Caterpillar Mobile: Mobile Media Fun

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Abstract
Camera phones are the pioneers for convergent networked media devices. As such, new practices are being born from eased capabilities of mobile digital media sharing. Furthermore, new opportunities are created through the collaboration of existing realms into entirely new ones. Focusing on the intersection of social networking, gaming, and media sharing we believe that new uses for media are possible which incent users to play and have fun, while at the same time ease media sharing and promote reuse. Using simple design structures, users are able to interact easily with both the device world and the real one. As well, by providing flexible frameworks to capture and engage with their worlds, playing with media becomes possible.

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INTRODUCTION

Camera phones are quickly becoming the worlds' fastest selling computer ever. As we watch them forge their way into the consumer world, we see that not only are they used in new communication practices, but also as a part of increasingly advanced media creation practices. They are tools that enable people to invent and communicate with new and novel visual communication techniques.

As the photograph transforms from an archival document to a common type of interpersonal communication, we see the content of the photo change as well. The focus is placed more and more on spontaneous or fun moments. In a sense, by allowing a network to facilitate the ease of sharing, digital images are finally breaking loose from their physical counterpart, the printed photograph.

Communication can often be considered another form of play. Consider a musician playing a musical instrument. As the musician communicates its sounds and his own interpretation of those sounds to an audience, he plays it. Expression of ideas, weather through words, sounds, or even imagery often includes exploration of the boundaries of communicative medium. Play is the exploration of such boundaries.

Games guide and direct play, while at the same time limit it. They create winners and losers, beginnings and ends. However, as devices foster persistent communication opportunities, why shouldn't games follow in accord? Instead of limiting exploration within a set of rules, what happens when we provide flexible tools that allow users to set their own limitations?

To examine how the worlds of mobile digital imagery and game play collide, we would like to look at the changes that are emerging in both. What types of new behaviors do we see in mobile imaging and how do they intersect with augmented play?

VISUAL COMMUNICATION

Camera phones lead to new opportunities, but the actual use of such devices is leading users to entirely new behaviors. One could easily argue that the progression of photographic technology from the days of slow processing to the instant digital technology of today has led to many new uses of photography in our everyday lives. However, if we examine the progression of the technology itself, the only thing that has changed is that we now have higher quality photos in a much shorter period of time. If we consider high-speed data networks and built-in screens for instant sharing, incredibly novel uses become apparent.

As the time costs to the user are greatly reduced, interaction is eased. Consider the time necessary to wait for traditional chemical film processing. By removing such barriers, capture feedback is immediate. Moreover, with a network connected to the device, dynamic informative feedback and sharing become instant. Without feedback latency, interactions between users or between a user and system can become continuous. Continuous and dynamic photographic messaging has the potential to become a 'conversation' using only pictures. Manipulating either the pacing of that conversation or the content can result in fun and novel experiences for users.

If we also consider the lowered cost of the photo itself, a dynamic new digital playground appears before us. As the cost of each photographic attempt is significantly reduced, unsuccessful results are not seen as "wasted" and the potential for exploration and play is heightened. Combining this propensity with instructional content can create boundaries, rules, or stories, which help to guide and direct play.

MOBILE PLAY: AUGMENTED, CASUAL, FLEXIBLE

Augmented gaming combines gaming with the real world. In much the same way that mobile technology bridges the virtual and real worlds, augmented play bridges the game world with the physical one. In studying this type of play, we see that characteristics of this type of play are analogous with characteristics of visual communication with camera phones. Specifically, let's look at the following six characteristics, which have been used previously [6] to describe augmented play:

1. Cross-media
2. Pervasive
3. Persistent
4. Collaborative
5. Constructive
6. Expressive

It's apparent that the sharing mechanism through camera phones is analogous. Cross-media capabilities through text, voice, and imagery are available. The mobility of the device, allows for pervasive interaction, while its "always on" property creates persistence. Image-based communication, as we have previously discussed, is a collaborative, constructive, and expressive communication practice. Considering the mutual properties of augmented game play and camera phones' visual communication, a natural opportunity lies at the intersection. Further, by applying simple design tactics to this intersection we are able to create a more persistent and engaging type of mobile play.

Casual Play

Most mobile game titles, such *Lord of the Rings, Return of the King* or *Tony Hawk's Underground 2* have taken existing console games and simply ported them to small-screen mobile devices. While being easily recognized, the mobile environment detracts from the game experience. Features, functionality, and plot are lost. On the contrary, simple games such as puzzles have logic suited to fit a mobile users short attention span and limited interaction capabilities.

Casual games are suited perfectly for mobile devices. Many of these games are designed with the view that external environments are an enhancement rather than a distraction. Players can capture their environment as they move about it. Ubiquitous games and contests such as Conquest Treasure Hunt, Mobile Hunt, and the Verizon Urban Challenge are proving that the players' environment can be an integral part of gameplay.

We like to consider simple schoolyard games that many of us played when we were younger, such as I-Spy, Tag, or Hop Scotch, and think about how we can augment part of those game to be easily played on a portable device, across a group of friends, throughout their daily lives. This type of interaction is much better suited for a simple, always-on, mobile device than a repackage console game that ignores the potential for a rich interaction based on media creation and interaction with the world around the players.

Flexibility

Mobile play should not only be designed for what device each player is using, but also the lifestyle of those players. Where they are moving and with whom they are communicating. As the division between game and real worlds become blurred, users begin to naturally face challenges that are within neither world, but rather between worlds. That is to say, as games begin to take advantage of the affordances of mobile technologies, real world social interactions, physical boundaries, and social rules begin to be contended by play. By enabling users with the capability to challenge these relationships themselves, at any time, we think play itself is actually facilitated.

Allowing users the ability to create their own boundaries and definition of the game rules themselves, allows them to reinsert their own interpretations of their own physical worlds into the game. It allows them to tailor the game to their lifestyle. It allows the game to become personalized, fitting even better the properties the mobile device.

CONCLUSION

We believe that the current state-of-the-art for camera phone usage is only touching on what type of media applications will be predominant in the future. By examining the intersection of augmented play and convergent mobile devices, we believe that media play will help to provide incentive to users and allow for fun, easy media sharing paradigms.

In this way, no longer will users be engaged with their devices in certain environments, but their environments will become engaging as well. Physical boundaries will be reexamined as game pieces and social boundaries become integral into the challenge. Because the camera affords us an easy and compelling way to share these new interpretations, it will become the window into playing with your world!

ABOUT MOBILE MEDIA FUN

Caterpillar Mobile is dedicated to developing systems for mobile media play. Founded on research performed at UC Berkeley, School of Information Management Systems, we believe that through the convergence of media sharing, gaming, and metadata acquisition we can provide users with a way to capture, share, tag, and have fun with their media. We hope to have a Beta platform of our ideas available to discuss in more detail at the time of UbiComp 2005. Until then, below is some initial feedback that we have received from our alpha test users:

"I enjoyed it, I found myself looking at things differently."

"I was trying to figure out how do I capture this in a picture?"

"[I was trying to] find 'subliminal messages' in a shopping area in San Francisco."

AUTHOR BIOS

Anita Wilhelm is a co-founder of Caterpillar Mobile. She graduated from UC Berkeley School of Information Management Systems in 2004. Her master's thesis project – Zooke: The Camera Phone Game helped to spark the development of Caterpillar Mobile. She is a mobile interaction designer with previous work at Yahoo! Mobile and Electronic Arts. The majority of her work has focused on research and design of mobile photo systems and social networks. She is especially interested in casual gaming.

Jeff Towle is a 2005 graduate of the UC Berkeley School of Information Management Systems. His past work includes the study of collaborative visual communities, the design and development of software enabling mobile photo sharing, as well as the design and evaluation of ambient displays.

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