

The LED Volume Stage Explainer Event

POST EVENT SUMMARY

Q&A with Dante Yore, Regina, November 19, 2022/Saskatoon, November 20, 2022

On stage interview with Dante Yore, Chief Technology Officer of Volume Global

Stephen Hall's (moderator) Questions for Dante

(Paraphrased answers in italics)

You just got off the set of a big **production in LA**... what are you allowed to tell us?

I just got off a big production being shot on an Amazon stage in LA. I'm not allowed to say much more than that.

Let's get a bit of **background**: tell us about yourself...

I was the Director of Photography on over 60 films. I've been involved in Virtual Production for the last 5 years. A big motivation for becoming involved with virtual production and volumes was hating working with green screens due to all the problems associated with them and, in particular, not having background references for lighting actors.

Okay. Let's talk about our volume... **Where's our volume stage Dante?**

Currently in the logistics pipeline. There have been some delays due to supply chain issues. There are over 1500 LED panels and each has a chip... so the chip delay has caused a problem. Hopefully arriving in the next two to three weeks.

What will happen when it gets here? **Who will actually build it?**

That's why we are here. The stage will be built by locals that we need to hire, under the supervision of experts who'll be brought in from LA

Today we want to focus on jobs... as I see it there are two broad categories associated with the volume stage: jobs that fall more on the **hardware side** and jobs that fall more on the **software side**. You've told me the most

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immediate need is for jobs on the hardware side: you want people who can help actually build the stage, right? So they can be around to maintain it? Tell me about that.

On the hardware side we need people with computer and networking capabilities. These folks might be involved with setting up commercial computer networks, server rooms, SaskTel or Access Communications techs. We also need people who are comfortable with the kind of hardware involved in live stage shows... lighting techs, sound techs and so on. On the software side we need people who are comfortable with computer systems, and who aren't intimidated with learning new programs. People with experience on Unreal Engine and the workflows associated with making 3D environments will also have an advantage.

What's the **best way for people to connect** with the production if they think they currently have the skills, or are interested in developing them?

They should go to this link and take the work readiness survey.

<https://forms.gle/S7Tjfa2ZobfEUQst8>

Tell me about the training process. What's involved?

It's really hands-on, across the board. We need people ASAP so they know right from the beginning, how the stage is built, how to maintain it and now to operate it.

Tell me about the "Brain Bar" What is a "Brain Bar"?

Sometimes this is called "Volume control"... it's where the computer interfaces are... There are about 5 of them that control different aspects of the volume. It's usually a bench or table that's got a bunch of computer screens on it... kind of a smaller version of NASA's mission control.

• What is a soak test? Why is it important?

The soak test is when we test all the outputs of the system with full LED and full lighting, and we match the look of the level—the background—with all the foreground elements,

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furniture, set dec all that. We adjust the lighting so the real elements and the virtual elements match: they appear to all be in the same world.

So during the soak test, where are the training opportunities?

This is the main opportunity for training for everyone because we aren't in production. It's hands on, people will be actively involved in the process.

What's the plan for training those Brain Bar trainees?

We want them to move from 2nd chair to first chair positions by the 3rd episode of King of Killers. It's fast but they need to fly the plane and the only way is to be in control. The mentors will be right behind them for four episodes. Not only will they get trained, they'll get IMDB (Internet Movie Database) credits on 4 episodes.

So we should touch on how important it is for the training NOT to interfere with production. You and I have talked about how trainees will have to know **when NOT to ask questions**... So a key quality of trainees is a high degree of emotional intelligence. What will training look like when production is really intense?

Trainees have to have high levels of emotional intelligence to know when and when not to interrupt. They need to be able to learn by watching others and to be quietly engaged. If they are just off drinking coffee and grazing craft services because they don't have something to "do"... they won't get trained.

Tell me about "blending"... why is that important?

Blending is part of the soak test. We are always trying to blend the real foreground elements with virtual backgrounds. Once we are shooting the scene the blending continues with fine adjustments that happen during production.

Our stage won't have LED screens on the ceiling, but some do. Tell me about that.

Having the LEDs on the ceiling was an early trial but we realized it didn't really make sense in a lot of cases. For one thing LED panels only emit soft light. There are lots of

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times when we need hard lighting, like full sun. Our plan for Regina has a lighting grid over the stage so we can introduce additional light, particularly hard light, as needed.

But what happens if I shoot off above the top of the stage? Say I'm shooting a big wide exterior, how would I fill in the background.

We can fill these elements in with AR (Augmented reality).

What are some of the special capabilities of our stage that you are particularly excited about? *We are working on beta testing Sony cameras so we can shoot slow motion. Currently that's not possible on other volumes.*

Let's quickly talk about the specific VP positions one by one. Give me a description of the kinds of people who would be right for these positions:

VP Production Assistant - Supports VP Producer and Coordinator on all things VP Production. Standard PA duties

VP Coordinator - Supports VP Producer with scheduling, notes, supplies, furniture, etc

IT/Network/Systems Admin In charge of all things IT: computers, network, storage, servers, imaging systems, etc.

LED Engineers Assist LED Engineering Supervisors in all things LED related.

LED Engineering Supervisor Oversees all things LED technology, LED panels, video processors, pixel mapping, color science, LUT, OCIO, etc. Works closely with the infrastructure and IT team.

Unreal Technical Artist Assist the Content team, StageOp and SetOp in creating tools, streamlining process and optimizing/profiling the environments.

Unreal Generalist Artist Assist the Content Supervisors in all things content related.

Content Virtual Team Building of content for Content Supervisor

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Content Supervisor In charge of all the contents delivered from the Virtual Art Department. Make sure all the loads play performantly in the volume. Make adjustments to the content to get the desired looks from the key creatives. Test environments with the practical sets, works closely with the StageOp to make sure things look and run great on shoot days.

VP Set Operator

Operates the iPad in the volume to assist the Director and Director of Photography to achieve the desired look on set. Add virtual light cards or light blockers. Create virtual flags, virtual Neutral-Density filters in the volume, apply color correction regions to help blend the practical with the virtuals.

VP Stage Operator Operates the Unreal Engine for the VP stage. Tests all the environments for each sequence. Makes recommendations for best practices for how best to achieve the desired results on shoot days.

Motion Capture Technical Directors Assist Tracking Supervisors in all things mocap.

Tracking Supervisor In charge of all things tracking and motion capture. Placement of all mocap cameras, calibrating and profiling of all cinema cameras and lenses combination, solving and delivering tracking data, etc.

Virtual Production CG Supervisor Oversees the VP pipeline, software, tech specs, Perforce, storage, etc. All things technical.

Augmented Reality Supervisor Oversees on-set level extensions, AR imagery.

Virtual Production Producer Counterpart to the VP Supervisor. In charge of scheduling, budget, crewing, business, etc. All the producer stuff.

Virtual Production Supervisor In charge of all things virtual production. Acts as the main point of contact between production, key creatives, and the virtual production team. Makes the final creative and technical decisions in regard to VP.

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Okay, we've been talking a lot about crew for virtual production but **I also want to talk about non-virtual roles...** the classic film production roles in art department, camera department and so on.

I want to start with the Art Department because their workflow has to be really different on Virtual Productions. How does virtual production change the workflow of the art department?

It's a lot more like live theatre. The background environment (level) on the LED screens can be changed over in minutes but the foreground elements need to be quickly changed out. That's a much different workflow than in regular film production. There's a lot of pressure to quickly change out the set dec pieces very quickly. So there are lots of tricks, like two-sided walls and two-sided floor panels.

Tell me about the sound department. What are the challenges in sound?

It's a really big echo chamber so there's a need for lots of mobile baffling, sound blankets, baffle walls etc.

What about the Assistant Director (AD) department? What's the main hurdle?

Scheduling. It's very, VERY complicated. They have to organize a workflow for shooting all the different scenes and set-dec arrangements, and cross organize them with actor availability. I think it's the hardest job on the set.

Let's talk about the future. Once our stage is up and running and you've personally battle-tested it on King of Killers, what's next for it?

We plan on touring all the big streamers through the stage. Netflix, Amazon Prime, Disney Plus, HBO max and so on. Once they see that it's real and we have qualified people to operate it, the big shows will quickly follow.

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Audience questions for Dante and Stephen

(Paraphrased answers in italics)

Will Saskatchewan people be prioritized for the jobs?

Yes. Volume Global's intention is to very quickly develop a 100% Saskatchewan-based virtual production workforce.

Is there easy convertibility /use to switch a volume into a smaller size?

Not really. One of the key attractions of this volume is its size and our intention is to keep it busy with big productions that require that scale. We are hoping to install a second, smaller stage for use in training, car shots and commercial work. But that's just in early stage discussions right now.

What is the biggest volume stage right now? Will ours be bigger?

The biggest stage in the world at this moment is the Pixomondo VR1 stage in Vancouver. It holds the Guinness Book of Records for biggest stage. It's 80' in diameter and 27.5 feet tall. Ours will be 85' in diameter and 28' tall.

What sort of jobs are available for people with a huge passion for the industry but no direct experience?

Lots of jobs will be available for people at every experience level. Entry level jobs include Production Assistant jobs in both virtual and non-virtual roles.

How much coding experience is required?

None. It helps if you have experience with Unreal Engine. There's a heap of free online tutorials for that program. It's a really important program to know and it's not that difficult to learn, especially if you have any experience with programs like AfterEffects, or Premier Pro.

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On a show like King of Killers, what would be the approximate percentage of volume production compared to traditional on location shots?

The plan for King of Killers is to be about 90 to 95% volume. How much volume depends on the show. If it's a film about Tom Hanks on the moon then that would be almost 100% volume.

I'm in high school, what classes should I take? Where should I go to school afterwards (besides Ireland)?

SMPIA is working with local universities and colleges—like U of R, Saskatchewan Polytechnic and SIIT—on programs that integrate Virtual Production. In the short term we're thinking we need some micro-credentialing courses that could be rolled out very quickly. There's also YouTube! There are lots of free tutorials available that are really helpful.

How many individual panels are going to come to Regina, how big are they, and how often do they need to be replaced?

The volume will use 1,500 panels. They are 500mm x 500mm with a pixel pitch of 2.3mm.

What type of skilled trades people do you need (HVAC, electricians, scaffolders, engineers etc.?)

We probably need that whole list at different times, especially as we set up the volume stage. But for the most part we'll be training new positions for virtual production.

How different is acting in front of LED? What training is required?

It's actually easier in a lot of ways. Especially for anything that would have required a green screen. The main difference is that we'd shoot more French Reverse shots. That just means that, instead of moving the camera and lighting around the actors, we just swap their position and rotate the environment on the volume.

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What type of cameras can be used?

Our production is planning to use the new Sony Venice 2. We are actually working with Sony to beta test some special firmware capabilities on the camera.

Other cameras that can be used on the wall include Arris and REDs.

What time frame is projected to install / test / use the virtual wall?

We're hoping for it to be up at the end of the year so we can start soak testing.

End.