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FORUM

"The Interactive Television Tour: A Report From the Living Rooms of America's Digital Sofa Spuds" *

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Evan Schwartz: In the summer of 1994 I got an assignment from *Wired* Magazine to visit the interactive television market trials that the biggest telephone, cable, computer and entertainment companies seemed to be announcing every day at the time. After several of these experiments were either delayed or ditched in the fall, I became discouraged. But over the winter, the ball started rolling again and in the spring, I hit the road for a cross-country jaunt to America's interactive TV test towns. My travels took me to corporate laboratories, "homes of the 21st century", and actual suburban sofas near cities such as Boston, Seattle, Chicago, Orlando and Washington D.C. My main quest was simple: to set aside all the insider industry positioning and all the regulatory battles and focus on the main "Holy Grail" questions. These questions are: what is interactive television? What do people say they want from it? What do they *really* want from it? What types of services will they pay for and how much? Do people want interactive advertising and shopping? Will interactive TV change the way people communicate and how they get their daily news and amusement? The answers to these questions will determine whether all the industries getting into this business are heading down to the highway to a multi-billion dollar bonanza or a multi-billion dollar boondoggle.

The first place I visited was Needham, Mass., where they run the regional *Main Street* service. *Main Street* was developed by GTE and has been under test and development since the mid-1980's. It is being sold in two markets, in the Boston and San Diego areas. The service offers programs for shopping, games, money management, news, lifestyle, and kids' programs. One family, recent customers of *Main Street*, allowed me into their home. What they liked to do with interactive TV was to play interactive video games. This is very different from the original projections about how people would use the service. About three years ago *Main Street* released an infomercial with their projections about what the service would be and what interactive TV in general is about. This infomercial stressed informational and money management programs in addition to games. When *Main Street* was created, it was based on the idea — which came out of the focus groups that were convened — that what people wanted was 1) education and 2) to save time. However, there was little regard for how people really use television and for what they do in their daily lives. It is not surprising that a phone company

* This is an edited summary, not a complete transcript of the speakers' remarks.

which created the service would want interactive TV to be a sort of interactive yellow pages, a place where you get information and buy things. Focus groups in affluent groups also said this was what they wanted. But this was three years ago. The service is very different now; they are also marketing it very differently now. They have repositioned the service, de-emphasizing the time saving and the shopping features and emphasizing the "fun stuff." I think that the main lesson *Main Street* learned is that people are interested in interactive TV to the extent that it is fun. The TV is for entertainment, while the personal computer is to get information and do your work. Another lesson is: don't listen to focus groups.

My second stop on the tour was to Redmond, Wash. where there is a Microsoft campus under construction. Microsoft plans to test interactive TV in 2,000 homes by next year, working with TCI. They are testing interactive games, information services, movies-on-demand, a graphical program guide, and customized news programs. Microsoft is approaching the TV business like it approached the computer business. It will supply the basic software and equipment and some applications such as a PC news channel, but will leave the high risk — the actual building of networks — to other companies. Microsoft is also projecting the economics of computing onto television, the idea that people want to save time. But I don't think this is necessarily the case. The average person watches four to five hours of TV per day, so if people really wanted to save time, where is this four to five hours coming from? This gets back to the idea that interactive TV has to be fun and has to enhance your entertainment.

My third stop was Mt. Prospect, a suburb of Chicago, Ill. TCI has an evolutionary type of system there, with 120 channels. One of the services is called "Your Choice TV" where you can order TV shows that you missed last night at a cost of $1 per show. I think a lot of people would want to do this. This TCI system seems to be like a logical progression of existing offerings, but I don't think there is a lot of money to be made in it. The next stop on my tour was Orlando, Fla. where I went to a "Time Warner Home of the 21st Century." There were eight TVs in the home, and a stereo system with 37 speakers. The main interface is a carousel which spins around and has 10 choices of things you can do on it. There was also a service called "Alfred the Electronic Butler", which is used to program the home heating system, the music system and the security system and which talks to you in the morning and at night. I also visited the "Server Farm", the network operations center, where videos are stored on silicon graphics machines. The TCI system is currently in about 50 homes in Orlando, of which approximately 30 are Time Warner employees. I went to see one of these families, who said they love the system and that they would spend about $80 per month on it for services including video-on-demand, basic cable and video games. That seemed like a lot of money to me, but it is still not enough for Time Warner to break even on the system. They say they will need interactive advertising and shopping to take off for the whole thing to be profitable. One program they had was called "Shopper Vision", which puts products into three-D graphics so you can move your virtual shopping cart down the aisles, ring the goods up, and have them delivered on your doorstep later in the day. I don't see the potential for this, because I think simulations should be for things that are fun and that you can't do in real life, like being a fighter pilot, not for activities like shopping. But I could be wrong.

My final stop on the tour was to Bell Atlantic in northern Virginia, another affluent area, where they have set up a video-on-demand system. It looks pretty easy to use and they have 800 videos on the system including talk shows, reruns, new and old movies. The prices are 49 cents to $3.99. It looks promising but again, they said they would not be able to turn a profit unless the shopping and interactive advertising features took off. At this point nobody is clear exactly how interactive advertising would work. There are some ideas out there, for example that people could participate in direct marketing surveys for a life insurance company, for beer, or for cosmetics, and then watch a movie for free afterwards. One problem, however, is that all the systems are incompatible right now. Overall, I think there are some opportunities here. It may take five to 10 years to figure it all out. But as of right now, the interactions I saw on my tour were fairly superficial.

Vincent Grosso: My background is in the television business. I had a television company in the late 1970's. Then I went to AT&T and built their industrial television, satellite network and video text networks and worked on their 800 and 900 phone services when they started n the mid-1980's. Then I got into new business development at AT&T five years ago. I felt that there were things happening at Bell Labs — in particular, compression work — that told me we would be able to transmit lots of video to the home. It took me a few months to sell this idea. Finally I found a way. I told the people in new business development that one day services would jump from the telephone to the television set. They said, "here's some money, go study this." We started out by doing a test in Chicago with our employees. Based on my experience, I agree with Evan Schwartz that you can't believe focus groups. When we did focus groups, people said what they wanted was information and education. We didn't believe this so we went out and did a test. We made a lot of content — still frames and audio — using MMVS. The content included CompuCard, the MacNeil Lehrer Report, the Chicago Tribune, email and other offerings through the viewers' TV sets. We were looking for the "killer application," to see if it was news, weather or sports, etc. We ran a trial for about 10 months to 150 people in 50 homes. We found that after the first seven weeks, usage of the informational services went down. Some people felt this stuff was inherently boring. So we started a new experiment. We had something called Sports Zone, which started as an information service about teams and scores. First we doubled the number of teams and update the information more often, trying to get a "hit". We started digging the hole of "deep content." But nothing happened; usage remained the same. A team came in and said "let's turn this into a game." So we created a rotisserie baseball game and a sports trivia game. Then usage started to head back up.

In looking for the killer application, what we found instead was killer attributes. The applications that had communications, entertainment, transactions and information were used most frequently. As Evan Schwartz suggested, we found that games were the most popular service, followed by communicating and transacting. News was at the bottom. Overall, we saw some important trends. The TV was seen as very open, whereas the personal computer is seen as private and personal. People did not want to balance their checkbooks on the TV. They also consistently told us to take the text off the TV screen and put on more pictures. We also found that when they played games on the TV, they invited the whole family. A socializing process went on around the TV set, which was really surprising to us. What we found out from all of this testing was that we needed a server application that would be network-independent — meaning it could work on any network — and that could be updated with pictures and sound very quickly. We tested the still-frame version of the content versus the motion version of the content. The motion version won; people voted for it unanimously. People said they wanted a lot of form, color, motion and sound (FCMS). This combination creates a pleasing experience. This is why motion pictures were their top choice. Any time we tested an application with a lot FCMS, both kids and adults preferred it to applications that were still-frame or had less FCMS.

We also found a gender difference in the use of interactive TV. Women are busier than men during the day; they don't have time to keep pressing a button. Women asked us continually if they could put the various programs on automatic so they could do their other activities at the same time. In terms of kids' usage of interactive TV, we found that they liked to be able to communicate with their friends or someone else while using the programs. They wanted to combine the communications and entertainment pieces.

The stage we are at is trying to discover which attributes of using moving video on a screen most strongly engage the human mind. This is a tough problem, on which my digital production studio is currently working. A year ago, if you went to a cocktail party, it was very cool to be in interactive TV. Today it is not. Instead, it is really cool to be an on-line guy because interactive TV is currently in a slowdown phase. It is regrouping in an attempt to become more valuable. But I think interactive TV will happen eventually. Bright minds need to keep working on it. Some of the best applications are developed by one or two innovative people. Discoveries will come from a variety of places, because many older companies do not have the freedom to throw out their baggage and try something completely new.

Branko Gerovac: One of the things that struck me from the two previous presentations is that there is a fundamental tension between having a business plan, having the technology and having the infrastructure. Everyone is trying to push on those three things simultaneously, and a sort of three-way chicken-and-egg match is going on. Regarding video-on-demand, right now when you rent a video from your local store, you pay $3 or $4 per day, and the actual cost to the store is down around 50 cents to $1. If you put videos on an electronic server, as Time Warner is doing in Orlando, the cost is roughly $200 per videotape for raw storage. Transmission capacity is another problem for interactive video services. The local stores have low transmission costs. You just need someone at the counter to hand you the tape. But the costs are higher for interactive TV. So technology has a long way to go before interactive TV can start matching the kind of business plan that already exists with your local video store. Another issue that was raised is standards and inter-operability. This relates to all kinds of content materials and applications, from advertising to movies and information. If we have to produce the same content for a lot of different formats, the market is just not going to happen. Production people will not engage this kind of activity until there is a winner in terms of a common standard.

Another issue that came up in the previous presentations is the notion of artistic and production value. People want to see motion and color. They are used to watching the evening news or sitcoms where there is an enormous amount of attention to producing the material in an entertaining, visual and informative manner. But this takes a lot of effort to do, and this cost of production is not generally factored into the design of interactive systems. Artistic and production value is necessary to make material marginally palatable to the consumer public today. I also agree with the notion that there is no single "killer application". We need to look at what the differences are that this form of interaction is going to produce. For example, will it produce a family social environment? And how do we get the "auto-pilot" feature for programs, so people can run the programs while doing other activities? Interestingly, when we compare on-line services to interactive TV, I think we are moving from one hype environment to another hype environment. Finally, I think it is very interesting that several weeks ago Bell Atlantic withdrew its application to do home video; they are going to re-apply and go with a hybrid fiber-coax system. This is an indication of how quickly the technology is changing.

Russ Neuman: I have two comments. First, I think there was a predecessor to video-text. This was Warner-Amex (now Time Warner)'s Cube Interactive Cable Television System in Columbus, Ohio. It was not two-way video, and was very limited in the ways it could be interactive. They really didn't know how to use it, but they experimented with it, invested a lot in it, and had partial success. Then after a massive investment in technology, they succeeded in getting some new cities to give them the franchise for cable because they had the one technology that nobody else did. But a lot of the hyped offerings never materialized. The only thing Cube ended up doing in Columbus, Ohio was video-on-demand movies. The fancy graphics that sold Pittsburgh and a few other towns on Warner-Amex Cable were never even put in. So I think we will see many starts and stops, many waves of hype and adjustment before we finally get there with interactive TV. I also think there is a singular bottom line that can be drawn from the remarks today. What we have is an eight-cell table, a 2x2x2. The first two cells are the dichotomy between passive (one-way) and active (two-way) TV. The second distinction is between fun and information/work. The third is between electronic wireline delivery versus shrink-wrap. Everyone has been searching for one cell in this eight-cell table, in which can be found the killer application. But from what we have heard today, the answer lies in the middle of the 2x2x2 table — in the seamless inter-operable service that can gracefully do all of the above. By this I mean a service that can make the connection to shrink-wrap versus wire easy, that can make the information-gathering chore fun, and that can at the same time solve the problem of bandwidth constraints which has limited past tests from Cube to Orlando.

Beth Rosenson, Rapporteur