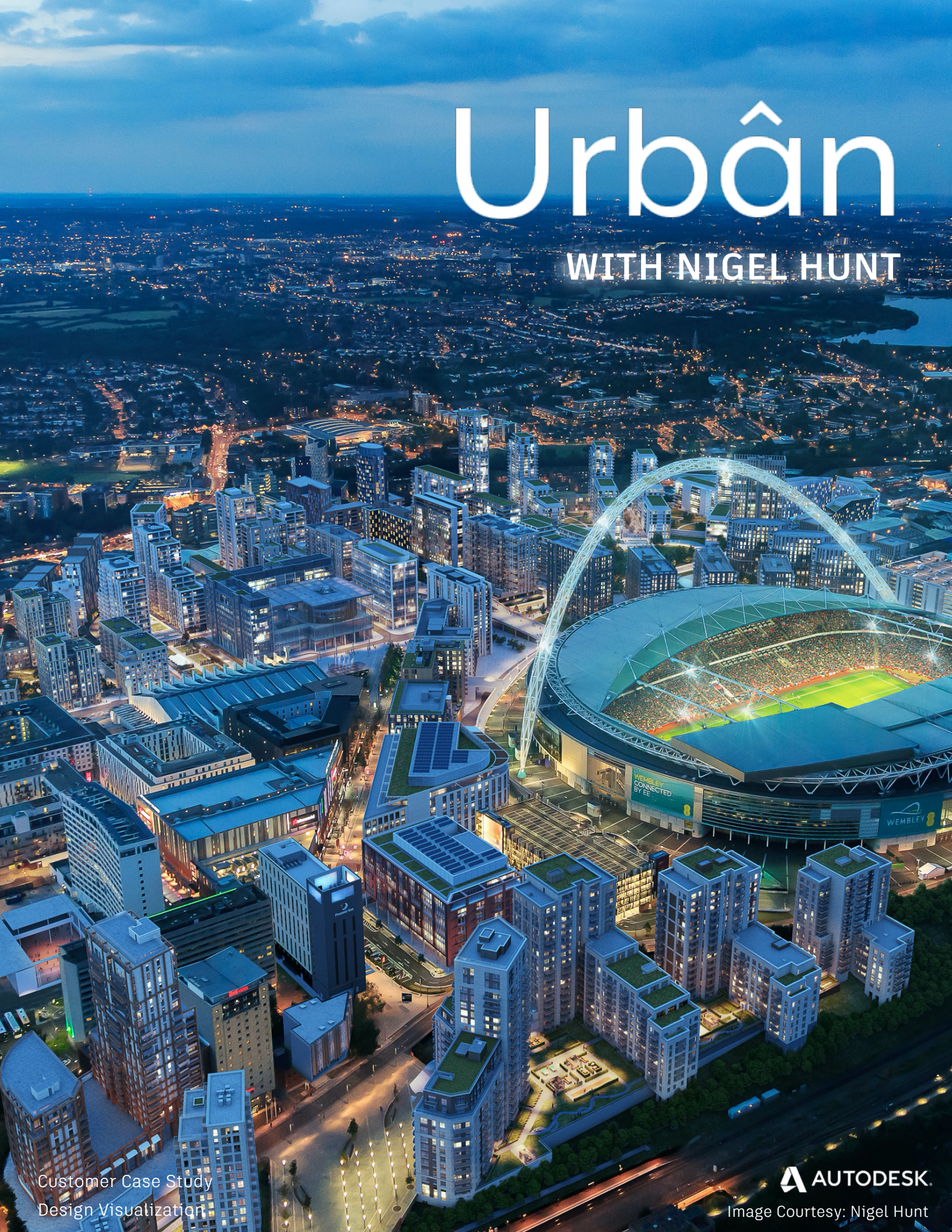
Urbân

WITH NIGEL HUNT



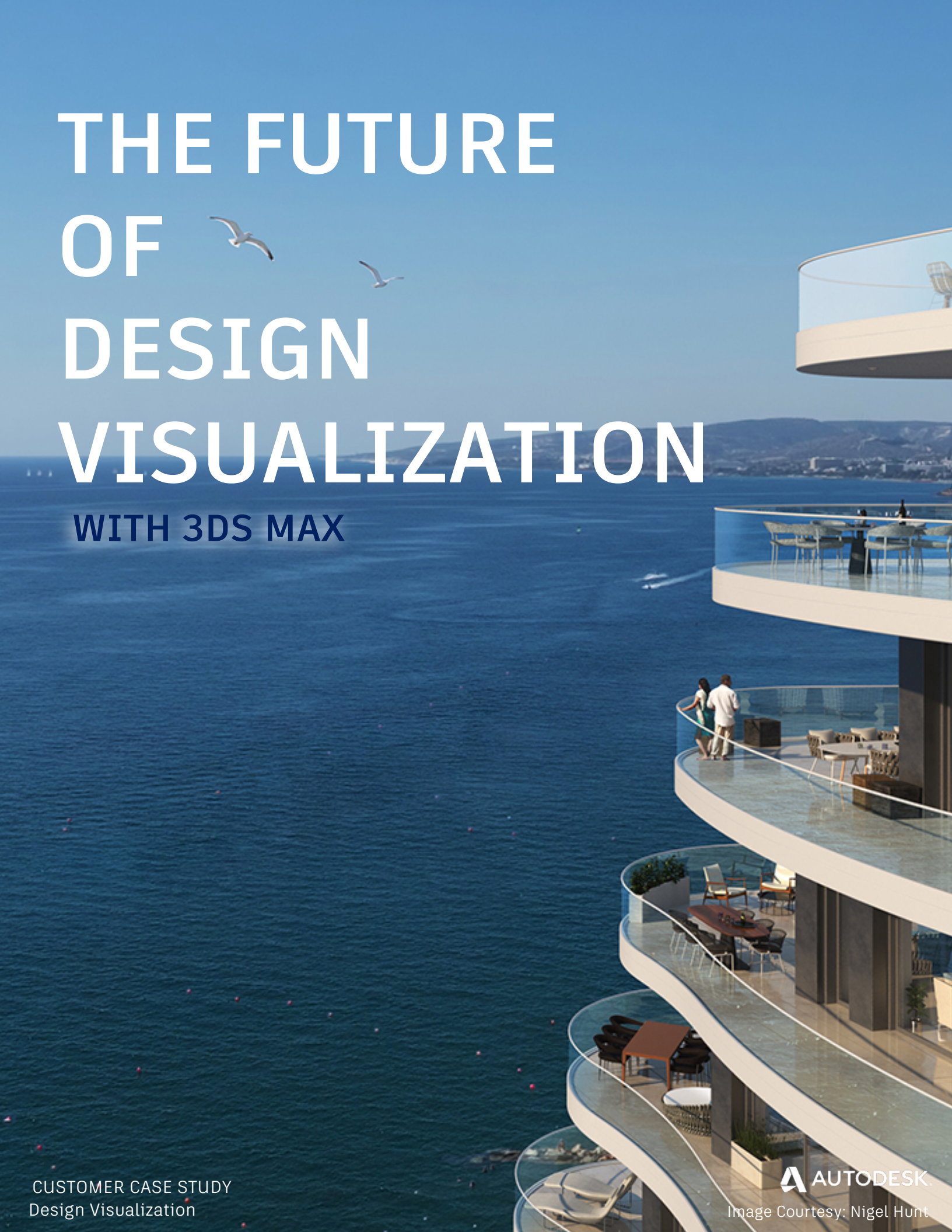
Customer Case Study
Design Visualization

AUTODESK.

Image Courtesy: Nigel Hunt

THE FUTURE OF DESIGN VISUALIZATION

WITH 3DS MAX



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AU SNEAK PEAK

With Autodesk's first-ever all virtual Autodesk University around the corner, we took the opportunity to catch up with one of our presenters, Nigel Hunt, who founded and runs technology-savvy production company Urbân. Below he shares a preview of the key themes and projects he'll cover in his AU presentation this year, including a look at the evolution of the archviz industry over the last 30 years and how it's increasingly colliding with the world of visual effects.

> **"I was labelled 'The face of 3D' by a leading industry magazine."**

Q. TELL US ABOUT YOUR JOURNEY INTO 3D & WHAT YOU'RE DOING TODAY?

My 3D career began in the late 1980s in New Zealand, just when computers began commercially taking off and AutoCAD hit the market. I was finishing my final year of architecture design and initially brushed off the new CAD technology, thinking I could draw faster on a drawing board than with a computer. If only I'd had a crystal ball. A few years later, I had moved to the United Kingdom and realized that my lack of computer skills was impeding my career, so I caught myself up to speed. I can remember the day that 3D Studio DOS arrived; I immediately dove into the software (which would eventually become 3ds Max).

Image Courtesy: Nigel Hunt

As my 3D skills developed and the program evolved with the launch of 3ds Max, I began thinking about how I could extend its functionality with Maxscript. In 1995 I launched my first company, a UK-based architectural visualization firm, Glowfrog Studios, and later co-founded an online 3D library ReplicaNation in 1998 working with the world's top 50 furniture developers.

In 2001, I was labelled 'The face of 3D' by a leading industry magazine and at the same time I started dabbling in broadcast and feature visual effects and graphics. Fast forward to 2014 and while working on a project for Netflix, my team and I perfected the building of entire CG cities. Our scripting and software development work on those shots inspired a spinoff business called SiNi software. Today I'm actively involved in SiNi, and also share my time with Urbân VFX, as well as organising industry community activities such as 3ds London and 24 Hours of Chaos.

> **"Artificial intelligence is also opening up new doors, as is real-time rendering. These tools, among others, are quickly becoming essential."**

Q. WHAT CHANGES HAVE YOU SEEN IN ARCHITECTURAL VISUALIZATION OVER THE YEARS?

In talking to archviz students, I've noticed a misconception that the industry is younger than it actually is. The pursuit of photorealism was just as much a part of the conversation 30 years ago as it today. That said, achieving photorealism is more attainable now, as technology has evolved and new generations of artists have opened up new studios of their own. Today, it can be incredibly challenging to determine the subtleties that distinguish a CGI image from a photograph.

With the right tools and training, though, nearly anyone can produce perfection, which means a lot more artists are starting to think like art directors or photographers. Artificial intelligence is also opening up new doors, as is real-time rendering. These tools, among others, are quickly becoming essential as tighter client deadlines demand faster render times and more studios pivot to remote working environments.

Q. HOW DID YOUR TEAM CREATE THE IMPRESSIVE 3D MODEL OF ANCIENT ROME?

One of the episodic projects we were working on in 2014 needed a model of ancient Rome, so we built the asset below using 3ds Max, and a handful of other tools. Once the model was complete and the show aired, we continued to receive requests from TV producers, educators and the general public asking to use this asset, which led us to create an online VFX stock library to sell pre-rendered shots.

The goal was to help out TV and film producers who may not have massive VFX budgets to commission a VFX studio to create bespoke work, as well as educators who could leverage the assets for instructional purposes. Extending this service, we decided to embark on a self-financed expansion of our historic city 3D assets starting with Ancient Rome. The idea is to use the model as a base for a highly detailed, interactive 3D map of the city that teachers can access online in 360° to engage students.

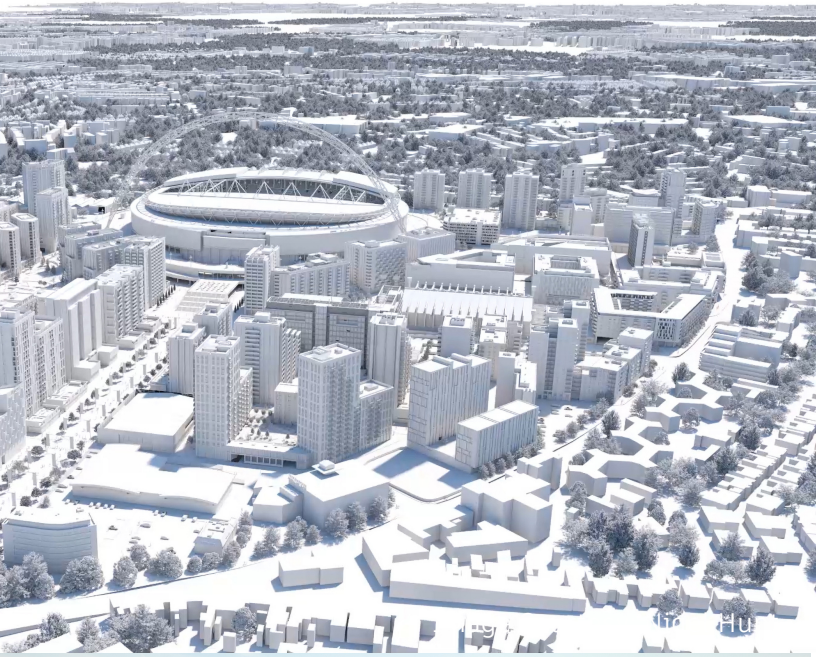
For a team who loves history, it quickly became a passion project and we devote many hours to rounding out every detail, so that as you navigate the model, you can explore every part of it. Achieving this level of detail takes a lot of experimentation. We experimented using game engine software and the other solutions, but ultimately ended up back in 3ds Max, because thousands of hours of work had been invested in the creation of the 3ds Max pipeline, alongside V-Ray and SiNi.

> **“We experimented using game engine software and the other solutions, but ultimately ended up back in 3ds Max.”**

Although the project continues to be a work in progress, our process remains the same across all projects. We often receive CAD/BIM files, and then optimize the assets for 3ds Max using SiNi plugins and prepare them for our V-Ray pipeline. To stay organized, we make extensive use of XRef linking from the base model to smaller city neighborhoods. In turn, these neighborhood 3D models pull from building XRefs that link to detailed hero buildings. Vegetation, props and character animation also use XRefs. We then tap SiNi’s bulk proxy tools to convert high-poly assets to V-Ray proxies.

Chaos Group’s Project Lavina software is vital to reviewing the project remotely, as we can load the entire city asset and review every corner of the city in real-time within a Slack or Zoom team meeting. Final rendering is produced using V-Ray 5 and composited in Adobe After Effects. If greenscreen or live location footage is used, we tap Fusion or Nuke (compositor’s choice). Looking forward, we are exploring R₵D on virtual production techniques as well, to allow TV productions to place presenters into the virtual environment.

Image Courtesy: Nigel Hunt



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Q. TELL US MORE ABOUT THE WORK YOU'RE DOING FOR WEMBLEY STADIUM IN LONDON...

Wembley Park is located in the district of the London Borough of Brent, England and home to Wembley Stadium. Surrounding the stadium is the Wembley Park development, a project 20 years in the making by developer, Quintain. The mixed-use master plan includes around fifty buildings that are being developed by architects, and we were brought in 12 years ago to build the sitewide 3D asset and more recently to create an interactive CGI model of the stadium and surrounding area that the real estate developer could use as a selling tool for the onsite realtors to navigate the 8500 apartments on offer. As the project has progressed, we have grown into the role of Visualization Guardian, overseeing all-things 3D, and maintaining the site-wide 3D assets in 3ds Max.

> **"We designed a hybrid solution whereby the 4K 3D renders are projection-mapped onto low-resolution geometry inside Unity..."**

With around 90 detailed buildings, public and civic spaces, and the surrounding London environment for context, all modeled in 3D, the management of an asset of this scale has become a full-time job. Each month, we're given Revit models from project architects and our job is to draw down the models, get them into 3ds Max, optimise for visualisation using SiNi tools, reapply the textures and materials to ensure the highest visual quality and integrate them into the larger master plan 3D model. In addition to this workload, our team produces most of the planning and marketing imagery, animations and 360-panoramas, sitewide and for each building.

Image Courtesy: Nigel Hunt

At the start of the interactive project, we explored a few options to figure out how to get an asset of this scale into a game engine without having to spend months re-interpreting it and ultimately decided on a workflow powered by 3ds Max and Unity. We partnered with interactive studio Lucid Environments to help manage Unity development, so that our team could focus on the 3D deliverables.

Together we designed a hybrid solution whereby the 4K 3D renders are projection-mapped onto low-resolution geometry inside Unity, bypassing the costly exercise of exporting, rebuilding, and optimizing 12 years of highly detailed 3ds Max/V-Ray 3D assets to run in Unity. The pipeline allows both teams to work concurrently up to the deadline, importing renders and 360-panos up until the last minute, and offering an affordable solution for future updates of the tool.

> **“The skills required to work on a multi-billion-dollar project of this scale... doesn’t come overnight. They are acquired over time, delivering many similar projects and grows into a trust relationship...”**

Q. WHAT DO YOU LIKE MOST ABOUT WORKING ON PROJECTS LIKE THESE?

Being valued as a key member of the development team and respected as more than just the go-to visualizers. The skills required to work on a multi-billion dollar project of this scale, involving many decision makers and stakeholders, doesn’t come overnight. They are acquired over time, delivering many similar projects and grows into a trust relationship directly with the developer as partners.

Working directly with the development team we offer a first look insight review of the architectural designs being submitted by the project design teams. The accuracy of our work allows site-wide and localised design decisions to be refined within the 3D model many years before site works begin.

It’s a real privilege to work on a masterplan project of this scale and witness the completed onsite buildings and neighbourhoods being delivered, which gives everyone a bit of deja-vu, as they’re identical to the digital twin 3D asset we have built.

Q. WHERE DO YOU DRAW INSPIRATION FROM FOR YOUR PROJECTS?

As with any archviz or VFX project, there's a lot of R₹D involved, but the inspiration varies depending upon the project. I can recall one where we were asked to create an animation film of the massive Dubai Creek Harbour project in the United Arab Emirates (UAE), which includes the tallest building in the world, Dubai Creek Tower.

We love time lapse and telling inanimate infrastructure stories with the time and lighting as a narrative device. With our Netflix city series experience behind us we opted for a similar approach using time lapse video to experience how it would look at various times throughout the day. For authenticity and to portray the diverse lifestyle every single character had to be custom modeled, and we wanted to ensure they looked authentic down to their traditional clothes, so, we spent ample time with our character animation team, Anibrain in India creating the models in Maya and rendered in Arnold.

As well as consulted with our specialists in the UAE to ensure cultural accuracy depicting people from across the region. We immersed ourselves so deep into the details that when the founder and chairman viewed the final film, he was so pleased, he had no changes. We were told this was a first!

> **"Don't be in such a rush to start your own studio but instead grow as a person."**

Q. WHAT ADVICE DO YOU HAVE FOR ARCHVIZ AND VFX ARTISTS JOINING THE FIELD?

Take your time in building your career to learn from seniors and leads. Don't be in such a rush to start your own studio but instead grow as a person. I've made countless mistakes, some catastrophic costing me my business but ultimately if you love being in the business of creating computer graphics find something you're good at and work on that.

You may be great with people and possess project management skills and therefore be promoted to a producer. There's room for everyone as long as you're passionate and respectful of others. Get networking as most artists are hired on a who-you-know basis.

Image Courtesy: Nigel Hunt

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Design Visualization

Image Courtesy: Nigel Hunt

> **“Having used Autodesk software for more than 30 years I can’t imagine using any other software for large-scale arch viz projects...”**

With each project, my ultimate goal is to bring in the best people for the job, which sometimes means I’m hiring archviz artists, character modelers and VFX generalists at the same time. In doing so, I’ve found that sometimes the artists get envious and want to cross over, i.e the grass is greener on the other side, and the archviz team wishes to be a part of the VFX team’s role in destroying the buildings as it looks more fun. Become a generalist if you want a varied career.

The second piece of advice I have is to familiarize yourself with 3ds Max, and do it early in your career. I’ve used it to deliver thousands of successful projects across real estate, broadcast TV, feature films and advertising, as have many other studios around the world. Having used Autodesk software for more than 30 years I can’t imagine using any other software for large-scale archviz projects, because 3ds Max does everything you need it to and more. Its extendibility using scripting and specialist plugins, such as SiNi, allows you to tailor 3ds Max to your exact project requirements. This has been essential for me in pursuing interesting large-scale projects for 3 decades.

Finally, there are many excellent DCC tools available to model and render projects with. However, if you want to be employable in the archviz sector worldwide, make sure you include 3ds Max in your arsenal. The archviz industry employs hundreds of thousands of artists and almost all use 3ds Max. Even established studios who were champions of other products have switched because it’s easier to find and employ excellent 3ds Max archviz artists. Food for thought!

WANT TO LEARN MORE ABOUT NIGEL’S WORK?

For more information on Nigel Hunt;
Visit: **Urbanvfx.com/**

AUTODESK.