**Let's Talk Tech Podcast #2 transcript – Making sense of the video revolution - Vu Digital**

***Preview:*** **Wade Smith*:*** "We *initially set out to create a technology that would deliver personalization to web users. In other words, we would consume content on a website and then return back all of the more personalized pieces of content from the website to the home page. Unfortunately, we quickly realized that although the technology was sound, much of content on these websites was becoming video. That video sometimes was tagged or sometimes had a title, but in no sense was it ever adequate to make long tail personal recommendations. So we embarked to find out who had a software solution that could actually solve this problem for us. We searched worldwide. We couldn't find anything and so we created our own. We call it Video-to-Data*."

***Introduction***: **Stacey Kirkland**: Hello and welcome to Let's Talk Tech, a monthly podcast that explores the latest emerging technologies, the people behind them and how these trends will affect the way we work, live and play. I'm Stacey Kirkland of C Spire and in today's episode, show host Dave Miller interviews Wade Smith, vice president of a Mississippi tech startup that may just have cracked the code on one of the most vexing problems for content providers and big media companies worldwide – how to glean searchable, indexable data from images, text and audio in videos. With video soon to comprise 90 percent of the world's data, learn how C Spire subsidiary Vū Digital developed a revolutionary new computer vision science technology as the result of a pivot.

**Dave Miller***:* Welcome to C Spire's Let's Talk Tech Podcast. I'm Dave Miller, show host, and today we're going to talk about the video revolution and how a Mississippi-based startup is helping solve one of the search world's biggest challenges: how to glean searchable and indexable data from video. Joining us today is Wade Smith, vice president of Operations and Development for Vu Digital, a C Spire subsidiary that's cracked the code on how to convert video images, text, and audio into chronologically indexed text or metadata. Welcome Wade!

**Wade Smith***:* Hi Dave! Thanks for having me on the show. Excited to be here.

**Dave Miller**: We've really been looking forward to your appearance on the program today. As we were considering topics to cover, we wanted to focus one of our first podcasts on Vu Digital and how your company is really helping revolutionize and provide context to the explosion of video content - whether it be through traditional TV programming, online video, that's the area that's really going crazy, or even security and surveillance footage. Let's discuss how Vu Digital came to be, what your initial focus was, and how you've shifted focus, or pivoted, to helping the content industry solve one of its most vexing problems with your video to data solution.

**Wade Smith***:* Absolutely. Actually, it's a very interesting backstory. We initially set out to create a technology that would deliver personalization to web users. In other words, we would consume content on any website and then return back all of the more personalized pieces of content from the website to the home page. Unfortunately, we quickly realized that although the technology was sound, much of the content on these websites was becoming video. That video sometimes was tagged or had a title, but in no sense was it ever adequate to make long tail personal recommendations.

So we embarked on a journey to find out who had a software solution that could actually solve this problem for us. We searched worldwide, but we couldn't find anything - so we created our own. We call it Video to Data. Video to Data is essentially a very simple technology using very complex vision science techniques. We take video and we break it into individual frames. Then we study each frame and identify every face, every object, every brand and logo and then we frame stamp that as metadata. We

also identify and translate any text on the screen. For good measure we take the audio and create a complete and total transcript. So ultimately what you end up with is a clear picture in words of everything that happens in a video. Now you can search, now you can do a lot of things with video that you couldn't before.

**Dave Miller***:* Well this sounds like you're really making a picture worth substantially more than a thousand words. I can remember when Google and Yahoo and later on obviously Bing were in their infancy. Internet search was considered almost a nascent task with virgin software browsers. Fast forward to today and everyone who uses the Internet would be lost without that rich navigation and the discovery tools that are offered through these services. Do you envision a day in the future when Vu might viewed in a similar way to Google and Yahoo as a tech giant in the video to data world?

**Wade Smith***:* We certainly hope so! In fact, most people don't realize that video is truly not a searchable entity today. Machines can't read moving frames. So without video data, there's no way to search that. If you consider that 90% of the world's data will be video in just two years, and then you consider that our addressable market is anything video, we view that as a total global opportunity.

All we have to do is create different language translations, otherwise the images are consistent across the globe. As we learn more about consuming the video and the output becoming every object that one can see, every face that one can recognize, all the brands and logos around the world, we think that's out addressable market and we have an opportunity. Albeit not necessarily search, we're not in the search game, we're in the data game. We want to pin that data to the videos and make it useful for any number of folks in the video value chain.

***Dave Miller****:* Well there's no doubt about the need for this technology. You just mentioned a very interesting stat that 90% of the world's data will be video by 2017. That's just amazing when you think about the implications of that trend. When you look at the product and the solution that Vu has developed, this really addresses a critical need in the content and media space. Contrary to what sometimes happens in the tech space, this is not a solution in search of a problem. It's clear you've really identified a legitimate area of need and a viable, real-life software solution. But, how do you overcome what seems to always happens in the technology sector, which is the new kid on the block needs to get some respect, needs to have that one big client that says, "yes, I believe in the technology and your solution. Let's go for it"?

***Wade Smith****:* I really think it starts with awareness. When you're dealing with nascent technology a lot of times you really have to coach people or help them understand what you've done. In our case, I think it's a pretty simple exercise to say, "your video is now data." So now what do you do with that? Rather than present it as a problem, as you mentioned, we like to present it as an opportunity. In a lot of cases the companies that we're dealing with have hours and hours of video assets. These are assets that they've produced and are extremely valuable to the company. Now, we can show you ways to increase that ROI, extend the lifetime value of the video, or perhaps find new ways to monetize the video that you hadn't thought of before. I really think it's a matter of approaching them from an awareness perspective, then educating and presenting the opportunities. From there, it's interesting we often get into brainstorming sessions depending on the video vertical we're participating with on how we can use this data in new and exciting ways, often ways that we hadn't even thought of when we came into the

room. We really want to present the opportunities to media companies and help work with them and enable them to solve any problems that they have or introduce them to those new opportunities.

***Dave Miller**:* I really think that's a great approach with prospects that have these huge video libraries. For instance, let's say you have a TV station with 30 years of archived film sitting in a vault somewhere that they don't know what to do with. They know it has some value, but they don't have a clue on how to answer that question. Vu actually has developed a solution, but you take the time to brainstorm with them on ways to perhaps monetize that investment. You actually help them understand that there are some ways out there to use software technology that you've developed to help address a real world business challenge or opportunity.

***Wade Smith**:* As I mentioned, we are a data company. All applications are progenies of that. We start with the data. We've already tackled and have largely solved that challenge. We're getting better and better at it every day. As you mentioned, then we get into applications. It's interesting to me as we consider video. Next year could be the first year that video viewing on mobile devices actually overtakes the amount of time spent on TV. But, that's not necessarily a net negative for TV. It really demonstrates how much time we consume video and the importance of video in our daily lives. Our behavior patterns are changing. Besides the television space, there are a lot of interesting verticals we consider as we look at the use cases for data from video. It's really exciting for us. There are probably a lot of folks listening saying "Wow this is great! I've got data from video!" We face this in our introduction pitches at a lot of companies. "Well great, I've got the data. Now what do I do with it?" Well, that depends on the video vertical you're in, whether you're a content creator, a content distributor, a content curator, or many other applications. So we'll come in and we'll talk about those use cases. And some of them are, things like you mentioned earlier, search engine optimization. People don't realize that video's not really searchable, but if you have keywords associated with every second of that video not only can you make long tail searches appear in search engines, but you can actually go to the time in which those things occur. So if you're searching for a particular vehicle or a particular person, a particular slogan or utterance, you can find those things at exactly the right moments. So search engine optimization is one key use case for the technology.

I think another one that's really powerful is just the video tagging. That facilitates the search engine, but it also facilitates things like personal video recommendations when you get into curation. If you consider that Netflix actually has a team of folks that they call "taggers" today, those taggers watch video and they manually write down the things that they see in order to make those videos searchable. That's amusing to me that we are still performing that task today in the 21st century in that manner. This needs to be an automated process and that's what we've done. Or use those tags for other archiving and search huge indexes of videos. For instance, national broadcast companies who archive and search, they need to have records of all of these things and so having time stamped metadata associated with the video makes them completely searchable.

Another interesting application, and one that is timely, is in the strategic advertising space. So many advertisers today struggle with event-based advertising, they struggle with pre-rolls and post-rolls and mid-rolls and how to make those things work, particularly in a mobile context. They're struggling with people who don't watch them or they like to skip them and what we propose is using the metadata in a way that presents in context or in time advertising. So advertising that coincides with what's going on in the video. You can use it in context for example there's an automobile accident in a video, an auto

insurance provider might want to advertise at that very moment. Or in time which we can facilitate something like leveraging pause screens. Real estate on the screen that's not used today, a consumer can be educated to pause a video and get information about what's going on in that scene of the video. The actor, what's the actor's name, their bio, their twitter account, social media, perhaps there's advertisement, perhaps there's product placement. There's so many things that you can do with those opportunities just by having frames down to metadata associated with the video.

Consider product identification. Imagine being an e-commerce player. For some of the largest - Amazon just overtook Wal-Mart in the retail space – e-commerce providers imagine leveraging your video and associating it with products and we can identify not only the products, but the brands and logos and make very specific matches to things in the video. So finally we can create a purchasable experience through video consumption. Brand valuation segmentation is very important in a sporting context and otherwise, but if you think about measuring the exact amount of time a brand or a logo appears on screen, you can really start to go back to those brand sponsors and tell them the exact value of that so it's actually a measurable entity now rather than subjective exercise and valuation. There are a lot of other interesting use cases. Just to name a few quickly, we think there's a big opportunity here in the surveillance space. Interesting that we can metatag all the surveillance video so you can have a record of what happened, which actually solves two problems. It's makes the video searchable, but we're also finding, particularly with police departments and other law enforcement agencies that are recording things from cars or body cameras or otherwise, that they're building these huge video databases and they don't have the storage capacity for them. So what we recommend is you use video to data technology, capture the metadata associated with those videos, compress your video files and send them off because you have the searchable data there and you can retrieve as needed.

In addition to that, there are other plays in the big data space. A lot of people are just in the big data game – they're not serious players. They're creating algorithms to search large quantities of data and to predict results. A lot of predictive analytics companies are receiving multi-billion dollar valuations these days, but here's the problem: that's fine as long as all the data they're searching through is only written text, but what if there are images associated with the data? What if there's video associated with the data? Those predictions, the analytical engines, are either wrong or have a shallow analysis because if you don't understand the context around the text, then you're analysis isn't quite deep enough. Those are just a few of the applications that we're excited about. Like I said, we dream up new ones every day and we're always looking for more.

***Dave Miller***: Well, it sounds like you might be getting a call from Lebron James' agent soon for some valuation work.

***Wade Smith***: *Laughs* We hope so!

***Dave Miller***: Well, we really appreciated the visit today and the insights on your product, Wade. It's been fascinating learning more about Vu Digital and about your game changing video to data technology. If you'd like to learn more about Vu Digital, go to myvu.com. Thanks again for coming on the program. We'll look forward to catching up with you in the future.

***Wade Smith***: Thanks, Dave. I really enjoyed the conversation.

***Episode #003 Preview***: **Stacey Kirkland**: Thanks for listening to today's podcast. You can follow Wade Smith and Vū Digital on Twitter @bwadesmith and @vu_digital. If you like the show, subscribe through SoundCloud, iTunes, Stitcher or Tune In. Join us next time as we interview some of the key players for C Spire in a retrospective look at technology changes in the decade since Hurricane Katrina. Join them as they recall first-hand accounts of death, destruction and the resiliency of the human spirit in the aftermath of the worst natural disaster in U.S. history. Learn how the Mississippi-based company's mobile service unit helped Gulf Coast storm victims, about the heroic efforts of technicians to maintain and restore critical communications and how the company is better prepared today for the next storm of the century.