Behind the Media

The Design and the Experience

By Leo B. Willner, Ph.D. with R. Gregory Kalsow
Partners at Alvairi–Derfler Associates

How willing is the public to buy into the next round of new media gadgets and services? When suitable new technology is effectively married to compelling applications and entertainment the combination can indeed result in a high level of consumer interest and acceptance and even to a modification of lifestyle — as with the advent of the cell phone, the laptop or the PDA. However, the technology along with applications and entertainment are but the external drivers behind the appeal of any new product or service that provides the platform upon which it is actualized. In a less obvious way, capturing an audience and holding it is also inextricably linked to the qualia, or deep internal aspects of the experience of the user. That, in a most fundamental sense, is the other determining factor behind new media products or services and their success, an aspect that perhaps at times is somewhat overlooked. In reality how a new form alters

"In reality how a new form alters perception and sensual experience matters greatly and is often responsible for its acceptance or failure."

perception and sensual experience matters greatly and is often responsible for its acceptance or failure. In that sense any new platform is but a portal upon which to demonstrate value and appeal, while it is the internal experience of the user that matters most — a point with which many an engineer reading this article might disagree. A case in point is High Definition TV, which so changes the perception of what is viewed as to alter the fundamental experience of viewing television. Another example is the great appeal of video games to the school age population — providing a great deal of visceral

---

Don't Miss the Last Word

CMS NewsLine offers items of interest for everyone.

Kalsow's Back–Channel offers candid comments from the publisher.

Each month you will enjoy commentary on the state of the industry, new media and technology.

CMS NewsLine accepts no advertising, so expect our point of view to be no–nonsense, and maybe even a little controversial.

pleasure via a form of virtual reality. So what really drives new media success and what are the keys to more effective design? Stay tuned.

Of course it is very difficult for designers of devices and applications to hit a moving target, and the way the public uses the electronic media is indeed undergoing continuous rapid change. For example, this weekend the Olympics are finally underway in Athens, Greece as is the PGA golf championship at Whistling Straits in Kohler, Wisconsin and the Arlington Mile horserace in Chicago. In order to write this article and concomitantly keep up with these media events this author is using an advanced Sony laptop computer, a WiFi wireless network from 2Wire, a cellular phone by Nokia and cellular service from AT&T Wireless, a broadband service from SBC, an Aiwa TV set, a set top box from Thomson, along with Ultimate TV (a PVR service similar to TiVo) from Microsoft as well as its Windows operating system and Word word–processor. All of that more or less interlaced and in use at the same time. Talk about a multifaceted multimedia experience! In particular, the wireless access to the Internet is providing additional information and experience about the Olympics and the golf tournament in conjunction and at the same time as what is being shown on the TV. Further, in a 'time is elastic' mode all of these programs are being recorded, viewed, fast–

"…as with early models of PCs and car phones, it is the compelling nature of the experience that ultimately resonates with the public."

forwarded, played in slow motion, replayed and the like in a media interruptus and interlaced multitasking mode. Wow! Yet that is just the beginning of how media is being employed to change our lifestyles, experience and behavior. Now try to design a new product and service to fit into that crowded space.

In the sense of valuing the experience more than the gadget, it is noteworthy to recall that IBM, once hailed as unbeatable in the hardware portion of a PC dominated world, failed to even hold its place as a prominent player in the space. Reading the Wall Street Journal back in the late 1980s one might have concluded that Apple might soon falter, that Compaq would remain small, that Dell would never rise and that only IBM and cheap Asian imitations would prosper. Yet how wrong did most of those financial prognostications turn out to be! Looked at in a different light, why should anyone have expected that an IBM, so focused on accounting, manufacturing and engineering systems and applications, would have given much thought to qualia or been able to distinguish a compelling experience from a nice flow chart? They certainly did not, and probably do not to this day — as their business now rests firmly on network devices such as Internet servers and routers — where they play second banana to Cisco — and on ancestral business application cash cows and

mainframes. After all, their PC keyboards were clunky, their user interfaces far from friendly and their monitors mainly good for displaying text. All in all a recipe not quite in tune with human preferences, based on an engineering and accounting model that leaves little room for much else. Theirs is still a view that happily envisions data entry complexes chock full of operators, monitors and keyboards serving the numerical needs of the likes of United Airlines, Citi, Lockheed and PG&E. Thus they have little interest in creating and enabling compelling new media — or much concern with the quality of the user experience.

In counterpoint, while it may initially be the convenience to be derived out of a new technology that brings it to the fore, as with early models of PCs and car phones, it is the compelling nature of the experience that ultimately resonates with the public. Think of the cell phone as a good example. Earlier versions by Motorola and Erickson were mostly engineering marvels, yet more consumer friendly models by the likes of Nokia, Panasonic and Samsung soon forced these pioneers into difficulty. As it turned out, the improved consumer experience available from better human–engineered products soon won over a large portion of the market. In this example the convenience and utility of the cell phone was but a starting

"As it turned out, the improved consumer experience available from better human–engineered products soon won over a large portion of the market."

point that led to a desire for a better experience with personal telephony. Indeed the cell phone is now morphing into a portable remote communication, computing and control device that empowers its users to a better overall life experience at work and at play. Similarly, Apple is once again teaching a similar lesson in the music business with its sensational iPod portable music system. Yes it is the experience that a media product makes possible that often overshadows its engineering aspects.

A summary of major product characteristics that point to the value and attractiveness of a media product or service would include:

■ Function — How a device or application works from a user, a technical and an engineering viewpoint including its inputs and outputs and internal workings.

■ Cost Effectiveness — The perceived value in terms of cost versus benefit and utility of the device or application in the objective and the subjective sense.

■ Convenience and Ease of Use — The degree to which it is handy to access and utilize. Also the extent to which it is easy to understand and to develop skill at using.

■ Social Status — The social value attached to being seen as a skilled and

empowered user of the technology — the cell phone, the laptop or the PDA.

■ The Personal Experience — How the technology in use interplays with a user's sensory system and its qualia. How it feels to simulate flying a plane or to surf the Internet.

All of these aspects of media products and services are of critical importance to their success. Yet, due in part to their roots in manufacturing, accounting, engineering and military applications, pioneering companies like TRW, IBM and AT&T have focused primarily on the first two of these five characteristics of new media technology. In this article, with an eye on what consumers want and need, we reverse the process and focus on the experience to be derived, how it enlivens us, how it makes us feel, how it gives us satisfaction and enjoyment and how it empowers us. These are some of the reasons why Apple has survived while the original AT&T — once the greatest corporation in all the world — has in reality tanked. After all, our conscious biological lives are all about dealing effectively in an ad hoc adaptive way with real time problems and opportunities based on our sensual perceptions of real world experience. Therefore, the media products and services we place into the hands of consumers should focus on enhancing the quality of their experience while working, communicating, informing

"...the media products and services we place into the hands of consumers should focus on enhancing the quality of their experience..."

themselves or being entertained. Or else we are more likely to fail.

If the success of new media products is indeed closely linked with the quality of the user experience, what may we look for in a next generation of media magic? What new or extended experiences will the public take to heart as attractive and of utility and value? In this regard there are some significant differences between rendering a perception of the real world and having an artificial experience made available via an artist's imagination and some electronic media magic. Both forms constitute what to our human minds appear as varieties of conscious experience — yet with a difference. In either case, the degree to which such media forms can trigger an appealing visceral or organic response is of real value to its achieving commercial success. One fabrication of imagination by media is the rapidly growing space of video games and adventures, wherein electronic media provides players with vivid artificial experience. As such forms are animated for our senses by art and media, they are able to offer a lively time as part of an entertainment, learning or communication experience. In the real world, with a little aid from satellite communications and high definition TV we could seem to be experiencing the magic and mystery of the real Great Barrier Reef in Australia, while still sitting in our living rooms. In

both cases it is the quality of the experience, more than the functional capabilities of the system, which gives the activity its greatest value. Ergo, as the capabilities of new technologies continue to develop, the focus should move more and more away from the purely technical as in features and functions to the more transcendental aspects of how the real world and the world of imagination can be experienced via electronic media.

It is interesting to speculate on media that gives access to the real world versus that which presents products of the imagination. For example, prior to the advent of photography in the 19th century few believed that abstract or impressionistic art would appeal to the public. Surprise, surprise as the last century witnessed the flowering of a great appreciation of impressionism, abstract art and other variations that offer the representational, the imagined and the artificial. Indeed the paintings of Van Gough and Renoir now sell for prices equal to or even greater than do the works of Rembrandt, David and Titian — demonstrating once again that the preferred experience of the public need not be too closely tied to what is real. And what of Miro, Klee, Kandinsky, Dali and the rest of that wild bunch? How is one to measure their appeal or judge the experience they offer their public? The same applies to new forms of music, literature, theater, television and even

"...as the capabilities of new technologies continue to develop, the focus should move more and more away from the purely technical..."

sports. Imagine that! At the same time, the attributes that lead to commercial success for new media dealing with reality may differ from those that present an imagined world of artificial and representational forms. For example how time plays its role can differ greatly from the linearity and constant pace of real world events to the multi–directional 'time is elastic' forms that are quite sensible and viable in an imaginary world or a re–creation. Yet to the viewer or participant, both types must resonate as understandable and viable.

These observations beg us to consider the complexity of what is going on as we experience any media. On the external side of an individual's life we have his or her experience with time passing, with three–dimensional surroundings, with physical reality and with the behavior of everyone around them; as well as their own experience with the arts and sciences and themselves. On the internal side of life we have subjective time, memories, emotions, sensual perception, glandular responses, as well as the many psychological aspects that guide choice and action. Thus how we experience new media and choose to incorporate it into our lives must fit into a great complex of perception, subjective experience and external reality. Those nice folks at Ford Motor Company thought that the Edsel automobile developed at great cost was just the ticket, but few among the public liked the car and it

became a colossal zillion–dollar failure. So too with RCA's VideoDisc player, Sony's Betamax system, the 8–Track tape player and even the movie *Waterworld.* In each case the new media failed because its designers and promoters misjudged not the technology but the attractiveness of the experience it offered the public. In the new media business such failures are legion — surely to be repeated again and again. Is there a measuring stick to help guide a nearsighted media artist or technologist to avoid such disasters? Hardly, but a few fundamentals can serve as a beacon to a better understanding of the process.

Thus we may wish look to some basic design ideas and first principles to help us unravel the reasons behind the success and failure of various media devices, applications and services. This is one way to begin to reconcile the vast investments that have been made with the actual returns derived from such things as VOD, Broadband, VoIP, DVR, DVD, and WiFi. To begin with, media is about communication and it still takes two to tango. Thus, no matter how good the signal or the message, how it is received and perceived is what really matters. The one is about the platform; the other is about how the senses translate what is received into the qualia that leads to an appreciated experience. Here we are limited not only by the quality and effectiveness of our senses, but by the

"In each case the new media failed because its designers and promoters misjudged not the technology but the attractiveness of the experience…"

manner in which what is received is translated into what we ultimately observe, taste, hear and feel — its qualia.

In an endeavor to begin to understand the process, we must look inward at ourselves. Our perception of reality is bound up by capabilities that the famous psychoanalyst Carl Jung placed into four distinct categories. These are 1) our senses, 2) our feelings, 3) our rational abilities and 4) our intuition. The net product of these attributes in action is a 'view' of what is going on around us, what it means and how it makes us feel. When electronic media is used to convey a message, an image or a sound, we receive, translate and ultimately appreciate it in just such a way. Jung goes on to teach that this is the way that we experience the world around us as well as ourselves. He also noted that we differ greatly from one another in the way we utilize these four paths to perception and experience. He pointed out that most folks have one dominant way of perceiving reality, a second one that often comes into play while the remaining two tend to be much weaker in the individual. As such we all know people who are highly rational, or who are very intuitive, or who lead with their feelings and so on. What this ultimately means to the electronic media business is that one platform or approach is unlikely to satisfy everyone. For example, those who lead with their rational side may prefer

to watch news and movies on their PCs, while others may prefer to do so on their TV. To some the telephone is the greatest media tool and they are on it by the hour, while others may prefer an easel and some paintbrushes as their cat's pajamas. In this sense, 'different strokes for different folks' implies that great variety in media forms, applications and services will always be needed. That is understood by the folks at Apple and less of a truth for some at IBM and even HP.

As a consequence, how a product or service appeals to us is tied up with how it resonates with our senses, our feelings, our rational means and our intuition. As it is hardly possible to design products that are likely to appeal to all these aspects of who we are, critical choices must be made in the design process, in the form of targeting the product or service to a specific audience or demographic. No area of life displays this truth more strongly than the amazing varieties of automobiles, RVs, vans and light trucks that we buy — it seems that variety is indeed the spice of life. In counterpoint, advertisers and merchandisers using the electronic media bemoan the loss of a mass audience for their message as the media continues to fractionate in a like manner — so as to serve the individual needs, wishes and desires of an evolving public. This is a point of view that is in harmony with what Carl Jung had to teach us about our nature and how we internalize the

"...'different strokes for different folks' implies that great variety in media forms, applications and services will always be needed."

world around us. It must not be overlooked in the design of media systems and applications.

With all of this as background, a few system design considerations and guidelines come to mind. After all, the real purpose of this analysis is to make a little progress in the man–media–machine interface so as to be able to design better, more appealing TVs, PCs, cell phones, PDAs, laptops, cameras and all the rest. So we need to move beyond the merely philosophical to some practical guidelines that may help light the way. From the very obvious to aspects of system anthropomorphism, here are some points to consider — accept or reject — when seeking to build the next better media mousetrap:

■　Make the quality of the user experience the number one system design goal.

■　Avoid the idea that there is a one best way to use the system and provide multiple ways to achieve any given purpose or outcome.

■　Incorporate the learning process into the use of the media device so that the user can gain more value as he or she learns to adapt to the system.

■　Build appeal including status, beauty and enjoyment into the system to the maximum degree consistent with its purpose and usage.

- Make an effort to minimize user frustration while maximizing the visible benefit of proper usage.

- Take into account the broad variation in physical and mental skill and capacity of the user population.

- Where possible maintain a 'lean–forward' and a 'lean–back' alternative approach in terms of features, functions and user interfaces.

- Allow a user who has been away from the device or application to quickly and easily bootstrap back up.

- Emphasize the tactile, ergonomic and sensory aspects of the man–machine interface.

- Work to make the 'experience' as rich and as real as possible.

- Make sure that the system is in tune with privacy, confidentiality and other human concerns.

- Provide for interoperability and networking with other systems and devices.

- Design to be 'evergreen' so that the system can evolve from a sound base.

- To the extent possible allow the system and its usage to be personalized.

- Make appearance, packaging and form a primary goal.

- Design the product so that it has appeal to intuitive as well as rational types of personalities.

- Make sure that the product works well in a multitasking action interrupted environment.

- Where possible hide the complexity of the system away from the user, but always allow the 'power user' access to the more advanced functions.

"Make sure that the system is in tune with privacy, confidentiality and other human concerns."

- Take into account the social, cultural and atavistic preferences of the population.

- Without compromising the primary purpose, make the product, application or service multiuse and multipurpose.

- Plan ahead for the full life cycle of the product or service.

- Avoid radical paradigm shifts in user interface design. A prettier face may be welcomed and a new and unfamiliar face rejected, depending on the target demographic.

- Provide for self–diagnosis and self–correction of systems functions and performance.

- Where possible let the system collect data on actual usage of its features and functions.

■ Develop the system structure on the basis of a hierarchy of features and functions so that the novice as well as the most skilled can use it comfortably and effectively.

■ Keep in mind that we tend to operate within a 1–3 foot, a 6–8 foot and a room sized space in most of our activities and that our systems should conform to this pattern.

■ Avoid building toasters that burn people's fingers!

If you doubt for even a moment the critical importance of building a better experience into each media product, consider the fact that a very large part of our brains are as they are for just this purpose. After all, all of consciousness itself appears to be constituted to provide the quality of experience that makes it possible for us to progress in life with effectiveness, purpose and enjoyment. That being so, if we take media devices and applications to be prosthetic devices for our minds, then it follows that they too should serve a similar purpose. So let the technical folks have their fun with whatever gobbledygook and unpleasant complexities they find necessary, but let the rest of us make sure that the machines we allow them to build for us are ever more sensitive and pleasing to humankind in all its odd ways. With that, do us all a favor and go and invent a better media solution.

"Avoid radical paradigm shifts in user interface design. A prettier face may be welcomed and a new and unfamiliar face rejected, depending on the target demographic."

(Leo Willner and Greg Kalsow contributed to this issue. In order to discuss any of these points with the authors, please e-mail them at: leo@ad-assoc.com and greg@ad-assoc.com)

[CMS NewsLine frequently publishes the works of contributing writers. The views expressed are strictly those of the contributors. CMS NewsLine makes no endorsement of their opinions.
—Georgia Pech, Editor]

■   Warning — More insecurity for you from Microsoft. Unable to defend itself as it seeks to plug the ongoing insecurity of Windows XP, Microsoft has just advised its millions of vulnerable users that disabling one of the main features of its Internet Explorer — as in terminating its JavaScript capability — is the only way for them to save themselves from great possible harm. Of course this will also prevent many useful WebPages from coming up on their PCs. However those Russian nasties that recently invented 'Scob' malicious code will be blocked from attacking computers that do not process JavaScript. For more detail see pp. 53 of PC World, September 2004. For those among us who are 'true believers' simply install MS Windows XP Service Pack 2 and drink some hot chocolate — but first do back up all your files and even make a printed copy of your most important documents. As a final measure look up to the heavens and locate the constellation Unix to be found in the old Bell Labs Galaxy.

■   A La Carte for cable subscribers will not happen soon! Indeed it sounds like an oxymoron. Think about it, as broadcast and cable networks are little more than branded organized media content for view, the cable MSOs, their gate keeping tormentors and the guardians of the closed network, are unlikely to willingly give up their stranglehold on bundled packages of networks and tiers of service. Having bought and paid for much favor among the many in Congress on both sides of the aisle, why should anyone imagine that such a thing could ever happen in our democracy (irony intended)? The idea that a Democratic victory in November, one that might place Democrat Michael Copps at the chair of the FCC instead of Republican Michael Powell, would make any difference in the stranglehold cable has over the networks and over its own subscribers is sheer fantasy. Laissez Faire my foot — this is about unbridled oligopoly, so forget about unbundling, Bush has enough to worry about without rattling the cage of cable MSOs oligarchs. Why should he annoy the likes of a Brian Roberts, CEO of Comcast?

■   TiVoGuard as an En Garde to the MPAA. The Motion Picture Association of America, once an alleged bastion of copyright violators and now the high priest of no more Fair Use, is really upset with the idea that the FCC and many in Congress approve the concept of allowing limited copying and transmission of broadcast TV content. Those folks at TiVo just don't know how to play fair! They want to return to the American people their constitutionally guaranteed right to make limited private use of copyrighted material on a protected basis. It is indeed an outrage! Perhaps Jack Valenti, that old crony of power politician Lyndon Banes Johnson should stay in office at the MPAA for another decade or two to fight this one. Have the commissioners at the FCC lost their sense of perspective? Are they really willing to take on the greatest lobby in Washington? I say go to it TiVo, you, you iconoclastic media pioneer you.

■	Right after the annual CTAM mega-show proclaimed once again the dominance of cable over satellite the bad news came out. Continuing a multi-year trend, the quarterly figures of cable and satellite gains and loses of subscribers, show that DBS, or satellite, continues to kick cable's butt. Indeed DirecTV just announced that it had a net increase of almost one half million subscribers in Q2-04 while Comcast, Cox, Time-Warner and the rest of the cable MSOs lost legions of subscribers and seek to blame this decline on 2nd Quarter seasonal factors such as college students leaving for summer. It truly baffles the mind why cable, with its many two-way-pipe services, its modern plant, its bundled video-telephone-data offerings and its local access, is unable to deal with the more limited DBS of DirecTV and Echostar. The answer for the Cable and Telecommunications Association for Marketing is only too clear, cable's poor marketing! Sorry Char Beales of CTAM, the facts on the ground continue to contradict all the self-serving pompous proclamations of cable marketing at the CTAM Show. Gosh, what with modern communications and all it is so very difficult for a friendly oligopoly to pull the wool over a nation's eyes. Too bad, too sad.

■	Adelphia at $4000 per subscriber is now for sale to anyone with an extra $20 billion to spare — ridiculous! Has everyone forgotten the massive write-offs that followed the earlier sale of so many other cable MSOs? Now that the market for cable shares has tanked a bit, following cable's ongoing decline in subscribers, is there anyone foolish enough to follow Comcast and Time-Warner into such self-induced entrapment? The lessons of recent cable merger and acquisitions are plain enough, technology, along with the massive debt it brings in train, is not enough to win over a public that wants good service and a fair deal. Caveat Emptor — let the buyer beware, as new technology, especially the delivery of many services via the open network that is the Internet, will make the closed network that is cable far less valuable than $4000 per sub. That is unless a new Wall Street bubble helps to pay for the champagne.

■	Unauthorized search — the real 'search engine'. Now that Microsoft has announced that it is entering the search engine business in competition with Google, Yahoo and the rest we had all better beware. If their only purpose were to assist folks who are surfing the Internet, as Google does, this would be a 'harmless' adventure by a monopolist only looking to decapitate one more hapless victim, say Yahoo. However there is clearly much more to this one, so let us call it by its real name: unauthorized search; say by corporate interests looking into the private files and lives of the public. For you see, with Microsoft's interoperability of systems and its networking capabilities all they need is a really powerful and efficient search engine to render ready access into everyone's private files more or less at the same time a cake walk. How ironic that Microsoft, the greatest victim of hackers, viruses and malicious code, should seek to go into competition with its devilish tormentors for a profit. Talk about a Trojan horse; with Java Code, XML, .Net, Windows XP and all the rest, Microsoft is already fully into your personal information. Now they want to build devices to search through your files more efficiently — and sell the result to third parties. Either they are real clever or the rest of us are real stupid — you guess. Where is the great Republican Teddy Roosevelt when you need someone to disarm so desperate a monopolist? Even for the dark rulers of such science fiction epics as *Star Wars* and *The Matrix* this new Microsoft gambit would seem a long reach. Say you first read it here.

[Your mileage may vary. —RGK]

Alvairi™-Derfler Associates

Better Marketing Execution

Alvairi-Derfler Associates is a MARKET DEVELOPMENT company situated to help your company navigate through its most challenging marketing problems. It is also there to assist you sort through and exploit the marketing opportunities your company now faces. Alvairi-Derfler partners, each with twenty or more years of direct field experience, can help prepare broad-based, professional, time-tested alternatives for action by you and your team.

Working hand-in-glove with your in-house corporate team, Alvairi-Derfler partners can:

- Assess New Product Opportunities
- Gauge Competitive Threats to Products and Markets
- Refine Specific Pricing Tactics
- Determine How to Reposition Products and Services
- Provide Comprehensive Support for Your Trade Shows
- Optimize Advertising Campaigns and Promotional Programs

Better Marketing Tools

Clients of Alvairi-Derfler Associates enjoy the confidence gained from thorough analysis, meticulous preparation and crisp execution leading to:

- Better Targeting of Products
- More Effective Branding
- Sharper Pricing
- Improved Sales Promotions
- Better Communications
- More Effective Advertising
- More Efficient Distribution Systems
- Crisper Command and Control

Alvairi-Derfler partners also participate in business development activities involving new marketing relationships with third parties to help create advantageous alliances, organize licensing and joint development agreements and the like. When needed, its senior staff can help facilitate a client's outside business relationships in new markets at home or abroad.

Please contact Alvairi-Derfler today for an informal chat, to discuss a business situation, or to get advice on a new product or a changing market.

Silicon Valley: +1.831.427.3833

So. California: +1.949.584.0989

C	M
S	N
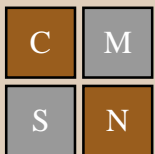
CMS NewsLine
Alvairi-Derfler Associates
Lake Forest, CA 92630
Tel: +1.949.584.0989
www.ad-assoc.com
newsline@ad-assoc.com