



# Digital Living Room

Notes from the Summit & Venture Forum held March 7 and 8, 2005 at the Crowne Plaza Hotel in Foster City, CA.

Conference Notes by Mark Duncan

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## Principal Speakers

Walt Mossberg was the biggest "name" speaker at the conference.



Walt Mossberg, Wall Street Journal

Yair Landau, Vice-Chairman, Sony Pictures, was also a keynote speaker.



Yair Landau, Sony Pictures

## Purpose

This was the first Northern California conference by iHollywood Forum on The Digital Living Room. Its purpose was to provide a forum for discussing the technological, business and investment considerations involved in the transformation of the living room into a digital hub. To do this, it brought together leaders from technology, consumer electronics, finance, Hollywood and market research companies.

New companies profiled at the conference included Adimos, Anextra, Coppergate Communications, DaveTV, Dedicated Devices, Digitaldeck, Digital5, EZTakes, GalleryPlayer, Mediabolic, Netcell, Network International Solutions, Pepper Computer, Planetwide Games, Pure Networks, Orb Networks, Streamload, and Sonos.

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## Conference Impressions

The conference had an substantial turnout of CEO, VP, CTO and other executives, venture capitalist, as well as a large number of leading edge digital living room vendors, all of whom had paid for the privilege of exhibiting and speaking.

It seemed like virtually every session had a mention regarding Apple and its success with the iPod. Like CES, no one from Apple represented its iPod, yet it received more mention than any other company not there.

While the hotel staff provided good food service, their WiFi capabilities were inadequate for the demands of the exhibitors and attendees and caused considerable angst.

There were frequently three concurrent sessions, hence these notes only provide a partial snapshot of the talks.

Please keep in mind that these notes are not perfect, we didn't always hear exactly everything that was said. But hopefully we have captured the essence of their meaning.

# The Digital Home - Myth or Reality

Al Delattre, managing partner at Accenture, focuses on working with Accenture's largest and most complex clients to develop new strategies, execute major transformation programs and implement new business models to help them become high performing companies. An established electronics industry expert, he is



often called upon by business journalists from such leading publications as Business Week, the Economist, Fortune, the New York Times and the Wall Street Journal and has appeared on CNBC, Bloomberg and National Public Radio (NPR) business broadcasts as an expert analyst.

Al explored the various forces and trends driving the adoption of new digital technologies by consumers in the home, on the go or where they work. He also shared insights into what the "mass market" consumer behaviors might be that affect adoption.

We have incredibly fast processors in our desktops and laptops, but for most of us, the only time that the processor is used more than 80% of the time is when a virus infects it! While there are a tremendous number of features provided by a given product, the percentage of these features actually used by a consumer are very small. It is very much like trying to drink from a fire hose, you are overwhelmed by features.

When a new technology comes to market, it takes time for the optimal content to evolved for a given media. For example, when radio first started, plays were first performed, and subsequently talk shows started to be done.

With television, talk shows were an early use of television.

When we think of truly different technologies, they are centered around voice, video, wireless, and data. Examples of truly innovative products are:

- Palm
- Blackberry
- iPod
- Instant messaging
- Tivo
- Smart phone

Apple has done a tremendous job of transforming technology into a lifestyle with the iPod. It is also unique in being one of the few companies that is vertically integrated.

In New York City approximately one million pictures are taken each day per square mile in 2005. It is projected that by 2007 there will be 9,000 cameras per square mile in New York, assuming that 80% of today's camera phones remain in use.

The success of wireless LAN in the home by vendors such as Linksys is that they eliminate having to pull wire through the home.

## The Rise of Consumer VOIP

A panel discussion was held on how Voice-Over-the-Internet services will change the consumer's relationship with telecommunications by enabling caller-ID on TVs, video-conferencing, and voice calls over WiFi phones and laptops. The panel members were:

- Accenture, Steve Roatch, Executive Partner
- Vonage, Jeff Citron, CEO
- 8x8, Bryan Martin, CEO

- ServiceCentral Technologies, Inc., Steve Teel, Senior Vice President, Business Development
- Moderator: Current Analysis, Larry Hettick, Vice President, Wireline Solutions

What is the impact of VOIP on the consumer? For Vontage, it enables providing portable service that is not tied to wires. For video game consoles, it enables players to chat to each other. VOIP provides choice to consumers, they no longer are forced to only buy service from a teleco monopoly.

But how can VOIP be improved in value? Some possibilities include:

- Retrieve voice mails by web and email
- Add video
- Add mobility in the form of wireless support

It turns out that the grandma market has one of the greatest demands for video. These are people who care about another person, yet are physically separated from them.

By the way, as a sign of the generation gap, POTS doesn't mean "plain old telephone service." With kids on phones, POTS means "parents over the shoulder" in a SMS message.

## Wi-Fi

What impact will Wi-Fi have on VOIP? We can see Wi-Fi being used to create mesh networks that are the equivalent of cellular micro-cells. Wi-Fi technology either goes to Wi-Max or dual mode, where you use Wi-Fi locally and cellular networks when you are out of range.

People have tried Wi-Fi phones, but as users of Cisco Wi-Fi phones can testify, battery life is a major problem.

What will slow down Wi-Fi? There are already examples of telcos that are blocking Vontage packets from using their networks. But the bigger problem is that VOIP service providers simply don't know what features are most wanted or rather, what are the additional features that consumers will pay for.

## VOIP Issues

One of the issues for VOIP is that people expect voice services to be always on and always available. It is one thing to verify that you service works with 100,000 users, but what happens when you scale up to a million users? What happens when there is a power outage? It is one thing to give up your 2nd and 3rd line, but when you have to go naked and give up your first line, you start getting concerned about things like how 911 works, the quality of service, and how long it will take for your number to move to a new service if things go south.

In the past, telcos have scheduled new features ever 12 to 18 months. But in the future, changes and enhancements will need to be done on a monthly or quarterly basis. There is the issue of how do you do traffic management across 5 different major backbones, but basically the Internet backbone has been over provisioned for the next 10 years. The last mile is the big problem. While it is easy to get adequate download bandwidth, but upstream bandwidth remains a problem. To do video conferencing, you really want at least 384 Kbps bandwidth. There is hope from video compression technology, that will enable 384 Kbps streams to be reduced to 256 and 150 Kbps compressed streams using a Texas Instruments chip.

## Other Observations

In 2003, potential customers would need to be assured that 8x8 would remain in business. But in 2005, customers are more concerned about the possibility that if Quest were to buy 8x8 that they would be stuck with Quest as their vendor. In 2003, nothing was selling, but in 2005, the growth is off the chart. As of March 2005, Vontage has over 500,000 customers.

The cable operators are only providing 6 or 12 MHz of their 750 MHz cable bandwidth for data traffic, but are obtaining 50% of their cash flow from broadband charges.

Home networking is becoming as complicated as a small office.

## A Look at Situated Media Services

Andrew Fang, an Associate Partner, Senior Researcher at Accenture Technology Labs has varied research interests including information insight, ubiquitous computing/commerce, and emerging media environments. His current research focuses on near real-time insight applications that exploit the context of a person, location, or enterprise.



Andrew talked about how emerging technologies are changing the way we experience and use media in the home and beyond.

About 96% of Tivo users skip commercials and 92% of all commercials are skipped. To combat this, demonstrations of some ideas on how ads could be sold were shown, for example a pop-up page with statistics on the left side and an ad on the right half of the page. The fundamental problem with Tivo is that if TV stops being viable for advertisers, they will go elsewhere.

Today we have a model of making a few shows that cost a million to make, but that are shown to an audience of millions of viewers. But what happens if you have millions of shows that cost little to make and that are shown to a relatively small audience?

### The Explosion of Lousy Media

Think about digital cameras. By making the film free, you shoot a lot more pictures, and don't worry about just the best few shots. And then people get a second camera, and take even more pictures. The result is that we become even less aware of what we have.

If we were to assume that a person takes 10,000 pictures each year, this would result in 750,000 pictures over their lifetime. Similarly, if they take 25 hours of video, this would result in 1,875 hours of video during their lifetime. *(Author's note — this seems a tad optimistic, by a factor of 5 to 10.)*

So the question becomes, what do we do with the 99% of all the lousy and mediocre media that we are accumulating?

Perhaps we could have software for automatically hosting, indexing, and ranking photographs.

One could conceive of advertisers paying for their product placement in home movies.

But at the same time that we are accumulating more data, we have more small screens as found on cell phones. We need to ask ourselves how many flat panels will consumer own? Will they be smart frames or dumb frames?

Possible uses for this unused media data might be a smart picture frame that contains a video clip that loops, or maybe we run background video in a picture. One could see that this would ultimately result in more reasons to take pictures.

### Other New Ways of Using Content

You can think of a medicine cabinet having a display on the front door. If the pollen count is high, it will suggest you take an allergy pill.

In the garage, at your workbench, having a display with a camera would enable you to take a picture and get advice on what to do. This would enable a new class of service.

One could think of a police station call center where the dispatcher receives a photograph of a crime scene. If someone takes a picture of a mugger, everyone within 200 feet could be warned.

Fundamentally, the way in which we use content will change.

# What Consumers Really Want in Their Living Room

Julie Ask and Kurt Scherf examined the trends and market opportunities in the digital living room with respect to games, Internet, TV, radio.

Julie Ask, research director at Jupiter Research, focuses on evolving trends in both the telecommunications and automotive industries, examining both the marketing and technology issues these companies face as they look to deploy new technologies to enhance their businesses. Jupiter Research telecommunications coverage and specifically 802.11 examines business models and technology trends to provide strategic advice and insight to those in the industry while automotive coverage focuses on how the industry is using the Internet to support the business-to-consumer and business-to-business aspects of their business. Ask joined Jupiter Research in May 2001.



When you look at Wi-Fi usage in the home, about 97% of users use it to share the Internet. When you ask about other uses, you find that:

- Music to stereo is 67%
- Streaming audio 46%
- Video to TV 28%
- Gaming 24%

In looking at bandwidth, in 2004 you can get 2.2 Mbps, but the demand is for 7.8 Mbps bandwidth. But by 2009, with HDTV you'll want 57 Mbps, and you probably could use 72 Mbps bandwidth.

Looking at 802.11n to provide 100 Mbps bandwidth. Just driving around San Francisco, at any one time there are 8 to 43 WiFi access points available, with 50 to 66 percent of them unencrypted.



Kurt Scherf at Parks Associates studies developments in home networks, residential gateways, digital entertainment, technology development in the housing market, and residential and building management and controls. Kurt is the sole author or contributing author/analyst to more than 30 research reports and studies produced by Parks Associates since 1998.

Fundamentally, consumers are very evolutionary. They like to use different platforms for different needs. Take a DVD player that now has penetrated 70% of all households. Consumers regard it like a VCR, only better. A digital camera is very much the same thing. It is like a 35 mm film camera, only you can view the pictures immediately, it is very easy to share pictures, and it doesn't cost anything to take the pictures.

## Market Penetration

In the United States, when we look at leading edge technology ownership we find:

- Digital camera, 10.1 million
- Game consoles, 9.6 million
- DVR, 7.7 million (80% provided by cable and satellite TV companies)
- MP3 players and downloads, 7.4 million
- Video editing and sharing, 2.9 million
- Download video to computer, 2.5 million

The higher penetration numbers reflect product categories entering the mainstream, whereas the early adopters are the categories with the lower numbers.

## Impact on Consumer Usage

Game consoles are a bit of a Trojan horse, they could easily start performing more and more functions in the home. DVRs cause people to watch more TV, but they become more efficient in doing so. People with DVRs watch much more niche content, than people without them.

## Other Observations

It is not clear what will replace component audio, however there is a significant demand for multi-room audio products by companies such as Sonos, who is exhibiting at the show.

Kurt noted that the cable companies are in a solid position, but that service is their soft underbelly. The major question is who will manage all the networks? Today, 75% of all service is provided at the store. For the 25% of the calls made to the home, 40% of the calls are to setup a network.

# Unwired Living Room

Nearly half of U.S. broadband households had networks in 2004, and sales of wireless networks outpaced wired networks for the first time, according to Jupiter. PC-to-PC connections are being augmented by new devices: media extenders, jukeboxes, music and video streaming devices and wireless-equipped cameras and TV sets. How are consumers responding? Do wired networks go away? How quickly will existing wireless standards like 802.11g be replaced by super-fast ultra-wideband connections? And what about those vexing DRM issues?

Feature Presentation: Digital5

- Pure Networks, Tim Dowling, CEO
- WiMedia, Glyn Roberts, President
- Roku, Don Woodward, CTO

- Internet Home Alliance, Tim Woods, Vice President, Ecosystems Development
- Moderator: Jupiter Research, Julie Ask, Research Director

## UWB

The former president of the UWB alliance spoke for a few minutes. He had been its head for six years, but a week ago, the group merged with another group, and Steven Wood is the new president.

UWB is restricted to a power of -41 dB/Hz which means an electric razor or laptop computer has as much leakage radiation. However, this low power characteristic also means that the transceiver electronics consume a minimum of power, and since it does not have to make efficient use of its spectrum (3.1 to 10.7 GHz) it can be implemented with broadband, inexpensive electronics.

At 2 meters it has a bandwidth of 480 Mbps and 110 Mbps at 10 meters. These characteristics make it idea for multimedia peripherals in a living room or for interconnect peripherals to a PC. By supporting the USB protocol, they leverage the 1.5 billion USB devices that exist today.

UWB is more focused on digital cameras and camcorders. Keyboards and mice that need power from the computer are better off using cables. You can expect to see the first UWB devices around the end of 2005.

## Miscellaneous Comments

Roku Labs in Palo Alto, CA with its Photo Bridge and Sound Bridge Music player products, is the only vendor to have an iTunes license. Roku's management team is largely from ReplayTV.

When you look at the overall cellphone usage, 43% only use it for a phone. But if you look at people that are 18 to 24, you find that only 10% use it solely for voice.

Pure Networks "Network Magic" product at \$50 enables you to share printer files and keeps

the network working. It simplifies and automates Windows home networking configuration, management and repair, and provides secure, hassle-free sharing of files and devices.

WiFi is what has driven the sharing of the Internet.

## Reinventing Music

The following panel spoke on how digital music is transforming the music business, and what are some of the challenges and limitations that are being encountered:

- EMI Recorded Music, Ted Cohen, Senior Vice President Digital Distribution and Delivery
- RealNetworks, Robert Acker, Vice President, Music Services
- AOL, Neil Smith, General Manager, Digital Media Services
- Moderator: iHollywood Forum, Michael Stroud

### Music Services

When you have more time than money, downloading “free” music makes sense. But when you have more money than time, you are able to pay for your music, and willing to pay for music streaming services.

People are starting to subscribe to music as opposed to paying 99 cents per song. Music-Net and AOL have seen pretty good growth over the last 6 months in their music services. Subscription services have been limited by the number of portables that can play their songs.

A music service needs to help you find the music you want.

While play lists are helpful, you also want to have 20% surprises, otherwise you never hear anything new.

On Amazon are “essentials” — that list the first five classical, jazz, operas to acquire. They provide new listeners, an great introduction.

### Simplicity

There is nothing today that offers both elegance and a low price point.

Wireless networks need to be reliable. Requiring the consumer to type in a 15-digit hexcode doesn't work.

### Channel Issues

There is a need for devoted retailers to explain what a product does. In many store, no one can answer a question.

The Internet created a level playing field. But getting noticed still takes marketing and promotion to make people aware that a product even exists, let alone its advantages.

### Opportunities

In the past, simply providing access made money for a carrier. In the future, providing content will be a new source of revenues for carriers.

As voice communications costs go to zero, can music and video become the new profit centers?

Car radios need to have a stereo mini-jack input. In Los Angeles, all the radio frequencies are used, making the iPod to FM converters useless. By 2008 or 2009, we should see radios with mini jacks and / or Bluetooth built in.

# Transforming Consumer Experiences of Digital Images and Video

A panel discussion was held on how digital media is altering how consumers take pictures and video:

- Simple Star, Chad Richard, CEO
- Kodak, Nancy Carr, Director, Strategic Brand Alliances, Vice President, Digital and Film Imaging Systems
- Yahoo! Photos, Jeff Stoddard, Director
- Apple, Peter Lowe, Director of Marketing, Applications and Services
- Google, Lars Perkins, General Manager, Picasa
- Accenture Technology Labs, Andrew Fano, Associate Partner
- Moderator: USA Today, Jefferson Graham, Technology Reporter

## Digital Cameras

How can you have pictures at any time or place? The #3 most popular use of email is to send pictures. On Yahoo, 40% of all email attachments are jpeg photographs.

Camera today are used socially, but in the future, they will increasingly be used for business and government. People will email photographs to police departments to show them what happened or as evidence.

You can think of a camera phone as a camera with connectivity. Once you have the picture, what will you want to do with it? Show it on the TV, share it with a friend, transfer it to a computer. Kodak is putting a WiFi card in a camera to allow no cable transfer of images.

Adding text to a photograph or annotating it with voice, makes the picture much more valuable.

Consider a concert where everyone is taking pictures with their camera phones. At a Sugar Ray concert, all of these photographs were consolidated on to a single site.

Women are the #1 sharers of photographs.

## Exploding Numbers

With Picassa, we have people who have over 250,000 photographs. Being able to sort on how often viewed, that it was emailed to someone, is valuable metadata that can be used to automatically better organize these photographs.

With digital cameras, we take a lot more pictures. As cameras are used on phones, the displays on the phones need to have much higher resolutions.

## Storing and Organizing

As digital photographs become more pervasive, we need a secure way of storing them, so a hard disk failure does not result in lost of the media.

How do you provide a safe keeping place for digital media? How do you do implicit, as opposed to explicit tagging of photographs? How do you find and aggregate photographs?

We all believe that we will organize our photographs, but in fact, people don't do it. The spirit is willing, but the body is very weak.

There are also pictures that people may not want to share, for example, your 9 month old pregnant wife may not want anyone to have her picture.

## Getting Content to the Living Room

An issue is figuring out how to get content off the computer and transported to the TV in the living room or the phone. The TV remains the most common product in today's households. Peter Lowe of Apple noted that iLife enables

media applications to share files seamlessly, letting you create a slide show that will be shown on a DVD.

## Making Things Simpler

In the past, hooking up a home entertainment center took 5 or 6 cables. But today it can be a multi-month project to hook up all the cables needed for a home theater.

At Apple, they are trying to make the technology disappear — the geek spot. They have made it easy to read the raw format from digital cameras, and they make it possible to easily transfer film clips from camera as well. The “magic” iMovie feature gives you a starting point in making your home movie.

Kodak by providing consumers with easy to use products, like its 4”x6” camera printer dock, is leading in its market.

Google is a testament that if the customer experience is good, the money will follow.

# Attack of the Killer Applications

A host of new appliances – networked DVD players, audio and video streaming devices, computer-stereo links-- offer the promise of access to movies, music, photos and other media anywhere, any time. In practice, however, many of these devices are difficult to set up and are hampered by conflicting audio and video standards. Video, other than home movies and pirated content, is only beginning to make headway. What needs to happen for these devices to become relevant? Do consumers really want to stream their favorite video from their media center PCs through their cellphones?

Feature Presentation: Convergenex

- Pepper Computer, Len Kawell, CEO
- Sling Media, Blake Krikorian, CEO
- AMD, Fred Weber, CTO

- DaveTV, Ken Lipscomb, CEO
- Planetweb, Inc., Ken Soohoo, Co-founder, President and CEO
- Moderator: Wired Magazine, Robert Capps, Products Editor

## User Experience

The experience of the user gets easier while the software gets more complex.

What hinders user acceptance? Software and its ability to provide a seamless interface remain a problem. It is very manpower intensive to develop a good human interface yet the consumer experience has to be paramount. People love their iPod and Tivo experiences.

We need to carefully consider who we are building a product for.

Hardware companies must become software companies, or they will die. As Steve Jobs put it, “a consumer electronics device is just a box of software.”

## Educating the Consumer

It is hard to communicate value to a consumer. There are a lot of people who get in the way, i.e. distributors and stores, in reaching the consumer. Consider Tivo and the terrible time it had in trying to communicate its value to people. They burned through a lot of cash trying to do this. Today Tivo is a verb, but they only have a small part of the DVR market, with cable companies giving them away. Will Tivo survive? It may be a bit too late for them. One day you're a product, the next you're a feature.

## Future Trends

In the future, we'll see a return of powerline and coaxial media for data transmission. Flat screens will replace CRTs and broadband will become more prevalent. Physical media will be disappearing, with storage increasingly happening on disk drives. IP-based communication will become common, with all products having an Ethernet connector on the back.

## Other Comments

It costs AMD \$100 million to develop a new chip. There is a creative tension versus volume, you need a winner take all success in order to get sufficient volume to pay for chip development.

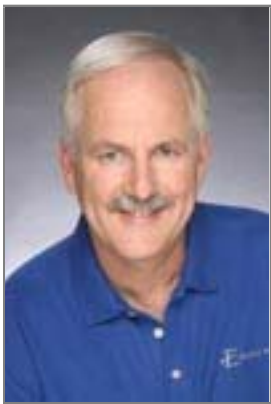
The Microsoft Media Center is good enough in many dimensions. It has potential, but remains a mixed blessing. Its price point of \$2,000 is too high, and crashes are totally unacceptable. (The Media Center is much more stable today than it was in the past.)

You have open standards that compete with comprehensive, proprietary solutions.

Consumers want to be able to mix and match, requiring standards, yet consumer electronics companies like Sony and Toshiba want an unique, branded experience.

# Live Consumer Focus Group

Rob Enderle is identified by firms like the Kensington Group and publications like Technology Marketing as one of the most influential



technology analysts in the world. As President and Principal Analyst of the Enderle Group, a forward looking emerging technology advisory firm, he provides regional and global companies with guidance in how to better target customer needs; create new business opportunities; anticipate

technology changes; select vendors and products; and practice zero dollar marketing. For over 20 years Rob has worked for and with companies like Microsoft, HP, IBM, Dell, Toshiba, Gateway, Sony, USAA, Texas Instruments, AMD, Intel, Credit Suisse First Boston, GM, Ford, ROLM, and Siemens.

A consumer panel, moderated by Rob Enderle, had the following members:

- Patty a 23 year old, UC Berkeley graduate who works at a biotechnology firm
- Recitta a 31 year old, singer and actress
- Paul, a 19 year old student; Franklin, who was an actor in Santa Cruz
- Gina a 28 year old store manager
- Kenny, a 25 year old Oakland resident
- Sheri, a 46 year old executive recruiter

The panel's reaction to an home automation exhibit was that most of them thought that it was not compelling and seemed unnecessary, except for people who are disabled. They did like the idea of being able to turn on a light remotely.

## Favorite Products

The panel members were each asked to cite their favorite consumer electronic product.

- They liked their Sony digital camera, but it only works with Sony. They want something that works with everything, but they find other cameras more complicated and difficult to make them work.
- Liked the plug and play feature of installing Windows, making it a lot easier than it used to be. They also liked their Xbox.
- Liked their iPod, have had for a year, it was a gift, but they hinted around asking for it. It is very convenient, they listen to music continually, they are addicted to music. They have always preferred Apple products.
- They liked their old Panasonic phone, it was small and the battery lasted for a year. The new phone has a camera and lets them browse the web, but it has a limited battery life, and they don't want to have to bring a charger with them when going out. They didn't like using a pre-paid phone service. (In many cases, a product having fewer features that is simple and easy to use, is preferred by consumers.)

- Love their HP CD burner, it saves them money when they download songs and burn a CD. (They have a certain amount of brand loyalty to HP.)
- Liked their multimedia card reader that works with anything. (They bought on price, there was no product differentiation.)
- They liked their Lexmark printer. It was cheap and has never broken down. However HP doesn't seem like it has the best price-performance on computers, they would probably buy a computer from someone else.

It was observed that standalone, separate components are important. When a failure occurs or they want to upgrade, components provide the ability to repair or replace without effecting the rest of the system.

## Least Favorite Products

The panel members were asked what their least favorite products were:

- Little things are annoying, like having to sort out wires that get in their way and create complexity.
- Don't like cradles, it is an extra thing that takes up room. They want to just plug something in, to avoid having it collect dust. They want something that is simple and convenient.
- Remote controls are an annoyance. Universal controls don't work, and it often takes 4 remotes to do anything. They want something that is easy to use.

Logitech bought Harmony and it now has 60% of the universal remote control market.

## Quickstart Guide and What Else?

The panel was asked about what other comments they had:

- Reading a manual gets old. They want a 800 number to call.

- They wouldn't pay extra for what the manual should have said.
- Don't want to pay more!
- While they want the easiest to use product, they are not willing to pay much more.
- With respect to the Harmony remote control, they want a chip that comes with a product that you add to the remote control in order to have it control that product.
- On my cellphone, initially took a lot of pictures, than ran out of room. Used to email them, but when went over limit, got charged for them, so stopped using it. Picture quality was also an issue.
- WiFi is confusing.

Time and ease of use is all important.

## Buying

The panel was asked how they buy products:

- Try to buy the best product using unbiased reviews.
- They do a lot of Internet research, ask friends, and do product comparisons using Google and price grabber.

## MP3 Players

The question was asked as to how they load their MP3 players:

- On the one extreme, they didn't pay for anything. At the other, they found iTunes to be convenient, obtained some via file sharing, and bought CDs (easy and fast).

## Digital Video Sharing

With respect to sharing video, it was seen as a nice feature, but they typically watch TV in a dedicated room.

# Next Generation Games

The following panel members were assembled to discuss trends for the next generation of gaming:

- Stormfront Studios, Andrew Boyle, Audio Director
- Exent Technologies, Yoav Tzruya, Vice President Product and Market Strategy
- Gordon Walton, Consultant
- Backbone Entertainment, Chris Charla, Executive Producer
- PlanetWide Games, Kevin Donovan, President
- Moderator: San Jose Mercury News, Dean Takahashi, Staff Writer

## Growing the Market

The game audience is fatigued, it is looking for novelty in design and execution. The industry is not making games more accessible. There is a failure of imagination and an unwillingness to take risk. Yet having a winning game requires taking risk. For example, consider Take Two's Grand Theft Auto 4 (the biggest console game of 2003). It is a risky game that is obscene at one level, yet it offers a compelling game play experience. Creativity is going to become more important. For example, Halo was the first game to really need two joysticks.

## What Makes a Game Compelling

- The online element needs to be seamlessly integrated. Adding 3D made a racing game compelling. The lack of a particular feature can be deadly.
- In the future, higher resolution, adaptive audio, more realistic characters and the ability to drive high definition video are features that will be added to make games more compelling.

## Business Considerations

The word "gamers" has a negative image, but there is a lot of money to be made, as Hollywood is learning in its merchandising efforts. Hollywood is increasingly getting games and understanding their limitations.

When releasing a game, there is the issue of the size of the installed base. It takes years to develop an adequately sized market.

Games are facing increasing technological, financial, and date risks. While we are becoming more knowledgeable about games, we are not becoming more efficient. It costs \$10 to \$25 million to do a game, before marketing. It is not uncommon to have a team of 85 people working to create a game.

The result is that there will be a factor 3 fewer game publishers in a few years.

It is not uncommon to find people playing multi-player games for 40 hours a month instead of watching TV. Customers want a game that lasts more than 30 to 40 hours. When they pay \$50, they want challenging game play. But today, most games only provide 10 to 20 hours of play, with 12 hours being the median, due to high game development cost.

How can the game business model change? We may start seeing ads. Games may become more episodic and micro-transaction based. We may also see more use made of broadband infrastructure for multi-player games.

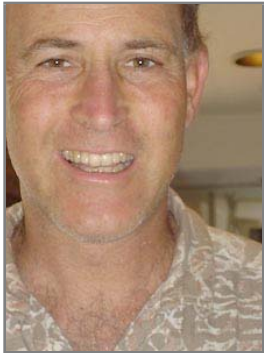
Hard core games buy from inertia. But remember, gamers never forget, they never forgive. The challenge is to attract the casual gamer and challenge them.

## Tools

You need to have a good, robust tool chain to develop games. Not having good tools is a great way to piss away money. All game developers use off the shelf tools, but we then do a lot of integration and add things around them.

# Creating a Roadmap for the Future

Michael Stroud founded iHollywood Forum in November 1999. It produces roundtable discussions, networking events and business development opportunities



for Hollywood executives and entrepreneurs involved in digital entertainment. Michael was formerly the senior technology reporter at Investor's Business Daily, West Coast entertainment correspondent at Bloomberg News, and the Los Angeles Bureau

Chief at Broadcasting and Cable. His articles continue to appear in outlets such as Wired News, the Sunday New York Times, The Red Herring and Business 2.0.

Michael moderated a panel discussion with Rob Enderle of Enderle Group and Julie Ask of Jupiter Research.

## What's Hot?

The digital home is where the opportunity exists today.

To survive, you either focus on providing a customer with a product that is very simple and easy to use, or you target one of 4 or 5 carriers to play with.

The best service at the lowest price will win.

New products and technologies require marketing to create consumer awareness and demand. While Apple's iPod is an excellent product, it spent \$100 million on the marketing campaign for the iPod. Similarly, Intel created the drive for 802.11 with its wireless mobile chipset campaign.

## The Need for Wireless

Today, WiFi is used to share the Internet and camera phones are used to share content.

For households with WiFi, 50% use their laptops in their yards, and 9% in their garages.

The digital home needs to be wireless. The problem is that 802.11g only provides an effective bandwidth that is half of its 54 Mbps. Yet HDTV needs 100 Mbps.

*Author's note: The technology that best provides the ability to wirelessly network high definition video throughout the home is UWB mesh networking. It will take a large system vendor like Apple did with SCSI, Firewire, USB, and 802.11b; to establish a minimum level of device inter-compatibility, for it to become established.*

## Overall Advice

There are many subsidized products such as cellphones and games (Playstation, Xbox).

Churn is a constant issue. How do you retain your customers? Yearly contracts in returned for subsidized phones is one method that carriers have used.

While a consumer will pay \$45/month for cellphone or cable service, they are unwilling to pay \$540 once a year. It is important to match costs with revenues.

Best Buy is the most aggressive retailer in ranking the customer and profiling the buyer.

Remember, "the consumer isn't an idiot, and they're smarter than us."

## Apple

For many years, while the PC market was 85% business and 15% home, Apple survived by being 90% home.

There are technologies like Microsoft's Janus digital rights management technology that Apple can't match. — *Author's note: Apple is rumored to be developing a subscription option to its iTunes service.*

## About the Author

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