

Virtual Channels in the Electronic Program Guide

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ABSTRACT

Users have become accustomed to finding video content through their television using an Electronic Program Guide. However more and more users are finding video content online and watching it on their computers. This has resulted in a broken user experience. Users have to go to many different locations to get the content they want to watch, and then they have to compromise their watching experience by not watching content on the devices they would usually use, which for most users is their living room television. We have developed Virtual Channels to breach the gap between internet Video On Demand content, and traditional broadcast content. We've taken the familiar tool of the Electronic Program Guide and added Virtual Channels, which are populated with Video On Demand content, thus creating a seamless user experience between the two content sources.

Categories and Subject Descriptors

H.5.2 [Information Interfaces and Presentation]: User Interfaces – Graphical user interface

Keywords

Video On Demand content, Electronic Program Guide, channel pairing, Virtual Channels

1. INTRODUCTION

The most common way for users to get video content is through their televisions. Users are limited in many ways by this traditional method of viewing. The television content is time based, limiting the user to only watching content based on the networks' time frames and not their own. Some television content is linear; if a user misses one episode they miss a vital piece of the story.

A few solutions have arisen to solve the problem of the restrictions of traditional television. Electronic Program Guides (EPG) have been developed to allow users to see content on other channels without tuning to each channel. The EPG helps users quickly sift through a lot of information to make an informed decision. Personal Video Recorders (PVR) have been developed in conjunction with the EPG to allow user to set up recordings of content that will be aired in the future. The content the user records on the PVR is then available to them on their own

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schedule. Finally, Video On Demand content has been developed. VOD is content the providers make available to users over the internet, or by streaming the content from a server over a dedicated channel. VOD content allows users to choose the content they would like to watch at any time, and often with limited commercials.

Video On Demand content is becoming increasingly popular. "At the end of 2006, well over half (58%) of Americans age 12 or older with Internet access had streamed some form of video content online." [1] Both users and content providers are seeing the benefits of having television content available whenever and wherever a user wants to watch it. Content providers see the benefit of drawing in more viewers by allowing them to easily catch up with a television series, and their advertisement strategy using specific user targeted ads. Users see the benefits of free, limited commercial, content that is available to them on their time schedule.

2. PROBLEM

It is common for Video On Demand content to be distributed by providers that also have broadcast network television stations, eg. ABC, CBS, MVT. These content providers often have their own online portal for distribution, and sometimes distribute VOD content through Network Operators, eg. Comcast.

The problem with these methods of consumption is that the user has to go to many different places and through many different user experiences to access all the content they would like to watch.

Discoverability of VOD content is a further problem. If a user does not find the content they are looking for in the EPG they have to leave their usual browsing experience and go to a different experience all together to find their content.

3. DESIGN SOLUTION

We have come up with a compelling solution to the problem of similar content being located in different places. We have developed the Virtual Channel for the Electronic Program Guide. The Virtual Channel is a channel in the EPG that is populated with on demand broadband content. Virtual Channels exist right alongside the rest of the traditional broadcast channels, but are populated with non time sensitive broadband content. This solution allows the user to go to one place to browse their available television related content in a familiar way, without going through many different experiences.

3.1 Virtual Channel Design Considerations

The Virtual Channel was designed to take in the considerations of the user's familiar use of the EPG. There were some challenges when considering putting VOD content into the EPG.

VOD content is not time based like the EPG. This challenge allowed us to think outside the box a bit when it came to representing content in row and column format. As you can see in Image 1, we have represented content with show cards. The content show cards have been lined up in row form to fit into the EPG grid format. They help the user visually delineate between broadcast and VOD content at a glance. The other time based consideration we've taken into account is the guide grid times. When the user's focus is on a VOD content show card, the grid times go away and are replaced by the description "Internet TV", which is a further indication that the content the user is interested is not time based and can be watched on the user's own schedule.

In addition to the show cards in the grid, other cues have been set out for the user to easily distinguish between Virtual Channel and broadcast content. The descriptive channel cell for the Virtual Channel includes any relevant logo for that Virtual Channel as well as a descriptive channel name. For example in Figure 1, ABC's VOD content has the ABC logo as well as the Virtual Channel name "ABC Online". Finally the metadata of VOD content is slightly different from that of broadcast content. We've included a larger version of the program show card in the metadata, as well as labeling it "Internet TV".

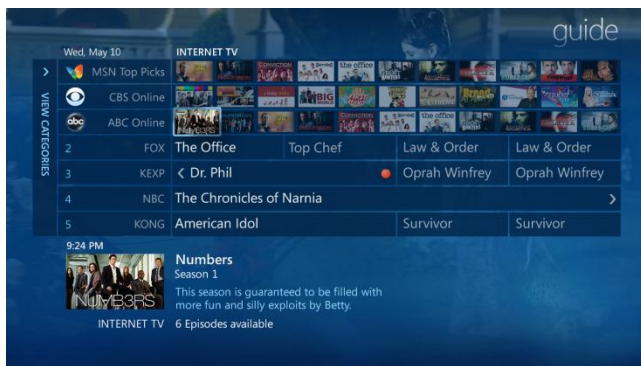


Image 1. Virtual Channel in an Electronic Program Guide

3.2 Channel Pairing

Channel Pairing is a concept we have created to further tie related VOD and broadband content together. As stated earlier, many broadcast companies have their own VOD content available. As demonstrated in Image 2, we have paired the broadcast channel with its VOD Virtual Channel. This pairing allows users to easily find the content that they want by going to one location. Pairing also allows for better discovery of VOD content by placing it next to the more familiar broadcast content.

We've furthered the idea of pairing with our concept of expandable and collapsible channel cells. Image 3 shows the Virtual channel sharing the same channel cell as its broadcast counterpart. The virtual channel is minimized to be unobtrusive and to easily fit within the paired channel. Image 4 shows the same Virtual Channel in its expanded state. When the user puts focus on the Virtual channel it becomes more prominent in the paired channel.

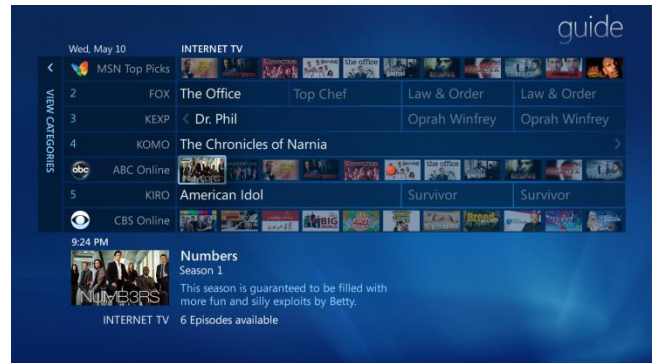


Image 2. Paired Virtual Channels



Image 3. Minimized Virtual Channel in expandable guide



Image 4. Maximized Virtual Channel in expandable guide

4. CONCLUSION

This document has presented the design for the integration of Video On Demand content into Windows Media Center's Electronic Program Guide using Virtual Channels.

Virtual channels allow users to quickly and easily access related content in one location. They are presented to the user in the familiar form of the Electronic Program Guide.

We hope that the design of Virtual Channels will lead the way to better television user experiences. We are striving to combine technologies into a single cohesive experience for the user, and make their priority, content, available and easily discoverable.

5. REFERENCES

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