

YULIO^{VR}

Ryerson
University

Client Conversations:

Creating with VR:

How Ryerson's Summer Camp
is Shaping Tomorrow's Designers

Professor Vincent Hui, from Ryerson University's Architecture program in Toronto, ran a series of Architecture Science camps for students aged 9-13 this year and introduced them to Yulio VR. We sat down with Vincent and Gloria Zhou, the course counselor, to learn more about the program and the reaction to VR technology from students.



Yulio: Hi Vince and Gloria, thanks for sitting down with us today - could you give us an overview of the program and your goals?

VH: Sure - About five years ago we started the Architectural Science Program to expose students to digital fabrication and design and make it accessible. A lot of students have the wherewithal to use Photoshop, InDesign or Illustrator. But, they really didn't have exposure to 3D printing laser cutting and CNC routing. So we gave them opportunities to do everything from architectural experiments like making cardboard bridges over pools to the 3D printing of jewelry.

After a couple of years, it was one of the most in-demand camps we offered at Ryerson and kids who finished the program were coming back and asking for another program that could offer some greater insights. We did some work on Digital Creativity last year, and this year we started a program called the "V4 lab" which was basically allowing kids from 9 to 11 go beyond the Digital Creativity camp.

We didn't want to have the camp structured as "You are going to become an engineer" or "You are going to become a robotics scientist". We wanted to make sure that there was a blending of skills and interests because careers are being made not in silos, but in the multidisciplinary facets. It's the combination of all the sciences and disciplines that gives rise to new and interesting career paths. We saw the effects in the program, with students taking virtual reality and actually using it in an urban environment to talk about creating future cities.

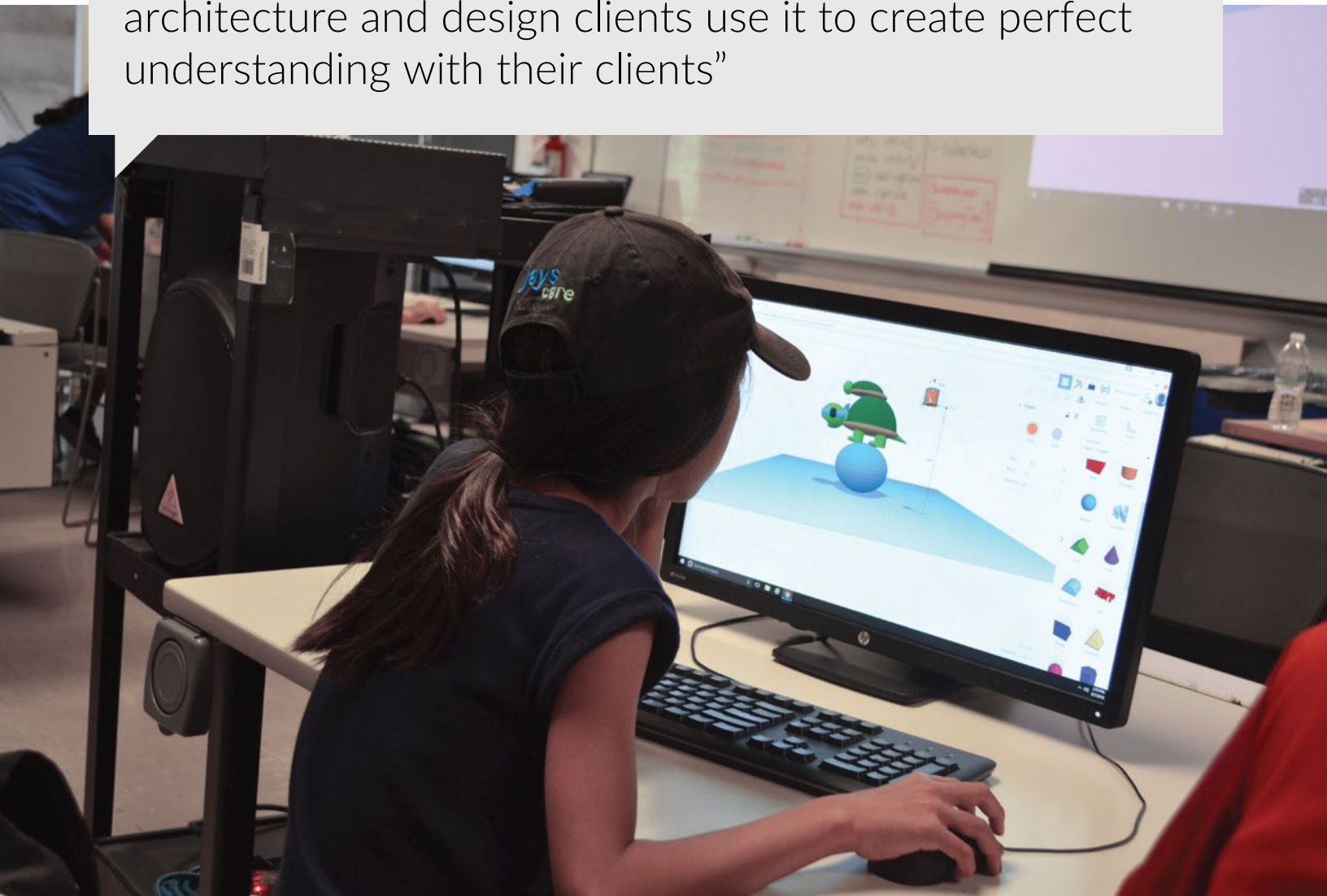
Yulio: What did you do this year with the VR integration?

VH: We let the kids develop a vision of the future of Toronto's City Hall. They were using Yulio VR to build temporarily installed sculptures in the space like artists from Nuit Blanche do. At Ryerson we're literally blocks away from City Hall, so the students could actually be there, take their photos and go back and then see what they're developing not from 3D aerial views, but from being in the trenches. That's what really made the 'wow' factor, this sense of seeing their vision on a real space. And what we saw was kids using 3D modeling and VR for the first time, and they're going to town on it and making some really interesting stuff.

Yulio: What do you think the kids were hoping to see in their projects?

GZ: They were so pleased by the fact that they were able to see their sculptures in the middle of the square or the site that we gave them. They got to see their virtual work in a real space they are familiar with and it was very exciting for them.

“VR is the ideal medium for sharing your vision of something that doesn't exist yet, which is why our architecture and design clients use it to create perfect understanding with their clients”



Yulio: So how did the kids react to seeing their designs in VR?

VH: Kids were just knocked out of the park by populating and generating all those VR scenes - "I actually modeled this and this is really my design in that space!". And typically kids don't really get that experience. Perhaps in Architecture school, we get jaded and we take it for granted, but a 9-year-old has their eyes beaming when they are looking at their own work in VR. And their parents were able to say "I sent my kids to this program and they made a VR 3D model!" and actually view it and share it with everyone else (I'm pretty sure Grandma and Grandpa are about to see it!). The software itself - Yulio - was instrumental in making sure that it was so easy. We've been looking at the alternatives and they might have certain features, but I like the easy accessibility and the fact that I can share stuff so easily.

At the end of the day, the students were able to have fun and do 3D modeling and also visualize their design not just simply in the screen, but in a real arts environment which was really compelling.

GZ: I think a lot of them have actually never experienced it unless at small moments in their lives where they are in movie theaters or on YouTube. But when they actually got to see their model come to life in virtual reality they were very impressed and really shocked that it was so immersive. Their parents also reacted really positively. We had a final show for the V4 Lab program where parents came in and looked at the VR projects using Samsung goggles with Yulio. They were surprised that so many models were presented and that they showed up really well. A lot of the parents hadn't been exposed to virtual reality until that very moment, so as they were watching it in the goggles, they found it really neat.

Yulio: Was it complex for kids of that age?

VH: We thought the biggest bottleneck was going to be 3D modeling. And fortunately, it wasn't. It became evident that students were able to model things fairly easily. They're from the Minecraft generation so they understand how to build in 3D and are used to exploring the world they created (Minecraft is a popular video game where kids build 3D objects with cubes). The students have a great deal of acumen in 3D modeling. It is an empowering thing! So it's actually impacting now how I'm dispensing material in university.

Students then had such ease of use of the Yulio software that they went back and forth between iterations in VR, which was incredible, so we had enough time to pick one of their VR models and render it very well so that the students and their parents would be able to see something really incredible. And because of Yulio, we were able to send out a URL without having to go behind paywalls or do any kind of registration. The kids and their families all got to experience what they created. And that was key - the exciting part of creating comes from sharing the work.

"VR is having a significant impact in the way designers, architects, construction and BIM all work together, to create shared understanding of what is going to be built"

I think that kids are realizing that any medium that they are exposed to is not simply for consuming but that is something they can also use to produce and share. What is interesting to me - the empowerment wasn't just creating the VR experience but the fact that they could share it. And again, Yulio is the tool that allows them to do this - it's just great.



Yulio: Do you think VR was a wow experience for the kids or was this generation just expecting it all to work

VH: From a UI standpoint, I think that they kind of expect that things work as easily as Yulio. When it comes to their expectations on the visualization front, speaking specifically about the children, we're seeing this encroachment of virtual reality - they could create the environment and modify it in some way and then have their own interventions and design it. They learned that VR is not just about showing what they modelled or consumes by watching, but it's that they can actually create and produce something with this tool. Once they model things, they have to figure out all the details to make sure that it's feasible. Even at the university level, we're pushing that through our students to no longer say "I photoshop that and therefore someone else is going to make it".

Yulio: Do you think this experience sets bigger expectations for them as the future consumers or influences their future careers?

GZ: Yes, I think that's especially fair for this generation. Since they're exposed to VR at such a young age and designing with it for the projects they were doing in the camp, they understand how virtual reality works. I think that it can be really well integrated into their careers whether it is in technology or if they're in retail. It could open up a lot of opportunities and doors for them to learn about and become comfortable with this technology early.

Yulio: What do you think the difference will be when these 9-year kids become your university students in 8 years' time? What do you think the difference will be in their expectations of VR by then?

VH: I would say that they're going to be more demanding in terms of the outputs - whether it's more visually realistic, more interactive environments, more robustness and being able to change things on the fly. I think that's going to be one of the critical things. At the same time, they're going to be less patient. Not even in eight years, but I'd say soon virtual reality is going to be far more engaging, far more robust. The ubiquity of it as an entertainment device from when they throw on a Samsung Gear or a Playstation with a VR

system, means they're going to be used to it. So for educators - we're going to have to up our game - and not only educators but the industry in general whether it's architecture or theme entertainment like Disney World. VR is increasingly becoming not only a component in the end-user experience but also in the development of design work. And I think that's probably really appropriate. So coming down to what the kids will expect: they're expecting us to be better.

The reality is that we're going to see more and more ubiquitous computing, more and more that can be actually done on that platform. And the outputs will be superior to what we have right now. Technology life cycles are getting shorter: while what you saw YouTube take maybe eight years to ramp up, VR has come together really quickly and is constantly getting better. Now we've got the technology to meet the student's increasing expectations. These kids are going to be using VR in their future careers, and even just their lives.

Our thanks to Vincent and Gloria for sharing the insights they see from students using VR at camp - students who will be our customers and employees soon!

Visit yulio.com for more information



Check out a few kids camp projects [here](#) and [here](#).

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