

An Emerging Business Offers an Opportunity to Redefine and Rethink the Ownership and Economics of Networked Content [Highlights](#)

Why Am I Diving into What David Hughes is Doing?

Readers may be wondering what I am doing getting all excited about a photography and digital media business plan? What is going on here? Several things.

I have been interested in the technology elements that David (oldest son of the cursor cowboy Dave **Hughes**) has been playing with for quite a while. However, the events of the last two months have raised new interests and questions.

Three Five Year Stages

At first the technology was seen as a great liberator. From an economic and political policy point of view, during the take off stage of the Internet from 1990 to 1995, folk like David Reed were eloquent advocates of end-to-end. Other battle cries were “the tools of production are now in the hands of the users at the edge of the network” (Dave Hughes) and the “web gives every one a printing press” (Brenners Lee, Steve Wolff and many others). But things changed with the IPO mania starting with Netscape a decade ago.

But for the last five years of the 20th century the signals were mixed and conflict was growing. Netheads versus Bellheads. Telecom competition versus survival and prospering of the old giant corporations. Lessig as cheerleader for the Internet versus the content moguls. Napster versus RIAA and DRM. The center versus the edge. “We own everything,” the center proclaimed. “Nah, the PSTN is doomed,” the edge rejoined.

Finally, for the first five years of the 21st century, the pendulum has been swinging swiftly backward. Bigger is better. Economy of scale is better. Centralized is better. Walled gardens are the only way

to go. The LECs can’t afford to be asked to take risks, therefore the FCC and the rest of the country is asked to forget how they agreed to open up their networks in return for being allowed to get into long distance. The LECs venture into long distance was successful but they have now succeeded in being freed from what they agreed to in return for being allowed to cross LATA boundaries. We are now experiencing a rebuilding of the old ma Bell monopoly.

Now, however, the LECs are into triple play as their salvation from the inexorable decline of voice revenue. Content is now going to become as important to them as to the cable co. As Bob **Frankston** has proclaimed “tellywood” now rules, or at least thinks it does, “Whose walled garden wins?” is the vision dancing inside the heads of the studios and the new mega carriers. Ever larger, ever more centralized and in debt. For the time being they are aided by a libertarianism that can’t see over technology’s walls. They rule supreme as Richard Karlgaard, Publisher, Forbes proclaims in the pages of the Wall Street Journal five years after the fact that Allan Greenspan caused the tech crash by not cutting interest rates! What ARE these people thinking!?

In the mean time the Canadians, and the Europeans have not donned libertarian policy blinders. They see their telecom networks as critical national infrastructure that they cannot afford to leave entirely in the hands of the private sector. The Asians see this even more clearly and they lead everyone with the infrastructure needed for what Seely Brown and Hagel call, in their book *The Only Sustainable Edge*, capability building, something they regard as the absolute requirement for successful business in the globalized world economy. Meanwhile while our policy continues to be stuck in the economics and ideology of the last century.

That is bad. Us “techno-policy wonks” understand why it is bad. But the rest of the nation clearly does not. David Isenberg has sung his siren song and told the telcos to die. They haven’t gotten the message. Indeed they are increasingly triumphant. The proles are reassured that they live in Nirvana and that Comcast.net, MSN, or AOL is the height of progress because soon you will be downloading your very own Hollywood blockbusters based on more sex and violence of which more of us are tired and consequently going to see less. But the producers don’t get it. They just shake their heads and blame “those Internet pirates.” Clearly, according to the predominant point of view, we are in for centrally produced content delivered to us by the last century’s mega-carriers who will take great care to lay out what we can and can’t do with our home or office networks when we attach to them. We’ll get what they offer and we will be expected to be grateful for it.

Passing the Baton from the Policy Wonks to “Content” (Reaching the Last Row)

Content, after all, is scarce. It is expensive. Don’t we understand that it takes \$100,000,000 to produce a decent film these days? We are told that we have to respect those requirements otherwise Hollywood and even Disney lose the incentive to produce. That is the problem – say the big guys. I think David **Hughes** may have the antidote.

I am diving into what David is doing because he presents a very strong case that the most important and compelling content is that which depicts our own lives and consequently lies right here under our control at the edge of the network.

I am coming to the conclusion that with the recent consolidation of the duopo-

ly that the old policy-wonk arguments have lost. It doesn't matter whether us "wonks" get it or not. The legislation is for sale to the highest bidder. That there could be an alternative national interest that benefits ordinary working families far from the centers of power is never considered.

The average person is simply too busy both being entertained and paying his or her debts to understand. If they don't understand they can hardly be expected to care. Network "layers" and horizontal regulation are way too arcane. What is appealing about what David is doing is that it ignores the "wonks." What it does do is much more important. It involves all of us in our own content that whether we know it or not is a large part of our legacy. Furthermore, it gives us tools to produce, archive, share, gather communities of interest and finally, should we so choose, to sell our own content – a new bottom up economic model.

In the end, the coming Gotterdammerung boils down to content. Who has it? What is it? And where is it and how can we take control of it and benefit from it? It belongs to us – not to "tellywood." David has crafted a complex system that solves numerous problems that heretofore have been addressed only in isolation.

In the past 20 years our technology has undergone multiple revolutions. Our business thinking and planning has not kept up. Not at all. Not even close. What David is doing is fascinating and important because his thinking and business model is crafted with a keen boundary-crossing understanding. Why has David done it and not some Ivy League MBA? Because of his diverse perspective on life as a dancer with a New York theater career, as an outstanding teacher of technology, and as a network security specialist during the tech bubble only to see all his cameras and 20 years of content destroyed in a house fire started by neighborhood delinquents five days after he arrived in Dallas in July of 2000. This kind of diversity may well come to

typify the best career path to the future as opposed to the old cliché of an Ivy League MBA.

David has quite a story and I am privileged to have gotten him to tell it for the first time here.

One of the lessons that flow from all this I believe is that the point of view of the business designer is critically related to technology choices, network architecture determination and so on. We are suffering from failure of imagination in part because too many people make too many choices early and find themselves constrained in business models that are one way and centered based rather than two-way and edge based.

It could be that we won't ever get telecom and IT back on track until we can allow our own systems thinking and imagination to catch up to the technology changes of the last two decades.

Enabling Wealth at the Edge

David has a business to launch. The successful launching of that I believe will enable us to step back and ponder some lessons. It might even help get us unstuck from our dead center morass, that is leaving us behind as rest of the world moves further ahead.

What are some of the things that I think I see?

That the Internet has not yet broken out of a centralized content business management model. While we have had the eBay model that facilitates exchange of physical possessions, we have not yet had a model that facilitates the exchange of our desires, our passions, our beliefs and our accomplishments as expressed in artistic content as well as in blogs and words.

While David will speak for himself, VisualArt Systems Inc, it seems to me,

seeks to be that model. In too much of what we do, we are deadened because what we are offered is not our dream. It is instead the manufactured siren song of the centralized studio. Manufactured by a mega-corporate mind and honed by what the focus groups say is salable. As we go to 500 channels of entertainment, they are still corporate, centrally controlled, one-way and indifferent to what we think.

Telecom has changed technology. The edge potential is empowered but it is still enchained by the ideas of centralized 19th century economy of scale. Consequently, it would seem that that the guardians of the process have a very irrational goal. The goal is to enable the gigantic companies to grow even larger. What the proponents don't seem to realize is that the process given the edge based technology environment makes the colossi at the center more brittle.

If we don't learn how to change our business models from 19th and 20 century ideas of economy of scale, that make organizations bigger and more brittle, to ones where we can create edge based capability building, there will be no wealth left to sustain "tellywood" or anything else at the center.

I suggest that centralized content is running out of steam... running out of an ability to entertain and divert us... we are bored because we are objects -owned and manipulated by forces beyond our control. What transport is there that gives something we can do that we are passionate about? About which we care rather than being passively entertained?

It is time for a new business to offer tools that we can use for our own purposes. The question to ask is how do these tools liberate us? By giving us a framework in which we can successfully tell our own stories and recapture our own legacies.

I invite you to join David and me for some inspiring exploration.

VisualArt Systems Plans Comprehensive Internet Based Digital Media System for Display, Indexing and Commerce

Founder David Hughes Embraces Museum Standards to Create Environment Enabling Visual Content Sharing

Highlights

Editor's Note: David **Hughes** has had a varied career as a dancer in New York Theater, a teacher of Linux to school systems administrators, and security specialist for a Dallas-based start up. He is the eldest son of Cursor Cowboy **Dave Hughes**. I interviewed him on July 31. This is the first time he has gone public with plans that he has developed since I wrote briefly about his view of digital photography in the August 2004 *COOK Report*.

On July 31 *COOK Report*: Give me some background. Where and how did the ideas for what you are now doing with VisualArt Systems Inc. begin to fall into shape?

Hughes: The core event was the fire that burned down our house in Plano, Texas in July of 2000 - five days after we arrived. I was working for epicReIm as Chief Security Officer during the height of the Internet bubble. Neighborhood delinquents set fires to moving boxes around the edge of the garage. The house was a total loss. Diana and I, and the cat got out. But I lost 14 cameras, lenses and 20 years of content. Several thousand images. Everything.

COOK Report: Was it all on film?

Hughes: Almost all. I had begun to digitize but had only started. Perhaps five percent. As we picked ourselves up from the ashes I did of course begin to wonder how to re-establish myself. Digital photography was starting to get interesting.

I needed to make a choice of whether I should commit to digital, which in 2000 was just beginning to mature, or do I stick with film? I was a Nikon person,

but if I went digital, would it be with Canon which seemed to be making the most noise.

Developing a Systematic Digital Visual Framework

But something else happened at the same time. I detest printing. It is an arduous technical process that doesn't give me the control over my output that I want. The output was rarely satisfying. Of course another problem is the physical space they take. Not much room left on anyone's walls. You have this massive body of work that is a small fraction of what is in "cold storage" under your bed, or in the basement.

I realized that with a digital camera I can create way more output. And immediately there is a fundamental question. Output for what purpose? To do what? Print even more?

COOK Report: So you are forced to re-think what you had been doing in terms of new tools and new media.

Hughes: Exactly. More picture faster to do what? Print them? Why am I taking pictures to begin with? For me? For my family? Am I trying to recreate Ansel Adams or some other famous photographer? What am I going to do? Am I going to print everything? To what end? I don't want to feed Hewlett Packard and Epson.

I love artistic expression and in order to recreate myself the first visit that Diana and I made was to the Amon Carter Museum in Fort Worth a couple of months after the fire. <http://www.cartermuseum.org/> This is one of the great photo-

graphic archival museums of the world. They had a Minor White Exhibit (great World War II and post-war photographer, <http://www.profotos.com/education/referencedesk/masters/masters/minorwhite/minorwhite.shtml>), having studied with among others, Edward Weston, Alfred Steiglitz.

They also have the Laura Gilpin (<http://www.cla.purdue.edu/WAAW/Sandweiss/>) collection which I am very familiar with. A major photo essayist of the American Indian including The Enduring Navaho, Enduring Grace. She was from Colorado Springs and had willed her content to the Amon Carter. They had a Paul Strand exhibit that I wanted to see. I re-discovered Minor White during the September 2000 visit.

I wanted to recreate myself. Art is that kind of an enabler. I wanted to go feel good. As Diana and I walk through I am going digital or film - digital or film - percolating in my mind as we experience the exhibits. In a way I just wanted to go there and be inspired. I found myself walking through it and saw my feet carrying my eyes past these divots hung on the wall. There were seventy images in the Strand exhibit. People could see seventy. How many were in his entire legacy? Didn't know, and they certainly weren't there.

Then I managed to corner a curator. I generally knew the answers, but I asked him some questions thinking out loud. How many Laura Gilpins do you have in her area? She had a little room. Thirty-five. How many images do you have framed and ready to display? About 500. How many negatives do you have? About 5,000. In other words, in my life time, going by natural rotation, I could hope to experience at best only a fraction

of her work.

So I asked what are you doing with digitization? “Oh, its fantastic,” he said. “We are digitizing entire collections.”

To do what?

“Oh, well to digitize it.”

But why?

“For the purpose of creating an historical legacy. An archive.”

But then what? To have it on a CD-ROM that in 20 years no one might be able to read? They didn’t know. They were simply digitizing it to put it back into cold storage. They were creating a curators’ and researchers’ Nirvana. Great for them. . . . For the rest of the world - irrelevant. I asked them the next obvious question: “Why don’t you put this stuff on the Internet?”

“Oh, no, no, no. We can’t do that. We are a museum.”

Of course the museum’s mode of operation is to compel people to come through their doors. Once you have dealt with that issue you get into intellectual property issues, Digital Rights Management (DRM) and that that whole voluminous field.

Things Happening Haphazardly Creates Need for the Order of a Systems Approach

Those then were some of the issues in what you might call the Accessions area. But as I am walking around I also gained additional thoughts. That art is meant to be viewed at eye level and not on a computer screen. Art doesn’t reside on a poster that is purchased in a gift shop and that you end up rolling up and storing under your bed. In general when you partake of art it resides at eye level in front of your face. In a compelling manner. That typically means it re-presents itself as faithfully as the original in as many ways as possible. Color. Texture. Size. Medium, if you are lucky.

I ended up musing about these elements. Collections are slowly being digitized and standards are being established, but even these standards are still being agreed upon. They are all island nations and doing it on their own. Still today, in 2005, the museums are trying to figure out what the best approaches are. Standards are being defined, still. There are general practices, but by and large it is still a free-for-all. There are terrific content management tools that bring digital organization to this mix, like Portfolio7, ContentDM, Mimsey. But they are inclusive, and exclusive. Ultimately I asked: what does that have to do with me, or my mother, who is the most anti- technology person on the planet? Well, not much.

I began to form the idea of art at eye level. It looks interesting on my monitor, but I am not going to put a CRT on the wall.

So I began to form from the house fire and the visit to the Amon Carter the idea that I wanted to bring beauty back to our lives. Now what is beauty? Beauty may be a picture by Ansel Adams that invokes an emotional response. Beauty may be a little photo that I took of a cat warming in an 1880 style window in St. Elmo, a little mining town in Colorado. I want to return beauty, personal and subjective, to those whom I care about. But I cannot compel that person to sit in front of a computer screen to look at my definition of beauty.

It doesn’t work like that. Think of my mother again. I don’t know how many people will not sit in front of a computer screen but yet want to participate with these expressions. I started wondering why can’t we move it up to eye level and have people approach it on their own terms? Instead of having people walk to the mountain (being the CRT) why can the “mountain” go to the people at eye level?

That is when I started running around the Internet in order to find out what was there. This exploration led me to the digital frame and to a bunch of other little crappy devices. I was looking to see what people were doing. I found that

there were efforts to create these mediocre, small, and boring digital frames that sat on people’s desks. The problem was that they sat on your desk. They were unremarkable. They had very low resolution. They were small and un compelling. Novelties. I was reminded of the images of lockets that people would carry around in days of yore. I can get two thumbnail pictures into locket that people could carry around with me. Those meant something. But these crummy digital frames didn’t even evoke that. That is kind of how it was. It was very personalized but it also had nothing to do with filling a room. Image size and resolution were lousy. But there was also another huge problem – transport.

Once you have the frame that satisfies you, how do you select and transport the images that it will display? The solution at the time was to pay an exorbitant price for a Web presence where you could submit photos and push them to each other’s little digital frames. They did not fly off the shelf because they were small, unremarkable and very pricey for less emotional value than a locket. Few survived.

I realized that there is a point and furthermore I believe that this point is a measurable formula can be used to determine what will draw people in. How can you express the fact that when you place something on the wall that there appear to be a couple of measurable numbers that do work because they attract the eye? It attracts the eye because of size and because of resolution; it attracts because of dynamic range. There are multiple factors. . . Most of all, you have to start with a good image. All of these characteristics could be of lesser quality, but the historical nature of an image might elevate it in value. So many things go into the relationship of an image as art that appeal to the eye and the mind.

COOK Report: I have the idea that larger is better as long as the image resolution is undiminished. However their comes a point where if it is so large that it is out of proportion to the size of the wall it hangs on, then it can very definitely be too large.

Hughes: Agreed. That bigger is better is obvious. Size matters but so does resolution. Now LCDs were just spinning up. I spent a great deal of time taking some content and walking into various Best Buys, Circuit Cities, anywhere. I put the content on all kinds of screens. I wanted to experience an emotional response. I did. Man, was I disappointed. I didn't like the LCDs. Putting them on a right resolution CRT was pleasing but the CRT had depth and I was not going to put a CRT on a wall and call it art.

What I began to realize is that art is experienced at eye level and not on your computer screen – period. There is a resolution factor that needs to be attained. And size. All this sounds obvious. Try and go solve all this. Not just then, but now.

COOK Report: But on the other hand you are taking computer display technology and using it in a different form factor and putting that on the wall at eye level?

Hughes: The answer is yes, but there are complexities that go with this decision. Power. Operating system for the software. The build factor. Absolutely critical in this whole thing is your choice of video card. It all has to fit together as a system.

The displays are getting better, but there is another issue. The current vogue is the 16 by 9 panoramic format. Generally, art and photography is 4 by 3 or 4 by 5. I will get slammed for that statement, but it is generally true. Think the Golden Mean, in photography, the Rule of Thirds, and so on. There are all kinds of formulae that orbit around this, too much for here. 16:9 however is not one of them when it comes to art.

COOK Report: DigiFrame was the first company that had begun to engineer technology in the way that you wanted? When did you come into contact with them?

Hughes: I came into contact with DigiFrame in the fall of 2002 when they were on their way out. The answer to the other question is basically, yes. They had a 17-inch diagonal display. They had made a good choice for glass and the screen

was a .25 dot pitch. Dot two five is the point at which, in my opinion, where the eye begins to respond favorably. Plasma screens begin at dot six and fall apart from there. I defy anyone to take an image and put it on a plasma screen and call it art. I know, I know... there are all kinds of counter-arguments about Viewing Distance and so on. But I stripped away science and simply ran some parallel tests. I would place similar expressions of digital art onto different display devices. It was a no brainer. The LCD inside this Digi Frame device (Chi Mei - <http://www.chimei.com.tw/>) hands down drew people. Size. Fidelity. All this.

Personally, I differentiate between art and novelty calling any display above .25 novelty. Dot 25 and lower, we start to get into capable technology that allows the re-expression of the original intent of the art work. I found that to make the choice I wanted at the level of understanding I felt comfortable with, I had to learn the characteristics of digital re-representation. Not just at the print level but also how it represents on a digital frame. It was this that led me to Foveon after doing my due diligence with them. My discovery of Foveon came on the heels of my work with Digi-Frame in the winter of 2002-2003.

I knew that other people were coming along and trying to represent art on displays. Have we heard of anything flying off the shelf yet? No. Because the factors that go into this are size and resolution – namely the fidelity of the representation of an image. But there is a third issue of delivery or transport that is not solved. Within this are characteristics of intellectual property, DRM (http://en.wikipedia.org/wiki/Digital_rights_management), licensing, and so on. Transport in this case is NOT about an SSH/SCP session or key-based DVD encryption. Entities are beating all around it, but the problem is not solved.

Displays are getting better, but they are still very pricey. Just because you have a display doesn't solve everything. We are looking at different manufacturers now. We are looking at medical or military grade LCD glass – some of which is being discontinued. Before we go out

and build the next generation of this form factor we have to make sure that these are going to be manufactured in the future because everything is going 16 by 9 or panoramic format. There are runs of the 4:3 format, and this is what we are targeting of course.

Are we going to sit around and wait for plasma screens to get good? I am not sure they are going to break into that fidelity. They are great for basketball but not for art where you must reach a level of fidelity before it pulls someone in to real engagement. They'll get there somehow, and within a price point that allows some of the masses to own them sure. But we are not waiting. Build the form factor now, and simultaneously build the content management and support infrastructure, now.

Visual Gallery - Some Technical Issues

COOK Report: I have a technical question. My new 30 inch Apple display is .25 dot pitch and 100 pixels per inch. You told me the DigiFrame was 100 pixels per inch and the resolution indeed seems to me to be better. Looking at the Digi-Frame at West Point in May 2004, I could not tell where any pixel began or left off. I can distinguish faint pixelization on my MAC screen. How did the frame achieve that subtle, but important difference?

Hughes: No there are different elements that go into this. Learning how to create a well-rendered image is everything. You have to start with a good image. The process starts with the click of a shutter. Then in your post-processing there are characteristics that you bring that image to optimize its resolution. In this case by the time you get it to the frame your work relatively speaking is done. If you don't attain a certain set of specifications, the product will be OK. What one needs in this are best practices that lend themselves to standards. It's a bit of a mess now. For instance, go to five print shops to gain five fine art prints of the same object. You will get the same number of differing opinions.

The fact that you could not see anything that looked like the starting and ending point of a pixel had as much to do with the original image. It had to do with the post-processing. I know that there are specifications that you apply to an image. If you attain a certain baseline with your image once you do that and express it on the frame, then the frame takes over. I put lenticular hyper-glass on the front of it. It is not ultra-violet museum glass. It is not clear glass either.

The glass in the Digi Frame is not manufactured any more. We are looking at medical and military grade alternatives.

COOK Report: What is meant by medical grade? Pixels per inch?

Hughes: No. Those are dimensions. Fidelity is what defines resolution – not size. The amount of pixels displayed: for example - 1200 by 1600 - is just a measurement. But what also defines fidelity is the distance between pixels. It is like the present megapixel wars where my camera has more megapixels than yours. This usually means naught. Did you know some of the imaging devices in the Cassini project that are taking pictures on Mars are 1 megapixel sensors for instance?

This is a well worn discussion for another battlefield, but one of the key characteristics of imaging devices is the distance between pixels has as much to do with fidelity as the dynamic range capture capabilities and of course, how many pixels in a given space too. It doesn't make for better images necessarily, and engineers can explain this far better than I can, but it is easy to see where an image breaks down. All this stuff feeds in. Are you successfully representing dynamic range? That is one characteristic. Do you have a lot of pixels compressed down into a small amount of real estate? That is the second issue. The third one that ultimately defines all this stuff is dot pitch. Smaller dot pitch results in a more fluid appearance and the eye spends far less time trying to assemble things as a result, the higher the dot pitch – the farther apart they are – is where you start to get the feeling of pixellization.

This is why I have spent a great deal of time dropping into museums and learning how to shoot art. Re representation of art. I needed to understand how to shoot in every condition whether it's lightening during a storm or Thomas Jefferson at the West Point Museum. I had to understand the work flow.

COOK Report: A fact that accompanied this regards storage. As the capacity of hard drives grows even faster than Moore's law for processors, storage becomes almost infinite. There is no reasonable barrier anymore to the digitization of one's artistic legacy and storing it on a hard drive.

Hughes: I think of it much more in terms of mean time between failure, power consumption and noise. When you put a piece of art at eye level on the wall, you don't want to hear a whir coming from behind it. Then you can also get into issues of depth and power consumption. All factors and that gets into this whole thing of transport.

The Components of the System

How do you get images to this device? That is a whole other discussion; but once they are there – what do you do? There are huge questions that I have actually answered. What are the tradeoffs in storage? Should you go with a noisy hundred gigabyte hard drive so you can accommodate lots of junk or should you store less using just a silent compact flash card? Depending on network access is a crap shoot. All this has to be weighed and solved. Not as easy as one thinks.

COOK Report: Or I could have 12,000 Russian negatives and 6000 Himalayan negatives on my G5 on my front porch office and my really good stuff from the massive collection on the frame on my living room wall?

Hughes: Absolutely. It is all about tradeoffs. If you have a Digiframe that we now call Visual Gallery, what do you want? Do you want it for: pictures of your dog, of your family? All of the above, and 12,000 pictures of Russia?

Or do you want art from The Metropolitan Museum of Art? The Louvre? Once you get it there, how do you store it? Of course, there are different solutions to all these questions.

Now how do you get them to the Visual Gallery? One way is physical media like a memory stick that you can plug into the side of the Visual Gallery. Or you can connect it to a network and suddenly storage becomes much less of an issue. With a network there are two types of storage. One local and one remote. Your computer or backend server can provide the local storage. A do-able but uncreative solution in my opinion. Again, think Mother. She is NOT going to want to fuss with network storage is she? Plug. Go. Art. Another solution could be through the Internet into a server farm where we have what we call the Visual Connect Server. Also, we offer a local area network solution.

I believe that the best solution is on the Visual Connect Server where you can store your images. But now that you are connected to the Internet via a server you can share your content with other friends who own visual galleries. Because the content is given a place on a centralized server you can create both private and public communities of Visual Galleries. Because you are on a Visual Connect Server, you can flip a switch and allow the public to view you're heretofore private content. All of a sudden you have the entire world able to participate with your images on the basis of your own choosing.

I am building the server-side applications now. It will have huge administrative controls that will allow users to size and caption and do all sorts of things with their content that project well beyond storage.

There are some other issues. Imagine people working with their content of Visual Galleries. Let's say they have solved their storage and display issues locally. Now if your Visual Gallery (present working device name) is on a network you have access to it from your backend computer. That is good but with Internet service you take your access, and

hence content, out to the Visual Connect Server. Then you have huge control over creating private communities. Families who live in different parts of the country and world, or even across town can easily share content. Not news. Creating communities. But is anything like this built yet, at this level of art? Nawp.

The next capability you will be offered is to mark which images you want to be publicly viewable. You can control how they are viewed but you can also sell them. This gets into a massive commerce solution. This solves it for family albums and for museums, and everything in between, and parallel media too. It solves it in other areas that people don't immediately think about.

I have been talking to more people with more latent content than I ever imagined possible. The Ernest Knee collection of New Mexico (<http://www.editions-fineart.com/ed3.html>), for example. I am now having many multiples of conversations with people about their collections. Public. Private. Museums. I am able to dip into and assign value to these collections.

But the crux of this whole matter is value to whom. Your collection of Russian photos has enormous value to you. You might want to put them on your Visual Gallery and be done with it. On the other hand there are also people out there with similar tastes to whom those photos could be of substantial value. How do you export those? The act of creating a Visual Gallery and solving the transport issues to a single device that may or may not reside on your wall in your home, also solves your ability to export that to a Visual Connect server, which in turn can face the public and export its content under conditions that you can precisely control. You can use this for museum and private collections. Also for your dog pictures if you have a dog. You name it.

Inside the Visual Gallery (VG) is a subset of the Visual Connect server. The Gallery is not just a display item. Far more. You have the ability to go to your Apple G5 and render your collection and export it to the Visual Gallery. But with

an appropriate protocol or relationship to Visual Art Systems (which is the name of the company), you can export from your Visual Gallery back out to a Visual Connect server.

This is not broadcast. It is two-way. All of a sudden your ability to render on your G5 export to the VG on your wall and if you so choose to have a relationship with VSI, you can also flip a switch and have that entire gallery including all the metadata (Dublin Core – example: <http://www.cdpheritage.org/resource/metadata/wsdcmbp/>) exported to a Visual Connect server. Your Visual Gallery becomes a curator's tool, a legacy tool and an Internet presence that you communicate directly with from your main device. Now you can fine tune the presence of your Visual Connect server on the Internet exactly as you desire. Think of it in terms of a triangle. Your rendering computer, your Visual Gallery of what you render and display and the Visual Connect server where you interact with the rest of the world if that is what you desire. You can also render directly to the Visual Connect server if you want to do so. Now add to it multiples of collections, and that triangle becomes one of a very large, world cooperative of art, artisans, collections, and so on.

This becomes a tool useful to curators and others because we are building in the Dublin Core (see above). A Visual Gallery can pull your content from the Visual Connect server. It also can pull content from the net – from the Amon Carter, from the Phillips Collection, Getty, Corbis, the local mom and pop museums, from every museum or any other source that participates. Now we are getting into transport. Protection of intellectual property, encryption.

The far greater part of this pie is how we are getting into commerce solutions within this model. The Visual Gallery is but a subset of a much larger thing. As images and collections reside within the VSI domain, there are multiples of value that can be assigned to the media. The business model that we have created is different than what museums, artists, essentially owners or producers of con-

tent have been familiar with. Especially when it comes to the utilization of static websites. It is a simple concept. When facing a purveyor of any art, especially larger bodies of work, I make a single statement: did you know you have enormous value lying dormant, doing nothing... but we have a technology that can surface and realize revenue from this languishing content. Spines stiffen very fast when they hear this. This is further in our discussion - how this technology can crack open these vast collections of content that languish, doing nothing.

The Four Parts of the VASI Business Model

The four parts of our business model are Acquisition, the Visual Connect Management Server, secure transport, and the display also called the Visual Gallery. But in the future we need not be limited to our Visual Connect Management Server. This device could collapse into the "little black box" that handles all the intelligence for transport and selection and so on, could, in the future, go anywhere – including into a plasma display. The intelligence that goes inside of a Visual Gallery can be compressed until it fits inside a matchbox.

COOK Report: It can be modularized.

Hughes: Yes. In time, down the road, the objective is to be able to lift out the intelligence from that Visual Gallery form factor and place it in any device. You have within it all the intelligence for menu selection, transporting, digital insertion of media types. And when you arrive at this point, you are not limited to a display. You are agnostic and can go to any device. There are devices now that do this and are "OK". But there is a sophistication that must be attained to go beyond what I term, the novelty stage.

COOK Report: And you have approached this in a very systemic way by seeing all of this as a process or series of processes to be approached with a set of tools that can be very flexibly applied to weaving a set of relationships.

Hughes: One of the reasons that this is

just not getting solved right now is the random piecemeal approach. A year or so ago, onto the markets came a new TV display where you could slap a memory card and stick it directly into a card slot to print. Or a variation on this idea was a device that you could plug to your TV set and with the memory card from the camera look at your pictures. Let's deal with the TV set. Did you hear of it? Did it sell? Did you run out to buy one? Hell no! Partly because it didn't honor the resolution that your eye expects and that you know from exposure to other media they are capable of. This is what I term a novelty. I place a great deal in the difference between fidelity, and novelty.

Beyond novelty, of major significance is, it doesn't promote participation.

COOK Report: Whoa! Promote participation. That makes sense as an integral part of wrapping up the framework for all this stuff.

Hughes: Precisely. I have talked with the heads of acquisitions for major art museums of global stature. What motivates me very strongly is learning how to communicate across a spectrum with people who have collections. Museums have a very specific culture. People have very specific biases towards their collections. And rightfully so. To communicate you have to be able to answer the ultimate question: Why should they care? What is in it for them? It all comes down to participation. Each individual with the art. Artisans with their public. There is a huge museum culture that wants participation with the public. And so on...

I sat across from the top people at this global museum at the end of the presentation that Bill Taylor and I were making and I made what for me at the moment, at the point, was a leap and I said all this is done and will succeed or not to the extent that it promotes someone's participation.

The acquisitions head looked back at me and said: "You are exactly right." And I went: "Phew, glad I got that one right." She said people care about fidelity, but participation is the ultimate. They could care less about whether it is printed on

Hahnemuhle paper (<http://www.hahnemuhle.com/>) or paper from Office Depot. What they want is participation. They want to be able to participate with the art.

COOK Report: So what is meant by participation? Is it having been to the place where the picture was taken. Is it knowing the photographer?

Hughes: Two of but many possible examples. All of us are absolutely identifiable with what we want to participate in. It is a road map to our personality. You care about Russian culture. You want to participate in Russian culture. People want to participate with Britney Spears. Other people with Robert Mitchum (reference to coming across a local publicity photo for a Mitchum movie that opened in Colorado Springs in the 50s). People are looking for participation – for connection at emotional and visceral levels.

Now while most people don't have taste in art what they do have going for them is that their eyes don't lie. There is some level of fidelity out there that appeals to people. That is what we are obtaining in the Visual Gallery. But underlying all this is the idea of participation. The core mantra of Visual Art Systems Inc., in our presentation of our ideas, is that we bring producers and consumers of art together. That, most basically stated, is what we do. Bringing producers and consumers of art together.

Say that I want to participate with Man Ray (<http://www.manray-photo.com/>). How can you do it today? You can get in your car and travel to a Man Ray exhibit. France would be a start. You can get on the Web and look at thumbnails. You can go out and buy a coffee table book. That is fine. But all along the way your participation is likely to be finite. Very. The book has a set number of images all pre-chosen which is OK since this is the way we have always done it. Your Web experience is going to be less remarkable. But what Visual Art Systems is striving for is to compel collections to want to participate in this model, not only because the output can be collected and exported to a Visual Gallery but also because the

Visual Connect Management Server is going to allow a much wider range of participation with these images. Not only because you have a wider selection but also because you can export to print and other services. But you can also do something else that is rather remarkable.

COOK Report: You have virtual museum capability in a globe wrapped up in a visual art digital network.

Hughes: Yes. It is about fidelity and participation. That appeals to both producer and consumer. To date the producer of art has been uncompelled to participate in the Internet. Why? Go to any photo Web site and ask the owner how are you doing? The answer generally is: not good. A few, like the Gold Rush of yore, do OK. The vast majority don't. One reason is that there are few tools for these sites that allow them to manage their content productively.

Visual Connect Management Server

But add the Visual Connect Management Server. It is a content management tool. It allows them to manage content by sequence, by metadata - the implications of which for museums are major. But users can organize into albums, galleries and sub-galleries. This sounds like standard stuff. But almost all of the online gallery sites have outstandingly unremarkable user experiences.

COOK Report: Even with my own Himalayan images I have noticed that the traffic both on my website and on your pop's server for the small number of images of Kashmir is five times greater than those from Nepal. Question of why is interesting. I don't think the Kashmir Indus river valley images are that compelling which may mean that the traffic comes because there are not THAT many images of this lesser visited part of the Himalayas on the Web as opposed to the huge amount for Nepal and the Everest region.

Hughes: All very useful to this as a business. All important. The question: "Why?" is a very important marketing question.

COOK Report: But what else you are saying is that, by looking at this, you can acquire a lot of interesting data.

Hughes: You bet you can. Have you sold any?

COOK Report: Except for a picture of Suzdal three years ago – no.

Hughes: When you go to a museum, to a gallery, what do you do? The first thing is that you walk through some doors. Galleries and museums start to create your experience before you even walk in. Right?

COOK Report: True and right now you have to get in a car, spend money on expensive gas, parking, fees, stand in line. Much effort is required.

Hughes: That's all true but what about when you walk through the doors? They are pretty remarkable. Go to the Amon Carter or to the Guggenheim. Your experience starts even before you walk through the doors. Question: Are you inundated with text?

COOK Report: No.

Hughes: Of course not! What I am driving at is that no one has solved the gallery experience on the Internet. It is an "Internet experience" which in my opinion is worse than a cave man sitting at a computer, replacing a fire. It is an *educated* caveman who can read tethered to that computer. You don't walk into the Guggenheim and get slapped in the face with text.

So when you walk into the gallery your feet move you past the art at eye level. I don't know of many who read text first. They look at art first. Then they make a choice to look at the placard or not. What is on the placard. There may be three or four lines of data – date, place artist title. Anything else behind it?

COOK Report: Curators could put levels and levels of data and pointers and other detail but their tools and the physical reality doesn't really encourage it.

Hughes: Exactly. The metadata information behind those four lines – is extraordinary. Provenance. Accession. Ownership. Travels. The history of the work of art. A huge amount of additional data. When you go to a gallery, you look at the art. Wouldn't it be nice to look at the meta data? As you walk through the gallery you walk through an arrangement that has been very carefully thought out by the curator on your behalf. They organize these things based on their emotional response not only to themselves but also to a more generalized version of what they think the artists are trying to say.

What do you do when you are starting to exit the museum? You go through a gift shop. There are 16,000 museums in the US alone.

COOK Report: So you will offer the museums a chance to reach out to their publics both near and abroad and present a part of their collection of the net and encourage net visitors to do commerce with them?

Hughes: I am trying to create at a level of acceptable to the museums, and all owners of content, an Internet version of a walk through their galleries. I have yet to see anyone accomplish this. It is incomprehensible to me why people think they need to slam you over the head with yahoo and Google pictures and pop ups. That is not art. It's advertising.

When I ask the proprietors how it's going their uniform answer is its not very good. Gee, I think I know why. I received a series of calls from a gent who wants to remain nameless, who is heavily connected in the museum culture, who states museums really have challenges now and into the future. Attendance over the last 20 years is down, down, down. Now with the Internet, their sites fail to recreate the gallery experience. Therefore with the Visual Connect Management server I am trying very hard to recreate a gallery experience. You choose whether or not we can push to you three or four lines of title. In general, let the viewer choose whether he wants to dip down into the metadata and if so, how deeply. And second don't slam it in the face with

them so it becomes so distracting that you never get to the art.

So what do you do with the meta-data? Are you familiar with the Long Tail, as published in *Wired* by Chris Anderson in October of 2004? http://www.wired.com/wired/archive/12.10/tail_pr.html It is a very important article.

COOK Report: I heard Anderson talk about it at SuperNova in June of this year. He said that no matter how large the inventory of material approximately 98 to 99 percent sells at least one copy per month.

Hughes: That is right. So building the Visual Gallery experience into the Visual Connect server is absolutely the opposite of what everyone thinks. But doing so is imperative. I have watched how people react to it. When the person has the opportunity to dip into the metadata – we'll just call it information – then it turns into the experience of a coffee table book.

I saw how Dana Knee reacted. He's the executor of the Ernest Knee Trust Collection. He's given us exclusive rights to presenting his collection by the way. I had in my hands an 8 by 10 negative of Katherine Hepburn in a swim suit at age 19 that has never been seen before.

COOK Report: Wow! That has long tail implications!

Hughes: Exactly! I had in my hands another picture of Howard Hughes after the crash of the XF11. The operative word is AFTER. Four month's later, Ernest Knee, Dana's father took a photo of Howard Hughes sitting in the prototype of a rebuilt aircraft.

Through our acquisitions services we are acquiring never before seen historical content that (assuming no objections by the executors of the estates involved) will be on the Visual Connect Server when we open it up. Also note that you don't need a Visual Gallery too participate in what Visual Art Systems offers over the Visual Connect Management Server.

This is an absolutely vital conclusion

because the act of solving fidelity, resolution and transport for the VG simultaneously makes this content available to the rest of the world. Therefore the Visual Gallery becomes a leg of this much larger model. You do not need one to participate.

What the Visual Gallery does is stimulate people's imagination and inspiration. The Visual Gallery compels people to want to play with us from a producer and consumer point of view.

COOK Report: I am hardly a professional photographer but I can think of lots of things that I would like to explore. Like the Follmi's collection of Himalayan photos were it available. The thought of I-tunes runs through my mind. Down load a few at 99 cents. Why not?

Hughes: Absolutely. To create participation though, you have to get them there. That is called acquisition. How do you do that? In order to get content for the Visual Connect server, you have to compel producers to want to participate. The word participation works on both sides of the fence. Content producers have to want to participate. But why would they want to? For lots of different reasons.

The value to you of participating with VisualArt Systems Inc is that you have a management system and transport system for your own means of private expression. That may be of value to you.

COOK Report: I see where you are going because your Dublin Core metadata – properly designed – would allow for the creation of communities of interest around images, people, collections, geography and various subject matter.

Hughes: Exactly.

COOK Report: It would be of great interest to me if I had all my Russian content digitized to be able to place it where other people with similar content and by implication similar interests would hang out. It would be a way of enabling me to meet new people too.

It's a way of connecting everyone in the world with an interest in item 472,658 of

the 600,000 items in the long tail.

Hughes: Yes, but they will then have the tools in their hands to contribute themselves to the long tail. People are coming to me now. People with access to and control of major historical collections in Colorado Springs: Gilpin's, Myron Woods, Jim Bates. All languishing, doing nothing. I am getting traction from all over actually.

I have built a licensing model that will compel people to want to participate. But why should people care? What is in it for them? Well, you participate because first and foremost it is emotional. You may want to participate on the Visual Connect Management Server because it means something to you on a personal emotional level. You may not move beyond that. That's OK.

Now your emotional needs may want to extend out to pulling in other people of common interest. Consider that to be Tier 2. That is a huge thing in and of itself. There is a third tier which I think is far bigger than the first two – a revenue stream.

Museums are very slowly getting this. Most don't know how to get there, from here. They have extraordinary revenue potential on latent content. But they are unable to grasp this fact. They just don't operate that way.

COOK Report: They have no awareness of the Long Tail.

Hughes: It is not just that. It is also that their culture is to compel people to walk through their front doors. The culture of that community is to hold things very close to the vest. It is very ownership oriented. Curators are very emotional about the exhibits they put together. The Internet is there, but the museums in general simply don't know what to do with it. I am not saying this is all-encompassing. But for the most part, this is true.

When I walk in the door to a museum the very first thing that I say to whomever I am addressing is: Did you know that you have content that can create enormous value for you by creating a reoccurring

money stream? It simply is a pure business model. Content has value. That is the First Tier. Now you get to the Second Tier when you extend that value out into the long tail which is other people with interests common to your own.

The Visual Connect Management Server is creating tools to not only allow you to become your own curator. When you are gone, with the tools now available to you will you have done anyone any favors with those 17,000 images? Right now the answer is: No way!

Do you have an inkling of what this means in terms of genealogy? That alone is a massive business stream. My father and sister are the genealogists in this family. But I gloss over after 30 seconds of genealogy talk. Don't tell me; show me. There are software tools that handle stuff like this. But ultimately these things reside in the images of the past. In 1980 or so I received resurrected photos of my lineage. That means far, far more to me than verbal dialogue that only resides in those who manage genealogy. The VCM and VG have far more to do with this expression than some dinner table dialogue that has about 5% retention in my brain. The image. That is what matters.

COOK Report: I have a remarkable signature from a diary written in 1849 and '50 by my great grandfather describing a journey by covered wagon to the Pike's Peak gold rush. It is in plastic pocket in a scrapbook that was my father's autobiography on pictures. My father was born in 1901.

Hughes: How many people does that diary impact in its current form?

COOK Report: Virtually no one.

Hughes: And with people having been taking pictures now for about 140 years only a tiny fraction of that legacy is of use to anyone. To the extent they are used like the caveman by the fire one person and one image at a time and very, very privately.

What is driving me now with the Visual Connect Management Server is to provide tools for collection and expression

of images. I don't care if it is art or paintings or photographs.

The Dublin Core

The Dublin Core got started in the mid-90s. It is a set of 15 core metadata fields that start with title, contributor, creator, coverage and so on. Each field can have many sub fields. It has become the Dewey Decimal System for museums.

COOK Report: Has been for how long?

Hughes: The Dublin Core came to life about 8 years ago. They are meta fields designed to associated with multimedia. Prior and parallel to this there was a protocol called IPTC (International Press Telecommunications Council.) This pre-saged the Dublin Core and didn't catch on. Excellent idea. Just not adopted. If you were a newspaper and got a picture in over a wire service, it often could be accompanied by IPTC meta data. The IPTC data would be physically built into the images. With JPEG, GIF and TIFF, you now have EXIF information. Embedded information and if you look at that you will see filed available for this kind of metadata. This is not news. What is news is embedding within these EXIF fields, elements like the Dublin Core. The implications of this are huge.

COOK Report: Probably only a relatively small number of the Dublin meta data fields are being seriously used.

Hughes: That's correct.

COOK Report: So you can open up the ones that aren't and rename them and use them for things like linking up communities of interest.

Hughes: Exactly!! And the end game of all this metadata work is to make these fields Internet searchable. If you look inside of Photoshop you will see that there are very few resources that will allow you to apply these metafields. It is transitioning into Dublin Core now. It must. But like everything since 9/11 it is moving at a snail's pace.

If you look at the current content man-

agement systems and digital rights applications, like ContentDM, like Portfolio7, like Mimsey, – they all use the Dublin Core for content management. It is becoming the de facto metadata standard for multimedia.

Now, this is all good. Museums adopt the standard and it is being built inside of these content management systems. Because we are adopting Dublin Core for our metadata management, if you come along and want to participate in any of the Visual Art Systems main categories like painting or historical photography you can do than and in doing so you can become your own curator.

In other words, inside our infrastructure, no matter whether you are using a Visual Gallery and its subset of the Visual Connect Management Server inside the Visual Gallery or whether you go directly to a VCM, you will have the ability to not just place, size and organize. You will be able to add associated files like sound. You may have an image and want to associate an audio interview with it. You can also associate PDFs.

You have metafields at your fingertips. What are those based on? Dublin Core. If you jump into those metafields you will become your own curator and will be doing the curators work at say, the Hermitage before your image ever gets there. By the simple act of filling in the content fields you are making your content accessible to others including museums. They become searchable within museum environments as well as in the VCM environment. But you are now accessible to the Visual Gallery. What does this mean? Remember that I talked about the walk through the gallery? And you look at the little card affixed to the museum wall by the frame.

COOK Report: With the data available you will be able to give visitors their own unique tours?

Hughes: They will be able to participate at whatever level of depth they feel motivated and comfortable in doing so is my term.

I saw Dana Knee's reaction. It was

very revealing. I worked with Dana on creating an excellent scan of his remarkable images that go back 60-70 years. Never before seen before images. He executes great scans now. We are getting the accession part taken care of. He is now champing at the bit to get into the Visual Connect Management Server. I am almost ready to launch the first generation. He wants to place images inside the VCM. Why? First and foremost: for sale.

It took awhile, but about two months ago as I was visiting him as we were working through these scans, the bulbs went on and he understood it all for the first time. I watched it come together in his mind. Why Dublin Core matters. Why best practices for scanning matter, why the Visual Connect Management Server for sizing images and adding metadata matters, why transport matters.

He got it. He said this is what Ken Burns did for his Civil War series (<http://www.pbs.org/civilwar/>). Burns used a slide show method to portray the entire series. Dana says what makes it work for what you have done is all the information around the image. Like someone being able to talk about the image while you view it. You lead with the image and you associate aural and textural material to enhance it. For instance, people are now doing their own podcast tours of art. But get this one. Do you think Ansel Adams ever lectured at Stanford? Of course he did. Did he talk about Half Dome? You bet. Talked about The Zone System. You bet.

COOK Report: And people have those sound files?

Hughes: Oh yes. Pretty standard stuff. We are so used to having video and speech leading our impressions of this stuff. You place an image on the VCMS. What can you do? Size it. Watermark it and put it up for sale. OK now we just repeated the Internet.

What else? You can associate all this meta information that allows people to participate in delving deeper into what is behind the image. What is there? Text, history techniques, audio – all of this

can be associated with the image. All of a sudden you have this living research tool Called the Visual Connect server that starts life as a Gallery and not as a research tool. I am looking at creating filters that will go and poll ContentDM and Portfolio7 and pull that data to the VCM environment. We will present it in a gallery perspective and not as an Internet experience. The "Internet experience" as I call it is just so unremarkable. That is at best. Usually, it is pretty terrible.

Someone led me to a large library system that had placed archival images on its Web site. We'll leave the name out because what follows is not nice. First, finding the content was miserable. Once there, my ability to maneuver was less than miserable. But once I came to the image content itself, I saw that they had placed the body of work for a photographer or theme in one long, hairy panorama so you had to scroll to the right. And scroll and scroll and scroll. Just to see multiple images. And the text was forced around the image. And this is a major library system where research tools are imperative. It was worse than terrible. I see this all the time. That was the bottom of what I call the Internet experience. It has nothing to do with the experience of the art, artist, or associated metadata.

COOK Report: You called my attention to athena.org. What are doing with this? This is part of the issue of handling copyright and creating revenue streams?

Hughes: Dr. Elliot McGucken created this site a few years ago as a way of examining the relationship of content, artists, copyright, digital rights management. He is very much on the right track with his musing towards protection of intellectual property and methods of transport. It's worth a view but note that it crawls into a lot of study of older and some current CMS systems. Still, we've exchanged and find ourselves in agreement about this future DRM model.

COOK Report: What can you say about Lee Thayer?

Hughes: What a godsend. He has a major reputation as a consultant and leadership counselor. He deals with business mod-

els. And the people behind a model. Are they capable or are they just a bunch of bone heads with a stupid idea? Or a smart idea with the wrong people. I am in his great debt for he has a keen sense and has supplied spot on assessment on our business model. What floats and what sinks. One of the things that jumped out of this book, Leadership, which led to some discussion in relationship to our model, and which stimulated this interview of course, was what he feels is severely lacking in current American enterprise is creativity and inspiration.

We have been working with Lee Thayer for many months and he has been invaluable because he keeps us honest.

But what rings throughout is he saw creativity in this model. I saw at the very beginning that we have an enormous amount of latent content in shoe boxes and footlockers and in museums in cold storage. Everyone is out there trying to solve what does the Internet mean to me? But few have posed let alone solved what it means for art. Unless one wants to factor in the Internet experience which is to repeat my oft used phrase... at this stage, unremarkable. Yeah, there are tons of webs sites with pictures on them, and lots of photo and print services, and web gift shops and all that. But not at the level of solving true art expression and experience.

Lee listened to what I had to say and he realized that I had not just thought about these solutions but that I had taken enormous strides in acquiring images, understanding how to talk to people, testing the ideas out – physically getting myself into museums. I have made myself an excellent art re-capture photographer; working out work flows of the digital content to the electronic expression on our prototype Visual Gallery display. Consequently, I understand every aspect of this. Understanding all the parts was how I arrived at this four-legged model. Acquisition. Content management. Secure transport and Presentation.

COOK Report: And bringing a broad systems point of view to what you were doing.

The Mark Cuban Model

Hughes: Yes and he realized that this is highly creative. It follows the Mark Cuban model.

What did Mark do? Started out in Texas with some network services, an ISP and made some money. As the story goes, he with his lawyer/biz partner began looking at a computer, mused about at the time Internet that was becoming commercialized. And he had a single idea: I wonder if I can put an audio card in my computer and if I could then get sound onto the Internet so that people could listen to it?

Mid to late 90s as I recall. Smart Idea? You bet. His idea became broadcast.com. He threw some money at infrastructure – a server farm that functioned as his VCM. He created a conduit for audio files and his model was build, fix, build, fix. He created two components. One for the producer side, one for the consumer side. One was a listening device, and on the other side he created a tool that allowed people to stream content to the audio equivalent of my VCM server. He created broadcast.com and he sold it a few years later to Yahoo for a lot of coin.

Where was his revenue? He ran around to every radio station he could get to cutting contracts. That was it. He cut contract after contract based on present and future audio streaming. I remember hearing about this guy back then, and his pub was that he was a bit of mad man to be so focused on contracts. The value was in showing people in the business of audio transport that they better recognize the role of the Web and be ready to play on that medium. The value for powering a recurring revenue stream was in the licensing of his content – streamed over again and again. He didn't make his money from the application that had value to consumers and producers. He made money in what they DID with it. The key tool was broadcast.com that arbitrated what they did with the stuff.

This is precisely what Visual Art System is doing only we are doing it for art. There is vastly more content in the art

world than there is in broadcast. What is the difference between a podcast and art? It is the consuming for immediate gratification of some sound file vs. static content. But the huge difference between say I-Tunes and this is that you Gordon Cook cannot participate in I-Tunes unless you produce something that lands in some music publisher's library.

But you can participate in Visual Art Systems Inc. because you have content that you value. We will make it possible for you to share it with others and draw you in on a level to which you respond and relate. You can open it up to a larger interested circle and then you can open it up to the world to sell. We are interactive and two-way whereas I-tunes is broad cast. It will be capable of assigning value to a range of content from shoeboxes under the bed to the major, major museums and collections we are now engaged with. It will be more like Ebay than I-tunes.

COOK Report: One of your issues has to be how you plan your strategy.

Hughes: That is exactly right. Early on the advice was towards grants We are digging into grants, angel investment as well as VC. And projects. For instance, creating a project for a major collection that places this content into our model for outcome to our Visual Gallery devices, the VCM, and so on.

COOK Report: If I had a lot of money then, you might say to me for \$500,000 we will digitize your collection, set you up with a Visual Gallery and create a presence on the Visual Connect Management Server and then you could fund your efforts to a larger scale i.e. hiring engineers to advance the development and so on?

Hughes: Yes. Let me give you a different example. Let's look at West Point for instance. I was invited to do some, what turned out to be, remarkable art recapture work digitally. What a collection they have! West Point has of course alumni. One of the things I am working on is approaching some capable, enabled alumni and talking about it not as Visual Art Systems Inc. but rather from the

point of view of a project. To digitize. To present.

Let's create a project, the end result of which is the display of this legacy content. They have a terrific Hudson River School body of work for instance. Within the confines of a project, we end up digitizing content and placing it into a VCM. The project would create access for Joe Q Alumni public so that they can access and participate and contribute their own stuff. And one of the outputs of this will be a Visual Gallery that can be acquired. We will put 100 of these around the country in ROTC offices for example. Or for purchase by other alumni. And the VCM would allow everyone else to participate, to view, to contribute as well.

I just created and "hung" an art show for my high school's 75th reunion. Fountain Valley School in Colorado Springs is a prestigious prep school with a long, distinguished history. I was privy to some remarkable content spanning those years. During the alumni weekend, my VGs were a focal point. I had more people coming up and staying with the collections I had created. It stimulated a lot of emotions, and constant dialogue. It was to state it mildly, a huge hit.

I have done this often. I have created shows of content, photographic content, art work, etc, and hung them just like on hangs an art gallery. I've done this in coffee shops, museums, auditoriums, art galleries of all types. To see how people react to it in as many situations as I can create. The response is always remarkable. That is why I know this model is correct because I've placed myself, and art, into many situations, to observe. Well, what I have observed is people are drawn to it in ways that you do not get with other media.

One of my favorite recent experiences was placing a VG inside the Pikes Peak Performing Art Center during a Michael Martin Murphy concert. There was a hanging exhibit of the regional watercolor society in the foyer. Dozens of great expressions of watercolor art. Wonderful works. As I often do, I placed a VG amongst the art so it populates the same vision and style as all the other framed

pieces.

Without fail, people are drawn to the VG, and stay. It pulls people in a way the other art does not. I learned this very early on. Well... at the end of the concert as people were milling about and many found themselves stationed in front of my VG, as I was answering the myriad of questions it always creates, I saw a gentleman standing off to side. Watching. Waiting. I later learned he was being polite in waiting for everyone to clear out so he could ask me some questions. He was a cowboy. And I mean a real cowboy. Nothing fake about this bloke. He lived on and ran a ranch in northern New Mexico. He was fascinated by this device and asked the usual - how does it work, what can you do, questions.

I wasn't sure where this was going, but something the VG always does is create all kinds of dialogue and I thoroughly enjoy the exchanges with people, and this fellow was as real as it gets. But then the conversation paused and then he mustered up some language and said straight up. "Tthis is a damn smart thing." I live on a ranch. We have no running water. No electricity. We live the cowboy way (yes, he really said this). My wife takes pictures and sends them off to New Yawk to get processed. It costs a lot of money. And time." And then he had one of my all time favorite reactions to the VG. "I'd go out and get electricity for something like this."

It was terrific. I've had board members of major museums to cowboys react the same way. This is smart. And compelling. This gent from New Mexico could not have been more eloquent.

Anyway, you don't approach someone and say: "Give me money to build a Visual Gallery." You create a project with a purpose that satisfies multiple needs and gets roots by appealing to the emotions wrapped up with capturing a legacy.

Bill Taylor and West Point

COOK Report: I note that Bill Taylor is listed as Co-Founder in your power

points. Tell me more about how that came to be.

Hughes: In preparation for my father's Distinguished Graduate award in May 2004, I wanted to donate a VG to West Point. It was way more difficult than it sounds. I nosed around and finally got the name of Bill Taylor and learned that he was one of the driving forces for my dad's nomination. In March of 2004, I started talking with him about this thing called at the time, the digital frame. Getting across what I was excited about wasn't easy.

This was about the time that you pushed out Mike Havey's yellow rose taken with the Canon G2. And I put together with Photoshop the comparison of the yellow rose with an orange one taken with a Sigma using Foveon. When I showed that to Bill, it got us talking.

Bill said the way to approach it would be with a steering committee through the library. We got there with you late Sunday at the Bear Mountain Inn and Monday we were tramping around the Academy. Bill and I both realized we had similar work ethics: he with his military training, I with my ballet training. I am always on time. No, that's wrong. If you are on time, you're late.

Well we had several bullet points on an

agenda. We got through five and then ran out of time before arriving at West Point. On Monday afternoon I was standing on The Plain when I got this call on my cell phone. It was Bill Taylor: "Where are you?" Well, we had a meeting at the library in 15 minutes. I was operating on Point 5 of our agenda. He assumed we were on point six of the seven point agenda. We were both on time, just wrong days. Oops. We made a quick judgment call. I spirited Diana off to my family, and ran off to meet him for the first time. Shook hands. I said, "Bill: I thought the meeting was tomorrow". He said, "Oh damn, I see what you mean." Within 30 seconds he and I were in a car racing down 9W to the Bear Mountain Inn. Racing.

COOK Report: Where I saw you all charge in with the tool kit, patch a few things together and race off.

Hughes: That is exactly what happened. Our face-to-face intro was: "Hi. We are screwed." And then he reached for his cell phone called the committee and said: "We are going to be late. Can we see you in one hour from now?" Sure.

Two things happened. Bill and I saw in each other an absolute commitment to get the job done. I don't care if you have fifteen minutes or fifteen years. We hooked up and got it done, and saw that

we could work together under pressure. But the second thing was that when we went into the meeting with the committee and I went into my little dog and pony show, there were five people in the room. Images of their museum from 1867 started to render on that digital frame.

Bill had never seen the frame. He was operating completely faith-based. As it always does, the VG captivated. Bill later told me that the moment for him came when Joe Barth, about an hour into the presentation, turned to Bill and said: "I have never seen anything quite like this before." Bill said that is what grabbed me. I saw other people reacting to this. I had my own reaction. I realized that not only were you laying out usage, creativity, function and all that stuff, but more important was the fundamental response: "I have never seen anything like this before." That's when you know you have something. Watching other people react. Not just to the VG, but to the concepts behind it.

COOK Report: So Bill Taylor professionally, in technology marketing and consulting, could see this quickly as a system and in many different levels and nuances?

Hughes: Yes, indeed.

Grasping How VisualArts Systems Inc. Is an Example of a Business Model for a World in Which We Simply "Do" Communications **Highlights**

On August 11 *COOK Report*: You may be wondering what I am doing getting all excited about a photography and digital media business plan? What is going on here?

Retzer: End user-generated content is increasingly important in many modes - expect to see in healthcare the exchange of large images and diagnostics, let alone consumer-driven BLOGs, digital photos and movies. You're also right that people are now concluding that Hollywood as well as the big media are largely irrelevant and out of date. BLOGs are today sometimes more on top of stories than CNN, let alone the NY Times. However, as Andrew has clearly shown connectivity is still valued more highly than content.

COOK Report: I wanted to comment on Jere's comment on content and connectivity. Two small but not I think insignificant points.

This content (personal photography) is different from the content that is most discussed because it is OUR content and hence bound up with personal emotion.

Connectivity of course is critical and without connectivity David has no business model (at least it sure would not be the SAME one). People of course do value connectivity above content but I would argue that this is because connectivity is the entire basic under pinning for which you use this technology to begin with.

On August 15 **Martin Geddes**: Gordon: In your intro to David **Hughes**'s interview you write:

"I suggest that centralized content is running out of steam... running out of an ability to entertain and divert us... we are bored because we are objects - owned and manipulated by forces beyond our control. What transport is there that gives

something we can do that we are passionate about? About which we care rather than being passively entertained?"

In case you're interested, I felt exactly the same thing recently and wrote up my perspective here: <http://www.telepocalypse.net/archives/000750.html>

OPINION://KILLER MEDIA

Just got back from experiencing a particularly unpleasant, ugly and amoral Hollywood movie.

Whilst in eyes-closed Zen-like meditative mood half-way through, I joined a few dots in my brain. Here's a few not-so-random quotes from around the blogosphere:

Abundance has brought beautiful things to our lives, but that bevy of material goods has not necessarily made us happier. The paradox of prosperity is that while living standards have risen steadily decade after decade, personal, family, and life satisfaction haven't budged. That's why more people - liberated by prosperity but not fulfilled by it - are resolving the paradox by searching for meaning.

— **Daniel Pink via Evelyn Rodriguez.**

Live to Work and Work to Live

The social context of the relationship between workers and employers will shift from a livelihood basis to one that focuses on enhancing the quality of life for the individual. This trend will cause a broad redefinition of the implied social contract between individuals and organizations that has been relatively unchanged for over a century.

— **The ReFormation of Work at The Future of Work Weblog**

Microsoft should be trying to make it easier to use their technologies and to find new applications. Instead they are acting as if it is more important to limit their customer's choices in order to preserve the obsolescent business model of Tellywood.

— **Bob Frankston summarising Microsoft vs Customers and Itself.**

Where's the link? Well, let's start from the beginning again.

I found the movie offended my inner values. It's not the casual violence, the bad dialogue, the gloss. It was the lack of a core thing of beauty, of humanity — or the knowing negation or absence of such to highlight its true value. After all, there have been extremely good previous movies about professional assassins whose characters were violent and immoral, but where the director's message was profoundly moral and human. This movie wasn't nihilistic, it was just of no value.

I'm not well-read when it comes to media gurus, so I may be retreading over ground that greater minds have already mapped. But my feeling is that media and communications experiences can be broadly defined against two categories: cathartic and confirmatory.

Cathartic experiences are about escapism. They numb you to your real life. Playing hours of Tetris does this. Watching junk TV. You know the story. This movie was definitely cathartic.

Confirmatory experiences revive your sense of being. They don't hide reality, they re-enforce it. They confirm your humanity. If you find a movie about killing depressing, it's because it is depressing. Confirmatory experiences appear to my eye to contribute to a search for meaning and purpose in life, and to help

fulfill a desire for transcendence. We're intensely social creatures, and the most intense confirmatory experiences tend to replicate the "tribal fireplace gathering" model — we talk, we eat, we gaze at the stars, we wonder, we hope for tomorrow.

Some media can follow a dual role between catharsis and confirmation. Watching a TV program along with millions of fellow simultaneous viewers may initially be cathartic, but the shared experience and next-day office chat is confirmatory. Playing Doom all day is cathartic; a sophisticated Warcraft avatar working in collaboration with other people towards shared goals is at least partly confirmatory. It's like taking a drug to give you a different perspective on reality — separation of ego from your physical self and implantation into another body.

This stuff matters in the business world, even if we hate speaking in these terms. Billions and billions of dollars are being spent on networks and services that transform the mediascape. Broadcast TV fades in importance; "Me-TV" rises. Tools like Skype allow for new forms of social interaction, such as the family conference call.

I can't beat Hugh Macleod's eternal wisdom here:

THE MARKET FOR SOMETHING TO BELIEVE IN IS INFINITE.

— The Hughtrain Manifesto

People by their actions are showing an inclination for more human, meaningful, indeed spiritual experiences. And it's no contradiction in them paying to get them at times. The market for confirmatory experiences appears to be growing faster than that for cathartic ones. Or at the very least, you need to know your market and adjust your product accordingly. Just because you supply "tele-vision" doesn't mean you're at all delivering the same confirmatory experience via on-demand IPTV as you did on broadcast.

I don't think the designers of these new media products have given much thought

to the deeper needs of their customers. It's still almost impossible to, say, virtually meet up with other people after a TV show that you found exceptionally good (or objectionable) and create a confirmatory experience out of it. If communities dominate brands is true, it's saddening to see how few media companies make community formation an easy and rewarding experience.

I guess this is all old news to Cluetrainers, although perhaps they drew their scope too narrowly; it's not just markets that are conversations, it's the whole of life. And judging by today's experience — to use Bob's phraseology — Hollywood's cathartic product isn't just an obsolete business model. It's an obsolete business.

UPDATE: Want more evidence? Biggest blockbusters of recent years: Star Wars, Lord of the Rings, The Matrix. Common thread? A quest for meaning in each one.

UPDATE: One last thought. Cinemas don't make money — just enough to survive. The one we went to is part of a big mall complex. Footfall through the shops is what counts. Lessons for other media distribution methods?

David Hughes: Gordon If you want to post a link to an online Sigma SD 10 gallery to your list, this would work:

http://www.pbase.com/sigmasd9/david_Hughes_sd10

COOK Report: From my conversations with David - while he clearly intends to be inclusive on anyone who wants to participate, It is my understanding that he wants to open with STUNNING content. Look at this and you will SEE what I mean.

As he said in the interview, if what you put out there doesn't cause people to want to participate with it, you have lost.... (Well, maybe this has a "Cook twist" added in?)

Participate: verb - meaning to be grabbed in by a visual experience as described by Martin Geddes in his Killer Media Essay

just quoted.

How to Ask People to Think More Broadly?

Last evening I started a private dialogue with David **Hughes** and Bill Taylor – the Co Founders of Visual Art Systems Inc. I said: How do we ask people to think more broadly - to think about what these concepts tell you about content and commerce and wealth creation? And with what Values attached? How does the Internet change this? What new possibilities does it open?

What do these concepts tell you about the ways in which the internet can be thought of as an economic system as opposed to something composed of chunks that you make money on by controlling this or that chunk?

By coincidence on Saturday I watched the Aviator. I noted there that instead of an open system that allows edge-based wealth creation, we are stuck with Pan Am at the end of World War II. I was amazed when in the Aviator the Pan Am guy said we need one national airline to properly serve people. The point was TWA as **Hughes'** airline should not be allowed to compete with Pam Am. By the way I had no idea that Ernest Knee was Howard **Hughes'** personal photog for some seven years. (If you have made it through the interview you will know who Ernest Knee is.)

Talk about failure of imagination! Sixty years later we are going back to one telephone company that won't invest in anything unless it has a monopoly and guaranteed profits. What does a duopoly business model mean when we have the Internet for communication and supercomputers on every desk? What is wrong with this picture?

I think there is a hugely important question about content lurking out there. Right now the infrastructure is one where the Duopoly sees its role in selling communication and content. They want to be paid for both.

David **Reed**, co-author of a 1983 end-to-end Internet paper, said on this list in February: "Communication is just something you do. Its viral, edge-based, omnipresent all the time. It should not be something you pay for."

The devices are getting so cheap and powerful that, in theory at least, if you gave everyone the right kind of mesh radio, and they all turned them on, you could set up an edge-based infrastructure with no center that would allow for just "doing" communication. We aren't there of course.

However consider another way of viewing David **Reed**'s point. Give the communications away for free and be able to pay for the cost of the communication by seeing some service like social connectivity associated with the communication. Martin Geddes offers a case in point with his August 22 entry called Premium Audio. <http://www.telepocalypse.net/archives/000759.html>

The service he writes about is Last.fm. <http://www.last.fm/subscribe.php#features> Last.fm gives away its streaming audio over the Internet. It gives away communications. People don't pay to hear it. They pay for the added features listed in the preceding URL. They pay for the social networking features. **Reed** was right. You do communications and pay for add-ons.

There is a huge amount of photo gadgetry of all sorts but no one has put together a comprehensive systemic business model to enable people to derive value on a sustained basis from its use. That it seems to me is what you are doing with Visual Arts Systems Inc. (VASI).

Meanwhile, to handle content in a way that people can benefit from the new technology, the duopoly has to change its conceptual business model. This probably isn't going to happen. But suppose the name of the game were to have as much traffic, namely as much "content" flowing over the airwaves and over the fiber as possible? How would you do that? How might the reward structure be changed? Martin Geddes has some additional critical insights in his concept of

the directional business model. "Down," "across" and "up" and discussed more fully elsewhere.

What Business Model Might Encourage Transmission of Edge Based Content?

The question then becomes how do you charge for transporting content? Set it up as infrastructure like the interstate highway system, paid for as though it were electricity? Above all you don't micro-manage it and bill for every kilobit. How do you get people to want to transport content as opposed to owning the content and charge for the ownership and then charge again for the transport?

How do you build a reward structure that encourages the edge to be content creators rather than a reward structure based on the need of the center to control the edge? You think in a three dimensional matrix of business models that extend across all levels off the protocol stack and beyond. You travel to a realm where communications is no longer what is purchased as an end in itself. It is a facilitator in a business process environment.

Yesterday I talked with Arcady Khotin via Skype in his Helsinki office about VSAI This morning he sent me <http://edition.cnn.com/2005/TECH/08/04/spark.craigslist/index.html> and that page I found • Companies piggyback on eBay success <http://edition.cnn.com/2005/TECH/07/25/spark.ebay/index.html/>

With eBay, Craigslist and you have similar business model to that of VASI - one that I am ready to say is the only desirable business model .

OK now a thought shift. Look at this WSJ editorial http://online.wsj.com/article_email/0,,SB112381135995211644-I NjfoNmlaF4m5yoZn6HcaeJm4,00.html . The editorial says that energy ought to be fully divorced from the transmission system - which is what I thought the energy deregulation guys were doing anyway.

But the parallel in telecom is to divest the sales and service from the LEC's physical plant. (LoopCo becomes the physical plant to which LEC and other companies then have access to.) However, we are seeing that the LECs will fight this to their dying breath.

Nevertheless, the problem with the electric example is that with sale of the product divorced from the transmission lines, everyone invests in the first and no one in the second - namely the physical network. The physical network sits there and rusts and rots and we have the scenario for the Ohio-originated blackout of two summers ago.

Ultimately there should be something like a Level 3 that provides national high speed transmission to connect the community-owned infrastructure. What we have however is the opposite. Two mega-Bells - SBC and Verizon - each acquiring their own equivalent of Level 3 in the form of ATT and MCI. **Now as the American Business Model (bigger and centralized is best) progresses, we are putting our telecommunication eggs in one basket and the structure is becoming more brittle and failure-prone.**

You have a very serious situation with IOS vulnerabilities in Cisco routers to which Cisco called global attention by removing the technical presentation from the book the day before it was to be given at the Black Hat convention. And, yes, given the Cisco router monoculture, this absolutely could become an electronic Pearl Harbor if a worm went router to router shutting them down along its way.

The mega-LEC mergers mean that fiber redundancy will be slashed far beyond what anyone realizes. A large bank will have zero chance (unless it lays its own) of knowing what its physical fiber routes are. But we are so enthralled by the deregulatory mantra that we are blind to the consequences. Until our telecom system crashes the possibility of change is small.

What advocates of the wonders of the Internet say about it is true, but the Internet

is maybe 10 percent of the total if you look at the various private and semi-private IP networks. Hugely complex - and people's eyes glaze over quickly when they are asked to grasp the complexity.

We can't seem to get meaningful change. So where does that leave us? Should we collect examples of desirable business models? eBay, Craigslist. What else?? Skype also fits. Is VASI ready to be written peer-to-peer so you can thumb your noses at the world? I know a geek who claims to have a good P2P development system (only half joking) Does your business model fall into the desirable category? Of course! So what is necessary to find out or discover? What are you going to do? My impression is like Nike - just Do It!

Douglass Galbi's "Sense in Communications"

Geddes: To me, the Visual Gallery write-up just has to be read in conjunction with Douglas Galbi's classic paper "Sense in Communication." He explores the process by which we gain meaning and value from the otherwise meaningless melee of sound and color from each communication medium.

Galbi's thesis is that we have a millenia-old tradition of pursuing sensual media forms, and telcos often ignore or misunderstand what people value and will pay for. Galbi uses illuminated medieval scrolls as an example of the emotive sensuousness that people seek out. Skype's wideband audio codec really matters! And the dot pitch of your home gallery display is also critical. These are all inter-related.

Galbi describes his own idea of "presence" -- the sense of being there, tangibility -- what I call "Capital P Presence". He provides a framework for understanding different media and how they are inter-related (e.g. photography and telephony).

I can strongly commend the paper to everyone. It changed my outlook on communications just as much as well-cited

classics on the end-to-end principle and stupid networks.

The paper is here: <http://www.galbithink.org/sense1.pdf>

Stuart **Henshall** produced a summary which is here: http://www.skypejournal.com/blog/archives/2004/02/making_sense_of_php

COOK Report: Consider Galbi's closing page in what is more of a short book than a mere paper. "Compared to traditional, plain-old telephone service, new, rapidly developing, low-cost software gives many persons much more cost effective means to make sense of presence. In six months, a small software firm developed a peer-to-peer communication application that provides high quality, scalable telephony service integrated with text messaging and presence indicators. Persons who have no more than dial-up Internet access can run the software, called Skype, and communicate at no additional cost, by voice telephony and text messaging, with any other Skype user around the globe. The software can be downloaded for free on the Internet."

"As of October, 2003, only two months after the program became publicly available, over a million copies of the software had been downloaded.¹ Undoubtedly, in different places around the globe and irrespective of regulation in any particular country, many other groups will develop similar software.² Integrating images into software of this type can happen much more cheaply and much more quickly than the developers of 'PICTUREPHONE' could have ever imagined. Such software, in many competing variants with different forms of sensory integration, will teach many persons that plain-old telephone service is an inferior product for making sense of presence.

To avoid disaster, the telecommunications industry needs to shift from providing telephony to providing means for making sense of presence. In the U.S. in 2001, the telecommunications industry employed about 1.2 million persons and collected \$235 billion in revenue from end-users.³ If those jobs and that

revenue depend on providing traditional telephony service, they are at great risk. U.S. telecom industry leader Ivan Seidenberg reportedly recognizes the problem: What is behind Seidenberg's sudden series of audacious moves? [snip] [one major reason for FiOS is] Seidenberg's conviction that telecom, as we know it, is history. In its place will emerge what he calls a 'broadband industry' that will use the new, superfast Net links and high-capacity networks to deliver video and voice communications with all the extras, like software for security.⁴ Building and maintaining a highly reliable, universally accessible communications network takes dedicated workers, much capital, good organization, and effective regulation. For the value of that network to be recognized, it must be associated with an enduring good. That good is not telephony, video calling, information services, or pre-produced video on demand. That good is sense of presence. The communications industry can continually provide better means for producing it."

So How Does VisualArt Systems Fit In?

David Hughes: G'day. Gordon sent me this link to the Martin Geddes' blog and I read with much interest his disdain for just viewing "a particularly unpleasant, ugly and amoral Hollywood movie."

No need to repeat the quotes or examples. The idea is simple as stated in his manifesto. Cathartic and confirmatory. If I too see another car chase ending up barreling through a fruit stand, or some similar nonsense, well, I will be that much farther from throwing down some scratch to go to the theatre. I am not sure it even satisfies my base need for cathartic expression anyway. Which we did recently, just to get out after a recent loss, to get our minds onto something mindless. It didn't take much. We hit a multiplex theatre and stood in the lobby for an eternity conflicted over the remarkably bad choices we had until finally going to see, yes, this Willy Wonka Chocolate thing.

Core to Martin's thesis is should it be any surprise that the most popular theme in

cinema has been the search for meaning. What does that have to do with VisualArt Systems? Well, everything.

I've spent endless hours presenting. Presenting the Visual Gallery aka a fine art digital frame. To observe, to learn, how people react to it. To the content that is presented. To just the physical form factor of the device. Colors and textures of frames. Boxed vs. classical weighted frames. Timing, sequencing. I've vested tons of time understanding the skills required to render images digitally, from camera to frame, from museum wall to frame, from landscape to frame, all this. I acquired and have drilled deep into the Foveon technology via the great Sigma SD9 and SD10 cameras to accomplish acquisition and post-processing techniques. Just to see what works.

And it all collapses down to this single thing called meaning. Value has multiples of meaning for people. I realized very early in this mission to discover and understand what works from an artistic viewpoint, and what must work from a financial or revenue generating viewpoint, is that at the core of this fine art digital frame and backend technology must be the expression of meaning, and it must be as transparent, read "easy", as hanging a print on the wall.

I have aggressively sought out my critics. Top board members in major museums of the world. Coffee shops. Performing arts auditoriums. Fine art galleries. Alumni organizations. Local photography groups (tough crowd). My wife. My mother. Tough crowd these last three. But they get it and embrace it. It all forms around the expression of meaning. I know this is not deep. It isn't that difficult to figure out that creating appeal on this display device works when the participant gains meaning from it. And that is what propelled me into understanding how the technology must work inside the device, and then in terms of backend content management technology. I've been very fortunate to have deep skillsets in IT security, so secure transport is very easy to embrace. This directly applies to DRM (Digital Rights Management), perhaps the fundamental topic when talking to large collections.

So having faced multiples of audiences hence critics, the design laid out. Acquisition; content management; secure transport; fine art display. Each one of these has characteristics that can attain a fidelity in a type of media. Audio has attained this of course. Collapsing down these characteristics into the fewest number of dots that people have to press is important. Being able to present technology that satisfies this thing called meaning, simultaneously assigns value to it.

Value is Subjective and Individual

Value is of course many things to many people. The collection of old photos in the shoe box under the bed may have enormous value. My wife has just been devastated by the loss of a beloved kitty cat. She is spending endless hours creating memorials to her friend. One being expressed onto the Visual Gallery (digital frame). High value here. Value to someone is having the truest expression of a Vermeer collection that goes well beyond a book or a reproduction.

Value is Nascar and the Home Depot race car. Or Frank Robinson smacking a home run. Value to someone else may be the recollection of images at an alumni reunion. I know this because I just came out of a 75th reunion for the founding of my high school and I've received several letters since stating the single most meaningful thing was the expression of the history, including classes, on a Visual Gallery. Even the headmaster chimed in and recognized that with all planning for two years, my prototype frames stole the show, for three days.

Anyway, Martin's reaction to a crappy Hollywood movie is similar to my reaction to the crummy cultural expressions we've managed to build for ourselves, and this obvious search for meaning that increases with time. I see it constantly when I present. And this is what compels the technology inside this VisualArts System model. That there is great, vast value that resides inside the Ansel Adams Collection, the Denver Art Museum, Playboy (Hefner is a tremendous

archivist), the local mom and pop museum, my mom's shoe box. Tremendous value. Tremendous untapped value. The current technology is so remarkably unremarkable and unwieldy it hardly needs examination. I am well aware of the little multimedia boxes one can attach to their TV sets or computers. Yawn. And no, I in no way assume there will be a Visual Gallery in every pot. But it is painfully obvious from all the work I have done, the due diligence to understand how this model can scale into multiples of areas, that there is enormous, ENORMOUS untapped value. As Gordon aptly states, on the edge.

Interestingly, edge networking is in my blood. Years ago I created from A to Zed mobile Internet labs that went to the hinterlands to impart training. The only way to accomplish this was via edge-caching engines. I became deeply skilled and intimate with Squid for those in the know. Recently was Chief Technology Officer for a global edge-caching enterprise. I built remarkable IDS tools and core teams to watch our edge networks. We were extremely good at what we did. So the "edge" is where I have lived.

How to Create Value for the Public?

A few months ago I sat across from some high officers of a major museum of the world. Remarkably, we were in a board room that had their entire technology schema mapped out on a series of chalk boards. Not that this was terribly covert and secretive, but it was simple to understand what they were attempting to do, and what they weren't doing. Nowhere in their design did they solve creating value to the public. It was all inclusive. Natch. It followed the same museum culture that has existed for hundreds of years, that I am certain goes back to the ancient Library of Alexandria, and beyond. By the time we were done with our pitch, they not only got it, but were simultaneously suggesting they would wish to license back to our model, their collection. Zow. I get this over and over.

We have assigned value, utilizing the Internet, to content. Something that muse-

ums and collections and so on just can't get their heads around. They don't see the edge. They assume the mountain will come to them. Anyone look at the price of a barrel of oil today? Travel, all this is changing. I've become keenly aware that, for instance, museum attendance has gone down down down for the last 30 years. I hear it over and over from curators to boards that they know something has to be done to recreate sustainability. It is not just museums. It spans whatever the imagination can identify. Museums are a slice of a very large content pie. Anyway...

You Deliver Meaning and Participation

I take Martin's bad movie experience and thesis one step further namely, meaning, plus participation. Threaded throughout the VisualArt Systems Inc. model is the constant need for participation. Meaning plus participation are core to the model.

Also note this is a 50,000 foot view. I have not drilled down into the application layer discussions, or the network transport that contains multiple levels of crypto to protect via digital rights management via embedded mechanisms, digital watermarking, and so on. Easily done if this stimulates anything. Just wanted to add to Gordon's article. As we pressed forward, he of course embraced this model. It is complex, and it identifies these multiples of value streams. Untapped.

Bob Frankston: From Jeff Jarvis' BuzzMachine United States of Google August 15th, 2005

Om Malik, one of online's star reporters, finds that Google is buying up lots of fiber and he wonders why. Could it be: What if Google (GOOG) wanted to give Wi-Fi access to everyone in America? And what if it had technology capable of targeting advertising to a user's precise location? The gatekeeper of the world's information could become one of the globe's biggest Internet providers and one of its most powerful ad sellers, basically supplanting telecoms in one fell swoop. Not to mention newspapers.

Put this in your time capsule: Within a decade, if they don't screw up (which is quite possible, especially if the stay as cocky as they've become), we'll be seeing suits and hearings to break up the Google monopoly. The Googlopoly.

David Hughes: Google is very smart. A way to circumvent those Googlopoly lawsuits a decade from now would be to establish their networks as a public goods service, call it a Co-Op, whatever, and create the appearance of pro community. Like eBay. Except decentralized. Smart people, this Google enterprise.

Frankston: The reason for forwarding it to this list was the idea of buying up the capacity and making it available for whatever reason. That's a very powerful dynamic.

As to monopoly -- I hope that they will be benevolent like anyone who wants to do me too much good.

Dave Hughes: Not to be too cynical about it, if you are asking what does it take to "ask Americans" to think 'more broadly' - good luck. 'People' don't think collectively. They react. Especially to 'news' or "novelty" hyped by media. Leaders and articulate visionaries do the thinking. And attempt to convince "people" to agree with their vision and recommendations for implementation so that elected representatives feel the pressure, get on the bandwagon (if they want to be re-elected), and make public decisions that further the new vision. While those pioneers who not only "think" but actually risk "doing it" are the only real agents of change. While they also try to survive in a savagely competitive marketplace with its stacked deck (government regulation that always favors the past, not the future). There is a lot of Pollyanna in your call for "more broadly thinking" Americans, Gordon.

There is no substitute for actually going out and doing it to prove (by also making or clearly projecting a profit at it) that the new - or "broader" model works. For economic or social reasons.

But you are REALLY expecting something if you want policy to be driven

by "broader" thinking by the mass of Americans about telecom. Do you mean by "broader thinking" changing this unthinking (but fad following) "consumer" society, into a quality-content producer society? My son David's model? Where the telcos and cable who are trying to own it all - means of transmission AND top-down Hollywood-produced "content" - are just continuing the consumer unthinking nature of this society by "other means" - the Internet and broadband fiber to the belly button.

I am not so cynical that I don't think art, including great art, cannot change - even elevate - society from its mass and profitable (to vendors who ARE cynically pursuing only a profit, not bettering society, which is not and never has been profitable) preoccupation with the lowest common denominators - sex, violence, and the core of titillating future shock - "novelty." Which sells. Game Boys, Cars, broadband links, Viagra, media stars, and networks capable of supporting gaming, blogs, mail lists, celebrity fan websites, VOIP, spam, viruses, and destructive hacking.

COOK Report: I was trying to express the view, Dave, that if VASI launches in such a way that it gives freedom to edge-based content, then the general reaction of a content explosion at the edge will be a powerful enough signal to those in control to do what esoteric discussions on policy by us wonki headed theorists have failed to do. That is to get attention that THIS is where the demand is.

David Hughes: Couldn't agree more with many of the themes above. Joseph Campbell for instance, obviously read being Hero with a Thousand Faces. Same myths. Different day, or millenia. Whether technology are two rocks banged together to make fire or IPSEC to protect bank accounts, we're still bumping along except there are more mice in the cage.

Too much to answer to here, but one item sticks out. "Technology has been a mixed blessing. And as far as I can see from my 77 years of life observations, has not materially changed the Nature of Man, including Americans."

I've found technology, especially, has done one thing very well. It has done a very good job of reinforcing our differences. For years I kept hearing how communications had the propensity to bring us closer together as a people, as mankind. I think the opposite. It has replaced critical thought that is realized over time with diminished purpose to a state where we just muse over ideas if nothing else, and it has emphasized our differences.

COOK Report: Let me offer another rumination on Douglas Galbi's "Sense in Communication." Martin Geddes offered us in his message to this list an excellent sound byte summary of Galbi.

"He explores the process by which we gain meaning and value from the otherwise meaningless melee of sound and color from each communication medium."

"Galbi's thesis is that we have a millennia-old tradition of persuing sensual media forms, and telcos often ignore or misunderstand what people value and will pay for. Galbi uses illuminated medieval scrolls as an example of the emotive sensuousness that people seek out. Skype's wideband audio codec really matters! And the dot pitch of your home gallery display is also critical. These are all inter-related."

"Stuart **Henshall** produced a summary which is here: http://www.skypejournal.com/blog/archives/2004/02/making_sense_of.php"

COOK Report: The paper is 190 pages - so check out the Stuart Henshal summary (Stuart is still a list member BTW.)

The first roughly 115 pages of Galbi's essay are PRE 20th century. I spent quite a while on them but I eventually gave out. Nevertheless, it was worth making the effort. He presents hugely detailed and documented evidence of people's reactions to the use of pictures to capture presence and meaning.

One example that was intriguing was a recounting of the public reception of

Byzantine paintings of the Virgin Mary in the Court of Akbar the 16th century Moslem ruler of India. The excited public "ohhing and ahhhhing" as they looked at a new way of depicting human presence must have been the rough equivalent of bringing both an Apple 30-inch flat panel display and David's Visual Gallery in front of a group like the techie members of this list who had previously seen only CRTs and saying well what do you want on you desk or wall?

Another example was a long discussion of the Morgan Bible of Louis XI in 12 or 13th century France. The Bible was done mainly in pictures over time, text was added to it. The reasons for the addition were discussed. Galbi puts huge emphasis on the visual aspect of communication.

Now, as he brings all of this into the twentieth century, he gets REALLY good. and his final page that I posted last night pretty well says it all.

COOK Report talking now - The telcos have made their fortunes by delivering voice. Plain old scratchy, stinky, 3 kilohertz voice. That is gone now.

GONE

The Duopoly Must Think About "Value"

The telcos are thinking: "Oh my god - what do we replace this with?" Their imaginations are failing them. All they can think of is commoditized stinky Internet delivered with every restriction imaginable to keep them in charge and maintain their pre-eminence. Or stinky 20th century TV with the same objectives. Galbi reminds us that they are not inventive and don't think out of the box.

But he also suggests that if they would only get inventive and offer customers - by means of new services - commensurate value for the \$50 or so a month they spend on phone service that they would find customers willing to pay. Thus he provides an answer that I haven't seen before to the question of does the telco's revenue have to shrink by 85 percent?

The answer is not necessarily.

Back a few years the critics only answer was the telco can't survive on 15% of current revenues, therefore they have to die. "Telco's do society a favor and die" was the response of David Isenberg's Fail Fast "political party" in Sept - October 2002. As we have seen in the three years since then it isn't going to happen. Galbi's "study" is an important alternative way of looking at the issue. It points out that just because the cost of communicating in traditional ways plummets doesn't mean that what the public will spend will plummet accordingly - IF the telco says look we will give you MORE for the same number of dollars per month. THAT is a new piece - new for me anyway - to stick in the overall equation.

Galbi suggests that Verizon with its FiOS service has figured this out. Although there is plenty to complain about in the FiOS architecture, he could be right.

People are demanding MORE for their presence dollars.

People will have MANY more choices in how they spend them. VisualArts Systems Inc. could become a choice. On one or more of its various levels.

One of the classic issues now before the telecommunications business is "how do we wish to meet people that we wish to engage with or spend time with?" By use of the Dublin Core to enable formation of communities of interests around pictures VASI is enabling us to extend our presence into new communities of interest. The phone brings two people together - one pair at a time - they may or may not have much to say to each other. New Internet business models are being built around connecting groups of people who will have things to say to each other. VASI is one such possibility.

Should Verizon's FiOS service jump on the VASI bandwagon by saying we are going to offer you the best and smoothest pathway out there to services like us? Imagine if Verizon made sure that FiOS had great connections to eBay, Craigslist, VASI and similar services and

said ANOTHER reason to go with us is we are better connected to these entities that you our customers want. We won't stand in your way, we won't dictate to you where you can or can't go. And we won't try to box you in by building our own auction service or our own photographic exchange.

Verizon Better Realize Is in the Business of Delivering Capabilities for the Creation of Wealth

If Verizon could think creatively about enabling instead of standing in the way, It might find that a well run FiOS service would bring it more than mere survival revenue because just possibly, it would pull some customers away from Comcast

Cable.

Verizon does need to rethink the business it is in. It is not just connecting two voices to each other. And it is not in competing with Comcast to bring the same old tired TV programs to drugged and numbed viewers. It is one of giving its customers NEW tools and capabilities.

Along the lines of David the younger's reply to Jeff Jarvis's the United States of Google.

David Hughes: "Google is very smart. A way to circumvent those Googlopoly lawsuits a decade from now would be to establish their networks as a public goods service, call it a Co-Op, whatever, and create the appearance of pro community. Like Ebay. Except decentralized. Smart people, this Google enterprise."

How many people do we have people who, imaginations failing, can only look in the rear view mirror and recreate the past? Perhaps the future belongs to one who looks at the train wreck and, picking up the pieces instead of lamenting that the old business model is gone, sees how to put them together in new ways. There are sooo many tools and technologies out there. How do you try new combinations and put a clump of ideas together in a new basket that haven't been part of a single whole before? How do you ensure that with the basket you have created a systematic approach to a cross-section of endeavors that may never before have been seen as a system?

That is what Google is doing and, I think, what VASI is doing as well.