The art of shared information.

Public Intel

Depending on who you ask, institutions can carry a bad rap. To be institutionalized sounds negative, even though some of the most important influencers in education are institutions. But institutions are often too big to be able to connect to people on a human level. Individuals in these systems can get so caught up in checks and balances that they weaken the soul of the institution, if not demolish it completely. But nothing is further from the truth for the following three individuals, who work within large establishments and are, nevertheless, dedicated to being as intuitive and accessible as humanly possible.

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Raj Puran seems to have found the best things in his career by accident. Growing up, he gravitated to programming and had an interest in building musical equipment, which led him to study engineering in college. But on a ski trip with friends, just before his 19th birthday, a casual conversation led to an offer to intern for Intel. Puran agreed, not realizing then that his internship would quickly evolve into working nights in tech support while attending school to now, 23 years later, working as the Business Development Manager focusing on VR, AR, and MR (mixed reality) partnerships.

All the while, Puran has harbored an unwavering love for music. Four year ago at Musikmesse, a trade show in Frankfurt, Germany, Puran stumbled into his first VR experience. Yamaha's booth hosted an experience involving Steve Gadd's original drum kit—Gadd is one of Puran's favorite artists. He was skeptical upon seeing the headsets, but what he experienced was far from his expectations.

"Lo and behold, there was Steve Gadd in front of me playing on that same drum kit," Puran recalls, barely containing his excitement. "I was like, 'Wow, hold on a second!' Then I put on a different headset and was seeing a different view of Steve Gadd. That moment, I was sold on VR."

Since then, Puran has been thinking about how he can use this new platform to do more for the user and create something that is more meaningful with a wider reach. He saw an opportunity to connect technology with an effort to democratize information for a broad audience. His gut feeling was to work with educational institutions and then, an idea hit him during a meeting with his team. "You know," he told them, "it would be great if we could recreate one of the major museums."

Puran reached out to friend and film producer Lauren Selig, who helped connect him with the board of the Smithsonian American Art Museum (SAAM). He remembers witnessing the connection that Betsy Broun, the SAAM director at the time, had to every object they encountered in the collection. "What dawned on me was, there we were having this magical experience with Betsy and her staff," he explains. "They were sharing very intricate information about each of the works. Not everybody gets the privilege and the joy that we had of walking around with the heads of the museum, and that really drove the creative process for us."

The connection between Intel and SAAM evolved from there; Puran was adamant about keeping the lines of communication open, which led to a tip-off that Nora Atkinson, the Lloyd Herman Curator of Craft at SAAM, was curating an immersive exhibit called "No Spectators: The Art of Burning Man." It piqued his interest, as did Burning Man, a haven for many who find themselves interested in the experience of both art and technology. He jumped at the opportunity to connect with Atkinson, who explained that it would be slightly decoupled from what is traditionally known as Burning Man. With the help of his colleague Lisa Watts, Puran began putting together a team, including Sansar, the high-fidelity VR

platform that would not only host this virtual gallery but also play a vital role in further optimizing the experience so that visitors could access the artwork in this digital space the same way they would in real life. "We wanted a VR experience that you could go and do on your own," Puran says. "You know, you're walking around museums and you bump into people and you share opinions about an artwork and so forth. How could you do that inside of VR?"

The collaboration has been a success. "We were able to focus on what we do best," Atkinson says, "contributing content and working with artists, and Intel was challenged to bring our vision to life." In their first demo, they walked guests in Los Angeles through several of the works in virtual space, in real time, from their offices in D.C. "We're no longer bound by the limitations of the gallery or the safety of the artworks, or even their locations, so the stories we're able to tell are vastly greater.

> We can transport our visitors to far off landscapes or times, we can place them face-to-face with the artists, we can let them interact with objects in ways we normally never could."

When Atkinson reflects on her experience curating this exhibit, interaction is at the core. She wants visitors to walk away from the exhibition feeling that art—both its enjoyment and its creation—is for everyone, for them to feel inspired to create the world they want to live in, and to understand the value of play. VR technology also adds to the life of the exhibit, allowing more people to experience it over time and bringing it to an audience who may never get a chance to visit the museum, bound as it is by physical space.

According to Atkinson, however, the 21st-century museum faces an interesting conundrum: Museums are the keepers of material culture, and the care of the objects in their collections has always been primary to their mission. As they become more visitor-focused,

they are seeking ways to make their objects more accessible to the public without putting them in harm's way. "What I am most proud of is the Smithsonian breaking down the perception that such a large, prestigious institution can't take risks and be approachable," she says.

Puran has also noticed the difficulties connected to the material aspect of their collaboration. "It's a pretty sizable undertaking to scan, photograph, render, 3D-develop, model, and engineer in such a way that you still maintain the essence of the original art and its likeness," he explains. "But you do it in such a way that it can still be up to scale and maintain all the glitz and glamour of what's in the gallery itself. That's a lot of work."

Nobody knows this better than Vincent Rossi, the Senior 3D Program Officer at the Smithsonian. "It's 19 different museums," he says of the institution's scope. "It's a place where real research happens. The entire Smithsonian collection is 154 million objects, and less than one percent of those objects are ever on physical display. So the majority of our content is really behind the scenes."

If you look up Rossi, you may not take him all that seriously—his Smithsonian profile is a photo of him eating ramen with a prominent waxed handlebar mustache in all its glory—but the way he discusses his department's work between museum branches makes you realize how serious he is about the potential impact it can have. Rossi is a wealth of knowledge on the ins and outs of producing 3D scans and renderings. With a background in sculpture and art, he is passionate about every detail, and how that information can help researchers as well as the public. His department makes all 3D scans available online for viewing and downloading, unless copyright, patent or cultural restrictions apply.

"How do we connect the technology, unlock collections that are unseen, and connect that with educators and researchers, and also make that data available so that the woolly mammoth experiences happen and the toy designer suddenly creates a 3D printable toy and sends it back to us?" asks Rossi, referring to a toy designer and comic book artist who downloaded the mammoth to create a 3D-printable figure. "We are currently redistributing that creation he's made."

He's not the only one who has discovered the Smithsonian's downloadable 3D data; Rossi recalls a high school student from

Colorado downloading 3D models from a gallery of U.S. presidents that his team created. "We 3D-scanned, I think it was 20 busts of American presidents," he says. "He downloaded these models as part as one of his classes and created a VR experience." The student tweeted at the 3D Smithsonian Twitter account and now, he and Rossi are discussing a future internship position with his team. It gets Rossi thinking: "How do we encourage this kind of activity? I'm incredibly fortunate in that I get to go behind the scenes and see this amazing stuff, but how do we democratize that?"

Puran also reflects on this often. "I think the one area that I'm pretty passionate about is disrupting the educational system," he says. "We don't have an even playing field for students. We still put people in boxes they don't necessarily want to be put in." He remembers struggling throughout school. He knew his learning style wasn't the same as that of his peers, but he could catch on quickly if he could engage with something. Many kids feel similarly, and the traditional educational format simply doesn't cater to them. Puran feels this could change with VR.

"The question we're concerned [about] is how we level the playing field so that students are engaged and are more active," he says. "There's something that happens when you put on a headset. As much as I can talk to most anybody that comes up to me, I'm very shy about being interactive. But in the headset, all of those inhibitions went away. I wasn't nervous, I wasn't scared, I wasn't shy, I wasn't embarrassed."

A group of middle schoolers from an underserved community visited Puran's lab recently, and he ran them through multiple VR experiences. "There was one young lady who was just sort of hanging out in the corner, she was sort of shy, she didn't really want to try VR. Being a dad of five girls, I felt something, so I approached her and asked if she would like to see a museum inside the headset." He put her in the headset and watched as she started looking around and laughing. "She was amazed. She was having all of these reactions. I looked over at her teacher, who was equally shocked by the change in the girl's behavior." In a way, the headset allows people to experience life without the gaze of others, a safe space without the stress of what may be around them. "If you can give people those types of experiences, that's meaningful. That's worthwhile, and that's what we hope to accomplish."

For Puran, Atkinson, and Rossi, the goal doesn't end with the work they're already doing. They each see endless possibilities in the direction that technology could have, not only in cataloging and displaying artifacts and art, but also in generating a world where creating opportunities are endless and accessible. "How do we make it more available to not only big, professional creative houses, which we service very well today," Puran says, "but also the indie creator? How do we get the indie creator empowered, so that VR becomes the mainstream thing that we all know and hope and expect it to become?" He sees his post at Intel not as a peak he has reached but rather a position from which he can pull others up to share his view and perspective.

Atkinson's deep desire to share in the wealth of knowledge knows no bounds either. "If tech wasn't a barrier, I believe we could bring to life the web of connections that every object and story embodies, to help people understand the richness and beauty of art, and to convey empathy," she says. "I hope we can expand this collaboration and continue to experiment, to see the outside reaches of what we can achieve together. I believe we've only scratched the surface of what is possible, and I'd like to see us take even more risks as leaders in our respective industries, because we can learn even from failure about what is effective, what is achievable, and what sparks the mind."

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