

SampLe: Towards a Framework for System-supported Multimedia Authoring

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1. Introduction

Multimedia authoring is a complex, resource demanding, knowledge-intensive, and multi-layered process. While a large part of presentation creation cases involve manual production of presentations, such as performed in daily work of students and teachers, most applications for manual production (e.g. PowerPoint, Director) are only working environments with no help on the conceptual level. We propose a framework for the authoring system called *SampLe* (Semi-Automatic Presentation generation Environment), where the system support is provided at any stage of the presentation building process. The support is managed by incorporating explicit knowledge about the domain, narrative structures, media modalities and tasks involved into the process of multimedia presentation creation.

2. Knowledge infrastructure for SampLe

The framework consists of five layers each dealing with a certain user task. We distinguish the following tasks: theme identification, building the logical structure of the presentation, selecting the material, arranging the material and presenting the material.

In order to build a presentation an author uses material from the database (<http://homepages.cwi.nl/~media/projects/CHIME/>). Media items in the database are annotated with the concepts from three ontologies: domain ontology, narrative structure ontology and media ontology. Based on these annotations, the system can perform search for the relevant material, taking into account user preferences about the content, narrative structures and media types. Moreover, the automatic

arrangement of media items into a coherent story becomes possible as well as adapting the logical structure of the presentation to the user needs.

SampLe incorporates knowledge about logical structures corresponding to different genres. It contains template structures for each genre (essay, biography, monograph) distinguishable according to the main character. The user has a possibility to introduce other (related) characters in the presentation. Then the system performs adjustment of the template structure and enriches it with sections introducing the related character(s) and showing the relationships between the main and the related character(s).

After the adjustment is complete the user can alter the proposed structure by adding/deleting sections or changing the descriptions of already existing sections. The adequate formulation of section names is important since these descriptions serve as queries for retrieving media items at the later steps.

3. Conclusions

The aim of the system is to facilitate time-consuming actions (exploration and search) and to support a user in performing creative actions (developing the story line of the presentation). The system also adapts the underlying meta-data structure to the various actions performed by a user. Changes in the meta-data structure might be adaptation of existing structures or enrichment with new structures. In this way the underlying meta-data framework becomes adaptable and hence more flexible suggestions can be offered to a user.