



Mobile Media Sharing in Large-Scale Events—Beyond MMS

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LARGE-SCALE EVENTS AS AN APPLICATION AREA. The increasing availability of mobile phones equipped with digital cameras calls for investigating mobile media applications beyond current approaches as MMS (multimedia messaging service), mobile instant messaging, and blogging. In particular we maintain that accurate studies of specific settings can help the emergence of novel approaches that better support people in producing and sharing mobile media. Nowadays large-scale events are prime social, economical, medial phenomena ranging from sport events (e.g., the Olympics), festivals (rock, cultural, folklore), to celebrations and carnivals. Interesting characteristics are the spatial distribution, the duration that extends over days, and the fact that such events are set apart from daily life. Spectators and visitors gather in groups investing resources (time, energy, money) to co-experience something “extra ordinary.”

From our fieldwork in ongoing projects, we have an initial understanding of the spectator’s experience in distributed sport events [2]. Spectators are actively engaged in staging their experiences: navigating and selecting places, settling, creating multimedia records, expressing group image (some wear “uniforms”), and interacting within their groups and with strangers. In this context mobile devices can be considered beyond person-to-person messaging and beyond passive consumption of multimedia content. Our field studies with mobile camera phones showed how spectators co-experience events in groups, how mobile imaging can be a participative practice that is enhancing the event’s experience on-site, rather than merely documenting it or communicating it to others.

Novel applications can be specifically used to support different aspects of the experience of the spectatorship, such as maintaining relations to a social network (group’s co-experiencing of the event), or maintaining awareness and engagement to the event (enhancing event presence). These findings indicated the need for alternative approaches and informed the development of mGroup, a client-server application for groups of spectators to combine co-production and sharing of mobile media on site with real-time media from event organisers.

MGROUP: MOBILE GROUP MEDIA FOR SPECTATORS. Current commercial systems for mobile communication with multimedia include three main approaches: mobile instant messaging (MIM), multimedia messaging (MMS), and photo blogging. These approaches, as also prototype systems (e.g. [1]), do not address important issues specific to events: groups and their dynamics, the simultaneous support for immediate sharing (and dialogues) and archiving, combining spectators’ media for social presence, and real-time media services for event engagement. As an example, the “group feature” in MMS to share mobile media in an event does not provide the possibility to create dedicated communication spaces for the group, as messages are

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all in the general in-box and do not contain information of who the other receivers are or if the message is a reply to an earlier one. The possibility to create different spaces is important to support the participation in simultaneous groups or topical spaces (for example, event organizer's content). Finally, the in-box does not support archiving, as it rapidly reaches its capacity in intensive events and media in the in-box can not be easily exported in forms of albums.

We have built a prototype client-server Java application for the Nokia 6630s (a Series60 smart phone), to be used in large-scale events. The application—mGroup—is a mobile media sharing application for groups of spectators and visitors, based on the following principles:

- *Story-based communication spaces.* Users can create “media stories” inviting specific members forming different media spaces to support topical discourses like in chat rooms.
- *Threaded replies and presence features.* Each message sent within an mGroup story is delivered instantly to its members, who can reply with a message viewable by all the members. mGroup visualizes members’ online/offline status and the latest contributors in the stories.

• *Combining spectators’ media and real-time event content services.* Spectators are motivated to access mGroup to share media in stories and also

to view dedicated stories with real-time event content (by event organizers, competitors, or performers).

• *Automatic album creation for post-event re-experience.* Each media story is also a shared album in an up-to-date Web page protected by password.

Figure 2A shows the media story selection screen, along with the latest sender name and the time passed since the latest message in each story, with the most recently created story on the top. Choosing a story with a key press takes the user to a time-ordered message view (2B) with thumbnails, starting text, sender, and time stamps of messages. The user can also change to threaded view by pressing the right arrow key that visualizes messages in groups of replies threads. By selecting a message, a user can see the full message (2C). In Figure 2B and 2C, the Options menu provides the user a possibility to create his or her own messages. A message can be a reply to the selected (2B) or the shown (2C) message, or a new one that



Figure 1: Mobile media sharing at the world rally competition in Finland; Spectators shooting (left) and sharing (right) pictures at the rally.



Figure 2. Browsing content in mGroup. From left to right: The media story list from which to join or create a new story; List view of messages in a media story; The message shown in full size after a selection in screen B; The member view available from the Options menu shows the online (green)/offline (red) status of each invited member. The content shown is from a user trial at Neste Rally 2005 in Finland (a part of World Rally Championships competition).

creates a new thread. The message creation is completed by selecting “Share” from the composer’s Options menu. The message is uploaded to the server in the background, from which it is distributed to all the media story members and stored in the Web page.

We are currently trialing mGroup in rock festivals and sports events in partnerships with event organizers that are crucial to provide appropriate real-time event content. mGroup was successful in supporting the construction of a shared event experience especially in distributed groups of spectators. The main challenges ahead include improving the interaction design of the story approach with more immediacy in the creation and sharing and additional group awareness features. Problems in the technical platform include portability of the client application to different phone models and current limited wireless bandwidth by large gathering of people offered by telecommunication operators.

ACKNOWLEDGEMENTS We want to acknowledge our partners in the Wireless Woodstock Services Project, funded by the National Technology Agency of Finland (as a part of the Eureka Celtic db Wireless Festival project), and especially Anne Mehtäläinen from TeliaSonera, Pekka Kanerva, Antti Oulasvirta, and AKK Sports for cooperating in the trials.



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