

Dave: Welcome to another edition of The Elegant Workflow Podcast, A member of the Tech Podcast Network. Today, we are speaking with Steve Holyhead – Workflow Consultant and Founder of Bloomcast. Steve, welcome to the podcast.

Steve: Thank you very much Dave. Glad to be here.

Dave: Please tell us a little bit about your career and how it led to you starting your own consultancy company.

Steve: Sure thing yeah. Well if I look back over the last 20 years or so, really my career has been an exploration and in certain areas a mastery of media technology and processes. In my childhood, two things arrived that were pretty dramatic I would say. First of all, the VCR arrived, the video cassette recorder. So for the first time ever, it was within the realms of possibility to store, playback, copy and catalog video material in one's own home. Round about the same time, home computers arrived and I remember actually school going from a place where there were no computers to a place where there had to be computers. So those two changes came around in the middle of childhood and I think they have grown with me, I grown with them in the sense that obviously video and computer technology have started from slightly different places but grown together and co-mingled and inter-mingled to a point where sometimes it's hard to tell the difference between the two these days. That sort of started out an interest in the passion for me and I played around with editing using state-of-the-art SVHS decks and cameras at the sort of high school phase of life. I decided I wanted to go to film school, did just that. I started out at film school in the Northeast of England in a town called Newcastle. I started studying with black and white film and 3 quarter inch humanic type and was looking up to actually go on an exchange program to a university in Canada and spent some time there and got exposed to beta cam and actually non-linear systems for the first time. Anyway, I spent a bit of time actually working in the industry in Canada, working on television shows, cutting television shows and the like. I came back to UK, did pretty much the same thing, spent a while a short stint in BBC News. In early 1998, I joined a company called Discreet Logic and you know, they are somewhat famous for flame and smoke, fire, inferno, those types of things. Not too long after I joined, they were purchased by Autodesk and eventually that's now what they're known as, Autodesk. I worked for them for about 7 years in numerous roles but probably the role I enjoyed the most was an applications and solutions specialist which involved a mixture of in a presenting in a pre-sales capacity but also supporting your customers in a post-sales capacity, at least your local customers. After that I actually joined Avid and did a very similar thing for them for a number of years. After Avid, I joined Discovery Communications initially as a supervising editor and more recently as an operations Manager. And all of that really comes together extremely well in the work that I do through Bloomcast now as a Workflow Consultant. Since early 2010, Bloomcast has been offering workflow design and consulting and training services mainly to Enterprise level customers and what I mean by that are customers who have many, many creative folks all working on projects at the same time, they all have shared storage and they have a requirement for asset management. I do that here in Los Angeles and nationwide, I do it directly for broadcasters and TV stations and production studios and advertising agencies and I also do it for subcontractors for various manufacturers in the media and entertainment technology space. I really enjoy it and since early 2012,

I've been doing that full time for myself and it was actually a goal of mine to work for myself at some point in my career and experience what it's like to run your own company.

Dave: It sounds like you've done a little bit of everything. You've done some management, you've done editing, you've worked for manufacturers. And I imagine that helps a lot when you go out into the field because you probably understand the manager who comes in and says, I want this done and I want it done quickly and under budget and you know, the editor who's like how does it work, I'm confused and you're changing everything on me and I just imagined it's got to be a very good background for somebody who wants to get into consulting, just doing a lot of these different roles because it's got to be pretty helpful for somebody who wants to go out into the field.

Steve: Absolutely. I mean, I wish I could tell you that in my 20's I had some sort of elegant plan in mind but whatever I've done, I feel like I've tried to take it seriously, tried to really learn it, put the jigsaw together, draw the dots into lines and connect the dots really and yeah, I feel like at some point you start to realize, oh well I can now engage in some sort of meta level of pattern recognition and yes, I think that really, that does help.

Dave: I imagined that you've been to a lot of facilities like you mentioned throughout the countries and probably maybe even in some other countries, what do you think is the biggest myth out there right now about workflows?

Steve: I think that's a really good question. You know it's tempting, I think probably, tempting to describe workflows in a particular way and with a particular language set. So I would say that the biggest myth about workflows, because of the language we use around them is that it's all about some kind of harmonious and seamless, efficient movement of pixels and descriptors through a pipeline using a knowledge of cameras and servers and softwares and things like that. You know, it is of course, all of those things. It is equally as well, if not more so about people and rhythms about how a team approaches a test about the communication style in a particular department and so I would say, I don't know if it's the biggest myth but certainly maybe a misconception is that we're really only able to focus on technology and in some kind of isolation about, a place where all of the technology comes together. I would say I tend to think I actually shift my focus more to where the people and the technology meet. Honestly, until I feel like I met enough people in the team and understand where they're coming from and how they go about their business or how they're forced to go about their business, I can't really even begin on the technology. The most important place to start with me is the people and their communication style and from there I can figure out how much of the technology we can leverage or which bits of it are really going to help them the most.

Dave: That's really interesting because I think a lot of people think it's all about the tech and moving the bits and bytes, the people concept really is huge, I know I see that a lot in my daily work too. Sometimes I design completely around the people and the tech is a lot more complicated than I like it to be but I know the people will use it and I know that we can get the work done versus trying to put them into some technology that's not going to work for them.

Steve: Right. Exactly. I mean, I'm sure that you see it on a day in, day out basis. I get the luxury of sort of going in and opening a window for a while. One of the things I always wish actually is that I can do more follow up. I could actually go back and you know, see how things have panned out and perhaps where things might need additional massage. I'm kind of envious of you in that regard because you get to see how those projects pan out overtime. Because that's so relevant to walk with talk and at the people where the people and the technology meet, it's something that I'm going to have to work hard on making happening properly in 2013.

Dave: I think that might be an interesting point too. Do you have some advice for somebody who's hiring a workflow consultant? Would you say, hey, bring me in, let me get you going and then I should come back. How many more times would you feel comfortable? Because you're right, you could come in and they could be doing something in a way you didn't really design it and now you have to change some other parts of the workflow because they are coming into bottlenecks.

Steve: That's right. That's right. First of all, nobody can foresee every changing part of the landscape. With all the best in the world, we have to operate in apex cycles. We have to anticipate as much as possible what's going to happen both in terms of the technological landscape as well as the work that's coming through the door. You know, it's certainly I think something whereby you have to try and take that longer term view on the health of the facility and the health of the workflow and sometimes, yeah that involves returning, looking at things again. Ideally, actually planning the return moments where perhaps what you do is you have a hardware and a software platform that's capable of 100% of what its capable of. Would you know from your own experience as a manager of humans as well as machines that perhaps we're going to reach a breaking point if we're trying to absorb, you know, more than about 40% of the goodness of that new technology platform in the first year, let's say. So ideally, what we do is we plan it in such a way that each phase can be successively built on. I'm talking about scalable workflows and scalable implementation too so that the first implementation cycle is absorbable and doable properly for the team and delivers the right results without too much seismic shift in the organization and then we come back and we go, okay A) How did that all worked out and what do we need to learn from it? but B) What do we do now in year two or phase two of our implementation to now take us to the next level without necessarily spending more money but just getting more out of the current infrastructure now that were all comfortable with the new baseline.

Dave: Sometimes people, they're tempted to just say, let's just flick the switch and put everybody on this workflow and I've seen this myself, you want to kind of phase it in, you want to test it obviously on some of your folks at different levels in different aptitudes, see how it works and then phase it all in because if all of a sudden, you change every way that they've been doing things for the last five years, you're going to have a lot of things just out now breaking and people are going to be a little intimidated versus just letting them get up to speed now they're used to doing this new way of doing things, hey now were going to add this small, little thing and it is small because we've been slowly building them up versus just, here you go, everything's different now, hers a 100-page manual and you're on your own.

Steve: I couldn't agree more. You know, I mean, who wants to be A) in that situation and B) you know, we can make these moves forwards and efficiency and better collaboration, kind of fun. That's

something that I try at least to do is to bring a little bit of a sense of humor, a bit of a dose of common sense to the scenario and actually kind of energize the team too and that's always important because you're right any of us are going to feel intimidated if we were given a big, thick manual to read and a whole new operating system or a new piece of software and that's really, that's the last place that I want to leave someone feeling when I've been in a facility for a while. What I'm really aiming for is to walk out of the building and feel a sort of a glow of comfort coming from them. They feel in control again of their environment and productive and a useful member of the team. There's nothing that gives me greater pleasure than that so biting off what you can chew as my mom always say if that's a good place to start.

Dave: What are some of the workflow mistakes you're seeing in the industry today?

Steve: There's the usual ones of you know, going out and shoot in every different frame rate under the sun and then wondering why you can't get a consistent look on your show but I'm going to kind of leave that one alone you know. Most of us in post production have done that topic to death so I don't think I'm going to put the list in. Here's a couple of interesting ones, you know, oftentimes I'm reminded of the bell curve right and you've got most of the people in the middle and then certain people who want extreme and certain people on another. There's fewer of those folks that are out there and so they're not necessarily typical of what everybody's doing but they teach us something and so the two ends of the bell curve that I see happening today are 1) Those who aren't keeping their assets or they're not really tracking their assets and making them secure. And that usually goes hand in hand with not adding any metadata to their assets. So you got the folk down at the one end of the bell curve, who just like yeah you know, if my client needs me to do that over, I'll literally do it over, I'll re-ingest it, I'll re-cut it and I'll re-output it. Okay, operate that's fine. And then at the other end of the bell curve, there are some folks who are with all the best intentions in the world have been keeping too many assets and attempting to add too much metadata to too many assets. One that I should explain a little bit more, we can all get the concept of not maybe necessarily putting the time into login material or perhaps back it up in a sensible way, that's pretty obvious but keeping too many assets is an example. You go out and you shoot on Red or ARRI or like 3K or 4K but your deliverable doesn't require that. You're shooting on that maybe partly because you kind of like the thrill of it and partly because there's a vague notion that you might be able to upsell the project at some point or maybe even sell parts of the project just like let's say on stock footage or something like that, right. Now, it's a little bit like an iceberg because at the top surface you say, oh well you know this cost us a little bit more the redneck camera you know, but underneath the surface it cost you a hell of a lot more to move all of that data onto storage, to storage during the production and then if you go ahead and actually archive it in the hopes that you're going to leverage it later on and maybe link back your 1080 version of the project and reconform it at 4K. Well, how often does that happen? You have to ask yourself. If the answer has been never so far and you're starting to accumulate all these high res data that's sitting around and needs to be managed, you know at some point will need to be converted in a newer file format to be archived yet again and again and again, you can see where I'm going with that is that some people can end up with all of the best intentions in the world, kind of swing in the pendulum a little bit too far one way and keeping stuff they're never going to address again. On the metadata side, I've seen in a couple of scenarios where there are so many metadata fields that people feel they need to add on to a piece of footage that

basically no one ever does it right. There's a sweet spot below which you can get people to add metadata to a clip, beyond that they're not going to do it. They're just going to look at all your and say forget it and that's kind of human nature. I would say that those two are the kind of an interesting touch points so to teach us something and they kind of hint at one of the other things like I say, which is I think that you know, resolution. Match your resolution to your aims. Not just at the camera stage but also at the post stage. If you have shot with a camera that uses 35 megabits per second then maybe it's not worth editing it anything above 50 megabits per second, you know. So, I see a lot of storage manufacturers quite happy at some of these things but I think there could be, there's efficiencies to be made but in terms of being in the leverage assets in the future but also whether or not you should even be attempting to do certain things within the constraints of your current workflow and what you're actually trying to deliver today.

Dave: Yeah and I think those are all some great points especially shooting at crazy resolutions, you know shooting 5K for a web marketing piece that's going to run four times. I could see, if you're doing a movie and you want to have some shelf life to it but even that so I'm shooting my movie and I'm putting it on YouTube and maybe somebody will want it and want a film without, okay 2K makes sense but 4K for my movie, maybe not. On the other hand, if you don't want to shoot it in 4K and you want to go to 4K, what do you do? So it really is something that you want to sit down, look at the market and if you have the money, I mean I'm a big believer, if you have the money and you can deal with all the data, just really kind of think things out. What I see a lot of like marketing groups do for example on television, they don't use on compress, there's no reason to. They're doing things that a compressed type of thing a DnX HD 145 for example or ProRes HQ because its fine. Its more than good enough for them and there's no reason for things to be one to one for compressed because how do you manage all of that data like you were saying.

Steve: Totally you know I mean even you know, especially some of the industrial direct-to-web video stuff that I've done, absolutely. I actually have tried very carefully to try and match the client to the expectation that regard and yeah you're right for some people it's absolutely the right thing to do. But for a lot of productions, hey you know, you'll get there if your destiny is to be shooting in 8K, you'll get there but in the meantime make time a little bit easier on yourself and on your storage and on the processes and on the people too.

Dave: What's frustrating you about how were doing workflows today?

Steve: Probably the biggest frustration that I were to have is actually to do with the way that we organize teams and that has a direct impact on me because you know as well as consulting on actual workflow design and working with the team who are going to be using the workflow, leveraging their expertise and their assistance and then re-folding it together into a workflow and documenting is one thing but then actually taking that and training the individuals who are going to be using it day in, day out is the other side of the coin for me and the two go hand in hand really well. That all works nicely and we can make it work nicely you know, whatever the size of the team but the roles in the team are what are, sometimes a little bit out of whack and what I mean by that is as follows: If we go back, if we dial back 50 years or so, you know, basically the most savvy technically and artistically savvy folks gravitated

towards the camera or the lab. I think the reason for that was that there, I had to really understand the science and the art of exposure of film. On set, you really need to get it right because that's a fork in the road that you can't go back to if you expose it incorrectly and then in the lab, you really got to get it right because there you are with the actual negative and you better not damage it and you better pull the strings together so that you know, you can actually create a finished product at the end of the day. Now, spin forward to now, no longer are we looking for expertise and savvy around the exposure of film, the fork in the road today is, did you leave set with solid and good data? Are your files intact? Is the time code matching across your files? Did they all contain data that are well exposed? Are they all in the right codec? Did all of the bits and bytes arrived from the camera card onto the carrier mechanism? So, what actually happened is the pull of where the fork in the road is has shifted focus slightly. It's no longer actually in terms of exposing film, it's now how you handle data and yet we haven't actually enshrined that properly as a role. If you go on set, I guarantee you that there's very few sets that actually have a data wrangler or a media manager who's employed to do just that. Likewise in post, it's a struggle sometimes to be able to hire a media manager not because people don't see the need for it but because we've never hired one before so we don't know even how to go about writing the job description and whose department should it be under and various things like this. But yeah, the integrity of your data is so paramount I think to the process and those of us who dealt with film negative, those of us who dealt with a master tape of which there are no other copies, a kind of implicitly understood how important that asset is and so I feel like we need to re-engage that concept in the industry and try to enshrine those roles and give them space and room to exist because you know, otherwise what ends up happening is that on set is the camera guy, the audio dude and the PA, you know, kind of share there some sort of responsibility and then you get into the post and the post super's copying some files and the assistant editor's transcoding something and the editor's pulling something in and the producer's downloading something but there's no one person who is managing all of that traffic, and a matter of fact not reinventing the wheel everyday because they just finally figured out how to do X. So, if there's something that frustrates me that would be one thing today, I would like to see that more formally acknowledge and see people's line items reflect that, their budgets reflect the need and the importance of those other type of positions.

Dave: And also the correct staffing too because I think a lot of times when somebody doesn't understand these positions, like the guy was a PA last week, we'll give him a cool title. We'll let him copy files, what's the big deal? But this is your life's blood so you shot these files, this is all you have now, you don't have film anymore, you don't have tape and if this guy deletes the card and this has happened a lot with beginning camera assistants, he deletes the card before he copied the files and checked the files, now you've lost the days worth of shooting but yeah you saved \$10 an hour on the position.

Steve: Right yeah exactly that and so that reverence for those files just like we have those reverence for film or for that master tape is all that original camera type, that's something I'd like to see as acknowledged is really important.

Dave: What do you feel vendors should be doing to make file based workflows better?

Steve: I think this is a great question and you know, I've got many friends who worked for manufacturers and vendors and I know they're working hard all the time and they're often dealing with multiple different markets and demands that perhaps stretch the minimum opposite directions but I have to say number one on my list would be correlational data basis. We still are working with databases that require a tremendous amount of human entry, human input time and you know what we really need more of are intelligent systems that start to work out the relationships between certain clips. Maybe they're working it out on the basis of the date and time shot and that's also a function of the location and maybe the particular reporter who covers certain types of stories. You know, maybe taking a fragment of the file name and being intelligent about well you know, is this likely, is this Paris, France? Paris, Texas? Or Paris Hilton? And maybe I can try make a guess about that as a database based on other factors, other pieces of data in my database that I know are confirmed for example. So, that would be number one on my list, I'd like to see more correlational databases. Number two is just, comes really from being an editor and that's who spent a long time in front of a lot of different non-linear editing systems and you'll see where I'm going with this. Basically, when we first started working with non-linear editing systems, we had digitized or capture and there was a dialog box for it – big old panel that came up and you could choose which channels I'm going to record, when am I going to record it, where am I going to record it from, where am I going to record it to, what resolution, what drive. There was a dialog box and I could setup all my choices ahead of time and then click go. It would go off and you know suck all the data on tape. Well, okay great. You're going to import a file and lo and behold, you get to choose well, what's the file, how many of them, how would I like to treat it, what color space is it, are they sequential files, etc, etc. Today, I haven't seen a satisfactory interface in an NLE for linking and transcoding files and being able to setup my choices ahead of time instead of having to link to the files first and then input all sorts of data about them and then make a bunch of choices about them. I would like to see a sort of link and transcode interface that is more fully pledged, maybe a little bit more graphically designed and give us the ability to really lay out the task before us, before executing the said task. A third idea would be to really think about cameras and camera manufacturers and how they might be able to give us more useful data from a shoot or from a live event. It does seem to that if there was a mechanism by which cameras could handshake recognize that they're close to each other that they might be able to hold a small conversation amongst themselves about what common scene name might be applicable right now. What common time code could be perhaps embedded on an ancillary data column? Perhaps, some information about the 3D depth of the scene based on the fact that they all understand roughly where they are relative to each other as they capture their images. I think so many of us in post production see the possibilities of a metadata in camera format and were just kind of celibating waiting for the manufacturers to do it.

Dave: I think it would be great if it had GPS coordinates, lens information, temperature, I mean anything you can get in there, you find later especially lens information, when you go in and you're doing your visual effects, if you don't have that, it's almost impossible in some cases to do the effect and be able to 3D track it back in but people don't think about it, they're just at the throes of shooting and, oh don't worry about it, the post guys will take care of it.

Steve: Right, right and the other end of the spectrum, imagine a sort of a live event or a breaking news moment and numerous of people have their cellphones out and they're all videoing a scene from different angles that the process of perhaps aggravating all of that for a news outlet or something into perhaps a more of a sophisticated 3D understanding of the event could be you know, perhaps the sci-fi end of that sort of pipedream.

Dave: Oh yeah, I could see if you could map all of these camera phones, you're right. Literally, I could go into the scene with my little controller maybe with my Xbox, stand up, turn around, it will recognize where I'm looking and show me, it may not be perfect stitching but it could be really cool to be able to see oh from this angle here's what I see. I could see a lot of like in sports that could be phenomenal if you could actually have that many cameras and be able to put yourself in the stadium and be able to walk around the stadium and see things from different angles.

Steve: Yeah, I really think for our industry, we keep trying to grapple with new things and obviously stereo 3D was a recent example of that and I think we should just keep grappling for new things. There's really cool and interesting experiences out there that are you know may come together with sort of Google Glasses, or may come together using other different technologies are ways for us to intertwine the fantastic virtual world that we've created with the actual reality that we experience.

Dave: The applications right now for something like the Google Glasses, the field's wide open other than maybe mapping some information as I look down the street, that's the thing they're showing right now but there's probably a lot of other things that can be done. It's just about metadata and knowing how to take the various video elements that have been shot and then map it into the Glasses at the right time when I'm looking at a certain way or whatever other cues the Glasses could be back into the database.

Steve: Yeah pretty exciting time.

Dave: Oh definitely. If you could change one thing industry wide, so you know you have a magic wand and it's Steve's way and you could say, things must be this way in workflows, so it's not just about manufacturers but just anything out there that you like to see standardized or just can be done in a different way, what would that be and why?

Steve: If I could wave a magic wand, what I'd really like you know, from my birthday let's say is if we could just get through the stage of solid state drives and LTO tape mechanisms pretty quickly and just get right on to real holographic data storage. Basically, why, because obviously that's going to give us tremendous amounts of data storage at solid state security levels and the most exciting thing about holographic storage systems or data storage is that you know, bandwidth just goes off the charts because no longer are you writing bits and bytes in a linear fashion, no matter how many drives or spindles you wrecker in a piece of storage, they each writing linearly still and in fact reading linearly at times. Holographic storage would give us the ability to be able to write two images, three images, ten images simultaneously and would really just get us to a point where, well frankly as much as I'm a fan of let's say LTO 5 tape right now to backup and archive my images and my data, it's in large part it's kind of 40-year old technology and it's slow and it's linear and it's cumbersome and heads wear out, I just wish I

could wave a magic wand and just get us through all that stuff and onto what I consider to be the real heavy duty sci-fi stuff.

Dave: I think that's great. I actually interviewed a holographic manufacturer a few months back. The crux of the interview was more about archiving and how once its written, now its archived forever and we don't have to worry about 20 years from now when were on LTO 30 or LTO 50. The fact that we got an LTO 5 tape, how do we read it ? With holographic storage, it's just about lenses, it's just about lasers so it's a lot easier to go back and figure out how to play it back. He felt like as the storage continues to evolve and get more and more efficient, it will be a lot easier to continue to go back and play things that you've done in the past. I love the thought of the bandwidth because that's a good point. Right now the bandwidth's a little limited with the technology and he was explaining but once we get to that point where the bandwidth is almost unlimited, we can write as quickly to these disks as their the ability to store the material. It's not just the mechanics of writing the material that we solve that and now we have a very easy way to store a lot of material and we can crank up the bandwidth, you're right now we can have 10, 20, 30 all in sync. It's kind of like multi-cam to the umpteenth degree and everything's all together on this one disk because we're talking sci-fi here so what's the heck and this one disk called 2 petabytes. I have six of them on my shelf and that's everything I've edited for last year. It's kind of fun to think about where can things go and just let our imaginations run a little wild. So just to kind of wrap everything up, what's your definition of an elegant workflow?

Steve: The best fit solution for a moment in time that provides a good balance between backwards compatibility and future scalability and just to give you an image to go with that, generally speaking, I'd always feel a little bit like I'm a train driver. I'm driving a big old train and it's got numerous, numerous cars on it and my job is to back the train up to meet the current workflows so the bumpers just kiss right so there's hardly any seen between what's going on now and what's going to be going on let's say next week or three weeks or in a month from now. Also, at the same time, to position the front of the train in such a place that its open and available to the next level of scaling for that organization that it positions all of that energy from the previous workflow and the current workflow in such a place that now there are handles to grab onto to build that into something at the next level or the next phase of it of its evolution. So, for me that's trying to get that big train into that parking space and meet both of those criteria at the same time you know, speaks to that the best fit which is the best fit for the budget and the needs of the organization and the challenges and the best fit for the team and whilst providing a good balance between that backwards compatibility not just the technology but the processes and the future scalability and also the health of the environment.

Dave: What works for one organization may not work for another organization and what would scale for one group, may not scale for another group so you're right, it's very much, it's very individual. You can't have one workflow that's going to work for everybody. That's the thing in doing this series, everybody talks about these industry-wide workflows and there's no such thing. It feels like everything is more of a snowflake workflow. What works for one team and works really well, will not work at all for a totally different team or application.

Steve: Yeah I completely agree. You can drop in the same equipment, the same software, the same version of everything, the same number of assets and because of the team dynamics they go about it a completely different way and that's perfectly valid too, it was their way of doing it. So yeah, I mean I love that term snowflake workflow. Every situation is indeed absolutely unique.