

Architectural Visualization from the artist's perspective.

Christophe Chevallier
Norm Li Studio

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Norm Li - architectural visualization studio based in Toronto

Architectural Visualization **is everywhere.**

N L

- Arch Viz is everywhere if you pay attention.
- Even if do pay attention sometimes difficult to know as it's hard to tell if an image is rendering or photo.
- So where can you find arch viz?



N L

- Nearly 100% of Ikea kitchen catalog is 3d renderings, most of their product renders are 3d renderings and 30% of their overall image production is digitally created.
- A lot of the bathroom and kitchen marketing images are now renderings because more cost effective



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- Another spot you can find 3d renderings is in the street
- Hoarding by construction sites
- Showcase project
- Get people excited about it



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- If you like the project If lucky enough to be able to afford a condo in Vancouver, you'll make your way to sales center
- Obviously it's going to be covered in renderings, animations and even interactive experiences.

CBC | MENU

news Hamilton supports Waterfront Shores proposal to turn Pier 8 into a 'jewel'

Hamilton supports Waterfront Shores proposal to turn Pier 8 into a 'jewel'

f t g+ in e

Mayor says plan will transform the concrete slab into something the city can be proud of

Dan Taekema - CBC News - Posted: Jun 06, 2018 4:16 PM ET | Last Updated: June 6



City staff are supporting a proposal from the Waterfront Shores Corporation to build hundreds of condominium units, retail and walkable public space on Pier 8. (Waterfront Shores Corporation)

3 comments

An ambitious plan to turn the concrete slab that currently makes up most of Hamilton's Pier 8 into a residential area bristling with condominiums where "all streets lead to the water" has been selected by councillors.

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- If you just read the newspaper or just look at it on your smartphone like most people
- Come across articles showcasing future project in the city
- Here competition in Hamilton that we won a couple of weeks ago



- I prepared the slides and wrote that arch viz is everywhere
- Thought that maybe just because I'm obsessing?
- Tried to pay attention to arch viz images on my way from Toronto to Vancouver
- Arch Viz actually is everywhere

Why is it everywhere?

- Our world is growing and changing everyday
 - Our cities change
 - Our interior design tastes change
 - Our daily living is always evolving
- ArchViz is the medium to tell stories about
 - A future community
 - A future space to work in
 - A future place to live in

What type of application?

Who creates architectural visualizations?

What is our approach?

What is important to us?

N L

- Describe the type of application for arch viz
- Typical profile of people creating arch viz
- Who we are at Norm li and what our workflow is to give you some context of where I'm coming from
- What's important to us

Types of Applications

Design Review

End user: Architects, interior designers, Clients

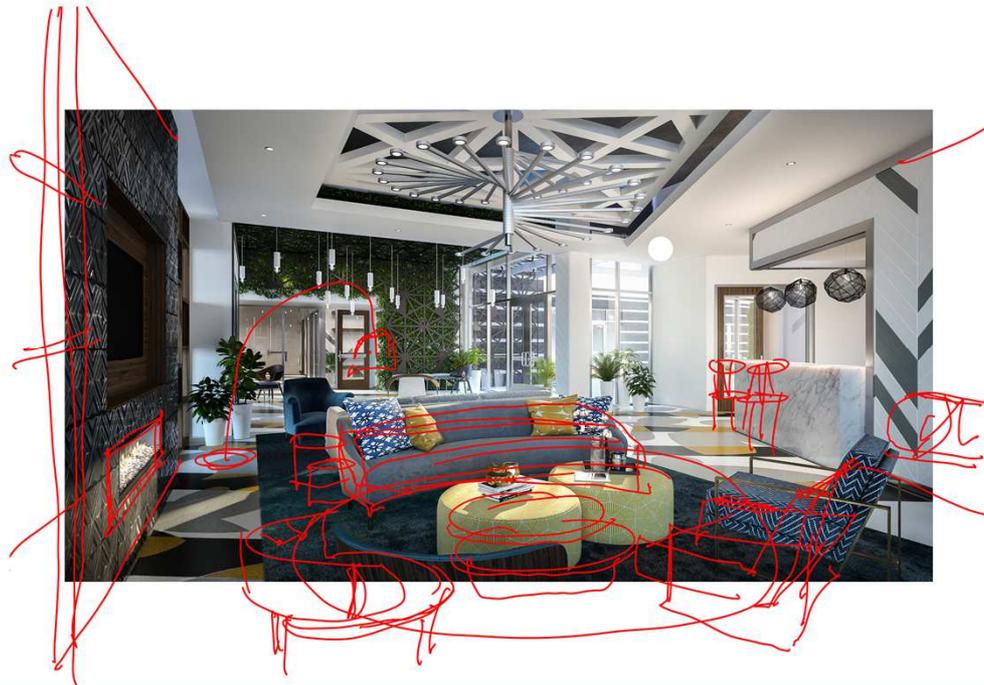
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- When architect/interior designer design something
- Want to get it approved by other architect or client
- Create an image so they can share it and get feedback



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- Get it reviewed



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- And they do it again

Architectural Competitions

End user: Jury, investors, public

N L

- When city wants a new project built like library or new community
- They don't go straight to an architect but ask some selected architect to propose their best idea
- Present an idea/concept to the jury/ investors and sometimes to the public



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- Not representative of final design
- UNStudio in Melbourne
- Still being reviewed now
- Once architect is picked then they actually design final tower based on concept - or not



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Pier 8 in Hamilton, Won a couple of months ago

Urban Planning

End User: City planners, Government, Public

N L

- Once architect is picked and they work on the project
- Lots of steps to get the city approved by the city



N L

- Less flashy. Technical
- Correct sun angles, can't fake it
- Building right size
- No moody images with fancy light streaks
- Check that building fits in neighborhood

Marketing
End User: Public

N L

Most famous use of arch viz

Real estate and product design



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- End user is the public
- Hopefully buyers
- Show the project and how it fits in the neighborhood



N L

- Marketing to convey an idea.
- kid friendly space
- daycare and school in building



N L

- Convey mood
- Doesn't really show the design but more a lifestyle
- If you buy that condo
- enjoy life by just drinking champagne in your jacuzzi

ArchViz is more than just still images:

1. Animations
2. Interactive experiences
3. Virtual reality
4. Augmented reality
5. Web

N L

Animations. Been around for the past 10 years but easier and easier to produce so demand higher

Interactive experiences: been around for a while too but quality gets better

Virtual reality: new shiny one. Mobile oculus go. Wired rift or vive. Pick up pace once people actually have one home

Augmented reality: arkit, arcore, place furniture in your home, not there maybe see a building in the street

Web: future be able to share 3d model through browser. Then do virtual reality without headset

Who creates architectural visualizations?

Who creates architectural visualizations?

Students

Team Size: 1-3

Type of application:

Design review

Software: Revit, Rhino,
Sketchup

Resources:



N L

Students:

- Ressources limited:
- Not a lot of software
- IT department in university but can't access always
- Not a lot of assets
- No render power

Who creates architectural visualizations?

Students	Architects
Team Size: 1-3	Team Size: 1
Type of application: Design review	Type of application: Design review, Client presentation, Urban planning, <i>Marketing</i>
Software: Revit, Rhino, Sketchup	Software: Revit, Rhino, Sketchup
Resources: <input type="checkbox"/>	Resources: <input checked="" type="checkbox"/>

N L

- **Architects:**
- Ressources limited:
- More software
- IT department if they don't work by themselves
- Build small asset library
- Limited render power

Who creates architectural visualizations?



Students

Team Size: 1-3

Type of application:

Design review

Software: Revit, Rhino,
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Resources:



Architects

Team Size: 1

Type of application:

Design review, Client
presentation, Urban
planning, *Marketing*

Software: Revit, Rhino,
Sketchup

Resources:



Freelancers

Team Size: 1

Type of application:

Client presentation,
Urban planning,
Marketing

Software: 3DS Max +
Sketchup

Resources:



N L

- **Freelancers:**
- Ressources limited:
- More software.
- No IT but don't have much hardware to debug
- Asset library
- Limited render power but online render farm

Who creates architectural visualizations?



Students

Team Size: 1-3

Type of application:

Design review

Software: Revit, Rhino, Sketchup

Resources:



Architects

Team Size: 1

Type of application:

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Freelancers

Team Size: 1

Type of application:

Client presentation, Urban planning, Marketing

Software: 3DS Max + Sketchup

Resources:



In house rendering team

Team Size: 1-10

Type of application:

Design review, Client presentation, Urban planning, Marketing, *Animations*

Software: Sketchup, 3DS Max

Resources:



N L

- In house rendering team:
- Most architectural studios bigger than 50 people have their in house rendering team
- Ressources limited:
- All software need
- IT department
- Asset library
- small render farm or at least their networked workstation

Who creates architectural visualizations?

Students	Architects	Freelancers	In house rendering team	Visualization Studio
Team Size: 1-3	Team Size: 1	Team Size: 1	Team Size: 1-10	Team Size: 5-50+
Type of application: Design review	Type of application: Design review, Client presentation, Urban planning, <i>Marketing</i>	Type of application: Client presentation, Urban planning, Marketing	Type of application: Design review, Client presentation, Urban planning, Marketing, <i>Animations</i>	Type of application: Client presentations, Urban planning, Marketing, Animations, Interactive, VR, etc.
Software: Revit, Rhino, Sketchup	Software: Revit, Rhino, Sketchup	Software: 3DS Max + Sketchup	Software: Sketchup, 3DS Max	Software: 3DS Max
Resources: 	Resources: 	Resources: 	Resources: 	Resources: 

N L

- Visualization studio:
- Ressources limited:
- All software need
- IT department
- RD department
- Big Asset library
- render farm + networked workstation

- Online render farm

- Market is really fragmented in a way that very different team size and profile work on same type of project.

All are different but all have things in common:

1. Always have tight timelines
2. ArchViz artists come from:
 - Formal education in architecture or design
 - Self-taught
3. Great artistic sense but lack formal technical training
4. Passion for ArchViz

N L

1. Like in every over industry tight timeline
 2. Arch Viz artists typically either have a formal education in architecture or design
 3. No technical training other than youtube tutorials and forum
- We all are passionate people and always looking to improve

Who are we?

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Now that you know a bit more about the industry what can be produced

Going to talk to you about our team so you know in what category we are

Talk about our process which is similar to a lot of other companies



NORM LI



- Team composed of 47 highly talented artists and operations team
- All our team members have training in architect.
- Create small scale projects to large scale projects.
- Emphasize storytelling. Department specialized in crafting story with people.



NORM LI



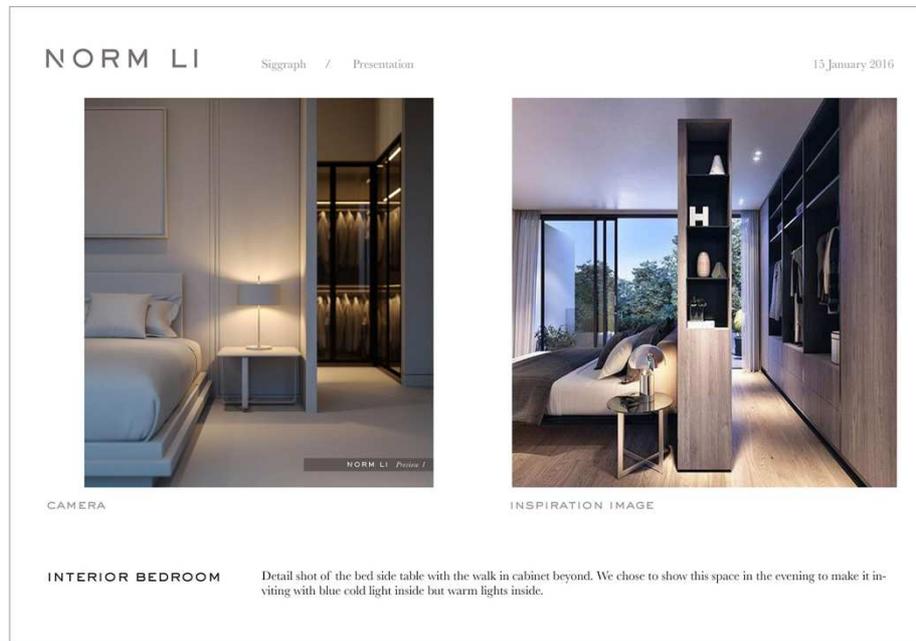
- Still rendering, animation, doing more and more VR and interactive
- RD in WebGL, AR

Process is Key

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- When we work on a project we not only get directions from our client but also from architect, landscape designer, marketing team, developers, etc.
- Work with so many clients easy to go sideways
- Talk bout process for still rendering
- Similar for other type of content (animation, vR, etc) but timelines are slightly different
- Ideal project takes 4 weeks
- Kickoff meeting

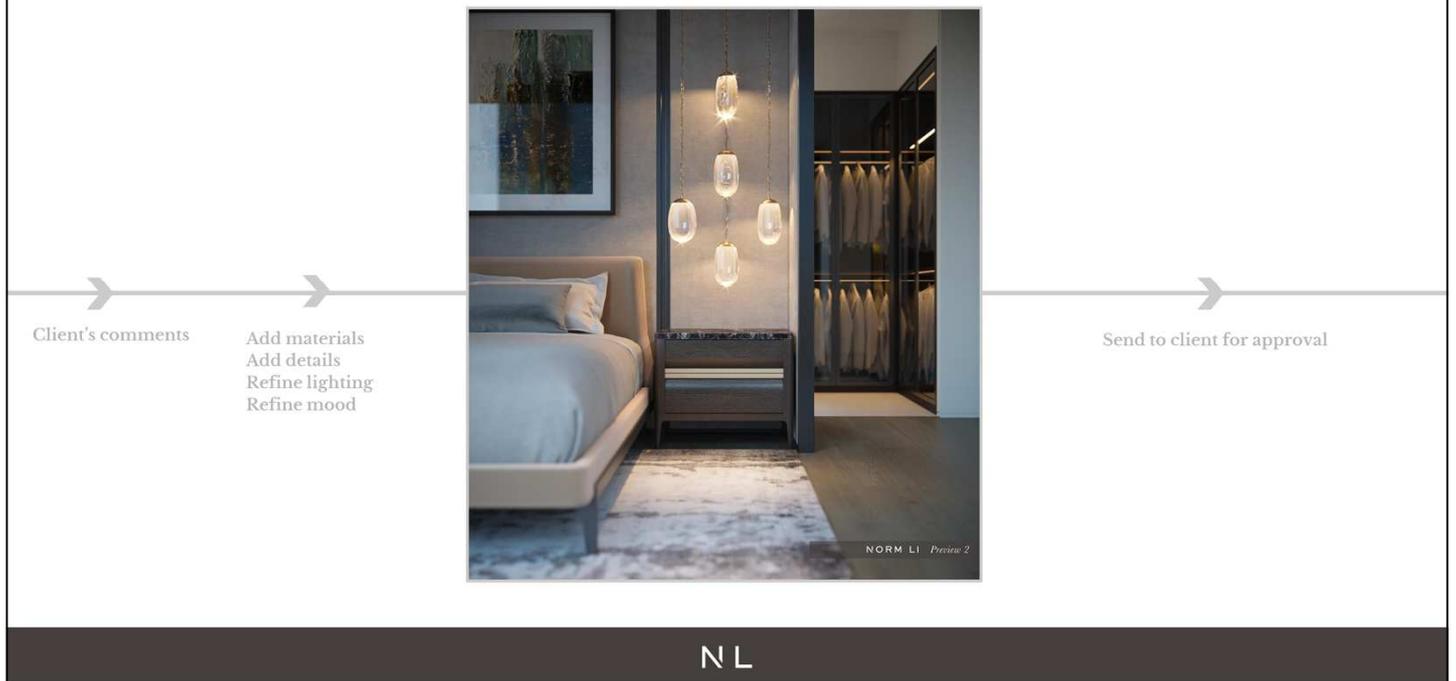
Our Typical Workflow: Week #1 — Image plan



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- Import/model all new assets to 3dsmax. Receive CAD (less and less), Revit/Rhino/Sketchup/etc.
- Place cameras
- Find inspiration images in line with client's request
- Create lighting based on inspiration images
- Basic 3d people/silhouette to emphasis storytelling
- Basic Photoshop
- Send for review

Our Typical Workflow: Week #2 — First Iteration



- Take care of client feedback
- Add materials
- Add details
- Refine lighting
- Refine mood

Our Typical Workflow: Week #3 — Second Iteration

Client's comments

Refine accessories
Refine materials



Send to client for approval

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Our Typical Workflow: Week #4 — Final Image

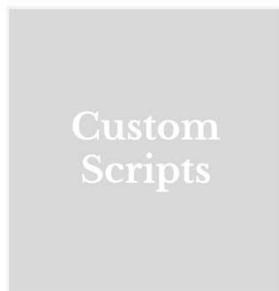
→
Client's comments



Deliver final image

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Software



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What's important to us, the artists?

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What's important to us as arch viz users?

Robust solutions.

N L

- Work on big and small project

What's important to us as arch viz users?
Robust solutions.



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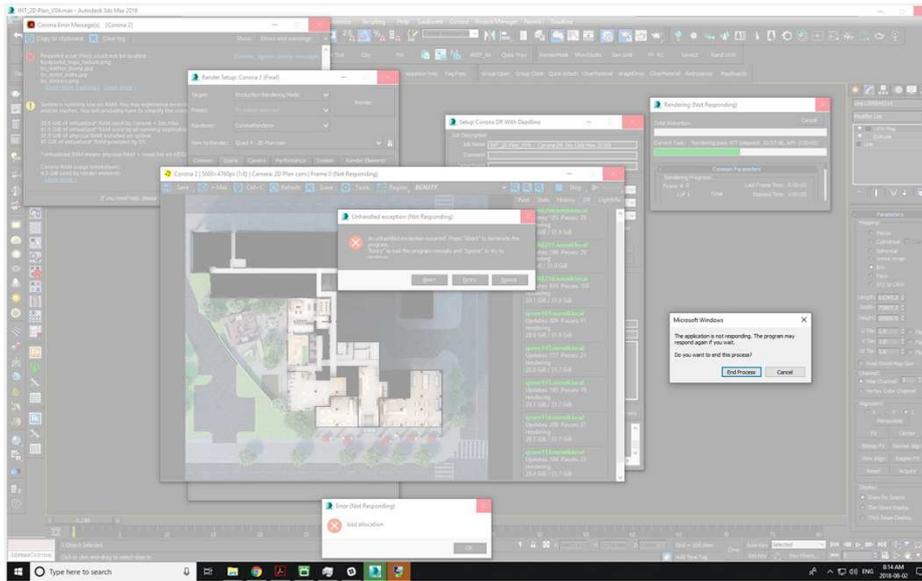
- We can work on detailed shots only showing a bedside table as well as working on master plan aerial views showing thousands of cars/buildings/trees/people/etc.
- We want the engine to render both images locally or on a farm without problem.
- Vray has made it much easier for users in the past few years and we now don't really have to mess with settings anymore which is great. I also like how they have a beginner mode and expert mode to hide unnecessary UI.

What's important to us as arch viz users?
Robust solutions.



- Render on farm and locally without problem
- Software handle any scale of project
- We don't like seeing this type of screen

What's important to us as arch viz users?
Robust solutions.

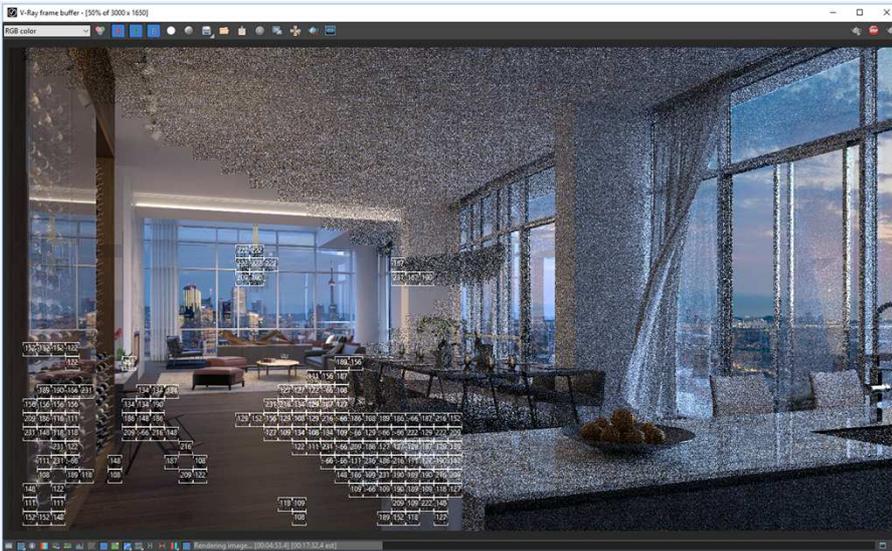


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What's important to us as arch viz users?

Render speed.

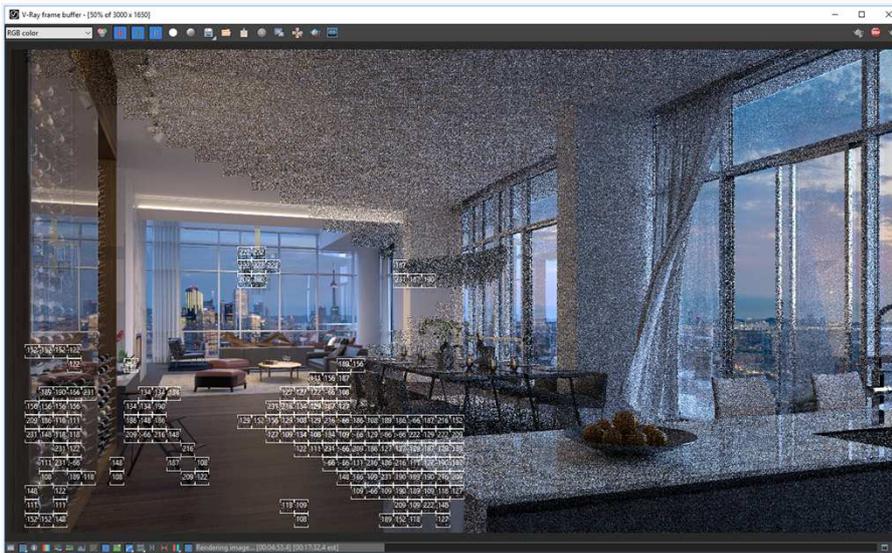
What's important to us as arch viz users? Render speed.



NL

- We all hate looking at buckets moving slowly while we know that we have 5 more images to work on or a deadline coming up soon.
- Weird way it's relaxing
- We want the render to be as fast as possible without compromising quality or having to tweak dozens of settings.
- When creating a lighting for a scene we'd like to get instant feedback and just be able to take "photos" of the scene like you would in real life.
- Need clarification

What's important to us as arch viz users? Render speed.



5k images, 10 render nodes

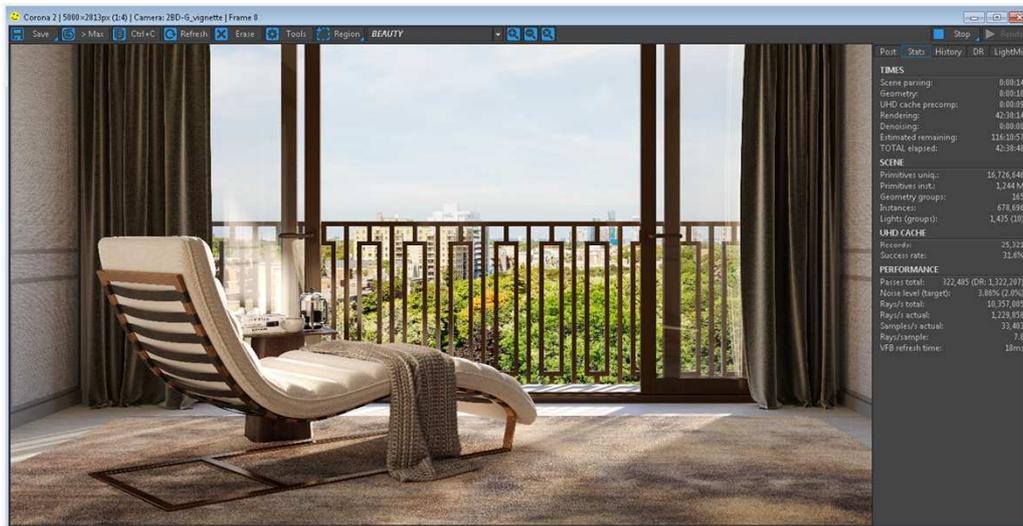
1-4 hours in Vray
2-6 hours in Corona

1-3 Hours per frame for
HDTV animations

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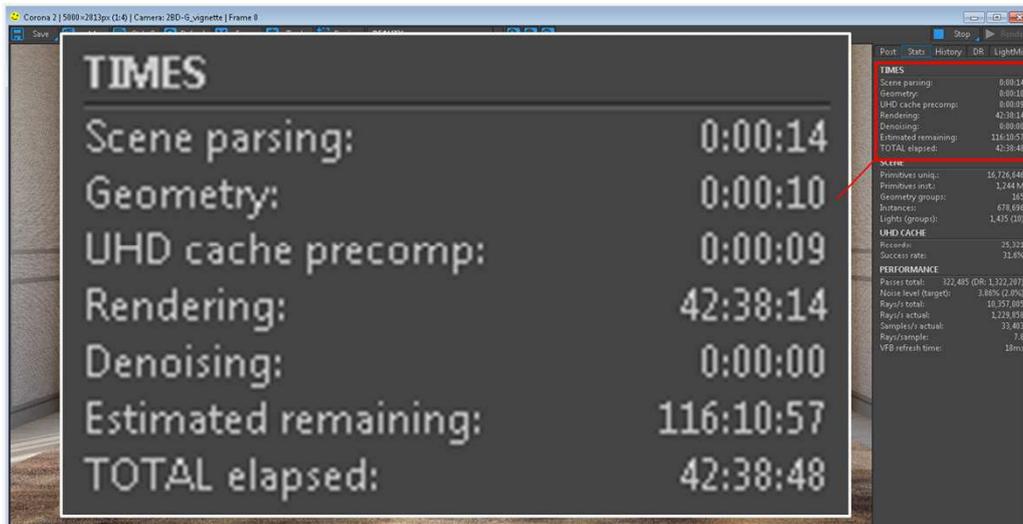
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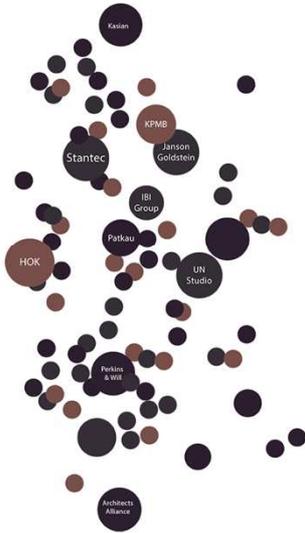
What's important to us as arch viz users?

Software compatibility.

NL

- Don't build models from scratch
- We rarely have time to model/remodel everything from scratch, so it's important to us that the engine knows how to read/translate information from other software. We get models from dozens of different software from hundreds of different companies and the quality of the model we receive greatly vary depending on who created it. We just want to be able to import them and start working on our composition/lighting.
- Ex: Autodesk materials don't get converted to vraymtl when using the converter.

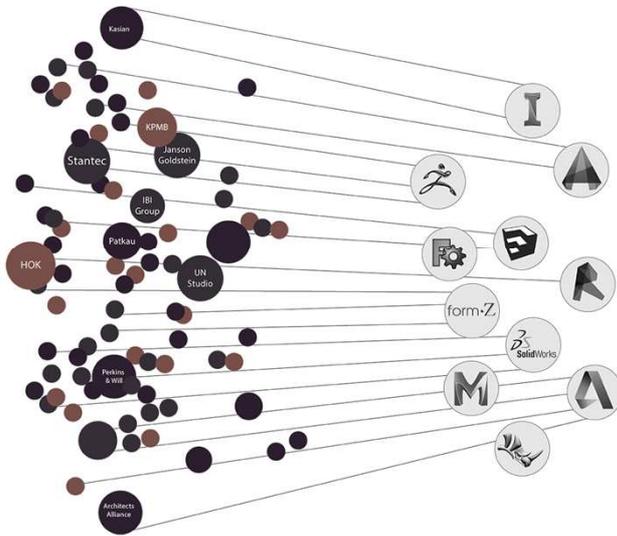
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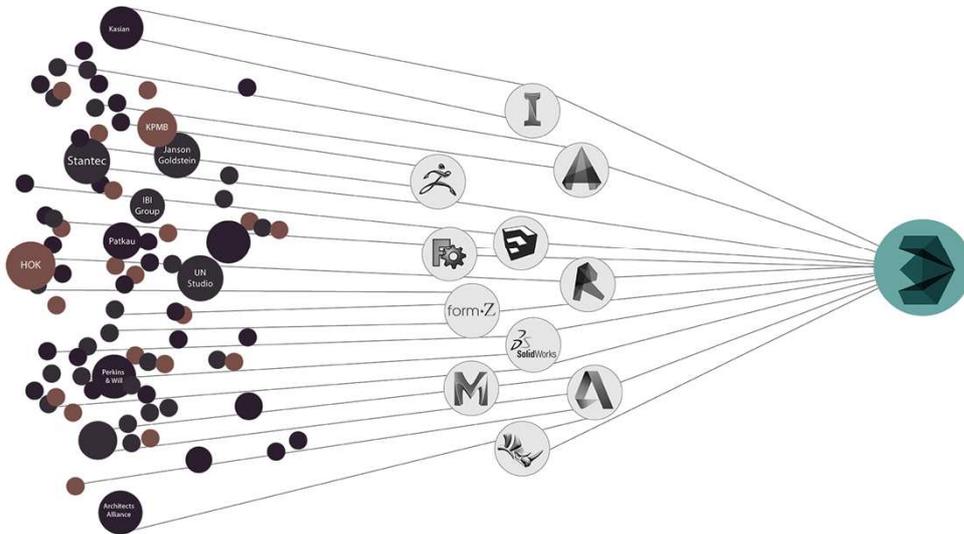
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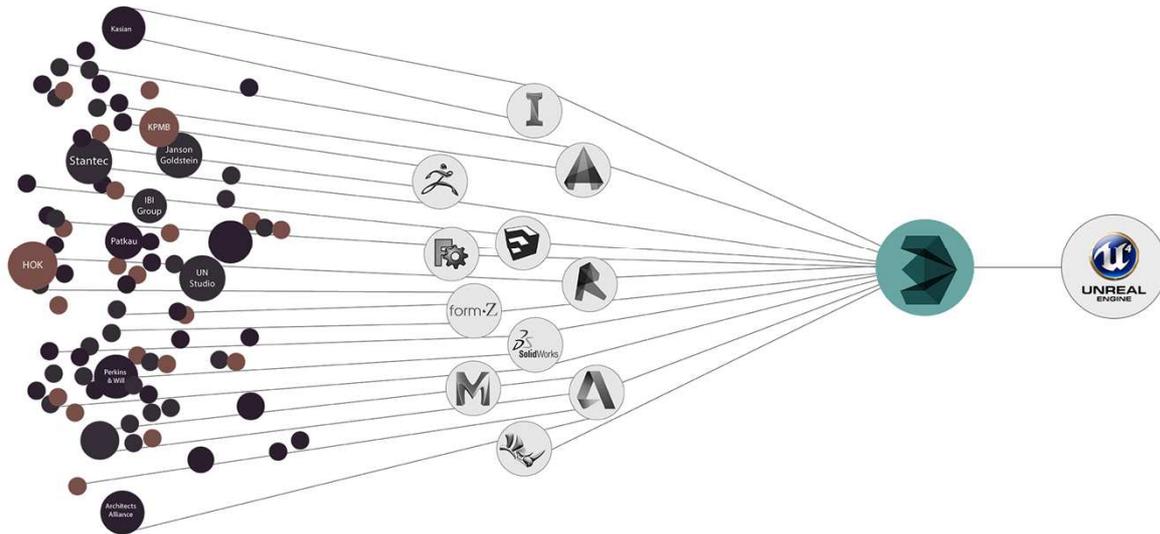
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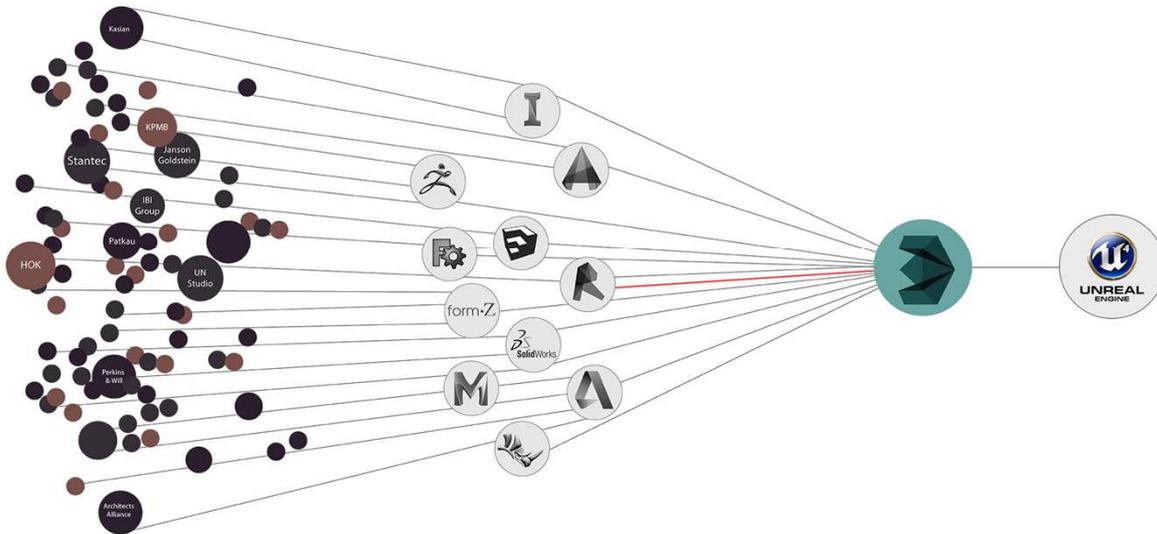
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What's important to us as arch viz users?

Plug & Play Tools.

N L

- Because we can't be specialized in just all aspects of a render, we're looking for plug and play solutions from both the engine and plugins/software to create water (phoenix), realistic vegetation (forest pack), parametric modeling (railclone), etc.
- If we are creating a video and are planning to add water simulation, we can't afford for artists to spend weeks on learning complex water simulation system. We need to get something working and looking good in a couple of days max.
- Corona material library is great for beginners to learn and for more advanced users to have a go to library to start from. I wish Vray was offering something similar.

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What's important to us as arch viz users?

Solutions that answer our specific needs.

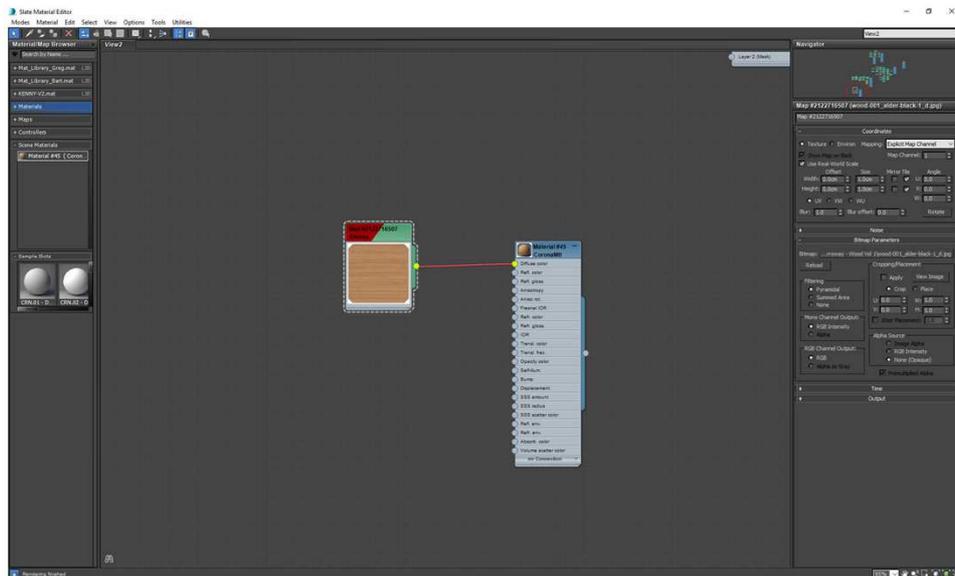
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- We typically don't have time to unwrap objects and paint specific maps for a model. We usually apply box mapping on everything which is a great time saver but not so great when it comes to realism and adding details.
- Vraytriplanartex and corona triplanar map are really helping but it'd be great to see more built in solutions to add dirt on maps at the edges(plugin richdirt built in Vray/Corona) slide: richdirt, to randomize maps (coronaUvwRandomizer exist now but I've been hoping to see that node in 3dsmax/Vray for years)Slide: coronaUVWRandomizer. Solutions like built in multitexture would help a lot too. Slide: multitexture
- Both Corona and Vray now offer a way to round corners of objects in a material which is great but it's only been available for a couple of years and

implemented through bump. Possible to add a round corner button in materials? Slide: rounded corner button added to vraymaterial?

- Optimize map size on the fly to better deal with ram usage?
- **scratches**

What's important to us as arch viz users? Solutions that answer our specific needs.



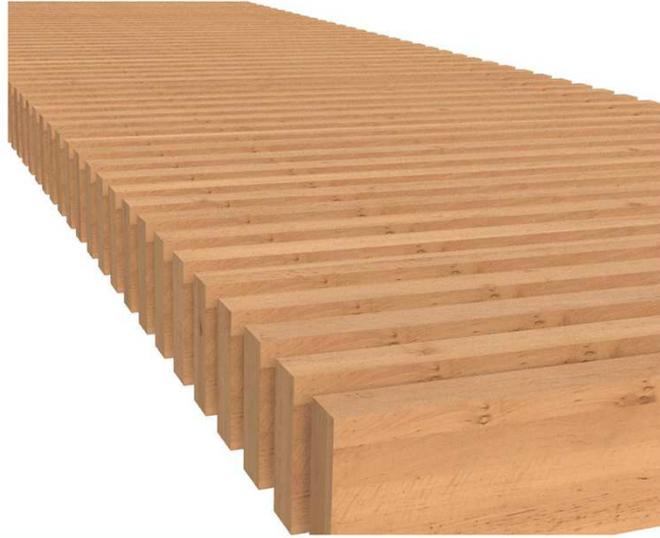
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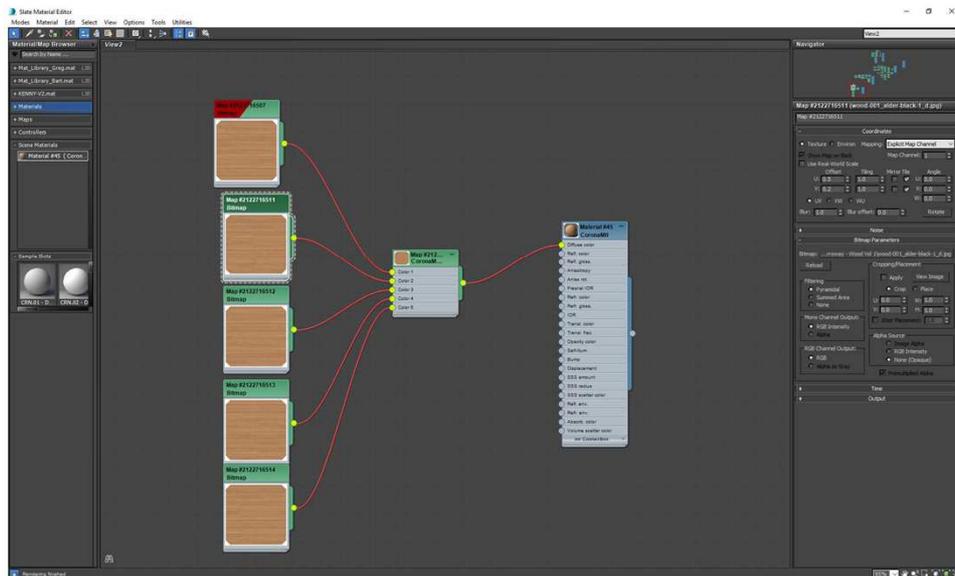
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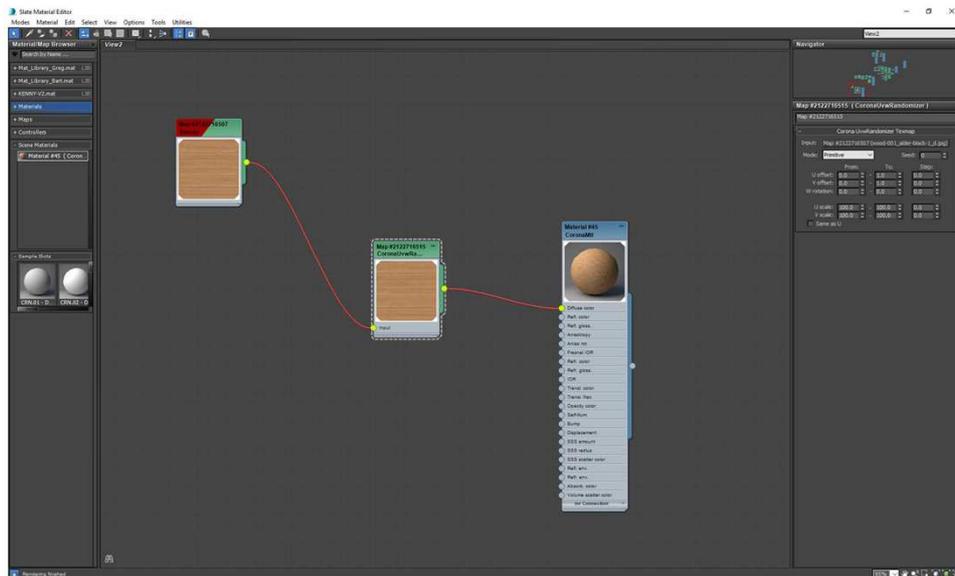
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- We typically don't have time to unwrap objects and paint specific maps for a model. We usually apply box mapping on everything which is a great time saver but not so great when it comes to realism and adding details.
- Vraytriplanartex and corona triplanar map are really helping but it'd be great to see more built in solutions to add dirt on maps at the edges(plugin richdirt built in Vray/Corona) slide: richdirt, to randomize maps (coronaUvwRandomizer exist now but I've been hoping to see that node in 3dsmax/Vray for years)Slide: coronaUVWRandomizer. Solutions like built in multitexture would help a lot too. Slide: multitexture
- Both Corona and Vray now offer a way to round corners of objects in a material which is great but it's only been available for a couple of years and

implemented through bump. Possible to add a round corner button in materials? Slide: rounded corner button added to vraymaterial?

- Optimize map size on the fly to better deal with ram usage?
- scratches

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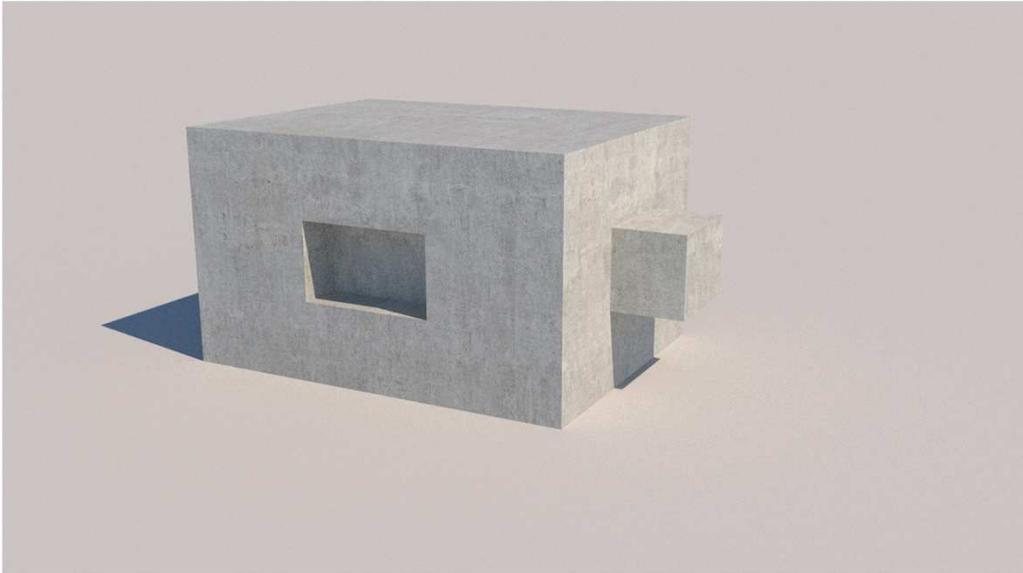
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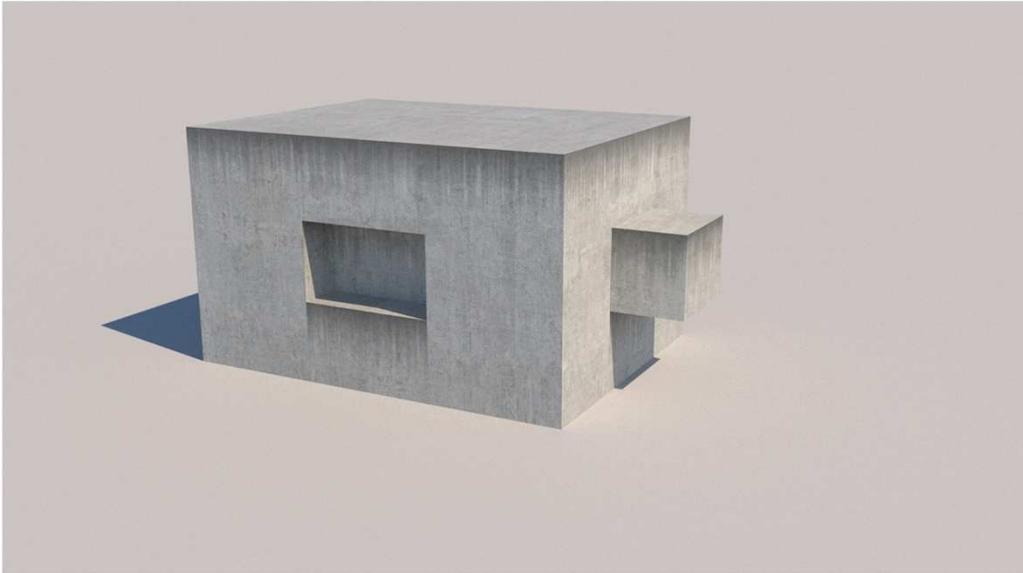
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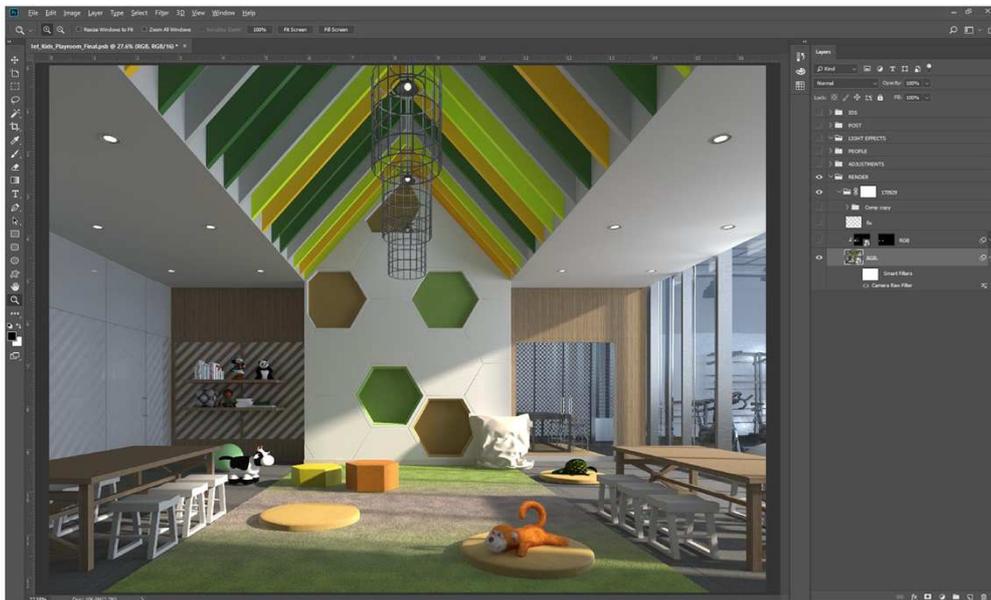
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In-engine post production.

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- This will depend on studios and look of images but we're aiming for photorealistic look.
- Most studios used to do a decent render in 3dsmax and then spice it up in photoshop. The trend these days is to get a final image in the VFB because:
- Compiling in photoshop is time consuming.
 - If we want to move camera it has to be redone from scratch
 - If we want to create a new camera created from scratch
 - If we have to do a video lots of the tweaks done in photoshop are difficult/impossible in after effects/nuke.
- VR 360 renderings

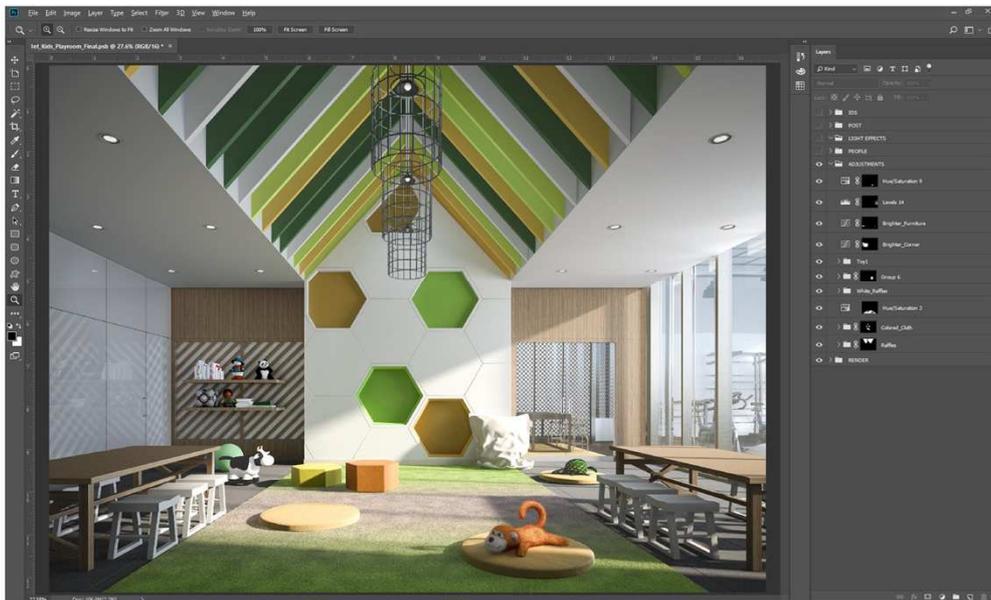
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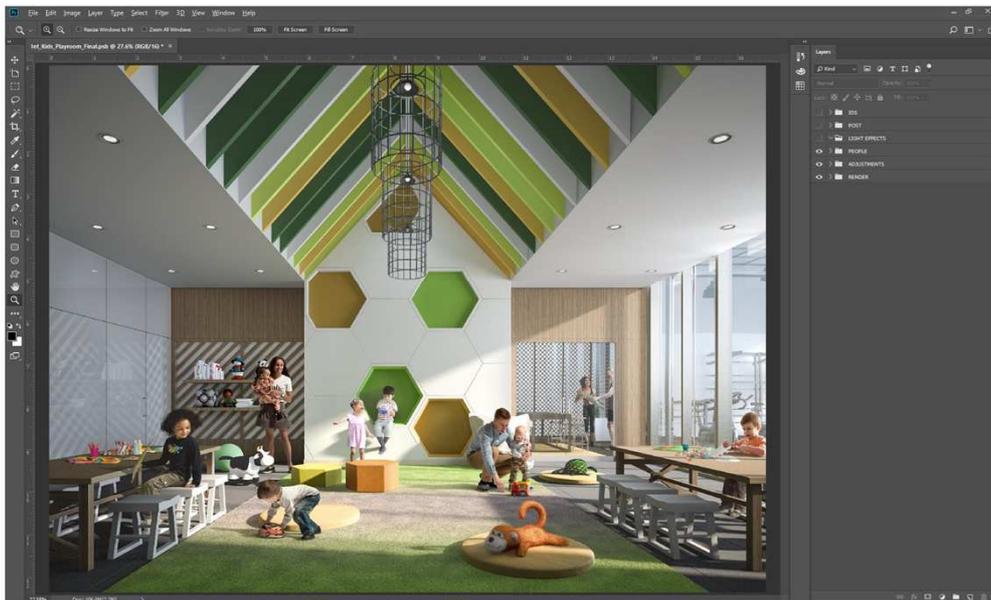
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What's important to us as arch viz users?

- Robust solutions
- Render speed
- Software compatibility
- Plug & play solutions
- Solutions that answer our specific needs
- In engine post production

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What's important to us as arch viz users?

Creatively use software
to produce captivating imagery
with narrative, mood, and purpose.

Conclusion

Passionate about the art form.

Nerdy about technological possibilities.

Excited to innovate on new platforms and expand ArchViz content.

Challenge to create more complex work within tight timelines.

ArchViz is everywhere.

Bright future for the industry as demand and expectations of quality continue to grow.

Looking forward to new technologies that will empower us to tell more stories about unbuilt places and spaces.

N L

Change all slides to bulletpoints. Text to be presented.