Strengthen the TV Experience beyond the TV

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ABSTRACT
The TV experience is no longer restricted to the TV. Other media devices, such as the PC and mobile phones, have become platforms for consuming TV content, which are more and more extended with new features for communication and social networking. A main challenge is still how to provide users the "right" TV experience. It has to be thought about how it is possible to strengthen the TV experience including all these new opportunities. The contribution provided in this paper is based on results derived from user evaluation performed studies with social TV applications. On the basis of two case examples we outline initial assumptions on how to enable a TV experience when other devices like the PC are used beyond but in conjunction with the TV set.

Categories and Subject Descriptors
H.1.2 [Models and Principles]: User/Machine Systems—Human factors; H.5.1 [Information Interfaces and Presentation]: Multimedia Information Systems—Artificial, augmented and virtual realities; H5.2 User interfaces: Theory and methods.

General Terms
Documentation, Design, Human Factors, Theory

Keywords
TV, PC, IPTV, Media Disruption, User Experience

1. INTRODUCTION & RELATED WORK
Social TV is defined as opportunity to interlink people and provide communication features to create connectedness [2], [11], [18] via the TV. Already Wellens [19] stated that "interactive television represents means of linking individuals together by providing each with an electronically mediated representation of the other's voice and visual presence".

A lot of applications allow social communication by using the TV set itself (e.g. SAMBA [12], Amigo TV [3], CollaboraTV [6], and Telebuddies [10]). However, we are not aware of any application for social communication on TV, which entered mainstream. These are all additional services which are not directly interlinked with the provided TV content.

But as Ursu et al. [17] state, "Television should do more than simply offer interactive services alongside (and separately from)

traditional linear programs, in the context of its dominance being seriously challenged and threatened by interactive forms of screen media entertainment" [17]. They therefore suggest the development of interactive forms of narratives as a path for the future of TV. Goldberg takes the same line by introducing the concept of semantic connection to investigate the linkage between a broadcast program and interactive television (iTV) applications [5]. To maintain the user's immersion into a program a high semantic connection is essential. We think that these notions are equally valid for social TV – especially when other devices are used in combination with the ordinary TV [9] set in order to offer the possibility for social communication as well as for a more active participation (e.g. user-generated content [8], Messenger Zync [15]).

But the usage of additional, complementary devices leads to a media disruption. Media disruption is understood as the situation when additional effort by the user is needed (i.e. changing the device) in order to reach a certain goal [7] which is often perceived as "disruptive". The taken effort is accepted by the user if this brings an advantage (e.g. more information, a feeling of togetherness or a more exciting TV experience). The interconnections between the TV and other media devices therefore need to be actively supported in order to strengthen the TV experience. This can be done by exploiting the advantages of from both, the TV set and other media devices, such as the PC.

However, the challenge is to maintain the TV experience when bridging different devices and to overcome and reduce the experience of media disruption. TV experience should be provided via linking content and additional services seamlessly, realizing convergence, and supporting the user to stay in the actual state of perception without a break. Within this paper we provide some answers to the question of how to strengthen the linkage between the TV and other technologies which additionally enable social communication.

2. BEYOND THE TV SET
A framework connecting the TV content and the other media services (e.g. Internet) offers a more appealing experience for the users than single services, such as TV content on the one side and communication tool on the other side.

In this section we present social TV applications we have evaluated, considering the media disruption as influence on the users' experience of the system. Example "A" is concerned with a TV programme and the PC and example "B" addresses the connection between an IPTV portal and the PC. We will point out suggestions on how to sustain the TV experience when, for instance, the TV set and remote control are replaced by a PC and keyboard.

Evaluation results show that participants asked for a better connection between the TV and the appending technology.

Moreover, users do not mind using a combination of two different devices as long as they are linked in some way and that a mental framework (e.g. a story) is provided.

2.1 Example A: TV & PC

This example is based on an application for Augmented Virtual TV, which connects the TV content with the PC in a virtual game environment [13]. This application was evaluated as part of a national project. The provided service is a hybrid between a TV show and a game. Users meet on a virtual platform accessed via the PC and have the possibility to interact via different means of communication. They can access broadcasted TV content on demand and are offered games that allow an immersion in the broadcasted content of the TV show and to compete against each other.

Participants of a first user evaluation criticized that the prototype does not fully make use of the advantages of the TV. They suggested to couple different game levels to the progress of the TV show. Thus the time-based regularity of the TV could fuel the connection between TV show and virtual world. They furthermore asked for an overall story to strengthen the interconnection between the TV and the PC. Together they should add up to an interesting storyline around the application. Participants embraced the possibilities of social communication. However, they did not like to renounce the traditional TV experience.

2.2 Example B: IPTV & PC

In our second example, an IPTV service was provided to the users of a local community testbed, extending the known user TV experience by offering user-generated content (UGC) features on the TV combined with the PC as upload platform for audiovisual (A/V) content [14]. Additionally, a mobile phone for picture upload was provided to the users. The IPTV service was analyzed as part of the European CITIZEN MEDIA project, offering additional results from a user evaluation on User Experience and User Acceptance.

In a first development phase, people were able to produce A/V content themselves, to upload and watch content on the TV in their homes, enabled by a set-top-box (STB). To upload the produced pictures and videos, an Internet terminal and a PC were required. In a further stage a gaming approach was introduced to increase users' participation in creating and sharing content, firstly on the PC and secondly on the TV itself. Most activities happened in the PC context, but the game was extended towards the IPTV platform, and could thereby further strengthen the initial provided TV services within the testbed.

Participants of the field evaluation within this project felt sorrow about the need of an additional device (i.e. PC) for a wholly usage of the provided service and complaint about the slow response time of the TV set. A motivation is needed to keep the user being active and to prod to participation with user generated content. The majority pointed out, that their generally TV usage did not change because of the additional offer.

3. STRENGTHENING THE TV EXPERIENCE

Based on the described evaluation activities we have extracted three assumptions on how strengthen the interconnection between the TV and other media devices and how to provide the user a mental framework for keeping the TV experience beyond the TV.

3.1 Align with the Traditional TV Elements

As people define the TV experience by traditional elements as the time-schedule and storytelling, social communication application should embed these elements. They can trigger usage and bind the user to the offer. From games we can learn that they use TV story elements to offer a better experience [1]. As shown in example "A" knowledge of the TV content should be required for playing the game in order to strengthen the interconnection.

3.2 Contextualize social communication

TV is a one to many communication medium, the audience is consuming the provided content and not participating in an active way. However, interactive services and social communication in the TV context need contribution, visibility of social action and a feeling of continuation.

The professionals should provide a link back to the TV, for example through a certain focus (e.g. on a storyline, on a topic, or on a person/anchor man). It should serve as a basis for a group of people, visualize a collective progress, and provide a common experience. One example would be to enter a virtual world and chat/exchange about a common topic extracted from the TV program (see example A).

3.3 Consider User-generated content

When addressing the TV context, UGC has becomes relevant over the last years (e.g. having YouTube videos on the TV etc.). Providing users a possibility to actively contribute to the traditional TV content could be another opportunity for supporting the TV experience beyond the TV. The described application in Example B offered a common topic and provided a game approach to engage users. However, to keep the relation to the TV, the inclusion of UGC requires more. To make a service lively over time it needs the creation of a dramatic composition, excitement, and dates (make appointments with the user/audience) to create an entire user experience.

4. CONCLUSIONS

When additional communication devices are used for social TV, measures need to be taken not to lose the connection to the TV. The evaluation of a combination of TV, PC and game on the one hand and a combination of IPTV and PC on the other hand show that users still define their TV experience by traditional elements and do not like to miss them in the usage of social, interactive TV as well. Therefore social TV application should provide content that is related to the TV subjects offered in a scheduled form.

The question on how to strengthen the connection of TV with other technologies by facilitating social communication in order to ensure positive TV experiences is addressed within this paper by discussing three issues revealed from performed user-centered evaluation activities.

In future research and within the workshop on social communication in the TV context we want to discuss further methods and ideas towards sustaining a TV experience that is going beyond the TV set.

REFERENCES

[1] Atkins, B. 2003. More than a game, the computer game as a fictional form. Manchester University Press, UK.

[2] Cesar, P.; Chorianopoulos, K. and Jensen, J. F. Social television and user interaction Computer Entertainment, ACM, 2008, 6, 1-10.

[3] Coppens, T., Vanparijs, F. and Handekyn, K. 2005. AmigoTV: A social TV experience through triple-play convergence. Alcatel, White Paper. Amigo TV Alcatel-Lucent

[4] Gawlinski, M. 2003. Interactive television production. Oxford, UK, Focal Press.

[5] Goldenberg, S., (2008). Creating Augmented and Immersive Television Experiences Using a Semantic Framework. Proceedings of the UXTV '08. P. 45-48.

[6] Harrison, C, and Amento, B. (2007). CollaboraTV: Using Asynchronous Communication to Make TV Social Again. In: Proceedings of the EuroiTV2007.

[7] Hauff, M. (1998). Media@uni-multi.media?: Entwicklung-Gestaltung- Evaluation neuer Medien. Germany, Waxmann Verlag, p 89.

[8] Jensen, J. F. 2007. User-generated Content – a Mega-trend in the New Media Landscape. In Adjunct Proc. of EuroITV2007, 29–30.

[9] Klym, N., Montpetit, M., J., VCDWG, MIT CFP (2008). Innovation at the Edge: Social TV and Beyond. MIT CFP – VCDWG Working Papers, September 1, 2008, pp. 4-11.

[10] Luyten, K., Thys, K., Huypens, S. and Connix, K. 2006. Telebuddies: Social stitching with interactive television. In Extended Abstracts of the SIGCHI Conference on Human Factors in Computing Systems, 1049–1054 Telebuddies (http://research.edm.uhasselt.be/~kris/research/projects/telebuddies/)

[11] Mantzari, E., Lekakos, G. and Vrechopoulos A. (2008). Social TV: Introducing Virtual Socialization in the TV Experience. Proceedings of the UXTV '08, p. 81-86.

[12] Mayora-Ibarra, O., Costa, C. (2007). The SAMBA Approach to Community-Based Interactive Digital Television. In: Proceedings of CHINACOM '07 Second International Conference on Communications and Networking in China, 2007, pp. 676-681.

[13] Obrist, M., Igelsböck, J., Förster, F., Tscheligi, M., Sturm, P., Hofstätter, J. And Kranzer, J. (2009). Augmented TV: Experiencing Augmented Virtual TV in a Game-based PC Environment. Accepted poster for EuroiTV2009 Conference, Leuven, Belgium, 3-5 June, 2009.

[14] Obrist, M., Miletich, M., Holocher, T., Beck, E., Kepplinger, S., Muzak, P., Bernhaupt, R., Tscheligi, M. (accepted). Local Communities & IPTV: Lessons Learned in an Early Design and Development Phase. In: Computers in Entertainment. To appear 2009.

[15] Shamma D., Bastéa-Forte M., Joubert N. and Liu Y. (2008). Enhancing Online Personal Connections through the Synchronized Sharing of Online Video. Proceedings of CHI 2008, p 2931-2936.

[16] Svensson, M. S. and Sokoler, T. (2008). Ticket-to-Talk-Television: Designing for the circumstantial nature of everyday social interaction. Proc. of NordiCHI 2008.

[17] Ursu, M., F., Thomas, M., Kegel, I., Williams, D., Tuomola, M., Lindstedt, I., Wright, T., Leurdijk, A., Zsombori, V., Sussner, J., Myrestam, U. and Hall, N., (2008). Interactive TV Narratives: Opportunities, Progress, and Challenges. ACM Transactions on Multimedia Computing, Communications and Applications, Vol.4, No. 4, Article 25, October 2008, ACM Press, New York, USA.

[18] Weisz, J. D., Kiesler S., Zhang H., Ren Y., Kraut R. E. and Konstan J. A. (2007). Watching Together: Integrating Text Chat with Video. In proceedings of CHI 2007. p. 877-886.

[19] Wellens, A., R. (1979). An interactive television laboratory for the study of social interaction. In: Journal of Nonverbal Behavior, Volume 4 / Number 2, December 1979, Springer Netherlands, pp. 119-122.