A SOCIAL EXPERIENCE FOR ONLINE TV

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ABSTRACT

In a world where linear television is increasingly losing its relevance, there is a significant need for new ways to engage the viewers around television content. This paper presents a new extensive concept for Social Television based on time-indexed comments, enabling the viewers to receive comments from his or her chosen network, displayed when relevant to the content.

The application is developed using experiences from research on Social Television, which is also presented in the paper. The result of the study is a crowdsourced annotation technology providing the end users with closer contact with other viewers, and the content providers with more information about the viewing habits of their users. This information can be used to further promote and develop the content to create an even better experience for the users and to increase revenue for the service providers.

INTRODUCTION

You can't stay relevant as a broadcaster with a one-to-many communication strategy. It's a two-way street now. More and more content is being consumed on other screens than the television, and often outside of the live broadcasting schedule. Even when used, the television often has to compete for attention with other devices. Many consumers frequently use social media for discussing television content, but most social TV-applications have limitations and limited spans. Accessing Televisions "Backchannel" using hashtags through Twitter or Facebook enables the users to participate in the global conversation, but this excludes all users who are unable to catch the live broadcast.

This paper presents an extensive Social TV-concept utilizing the results from research on Social Television. Using this knowledge, we have developed a concept for a Social TV application targeting several of the areas that most social television applications touch. The defining feature of the application is time-indexed comments, i.e. comments associated with the moments they are referencing in the video.

This offers the ability to replay the comments at the same place in the video for each subsequent play, and to iteratively add reactions and discussions to the video as time passes. The result is powerful, and we believe this provides a significant value both for the end-users and the service provider, both of which are described in the paper.

The paper is partially based on the author's Master Paper, "Social Television: Creating a Social Network in the Player" (13), but new content has been added from newer studies and further development on the application.

SOCIAL TELEVISION

In 2011, Pablo Cecar and David Geerts (1) studied 30 existing Social TV-applications and sorted the applications into four main categories based on the primary area targeted by the application:

• **Communication** – Applications that offer different ways of communicating with other users. The applications often feature different ways of tracking what friends are watching, and the possibility of sending messages.

• **Community building** – Applications that help creating a community around a show, often through a social network site online, or on a second screen companion app.

• **Content selection and recommendation** – Applications for sharing information about shows and preferences to help make decisions for what to watch.

• **Status update** – Applications that focus on sharing information about what is being watched, often by "checking in" to shows when watching.

In the following chapter we will present some past experiences with Social TV-applications. We will focus mainly on the area of communication, as this is the main identifying feature of the application presented in this paper. We will however argue that the application targets all the areas identified by Cecar and Geerts, and thus offers something new as an extensive social network for television. We will focus on research around two especially relevant areas:

- Should the communication be synchronous or asynchronous?
- Is this kind of functionality useful and wanted by the users?

Asynchronous Or Synchronous Communication?

The idea of asynchronous communication in Social TV, i.e. communication where both parties in the conversation isn't necessarily available at the same time, has existed for a while. In 2007, Chorianopoulos (2) suggested that viewers watching at different times should have the possibility to annotate the content so that users watching later could see the annotations: "In this way, social TV provides a shared social context for conversations about the media that they have enjoyed, although not at the same time or place".

The idea does not yet have a firm hold. Some results, such as Huang (3) have shown that chats around television content often evolve into chats about other things, which doesn't make sense to persist and replay. On the other hand, a Nielsen-study on Twitter messages (4) found that 53% of tweets about a program is sent during the live airings, and that these would more frequently be sent in response to what happens in the program. This might indicate an interest for discussing the content while experiencing it, an interest that probably isn't limited to when watching it live.

The concept has not been tested on many applications, but there have been some tries.

In 2008, Nathan et. al (5) presented CollaboraTV, which allowed viewers to create text comments and other tokens that was embedded into the the media stream at the temporal index of the time it was written. The user interface was designed as a digital cinema with the silhouettes of the other viewers, and comments would emerge from the corresponding avatar.

The test results were somewhat ambiguous. Although half the participants reported that the application was fun to use, and most reported that the system was useful to them, the users were undecided about how much they liked the comment function. This was also reflected in the activity level, where the 16 users on the average created only 14 annotations over 4 weeks. Still, more than half the participants agreed that the experience of viewing TV with a virtual audience was more engaging and enjoyable than traditional TV.

In the commercial area, the global TV site Viki has implemented an asynchronous commenting service called "Timed Comments" in their video player. After removing the feature for a brief period, the commenting system was reintroduced as "the most requested feature in Viki history" according to Tammy H. Nam, Viki's CMO and General Manager Americas. When the service was shut down, the users had already left more than 1.3 million comments, covering 30 percent of its TV and movie content library (6).

A recent development is that Facebook has now implemented time indexed commenting into their live video service, a feature that has been highlighted as a competitive advantage by for instance Digital Trends (7) and TechCrunch (8).

With a lack of more research material on this area, it is clear that asynchronous commenting needs to be explored further, and it seems that awareness around this is rising. As Nathan et al. puts it in their article about CollaboraTV (5): "With a clear trend towards on-demand media consumption, systems that do not support this form of communication have significantly diminished value".

Is Commenting Functionality Wanted By The Users?

Many of the earliest commercial applications focused on communication have been cancelled or significantly changed. Motorola's SocialTV (9) started as a research project that connected households through their television sets, but developed into a second screen companion app which is now off the grid. Lycos Cinema enabled users to text chat with each other while synchronously watching online TV or movies, but was cancelled in 2009 (10). Several second screen apps have failed, with users seeming to be either too involved in the show to pay attention to the added information, or too bored to engage in even more material (11). Does the fact that all these applications failed tell us something about an overabundance of applications that aren't really wanted?

In 2008, Harboe et al. (12) conducted a study on the uses of social television through providing a small number of families with an audio channel on the television. Although neutral or sceptical to the idea at first, interestingly, after the test period, the subjects were overall positive to the experience of the social television system. "Before going into this I thought 'What would I ever use this for?' But it was a totally different experience actually doing it. Because I totally changed my mind: [...] I would totally use it!". Harboe et al. found that the users used the system for relieving boredom in slow periods and getting background information from each other. The interactions "served a social as well as a

utilitarian purpose. By helping each other out and validating each other's expertise, the participants affirmed and maintained their social ties (...)".

As we have seen, studies have shown that the users are often lukewarm to the idea of social TV before actually testing it, and it is obvious that succeeding in this domain is not done on the first try. The level of success might also be influenced by other factors. For instance, an experience that needs the users to engage in an active lean-forward mode when they prefer to relax might fail.

Regardless, the findings listed above indicate that the users might find needs for products that they do not initially know that they want. The social aspect might be a welcome backdrop for the television content, once the right format is developed. In the next chapter we will present a concept for a Social TV format.

A NEW SOCIAL TV CONCEPT

Imagine a group of friends watching soccer together. They don't always watch it physically in the same room, but through their ongoing chat they share their reactions and outbursts in various games (figure 1). Those who can't see the game live have to stay out of the chat if they want to avoid spoilers, and when they watch it later the chat is silent. What if there was a way to synchronize the chat with the live events that transpired when the conversation first took place?

Figure 1: Real life example of group chat – modified and translated from its original version

Time-indexed Comments

The key feature in the application presented in this paper is an asynchronous commenting engine, where the comments are tied to the temporal index in the video. This allows the comments related to an event in a video to be tied to the triggering event, so that subsequent watchers are presented the comments when the event occurs. This can give the user the feeling of watching the show with others, even though the other users may have watched it at an earlier time.

A Solution For Time-indexed Commenting

The application presented in this paper allows for time-indexed commenting through a commenting-API. The API stores the comments with both linear and relative time, and forwards the comments to a search engine service for analytics purposes. The comments can be fetched and ordered according to video, user and time. The API also generates reports about content consumption such as most commented videos or comments distribution for a particular video in order to find patterns in user behaviours.

Figure 2 shows the application interface. Through a side panel that can be opened inside the player, the user is presented with a commenting interface resembling a chat window, where the newest comments roll up from the bottom of the panel. Each comment has a
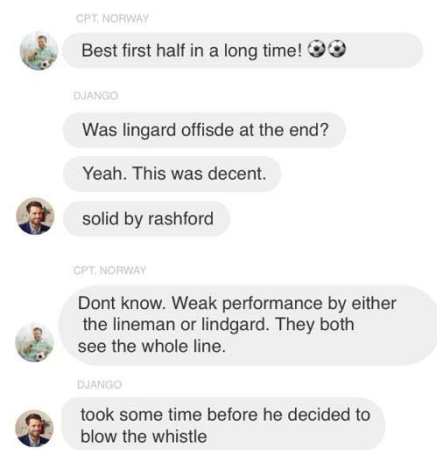
timestamp referring to the time in the video when the comment was posted [1], as well as the linear time [2]. When the user clicks on a comment, the video jumps to the corresponding time in the video, and the comment stream scrolls to the new time.
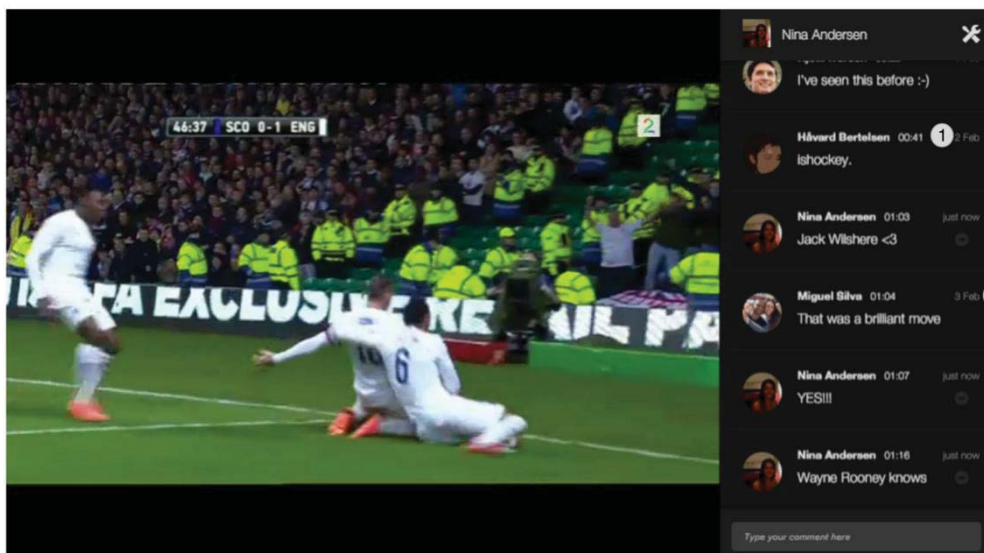

Figure 2: Commenting interface in the application

Since the core of the application is a commenting API, the application can be implemented with a variety of different frontends, and on different devices. This way, the application can cater to several different activity modes, ranging from an active, lean-forward commenting mode on the desktop, to a passive, lean-back-mode receiving only selected comments on the phone while streaming video from the television.

Filtering comments streams

To meet the problem of potentially large amounts of commenters, the users are presented with the option of filtering whom to receive comments from. The users can log in using their Facebook-accounts or other social media-accounts, and access simple information about the other users in the system, to choose who to follow.

There is also a big potential for creating bigger commenting channels providing some sort of value for larger groups. Movies can be commented by their directors, actors, writers or movie critics providing information about the production, context or the meaning of certain scenes. Imagine a movie expert explaining all symbolism for each view in an old art movie ("now the colours are suddenly black and white to signify a break with the tone of the rest of the movie"), or maybe background information in a complicated TV-series with many names and characters ("As we remember, the last time we saw mister Smith was in season 3, when he pretended to be a store clerk").

Moreover, private users can grow bigger followings through providing insightful comments, which may work as an incentive to put some effort into the activity. This may also help to build a community around a show, expanding the reach of the application into Cecar and Geerts' community-category (1).

Discussions

Another way of building community around the shows is to make it possible for the comments to receive replies, triggering an alert to the original poster. Since all comments and replies are available through an API, the discussion may continue in other views or on other devices than the original comment (figure 3). This event-centered discussion forum has several advantages.

Firstly, it increases the chance that the original poster gets the opportunity to discuss events that are interesting to him / her, because the comment is displayed at the time when the chances are highest that other users feel the same involvement. Even if no other relevant users have seen the video before the original poster, the comment is tied to the event as long as the video is published, so that later users might participate in the discussion. The original poster then has the opportunity to reengage in the discussion, keeping the video alive long after its initial play.

Figure 3: A list of comments outside the player

This iterative layering of comments and replies helps the video experience develop over time. Watching a video at one time and then re-watching it later can give two different experiences if the new comments change the perception of the video. This increased activity level on the steaming page might make it feel more vibrant and engaging for the end users.

Secondly, this ensures that it is easier to find each discussion around a topic. Instead of having to scroll through several pages in a movie forum looking for relevant topics, all comments regarding a specific incident is stored in one place. An interesting thing that might happen because of it, is that the activity around a video might vary over time. Imagine if somebody at some point discovers an interesting clue in a movie, which changes the way the movie is interpreted. This can make more users engage in the discussion, and might lead to higher activity levels and viewing numbers in a period.

Ultimately, this helps building a sense of community around a show, because each reaction that the viewer has might be countered or amplified by the reactions of other viewers.

Activity streams

Further building on the sense of community, the application provides a system for observing the activities of friends through an activity stream with information about what they are watching, commenting and replying to (figure 4). This also functions as a way of recommending content, another one of Cecar and Geerts' main Social TV-categories. This might give extra inspiration for choosing what to watch, to feel
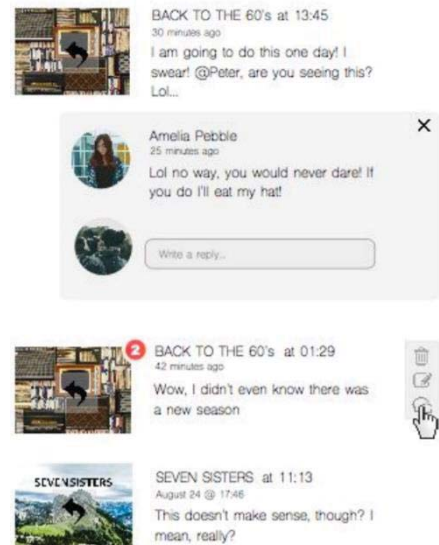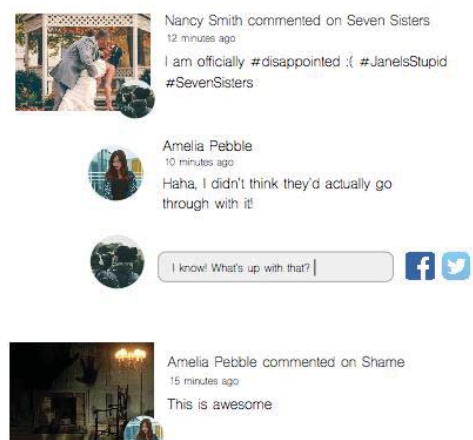

Figure 4: A social activity feed in the application

connected to a greater community, or to jump into the same moment as friends to watch together.

For the service providers this is especially valuable because content that is interesting to a user but would otherwise not be discovered is now displayed as an indirect recommendation from a network that he or she cares about.

Integration with existing social networks

As illustrated in figure 4, comments can also be posted to other social networks such as Facebook and Twitter. This can also be related to Cecar and Geerts' notion of Status updates as a Social TV-category. This provides the possibility to share information about their activities to an even broader network of friends. It encourages the end users to use the system because it makes the activity more precise ("I'm talking about THIS specific scene"), without limiting their reach (all Facebook-friends can see the comment). This advertising in broader networks might also function as a way of recruiting more users to the product, and gives the advantage that other users might be gradually persuaded to check out the service if more and more users are commenting it in varying social networks.

It could also be possible to integrate the other way, i.e. pulling in comments from other social networks using public APIs and hashtags. This could work as a way of utilizing otherwise "dead" comments from for instance Twitter, and reusing it by displaying it at the time it was posted relative to the context. This gives the advantage of not having to rely solely on the activity levels on the original page, and making it possible to connect with broader networks of people not using the same service.

Tagging and mentions

Like in other social networking pages, comments can also contain hashtags and mentions. Mentions using the 'at'-symbol ('@') function as an effective way of recommending content, as the mentioned user will receive a notification when tagged. Another advantage is that this is an established practice which the users are familiar and comfortable with. In a similar way, hashtags are a way of compressing the content of a comment and generalizing it and making it searchable. We will discuss this further in the next chapter, where we talk about the advantages of the system for the service provider.

A Crowdsourced Annotation Project

Until now, we've talked mostly about what the end user benefits from using the system. While this is definitely important, the benefits gained for the service provider are many. The application offers a crowdsourced annotation project, where each moment in the video can be sprinkled with the authentic reactions from the users. This information can be used in many ways.

Information about how users react to the content

Analysing the information derived from comments helps the service providers obtain information about the reaction of the users. Which part of the content engages the users

the most? Which videos receive the most comments? What makes the users laugh? This information can be used in several different ways.

For advertisers, the information can be used to decide where to put commercial breaks and advertisements, through identifying the most popular parts and videos. Information about products displayed in the commercials can be accessed through the comments stream, and special commercial comments can contain buttons for storing the information for later or purchasing out the product.

For the service providers, the information provided from comments helps identifying which videos and moments to promote further, through identifying what is the most popular in broader or smaller networks.

The information can also be used for content producers, through observing the reactions of the viewers. Are scenes intended to be funny received in the expected way? This might help adjusting the manuscript for later productions and in this way create better communication between the viewers and the producers.

For the end users, quickly identifying the highlights of a video may also function as a way of quickly catching up in videos they otherwise wouldn't watch. This can be facilitated further by the service providers through offering special compilations based on certain parameters, such as the five highlights of an episode.

Tagging

As mentioned in the previous chapter, using tags makes the content easier to categorize, organize and sort, especially when combining tags. The use of tags for expressing laughter and amusement, such as "funny", "haha" and "lol", combined with tags expressing embarrassment, such as "awkward" might signify an awkward comedy, such as "The Office" or "Curb your enthusiasm". In this way, utilizing the whole user community gives an amazing opportunity to sort the content in a sincere way, through the users' own words. This makes it possible to create more specific searches.

CONCLUSIONS

This paper has presented an extensive Social TV-concept based on time-indexed comments, enabling the viewers to receive comments from his/her chosen network when relevant to the content. Using research on the field, especially targeting commenting applications both in research and commercially, we have discussed whether this could be a useful feature to include in a Social TV-application. Referring to the four main categories for Social Television created by Cecar and Geerts, we have showed how this can present the users to something new, catering to the new viewing patterns and social media habits that we see in the modern TV consumer.

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