MyChannel: Exploring City-Based Multimedia News Presentations on the Living Room TV

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ABSTRACT

We see the television as a primary device to connect viewers with the information and people that matter most in their lives. Televisions, as central places where the family gathers, provide a unique location to elevate news and social updates that can connect family and friends across a distance. Through creating the MyChannel service, a TV-based personalized news program, we have explored the types of content that work best in this format. We have also gained a detailed understanding of how television content can inspire feelings of connection and communication with friends and family at a distance through an 8-day in-home field evaluation. We describe the system and findings from our studies and close with a discussion on the future of personalized television news.

Author Keywords

Television; News; Multimedia; Field Study; Design.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous. H.5.1 Multimedia Information Systems: Evaluation/methodology

INTRODUCTION

The traditional nightly television news broadcast has been losing viewership in the US and throughout the world. US evening news viewership on the major networks is down from 42.3 million viewers in 1980 to 15.6 million viewers in 2012. [9] The idea of a 30-minute program that contains a generic view of the news fit for everyone in the country seems outdated to those who have grown up with millions of articles at their fingertips on the Internet, tailored to their specific interests and viewpoints. While some viewers have moved to cable news for news-based entertainment, many cable networks aim to provide more entertainment than actual news facts and tend not to follow the format of the summary broadcast.

In contrast to television news, reading an online news story

or watching a short video news clip is quite different from the rich, long-format multimedia presentation of a TV news broadcast. Much online news resembles a traditional print style of delivery with relatively long articles that go in depth into particular stories. They require a great deal of time and attention to sort through to find stories of interest and then to read each story. This is a very different way of experiencing the news compared to a traditional lean-back TV news program. However, the detailed personalization provided by today's online news platforms has the potential to transform a traditional television news experience and to show more content that is relevant to the people, places, and issues that matter to the viewer.

We are exploring the design space of a highly personalized lean-back news experience, consumed daily on the living room television. Through this work, we have built and evaluated a series of prototypes that select and present a variety of Internet-sourced news content to viewers on their home television sets.

We started this work with a set of research questions related to creating a lean-back, personalized news experience on the television: How can a television-based news experience foster feelings of connection and communication with friends and family who live at a distance? How does viewing social and local content on the television change the way that content is perceived? What is the best way to structure and present local and social news for a television-based presentation?

In order to answer these questions, we iteratively constructed a functional prototype, interleaving two user studies as we designed and developed the system. Our final study consisted of an 8-day field evaluation with our system running on participants' living room televisions. We will show the benefits and drawbacks of using the cities where users have many friends as a basis for content personalization as well as discuss findings on how a personalized news system on a television fits into daily life and inspires communication with remote friends and family.

RELATED WORK

There are several domains of research that are relevant as background for our work. Content personalization, most commonly found in online news and social websites, automatically-generated multimedia, and television-based interfaces for news are all related to our efforts.

For many years, researchers and corporations have created a variety of systems that personalize news feeds. The Freshman Fishwrap project at MIT [5] balanced personalized and popular content as well as included news and weather from a user's home town. In MyInfo, Zimmerman et al [16] created a television-based system that presented personalized news based on an explicit user profile. However this work does not appear to have been evaluated in use.

Others have explored ways to personalize online news based on user modeling [3], information novelty [8], click behavior [11], and collaborative filtering [7]. These techniques form the backbone of today's online news platforms, however have not been widely explored in the context of television news.

Nadamoto and Tanaka [12] developed the first PC-based system that created news broadcasts from Internet content. Nichols and Hammond [14] created the News at Seven system in 2009 that also presented news content using avatars. Viewed on the desktop web, yet inspired by television news broadcasts, this is the closest vision to our current system. Many of the dialog generation techniques we used in our work, such as varied transitions and alternating between male and female voices was inspired by this system's attention to standard news production practices.

Allen et al. [1] explored automatically generating sports stories from game statistics, including creating specific "angles" to use for presenting content. Concepts such as looking for shutouts or other types of "interesting" games led to us create a variety of different templates for presenting sports results. These techniques are also used by the company Narrative Science to automatically identify and generate a variety of written news stories.

Commercially, platforms are now available to receive a variety of news content directly on the television. Platforms such as Yahoo's Smart TV or Roku enable a variety of news content to be viewed on a television set. However, the experience of viewing this content is quite different from the lean-back style of watching a news program or other television content. Typically, users need to actively navigate applications to select stories to read or short video news clips to watch. Every minute or two some action is required which runs counter to the sit-back-and-watch experience of interacting with television.

Cornejo et al. [6] studied the use of physical devices in the living room that displayed Facebook content from family members who live in other cities. They found that this object created impromptu family gatherings around the device to view and discuss posts. We were interested in this idea of the family gathering around a central device in the living room to view social content from contacts at a distance in addition to more traditional news sources.

Missing from this work is a system that can be used in the home and that creates highly personalized news programs for each user based on the important places in their lives. Particularly, we were interested in how such a system would be used in daily life, something that the previous work did not address.

CONTENT EXPLORATION
In order to better understand the types of content that we should select and present, we began with a small prototype and in-lab user study to explore both content ranking and presentation style before building a system for in-home use.

Selecting Content
Early on, we had the idea that using the cities where the user has many friends as a way to personalize content might select interesting and relevant content that can inspire communication with friends and family who live at a distance. This was one of the main content selection techniques that we wanted to test before building out the full system.

For this initial study, we built a simple web application that allowed a user to authorize our system to access their Facebook friends list and news feed. We found the top three cities where they had the most friends, and then used these cities to find a variety of content. We accessed weather information for each of these top cities, including any severe weather alerts. We then found the results of any professional sporting events in those cities in the past day. We queried the Yahoo Local News API to find the top ten news stories for each of these cities and the Facebook News Feed API to find posts and photos from friends in these cities.

Typically, this process generated between 60-100 items per user. We printed each item on a sheet of paper for users to filter and order as they wished as described below.

Initial Study
We recruited six diverse participants (3 male, aged 20s-40s) for a quick in-lab study to understand preferences in selecting and presenting content. This was intended as an early stage design research study to help us focus our design efforts.

At the start of the interview, the participant authorized our system to access their Facebook information. While the system ran and a team member printed out the stack of content, we conducted a short interview about current online and offline news practices to better understand how the participant currently accessed news and other online information.

We then presented the user with the stack of content items along with a set of blank pages for new items they wished to add. We asked them to imagine that they were watching a short news presentation on their TV and to select and order the content that they would like to see presented to them. Throughout the process, they were asked to think aloud so that we could understand their motivations for including or discarding a particular piece of content.
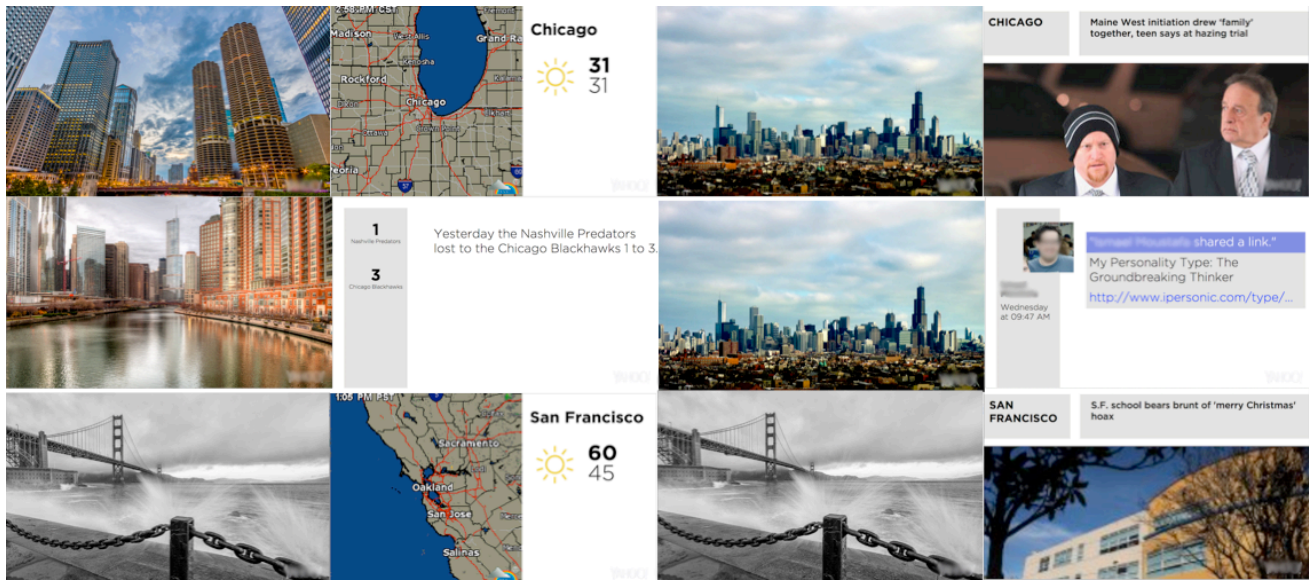
Figure 1: Sample screens from a MyChannel presentation. News, Weather, Sports and social information are presented for each city, with photos of each city from Flickr used for visual transitions between content types.

Finally, we asked the participant to act out their presentations, so that we could better understand the amount of information that they wanted read for particular items, in addition to allowing us to be inspired by novel presentation styles that we might not have considered.

Findings

This quick study showed us that there was promise in our technique for selecting news and other content based on Facebook friend locations, extending Chesnais' inclusion of hometown in Fishwrap [5]. Participants regularly spoke of being interested in the news stories that we selected, and at times found interesting personal connections, such as a flood in an apartment building where close friends lived.

We also learned that about two news stories per city works well, as to give a bit of diversity of topics covered, as well as to fit in the time allotted. This study also showed us the importance of the social information. All participants included some of the social content, especially photos posted from friends in the cities that we selected.

Four participants organized their content by city. For example, they started with Boston and included news, weather, sports, and social information for Boston, and then went on to New York. However, other participants ordered the content by type, putting all of the news together and all of the social updates together. The ordering and presentation of content remained an open question that we would address again in the longer field study.

THE MYCHANNEL SYSTEM

Taking into account the findings from our initial in-lab study, we created a functional system for use in the home. MyChannel is implemented as a server that generates HTML5 presentations which can be viewed on a variety of devices. For this study, we were particularly interested in its presentation on a television and created an application that would run on a Google Chromecast plugged into a participant's television that was activated through a single click on a mobile phone app.

Content

Based on findings from our initial study, we decided to use the three cities where the user has the most Facebook friends as the main filter for selecting content. We kept the news, sports, weather, and social content that we used in the initial study and developed content ranking algorithms that aligned to our users' preferences.

For news, we chose the "biggest" two stories in the region. We determined this by the number of sources that reported on the story. For Facebook content, we prioritized photos over status updates. We also added birthdays of friends and friends who are traveling as introductory content items before beginning the city-based content display.

We then worked out presentations for each of the content items. We had to decide what to display on the screen as well as what to speak out loud and how to say it to present each item. We utilized a text-to-speech system for the audio portion of the presentation and adopted a fairly traditional news broadcast style for presentation with key transitions selected randomly from templates (e.g. "And now for Boston's news" or "Turning to Boston weather").

For news articles, we read a 2-3 sentence summary of the story created using the Summly API. For weather, we read the high temperature and weather condition, along with any severe weather alerts for that city. Sports scores were read mentioning each team and their score and using sports vernacular such as "shut out" or "blow out" when appropriate.

Social updates were read as written in the Facebook news feed.

Once we had selected the content and the presentation for each item, we had several options for arranging the content for presentation. In the study described below, we experimented with seven different presentation styles in order to better understand the ordering of content and the length of presentation that works best for this new medium.

Display on the Television

We used the Google Chromecast to display the presentation on the television. We developed custom apps for Android and iOS that could connect to the Chromecast and start the presentation with one click. The Chromecast device then connected to our server and rendered the HTML5 presentation for that user on the television. Some screen captures from a typical presentation can be seen in Figure 1. An example of the audio of the presentation follows:

Welcome to your daily [update]. Here are today's stories picked for you!

Starting with Chicago weather. It's much colder than average today in Chicago with a low of 4.

And now, Chicago's news.

Dennis Rodman's global "worming" with Kim Jong-un is bad news. Team Worm will play against some North Korean players on Kim's 31st birthday Wednesday, and one wonders if those North Korean athletes will be shot or eaten by dogs if they lose.

Dressed like pint-sized Eskimos, kids returned to McPherson Elementary School Wednesday morning, delighted to see their friends & their parents equally thrilled to get the little ones out of the house. "It's been crazy just keeping the kids busy" said parent Kendra Reilly, dropping off Zoe, 5, and Gavin, 3. After two days off school because of the extreme cold, Chicago Public Schools students headed back to class, but the extra play time was no freebie. Students will be required to make up the days later this year, CPS spokeswoman Keiana Barrett said.

And now for the Chicago sports scores. Yesterday the Chicago Bulls beat the Phoenix Suns 92 to 87.

Looking at Chicago social news.

[David] posted "Let the Andrew Bynum era in Chicago BEGIN.... And END!!!"

[Jane] is traveling to Bellevue, Washington.

[Alice] posted a link. "If L.E. has a long lost daughter... she's staring in the puppy bowl: Puppy Bowl X, Meet the Starting Lineup"

Turning to weather for Boston. Today will be nice and sunny with a high of 22 degrees.

Looking at Boston news.

WESTPORT, Mass. The wife of the hunter who survived falling into the frigid Westport River, an accident that claimed the lives of his two friends, says the men were experienced outdoorsmen who'd hunted in similar conditions before. Dr. Gregg Angell of Westport was the lone survivor after the small skiff capsized Tuesday morning. His wife, Lorraine Lubiejewski, tells WJAR-TV that although the weather was "cold and nasty," the friends were used to it.

More than one-third of health care spending in Massachusetts is wasteful, squandered on unnecessary hospital readmissions and emergency room visits, according to detailed new report released today. The study from the Health Policy Commission, a state watchdog group charged with monitoring health care costs in Massachusetts, also found that preventable

infections acquired in health care settings cost - 10 million to 18 million a year. Massachusetts spends more per capita on health care than any other state, and health care costs here have grown faster than the national average. The Health Policy Commission will discuss the findings of its report at a meeting today.

And now for the Boston sports scores. Yesterday the Anaheim Ducks beat the Boston Bruins 5 to 2. Yesterday the Denver Nuggets beat the Boston Celtics 129 to 98.

And now, San Francisco's weather. It will be mostly cloudy with a high of 58 degrees.

Looking at San Francisco news.

The case of Jahi McMath, the 13-year-old girl who was declared brain-dead after a tonsillectomy at Children's Hospital Oakland, is now the centerpiece of a political fundraising effort aimed at lifting California's $250,000 cap for pain and suffering awards in medical malpractice cases. Consumer Watchdog, a Southern California nonprofit that has teamed up with the state's trial lawyers on a proposed November ballot initiative to lift the limit, just sent out a mailer to supporters saying, "Hospitals like Children's actually have an incentive to let children like Jahi die." If children who are victims of medical negligence live, hospitals are on the hook for medical bills for life, which could be millions," the letter says. The letter from Consumer Watchdog President Jamie Court asks for "whatever tax-deductible contribution you can make" to help with its "patient safety work" and to qualify the initiative to raise the malpractice limit.

A pedestrian was struck and killed by a car Tuesday evening while running across busy Van Ness Avenue in San Francisco, police said - the latest in a string of severe pedestrian accidents in the city since New Year's Eve. The most recent death happened shortly after 6 p.m. when the pedestrian sprinted across Van Ness heading east near Grove Street, said Officer Albie Esparza, a police spokesman. The victim, a 38-year-old man, had been embroiled in a verbal altercation just before running into traffic, Esparza said, and made it across six of the street's seven lanes before being hit. "There was apparently no negligence on the part of the driver, since the traffic was flowing at the time," Esparza said.

And now for the San Francisco social news.

[Erin] posted: "Everyone takes care of each other here in the city... And so many smiles and dogs ... Can't believe it's the start if a second quarter, I feel like I just got here. One of my last days of freedom, eating at one of my favorites."

[Jack] posted a photo. "It's nice to finally be able to talk about what I have been working on."

And that's all for today!

FIELD STUDY

After creating a functional system, we were interested in exploring how the system would be used in daily life and particularly in understanding the experience of watching this presentation in the living room on a television. We designed an eight-day field study to explore the system's use.

Methods and Recruiting

We recruited seven diverse users from the greater San Francisco Bay Area for our study. We utilized a database of external participants and sent an email to this list with a recruiting screener. From the people who replied, we selected a set of seven people with varying age (20s-50s), occupations, gender (3 female), and socio-economic status. Occupations included, for example, a copy editor, marketing professional, stay-at-home mom, and nurse, and represented varying family situations. Some participants lived

with partners and/or children while others lived alone or with relatives. We were particularly interested in understanding if watching the presentation would become a "family event."

The initial in-home visit consisted of a 15-20 minute initial interview covering participant's existing media behaviors. We asked about specific ways that they currently viewed content such as news, weather, sports, and social information. We then installed the Chromecast on their television and our app on their phone, and asked participants to authorize our system to access their Facebook data. We demonstrated the functioning of the system and left instructions for calling into our voicemail system each day after watching the presentation.

For the next eight days, participants watched the presentation at least once per day and called us after viewing it. They were asked to leave a voicemail detailing what they liked or didn't like about that day's presentation as well as anything else that they would like to tell us. Each day, they viewed a slightly different presentation style. These consisted of:

> Day 1: System as-is (3 cities, 2 news stories per city – as in the text example above)

> Day 2: With one news story per city (instead of 2)

> Day 3: With 30-second video news clips instead of text-to-speech for news (where available)

> Day 4: Ordering by type instead of city (all of the weather, then news, then sports, then social)

> Day 5: Just the user's local city (based on the user's Facebook profile city) and no friend-based cities

> Day 6: No social news (just weather, news, and sports arranged by city)

> Day 7: Human voiceovers instead of text-to-speech (content generated the same as day 1)

> Day 8: System as-is (same as day 1)

After the eight days, we conducted a final interview where we asked participants to expand on details from the voicemail entries and asked follow up questions on system use in general including questions on any social communication that was inspired by use of the system.

Participants were compensated for their time with a $100 American Express Gift Card and were given the Chromecast ($35 value).

Findings
Initial interviews, the voicemail diaries, and final interviews were transcribed by an external service and analyzed in a grounded theory-based affinity analysis. The items for analysis were exact quotes from our users and we had 407 items in total. Themes were identified inductively to arrive at the topics that will be discussed below.

Context of Use
We were particularly interested in how viewing this presentation would fit into people's lives. When would they watch it? Would it become a family event? The only instruction we gave to participants was that we would like them to watch it at least once per day. The rest was up to them.

Three participants made the system a part of their morning routine. They played it in the background as they ate breakfast or got ready in the morning, similar to how they used to turn on the morning news. Chuck[1] told us that "instead of getting up in the morning and going onto the Internet and looking up the weather, looking up the, you know, social media, some of those things can be just read to me while I'm getting dressed or something. That's really nice." Mark also played the presentation in the morning and said that it would "inform things I would do for the day or perhaps news articles I would want to look into further."

The remaining 5 participants watched the presentation in the evening, often with other family members present in the room. Chuck and Lisa both watched it with their spouses in the evenings. Lisa: "My husband watched a few of them with me and we conversed on the topics … some of them were interesting and we caught up a little bit about it."

For participants in long-term relationships, we observed that the couple felt connected to many of the same places as they might have moved together over the years, and one partner's family is now a core part of the other's life. While future work could make presentations that encompass multiple individuals' networks and cities, we observed that the whole family often enjoyed the updates based on just one person's data, due to shared family history.

Because the presentation was being shown on a large screen in the living room, at times visitors saw the content being displayed. For Mark, this turned into an interesting exchange where a social update from a mutual friend was being shown while another friend who was visiting walked through the living room. He was asked, "Is that [Jane] on the television?" Content that appears on the television is elevated to a very special status just because of its presence on this central, family device.

Viewing on the TV Makes it More Interesting
Participants described the experience of "watching" news and social updates on their living room television. One area of discussion was around how the television demands attention in a way that computer screen full of links or posts does not. Mark told us that he "was intrigued" by a story about the mayor of SF that he wouldn't have read otherwise. "I think it's just because you're overloaded with so much media that with it present right there on the TV, it engaged me, because it had my attention."

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[1] All participant names are pseudonyms.

Participants also spoke about the feelings evoked from having news and social updates presented on the TV. Lisa felt that having Internet content read aloud on the TV brought about "almost the feeling of nostalgia. Or not quite the same, obviously, but just the feeling of someone else reading to you as a kid. It was always cooler when someone else read things to you." Ian felt that using the system "was fairly old school. Like back in the day when everyone had a TV and you would turn on a TV in the morning." For both of these participants, having content read aloud on the TV brought about feelings that didn't arise in their standard habits of viewing Internet news and social updates on the web or in a mostly text-based mobile app.

The system also helped users to feel more connected to their friends that were shown on the TV. Participants felt like social updates were being "announced" – something much more formal than just seeing a list of updates in a feed on a computer or phone. Lisa: "To have someone read to you is just a different experience that brought a new light to my friends' news. Just hearing that being announced I don't know, it just made it a little different and made it a little nostalgic, a little fun. I like that … It almost makes you feel associated with the places that are far away. It is … like someone was telling me about them. It's different than just scrolling through and everything, especially when it's centralized to certain locations."

Mark spoke about the personal engagement that was created by using the television as the interface: "There is something personal about them showing up on your TV in your living room, versus on your computer or the phone … It was really engaging, it felt like that person was sort of sending me a private message."

Overall, the qualities of the TV only showing one content item at a time, thus demanding that some level of attention be paid to each item, as well as the reading/ "announcing" of each item contributed a much more intimate interaction with this content compared to traditional web or mobile-based interfaces.

Sharing with Others
Overall, participants reported ten specific instances where information learned in the system was shared with friends and family. After seeing a story about the Whitey Bulger trial, Ian "mentioned it to my coworkers just because it's an interesting Boston thing. One of my other coworkers lived in Boston for a while."

Chuck saw a news story about an upcoming concert near his sister's very rural town in the South and told us that he was going to tell her about it. To him, it was special that this event was coming to such a rural location.

Daniel liked seeing the sports scores for his hometown, as they provided conversation topics for talking to his dad who still lives in Philadelphia. "I think he always wanted me to be a big sports guy but I should be able to talk about it be-cause he's really into the specifics … It's good to have something to talk about."

Lisa liked seeing the weather where her family was located: "Southern California is having more rain than us this year somehow. Just seeing what they're going through and then I can reach out to them. I have my sisters down there. I have aunts and I have grandparents. So just something that I can have a common ground and talk to them about."

When spouses or other housemates were not watching the presentation with the participant, often details from the content were shared with them at a later time. Lisa talked about some of the sports stories with her husband as well as a story about soldiers at a military base near some of their friends in San Diego preparing for Thanksgiving. Content in the MyChannel system, because it was related to the places where close friends and family lived, became a spark for conversation.

In this way, our system demonstrated a form of ramping communication [15] similar to that seen by Harboe et al. in their work on Social Television [10] where content in the interface inspired additional social interactions.

Use of Friend Cities
Using the top cities from participants' social network worked well to identify content that they would find interesting. Hearing news about a place where a friend lived inspired communication and helped people to feel more connected to the places where their friends/family lived.

Lisa spoke about feeling connected to a place where she used to live and still has many friends: "It was nice to see everybody down there because it brings the feeling of when I was down there, and I absolutely wouldn't have minded more of that either, of hearing people's stories from centralized places." Having all of the content for a city aggregated together, on the days when we presented content by city instead of by type, helped participants to feel connected to those places.

However, the Facebook-derived cities were not always perfect. Chuck told us that he "would have liked to have seen more in the locations that I like, like I was raised in Virginia Beach." Even though he was raised there, he did not have a lot of friends that have remained, yet this location was still important to him.

Another important location to include is a person's local city. Two participants did not have a large number of local friends and thus missed out on important and relevant local news and weather. Mark liked the day that we showed local content and "found those things actually kind of interesting. The local news, the weather, that actually was a lot more interesting to me when it was there on the TV. It was sort of like I was watching the news."

However, all participants mentioned missing the other cities on the day when we only showed local content. Balancing

cities where people have a large number of friends with their hometown and current city seems to be the best balance to select the most relevant content.

Selecting and Presenting Content
We had started this project assuming that it would be difficult to command a user's attention for more than 2-3 minutes. We knew that our production quality would not be on par with traditional news and assumed it would be best to keep things short, as is common for web-based videos. However, our participants, who often sat in front of the television for hours at a time, discussed wanting longer presentations. Perhaps this should not have been surprising to us, given TV's history of being a platform for long-form content, but we were encouraged that many participants spoke of wanting more.

When selecting user-generated or social content, it's important to consider the environment where the program will be viewed. One social update contained quite a long list of swear words from one of our participant's friends and she commented that it would not be appropriate if her small children would be watching it with them.

One participant, Daniel, explicitly discussed liking when a longer summary was produced for news items. The Summly tool produces 2-3 sentence summaries, however at times longer, more complex sentences are produced, leading to more words being used to describe a news story. He told us "It was nice to see stories - quite a few stories, actually - that had a rather long reading of them … They read just a few sentences, while sometimes it goes up to a minute being read. That's great! I like that."

Ian and Chuck spoke of wanting more detailed weather information including hourly forecasts and longer-range forecasts. Daniel and Lisa spoke of wanting a diversity of news content – both positive and negative stories from the cities that we selected. While selecting the "top" two stories based on the number of sources that published articles about them worked well, often this accentuated negative stories such as murders and robberies. These participants reported wanting more "positive" and uplifting stories. Lisa especially enjoyed a news story about a local Turkey Trot in San Jose saying, "It was nice to see more of a cultural, fun, upbeat news as opposed to everyday mundane stuff." Understanding positive and negative aspects of stories is important in creating a balanced and entertaining newscast.

Other issues arose over clustering cities together. During a pilot, we discovered that the presentation is not very interesting if many of your friends live in nearby suburbs. For example, weather and news for three adjacent suburbs of San Francisco is not likely to provide an interesting diversity of content. We decided to just pick the one city with the most friends per state, but this also led to issues (e.g. with friends in Los Angeles and San Francisco, both in the state of California yet located hundreds of miles apart). Ideally, it seems best to cluster friends per metropolitan area, but then it is also important not to lose the specific suburbs when selecting news so as not to miss an important local story in a town where friends/family live. Also, cities on the border of two states will often have the same top news stories, and some level of de-duplication is necessary.

A final issue that arose in content presentation was the quality of the voice that we picked for our text-to-speech engine. Following findings from previous work, we had selected both a male and female voice and alternated between them. We chose a British accent for the male voice as previous research had shown this to be more acceptable, as listeners assume that mispronunciations or stutters are due to differences in language [13]. However, it was the male voice which participants found a bit difficult to understand. The day when we provided human voiceovers was appreciated by most participants, showing that more natural voices make a difference. However, it is interesting to us that not all participants were able to distinguish between the computer-generated voices and human voices.

DISCUSSION
This study has allowed us to see the rich potential for presenting personalized news and social content on the television. We began with an assumption that many of the news stories that people find engaging are those that have a connection to people and places that they care about. By elevating social connections to the primary means of personalization, we have created a new type of news program that is centered on places that matter in the lives of our participants and the people who live in these places. This hyper-personalized and socially embedded program generated feelings of connection with these places and inspired communication with friends and relatives who live at a distance. We find this to be more engaging than traditional topic-based personalization, given the increased opportunities for social interaction about the content and the feelings of nostalgia and connection to remote places that are evoked.

The act of "presenting" the content turned out to be quite important to the experience our users felt when viewing the presentation. Having a human-sounding voice read news stories and social updates on the living room television set added an importance to the information that was different from what is felt when visually reading news stories or social updates on other devices.

By conducting a field evaluation of this system, we were able to learn much more about how this type of presentation is used in daily life, including the sharing of information with others and increased feelings of connection to the places discussed in the presentation. This goes beyond existing research that has often focused on the technical aspects of selecting content or rendering it on the television.

We see an opportunity to combine this attention-commanding presentation on the television with second-screen interactions that can contain expanded and related content. Being able to get the full text of a news story or

related Wikipedia pages on the second screen, similar to Basapur et al.'s work on Parallel Feeds [3], can create the ability to get more detail than what can be spoken in a few sentences on the television presentation. Second screens could also more easily provide the ability to share content or start conversations with friends and family who are in the locations where the news is occurring, encouraging the "ramping communication" [10] that we observed occurring organically in our field evaluation, This can lead to even more conversations with friends and family at a distance.

Beyond television-based presentations, we see the potential for city-based explorations of news and social content as a new way to display and navigate content that is important to people on a variety of devices.

CONCLUSION
We have presented the MyChannel system, a television-based presentation of personalized news and social updates based on selecting content from cities where the user has many friends. Through a field evaluation of this system, we have learned how the system integrates into daily life and provides viewers with topics to inspire future communication with friends and family at a distance.

While this system serves as an initial demonstration of the potential of this type of presentation, much work still needs to be done in creating programs with the production value of a traditional television news show. Using better voices, aggregating content by metropolitan area, and incorporating more professionally produced video content can help to create an even more engaging experience. Utilizing second screens to provide additional content beyond what can be presented on the television is another area to pursue.

We believe that the television is the next frontier for creating personalized, entertaining experiences that can connect viewers to the places and people that matter most in their lives. Through future iterations, we hope to study use over longer durations as well as explore additional ways to integrate best practices from television production to create engaging presentations of Internet-based content.

ACKNOWLEDGMENTS
We would like to thank our participants from both studies as well as the feedback of colleagues from around Yahoo for their insights on this work.

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