The Creative Force Behind the Comcast Experience

An Interview with David Niles, Niles Creative Group

by Margot Myers, Platt Retail Institute

The 25 by 80-foot digital signage display in Philadelphia's Comcast Center shows a flyover view of the city on its 10-million-pixel LED screen

The Comcast Experience in Philadelphia has become one of the top tourist attractions in the city, drawing more visitors than the Liberty Bell. This extraordinary digital signage installation is 25 feet tall and 80 feet wide. The world's highest definition, 10 million-pixel LED screen dominates the lobby of the Comcast Center, which was designed by noted architect Robert Stern. The Comcast Experience is the creative vision of David Niles, founder and president of Niles Creative Group in New York City. He and his staff managed all aspects of the project for their clients, Comcast and Liberty Property Trust. This included the engineering and design of the infrastructure, production of all of the content, and development of a unique content delivery system. David Niles shared the story of the Comcast Experience in a recent interview with the *Journal of Retail Analytics.*

JRA: How did you get involved with designing the Comcast Experience?

Niles: The very beginning of the project dates back to 2001. A company called Liberty Property Trust (LPT), which is a building developer in Philadelphia, decided they wanted to put up a 52-story office building in the center of Philadelphia. They did not have a lead tenant at the time. They had a concept, they owned the property and they wanted to build a building and develop it.

The person in charge at LPT, John Gattuso, had heard about my work in the show business area. John asked me to help develop the Sales Center concept with a signature film that would sell the idea of this building to future tenants – the benefits of the building, the benefits of being in Philadelphia, etc. I created a 12-minute, high-definition video for them.

LPT was very happy with this project we did for them and it obviously stayed in the back of their minds. When they broke ground and started construction of the

Comcast (cont'd.)

building with their new anchor tenant, Comcast, they changed the design of the building a little bit to meet Comcast's needs. Comcast, close to the end of the construction, decided it wanted to do something kinetic in the lobby. They contacted a big US audiovisual firm to undertake this project. They got into preliminary designs and concepts but they weren't very pleased with what they were getting.

John Gattuso called me and told me that they had an AV company that was proposing a digital sign for the lobby and asked me to take a look at it and give him my opinion. The next day, I invited him and the vice president of Comcast up to my studio in New York to talk about it. In my studio, I had some LED walls running and some other things. We discussed it for a few minutes and they got very excited about what I was talking about. So, that's initially how it started.

JRA: Did Comcast and LPT have a clear idea of what they wanted to accomplish?

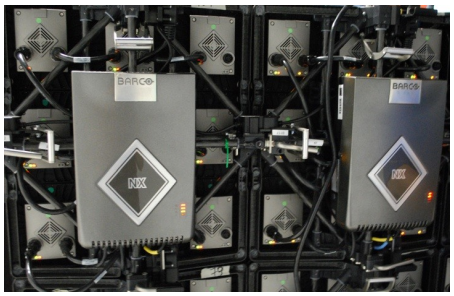
Niles: No, but they knew it wasn't working out with the first company. They were using the wrong technology; the concept was pedestrian and not very exciting. I was invited to come down to Philadelphia and speak directly with Brian Roberts, the CEO of Comcast, and we made an initial pitch of a concept based on what they were asking for. This was a joint venture between LPT and Comcast and each had objectives for the project.

LPT wanted to create an urban center where one did not exist. The lobby of the Comcast building leads to a very large train station and a concourse with stores, a plaza, restaurants, and other things that are all part of this new "urban center." They had a desire to create something that would bring people to this place.

In addition, Comcast has about 5,000 employees working in the building. What Brian Roberts wanted was to create an exciting environment to stimulate the employees of Comcast. So those were the two issues that were put on the table first.

This is a Robert Stern building. It's a signature building. A lot of money and time went into designing the incredible atrium and lobby structure. What we didn't want to do was stick some piece of electronics in there that is just "a screen" and turn it into Times Square.

We proposed a number of creative concepts and each of them brought a different set of technical challenges. To display photo-realistic imagery in broad daylight requires certain technologies that had to be developed. The reason for the photo-realism and certainly, to be able to do this in daylight, is to make anything we do in there disappear and blend in with the existing architecture. The challenge in making it photo-realistic is that it has to be high enough resolution to suspend disbelief and bright enough to compete in broad daylight.



Connected Barco NX-4 LED screens make up the Comcast Experience display surface.

This is where we put our engineering hats on because we needed to go out and research, or even help develop, that technology to achieve that first goal. We went to five or six manufacturers of LED technology and we tested and evaluated everybody's potential product. Eventually, we helped Barco, the company that had the best product at the time,

develop a new product that would be suitable for our needs. Anything we put up on the screen has to be photo-realistic enough that there would be no filter. In other words, if we put up a nature scene or a NASA image, it is so sharp that there is no sense that you are looking at a screen of some sort. That's part of the magic of the installation.

We created a concept based on the idea of the expected versus the unexpected. "Expected" meaning in that environment you could expect to see time, temperature, news, sports, and other subjects that would make sense. But that wasn't amazing or intriguing enough, not something that will stand the test of time.

So we asked ourselves what wouldn't be expected and how we could use that to help this have longevity. That's when we came up with the idea of four different worlds: behind the wall, on the surface of the wall, a couple of feet in front of the wall, and way beyond the surface of the wall. Within those four worlds, there are 12 different types of content; we call them 12 bins or 12 moods. In the life of that lobby during the day, the audience changes almost every hour with variables like the number of people going through it, who is going through it, why they are there, and what would be interesting for them to experience at that moment. The combination of the four worlds and the 12 moods gives us tremendous variation in what is been seen at any time.

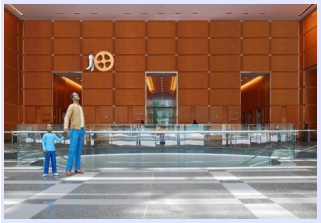
Then, the last challenge that comes in is that typically this kind of installation involves a 16-to-18-minute loop of content that plays over and over again. Brian Roberts did not want this, and neither did LPT, because they didn't want it to get old. They didn't want it to wear out so that after two months, everybody has seen everything and it just doesn't live anymore.

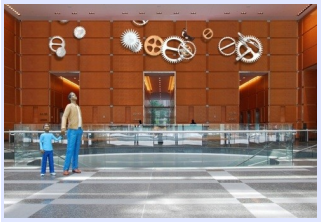
We looked at it and told them we thought we had a way of creating content that would be ever-changing and evergreen and it does it all by itself. We understood that it would be impractical and unrealistic to produce 18 hours of 10 million-pixel content 365 days a year, both financially and even physically. This is a lobby decoration, not a television channel or a movie theater.

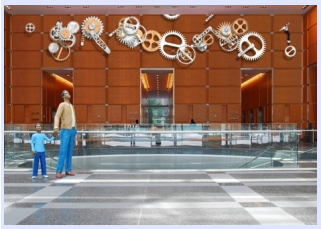
The cast of characters rides across the wall on a giant pencil.

JRA: What were you trying to achieve with this project intellectually? What was your vision?

Niles: The vision comes from our strong background in show business, really in telling stories. One of the golden rules is that people connect to people; that's the first thing that happens. So we created this idea of a permanent cast of characters who live in these four different worlds. They are actually Broadway dancers and acrobats who we carefully cast to look like the "everyman." These are characters that are drinking coffee, reading the newspaper, doing things that ordinary people do. They're the kind of people you'd find going in and out of the building, people who you'd look at and say, "they're just like me." Each one of these characters has a distinct persona. So as you see them do different things at different times, you







Pieces of a giant clock roll into place on the wall to announce the time.

begin to understand who they are. It's almost like a little soap opera. They're constantly doing things in these four different worlds, whether it is opening panels to expose a waterfall or doing a dance number. But it's always these repeating characters. That was the first element of the concept.

The second element of the concept was to create this idea of ordinary people doing extraordinary things. These people who deal with things in these four worlds, all of a sudden they're incredible dancers or they're amazing acrobats when they come down a mobile or a rope ladder or start swimming through the space. It's these little things that make them fun to watch. We realized early on that we're looking at a new kind of audience, one that's in motion. People who are coming to this place are basically moving from the entrance to the elevator or coming out of the train station to go out of the building. But these people are what we call a 20-second audience. We were looking for things to intrigue them or add wonder or make them smile, all without yelling at the audience and saying, "You've got to watch me" or "You've got to pay attention to this." Because we also felt that would be an intrusion on a private time in people's lives. It's there, it does something nice for you, and you walk away from it with a good feeling.

JRA: Is there certain content that always plays at the same time or is it random?

It's not random at all. It's a random design. Very early on in the project, there was a fear that the cost of creating content would be so prohibitive that this would be impractical. That's where we designed this idea of making it practical and keeping it fresh. The way that it works is there is a certain number of signature pieces or signature scenarios that are always the same, like the clock, and that's just the way it is. They are fascinating enough in the way they happen that they are considered evergreen. Then there's a whole percentage of content that comes from a number of interchangeable pieces that can create an enormous number of permutations from families of content that are ever-changing. Specifically, the five-day, Monday through Friday content is different from what is shown on the weekends because it's different people moving through the building for different reasons. So there are two big distinctions in content there. During the day, from 6 a.m. to midnight, every hour is quite different based on who is in the lobby and why they are there.

The content delivery system runs the programming at the Comcast Experience without human assistance and has multiple redundant servers to avoid any downtime.

We created a content delivery system that we designed and built that watches, listens to and is programmed to change all by itself as the day goes forward. For instance, at 9:20 a.m., it's perfectly logical to run a 30-second stock market scenario but that makes no sense at 4 p.m. when the market is closed. People don't care any more. There are things we do at certain times during the day, that are specific to the day, but don't necessarily occur at the same time every day. If you work in the building and arrive at 8:30 a.m. on Monday, you might see a one-minute nature scenario. If you come in at the same time on Tuesday, you won't see the same nature scenario but you'll see something else similar in feeling. Same thing for Wednesday, Thursday, Friday; in fact, you won't see the same thing for many, many months, but you'll see something in the same family. So even though we created almost 90 percent of the content and loaded almost all of it into the content delivery system more than a year ago,

we still get calls from people saying that they've seen something new. If you sit in the lobby for two or three hours, you'll see some things repeat, but the average viewer won't see the same thing repeat for many months.

JRA: You said that the system watches and makes changes in the content. How does that work?

Niles: We monitor the traffic in the lobby, how it moves, what time of day it is and our programming is set up to interact with that. That's the artificial intelligence thing that's going on. If we were looking at one of our one-minute scenarios, say the nature scene, it would be prohibitively expensive for us to produce 365 of them. So, we produce a smaller number of incredibly beautiful nature pieces and then there might be a group of quotes from famous Philadelphians, and then there are dozens of "character tasks," meaning that our cast of characters is doing various things like dropping down on a rope ladder or riding a bicycle across the scene. When we take a nature piece, add a quote and a character task – and put all of those options into a "scrambler" – we can have hundreds of permutations of the scenario. Those combinations are determined by the content delivery system on automatic pilot every day, all by itself. No one has touched it since the building opened. We pushed the start button in June 2008 and this system has been making decisions and controlling the content on its own without a single moment of downtime.

JRA: How often do you add new content?

Niles: The original request from Brian Roberts was to load in all of the content and then walk away from it. Since then, Comcast has asked us to add some content, for example, the Holiday show. We just loaded in a summer show, called Summer Magic, that's similar to the Holiday show. As Comcast requests, we've integrated in some third-party content from some of their cable partners, like Discovery Channel, to run on the wall.

Three cameras are assembled on a rig to capture high-definition panoramic images for use at the Comcast Experience.

JRA: What is the process you and your team go through to develop content?

Niles: There are several different kinds of content. The easy part was that we were able to use extraordinarily high-resolution images (like those from the Hubble space telescope). For the nature and life sequences, in order to create images that could be viewed at their native resolution on the wall, there is no single camera that can capture 10 million pixels. So we created a panoramic camera rig with three high-definition cameras so we had enough resolution to go across the entire wall. The other scenarios get much more complicated because they are combinations of computer-generated images at 10 million pixels with live action video shot in high definition. But those aren't scaled up to 10 million pixels because they only take up a small part of the wall. Every time you see one of characters doing something on the wall, that's footage that was shot in high definition but they're only six-feet tall

on the 20-foot-high wall so you're seeing them pixel for pixel exactly as they were originally shot.

We own all of our own equipment in our studio, so if you're seeing things that are larger than their native resolution, it was probably shot with the RED ONE camera, which is a 4K camera. If you're seeing slow-motion footage, you're looking at the Phantom camera, which is a 500-to-1000 frame per second slow-mo. For other content, you're looking at the Panasonic HPX 3700, which is a high-end, high-def camera.

The real challenge is that no one has ever made 10 million-pixel canvases. We call it our car wash process. We shoot our original footage, then I go into the edit suite and make a mock-up of what it's going to look like up on the wall. We're decreasing the resolution on everything to a high-definition canvas so we can position everything, color-correct it, edit it and make the finished scenario. Then, all of the data for how I've positioned things, how big they are, what color they are, etc., is a file that goes into our compositing room. There, we construct a 10 million-pixel canvas, which of course you can't play anywhere because there's no device that will play it. We then use all of the data to re-map all of the components and re-composite it onto this 10 million-pixel canvas. That is then divided up into six parts, which are now high-def images that are loaded onto six servers, and those servers are playing back what you see on the wall. You're seeing six high-def sections.

JRA: Is there a back-up system for those six servers?

Niles: The way the content delivery system was designed is it's actually three and a half content delivery systems. There are 27 servers running. It constantly goes back and forth between two primary systems depending on what the content is. There is a third, totally independent back up system that bypasses the first two systems entirely and can run its own content for days, if necessary, while we go back and repair the primary systems. So the wall is never off. Even between midnight and 6 a.m., it's running content that looks like the maple-paneled wall.

David Niles (left) and John Dietrich coordinate the shooting of a character scenario for the Comcast Experience.

JRA: Was all of this work done in-house?

Niles: Yes. This was a team effort and a lot of people worked very had on this project. We are the systems integrator, the contractor, the engineering company, everything. On the content creation side, the majority of the scenarios are my concept. I direct. I am director of photography, editor and animator. My co-director, John Dietrich, is also a choreographer. In the graphics department, there are two key people who do the graphic animations and the After Effects graphics. Then there are one or two people who do the compositing. Then each piece has original music running with it and we have people on staff who do that too. The Holiday Show is 18 minutes of original arrangements of music. A 64-piece orchestra of studio musicians is playing every piece of music; none of it is synthesized. It was recorded in Nashville and then

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the 128 separate tracks came back to New York and we mixed it right here in our studio.

JRA: What returns were Comcast and LPT expecting?

Niles: Because this is a public space, the idea of supporting it with advertising was just off the table from the beginning. It would be a disservice to what it was trying to do. It is not only a public space, but also the front piece of a very large corporation. If it is riddled with advertising, it becomes Times Square. If I were working in that building, I would consider it an intrusion on my private space. What Comcast wanted in the way of returns was to have its employees feel better about working in this building and that this would become a plus about working at Comcast. On a secondary level, they wanted this to be a gift to the people of Philadelphia, enriching their lives.

JRA: The display has become a major tourist attraction in Philadelphia. Has there been any measurement of whether people who come to see the Comcast Experience are buying in the concourse shops or eating at the restaurants?

Niles: Absolutely, it's a reason to come to this place. And while they are there, they go to the restaurants, they sit in the plaza, and this place that used to be a parking lot is now a bubbling urban center, which is what LPT wanted to accomplish. This has gone way beyond their expectations.

JRA: Do you believe that this is a model for other installations or a unique one-off?

Niles: We are doing others. There are three things that seem to have come out of this. The industry looks at this as a groundbreaking thing because it doesn't look like digital signage; it's not just screens. This whole idea of photo-realism and blending into the environment and making kinetic ideas, a lot of people seem to be interested in that. The second thing is having this content delivery system that is able to update itself and it's not cost-prohibitive. It can be budget-conscious without losing any quality. The third thing is that there is an enormous movement in the world of architecture to create kinetic spaces. The idea is that there's plaster, steel, and glass but now there also are display technologies that allow you to look at surfaces and spaces in buildings that are not static but they are kinetic; they become alive.

Despite the economy, there seems to be a lot of this going on. But the Comcast project is unique to Comcast. We applied solutions to what we thought was applicable to them. A different company, a different building, would require different solutions. The projects we're working on now are dramatically different from Comcast.

JRA: How long did the project take to execute?

Niles: It took about 16-18 months. That was from initial contact to choice of the technology, design of the installation, supervision of the installation, creation of content, development of the content delivery system and eventually the commissioning which happened June 6, 2008.

I have to give credit to Brian Roberts for having the courage to do this. This was not an inexpensive project. We go back and look at the creative pitch we did a couple of years ago. Even though the pitch was very nice, it's still quite a stretch to say this is going to work, people will like it, it's not going to get old, that it's actually going to achieve what we say it will achieve. Ninety percent of it has to do with size and scale. I can send you a mockup of it or put some content on a DVD,

but it wouldn't give you a sense of what it's like when you are actually in the Comcast building. Before the wall went up, Brian Roberts and David Cohen would come to my studio and look at the content and they got it. They encouraged us to go for it.

When I started the project, they looked at me as a consultant. And as their consultant, I had to advise them on what was a reasonable amount of money to spend on this project for what they wanted to achieve. Then, I had to work within those budgets when we got the project. I always considered that I was working for them, not to be competitive. I'm proud to tell you that the Comcast project did not go one penny over budget, no change orders, and it was delivered on time.

JRA: As the driving force behind this project, what do you want viewers and others in the industry to take away when they see the Comcast Center installation?

Niles: The viewers are the most important part of this. If we can touch anybody as they go through the lobby so they have a thought, a smile, a moment of enjoyment, that makes us the happiest. If someone walks across the lobby and goes up to a meeting with Brian Roberts or somebody else at Comcast and says, "Wow! I just came through your lobby and I was blown away," that's what we're looking for. If someone comes in to see the wall and decides to stay to have dinner in one of the restaurants there, that's a great thing. Some people just come into the lobby to have fun and enjoy it. If we make people dream and aspire to something, that's really what we want.

What we want the industry to react to and say is that this could be the beginning of a whole new way of looking at the public environment, the digital signage world, and say let's approach it a different way, a softer way. It's time to get rid of the Flash animations and the Times Square style and look at this as more of an art form. That's not to say that art can't be commercial but to add some value to it. It's not just "buy this stuff, get this message," but to be more clever with it.

David Niles has earned a distinguished reputation for his work in television production, design, and management. He was the first to pioneer the commercial applications of High Definition Television and today is recognized as the foremost authority on HDTV production. Presently, David produces, directs and edits original programming for numerous on-air networks, consults for fortune 500 companies, develops new technologies and conceives, designs and executes large format projects from start to finish.