

5/3/17 - Expert Pre-Interview 1 Transcript

I - Interviewer

EX01 - Subject 01

I: Describe at a high level what the typical lighting design process in your projects is from start to finish.

EX 01: So, first there is a review of the source material. From that, certain ideas are taken that deal with the aesthetics, the tone, the mood, the techniques to gather my own personal thoughts. There is then a more practical consideration things that need to happen in order to make the show function. Special effects, lighting strikes, daytime scenes, night time scenes, physical locations on stage, contextual locations on stage, where does the scene take place in the world of the source material. There's also the venue. Review of the venue that of course sets out the limitations of the scope.

I: What are some of those limitations?

EX01: Physical properties, budget, inventory, time constraints for load in.

I: Where do you go from there?

EX01: After a personal review, go into a production meeting, have a discussion with the other stakeholders, director, other designers, costume makeup sound scenic. At this point, a vision is decided upon, depending upon the team. I may be responsible for determining the vision from a lighting standpoint other times that decision is dictated from some other overarching aesthetic that is coming from someone like the director.

I: How does the process for vision work?

EX01: Expressed through reference pictures, expressed through video. It can be expressed through just verbally communicating color, shape, words, adjectives. Basically, it's, you know this is what i'd do as a designer to express what my vision is as a designer, but that happens in the other direction as well, this depends upon who the director is, who the designers are, and how they choose to express themselves and their idea.

I: How do you present those ideas to the design team?

EX01: I'm going to preface this with it's been a while since I've done any of this work. But... Generally speaking, how I like to present the ideas is through some sort of uh... visual reference.

I: That's typically a picture?

EX01: A picture, a series of pictures, a series of paintings, etc. Depending on the dynamics of the group itself, the production team itself, sometimes it's more appropriate for me to buy into a [director's] vision. In other groups, the expectation is for me to be the driving force of the artistic design with the light. I also try to write out a simplified narrative of the story the lights tell.

I: What's that document?

EX01: Maybe a one page document

I: What's in it?

EX01: Combination of practical things that need to happen as well as a combination of descriptions of aesthetic choices. I may refer to emotions, colors, I may refer to adjectives.

I: Do you ever reference images in this document? How do you use that document?

EX01: In terms of the narrative, I use that as a tool to get a sense of how the lighting design is going to play over the course of the whole show. And then I would use the extra visual media as a way to express what the document is saying at certain parts. Sometimes, I will have options. So maybe two or three different visual media directions, thematic directions we can go. To say we can do this or this evokes this emotions to me, kind of put that out to the group so they can participate in the decision making. This depends on the group, some directors are more collaborative than other.

I: In terms of the directors that are more collaborative, how many iterations?

EX01: In a post-academia production environment, the collaboration that occurs is not very frequent you have a meeting you make decisions and its trusted that everyone goes off and works for that unified vision. And you see it all come together when you mount the show, start the technical rehearsal process. There may be some back and forth with costume designers and scenic designers, here is what i chose to paint the set with, here's an example of costumes i'm using. Depending on who that designer is there may be some mockup to see how things play under the light. Typically speaking you have an initial meeting you make fundamental decisions of the vision for the design of the production. Then everyone goes off and works towards that same goal, and everyone comes together to make the show. I would say in academia, there was a lot more interaction between the groups; there would not be one or two meetings before the process there would be many. After I graduated and started working in the professional market that changed.

I: What prevents you from creating the perfect design in professional work?

EX01: Budget or resources or time. In my experience, because so much is riding on word of mouth reference when you're working as a freelance designer, since there is such a constraint on time and money, generally speaking most people play it relatively safe. They take artistic

liberties, they do explore new ideas, but I have found and this is across all trades of the designers, that people don't go so far out of the box of what they're familiar with that they risk having a catastrophic failure. So generally speaking the things that prevent the original vision from being fully realized are outside factors, time resources, budget.

I: Why not too far?

EX01: In order for a lighting designer to take it too far, that needs to come from the director. At the end of the day it's the director's show. The director may want to do something new something no one's seen before. When that happens and they're pushing the designers to get out of their comfort zone, it falls on them when the design doesn't work out. So it's when the responsibility of the design falls on the director that will push the individual designers to go outside of their comfort zone. Now with that said, me myself as a designer and a lot of the designers I know, it's not that they don't take risks they take incremental risks to expand the capabilities of their artistic vision. They'll do new things, but not so many right new things that they run the risk of having a failure. This is what gets the designer to evolve, mature in their careers. In every new production they're pushing the boundaries of their capacity a little bit. If I'm a designer that's never used video in my lighting design, the first time I use video I'm probably not going to use it very much, I'll have a backup plan and I'll implement it in a very simple way, as soon as I get comfortable I'll expand it in the next production.

I: Additional comments?

EX01: Something that I've come across at a distance. Because when I stopped designing professionally was about 10 years ago which was before color changing fixtures were rampantly available. I came from a world where you made very specific color choices before anyone set foot into the venue. You have to buy, cut, get someone to put it in, it was very expensive to change. Time, budget, and resources are the things that affect the design. Being at my job now I have heard from venues that have totally embraced color changing fixtures for their this has been a huge disruption for the design process. Now those [lighting design] decisions are being made during the technical rehearsal process. There is not enough time during tech rehearsal to actually make all those decisions.

I heard a very interesting story from a venue in Canada in 2014. They took out all incandescent fixtures and replaced with LED fixtures. They said [in] the first 4 months that some designers ran out of time and couldn't cue their shows because they were messing with their color too much. [This was a] result of a few things. If you haven't made color decisions you want to look at all the colors. Communicating color on a nuanced level. If I say give me a blue scene there are hundreds of blues: saturated blues, lighter blues, blues that tend towards cyan or lavender. So communicating with a programmer what exact color I want on stage what I'm looking at right now how do I get there, how do I get there. There is not a clear language for communicating color information at the level of precision that designers needs in a performance space. With that said, what this venue started to do is they adopted a traditional methodology to designing their shows. They required the designers to put gel information in their plots before entering the

space. They made designers write colors on the light plot. If that one light is going to be five colors during the show they had the designer write each one. Think of this as a starting point. As soon as they made the designers go through the process of establishing their color, that solved almost all of the issues they were having. So I have not personally lived from a design standpoint of the disruption that has been caused by color changing technology. But I've seen it at a distance being a provider of the color changing fixtures.

5/3/17 - Expert Pre-Interview 2 Transcript

I - Interviewer

EX02 - Subject 02

I: Describe at a high level what the typical lighting design process in your projects is from start to finish.

EX02: My experience is in sound; I still do audio, but I worked on Broadway for 7 years with lighting designers. Yeah um, my experience has shown that designers are often involved very early in the process, it's a visual aspect of production early interactions early on with director for overall feel of the show, also with other parts of the production including set designer, costume designer, hair and makeup ensure that the overall theme and concept of the show everyone is working with the same vision of the show. Least interaction with audio. Occasionally interaction with sound effects triggering lighting.

I: When you see the lighting designer communicate ideas, how do they do that?

EX02: A lot of it has to do with light and dark, overall there's some general conveying if the show overall has a lot of light vibrance and color or if there's pockets of light and color. This can change during the show as the different scenes have different looks. There are a lot of shows too where the lighting can be a character, there can be gags or jokes as if the lighting is a character instead of a supporting technology. Depends on how important lighting is to the show. A lot of time they'll bring in pictures of environments, previous shows, to show the color palettes, brightness and overall feels of what they're looking for.

I: How does the iteration work?

EX02: Depends on the timeline of the show, professionalism of the show. Dealing with Broadway show, there's lots of design meetings before doing a show. In local productions sometimes it's just once or twice that the designer meets with the director and other designers. In these environments you have three days of tech then you open. Makes this kind of collaboration much more limited vs professional world where you're [in tech rehearsal] for a month there can be much more collaboration.

I: How do designers use current visualization tools in an extended design process?

EX02: I haven't seen a designer bring in a laptop with capture on it. May bring in a story board style [visual aid which includes] color palette and feel across scenes. [The lighting designers need to] translate the feel they're going for into gel colors. Their art is how to translate an image into gel colors and onto a stage. They use very artistic words like vibrant, and muted, or dark things that try to convey what they're doing. Not saying they haven't [shown renderings from visualization software] but they don't bring in computer into design meetings. Have seen them

pull out images of previous productions or period pieces but a lot of times the designer will take cues from a costume or set designer and once the director establish what sort of vision they have for what the show's going to look like the lighting designer's job is to enhance and convey the vision based on what the other designers are doing. Lighting designer is there to make it look like it's supposed to.

I: What does the storyboard consist of?

EX02: Sometime's it's a color palette, sometimes it's a just to convey a dark stage with single spotlight, or supposed to be a moment with visual impact, they're sketches. Usually a drawing, black and white sketches.

I: What factors cause a design to fail?

EX02: Viewing it [lighting design] from the outside, not being the lighting designer on the production, it's tough to know what was intended and what's far off. Most of the time disappointment comes from budget and time. There's certainly designers that aren't great or are simplistic or are amateur and are doing their best, a lot of time there's not the right gear to light the stage, or not enough time to fine tune to get the look. Typically a lower market problem, Broadway has time. Smaller productions high schools, community theater, college only has a week before an audience, not enough time for clearing. Triage design to get as much as you can in a limited amount of time. On a professional level when design doesn't seem to be right, vision is the issue. May not turn out how the designer wanted. I've certainly seen Broadway designs that have not been my taste but some people found it amazing, sometimes it's just preference.

I: Additional comments?

EX02: Color changing fixtures have made a huge difference in a lot of ways. Workflow is one of them, no more gel scrollers, unlimited palette mostly unlimited at your disposal on a whim. It's a blessing and curse, if you have a favorite gel color you know what it looks like and what it's going to be and where to use it so you fall into rut where you just go this is what I use. With LED [the process is] is freeing but daunting, I no longer have to do this I have a million colors what do I do. Requires at the same time an understanding of the technologies; [color mixing is] no longer subtractive it's additive, whole different branch of physics understanding color theory, how humans see color, metamers, whole level of physics to get into this level of technology. Can fake it too, can make things simpler. Ways to reap rewards of technology without understanding technology, brings up a conversation we've been having at ETC which is what is the future language of lighting design. Is it still gel colors, but as gels become less and less the norm, is that language retained? Is there new way for people to talk about color, new metric trying to talk about color to programmers or other designers. It's a disruptive technology.

5/3/17 - Expert Pre-Interview 3 Transcript

I - Interviewer

EX03 - Subject 03

I: Describe at a high level what the typical lighting design process in your projects is from start to finish.

EX03: So typically starts out as a proposal of a lighting design in terms of budget, in terms of the creative process, in other words what type of lighting practices what kinds of lights, practicals, what the set will look like what the costumes will look like, the time the design takes. It's a discussion that goes on with a community board who are working on other aspects of the show, a cumulative process.

I: What happens after the proposal?

EX03: Working more one on one with the director to determine their specific vision. Often [we] go step by step through the script and look at where they want effects or specific lighting looks. Typically there are areas where the director needs a specific effect, they want it to look like a specific scene in a previous play or movie. These areas need the most work most money etc.

I: What is the interaction with the director like?

EX03: It is--there is--two to three pre-production meetings, after we settled on a script, costumes, set and lighting and have had time to discuss. Sometimes there's one person fulfilling multiple roles. Have had time to go over what we plan on doing, what's within the budget. After that, it's a matter of presenting the director with either technical drawings, or napkin plots simple plots simple version of something to identify a look or scene. Sometimes I do a model of the space. I often use a visualizer like Capture to actually specify how the lights are going to be laid out; here's how it'll kind of look like in real life specifically for special scenes. After pre-production specialized lighting looks come up during actual rehearsal and and tech and at that point [directors] have a physical representation of what they want it look like.

I: How does the director specify a look?

EX03: When the direction is working the with the designer. The directors that I've worked with there's one of two ways that they come and requests a specific look or vision or they want something changed. One particular director always references another show or movie. That director is fond of sending youtube clips or pictures of other shows or just write down what he sees and tries to communicate that to us. The second way is a little less concrete and is more abstract. Is where the director points to things on set in tech and says "this needs to be lighter" or "I need this to be much more melancholy/optimistic." They use emotional adjectives and standard lighting terms and go from there, "pull down intensity... no not necessarily like that too

bright like that's too cheerful." They can go back and then specific emotional parts of the scene and [the designer uses a] process of elimination to adjust aspects that the director wants; brightness, color, etc.

I: How do you figure out what part of a design a director wants to change?

EX03: At that point it becomes a problem of isolation. You have to break it down to a language they understand actually showing them the most obvious thing in the designer's mind and adjust parameters to find out what they want. Is it the costumes, is it a problem with the lights at all, is it the set? From a lighting perspective, you can ask a series of leading questions, what do you think of the color, may spark a conversation where key lights come up "this is too cold" well how does this look. It's a translation process, change what they're feeling into a technical process that coincides with what's happening on stage.

I: What were your main constraints preventing you from achieving the perfect design?

EX03: Time. Always time. Almost always. Another one that's pretty common is some directors have a grand look in their head that isn't exactly what they have in mind. In community theater there's not a huge budget. Another thing there is three main points that cause undesirable results, there is unrealistic expectations, a breakdown in communication between directors and designers. Lack of budget is the second reason, a director wants something simple as a star drop in place of the cyc and "sorry we can't do it". Third would be time.

I: Where do you run out of time?

EX03: Often it has to do with the director focusing on aspects besides from lights or sound and then kind of last minute they have a "but" clause and they say right before opening "i had something else in mind" often it's a complete change in theme that's not the vision i had in mind for the entire act, scene. You determine you need an entire different system, rework the show file, hang additional systems, etc.

I: What kind of shows do you typically work on?

EX03: High schools or community centers.

I: How do LEDs factor into your work?

EX03: It's actually pretty incredible. Directions especially those not used to working with major shows, are automatically impressed. They've been constrained by incandescent fixtures and using gels and they have a very very limited selection of colors to work with. Now they have a whole new world of color to work with. If they know their designer is working with three color gels in their source fours then they have to be able to make the design work in their head with the tools available to the designer and they know that and [it] causes huge issues. With LEDs

they can specify any color they want; they are not constrained by that. They can effectively retool the way they communicate with their designer based on the type of fixture available.

I: Does that cause problems?

EX03: As soon as they get a taste of that, this is exaggeration, they think those fixtures are magic and think they have capabilities that are impossible asking for things like "Now I want a projection over here" but another problem that it causes is that, especially for directors without a huge budget, LEDs aren't affordable for those demographics yet they bought used or surplus but they want to be able to work with those fixtures that helps them achieve their vision better. Especially for other designers having to work with older fixtures cause frustration.

I: How do you use images in your interaction with the director?

EX03: I bring practical images of what I plan to do. If they ask for a specific effect for an act or scene, I will work out a sample plot of what i plan to hang and i will take a picture if it's in a real space or in a visualizer and then make an image of that. They may give me a picture of a Broadway show I want it to look like this somehow. I'll come back with a practical image of what my system is capable of. A model is helpful as well, an actual prototype, a diorama. That's more helpful for stage space visualization is helpful to have a scale version of that because you can then focus your model of a physical layout of the stage before you have access to that.

5/4/17 - Expert Pre-Interview 4 Transcript

I - Interviewer

EX04 - Subject 04

I: Describe at a high level what the typical lighting design process in your projects is from start to finish.

EX04: So I read the play to begin and then depending on the director, or whether i know other members of the team, i will either meet with them or the director and just talk about the play usually i won't have research unless i feel particularly strongly about a moment. I don't really dig in deep because I like to have shallow first impression conversations with people before I do that so I know what direction to go in. Once we have one conversation depending on the team sometimes we'll just attack high level concepts, sometimes we'll talk about the specifics about how certain things might go together. Which may be very specific.

EX04: After we've had a few of the conversations, I will go and do visual research usually. If there is a dramaturg that has done contextual research, I'll find whatever i can in that. I also like to look at what the other designers are bringing to the table. If there's a shared folder I particularly like that, i like to bound my ideas off of what they're collecting. After that I will do script analysis. I like to find some images that feel right but don't really know what they're telling me, and then i do analysis and figure out what the images are telling me. Sometimes for Matchmaker, I have not done script analysis yet. It's all about following the scenic designer and costume designer being very specific with research so I'm responding in kind. The director has also made it hard. Script analysis for me is a lot about where do the cues go. I'll only do that if I feel need to work something out. Didn't do analysis for previous show, were all readying the show and talking about every scene in a very high resolution of detail from the start. We all had notes were all essentially the same, what does that mean for me as a lighting designer vs sound designer.

EX04: Once that is all done I'll start looking at i will do a scene breakdown which has what is the mood of the scene, description of action, what is happening in lighting, specifics about angle, do i have a sense of colors is there an image associated what is that image what does it tell me metaphorically is there texture I'll just write that on a paper in a format that helps me. From there I will build a [discussion about terminology] angle-color diagram for each scene or each chunk of the play as I've broken it down. From there I'll go to a white board and just put all of it on there and see if i can combine anything. Multiple colors from same angle -> what the gear needs to be. And also consolidating angles and then if there's time especially in prosc. I like to have mini ground plans and draw arrows to determine areas, isolation, high degree of control over rest of stage vs washse. And drawing that out. Which is informed by the master color angle diagram but may teach me something new so I have to go back and revise it. Then I start plotting which is checking all my angles I forgot to mention that sectioning happens somewhere in there, often section happens alongside the mini-plot but sometimes it's going to happen really early in the

process. It happened early in Edward set designers was like here's the set can i even light it. So then with plotting it's just using the angle color diagram and the gear list whatever my inventory is. I've done those mini plots and sometimes it's just like alright i have this light and this light and this light, so theoretically the plotting can happen really fast because the work was done in rough first.

I: How do you work with the directors?

EX04: It's always different. With Edward [redacted] was the director he had a lot of specific thought about how things should feel. I feel it should be very isolated here it should be garish here. That was as specific as he got. I got to choose colors. At one point he said garish and gaudy and tasteless so green and pink. Well really cyan and pink but. Mostly we would talk through as a team Edward was great because the design team could have ideas into every other area, and then [the director] would say we would all recalibrate what we were doing to get closer to what he was asking for there was not a whole lot of dictation in it. Which was really great so i could bring in an image and get feedback and everyone could point out what the liked, I could borrow from other areas. That's how that process went during the design process we would meet every week or two weeks to discuss, to reconcile the director's direction

EX04: With Matchmaker it's a little more I don't want to say dictatorial he's not super open to a lot of interpretation what he specifically asked for is a low degree of psychological depth which translates to a low degree of visual depth, sculpted but only just, no saturated colors, really staeey in pastel range, faces to be brightly lit all the time, I think he's really ok if there's one cue for act which is ok because it's a farce and actors need to keep action up, m not much to motivate changes. About blocking to dictate lighting choices. He's been very upfront about that. It's a play i would struggle finding depth in anyway so it could be as much about the play than the director. He's not that adventurous, set designer is having trouble getting director on board with design choices. He really just wanted box sets different for each act. We both suggested there are a lot of flowers we suggested embedding lights in flowers he was like ehrrrrrr. We convinced him to be part of the conceit Dolly [a character in the play] is putting this on as a homage to how she got here. We convinced him that it was useful in recognizing that there was this level of meta put into it. There wasn't it was really about talking about narrative the biggest problem I had is i wanted to keep research in the period of the play which we put in 1883 so the specificity matters for costumes. I was looking at painters and the Hudsons came out they have deep colors and pastel landscapes and the problem he kept having was there were places in this images that were dark and shadowing there were so many shadows so much depth and we don't want that. Well, I don't actually mind, [I told him to] just don't look just look at the section of the image and he couldn't see it so I ended up pulling photos of a previous production of the Matchmaker at the Goodman Theater and saying this is what we want. And what he needed to see was faces that were visible in images; none of my images had faces. He's imagining the dark areas were the faces. Look at color and coloration look at what this world of color i'm trying to put together here so the Goodman images helped and in an effort to help him tell the Matchmaker stories before the set of Hudson school painters.

I: What role does visual research play in your design process?

EX04: I always show that because that's the only way I know how to communicate. I'm not good at creating visualizations, maybe I'll be quicker now but previously I can't make a rendering to make it useful, and it's specific and takes time to communicate with the director. While it's a useful communication with the director, but it's often more useful to present a set of images to the director and have them pick out which parts of the images they like. When we decide that an image is "perfect" or this is what the scene should look like. This indicates I need to look more closely, what color is it, where is the light coming from, breakdown the image in terms of lighting and rebuild on stage. Ask director is this what we were talking about. This happens months apart in college. In the professional world this happens in weeks or days. I can also use the light lab here which is a wonderful thing to find an image break it down and look at it in the lab. Another tool I use with directors, here's a mannequin lit like how I'm going to light it. I'll record that as a starting point when I get to the theater. It's a starting point and also an anchor point, the images that's how I use that.

I: What prevents you from creating the "perfect design"?

EX04: Usually it's because I haven't done enough research with the scenic designer and the costume designers. Either lighting the model with light sources that are more faithful to what they'll be in real life or lighting the fabric to see how it takes light and how it's going to move around on stage and if that's going to be a problem. The other big thing is skin tones. If everyone's not the same shade of whatever then sometimes I can get to trouble with that. Doing so inconveniently so there's also the very personal problem about just not having lights somewhere actually not it's about communication. Because if we have a scenic area and we don't have coverage in the extremities and sometimes goes to the other side and I was told no one would ever go there. So that's more about rehearsal communication than about images. I think those are the biggies. Sometimes I will trust the images and will look at renderings on the screen or printed out and they colors don't match. Which is the problem there and I'll look at the image and things look like they'll work and the light just doesn't work. Occasionally it heightens the wrong things or in order to get someone's face to look right their costume looks terrible, almost always a wrong lighting color choice. Costumes always look under neutral white light and sometimes I'm doing something wrong. The rest is just time for cueing.

I: How do you work with LEDs?

EX04: I've used them a fair amount. Sometimes I'll just use them as straight front light. I put LEDs on all 3 sides for Edward, and conventionals, and there was at least one angle that had a full spectrum source just because they're getting better but I feel like because the color gamut is not ideal in the skin tone range it's useful to have for lighting people. But certainly for coloring scenery mood and overall punch they're really good for saturated colors I like them much more than scrollers even though you get more light out of a scroller it feels like a purer color from LEDs on the right colors than filtering colors. I'll often use them for saturated things and color

changing textures. I like them for side light not low side light I just really like no-color shines. Looks terrible with LEDs you can see the LEDs from that angle.

I: Have they affected your design process?

EX04: [The question for me is] if I have LEDs where do i put them. Where the LEDs will be best used? Often that's some form of side but it's usually from the side the way i do things. Some people only use for top and back light I almost never use top light really and I will now consider using LED top light.

5/4/17 - Expert Post-Interview 4 Transcript

I - Interviewer

EX04 - Subject 04

I: Describe, at a high level, how your typical lighting design process would change if you had access to this tool.

EX04: What it ended up doing for Matchmaker is clearing up a lot of confusion. I'll continue to use it more and give feedback after the study. But it along with the images that put [the director] at ease, that yes i recognize faces should be lit, that has allowed me to be a little bit deeper with my color choices a little bit more sculptural to show [the director that] they don't need to be boring and flat just as long as the actors are bright and sparkly. I don't want to say boring or flat, but they have this quality that is not chiaroscuro in anyway there is no shadow just color variation but he's been much more comfortable or that was the time he's been shown the images. It's helped me sort of figure out what i like about the research and find new research as well.

EX04: So for Edward I'm not sure. I haven't actually fed in some of the edward research into it i should try that to see what happens. There reseach in that show was so unidirectional I want one top light I want one light from the side and sort of a dull wash over the rest of the stage. All about minimalism I actually have no idea how the simulator would respond. If we could have had a little bit less discussion with pointing and instead pulling out six images into the interface and picking out a particular sample that could have helped, assuming it knew to do the right thing. It was a show of specials and washes this seems really useful although I've been singing it so it's useful, I've been using it to see what color does this wash need to be . All specials, i don't really know. Not really having pin lights may be a lot of work on the front end may be an issue to get a working tool.

I: Do you see this system changing the interaction between you and the director?

EX04: So how it has changed with [the director of Matchmaker] is that he is like "oh ok i see that", and there's less fear about shadows and I can exclude the shadows by letting the interface choose the colors for a certain angles and I can choose which images to show him. I haven't shown him anything on the interface itself (interviewer note: he means showing the program on a laptop at a meeting), but have [shown him] renderings [from the interface]. So that's been helpful in helping along with the Goodman images which have been key, engendering trust with believe the faces are visible and allowing me to be more narrative. I can always throw in a system of no color blue front light and always turn it on

EX04: With the previous show Edward it may have helped us not have three hour design conversations. It was as a team so it wasn't all lighting, but some of those moments instead of talking so long about what it might look like I could have actually made a quick rendering and

depending on my talent it might not have looked great but it would have been more prescriptive than our imagination. One of the strengths of the show may have been leaving some of that undetermined. Figuring out specifics may have let us get too attached, which is as much a question about how we perceive and use our research and renderings than it is about what the renderings do for us. The danger in what i do in using images is if we are talking about the same thing but not seeing the same thing that can be exacerbated by literal renderings and can also be cleared up. I might not spend the time to make it perfect because i know how it needs to be different but the director likes it. It could cause more problems in tech or it could also shorten the amount of time we spend talking and ideally of course it shortens the amount of time to make renderings that look exactly like what i think needs to be on stage. I think those are the two ways I can see it potentially helping and hurting. Any rendering is a risk.

I: How would the system's suggestion generation change your design process? How would you use it in your process? Does the system provide useful suggestions?

EX04: It does provide useful images, specifically about sampling. It did produce images that I was able to use with a director. The quality of image question is a bit different, it wasn't enough of a problem to make me unhappy. That was a thing that did not deter me from using it. The functionality of being able to input different research i think will be really useful in creating some interesting base looks to start with if we do figure out a way to hook it up to the Eos cuing could be a breeze. The question is is there a way to save the image for use later?

[technical discussion about system functionality omitted]

I think i would spend cueing time-- my cuing time often goes carefully through the show and carefully picking color and angle in a cue and writing that on the side of my cue list. There would be more spending time in the interface I really like how this that and that works, here are my three options, put them into eos later and view them later. I wouldn't spend too much time in my imagination because I'd have a level of control over something that looks like the actual stage. I think I will do that.

5/10/17 - Expert Post-Interview 2 Transcript

I - Interviewer

EX02- Subject 02

I: Describe, at a high level, how your typical lighting design process would change if you had access to this tool.

EX02: Similar to what i said before it turns images into the next gel book. It allows a designer to sort of skip a step potentially in a way in that actually instead of taking reference images. And having to then find the appropriate gel color it would allow someone to use those reference images and go straight to the stage with that colors. Whether or not the designer thinks the program is accurately representing the colors depends on the designer, but as long as they have the ability to tweak after it should be ok. From what I saw it looked like it was doing a good job of that.

I: Can you explain the gel book to me as if I have no idea what that is?

EX02: Currently the way designers work with color is that they have a book of little pieces of gel (filters) and each of those of whatever catalog they use or multiple catalogs. They have to choose which ones they're gonna use. Some designers have favorites, some designers will cover dozens of options figuring out what they want. Some go to a lab and . that's been a topic of interest in the industry, what happens when we don't have gels, with LEDs people have move to using color mixing. We still use gel colors and match gel colors with LED sources but one could hypothesize when we don't have gels do we still talk about gel colors when we talk about what we're looking for. Or does it become a set of stock images that are environments or just colors, that's still a big unanswered question how do we talk about color in the future. This is one way it could go we have images instead of gel catalogs.

I: How does the interaction with the director change?

EX02: All designers and all directors work differently and you have different levels of understanding from person to person. Some designers have a lot of experience with directors and know how to talk to them and convey their vision to them well. Some directors are very aware of lighting and what to ask for to get what they want, some have a feeling but can't necessarily express it well. This sort of idea is one that plays really well for somebody who doesn't know exactly what they're looking for just know what it is. From either side, to a director a designer could show him an image that shows the feel and colors and what it roughly looks like on stage. From a director's perspective they can show images and see what it looks like on stage. The goal is the same, it just makes communication more image-based.

I: How does the iteration process change? How does having this visual workflow change the design process?

EX02: Lighting designers for sure, and very often directors as well are visual people. Sometimes they actually have to get into the space and see it to know what they're going for. They are creating pictures, they are visual people, so having a way they can communicate and a workflow that incorporates visual imagery is a good fit for those kinds of people. Even if it were just a visualization tool it seems like it would be a good way in production meetings for a designer or director to show each other and or each other what they're going for and what they envision without having to go to the theater or set up an actual rig. It seems like a good tool for that.

I: How does the [design candidate generation] change how designers work?

EX02: Again this is a tool that could be used actually live or as a research tool to give you a way to visualize something roughly on stage, am i headed in the right direction on stage, on stage or apply to something in the theater. As far as the usefulness of the suggestions, honestly that's tough for me to say in the virtual environment. I can say when [you showed it to us in our lab space] it seems to accurately represent the pictures, I'm sure designers would tweak something if they had time, it did certainly seem like a really good starting point. Same way i would say gel pickers don't always get the colors you are expecting but it gets you close to save time and get to a starting point. It's hard to say exactly how it would translate to a real life situation, but it certainly does seem that the tools are there to get you where want to go. The user interface needs some work, there's some ambiguity about the terms used. It is not as intuitive as it needs to be. You're really aiming for -- it has all applications at all levels -- it would have huge benefit for novice users who don't understand how you translate a thought in your head onto stage. This is the kind of person who may not tweak anything. For that person, they needs this to be super intuitive. This is a really smart idea.

5/10/17 - Expert Post-Interview 3 Transcript

I - Interviewer

EX03 - Subject 03

I: Describe, at a high level, how your typical lighting design process would change if you had access to this tool.

EX03: I think it would make the communication process between the designer and director a lot easier. Instead of having to rely on two completely different types of communication, director having to interpret direction into technical terms, this tool bridges that communication gap a little bit.

I: How does the interaction between the director and designer work exactly in this scenario?

EX03: You can combine concepts or concept sketches with the director with a practical lighting rig from the designer. You would be able to exactly display what you have to work with able to make specific looks. You could do it with very specific proof of concept images instead of having to take the time to put together an abstract model or build something physical that doesn't have the benefit of actually being realistic to what the director has in mind.

I: How would you use the system to iterate on your designs during the design process?

EX03: I think it would be especially useful for practical effects and looks. If there's a very specific part of the scenery or section of the stage where the director has a specific look or effect in mind. It would be useful to take a smaller sampling of what your lights are, you won't have the entire rig but a specific pieces of them with specific cross section of stage and make it look exactly how it would look in real life so the director has an exact idea of what you're going to do. Would save time, if director rejects idea you have it at your fingertips to change the scene before it's actually implemented. Also works from a designer perspective, able to experiment with looks, color effects, etc. Before programming can use it to create a cue by cue prototype.

I: How would you use the interface in a cuing environment (during tech week)?

EX03: Depends on the show. Depending on what you do with it and how far you go, would be useful for [writing cues]. Depth is really important, determines where layers are, if we're taking the tool as it is now i would find it useful for specific area and effect prototyping rather than something to create the look for the entire show.

I: How well does the system suggest design options?

EX03: It's laid out in a very visually appealing way. Lends itself way to a drag and drop principle, can potentially take an image drag it into the renderer, make some adjustments or have a

template where you have fixtures positions and colors in the database. It would make it appealing to all kinds of people, potentially stage manager, costume designers, anyone who needs to take a quick look at a part of the scene in a run time environment.

I: Do the design suggestions accurately capture the feel of the research images?

EX03: Yes absolutely. It would also be very good as far as the suggestions if there was some mechanics for the end user to tweak those suggestions, dynamically adjusting the palette based on fixtures, possibly some sort of dynamic light environment where you can say "no i always want this to look brighter, darker, mid range saturation" some additional tools to tweak the suggestions. In terms of general logic as to what it's doing, I think it's very very useful, practical.

I: Any additional comments?

I was stoked about it the second I saw it. It seems like a tool that would be useful to many people.

5/12/17 - Expert Post-Interview 1 Transcript

I - Interviewer

EX01 - Subject 01

I: Describe, at a high level, how your typical lighting design process would change if you had access to this tool.

EX01: I think it's something that if it were easily accessible as a starting point I would probably use it not for specials for wash systems. It would be the broad strokes of I want to set a look and a feeling on set. And then I would go and fine-tune the specials afterwards. The way that I would set it up, it would need to not be too disruptive to the existing tech rehearsal process.

I: What do you mean by disruptive?

EX01: I don't think I could add a day to the tech rehearsal process to set this system up.

I: How does this change your lighting design workflow in terms of working with a design team/director?

EX01: With a tool like this I would solicit more visual references from the members of the team. Because I know that I could take the visual references and translate those relatively quickly into something.

I: Would you be visualizing those visual references on stage? In the visualizer? In a simulated light lab?

EX01: I think I would want to be in the space. Or in a light lab that has some elements of a mock up. You don't necessarily have the luxury of having a light lab, you don't usually get to see things until you're in the space.

I: How does this system change the way designs are iterated on?

EX01: I don't think it would manipulate it that much. I see this as a, you know if I'm cooking a meal, if I'm making pancakes I'm making pancakes from scratch and putting them together in a bowl. This may be something like a Bisquick; it's a box that has all that put together. So I kinda see this as simplifying just one aspect of putting it together. I would say that if there were a light lab that had this already set up and the purpose was just to make color choices. That's probably a service that I can pitch. With that said, I could see how the people that are writing the checks could say "why is this valuable, why am I paying you to do something I'm already going to do"

I: How well do the system's design suggestions work?

EX01: It's pretty good. There's a lot of mystery to it. I don't think the mystery is necessarily a bad thing. Living in a world where I open up instagram and they have all those filters but I do know I can click through and use one. I do think a professional designer will want a bit more direction. There was a specific painting called "The Potato Eaters" that how it translated the colors I found very off I've actually used that for a show. It's also I have to say looking at the photograph simulator does not do this product and justice. Seeing it in person it really did a good job of taking the photograph and putting it on stage. So if that's the visual reference it kinda doesn't actually translate doing that too well. With that said, I don't know if there's a way to make it more representative, maybe using a graphic instead.

EX01: Even if you improved the color of the photograph I'm not sure you could ever cross the threshold to make it look anywhere near as compelling as it looked in person. I could be wrong but I suspect that's just the nature of the beast, you're taking something you experienced in real life and limit it to a 2D image. Having some sort of graphical representation of the different lighting positions or maybe you take that 2D image and then just think of it in terms of quadrants and express what lights are coming into it. It looks really good in person and when you look at photographs it kinda looks like eh. To actually have this be useful it would have to be made in person. You can't make decisions before you walk into the space.

I: Additional comments?

EX01: I suspect a tool like this would be useful to people who aren't lighting designers. There is a substantial proportion of the market that has a rep plot. They never get touched after putting the lights up. And if a layman can walk up to a device or wall station and import in some pictures and then hit a few buttons then the stage does what I saw in the Century theater, then they bring up the individual specials that would be huge to that person. This is allowing you to communicate lighting design in an language that isn't about lighting design. At level you don't need precision, you just need a feeling on stage. And those applications I see this being a very interesting way to bridge the mystery of lighting design to a non-lighting designer.