From Social TV to Structured Communication Formats

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ABSTRACT
We describe research and ideas that could inform the design of social experiences around the TV. This work is primarily based in the field of social television, which we summarize briefly. We focus on the idea of structuring and interpreting freeform communication so that it can be used to trigger system actions, which in turn can provide distinct social experiences. We first analyze social program recommendations from this perspective, then look at a new genre of social video game that blurs text chat and command input.

Categories and Subject Descriptors
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms
Design, Human Factors.

Keywords
Social television, interactive television, communication, CMC, field studies, social games, adventure games.

1. INTRODUCTION
For the past decade there has been substantial research into *social television*, defined as social experiences around television content, and systems to support these experiences (usually remotely). Social TV systems typically integrate presence awareness and some form of communication (text, voice or video chat) with shared viewing of video content. The most current findings and achievements in the field of social television are described by Cesar, Geerts and Chorianopolous [3].

In previous research we have shown that the capability for users to communicate freely in their own words is critical to a rewarding Social TV experience [4]. At the same time, there is growing recognition of the potential found in more "intelligent" communication features that will allow users to engage in shared activities. A simple and widespread example of this kind of feature is the program invitation, recommendation or suggestion, which lets a user tune directly to a particular show and makes it easy for two buddies to synchronize their viewing.

One promising possibility is the creation of social experiences tailored to specific TV programs, such as multiplayer competitions within quiz shows, fact checking or commentary during political debates, or a gossip channel as part of entertainment news. Enabling third-party creation of these custom experiences requires standardized protocols and an API for the intelligent communication features. The ability to specify different communication formats in a consistent way could lead to the invention of a wide variety of TV-centered structured social experiences. To design these experiences, we need to understand the users and their needs, but we also need creativity and vision.

The following sections first provide an overview of relevant TV-centered communication formats found in the literature and in commercial products, then describe findings from two user studies that looked at program recommendations. Finally we jump beyond the data and propose an idea for a novel TV-centered social game.

2. RELATED WORK
Besides program recommendations, which offer an implicit or explicit choice to accept or ignore the suggestion, several systems have offered other forms of messages with multiple-choice replies. 2BeOn let users send ClipEmails, quick questions that allow only yes/no answers, to their buddies [1]. In ConnecTV a similar feature allowed the operators to gather experience samples from users, who were presented with multiple-choice questions at particular times in the trial [2]. It is easy to see how these capabilities could be applied to classic Interactive TV use-cases like voting and surveys.

Telebuddies allows programs to be annotated with an interaction script that for example can define a multi-player quiz show running on top of the show [6]. Staged Participatory Multimedia Events (SPMEs) extend this idea to creating fully user-generated experiences, such as a live online auction through the TV [9].

On the product side, companies are also working to create tailored social experiences and activities. Disney BD-Live offers multiplayer quiz games on certain Blu-ray discs, based on clips from the movie.[1] And MTV Backchannel allows players to add sarcastic or witty comments to reality shows like *The Hills* and *Real World*, an interaction format that is particularly suited to that program genre.[2]

[1] http://www.disneybdlivenetwork.com/
[2] http://backchannel.mtv.com/

3. USER RESEARCH FINDINGS

3.1 Suggestions in Social TV

We have done several user studies that looked at program recommendations (suggestions). In the first user trial we provided a system that offered presence, program suggestions and closed-form messages (emoticons, a list of text messages to choose from), but no free-form communication [7]. Participants liked the ability to send suggestions and used it often (178 times by 10 households over 2 weeks). They also didn't mind receiving them. As one participant said: "She watches the Food network a lot. She's given me some funny suggestions for things to watch, where I normally wouldn't tune in, so I've taken her suggestions and I've gone to them." However, only 28 of the suggestions (15.7%) were in fact accepted.

Several participants were frustrated by their inability to convince others to accept their suggestions. One told us: "I have bumped over to their shows so I can talk to them and say, 'Oh come on, change to my show!' But they don't budge." They ascribed this to the restrictive nature of the suggestions: "You can't really specify 'Great show!'" If there was a way to explain *why* they might want to watch something, they might be more easily persuaded.

In our subsequent trials ([8], [5]) we provided freeform communication through text chat and voice calls, without making any changes to the suggestions. Participants were no longer frustrated by an inability to express what they wanted to communicate, but use of the suggestions dropped precipitously. In the last of the trials, the 5 households in the trial sent only 11 suggestions over 2 weeks. Perhaps suggestions, with their sparse and impersonal information, were made redundant by the ability to chat freely. Nevertheless, we persist in believing that the basic idea is useful.

3.2 Actual Recommendation Practices

In a recent study, we looked at people's actual practices around TV content and interactive television features, including how they give and receive recommendations to others, and how they respond to system-generated recommendations. Six participants were interviewed in their homes using a semi-structured interview protocol, and key statements extracted and clustered in an affinity diagram, with the following findings emerging from the patterns in the data.

Several participants resisted the idea of choosing what to watch based on recommendations (or reviews and ratings), whether from friends, critics, random strangers or computer algorithms. As one put it: "I like to check myself. I like to be my own judge." They were often not interested in whether something had critical or popular approval, seeing media content preferences as wholly subjective: "I know what they're like, so I don't really care what everybody else rates it."

At the same time, we know that no one watches or even samples everything, so clearly they are making choices based on the information they have. Our participants acknowledged this. Even in denying looking at recommendations, one explained it was "because usually I've heard about it on TV or something beforehand." Another said, "If something got one star and it sounds pretty interesting, I'll still […] watch it."

Participants didn't pay too much attention to recommendations because they didn't find them reliable. Even friends who liked many of the same things would often give them recommendations to things they ended up not liking, and automatic recommendations did worse still: "What it usually picks up is older shows that I used to watch […] It picks up a ton of reruns." Several participants had DVR systems that could auto-record suggestions, but all had turned that feature off.

At the same time, many participants still enjoyed receiving recommendations: "I *really* like when people recommend things. I like to hear their opinions." The explanation for this seems to be that sharing recommendations is not primarily about finding something to watch, but a way to socialize. Recommendations come up spontaneously in the context of conversations. "We were talking about a show that we both watch [*True Blood*] before *Entourage*. And I said, 'Oh, you still haven't caught *Entourage*?' She said no. 'You should check it out!'" They also help build relationships by providing common ground for conversation and experience sharing: "We were talking about, you know, could there be UFOs, you know, flying in? […] So I was just saying, when you're on the History Channel, just look for the USO [Unidentified Submerged Object] shows… documentaries, and they'll inform you."

Because a successful suggestion can help create common ground and strengthen the relationship, the person giving the suggestion often tries to make it as persuasive as possible. To that end, they would describe it, give reasons to watch it, even screen short clips. "To my other friend [...] I would say, 'Hey, have you watched *The Lost* [*sic*]? It's a good show! So-and-so is pretty hot.' You know: 'There is this one girl…' Whatever reason they would accept [as an] attraction to watch that show."

These findings suggest that social recommendations have the potential to be more appealing than system recommendations ever could, but that they need to be integrated organically in conversations, and should not necessarily be evaluated on their "click-through" rate. We continue to explore designs that acknowledge recommending as an inherently social activity.

4. SOCIAL ADVENTURE GAMES

Integrating interactive recommendations into natural conversations is one very simple attempt to support a more structured activity (in this case recording and watching TV programs) within the context of freeform communication. We can take this idea much further: The Social TV setup from our trials, with a wireless QWERTY keyboard for convenient text entry, provides a promising platform for creating other TV-centered social experiences. Here we outline an idea for a novel social game based around text chatting.

Adventure games, where players solve puzzles to advance a story, were one of the most popular computer game genres in the 1980s and early 1990s, first text adventures such as *Zork* (1980) and *The Hitchhiker's Guide to the Galaxy* (1984), later graphic adventures such as *King's Quest* (1984) and *The Secret of Monkey Island* (1990). Since then, they have been eclipsed by other types of games. The reasons proposed for this are many, but two are worth mentioning: First, the genre failed to adapt to the rise of the Internet and multiplayer gaming. There have been no successful multiplayer adventures. Secondly, neither of the genre's two main

control paradigms: text parser and point-and-click, were suitable for videogame consoles. (until the Wii console introduced a pointer).

This game gets around those problems by embedding a text parser in a text chat. In games controlled by text parser, the player types commands into a command line (e.g. "look at table," "pick up book"), which are then interpreted and performed within the game. In this new version of the idea, all players share a view of the game world, and can chat with each other via text messages. If the message is recognized as a command, it becomes available to perform within the game.

One possible design would be to execute all valid commands, but this could easily become confusing and chaotic. It would probably be better to mimic the situation where multiple people are huddled around a game, offering suggestions to the person at the controls. In other words, one of the players is responsible for selecting which recognized commands, typed by the other players, to actually perform. If that player is also blocked from chatting or entering commands, then cooperation is required in order to communicate and find the right sequence of actions to advance in the game. At the same time, individual players could gain points based on their contribution to the solution, setting up competition between them (Figure 1).

Unlike other multiplayer games, where each player controls a different character or team, this idea shares control of one character between multiple players, who all view the same thing. For that reason, and because adventure games have already developed interactive storytelling and cinematic techniques to a high level, this new game type would be better placed to take advantage of television's narrative forms.

5. CONCLUSION

The two specific features we have focused on in this paper, recommendations and multiplayer adventure games, may seem unrelated, but what they have in common is the view of communication and shared content as a platform for more structured interactions. We see this as a promising direction for TV-centered social experiences.

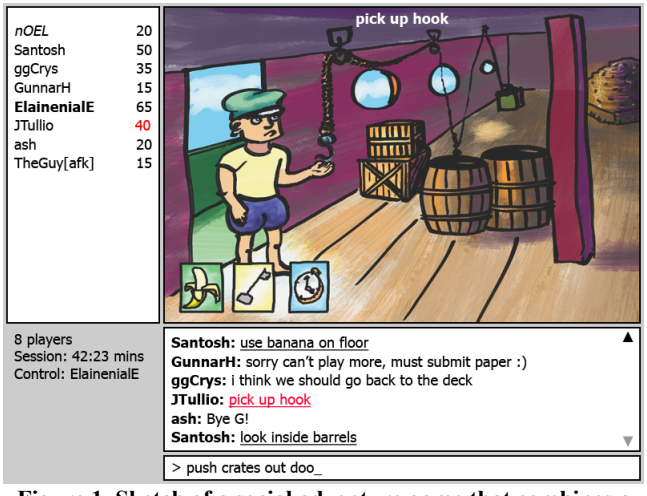

Figure 1. Sketch of a social adventure game that combines a text parser with freeform chat. Messages that are recognized as commands become available to be performed in the game.

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