MyInfo: a Personal News Interface

John Zimmerman, Nevenka Dimitrova, Lalitha Agnihotri, Angel Janevski, Lira Nikolovska*

Philips Research and Philips Design*
345 Scarborough Road
Briarcliff Manor, NY 10510
+1.914.945.6000
johnz@cs.cmu.edu, {nevenka.dimitrova, lalitha.agnihotri, angel.janevski}@philips.com, lira@mit.edu

ABSTRACT
We present a novel interface design for MyInfo, a personal news application that processes and combines content from TV and the web. MyInfo provides personalized content selectable by topic such as weather or traffic. In addition, users can play back a personal news program as a TV show, leaving themselves free to complete tasks such as making breakfast. We detail our design process from concept generation to focus group exploration to final design. The main design challenges include (i) understanding what kinds of TV/Web applications people want, and (ii) developing an interface that fits people's lifestyles.

Keywords
Personal news, interface design, convergence, and user-centered design.

INTRODUCTION
Today TV and the Web both provide news, information, and entertainment. While structurally quite different, these media compete with and complement each other. Lately, many researchers and companies have explored the *convergence* of these two media, but real "killer apps" have not yet been identified. Products like Microsoft's WebTV [9] allow users to employ their TVs for email and limited web browsing, but the TV watching experience is not greatly enhanced. ABC's Enhanced TV [1] broadcasts provide supplemental data to sports and talk shows, and allow users to play along with game shows. However, users must constantly shift their focus from the web content to the TV show, without having control over the information. The goal of our project was to develop a pilot application that combines TV and Web data in order to support and benefit user's lifestyles.

RELATED WORK
Related work in the area of personalized news includes: an exploration of user needs with respect to Yahoo [8], and a personal news agent for mobile devices. Related work on interfaces for video/audio information includes: SpeechSkimmer, which allows skimming of audio content without visual feedback [2], Informedia's Video Skims, which explore different skimming methods based on video genre [5], and Video Scout, an interface that provides segmented whole TV shows as well as clips from TV shows [11].

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DESIGN PROCESS
We began by conducted a brainstorming session that included engineers and designers with experience in video processing, web information retrieval, web design, and interactive TV design. We generated sixty concepts and then used clustering and affinity diagrams [3] to help organize them. Through this analysis, we reduced our scope to twenty concepts grouped under four main themes: Connecting, Exploring, Anticipating, and Summarizing.

After brainstorming, we arranged two focus group sessions with four men and four women, ranging in age from 25 to 65. All lived in the suburbs near New York City. Participants came from different educational, ethnic, and socio-economic backgrounds. They all had access to the Web either at work or at home; they all enjoyed watching TV and watched at least seven hours each week; and none of them owned or had used a personal video recorder, such as TiVo [10], capable of storing many hours of TV.

In the first focus group session, participants prioritized the concepts and offered feedback on if and when they might use a specific application. The personal news concept was particularly well received. The second focus group brought back the same participants two days later and used participatory design techniques to help flesh out the concept. Participants explored when and where they might want to use such a system. In addition, they explored the specific kinds of information the system should provide.

Participants agreed that they wanted to use a personal news application in the morning in the kitchen as they prepare for their day, and in the evening, in their bedrooms, when they are wrapping up the current day and planning for tomorrow. In addition, they defined six content zones that were of most interest: weather, sports, traffic, local events, finances, and headlines.Participants wanted access to be fast and the information to feel "fresh." They wanted the latest, high-level news on topics like weather and traffic with a single button press, so they could decide if they need an umbrella as they walk out of the house. They also wanted access to be like watching TV (hands-free), so they could consume the news while completing other tasks such as getting dressed, cooking breakfast, etc.

Following the focus group, we generated many sketches and flow models. After many rounds of sketching and

comparing designs to the focus groups request, we produced a final design that allows users to interact using a remote control with a TV.

DESIGN OVERVIEW

Our personal news system extracts specific information from the web such as traffic news based on the user's main routes, and sports scores and upcoming games for selected teams. In addition, the system processes, stores, and prioritizes TV news based on both the match to the user profile and a feature we call broadcaster importance. While processing individual stories, our system looks at where in the broadcast and story comes, its length compared to other stories, and whether the newscast uses a teaser such as "Coming up next…" to indicate a story's importance. For more technical detail on the system, please see [5,7].

Users access MyInfo using a remote control. Selecting the MyInfo button brings up the summary screen. This screen first offers an overview of all content zones and then begins playing back the personalized news as a TV show, automatically jumping from one story to the next. This leaves users free to complete other tasks while watching the news. In addition, users can press the NEXT or PREV buttons to skip or repeat individual stories. Selecting an individual content zone takes users to that zone's screen (Figure 1 and 2), which displays a prioritized list of stories to select from. These screens first present the web-extracted data on the left, and a list of web and TV story summaries on the right. This zone access allows users to instantly get personal information on sports scores, weather, stock prices, etc. and to easily select individual TV news stories for playback.

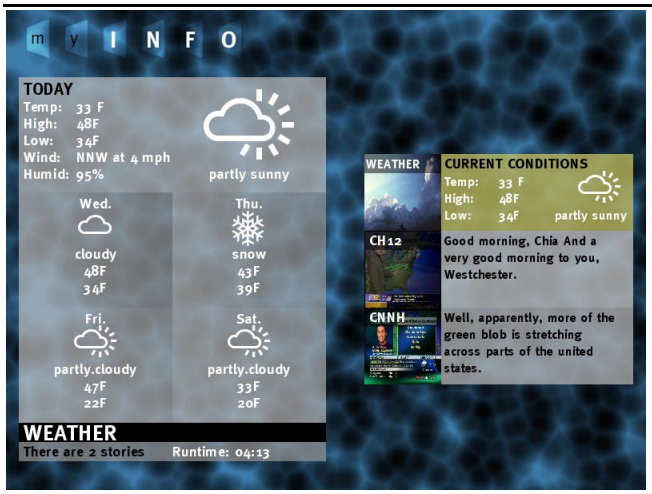

Figure 1. Weather screen showing web data

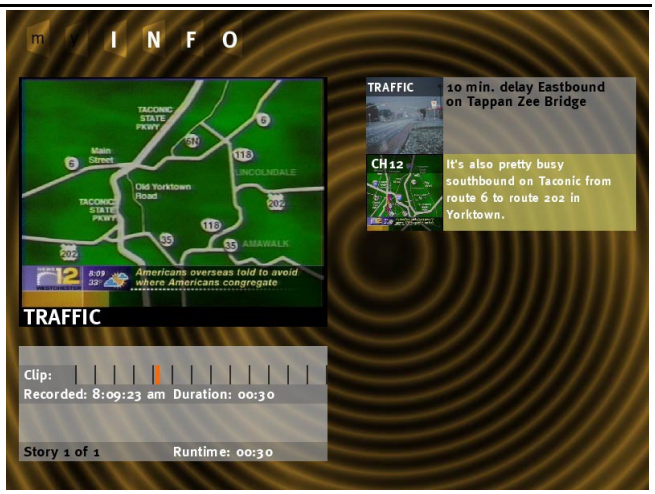

Figure 2. Traffic screen showing TV clip

CONCLUSION AND FEEDBACK

We demonstrated MyInfo at the NAB Expo 2002 in Las Vegas, NV and the SCTE Cable Show 2002 in San Antonio, TX. Reactions from industry experts were very positive that users would benefit from this application. Future work includes the development of a specific business model that works within the framework of current news industry structure and an exploration of digital rights with respect to the MyInfo application.

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