

Mobility in a Personalized and Flexible Video-based Transmedia Environment

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Abstract - This paper addresses the effective design of Transmedia environments to generate personalized additional video information from iTV, PC and mobile devices with a special focus on mobile devices. It presents the opportunities and challenges of the inclusion of mobile devices on this ubiquitous environment, turning it into a true “ecosystem of devices”, designed and evaluated based on cognitive and affective aspects that influence the user experience. The system generates a Transmedia personalized web-based content, which provides extra information about users’ selected topics of interest while watching a specific video. The web content may be generated and accessed through iTV, PC and mobile devices. Depending on the users needs, that web content may be viewed immediately or stored for latter view, individually or simultaneously, from these devices. An evaluation was carried out with a special focus on mobile devices, complementing previous evaluations with iTV and PC environments. The achieved results were very good considering that they helped rethink our mobile related assumptions and they showed that the integration of mobile devices on the environment was a success.

Keywords - HCI; mobility; video; transmedia; iTV.

I. INTRODUCTION

The proliferation of new devices able to support human activities across a range of contextual settings [1] is one of the main motivations for media integration in what is designated as Crossmedia or Transmedia environments [2]. These environments, based in the integration and co-existence of various media technologies with an integrated and specific purpose are becoming increasingly popular due to their flexibility and mobility. They create new opportunities for the generalization of communicational practices, as those associated with formal and informal learning and information access, which are becoming more relevant considering the importance of lifelong learning [3] and the pervasive nature of media technologies and devices.

Video is a very rich medium to support learning, and TV, PC and, more recently, mobile devices are privileged ways to access it. Through structure and interaction, these devices can open the door to flexible environments that can access video and integrate it with different media, accessible from different devices, adequate to support different cognitive

modes and learning processes in several contexts. In spite of their valuable potential to create rich and flexible environments, the design of these Transmedia systems faces some challenges that may affect their effective use. Some of the proposed systems failed because too much effort was put into technical details, leaving behind Transmedia conceptual aspects such as interaction and service design based on: cognitive processes, usability, user experience, contextualization, continuity, media affordances, and device characteristics.

Our main concern is to focus also and mainly on these aspects, while studying and understanding this emerging paradigm, where research has not been complete [1][4]. Our eiTV application has been designed and developed to illustrate our research. It was recently redesigned to support the use of videos other than TV shows on iTV, and the functionalities increased to match this more flexible perspective. Now we are redesigning it to fully support mobile devices and contexts of use. Running from iTV, PC and mobile devices, it provides users with the possibility to choose, from a video, usually watched in a more experiential cognitive mode (which allows us to perceive and react to events naturally), which topics they would want to know more about. They may also choose with which level of detail, and later decide when and where they would want to access those extra related contents, in a more reflective mode (the mode of thought), and with whom they would want to share them with, having the adequate support from the application in the different access contexts. The architecture and the main features available in iTV and PC contexts were already explored and described in previous publications [5][6][7], this paper will focus on the introduction of mobile devices and their specific functionalities and design in this Transmedia video-based context.

After this introduction, Section II includes a review of related work and concepts, Section III describes the design challenges of Transmedia applications and mobile devices in that context, Section IV presents the design decisions on the Transmedia eiTV mobile device module, evaluated in Section V. Finally, Section VI presents the conclusions and perspectives for future research and developments.