

2001 – International Symposium on Online Journalism

Panel 3: Looking Ahead

The future of journalism on computers and other digital devices

Moderator:

Shawn McKinney, Assistant Professor, School of Journalism, UT Austin

Panelists:

John Pavlik, Professor and Executive Director of The Center for New Media at the Columbia University Graduate School of Journalism

Janine Warner, Director of Operations, ZDNet Latin America, a CNET Networks Company

Fred Zipp, Managing Editor, Austin American-Statesman

Peter Lewis, Technology Correspondent, Fortune magazine

SHAWN MCKINNEY: This afternoon's first panel is called, Looking Ahead, the Future of Journalism on Computers and other digital devices. I will serve as the moderator. I'm Shawn McKinney with the School of Journalism here. I'm an assistant professor. And I'll just go from over here to over there, right to left, and introduce everybody and they'll make some opening remarks and then we'll have some discussion and question and answer.

The first person I want to introduce is Fred Zipp. He's the Managing Editor of the Austin American Statesman which is our main paper here in Austin and the central Texas area. He was the assistant managing editor and then he was promoted to managing editor. He's definitely a newspaper guy. And then right next to him is Peter Lewis from Fortune magazine. He was with the New York Times before that and he's a well-known writer of technology columns. And on my left is John Pavlik from Columbia University from New York City and he's involved with a lot of different things. Teaching new media and journalism and how do we put those things together in practical and also ethical ways. A little bit of both. And then finally I've got at the far end Janine Warner and she's online managing editor of the Miami Herald. Actually I had different information that says you're with ZDNet.

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JANINE WARNER: That's the bio when I was here two years ago. And Jeordan is here now in my place in that role. So two jobs later... I could help you with my more recent bio if you'd like.

SHAWN MCKINNEY: I have some information off the Internet today just in case and strangely enough I actually need it. Yes. It has a nice picture of you on there and it says that you're the director of Latin American Operations from ZDNet which is part of Cnet. You manage a team of journalists, producers, translators, and programmers who develop technology in Spanish and Portuguese. You've also written various books and like everybody here done quite a few things. And I'll let you go ahead. I'll let everybody sort of fill in the blanks as to what they do beyond that. And we're going to kind of go in a right to left order as far as people making their opening remarks. So we'll start with Fred on the far end over here.

FRED ZIPP: Good afternoon. To understand what the future of online journalism looks like from the Austin American-Statesman it might be helpful for me to review very briefly the succession of mis-steps we've made over the last 5 years at the Austin American-Statesman and at the corporate level at Cox Enterprises in our approach to the Internet. Cox decided in the mid 90s to set up a separate operating division within the large corporate structure - separate that is from newspapers - to run all interactive media. It's called Cox Interactive Media, not surprisingly. It was created in all the places where Cox has newspaper, television, cable, or radio properties, local websites. Most of them were based on the portal and directory model and Cox was very successful developing brand identification. In Austin, it's Austin360. It's very widely known and absolutely failed at doing journalism on the web. It wasn't really trying to do journalism on the web, much to our chagrin at the newspaper.

About two or three years ago, we began complaining more and more loudly that the future was receding rapidly into the mist and that if we did not move quickly to change things, we would lose our franchise locally to provide news on the web. It took us about a year to convince folks that that was right. We've gone through a fairly acrimonious divorce from Cox Interactive Media at this point. I'd say acrimonious - it's internally acrimonious. All is placid on the exterior. And for about six months have had our own website, statesman.com, which I think locally is significant largely because nobody knows it's there. It still is dwarfed I believe in terms of recognition by Austin360. It's a very crude site. We use shovelware to move our newspaper copy in the morning, pretty much untouched, onto the site. We occasionally, more than occasionally, we regularly twice a day update with news bulletins and we occasionally attempt to provide supplemental information to stories that we have published in the newspaper. And it's those last two functions I think that are the future of local news websites. That is to say, breaking news and supplemental information - information that expands on in some way a report that's been in the newspaper. Original documents, audio and video feeds of one sort or another that illustrate or amplify the report of the newspaper, I think particularly are of great potential value on the web.

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Significantly in the last 6 months when we've had this separate site the items that consistently get the most page views are photo galleries. Several month ago a deputy sheriff was killed in a drug raid and we promoted very heavily in the newspaper the fact that we were going to cover - I say very heavily, well not heavily, we had a tease in a story - but we did tell folks we are going to have a photo gallery up from the funeral within several hours. We made a point of making it clear that the photo gallery would appear before the evening news. That gallery set a record for page views by a factor of about 5. Five more than any other single page that we had ever posted up to that point. On the night of the Academy Awards, we in the day after, we did the same thing. With women's fashions, primarily, from the Academy Awards. A tremendous response to that. The other things that we find are very successful are breaking local news and sports. University of Texas football recruiting was a staple, a big driver of traffic to our site all spring.

So I think these are the indicators we're looking at. There are the signposts we see leading us to the future for a local newspaper site. Get news up quickly, expand on what you provide in the newspaper, drive people from the newspaper to the web by providing more information there. Then theoretically, the hope is, we might even get some people who go to the web to subscribe to the newspaper. Although there's not much evidence that that's happening.

For folks in journalism, I think the future is generally hopeful because the skills that work in print, I believe, generally transfer well and in fact without much additional training or skills to the web. In other words, good writing, I believe, good reporting is what will draw people over time to a local news website. It gets a little cloudy when we start talking about supplemental information, particularly when we talk about audio and video, and in particular video, because there we start encountering issues of personnel and the cost of putting audio and video on a website. It requires people with slightly different skills. The tendency of many newspapers that are trying this is to, for example, with video, is to give digital video cameras to newspaper still photographers and ask them to do both. It really doesn't work. It won't work. It will harm newspaper photography and we won't get good video out of it for the site. But I'm afraid at least for the near term, that's the way it's going to happen because nobody is making money and with the contraction in capital available and the continuing search for some business model that works, nobody wants to spend a whole lot of money who are specialized enough to do the job properly. So that's the danger I see for journalism on the horizon. That we will be asking people to do so many things that they can't do anything well. That's more than outweighed by the good news, which is what we do best draws people to our sites and let's just hope we figure out a way to make money off it sometime.

SHAWN MCKINNEY: Would Peter like to go ahead?

PETER LEWIS: Good points. I spend most of my time looking at gizmos and gadgets and trying to figure out how they're going to change the way that we as consumers of news and consumers of other products, how it's going to change the way we consume news and other stuff. I just have been acquired by America Online in the last few years, in the early part of this year. Our website at Fortune magazine

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is currently in sort of a holding pattern because AOL is going to be taking over most of our operations so I don't have a lot to report in terms of our online strategy and Time Warner. We'll get more information as time goes on.

In the course of my travels around, talking to analysts and trying to figure out where we're going to be a year or two from now, there's pretty much consensus that more people will gain access to the web on small, hand-held devices, obviously than they do through wired devices and personal computers today. That has profound implications for our industry, for the advertising industry and a number of other folks who want to deliver content.

How many of you carry a wireless information device today? As you look around, there are things like whack phones which are nasty little things with unreadable little screens and it's very difficult to get information. There are PDAs or personal palm type devices; that by the end of this year are all going to be enabled to gain information wirelessly. Laptop computers are probably going to go more and more toward wireless connectivity, activity. You're fortunate here in Austin, because if you go into a number of hotels or to the airport and you have a wireless Internet access card, you just flip it open and pull down stuff wherever you are in the airport, for example. We're seeing a lot of stuff being transferred to interactive TV systems like Microsoft's ultimate TV and some other things where the idea is that people are going to want to combine their viewing of various sports and entertainment shows along with the ability to grab news headlines and send email and do other stuff. Wireless web pads were an idea that was hot about a year ago, that people would just roam through their house. Instead of taking a newspaper with them, they'd simply carry a thing that's sort of the like half of a laptop computer and be able to gain access to news whether they're in the living or the bathroom or wherever they want to be.

In the last couple of months, we're seeing disturbing trend toward automobile manufacturers trying to put information access devices in the new model cars coming out this fall. If you think people talking on cell phone and driving on Mopac at 65 mph is bad, wait till they start looking at their news headlines on the dashboard. Fortunately, there's a big push to voice enable these kinds of things so that while you may pull down statesman.com, you can hit a button and have a robot read it to you, which will change the way people gain that information.

One of the more intriguing things that hasn't quite hit the horizon yet is what is expected to be a rise of public kiosks. That is realizing that things like cell phones are wholly unsuited for consuming large amounts of information. They would do it similar to the way some countries over in the Middle East did during the last big oil boom where they just post literally post television sets on corners and people can just wander by and catch the news or whatever programs are on at the time. We'll be seeing that as more and more broadband connections spread throughout the United States, especially in shopping malls and places where they'll be used for electronic commerce. You could also have just screens available - pretty much wherever you go - in restaurants, malls, and other places, so you can just tap in and check out news wherever you're at.

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The thing that disturbs me most about that is that people are shortening their consumption of the news and pretty much on these wireless devices all they get are headlines or maybe a paragraph or two at this point. So in terms of crafting the news stories, if most people are getting their access on wireless devices, then you guys are going to have to figure out how to condense the news into short nuggets and then provide drill down information - more access for people once they get to a big screen wireless device to get more of the story.

There's a lot of hype going on right now about so-called third generation wireless systems. That high speed wireless thing companies like Nokia and Erikson when I go over to visit them, all show these really pretty prototypes of a device that's about yeh big, almost all screen, it's voice activated. You don't have any type of input on it, but it delivers full motion video card devices. You do things like teleconferencing. You can get video feeds on these things so if you want to catch the latest news on a hand held pocket device you can do that. I'm more skeptical about the roll out of these 3G devices. They're already being deployed over in Korea. They're going to be deployed extensively in Japan later this year. The United States is a particularly bad place to do this because there are so many competing standards. But I expect within a few years, we're going to start seeing 3G devices. Then you get into a thing that Fred was talking about. When you're delivering news to these things and the public develops an appetite for video, then you have to have reporters who are outfitted like gargoyles with video cameras and notepads and all of this stuff in order to do the delivery of information.

Lastly, the roll out of broadband connections in the U.S. is continuing to rise - that's cable modems and dsl modems. At this point, with some little bit of satellite delivery. The important thing there is delivery of advertising in a new form that's going to help support the editorial efforts in here. Right now, as you guys probably all know that the banner ads and other types of advertising simply are not generating enough revenue to support the continued development of websites across the country. But once these broadband connections are set up and once users enter personal information, it becomes possible for advertisers to, with laser-like precision, target more extensive video ads to consumers over broadband network. So they will determine your habits of consuming the news and target the advertisers to you. So, for example, if you read a lot of sports stories, you're going to get fed a steady diet of fairly exotic automobile ads or tire ads or other things that sports readers typically show an affinity for.

So it's going to be an interesting thing. I think the personalization, as this technology allows the readers to enter in their personal preferences, you're going to see, finally, after all these years of hype, a lot of the daily need type of thing where your news page will be personalized to your interests. The newspapers will send out a feed and then the readers will selectively pull stuff down. So it's a real exciting area. There's a lot of hype going on right now, but it's going to be a fun couple of years to watch.

SHAWN MCKINNEY: Thank you Peter. Speaking of journalists, armed with technology, that's a good time to turn it over to John.

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JOHN PAVLIK: The sequence is good because I'll be showing you the AI Franken and Robo Journalist gargoyle that we've created at Columbia - that monster that everybody is afraid of. Actually, I'll show you something that looks like that, but that's not really what it is. It's actually a system that's a prototype for how we would deliver news. It's not really meant to be the prototype for how journalists would do the news gathering, although it could be configured in a fashion that it would do that. But that hasn't been the focus of our work.

But what I'm going to talk to you about is a kind of documentary that we've developed called a situated documentary. It's designed uniquely for a digital network kind of environment delivered to a mobile news connections somebody who has a wireless Internet connection. What I'll show is a system that's a hybrid that combines a whole variety of things that enables something called mobile augmented reality. But the system, in fact, doesn't have to be all of that. It could be delivered just simply to a palm that's a handheld or something like that.

It's a collaborative project that we've been doing with people in the department of computer science at Columbia. Steve Finer is the professor, a couple doctoral students Tobias Heller and Elias (inaudible) along with my students from journalism as well as other parts of the university. So this is really an interdisciplinary program of research that we've been working on since about 1996 and we're applying this idea of mobile augmented reality which is sort of a cousin to virtual reality, except instead of a computer generated environment that replaces your experience with the real world, it's a supplement to that experience of the real world. It augments it, it adds to it. So you still see and hear the environment you're in but we add additional information. We can imbed a multimedia presentation into the environment that you find yourself in and we can use that to tell stories or present information or it could be entertainment or it could be advertising. Our focus is on the journalism, on the telling of stories, that we're focusing on.

So what we're really trying to do - and we bring this into my class, called the new slab - we try to move beyond some of the traditional models of how storytelling works in journalism and develop storytelling models that are unique to the new medium environment. So we're not just talking about Internet, but that's certainly a big part of it, but it's really all kinds of developing technologies that we can use in some way to tell a story. So this semester, we're working with something called a 3-D fact and how we can use that in storytelling. We're working with a variety of emerging tools. It's not just web, but that's certainly an important part of it.

Here's the prototype from about 1996. It looks like you're outranking the system, but this is really meant to be for a presentation of information, not for news gathering. Although it can have that. It's got a backpack computer. It uses the global positioning system, the constellation satellite the defense department put up to locate things is now available because of the end of the Cold War - available to the civilian sector. This uses what's called a kinematic differential system, so instead of being accurate like a commercial product you get for \$100 that might give you 100 meter or maybe 50 meter or even 10 meter, this is accurate to within about a

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centimeter or two, so it's very precise. We have high speed wireless Internet access so it's like a wireless ethernet. So it's for high speed. We can do real time multimedia in two directions. It has a see through and hear through head-worn display. So you still see and hear the world around you but we can then overlay additional information. It could be text, graphics, images, video, whatever. It has a little head orientation tracker and that allows us to know where you are looking. It uses, for creating 3 dimensional imagery, it used to be sort of a closed system call codery, now it's using a more open system that's java 3D. Then of course, we have to have a geographic information system, a model of the world, so that we can synchronize the presentation of the information of where you are, where you're looking, and what you're looking at. Of course, GPS is pretty widely available throughout the U.S. and around the world, so that was a problem say, 5 years ago. Today it's pretty much solved itself.

And if you want to turn it into the AI Franken system you can add in the camera. You can add a 360 camera so the journalist can be shooting everything without looking, or you can have a microphone. Again, that's not really our focus here.

Where it's headed? The system weighed about 20 pounds now - by the end of the year they expect to be about 10 pounds and it's on that trajectory with Moore's law to keep getting smaller and smaller. It's a big bulky system now because it's a research prototype. It's not being mass manufactured, but it's for research purposes. We can interchange parts. Where it would be headed 5 years out, you'll have a device like a palm connected to any number of different kinds of plugins. In this case that's a real display that my colleagues in computer science have. It's just a pair of prescription glasses with a little crystal display built into it. So it can be unobtrusive.

Now that may be a little hard to read on that screen, but what you're seeing is what the view of the Columbia campus would look like if you were wearing this system. So you see this little virtual flag. The color of the flags represent different stories, alright? So the red flag is the one story my student produced. A situated documentary about the student revolt at Columbia. Blue flags represent a story they produced about the tunnel system - a half-mile of tunnels that honeycomb the campus and connect all the buildings. They play a part in the history of the university and the prehistory of the university. The green flags represent a story about the prehistory when this neighborhood which today is called Morningside Heights, back in the middle 1800s was called Bloomingdale, and where Columbia campus is today, it was the Bloomingdale Asylum for the Insane. Whether we're looking at the building with the dome with the columns, that's the main administrative building, that's Lowe Library today. Students took it over in the 68 revolt. Well, that's where the main asylum building was in the 1820s and 30s. I'm not saying there's any insanity that's still there, but the ghost may be behind, I'm not sure.

You see a little green cone and there are several different ways you can navigate when you're in this environment and you can also enter different modes to interact with the content. One of the modes is called visual select, simply uses your gaze to select information. That little green cone is like the cursor. And if you look at one of

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the flags for about half a second then it selects that, so you work relatively hands-free, in other words.

One of the stories I mentioned, the first one my students did was about this 1968 student revolt when some of the students with some area residents from Harlem took over part of the campus, protesting University plans to build a gymnasium in Morningside Heights. One of the first buildings they took over was the Lowe Library. That's where the president's office was. Here you see little pulldown menus the user can select any number of these little different multimedia segments that tells them about the beginning of the protest. What the students found when they took over the president's office. What they did there. What happened in the first clash between protestors and police. There you see a little bit of the clash. There was actually a professor who had both his arms broken trying to stop a police officer from hitting a student with a billy club, so it was a very violent confrontation.

Now move to the next story. This tunnel system. This shows you what it would be like for the user if we had more classical taste in tunnel exploration. Of course, the tunnels are off limits today. So my students, I told them, are not allowed to go down into the tunnels, but being good journalists, they went down anyway. They got a source to take them on a guided tour and they shot all this with a 360 camera so that when you're on the campus wearing the system, you can't actually go down in the tunnels. They're locked and closed off. But you have this tele-immersive experience. So with these situated documentaries, we can get people access to denied areas and tell stories that allow people to experience a denied area. My students are doing a project now that kind of deals with a denied area. The story of the Manhattan project which started on the Columbia campus. They still have the original psychotron on campus and it is based in one of the buildings. The students are producing that, so you'll walk the campus and you'll be able to get the story of this Manhattan project.

And then the prehistory when it was a Bloomingdale Asylum. They've seen an artist's drawing of the main asylum building which is today where the main administrative building is. What we can do is the way that we display the information can be done in multiple fashions. One way is to stabilize the display relative to you. Alright. So it can be a head stabilized view or a user stabilized presentation, so no matter where you look, the display stays synchronized to you. Another way in this case, is stabilized to the real world. So the overlay that you're seeing there of the asylum building is synchronized to where its position was in the real world. So as you look at Lowe, you see that building. If you turn away, that building stays, placed on top of Lowe. There's a little timeline you can move backward and forward in time, and then different buildings may appear depending on what year you choose. If you go forward to 1835, you'll find a building that was built in 1835 and then the audio, you'll hear a story about why that building was built.

I'm going to show you in a minute a little video that will give you a little more of an experience of what it would be like if you were wearing the system. Now, some future directions. Of course, increasing miniaturization. When we started 5 years ago and we had a system with a handheld and a wearable, hardly anybody was using

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handhelds or wearables to get on the Internet. Five years later, people walked around with palms or blackberries and it's pretty common. So I think that as technology continues to become more miniaturized and less intrusive as multiple devices merge into single devices, I think, again, we'll see more adoption and use and more potential for journalists. I think the idea of stamping things with GPS will be very important. Imagine you're a reporter and you're covering a story. Maybe you're photographing a mass grave and you want to prove where you were and when you were. Where you took that picture. Well, putting a GPS stamp which shows the exact latitude, longitude, altitude and exact moment in time, that could be useful to help authenticate what you're trying to prove in your story.

So that I think is an important element. Everything we've done so far has been on the campus, but with Internet too and advances in wireless, we're looking at two projects that will take us off campus. One is a collaboration with people in Missouri who have developed something they call virtual Harlem. It's that Harlem Renaissance in the 1920s. We're looking, we've applied for a grant that would allow us to tell that story in a situation documentary so you'd go to Harlem and be immersed in this story of the Harlem Renaissance. Another is about what's called Seneca Village, which was the largest African American settlement of property owners in Central Park. It was in Manhattan but it's where Central Park is today. And the city used eminent domain in the 1840s to take the property away and build Central Park there. Archeologists, anthropologists, geophysicists have uncovered artifacts still in the ground in Seneca Village. We think it would be a wonderful story to tell through this situated documentary.

Commercialization. There are companies who are already developing this kind of technology and some news organizations. In Europe something called Urban Jungle Pack, which is already a real application of this. In Argentina, Clarine is working on an application, so things are starting to happen. Let me just show you a little bit of video here.

So as I mentioned, this is something we're doing collaboratively with the people in computer graphics, user interfaces lab which is in the computer science department. Steve Finer and Tobia Seller are the main partners on this. First, we'll just show what it looks like. Somebody is wearing this version from about a year ago. This is the 20 pound version. It's a GPS receiver, the backpack, everything else. Very photogenic. You know when the New York Times did a story about it, it was great. If it was unobtrusive and fit in your pocket it wouldn't have been much of a story.

Now you'll see here the display I mentioned. There are two ways we display it. One is sort of the user stabilized perspective. The other is world stabilized. So you see the little green cone, that's user stabilized. The virtual flag, that's world stabilized. Those are 3 dimensional. If you walk closer to those flags it's going to get bigger. If you look at it for a second, the green cone snaps onto it and that selects it. Everything in here is all three dimensional. The models of the building are all three dimensions. So if you walk to them they'll get bigger. If you walk around them you can see them from other sides. Everything is an actual three dimensional model even though may look flat out here.

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The flags are what guide you through the story. If there's a flag behind you that connects to a story, the cone will lock to the right and that indicates that there's something behind you that's important to the story that you're navigating through.

The flags, once you've selected them, they wave gently. That lets you know that there's a multimedia that's going to begin as part of that story. Now there is audio. I'm not sure if we're set up for audio. There should be audio for this segment coming.

This video was on the handheld.

This will give you a little snippet on the tunnel documentary. And that's shot with a 360 camera so you can turn around and it's as if you're down in the tunnel able to look in any direction or move forward or backwards.

And this one gives you a little bit of the Bloomingdale story. The buildings that you say, those are three dimensional. So if you moved closer, you can see them relative in their position, etc. Of course now, this is specifically situated documentaries, but the reality is that this could apply to breaking news. Imagine doing interactive crime maps. So you move it through your community and find out where recent crimes have occurred. Or use kind of like a meta view of your city to see where news has been reported. What parts of your city have never been reported or just simply are ignored by media. Or imagine a variety of other kinds of things. Could be interactive culture maps. There are a whole variety of ways. Or think about the use of peer to peer computing. If a million people have palms that have Internet access wirelessly, then most could become all contributors to a real time journalism where we're seeing our community in an entirely different way.

SHAWN MCKINNEY: Thank you John. Now let's go ahead and turn it over to Janine for a bit more of an international perspective.

JANINE WARNER: That was really interesting. You know one of the toughest things of working in this industry is that I get impatient. I want that stuff now and I want it to look better and I want it to be faster and I want it to be a pound a half at the most.

I start getting sleepy about this time of day, so I'm going to make you all play a game with me. Which means you all get to get up out of your seats now. That's why I'm standing up and I'm going to invite our panel to come down. I promise not to embarrass you too much, but you do have to stand up. You can do a little stretching as you get ready for this. You need a little bit of space around you and you also need a partner. So I encourage you to turn to the person on your right or left who you think is going to laugh today. The person you think has the best sense of humor on your right or left and pick that person as a partner. If you find that there are three, that there are odd numbers, you can group up in groups of three.

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OK, so everybody's got a partner. So face your partner. Make sure you get acquainted. Good. OK. Now this is where it gets interesting. Now I need you all to turn back to back from your partner, turn back to back. No touching. What I'd like to do is to change one thing about your appearance. Just change any one thing about the way you look today. Just take a minute and change one thing about the way you look.

OK, now you can turn back around and compare notes. OK. You all did that so well, we're going to play again. You can do this again, back to back. This time I want you to change 3 things about your appearance. Now keep it decent. It's a mixed audience, but you can change any 3 things about your appearance. I'll give you 2 minutes this time.

OK. Can you hear me? Alright, so I want you to turn, compare notes, how'd you do? You guys are good at this game. OK. So you're so good at this game, that we're going to try it one more time. Back to back one more time. Now this time, I want you to change 7 things. You know what, this is the point in the game where every audience rebels and they say no way. You can all sit back down now and I'll tell you something about that game.

JOHN PAVLIK: I was ready to do it.

JANINE WARNER: Well, John, I really appreciate your playing around there. You know, I have played that game now in many, many different places. I've played it in several conferences around the U.S. I've played it in Latin America in Spanish. I've not played it in Brazil yet, but my Portuguese is getting there. I've played it in India when I spoke at Internet world India. Everybody rebels at 7. Nobody can do it.

But what I find fascinating about that game is not that you all stop at 7, but why. And that, that game is a metaphor for change. I open with that in conferences where I talk about the future of the Internet because the Internet is all about change. What we can learn from that exercise really gives us some things to draw from as we look at change in our work and in our life.

So the first observation that I would make is that most of us think of change as something that is very private. We're supposed to be very secret about it. We're not supposed to show it to anybody else. So I had you turn back to back but when you turned around you were probably kind of trying to trick the person, like what did I change. Will they notice? Will they see?

We also think of change as a loss. When you are greeted, you must change something, the first thing you think is what am I losing because of this change. What am I giving up. So the common reaction - people take their jackets off, they take their shoes off, they keep their watches off. That's why I have to say keep it decent. That's part of why when I say 7 you all rebelled. Cause you didn't wear that many layers of clothes today because you didn't know I was going to play this game. But change is not just about loss and that's an important thing to keep in mind as you change things.

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The most profound observation, though, is that change is not something you have to do alone. While you were standing there figure out - what was that, undo your belt buckle - I thought that was pretty clever. She was laughing at you. But it didn't occur to either one of you that you could have traded things. She could have given you her name badge, you could have given her your ponytail holder. Look around the room. All of you are going through the same kinds of changes as you deal with your technology, as you deal with new ways to present your newspapers online, to work in online journalism. You're not alone. You're in a room full of other people going through the same changes. The best resources around you are your colleagues and your peers and your coworkers. Our natural human reaction that change is private and we should keep it secret often keeps us from that greatest resource which is other people who can help us get through that and have new ideas and share things to make that possible.

The last observation that I'll make on that is that clear directions are crucial. Those of you who are in management roles, and if you're a worker and you're not getting good instruction, keep this in mind. I told you you had to turn back to back. But I didn't say you had to trick your partner. I also never said you should trade things. When you got to 3 and you were having trouble and I said 7, I might have gotten you to try it if I'd given you that suggestion. If I'd said, now trade things with other people in the room, you might not have rebelled when I suggested now we have to change 7 things. So in your online operations, merge with a company, separate from the company, try new technologies, keep those things in mind as you're dealing with change. Cause that to me is the toughest and the most exciting thing about working on the Internet today.

I'm going to sit back down and make a few other comments. But thank you for playing my game.

I learned that lesson from Jeordan. One of my favorite quotes is learn from other people's mistakes. You won't live long enough to make them all yourself. So how many of you have worked on the Internet for at least a year? Your primary source of income. Your primary focus. 2 years. 3 years. 4 years. 5 years. A couple of us left. Most of the professionals in this room who work on the Internet are doing jobs that didn't even exist 5 years. My job didn't exist 2 years ago. Our Latin American operations has only been around for a year and a half. When you look to the future and you think about 5 years, 10 years from now. This morning we heard about the past of newspapers, we heard about the present. Where are we going to go from here? We have such a small, short history, that it's just starting to evolve. And I'll talk today more about general changes and technical innovations that I've seen and ways that people work together than specifically about online journalism. But I encourage you as I share some of these anecdotes to think about what are the implications about your work and how are those kinds of things, how are these devices that are students are learning at several universities now around the country that let you interact and use GPS and see things on a screen at the same time you see the world. How is that going to change the way we deliver the news in the future.

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I know a lot of you have palm pilots. How many of you have seen the palm pilot cell phone combined together now so it's all one device? How many of you have seen Flash on a palm pilot screen? The technology macromedia's flash animation technology. I think you're going to see a lot more Flash in the future. Flash lends itself to the Internet cause it looks good. It resizes perfectly. It deals with a lot of limited bandwidth issues and it gives you that multimedia experience that we've gotten spoiled with in TV and movies. I believe the Macromedia flash will become much more common and it's already becoming a common thing on the Internet. So if you're not using that in your newspaper sites today and you're not at least learning the basics of that in school, I would tell you that's something you should be looking toward.

There's a really interesting analogy between the film industry and the Internet industry. If you look at the history of filmmaking, when they first started making movies, they had these big heavy cameras. It took a long time before it occurred to anybody to pick the camera up and move it around and not just film the play. But it was still a long time that the people who made movies were the people who knew how to use cameras. And if you look at the Internet today, most of the people in the computer industry in general who are doing interface design and figuring out how stories should be told, are still the ones that know how to use the camera. We're still evolving to a place that we have people like Stephen Spielberg in the film industry and it seem ludicrous to us today the everyone who knows how to use a camera can make movies like Stephen Spielberg. But in technology interface design, most of the people making those kinds of decisions are still the cameramen, not the directors.

We're starting to see that change in newspapers. We're starting to see that change in multimedia companies. But I think one of the biggest transformations will come from taking that level of decision making about how you script a story and how you tell a story up to the level of somebody with a creative overview and now an individual reporter with a camera and a notebook and a tape recorder. I don't think that's ever going to be a realistic way to tell a story. I think we're going to keep having lots of different people working on those stories and we're going to have more and more need for directors to pull it all together.

Excuse me, I haven't slept enough in the last several days, so I'm losing my voice.

On the Internet, one of the biggest challenges is that we're working on team-based projects and I think in my observation of newspapers, one of the struggles they have is that newspapers are inherently linear. You start with a writer. Their story goes to an editor. Then it goes to copy editor. Then it goes to someone who does page layout. Then it goes to the prepress and then somebody else delivers it to my doorstep. But in web projects, it doesn't work that way. You need a really diverse team of people all interacting at once. So on any one story you might have a programmer and a Flash specialist and a writer and an editor and somebody who knew how to convert the photos in Photoshop. You might go talk to marketing about how the last story did, because you got feedback right away. It's a team-based project and it's a very different approach to producing stories and information than is

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traditional in a newspaper. I think that's really on the things that newspapers have to think. When you talk about transforming a newsroom, it's not just about continuous news. It's not just about timeliness. It's about working in a team. And not an individual who does 10 things. But 10 people working together to produce the best story.

To make the possible, computers have to get easier to use. I think one of the biggest limitations that we see today is the computers are still difficult, they're unreliable, and it's really a relative recent phenomena that we've tried to make computers easier to use. If you think back to the days when computers took up a whole room, it was ludicrous to think about using any of that processing power to make it easier to use. Today, having voice recognition and graphical interfaces and something that you can talk to in your car, seems a very reasonable use of computer processing power. But that wasn't possible in the past.

So think about the fact that in the future those changes should happen much more rapidly and much more dramatically because they're a priority today in the way they have not been in the last 5 or 10 years. So I think we will see easier and more accessible computer devices in a lot of places.

Nicolas Negroponte, in his book *Being Digital*, actually suggest that computers are really quite stupid. They don't even know if you're sitting in front of it. My computer dings every time an email message comes in whether I'm there or not. That's kind of wasted energy if nothing else. He would go on to argue that your computer should have a personality because it would make it easier for us to deal with as humans. So imagine that in the future if your car were stolen, it might call you up and say, "I'm at the corner of Lincoln and 3rd and can you come get me?" And it might even sound scared. Because that's what you'd expect if your car was stolen.

I witnessed an interesting debate a couple years ago between somebody from the computer industry and somebody from the auto industry and the computer person was being very arrogant and said, if cars had evolved the way computers did, today we would all drive Porsches that go 200 mph and get 1,000 miles to the gallon and they'd cost \$750. And the guy from the auto industry said, yeah, but you'd be driving down the freeway 120 and for no apparent reason the car would stop dead in the middle of the road and your kids would disappear out of the back seat. And that's really the key because all of us who lost data - I would wager that everybody in this room at one time or another has lost something that they put time into in a computer, that just disappeared. Those gremlins took it, ate it, whatever. That's a very personal experience. That's a very big part of why we're afraid of computers and why especially novices get very intimidated. Unpredictable things happen. We would not put up with that level of liability in our cars. Well, okay, when I was a college student I had a car that was more like that, but today I wouldn't buy a car that would break down on the freeway for no apparent reason.

I expect that in the not so distant future I will get to my car and I will talk to the computer. I do look forward to that day very much. I can imagine getting into my car and saying, computer, where is the best place between here and my office to buy

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chocolate éclairs. My assistant really loves chocolate éclairs and she's been so great lately. I'll like to stop and pick some up. My computer will generate a map and figure out the best way to get there. Probably even place the order so I can just pick it up when I'm there, take care of whatever online payment method I've specified in my preferences and I'll pick it up and surprise my assistant in a relatively effortless way. While I'm driving into work I might say, OK computer, I'd like to hear not read while I'm driving, I'd like to hear the top three headlines from the Miami Herald, the Wall Street Journal, the New York Times (I'll throw you a bone) and Journal de Brasil cause I am going to see Professor Rosental Alves and I want to know what his former newspaper is covering these days in Brazil. And of course, I'll get to hear that on the way. Although I will tell you as you think about how you will deliver news when people like me get that, is that one of the things you'll have to compete with is that I still like to sing in the car so I probably am going to want to be listening to music as much as I listen to headlines. So they're going to have to be pretty compelling or I'm going to go back to singing in the car because that's the only place that I get away with singing.

But voice recognition software is getting much, much more effective. It's had a bad history. But it's starting to get usable enough that people I would never have expected are using it. One of the contractors on my house told me the other day that he's using voice recognition software. I thought, a plumber, that's pretty sophisticated computer use. Well, it turns out that he can't type and in the chat windows on AOL he was getting really embarrassed because people would send him little notes and it would take so long for him to peck out his response that people thought that he left. It's just not a very effective way to flirt online. So he researched voice recognition software and he found one and he found that it was easier to teach himself how to speak carefully to his computer than it was to learn to type. And now he's not embarrassed to chat online. I would never know he didn't know how to type.

But those are the kinds of things are starting to change technology. It's striking to me that one of the primary motivations - and if you talk to market researchers about why people change to new technologies - the early adopters through the gadget freaks like some of us up here. We'll try anything just it's cool and we're interested. But when you look at that second and third wave of people who adopt new technologies, the biggest motivation is not that the new thing is so cool, it's that the old thing is so frustrating or so limited. So if you want to know what's going to be cool or interesting in the future on the Internet, look around today at what sucks. Cause that's where people will make a change. I started looking up phone numbers on the Internet. I don't know if you have this experience, but if I dial 411 from my home phone I get "We can now help you anywhere in the 50 states." In the back of my mind I'm thinking, yeah, but I want Miami. "That listing" If I say anything. If you slip and you say oh, I mean, no... Now you know you've blown it. But it's still going to ask you the next question cause it's just a stupid automated voice recognition system and then you're going to wait even longer while a human comes on and actually tries to decipher what you were saying and actually tries to help you.

In the meantime if you ever try this as an experiment and you're online at the same time, I wager you can find that number faster in almost any online yellow pages.

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Even the ones powered by Zip 2 at most newspaper sites will beat the 411 service. I've proven it. You know when they first came out with yellow pages on CDs. Do you know how they did the data entry? I use this as an example of the globalization of labor and the world. When they first put U.S. phone books on CDs they went to China and they hired clerks to type them in. Now if you can imagine a more boring job than typing in the U.S. phone book, especially if you don't speak English. As you can imagine accuracy is not real high. But labor is really cheap. So they had every phone book typed in 3 times. And then they wrote a script that took the best two out of three matches. And it increased the accuracy about 82%. It was cheaper to have the phone book typed in 3 times in China and run that program, than to try to do all that data entry here. Those are the kinds of things that move globalization in the labor market. That's why early CDs with phone books were so cheap. That's also why not all the things that you want to find are there, or updated as well as they could be. But we're moving in that direction.

Working for CNet has really given me a different perspective on global companies. Our headquarters are in San Francisco. As the director of Latin American operations, our offices are in Miami which is a good position for Latin America. But the servers that we use are actually in Cambridge and my database system and my contact management system is in Germany today. Because we got lumped in with the international, European group somewhere along the way. I'm in the process of moving that back to our continent because every once in awhile the cables over the ocean causes trouble in production. We're trying to deliver stuff to Brazil which is a few hours ahead of us. But you start to look at companies that have operations. We're not in 25 countries in 16 different languages. We're getting better and better at sharing ideas. So I've been looking lately at the contact management system that was developed in Asia. Cause some renegade techs over there came up with a better way of presenting stories online than the story server system that we've been using for awhile in the company. Now I've never found anybody who likes their content management system. I get this question a lot at conferences so I don't recommend Story server, I don't recommend Future tense, I don't recommend Open pages. Rosental is rolling his eyes because he's had some experiences recently. I don't recommend Hucker ware for those of you who have ever dealt with Knight Ridder. That's another example of where technology really doesn't do what we need yet. And I get excited when I see technologies like XML and there are a number of companies investing huge amounts of capital and technical resources in developing systems that let you share news and articles across different countries, across different companies, in different ways of developing that, and I think that's going to make it easier for us to partner with each other and share information, make the interface and the user experience more seamless in the future. So I'm counting on that helping. But as you're thinking about how you tell stories and how you work with partners, be thinking about what are the technologies that are coming that are going to make that better.

And again, on the global scale, looking at how many companies are using programmers in Russia today, Univision, which is the largest U.S. Spanish television network now has a group or programmers in India that are developing some

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technology for them for use here in the U.S. Again, I think we'll see more and more of that.

I'll leave you with one other example of a new technology that I particularly enjoy because it really made me question all kinds of assumptions I was making about where technology was evolving. This is actually something that MIT has been working on for awhile. Some researchers at MIT came up with this radical concept that paper was actually a pretty darn good invention. You can read it in all kinds of light, it doesn't have much glare, it's highly portable. If you developed paper today you could probably make a million bucks, right? So they said, what's the limitation of paper? The limitation is that you can't change it very effectively. It lacks the interactivity of a computer screen. So someone at MIT came up with a way to encapsulate ink. You can reconstitute it on a page. So some of the early experiments they've done as long ago as a few years ago, they came up with a printer where you could reprint the same page over and over again and have different things on the page every time. That's makes the environmentalists happy. That's kind of cool.

But what really got my attention was when they started experimenting with radio frequency. That you could change those molecules remotely. So imagine that you would lay your newspaper on the coffee table at night and when you came back in the morning it would have changed itself. I'm not sure that digital paper is ever going to replace computer monitors but I love hearing examples like that cause it makes me sort of stretch my own view about where we're going and realize that things that might never have occurred to me before may be what I do next year or the year after or the year after.

You know, when radio came along everybody said that print was going to die. When TV came along, everybody said that radio was going to die. I'm not completely sure, I think the Internet was supposed to kill everything. How many print publications are there today about the Internet? A lot, right? And you know what? Radio never died either. In fact, today we have more radios than before we had TV. We have radios in our cars, we have radios in our offices, I have a radio I carry in a fanny pack when I go jogging. That's where the Internet is going. So think about how you're going to deliver news and how it's going to impact the way you work when the Internet is in all of those places too.

Thank you.

SHAWN MCKINNEY: Thank you Janine. At this point we'd like to open up the floor to questions.

JANINE WARNER: Great question. I would tell you that the same phenomena that's happened in the U.S., have happened all over the world. The U.S. started out with a while bunch of companies that thought they were going to do everything for everyone and Yahoo and AOL and MSN are consistently in the top three. When you look globally, and Latin America is one of my specialties, again, there were several portals that were early outs. Several companies that thought they were going to dominate. Today the ones that look like they're likely to be in the running in the end

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- Telefonica purely because it has so much money. They call their online operation Terra. Star Media was the first to market and is holding out really hard to stay in the running. They're trying to do some smart things with advertising. We'll see where they go. They don't have the backing of the others. They're a pure online play, but their first market status has helped them. AOL and Yahoo are making efforts into Latin America. They're going to have some advantages because of the strength they have here. UOL in Brazil far and away dominates. If you want to learn about the Internet, go to Brazil. There's the 10th largest technology market in the world. They have more online banking and more innovative services that we have. They have phenomenal growth rates in a number of places in that industry. Really interesting market. Latin.com specifically, I don't know of anybody who is trying to salvage that. I think there have been many good efforts online to provide news and information that have not been able to make it financially. There have been many good examples of that in print as well. The big players are showing the same advantage on the Internet that they show in other parts of the world. It is my hope as somebody who really believes in the power of information and really came to the Internet because of the potential for more sources of information to be supported by it, it is my hope that in the future we will see more of those fun, sustainable ways to keep their information going.

JOHN PAVLIK: I had one thing about space. Reformer.com is a Spanish language newstype that's worth a look. It's a quality new site out of Mexico City linked to Reforma, the newspaper. One thing they do, mentioning Flash, they've done some really incredibly well-done flash animations for news stories. Like the volcano that erupted just outside of Mexico City and other stories.

JANINE WARNER: A student asked earlier about looking in newspapers in other parts of the world. You know, Singapore is one of the broadband capitals of the world. If you're interested in looking at where things are going, definitely look beyond the U.S. borders for websites.

PETER LEWIS: OK. I want to cite Fred and ask Janine. Fred certainly spoke plainly about the missteps of his parent company, my former employer, in the online space. And I wonder Janine if you could talk about the short-term future and the prospects for Knight Ridder - whether it can undo the thing that it has done that certainly seems to have created a wall between its online efforts and good work.

JANINE WARNER: I have to preface this by saying I no longer work for Knight Ridder.com so that disclaimer aside, and any many reasons for that, I have been in an earlier panel somebody said, I think the moderator said, There's a consensus in the room that it 's all about everybody coming back together. That's not what's happened at Knight Ridder. That's not what's happened across the industry, but I think Knight Ridder is probably at the other extreme of that spectrum. What I have observed them doing - well, I lived through as the director of the Miami online operations was separation. It was a very painful and difficult separation. It was already hard to get attention from the newsroom. It was even harder when the publisher knew that any money we made didn't help him with his profit margin. He lost all incentive. What they are doing now is pushing their online staff to what they

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call, the city.com, the regional portal model. So Jeordan's priority is Miami.com, not the Herald's website. Although obviously that's a key component of it. And, in fact, they now are moving more people back into the newsroom who have to produce the newspaper. So they're asking the newspaper to produce the news site and the online staff to produce the regional site. Will that model work? I don't work there any more so I don't have a personal stake in it but I'll be intrigued to see how it comes out. I think there's some merit to the regional sites, but I think our keynote speaker at lunch made a very good point of not losing the value of the brand you've already built. And I would definitely say that the strength of existing media companies is what they've already done. And if you leave that behind, you put yourself at far greater risk.

AUDIENCE QUESTION: I have a question. My name is Craig Harrell and I'm a doctoral student here at UT and up until this time I worked at Hoovers Online which is here in Austin. And this company has recently expanded into France and Germany and into the UK and Spain to translate some of the information that they have on companies as well as to expand the news coverage that they have to cover companies in other countries. So what I'd like to hear about is how the role of translation comes into play and how online journalism will be responding to that in the future.

JANINE WARNER: Well, translation is a big part of what we do. About 50% of the content that comes out of ZDNet Latin America is taken from our U.S. CNet and Zdnet sites and translated into Spanish and Portuguese. We do try to do more than just translate. We often supplement or augment the coverage. Then the other 50% we produce locally original content with staff in Miami and freelancers throughout the region. Translation is extremely expensive. People grossly underestimate. Translation services in the U.S. charge about 20 cents a word today. You can get more competitive if you use individual freelancers. You might get down to 10 or 11 cents a word.

I hate to say again with the globalization, I'm seeing translation services in Latin America charging 5 cents a word, 6 cents a word. U.S. translators have a lot of reason to be worried right now about job security. Because it's very easy with the Internet to send translation abroad and more and more you see that. It's more than translation. Another intriguing thing on global employment. If you call tech support at most companies today, you actually get somebody in India. Because it's cheaper to cover the long distance phone calls than to pay U.S. labor costs for tech support. Most people in India, or enough people in India speak English, that it make that viable. When you get translation, though. Translation software still doesn't work. The accuracy is pathetic. Don't every open yourself up to liable suit by automatically translating all of your content. There is a new thing being experimented, I think again at MIT with voice translation phone service where it repeats back to you what you said, which I think is pretty smart. Because one of the problems is, if I say It's a piece of cake in English. I mean, it's easy. In Spanish you'd say, 'es un pedazo de pastel' and that wouldn't mean it's easy. In Spanish they would say 'estan comido' which means "it's bread already eaten" which doesn't make much sense to English

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speakers. But it has the same kind of meaning. That's the challenge of automated translation services. Computers are not good at making judgment calls. People are.

The only thing that I've seen come close to helping fill that gap is that service where you say what you want and then the computer repeats back to you, like it translates it into the other language and then it repeats back to you what that translation would be in your language to double check. Do you mean it's easy or do you mean birthday cake? So there's some steps in that direction but we're still a long way.

JOHN PAVLIK: I would just add, though, that I think that for one thing a user can certainly do the same thing with Altavista or with the new search engine, with the translation on Google. So sometimes if I want to translate and I'm not planning on publishing what I get there but I kind of want to see what it says, you can test some of the translation yourself. You can post your own content, have it translated in the other language and just have it retranslated back and you can see how it comes back to you. My experience has actually been that about 80% of the time it comes back pretty good. Now I would say, just like with speech, we're still not there yet. But you compare to where it was 5 years ago and so it's light years better. At Carnegie Mellon they're doing a lot of good work too in language translation.

JANINE WARNER: I have seen if you have textbooks and things that, computer manuals where there's a lot of repeated terminology there are starting to be some automated systems that assist human translators and they get faster. I can talk more about that after if you're interested.

AUDIENCE QUESTION: I'd like to ask Peter when video on the web will be high quality to just about everyone. It's something that's frustrating in my job on a daily basis is multimedia on the web. But right now it's just not good, video in particular. I'm wondering what your prediction is for when it's going to be high quality and when it's going to be widely accessible to Joe Blow at home.

PETER LEWIS: I've actually seen some pretty good video on the web but the bandwidths that you're required are pretty much beyond the reach of your average consumer. Most of the people who are gaining access to the web today are still using dialup modems and it's just impossible to get decent video, reliable video. Even on a dedicated system, for example, if you watch a DVD straight out of the drive on a Macintosh computer today, you still have this jerky motion every once in awhile. It's nothing that we would put up with on a television set, for example. When you see the demonstrations of some of the new 3G systems on little wireless devices, for short small window video, they can do a pretty good job of that stuff. For displaying and actual television feed or movie on demand or something like that on PCs, it's going to be several years before. Unless you buffer it overnight which some people like Blockbuster are starting to do trials here in Texas, where you request a video feed before you go to sleep and then it's sitting there on your hard disk recorder when you wake up in the morning.

ROSENAL CALMON ALVES: I want to ask about the language of storytelling, the techniques of storytelling. How do you start do you see journalism going about

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telling stories in the next few years. Because I think lots of nonlinear narratives that we tried in the last few years including using video, didn't work. So how do you see this moving ahead?

JOHN PAVLIK: Well, I think that in terms of most mainstream news organizations, I don't see the storytelling likely to change very significantly very rapidly, because I think they're fairly conservative in their approach. I think we'll see some experiments, though, probably at not the big places as much as maybe some smaller places - places where maybe they're willing to take a little more risk. But I think one thing you'll see is more use of interactive content - specifically, say, 3 dimensional models that you can put on the web. I mean, one of my former students works for a firm that did the Sony Ibo dog and you can go on the web and you interact with it. It's not journalism and I haven't seen really any news organizations that are experimenting with that kind of 3D content, but we're teaching our students how to make some of those interactive 3D models to illustrate news stories. So whether some artifact or object or something that's a part of the story, then you model that in 3D and these things are very small. You can model a pretty sophisticated looking object and it might be 100K, so it can be quickly accessed even over a small phone modem and then the person using a standard computer can manipulate it and turn it around in three dimensional space. Then you can annotate things. You can start to make interactive three dimensional graphics and a person can then explore an object. The same thing with video so you can start to layer content into video itself and annotate things within the video. Additional multimedia elements. Do explanatory things. So I think that's some of the opportunities that allow people to explore rather than tell them, they can sort of explore it.

JANINE WARNER: Remember: the right information at the right time to the right person is kind of the key to most business success and storytelling success. I think adding multimedia or trying to come up with more complex ways to tell the stories is a great experiment in school at this point. To just sort of, what's possible and starting to think about it. But until you start to start to have multiple uses - I want to be at the store with the device that lets me compare prices and qualities at that moment. I want to be able on Christmas eve putting together a toy for my niece the next day and have the 3D instructions available to me immediately. Where are there - and in fact I saw that at a demo about 5 years ago in California. It was one of the virtual reality examples. What struck me about it was not that it was cool to see online, it was very primitive 3D, but that it was instructions for how to put a table together made a lot of sense to me. So when you're thinking about how do I tell a story in more interesting way ask yourself the question and how is somebody going to use this in a way. So if there's a hurricane coming to Miami, an interactive map that shows me whether it's headed to my house or not is really valuable. But if there's a traffic accident on the freeway. Being able to see a replay of the crash may or may not matter to me, even though it's possible. So where is the information really relevant and valuable, not just what's possible.

JOHN PAVLIK: I think also along those lines we'll see a lot more satellite imagery. Probably everybody saw one of the first really news uses of satellite image was the

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plane in China. But I think we'll see a lot more of that cause I think journalists will get a lot more familiar about how to use satellite images in news stories.

AUDIENCE QUESTION: This is sort of an abstract look at thinking about and I'd be curious about both for the vision for the US and also the U.S. compared to Latin America. It seems as though what we think of as the Internet is approaching really fragmenting, segmenting and stratifying pretty wildly. Because if you think about radio, we had pretty standard FAM for a long time before it began to segment into FM and lots of different channels. Same way with TV before it sort of segmented and fragmented. But with not too much time at the Internet already, we're already beginning to see segmentation even here, but much more, say in a place like Latin America web, no access no knowledge of no immediate interest in. Others who have, sort of, if you will, dial up level access to text, etc. Some people in Latin America are still using videotext. A little bit of email at midnight everyday for the exchange of email. Other people wanting to rush straight into high bandwidth uses with all kinds of audio and video. And I'm kind of concerned both about the industry side - how you maintain some kind of coherence in coming up with something that you call Internet news or online news. You know, something that will be - you're trying to hit half a dozen moving targets from something that hits a blackberry to something that goes out in high bandwidth to something that hits conventional dialup modems all at once. While a lot of people still aren't playing at all. So I'm kind of curious both about the industry implications of that - how you try to something fragmented and its applications, how that begins to stratify us all the way to Austin digerati at the airport doing everything to the person in east Austin who's not doing anything or the comparable numbers of a little smaller at the upper end and bigger at the lower end in say Sao Paulo or Santiago. There seems to be an industry fragmentation and a social stratification in this that seems it's hard to image how the professionals are going to approach this. I'm curious, how are the professionals going to approach that?

PETER LEWIS: If you look at the history of different media, whether it's newspapers or television or other things, there's always been that sort of stratification. If you look at South America there are villages where they haven't seen a newspaper in months and months. But every night, somebody goes down and cranks up the power generator so they can watch Baywatch while they have power that evening. They may also get their news that way. I think we're going to see an explosion of media access through technology in places like China and Latin America and other places in years to come as the technology becomes cheaper and as countries make the commitment to provide access to their people. And so, as far as the technical bit about how do you pump out a signal that's going to be accessible by everything from a PDA to a laptop computer to a video screen or something like that, I don't know enough about that.

JOHN PAVLIK: Well, one thing, you mentioned XML before. Reuters has developed newsML which is sort of a cross platform content management system. So I think that newsML presents the opportunity to make that compatibility seamlessly represented across platforms, whether it's on a screen, on a desktop, or on a hand held or phone. I think in terms of where people will get their news in this

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stratification question, I think that in all likelihood people will have complex ways that they'll get their news. I think the people will go to the portal type arrangement and they'll get news that would be from syndicated sources like Reuters and then I think they'll have a few sites where they want to get customized news about their portfolio or they want to get health news or they want to get about their favorite sports or entertainment. So I think people will have the combination. I think most people want to continue to have a sense of what's going on in the world. They'll also want to have their own specific area of interest.

JANINE WARNER: I agree that XML will help with that and that being able to find ways to deliver content that works across increasing differing kinds of ways, you'll see it is something that we have to get used to in delivering content. But you asked a bigger question and we could talk for a few days after this if you want on that topic, about whether the Internet levels the playing field of information access in the world. The Internet doesn't make the world a better or worse place. It just exacerbates all that is observed. But it does open up some opportunities that have never existed before and that's what got me interested in the Internet in the first place. The fact that you can seek information about when you want it based on what you want, not just what happens to be on Baywatch or CNN. Gee, I'd like to know the best farming techniques in this part of the world. Or I'd like to know about this medical procedure because my mother just got sick - becomes a motivation. One of the biggest motivations I've seen in Latin America for people going online is how easy it is to talk on the phone to people in the U.S. So you see kiosks in Peru that charge \$1 an hour. Well, compared to a phone call, that's a phenomenal deal. So \$1 might be a lot if your salary is \$5 a week, but compared to what you would pay for a phone call, that may be a very legitimate expense for your family.

So I think we will see more and more people going online in places like Peru and throughout Latin America and Asia. In India I was amazed. Every time I went around another corner on a tuk tuk there was another billboard about the Internet. By the way, anybody who's not been to India, my favorite thing was the tuk tuk. It's like a taxi. It's got 3 wheels. It's like a motorcycle and a Honda Civic combined. They call the tuk tuks because that's the sound they make. They go tuk, tuk, tuk, tuk. You take them all over town and they dodge cows and buses equally effectively. But there is an Internet kiosk on every other corner. No, the majority of India is not going to be online next year but more and more people are getting motivated to learn about technology because it means jobs and more and more people are using the Internet to communicate because it's so much cheaper. So again, think about where the Internet improves and makes things better because people are frustrated. And I think a lot of emerging countries may surprise us in how quickly some of their populations come online because it's such an improvement over what they have today. We don't have that same motivation in the U.S. Things are pretty easy here comparatively.

AUDIENCE QUESTION: Hi. My question is to you as well, considering this point that you made. Basically, the Internet is the medium that we experience throughout the world. It has originated almost at the same time. Everybody can access the Internet all over the world. It's a global phenomenon in a sense. What's really interesting is

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the fact that all these different technologies come to be part of the world and you don't necessarily have to have the latest technology to be able to develop something that's totally unique to a user. But at the same time, we've come a slowdown. If I were to relate this to journalism, newspapers even in the U.S. have been tremendously adverse to online editions and in I had been to an AP conference sometime last year, and a lot of these really small newspapers from really, really small towns made their presence in the conference. I was surprised to see almost everybody had the online version of the newspaper was just, because everybody else was doing it. Not that it's a form a revenue or anything like that. My question is, at the end of the day the Internet's great phenomenon and stuff like that, and because of the slowdown we're heading now I mean suddenly newspapers who would have wanted to go online and do a lot with it are moving backwards and feel that maybe revenues and resources should be allocated to a totally different phenomenon. I wanted to know your view on this. I mean, we talk about these fantastic things and we wish we could do this, we wish we could talk to wall pillars and they would talk and stuff like that, but really, where are we today?

JANINE WARNER: When it all comes down to it, it's a job when I get out of college, right? I think the move actually and all of my experience is how the move of bringing online into the newsroom is really smart. I think that it should just be another component of what newspapers do, the same way other traditional brick and mortar businesses are figuring out that Internet is a good component of their business, but a nice complement to it. I also think and I'd love to have other panelists talk about local online. I've been at many online journalism seminars and conferences where people talk about local and go local and how important local is. One of my theories about that is that we haven't had the local critical mass to support that. So a lot of small newspapers went online a couple years ago when there really weren't enough people in their geographic area to support them. But as we move toward a model where there is greater concentration of online access in smaller areas and we deal with the reality that most of us shop within a couple miles of our homes, local is going to start mattering more. I'm going to want to be able to go online and find a gardener now the street, not one in Seattle. I'm going to want to book an appointment with my dentist online because their system is accessible through a database connected to the Internet, and newspapers may be able to help my getting in touch with those kinds of services at a very local level in a way that I think might sustain newspapers much more than they are realizing. So when you think about what's going to happen when I can get into my car and say, where can I get chocolate éclairs. Think about what can newspapers do that really capitalizes on what they do best. They know their limits and they know their local community. That does give a lot for newspapers surviving online. I'd like hear you guys here.

FRED ZIPP: Properly at a symposium of this sort, folks are very excited about capabilities of new technologies. We've talked a lot about the tool but it's not the tool that people buy. You've got to remember that. It's the story that they buy. That's what they want. So if you want a future on the Internet, you've got to learn to tell the story. Now the technology may change the way we tell a story, but I think in the near term even that isn't going to happen. We will be telling stories fundamentally

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the same way my guess is for the next 5-10 years at least. So learn to tell stories effectively and that's how you'll make sure you have a job. What a newspaper or a website ought to do in order to bring value to peoples' lives is help them make sense of their lives. So figure out how to do that.

JOHN PAVLIK: Can I add one quick thing about local, a little different perspective. I think that local is the franchise for local news organizations online or any other way. But I don't know that it's necessarily any more just to serve your physically local audience. I think that if journalism organizations and journalists are smart they'll look for the stories in their local communities that are great stories and tell those stories so that they might be potentially drawing audience that goes beyond their local geography. We're already planning to do that and I think there's a lot more opportunity for new sites to do that. The economic success depends I think depends on a lot of what we heard at lunch with this growth of this Internet economy.

JANINE WARNER: That is a challenge. When we were at the Herald, you know Jeordan said 20, 30% of the traffic comes from Latin America but if your sales force is selling the local mom and pop business, how do you value that? How do you put a value on it? So it's not just attracting an audience, but am I attracting an audience that I can serve effectively and then am I finding an advertising base to support that. That's a complex model on the Internet.

SHAWN MCKINNEY: OK. I'll close it up now and thank my panelists Janine, John, Peter, and Fred. That was an interesting discussion - kind of a peek at the future. And then we'll go on from here as Fred was mentioning, what is it that we should be teaching journalism students to do or to be able to do? Thank you.