLICATION DESKTOP

1 - SEMANTIC REPRESENTATION

- Represents the interface between the Narrative Generation and the Video Processing
- Describes the semantic of each shot in terms of:
  - Characters
  - Mood
  - Environment
  - Camera field

Semantic point: all the shots that share the same tags value

The selection of the tags is important for the video system in order to recombine them without losing consistency and for the narrative generation for describing actions from a more abstract level.

2 - PLANNING

The domain model used by our planner corresponds to narrative states and is formalized using the PDDL language.

For each action in the narrative, the VBS system generates a semantically consistent sequence of shots, with an appropriate subtitle; for easier understanding, it interposes a Text Panel when necessary.

3 - VIDEO RECOMBINATION

For more technical details on the whole system, please refer to [1].

REFERENCES