

Web-Mediated Communication: in Search of Togetherness

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ABSTRACT

This paper introduces a community-based video sharing environment to support asynchronous communication among heterogeneous participants within a restricted social community. Unlike other community sharing efforts, our work is predicated on the desire to strengthen existing *strong ties* among group members, in which existing relationships can be nurtured. Using the example of a high school concert as a starting point, this paper discusses a sharing framework in which highly personalized music videos are constructed from a collection of independent parent-made recordings. The environment addresses a series of parent needs for producing tailored presentations with custom features, based on ‘safe sharing’ of common assets. We report on the user needs determined by a number of focus groups and on a web-based environment that can be used to manage the complex inter-personal relationships and time-variant social contexts with a community of diverse (but related) users.

Keywords

Web-Mediated Communication, Privacy, Video Authoring, Video Sharing

1. INTRODUCTION

The Web is an effective infrastructure for managing multiple kinds of social interactions among its users. Where early Web applications facilitated pull-based sharing across relatively anonymous communities, the user-generated content boom that began around 2005 has added a push-based dimension in which users can broadcast aspects of their lives to others around the globe.

Figure 1 illustrates a representative collection of current social sharing systems. Some of these systems focus on a particular medium (such as YouTube and Flickr!), other exploit social awareness based on location (such as Gypsii) and others allow for long-term, incremental social sharing based on daily events (such as Facebook, Twitter and MySpace). From a user perspective, all of these systems facilitate the establishment and maintenance of *absent* and *weak ties* [5] among social group members: you broadcast factoids, in the hope that others – based on non-directed, semi-random interaction – will tune into your message.



Figure 1. Current-Generation Social Sharing Systems

The focus of our work has been in understanding inter-personal Web-mediated communication within groups that are based on strong social ties. Rather than sharing general information within a wide group, our work has focused on directed sharing among members of smaller groups (such as a family, a school class or a sporting club). We have experimented and developed systems that combine the benefits of personal focus – knowing who you are talking with – within the context of temporally asynchronous and spatially separated social meeting spaces. The work reported in this article focuses on timed-shifted communication, studying how personally commented videos can be shared between individuals as a social ritual [2].

In this paper we discuss experiments intended for sharing personal videos in the context of parent-made recordings at a high school music concert. Our final intention is not so much in producing and publishing the definitive video version of a concert, but rather in providing videos intended for family and friends who were not there, in which the narrative focuses on one specific child musician. Working with a test group of parents with children at local high school, we investigate how focused content can be extracted from a broad repository, how content can be enhanced and tailored to form the basis of a micro-personal multimedia message packet, and how it can be transferred and shared with family and friends (each with different degrees of connectedness with the performer and his/her parents). Figure 2 sketches the concept behind the video authoring/sharing tool.



Figure 2. Sketch of the Authoring and Sharing Tool

A significant body of research has focused on social media as the aggregated behaviour of groups of people. Motivations behind tagging in Flickr [1] show a necessity of belonging to a social group. Behaviour with YouTube [3][5], photo sharing systems [4], and micro-blogging [7] can help to semantically annotate videos, places, and life events. And anthropological studies of

latest Web developments [9] shed light on current changes in our societies. In our research we are more interested in individuals, their context, and inter-personal communication.

This paper is structured as follows. The next section reports and summarizes first results from interviews and focus groups intended to better understand how dispersed families communicate and maintain relationships. Based on the results, Section 3 elaborates on actual requirements for video sharing systems that can nurture *strong ties*. Section 4 describes MyVideos, a Web-based tool that we have developed meeting such requirements. Finally, Section 5 concludes the paper and discusses the future work.

2. Food for Thought: Family Interviews and Focus Groups

Together Anywhere, Together Anytime (TA2) is a pan-European collaborative project¹ that studies new forms of computer-mediated social communications. This section reports on the first results of two user-centered evaluations done within the project: family interviews and focus groups.

2.1 Family Interviews

Sixteen families across four countries (UK, Sweden, Netherlands, and Germany) were interviewed. Figure 2 sketches the profiles of the people that were interviewed.



Figure 3: The Makeup, Age, and Gender of the Family Interviewed [10].

In the interviews, a number of themes emerged as significant [10]. First, the families interviewed said that they kept in touch with each other using various communication methods. Second, many people were keen to stress that new products would only achieve significant adoption if they were easy to use. Third, many people perceived as important the security and privacy aspects of the communication applications. Finally, lots of the households described the way they shared media and discussed the role this had in their communication habits.

This paper focuses on the last topic. The people interviewed reported using different sharing methods: showing pictures taken via their mobile phones, using Picasa or Facebook. Nevertheless, all participating parents stated that, if they shared media, they would do so via communication methods they perceived as private: the so called private Picasa² album shares, email, via files on CDs or DVDs, and then only to trusted contacts. There was a

general reticence from the parents towards social networking sites.

2.2 Focus Groups

After the interviews we focused on one specific way of communication between family members: media sharing. As a part of a long field trial, we ran two focus groups to better understand the users' needs. The trial started in the beginning of 2009 and will last until the summer of 2011, with the intention of involving potential users in all the stages of the process: requirements gathering, prototype implementation, and evaluation. Both focus groups consisted of three parents each, in which in depth interviews took place. The first one took place in the UK in the summer of 2009 and the second one took place in the Netherlands in December 2009.

Even though the focus groups provided us valuable data and information about different issues, this section focuses only on those results related to privacy and security. We report on the question of how well current Web-based video sharing models fit the users' needs?

According to our data, current models do not fit the needs of family and friends. Much richer systems will become an essential part of life for family and work relationships. Before we get into the details, we must stress that this data is only representative of the reactions from 6 parents in two different countries. Even though we believe that the results can be generalized into broader segments of the population, we cannot assume or justify that as a fact. In the least, it indicates that some parents are concerned about current video sharing models. In the near future we are planning to run more interviews that can provide us statistically significant data in response to the following questions: Are current video sharing tools adequate and appropriate for being used in the context of family and friends? Are social networks mature enough for fitting family needs? What are the consequences and future implications of such technologies?

In the Netherlands, the parents highlighted that there are different functions for making videos: for yourself, as an archive, or for showing it to others. They wanted a high-level of control like 'these physical tapes and these DVD's are my archive, which I can touch'—quite differently from an intangible file on the Internet. They also wanted control and privacy, control over which people can see the content, what they can do with it, and being able to ask and give permissions.

The parents made some relevant statements about this topic during the focus group as, for example:

"Picasa and Flickr are, for me, as if you enter into somebody else's space. But teenagers, currently, they think that is normal: they put all kinds of photos on their profile pages etc."

"My daughter is on one of these movies on YouTube. I think that was strange—they should have asked her for permission, I think."

"I would like to be able to have control over the pieces of video with her [her daughter] in it – also on my daughter's behalf"

In the UK, the parents stressed that they would not share the videos with "the world", but would share it with other family members for fun. For example when asked about YouTube, one parent said "I haven't... my wife's side of the family... they're always putting clips of video on YouTube and all these sorts of things... that makes me cringe a bit... I think well why would I

¹ <http://www.ta2-project.eu/>

² <http://picasaweb.google.com>

want to do that... do I think that's interesting to anybody?" They expressed concerns as well about letting other parents to logon and see their videos "would I give the ok for my son to be on that video so that anybody who has an account can logon and see that piece of video... I'm not sure..." and they were concerned even about having the source material in a common repository "...even if you didn't actually want to access that content yourself would you still be happy knowing that that content was there... so... 'I'm not interested in doing this'"

As a summary of the findings, this sentence from a parent in the UK is very relevant

"I think we'd more inclined if it was like a one to one thing as opposed to put it up for the whole world to say something how good we are"

3. The Problem: Managing Shared/Private Interactions

The findings from the family interviews and the focus groups seem to indicate the current social media sharing interfaces are not adequate for satisfying the social needs of *strong ties*. Current popular social websites follow the "YouTube" motto, "Broadcast Yourself", by offering the opportunity to the individual of sharing media content with a potentially wide audience; a more complete classification of end-user behaviors have been proposed elsewhere [8]. Even though they offer password protected content control mechanisms, their final intention is as a communication channel to an anonymous crowd. Giving these restrictions, current solutions might not be adequate for a family or a small social group for storing and sharing collections of media, which is personal to them.

Regarding social relationships, they facilitate the maintenance of absent and weak ties; according to Granovetter [5] the strength of an interpersonal tie is:

"... a combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie."

Hence, our goal is to provide Web-mediated video sharing tools that help users to maintain *strong ties* by exploiting the bonds among people and by making use of existing aspects of the personal relationships (*intimacy*). Moreover, the authoring process of the shared videos requires an *amount of time* and the possibility of personalize the video for others adds a high *emotional intensity*.

In particular the challenge is to develop a community-based video editing tool that balances personal needs with the needs of the community. Special attention is paid to the social dynamics among users – whether the creators of the video or the recipients of the authored video – and to provide secure and private mechanisms for storing and sharing the stories.

4. The Concept: MyVideos

Based on the requirements identified in the previous sections, this section describes in detail MyVideos: a community-based video editing tool intended for strengthen *strong ties* between groups of people. More concretely, the sharing framework provides parents the possibility of creating and sharing highly personalized music videos constructed from a collection of independent parent-made recordings. The selection of a video sharing system is a reciprocal service, matching the definition of interpersonal tie provided by Granovetter.

Based on the previous discussions, we can identify a number of requirements:

- *Privacy*: most of the parents in the interviews and the focus groups expressed concerns about current sharing models due to privacy concerns. Thus, our tool should provide adequate privacy mechanisms.
- *Easy of use*: a key requirement that arose from the interviews was the importance of developing a tool that was easy to use.
- *Effort*: one of the parameters for strengthen interpersonal ties is dependent on the amount time put into the relationship.
- *Emotional intensity and intimacy*: the emotional intensity and mutual confiding are parameters that affect the strength of an interpersonal tie. Thus, our tool should provide the author the means for customizing videos to specific people and for including highly personalized content, such as comments.
- *Reciprocity*: creation and sharing of a video is just the first step in a conversation. The recipient of the video will probably respond. Our tool should be ready for life-long editing, augmentation, and enhancements of the authored videos.
- *Material*: since we are developing a community-based video editing tool, a key requirement is to be capable of managing a vast amount of content. For example, Figure 4 shows an instance of the video clips obtained after the recording of a Jazz concert in Amsterdam.

The added value of the sharing infrastructure will be a rapid- turnaround processing system that can provide multi-resolutions of the video fragments (to aid is quick content browsing), content alignment, community identification (who was that singer, anyway?), and multi-destination publishing.

The tool has been partially implemented and still we are under testing. The interesting aspect for this paper is that we decided to follow an inter-disciplinary approach in which both technology and social issues were addressed. That means, that we involved the parents since the beginning. While technology and in terms of



Figure 4: Temporal Alignment of the Available Video Clips Recorded by a Community of Users.

innovation, this tool is very interesting; even more interesting is from the viewpoint of social studies. What can we learn from it? What are the parents' wishes?

Figure 5 shows one example of an authored video. The author has created a video for someone else based on the available set of video clips. Moreover, he has added a number of personal assets such as an introduction and a video recording of himself explaining why he is sharing the video with another member of his family.

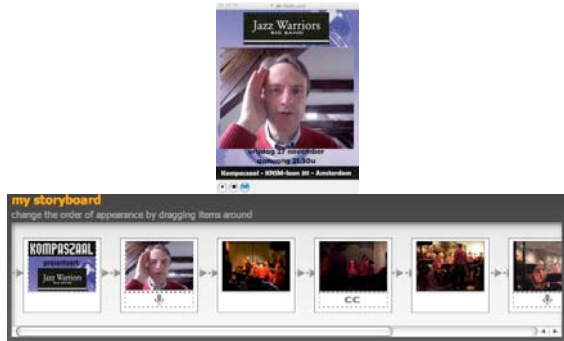


Figure 5. Example of a Video Created with MyVideos.

4.1 User Interface

MyVideos is one of the software tools developed in the TA2 project. The goal of MyVideos is to allow parents to easily author and share videos of school performances of their kids. The intention is to illustrate how a relatively dynamic social group – in this case, a collection of families that may otherwise have limited interactions – can be brought together by contributing media assets for common use. Unlike many collaborative editing systems, the primary purpose of the content sharing is not the publishing of completed assets, nor the joint development of a collective common work, but instead to serve as a resource that can be used by members of the extended community to serve a collection of individual needs.

By contributing assets, each participant gives permission to reuse their own contributions within the community. It is assumed that each participant has the rights to contribute their own material. (This may not be the case if, say, five participants at a Rolling Stones concert contributed their videos, since the base content – the Stones' performance – is protected.)



Figure 6: MyVideos Interface, with a Number of Assets.

Figure 6 shows the user interface of the tool, in which users can navigate, organize, and annotate media assets. They can create their own version of the video by placing media elements in the timeline, and they can contribute with more assets if needed. A critical factor in MyVideos is aligning the individual content contributions. Not all sources will be complete, different time codes and camera settings will be required, and not all participants will necessarily be known to the system: for example, a crowd shot of the sister of the trombone player will not be recognized by the school archives.

4.2 Privacy

Providing a trusted storage media server fulfills a key requirement – privacy. Parents can upload the material from the concerts to a common media repository. The repository is a controlled environment by the parents, and so it is only accessible to the school and a relatively small group of people. Moreover, all the media material is tagged and associated with the parent who uploaded it, and there are mechanisms so parents can decide not to share certain clips in which their children appear. Parents can use their credentials for navigating the repository – those parts allowed to them – and for creating different stories for different people.

4.3 Effort

The authoring tool provides extra capabilities such as automatic processes. For example, the use of templates facilitates the creation of videos, while internal narratives can be used for making “good” presentations. Figure 7 shows a selection of authoring templates. The final intention is to provide different levels of authoring: handcrafted, automatic, and personal. We wish to lower the burden of authoring, but not limit the joy of handcraft videos for others.

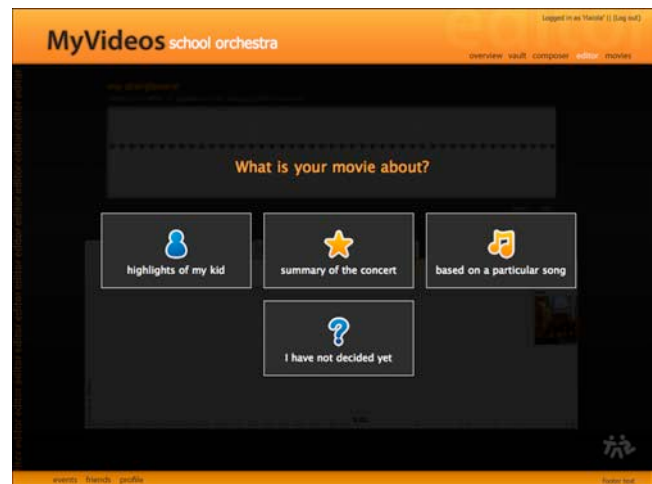


Figure 7: Template-Based Authoring

4.4 Intimacy

In order to have more personalized experiences end-users can include audio, video, and textual commentaries. This are particularly intended for distant family members that will receive the video. Figure 8 shows the interface for creating your own assets.

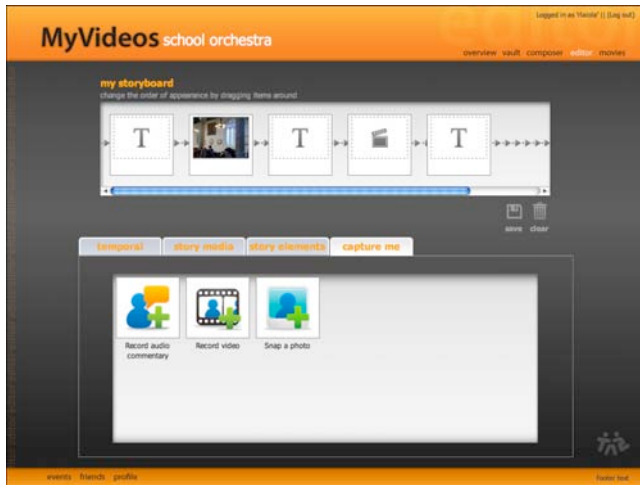


Figure 8: Adding Personal Media

5. Conclusion and Future Steps

What we have reported in this paper is only a first step in our research into Web-mediated communication tools and software. We believe that interesting studies are yet to come that will provide more insights in these topics. Nevertheless, it is clear that such tools are not the final answer for improving communications between people living apart; the concept of “broadcast yourself” does not apply to many people; moreover, issues of privacy and security are to be taken into account.

From a social perspective we are interested to better understand the actual implications for technology. What methods and mechanisms are needed? Which security and privacy controls are valued?

From our side, this is just a first step in the long journey to better understand the intersection of social multimedia and social communications. We are in the middle of a long trial in which we will further explore the issues hinted in this paper, we have a number of research questions and still not so many results. We have an inter-disciplinary team that will help us all the way.

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