

# “TV is just one of the screens at home.” Consumers and changing TV watching

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## ABSTRACT

In this paper, we present findings of empirical studies on insights of end users' attitudes and hopes towards peer-to-peer (P2P) networked television. The paper aims to look at the changing trends of consumers' media usage and television watching.

## General Terms

Human Factors, Experimentation, Security

## Keywords

Peer-to-Peer TV, User Experiences, Internet TV, Social Media

## 1. INTRODUCTION

Consumers are using multiple technologies such as their PCs, media players and mobile phones to download and watch news and other TV contents at home and on the go. The growth of peer to peer (P2P) networks and social web has increased the possibilities of content sharing. Moreover, the traditional TV set has been developed towards a networked social medium which can be used at the same time chatting with friends and surfing on the Internet. In addition, several other kinds of interactive TV services are being developed, which move TV away from a linear broadcast model.

Thus in many respects, TV is moving from a collective medium to a more personal and active approach used with different kind of ICT devices both at home and in various situations outside the home. There is evidence that among other things people value mobility, personality, diversity and real-time effects as important properties of media services. [5]

Clearly, television is changing and diversifying its forms. The activity of viewing programs is converging with peer-to-peer and other interactive activities such as chatting, shopping, voting and playing. [3]

As a result, we can see a growing trend of media usage beyond the traditional TV watching. A shared TV experience is still important; however, there is an increase in the use of different screens and multiple TV sets at home. More often, each household member is using individual mediums and different kinds of interactive media services.

Moreover, new forms of media creation, delivery, and consumption have been evolving. The possibilities to create and consume a variety of contents and services are increasing. In addition, there are new forms of community and sociability being developed, for instance the possibility of commenting on programs with friends outside your home.

Also platforms for community-supported media annotations and remixes have been implemented. Remixes are made over a range of genres, with over a third showing thematic unity and a quarter showing some attempt at narrative. [7]

Furthermore, the issues of security are gaining new significance with the new on-line services as people want to protect their information privacy.

Nevertheless, it is not quite clear how certain P2P-services are experienced as a part of future TV and how people would like to use them in general. The real significance on social and interactive TV depends on understanding of the uses, purposes and problems of such systems. [1, 9] Therefore, this paper will present and discuss the findings of empirical studies on insights of end users' attitudes and hopes towards the television of the future.

## 2. RESEARCH QUESTIONS

To find out what kind of qualities and functions users would prefer on the television of the future, this paper focuses on three research themes based on empirical research:

1. *Content*: What kind of media contents would users want to consume, and how much would they be willing to pay from these services?
2. *Sense of community*: What forms of sociality and community would people like to engage in over the P2P services? Would users like to chat with their friends while watching television?
3. *Security*: What are the things users are worried when using this kind of services?

In the project we have adopted a human-centred design approach in which end-users are engaged at an early stage of development. Based on this knowledge it is possible to constitute a user's requirement specification for future P2P services.

### 3. METHODS

#### 3.1 Scenario Survey

Responding to the research questions outlined above requires the gathering of diverse research material. Our aim was to gather data from same areas of interests with different research methods; with scenario survey and focus groups. This makes possible to compare the results with different research methods. Even though the sample sizes are quite small it is possible to make some interesting findings on user's attitudes to P2P services for the future development.

Scenarios are personalized fictive stories which make the usage of devices more concrete to users. This method was used in the survey because P2P-services are not familiar to all users. Therefore, scenarios help users to understand what is meant with different interactive qualities and functions.

Scenarios are descriptions of a single user who is using a device or a service in order to achieve certain result in certain circumstances and in certain time period. They are simplified descriptions without technical details and they are written from the user's point of view. Moreover, scenarios can also be used to describe the usage of the devices of the future. They are best suited for early stages especially for the requirement specification. [4, 2, 6]

The scenario survey consisted of visualizations of different use situations and a questionnaire concerning the qualities or the functions mentioned in the scenario. 65 users responded to the survey questionnaire. The respondent's age range was from 15 to 63 years. Their mean age was 31 and 33 of respondents were women and 32 were men. The scenario survey was conducted in VTT's open web lab called Owela.

#### 3.2 Focus Groups

Focus group is a good method for finding out attributes, opinions and attitudes. Technique is especially applicable in finding out first impressions when the service is new and when the use population is not specified. Focus group is suitable in the early developing stage for determining the user requirements. It is recommendable to have more than one focus group because the outcome of single focus group may not be representative. [8, 4]

Three focus groups were held in order to collect users' opinions and attitudes towards P2P-services. The first focus group consisted of users with technical experience who were all users of social media like Facebook, MySpace and YouTube. The second focus group consisted of middle age and older users and the third group were young adults.



**Picture 1. A scenario presenting the possibility for watching together and commenting on programs with P2P-services.**

### 4. FINDINGS

The findings from the scenario survey and focus groups supported each other. The main message of the focus group was that the service must be user friendly in order to succeed. In addition, users appreciated freedom of choice, functionality, reliability and picture quality. They also noted that there should not be too much spam. Users thought that there may be advertisements but not too many and they should not disturb the watching experience.

According to our expectations, the users were not willing to pay much from the service. Unwillingness to pay was explained with the current television fee in Finland. It would possible to pay 1-2 euros for sport events and maximum 5 euros for a movie. They were mostly interested in paying videos with single payment with credit card or mobile phone. More options for selecting and watching videos were wished for. Users suggested also that it should be all the time possible to cancel your order. You should be billed only from the period that you've viewed. This way users could more easily and carefree order TV-programs.

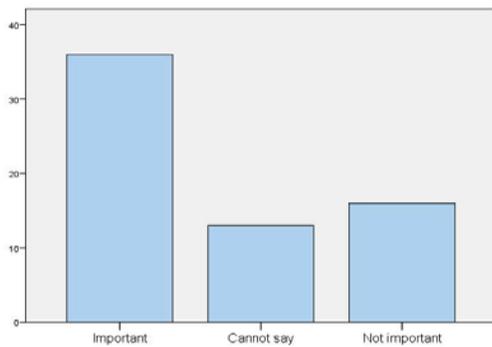
#### 4.1 Contents

The main feedback was that the users wanted to order programs that are not currently available from regular television channels for example movies, documents and series. They also wanted to have the opportunity to order classics and to watch series premieres.

Moreover, the users were interested in ordering language and educational material and specific things that interested them for example videos regarding their hobbies. Users also pointed out the importance of up-to-date news.

According to survey many users were interested in surfing on the internet while watching TV (Figure1), men more often than women. However, in the focus groups some of the users were in the opinion that they just want to watch television and not to do anything else while watching. Others thought it was a good idea because they are recently doing the same thing with different devices. Especially younger users already chatted with the laptop computers and watched television at the same time. Some users said that they are already using the Internet and the television together because they have a digital television receiver in their computer. For some users, the activity of viewing TV programs is converging with other on-line activities: *“Television is just one of the screens at home. It could be handy to for example manage your banking account on television”*, said 21-year old man.

To read emails on television might have at least novelty value for younger users. There were also suspects, that it might addict television viewers so that you are all the time examining new mails. Users noted that it should be possible to disconnect this kind of television services so that it doesn't disturb during a thrilling movie. *“It could be nice if it doesn't suspend your viewing. It might spare some time”*, said 22-year old woman.



**Figure1. How important is it for you to watch TV and surf on the Internet at the same time?**

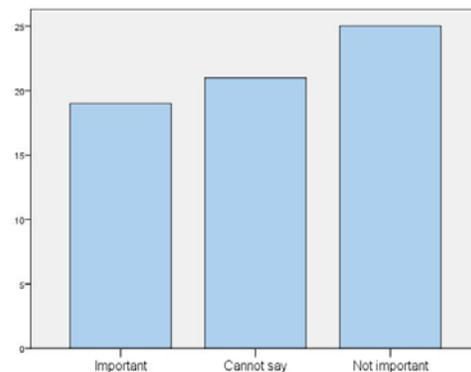
## 4.2 Sense of community

The survey results and the focus groups showed some signs of changes in television watching. About one third of the scenario survey respondents considered that it is still important to view television together with your friends or with your family at home. A little bit more said that it is not important anymore (Figure 2). An explanation for that might be that quite many respondents thought that they want to share the viewing experiences with their friends who live elsewhere. Results from the focus groups were similar. Attendees thought that it is quite common to discuss TV programs afterwards in the workplaces during coffee breaks. Some of the focus group members used also text messages to discuss TV during the viewing. TV is still strongly a social medium, but the social community might be elsewhere than at home, on the couch.

The younger users reflected that their parents are interested in what is happening in their lives. Parents would like to get videos from their children's life and whereabouts. Not surprisingly younger users were not willing to send videos to their parents. However, the younger group was ready to send videos to their friends. The older users wanted to share videos with their relatives and family. Especially if relatives were living abroad shared videos would be a good way to keep in touch. Older users also thought that it would be much more convenient to watch videos on television than on a computer screen. According to the users sharing videos from local events could be useful for different hobby communities. Users were also interested in watching live music from local happenings.

Especially the younger users thought that P2P services are best suited for people who do not own a computer or it could be a channel to communication for lonely people. However, they also commented that if the service would be easy-to-use enough, it would be suitable for all kinds of people.

The users were shown a scenario presenting the possibility for watching together and commenting on programs with P2P-services with your own community of friends (see Picture 1). The younger group said that this kind of chatting and commenting suits especially well to sports. In fact the younger user group was used to view and comment television programs on a computer screen at the same time. They were watching for instance Formula races on the left part of the screen and discussing it on the right part. Also current affairs programs were mentioned as a possible chatting environment.



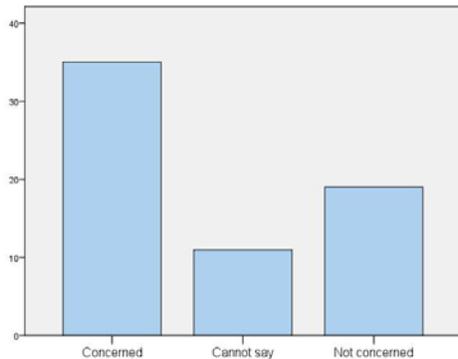
**Figure 2. How important is it for you to watch television together with your family or friends?**

## 4.3 Security

Especially the older users were concerned about safety issues related to P2P services. They were worried that their private and personal messages and information would spread to public. Because TV is a medium with a mass audience, they insisted that they have to be absolutely sure who can see your messages.

Users thought it would be good if they could put their own videos under a password, but there were still privacy concerns. Clearly,

personal information privacy is one of the most important issues of P2P television services.



**Figure 3. Would you be worried with this kind of service that the videos would spread to wrong hands?**

## 5. CONCLUSION

All the focus groups discussed the changing concept of television. Television and computers seem to integrate in future homes. Should we actually just talk about screens in different places?

## 7. REFERENCES

- [1] Harboe, M., Harboe, G., Massey, N., Metcalf, C., Wheatley, D. & Romano, G. 2007 Perceptions of value: The uses of social television. In Cesar, P. Chronianopoulos, K., Jensen, J. F. (Eds.) *Interactive TV: A shared experience*. /Heidelberg: Springer, 125-116.
- [2] Helander, M. G., Landauer, T. K. and Prabhu, P. V. 1997. *Handbook of human-computer interaction*, North-Holland.
- [3] Livingstone, S. 2004. The challenge of changing audiences. Or, what is the audience researcher to do in the age of the internet? *European Journal of Communication*. Vol 19(1), 75-86.
- [4] Nielsen, J. 1993. *Usability engineering*. AP Professional.
- [5] Oksman, V., Ollikainen, V., Noppari, E., Herrero, C., Tammela, A. 2008 'Podracing': experimenting with mobile

One may find it quite surprising that quite many people do not consider watching TV together with their family or friends as an important activity anymore. It appears that the traditional TV related sociability is collapsing as each family member would rather choose to watch their favourite programs with their own time and with their personal media devices and services. More likely, while watching TV, people keep several mediated interactions which do not require the parties to be in the same space at the same time [9]. Yet, this hardly means that people would not like to participate in social interaction at all. Probably there are some other hobbies, activities and common interests which are taking the role of the traditional TV watching for family.

Obviously, consumers' media usage, behaviour and experience is changing if each family member needs media of their own and more likely the number of screens at home will increase. Yet, it is not quite clear what extent and what kinds of media technologies users are willing to accept as a part of their home environments. There is still lack of recent studies of home contexts and users' behaviours [10]. In the future, we will continue the research on home environments and gather comparable research material from different countries.

## 6. ACKNOWLEDGMENTS

Part of this work is supported by European Union P2P Next project. We would like to thank all our partners for their co-operation

TV content consumption and delivery methods. *Multimedia Systems*. Vol 14, Number 2/July. Springer

- [6] Preece, J., Rogers, Y., Sharp, H., Benyon, D., Holland, S. and Carey, T. 1994. *Human-computer interaction*, Addison-Wesley.
- [7] Shaw, R. & Schmit, P. 2006. Community annotation and remix: a research platform and pilot deployment. 89-98, ACM, New York, NY, USA, Santa Barbara, California, USA.
- [8] USINACTS – Usability in the Information Society CD. 2000. The USINACTS project was funded by the European Commission under the ACTS programme.
- [9] Hjarvardt, S. 2008. The mediatization of society. A theory of the media as agents of social and cultural change. *Nordicom Review* 29(2), 105-134.
- [10] Obrist, M., Bernhaupt, M. and Tcheligi, M. 2008. Interactive TV for the Home: An ethnographic study on user's requirements and experiences. *Int. Journal of Human-Computer Interaction*, 24(2), 174-196.