

Mobltz: A mobile multimedia tool for informal learning

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Abstract: We describe the design of a mobile media application for informal learning. Mobltz supports multimedia conversations and digital storytelling using mobile phones. Designed to be accessible in places in which a mobile phone may be the only Internet access, it facilitates shared understanding by privileging the “telling” of the story over the final story itself. Stories can be remixed and retold. The application is a work in progress; in the poster session at CSCL we will report on patterns of use from three informal learning situations.

Theoretical approach

Early work on mobile computing investigated the potential for mobile devices to create persistent learning opportunities “anytime” and “anywhere” as people “cross” the various contexts of their lives – institutions and settings such as schools, after-school programs, and home. However, with the dramatic expansion of mobile networks and applications, thinking about learning contexts has become more complicated. Whether on the move or sitting still, people generate and maintain social contexts via frequent, brief, routine and intimate interactions such as micro-blogging, SMS, MMS and in various online social networks. In this sense, mobile, networked devices have become portals to “attentional worlds” (Lemke, 2007) that learners build within their social networks and that continually cross into their everyday placed experiences. Today’s textual and media-based micro social interactions shift one’s contextual focus as network nodes link up and disassociate with one another. These interactions offer fleeting but potentially powerful new spaces in which people build understanding of each other’s lives.

These patterns of interaction raise questions for research. Social theories of learning, which have played a key role in CSCL inquiry, emphasize the contextual nature of learning; however, for mobile CSCL the term ‘context’ is perhaps under-theorized. How do we think about emerging mobile learning contexts that are not situated in a given place at a given time as much as achieved within an ever-expanding virtual network? How do we think about building shared context in virtual worlds that are both global in scope and individual and atomized in models of participation? Finally, how do we harness emerging mobile social network dynamics for collaborative learning? With these questions in mind we have developed a social mobile media environment to support informal learning. It is called Mobltz.

Mobltz – a social mobile media environment

Mobltz is a social mobile media environment designed to support learning by enabling users to build and maintain shared context. Designed as both a media-based conversation tool and a mobile digital story telling environment, Mobltz facilitates the collaborative stitching together of images, audio, video and text to form a narrative. The core environment has four major features that differentiate it. Firstly, it is lean and simple, so that all interactions can take place from a mobile device. Secondly, it supports referential interaction in sharing of images, video and sound in the context of multimedia conversations. Thirdly, it does not privilege narrative “stories” over more casual, fractured or emergent interactions; shreds of stories and ideas live alongside long narratives, and anyone can remix and retell any story. Finally, it supports publication and broadcast of these conversations in an ongoing, media “snowball” that grows online over time in any web-based environment. The Mobltz environment consists of the following core features:

- **Signup:** Users join mobltz by sending an MMS or email containing an image, video or audio file to the mobltz email address. The system sends an SMS or email inviting them to set up an account.
- **Login:** A portal login screen offers users quick access to “featured” mobltz and other content.
- **Viewing, making and sharing:** Users can quickly see their own and friends’ submissions on a “lister” screen that is divided into three tabbed sections: my stuff, my community, and everyone. Users can search for media on specific topics or sent by specific users, and can make a new moblt by selecting media items and checking “make moblt.” A new compilation comprising all selected media and associated text appears in the lister. Clicking on a moblt opens it for viewing within a player. Users can share their media via a link that sends a message to a phone or email address.
- **Owning and Editing:** The creator of a moblt retains ownership rights and within the player is able to directly edit the text, order, and duration of each media element. Owners can invite others to contribute to the moblt by assigning and publicizing a unique keyword. Any media marked with that keyword will be appended to the moblt. Moblts can be made from other mobltz, so that multiple interpretations of the same stories can live side by side, authored by different ‘owners.’

Why multimedia Conversations?

While mobile blogs have been a great way for individuals to tell a narrative over time, they are difficult places to have conversations, and therefore are difficult for building shared context. Collaborative blogs facilitate group submission of media, yet due to their linear format do not support in-depth conversations about media submitted. Older media are pushed to the bottom over time, frequently never to be seen or referenced again. Prior submissions are difficult to bring back to conversational life. Communication is atomized and linear, privileging a present over the past, sacrificing the common reference points that serve to reactivate collective memory and enduring community experience.

Moblitz was developed so that any media item can be visually referenced from the archive and brought back into conversational life at any time. Through search of keywords, users find media submitted from members of their learning community, from themselves, or from everyone who is connected via the Moblitz social network. Users can select any media item to stitch together (making a moblt), and can edit the order and text of that media item. Text is displayed beneath the visual media component, whether video or still imagery. The result is a multimedia piece made from collective media submissions, the URL for which can be “flicked” to any user or new contact via SMS or email.

These features combine to allow users to convey context, opinion, point of view, or a sense of place or situation in a given discussion. In pilot use cases, users harvested media elements to reference ideas, to ask questions, make further points, or draw comparisons. When compared to the content of conversations over a mobile blog, the multimedia Moblitz platform facilitated turn-taking interaction, with users frequently referencing media from prior compilations. The effect was that of *pointing*, with words like “this” appearing under recycled images and video, orienting the viewer to the visual referent as it appears. Prior work has shown that visual pointing assists in recruiting resources to enable people to work and learn together in disparate settings (e.g., Goodwin, 1994, 1996, 2003; Koschmann, 1999; Pea, 2006). Being able to point helps people achieve a shared context that facilitates understanding.

The effect in the Moblitz environment over time is analogous to gifts and photo albums that people maintain on display in homes and other built environments. The artifacts we surround ourselves with maintain a sense of past and connection to each other, serving as focal objects for eliciting joint experience. In this sense they’re a part of the context that “weaves us together” (Cole, 1996) rather than a context that merely “surrounds” us. Media artifacts in Moblitz get recycled as ongoing jokes referencing past experiences, as references to topics of shared interest, as clarifications, redefinitions, and lenses for refocusing. Shared images become referential tools for achieving “common ground,” a shared perspective that helps us make sense of novel experiences and cultural categories (e.g., Clark, 1996; Pea, 2006). It’s our hope that through shared referencing, users from disparate cultures and settings will not only be able to communicate to solve clearly defined problems together, but will also be able to elicit shared frameworks that can help them uncover joint problems and collective solutions that have yet to be revealed.

Ownership, collaboration, and remix

While Moblitz supports the development of stories as coherent collaborative narratives, it also supports the continual negotiation of meaning as such stories evolve. When participants upload media, that media is associated with their user name, in effect providing them limited “ownership” rights. Only the person who uploaded can delete or edit original text for a media element. However, when participants stitch together media elements (forming narratives—or moblts) to make a story, they become owners of that story, and can delete or add elements, and edit all associated text. Participants during ongoing media-enabled conversations can thus remix, mashup and add to one another’s works. If the originator of a media element decides to delete an element from Moblitz, every instance of that element disappears from any moblt containing that element. Moblitz thus change and evolve over time; they are participatory, but anyone has the right to withdraw participation at any time. Moblitz are representations of community conversation and interaction. Like artifacts emerging from co-located interaction, the elements and meanings of these artifacts are continually brokered and re-negotiated.

Moblitz can be recombined with other moblts or media elements to tell a new story or make a new point or elicit a new experience for the collaborator. The fragmented, emergent nature of the Moblitz experience contrasts with the stable media production environments of most multimedia tools. This may seem to challenge prior recommendations that multimedia learning environment support goal driven collaboration, media sharing, and meaning negotiation (Polman & Pea, 2001). As a distributed environment, Moblitz is designed to facilitate meaning-making across and within shifting cultures and contexts. This meaning making is an achievement that can be represented by the accumulation of evolving media artifacts constructed in interaction. While goal oriented interaction certainly offers fuel for participation, sometimes fluid, loose interaction can help participants find the commonalities that underlie the establishment of a goal.

Global media snowball

Finally, Mobltz provides functionalities to broadcast conversations or ideas globally, calling on anyone anywhere to contribute and participate via media submissions. While any moblt can be embedded in any web site (see Figure 1), when a user “opens” a moblt to public participation, that moblt will continue to accept submissions and grow over time. This launches a massive media snowball—a set of media relationships to grow via social networks (see Figure 2). Media sent via MMS or email appears automatically in the embedded moblt. For example, environmental studies students published a “soil erosion” moblt to which anyone can submit images, video or audio related to soil erosion. The result is an evolving multimedia collection that endures and grows, fueling a rich online conversation on erosion.



Figure 1. Mobltz player – can be embedded in any web site. The player cycles through an unlimited number of media contributions. People contribute by sending an MMS with the keyword [e.g., coffee].

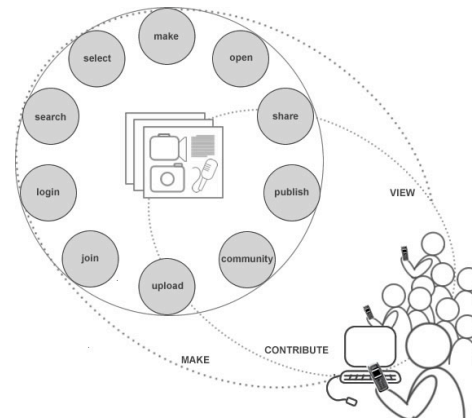


Figure 2. Community participation model. People can build and start mobltz, sharing media with other members of their Mobltz community. People can also contribute to each others' mobltz directly.

Ongoing research

This is a work in progress. This poster will report on the results of three pilot studies of informal learning using Mobltz. The first is an ongoing collaboration among environmental studies students and researchers at three different universities, one in the US and two in East Africa. The second is small-scale informal collaboration among friendship sets of youth in the US. The third is a case study of an ongoing mobile digital storytelling project in South Africa. Social network data will be presented, as well as an analysis of communication patterns developed with ongoing media exchange. The poster will support an interactive demonstration of the Mobltz application. We hope the mobltz site and embeddable player will be a useful tool to support collaborative learning in situations in which the achievement of shared context assists in the development of understanding.

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