

TECHGIRLS' MOBILE MINIMOVIES – A CASE STUDY OF GIRLS AND MOBILE TECHNOLOGY

Arto Puikkonen
Nokia Research Center
Visiokatu 1
33720 Tampere, Finland
arto.puikkonen@nokia.com

Jenine Beekhuyzen
Griffith University
Brisbane, Queensland
4111 Australia
jenine@griffith.edu.au

Jonna Häkkilä
Nokia Research Center
Yrtypellontie 1
90230 Oulu, Finland
jonna.hakkila@nokia.com

Abstract

Mobile phones with digital cameras have become a common new tool for producing user created video content. In this paper we present a study of 84 participants (teenage girls) who created and authored minimovies using the N73 mobile phone. The participants produced 28 minimovies in a 30-minute period which were then analysed for their structure, style and feature usage.

1. Introduction

Mobile phones are a good example of today's pervasive devices. Their computational capabilities, connectivity features, versatile applications and multiple features enable multipurpose usage, and their very high adoption rate create end-user behaviour which can truly be embedded into our society.

Research has revealed how the use of mobile phones has shaped social interaction and created new communication subcultures, especially due to text messaging [1]. The introduction of photo/video taking capability has offered the user tools for recording and sharing visual content [3] as well as increasing the possibilities for self-expression in creative ways. User created content utilizing audiovisual recording capabilities on the mobile phone can bring forward novel applications, such as the MMS-based comic creation tool described in [6]. Photosharing has also provided new tools for educational activities, used e.g. for mentoring young girls in technology education [2]. In the entertainment realm, studies related to mobile TV and videos are still a rarity, and so far they focus on the consumption rather than content creation [5, 6, 7]. The creation of mobile video content is still a largely unexplored area. In this paper we investigate the creation of minimovies with a mobile phone. We present the results of our study in terms of the video styles used, the video structure adopted and the features used on the phone.

2. Study Set-Up

The study took place in June 2007, at the Mingara Convention Center in Tumby Umbi, 45 minutes north of Sydney, Australia, during the Central Coast TechGirls 2007 event, in which 200 secondary school girls from various local (regional) schools took part. Of those, 84 participated in the study, the sample covered ages between 13 and 18 years with an emphasis on 14 and 15 years old girls (76%). Teenage girls were chosen for the study for three reasons: access, audience and location. We had 'access' as one of the authors was the keynote speaker; 'audience' was chosen specifically as they present a target group not often considered in technology design. The 'location' was appropriate; the girls were spending the day learning about technology.

The study ran for 3 hours, during which the recruited participants formed groups of three according to their own will, making 28 groups in total. Each group received a Nokia N73, and had to compose a minimovie about the event. The maximum length for the minimovie was 3 minutes. For this task, the groups were given 30 minutes of time. Due to event restrictions, the participants were only able to spend 45 minutes in the study area. Only few detailed instructions were given, clarifying that they

are allowed to film anything of their choosing and encouraging creativity. In addition to filming, the study included a preliminary background questionnaire of 10 questions about the demographics and earlier experience with mobile phones, and an end-questionnaire with 9 numeric questions and 4 open commentary questions about the minimovie filming experience. The test situation was formed into a competition with the prize of a Nokia N73 mobile phone for each member in the winning team. No criteria for judging were given to the teams.

3. Results

The background questionnaire provided useful information for us in understanding our participants and their ownership and use of technology. We found that the level of regular mobile phone use among the participants was very high. Out of the 84 participants, 77 owned a mobile phone and 7 shared one with another family member. A large portion of the participants were experienced in casual photography (72/84) and videos with a mobile phone (65/84), but less experienced concerning editing features (12/84). By analyzing the types of video filmed, four different styles could be established:

- Reporting (9)
- Free mode (8)
- Fictive storytelling (7)
- Performing (4)

The most frequent type was the *reporting* styled video (9 out of 28 minimovies). In a reporting video, various targets from the location where filmed and the videos also included reporting verbally what is seen in the video. The verbal reporting was done by the person filming in most cases, but also by the people in front of the camera in a reporter manner. Almost as commonly, 8/28 of the videos can be categorized as *free mode* videos. A free mode video consisted of filming various targets without an apparent planned structure. Like in reporting videos, the free mode videos also include talk by the person filming and by the people in front of the camera, but in free mode videos the verbal content did not follow any planned structure or aim for a specific target. *Fictive storytelling* (5/28) videos are videos with acting a planned play with a storyline, as illustrated in figure 1. Participation of the person doing the shooting varied - in others she was just shooting the film, in others acting also the as a storyteller or commentator. *Performance* videos (4/28) consisted of various types of performance acts to the camera, e.g. singing, dancing and other forms of performing, see figure 1 for example.



Figure 1. Examples of the performance ('human pyramid') and fictive storytelling ('dramatized phonecall')

The majority of the minimovies, 19/28, were single clip videos and 9/28 were multi-clip videos. In single clip videos, the outputs by the participating teams consisted either of one long single clip without any breaks, or a large collection of different clips with one being the one intended. In multi-clip videos the outputs consisted of different scenes done by using either the pause function or the merging option provided by the device. The length of the clips in multi-clip videos is illustrated in

figure 2. In multi-clip videos, fictive storytelling and performing tended to use somewhat more short clips whereas and reporting and free mode videos utilized more longer clips.

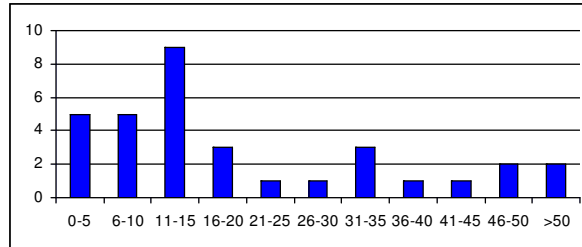


Figure 2. The length of the clips in the multi-clip videos [s].

Participating teams were very open to film a variety of scenes and people. The minimovies included people from their own group, from other groups, the organizers and on occasion also the cameraperson. When analyzing participation of the group members, no clear trend could be defined. What can be said is that in many minimovies only a selected group of members is visible in the shot and on several occasions some members of the group are not seen at all in the filming. It is unclear whether these members participated in the filming or just walked behind the camera out of sight. The amount of performance and fictive storytelling videos however indicates that in a social situation selected members are willing to perform in front of a camera.

The use of the features provided by the device were barely demonstrated in the minimovies. Especially the lack of zoom was very noticeable - and unexpected, as the phone however provides keys for the zoom function. In the case of needing a closer look at the target, in almost all cases the cameraperson took steps forward or reached arms forward to move closer to the target. Only in one video out of them all used zooming during filming. In the other cases when using zoom, it was done before starting the recording.

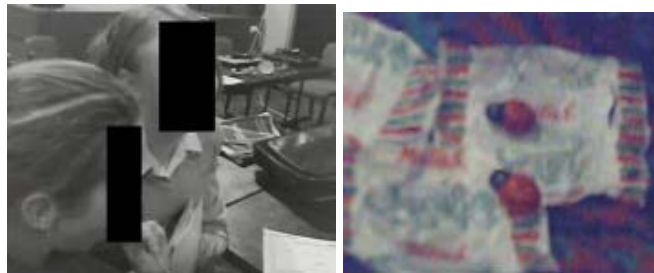


Figure 3. Examples of BW (left) and close-up shots (right).

Other features used were the *black & white* (BW) option, *editor*, *opening titles* (*text*) and *naming* the file. The black & white option was used on two minimovies, see fig. 3. From a visual perspective, the use of the option for the other group was to obtain a 'horror movie' feeling and looking like the movie "The Blair Witch Project". For the other group it apparently served no higher visual purpose. The video editor was used to merge files together. Merging was also done by using the pause function. Only two of the videos were given a name by their team.

All the minimovies were shot by holding the device in hand, and the majority included moving the camera around. Most of the videos were filmed mainly from more than a meter away from the target. Close-up shots were a rarity. Only one minimovie (1/28) included deliberate, long-lasting close shots, e.g. fig. 3. In addition, short momentary close-ups of a face of a person were also used.

The amount of improvising while shooting was significant. This varied according to the type of video shot, the most planning used with making performance and fictive storytelling videos and the least with free mode minimovies. Filming in a social situation and in a group was considered to be fun by the groups. This was very apparent when observing the participating groups in action, and also according to the end questionnaire, where 24 groups gave the highest points (5 in scale 1-5) when judging how fun the filming had been.

4. Discussion and Conclusions

This paper presents, in the limited length of Pervasive 2008 Late-Breaking-Results format, the results of our recent study of mobile phone minimovies created by teenage girls, involving 84 participants and resulting 28 minimovies. Across the 28 groups, a variety of minimovies were created by the girls. On analyzing the minimovies, it was clear the mobile phones can be a useful tool for creating user generated content. The minimovies exhibited strong social aspects, which may be emphasized in terms of the particular study participants (teenage girls). This was evident from the observations, participant feedback, and the interaction that occurred. The participants had fun together, and the interaction both in the minimovies and around filming was vivid and enthusiastic.

This paper contributes a better understanding of how mobile phone cameras/videos are being used by teenagers and also provides a female perspective on technology use. Taking a female perspective of technology is important. Often technology is designed from an western-male technical view, with little consideration of half of the population (females). As females, particularly younger girls, are quick to adopt new technology (e.g. mobile phones), it is essential to consider how they use the technology, designing features and support for social interactions accordingly.

Organizing the study in settings of an educational event gave practical restrictions to the set-up, and from the researchers' point of view, this was an opportunity to take. However the study is limited by the fact that it was organized in a setting which did not allow comparison to a different user group, e.g. boys, or across ethnic backgrounds. Moreover, it would be interesting to compare the results to mobile video composing in everyday life settings. However, the authors believe that this study provides interesting viewpoint to creating video content with a mobile phone. The authors are currently continuing their research in the area and wish to conduct further studies that will provide more insight into the topic.

5. References

- [1] Grinter., B., and Eldridge, M. (2003). Wan2tlk?: Everyday Text Messaging. In Proc. CHI 2003, ACM Press (2003).
- [2] Hakkila, J. & Beekhuyzen, J. (2006) Using mobile communication technologies in student mentoring: A case study, in HCI Encyclopedia, C. Ghaoui (Ed). IdeaGroup Publishing, Pennsylvania, USA
- [3] Kindberg, T, Spasojevic, M, Fleck, R, & Sellen, A. (2005). The Ubiquitous Camera: An In-Depth Study on Camera Phone Use. Pervasive Computing, April-June 2005, 42-50.
- [4] O'Hara, K., Mitchell, A. S., Vorbau A. Consuming Video on Mobile Devices. In Proc. CHI 2007, 857-866.
- [5] Repo, P., Hyvönen, K., Pantzar, M., Timonen, P. Mobile Video. National Consumer Research Center, Publications 2003:5.
- [6] Salovaara, A. Appropriation of a MMS-Based Comic Creator: From System Functionalities to Resources for Action. In Proc. CHI 2007, 1117-1126.
- [7] Södergård, Caj (ed.). Mobile television - technology and user experiences. Report on the Mobile-TV project 2003. VTT Information Technology, Espoo. 238 p. + app. 35 p. VTT Publications: 506