AV11340

Architectural Visualization Meets Concept Design

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Factory Fifteen

Learning Objectives

- Gain access to new ways of creating architectural images
- Learn how to utilize the perspective match and camera projection toolset
- Learn how to relight photographs or collages in an illustrative way
- Learn how to create dynamic images using advanced post production techniques

Description

This class will be aimed at advanced architectural visualizers who want to go beyond the photoreal into more stylistic artistic methods of visualization. We will take attendees through the entire creation process of a uniquely made image that combines digital painting techniques and collage; 3ds Max software features like camera mapping, projection, and perspective match; and environment fog and rendering setup in Chaos Group's V-Ray rendering engine. The techniques and methodologies shown in this class will have a multitude of alternative applications across architectural visualization and concept design. We will divide the talk into 3 subchapters, which include research/collage (10 minutes)—collecting images, assembling collage, and painting; scene setup (45 minutes)—using 3ds Max software to re-create our photo in 3D using perspective match and projections, relight, model details, and render; and post production (15 minutes)—using Adobe Photoshop to color correct, utilize V-Ray passes, and paint further details.

Your AU Experts

Paul Nicholls lives and works in London. He trained in architecture and animation at both Oxford Brookes University and University College London. He has worked for many of London's top architecture studios, including Glenn Howells Architects and Allies and Morrison, as well as smaller firms like Moxon Architects. In 2011 Paul co-founded Factory Fifteen Ltd, a film and design studio based in London. He was recognized for his architecture and design work in 2007, selected as one of the top architecture students in the country. Paul's creative animations have been seen the world over, notably being short-listed to the last 4 in the 2012 Vimeo awards for his technological vision, "Somewhere." Paul is now a founding creative director of Factory Fifteen and is actively involved in the design and direction of all of the Factory Fifteen projects. Recently Paul co-directed an ambitious live action / VFX music video for The Bug, and co-directed a Factory Fifteen short, Chupan Chupai.

Gain access to new ways of creating architectural images

Introduction

The process of making great architectural illustrations has evolved drastically over the last few decades, from artistic hand drawings to highly technical computer generated images. As the cost and expertise of creating near photo-realistic images decreases, we believe the artistic and impressionistic styles of architectural illustration should be celebrated. In our experience with working with clients in this direction, the value we receive for our work, goes beyond a simple service. This approach certainly isn't for every project, but is a direction we are pushing more and more with our clients and our own internal projects at Factory Fifteen.
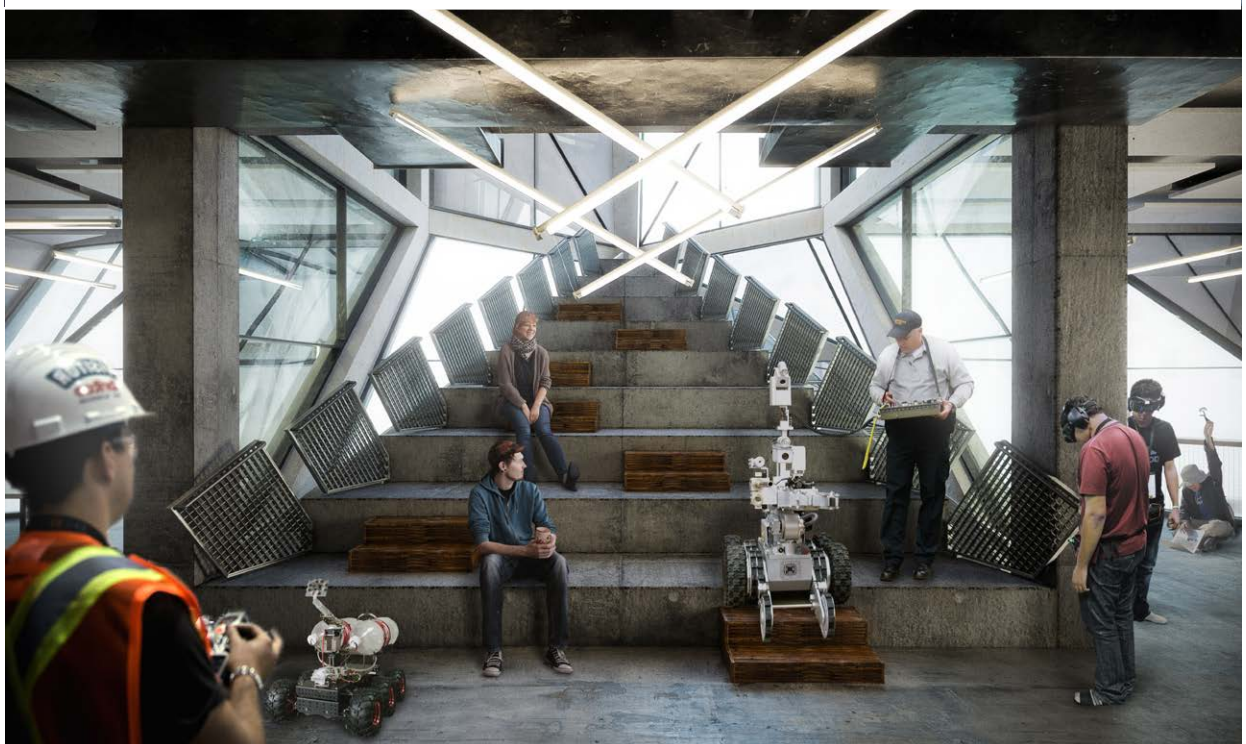
Collage

The collage is a quick and relatively easy way of forming an idea for a project or picture. We start most of our concept design work and even some architectural visualisation stills jobs, in this way. Very quickly you can establish a tone, a spatial and architectural arrangement, texture and light for a project, which can really save time down the line if the first thing you start to do is model.

References Environment

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References Building

We wanted the building to belong to the period that we were setting in the environment, but stand out as a building a slightly mad Lord would reside in. I'll show some key references which informed the design of the building.

Assembling

In this section I will show you the key order and process of assembling the base of the collage which is to be used for the projection inside of 3DS Max.
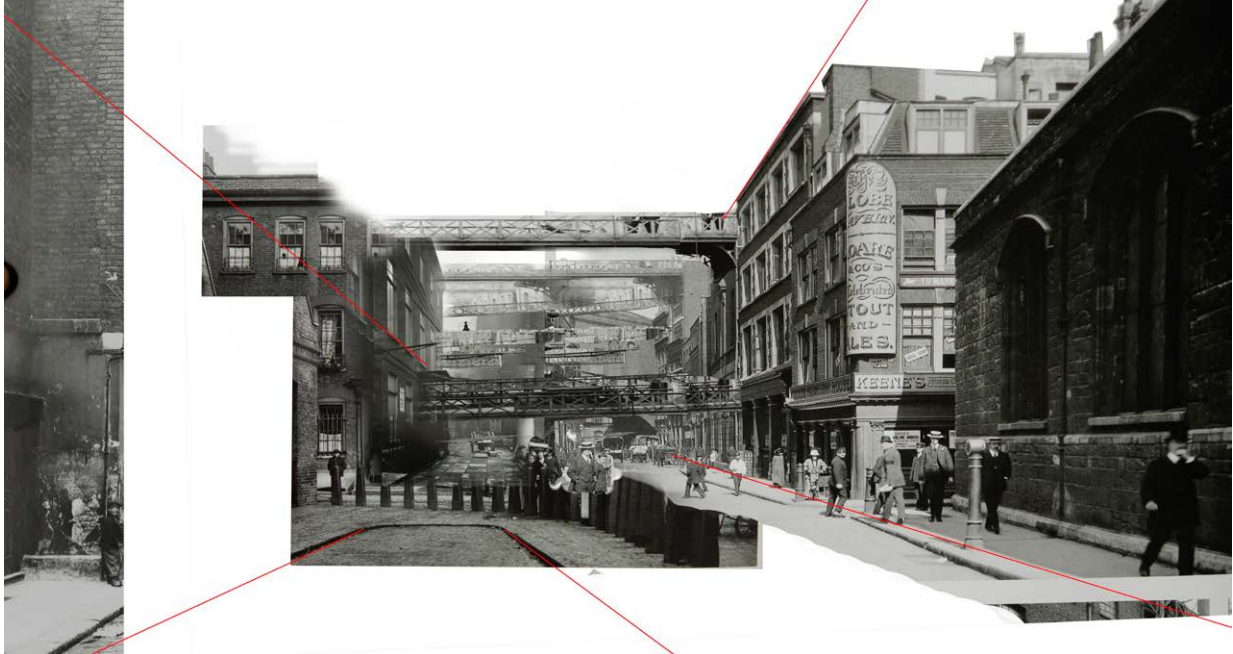
Painting

The decision was taken to create a full colour image, so the collage needed to be transformed into colour by paint. extra details and an overall stylistic look was developed on the collage before projecting in Max. Within photoshop I will demonstrate some aspects of this process live in the class.
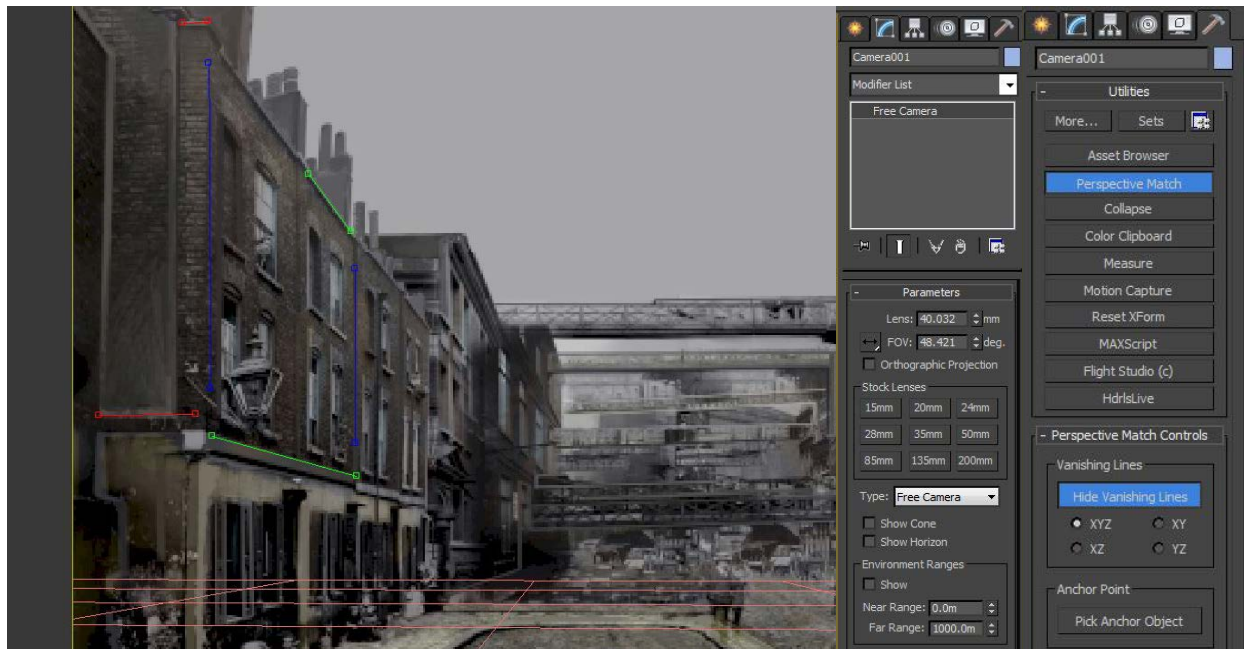
Learn how to utilize the perspective match and camera projection toolset

Perspective Match

The perspective match tool is a very useful tool to match the camera settings and position of a camera from a photo. I'll demonstrate how to use this feature and set your scene to the correct scale.

Modelling From The Photo

Once the perspective is set it becomes very easy to model a base for the buildings and landscape. With a few boxes and edit poly modifiers we will build a part of the scene live in class.

Camera Projection

Camera projection is a very versatile tool within 3DS Max. We use it for a multitude of purposes which I will talk about and demonstrate in class.

For Still Images

One use which will be demonstrated in full is for the generation of still images. Within the use for still images there are also multiple uses. In the image I am breaking down in class it is to re-light a collage generated in Photoshop. We have also used it to texture complex objects and for scattering foliage.

For Animation

Once you understand the basics of camera projection, you will realise that it is a large component of animation and VFX. This powerful combination of 2D and 3D is used to project, texture, landscapes and assets in all areas of the CG industry. I will show a few clips of scenes where we have used camera projection for animation and why we chase to do so.
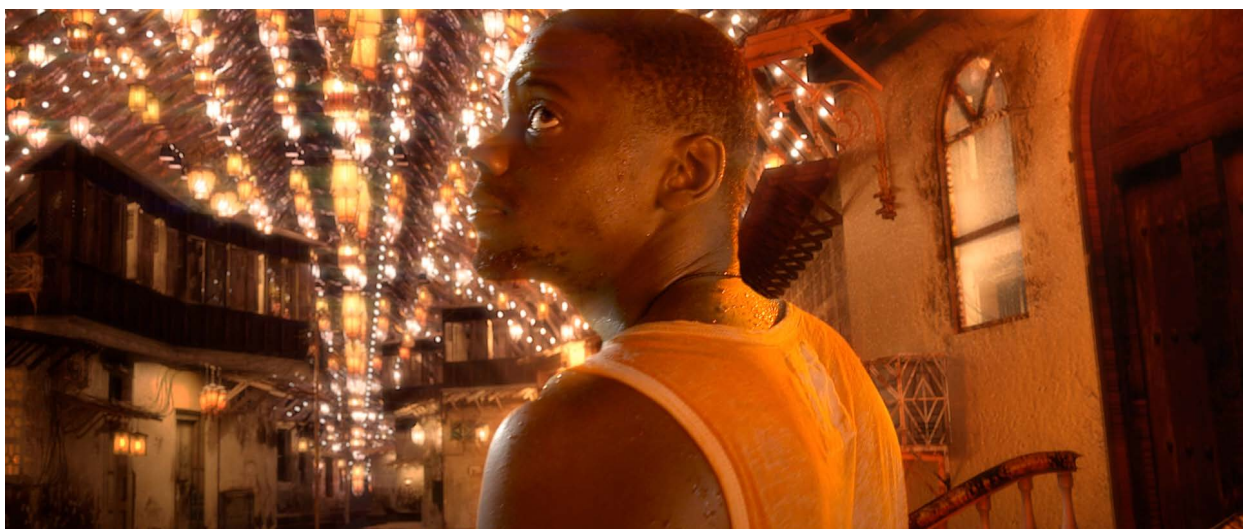
For Reflections & Lighting

One of the most common areas we use camera projection is for reflections and lighting for VFX. Here we are projecting whole sequences of moving images. I will show several clips from projects where we have used camera projection inside 3DS Max for reflections and lighting.

Setup For Stills Workflow

We will return to our model and go through the process of projecting our final collage onto our finished block model made from the picture.

Building Design Model & Texture

I will explain my design process from references to sketch to itterative design models. I do not use 3DS Max simply to build a design I have drawn or in my head, I use it as a design tool from the very early stages of a project.
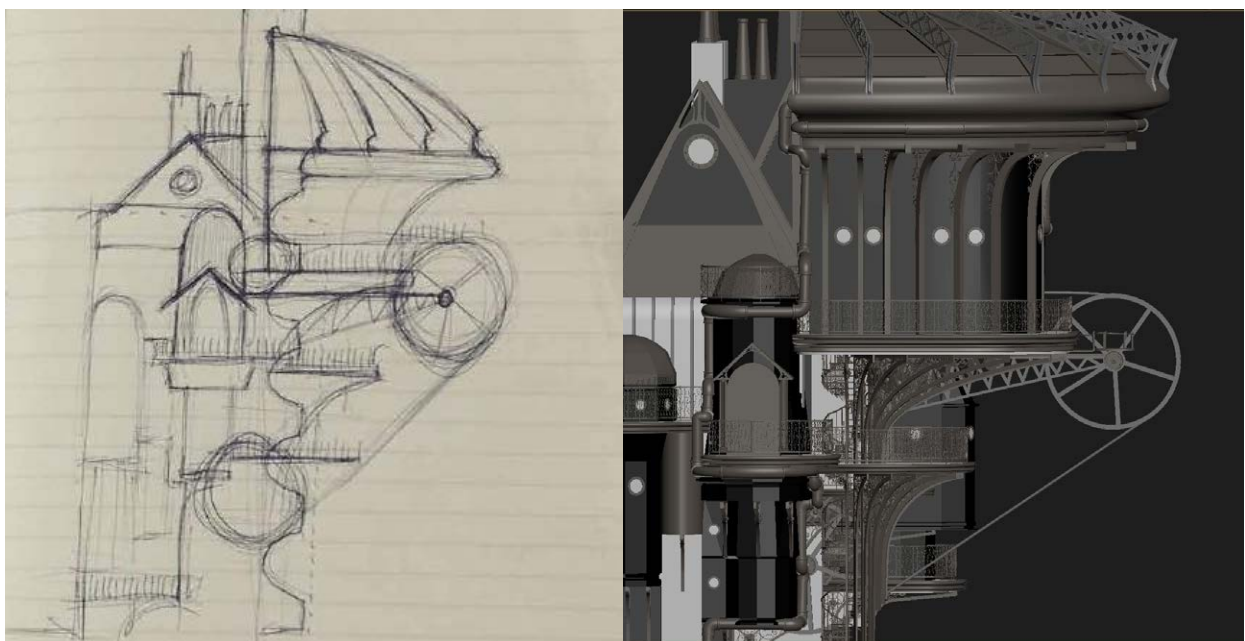
Learn how to relight photographs or collages in an illustrative way

Lighting Setup

Lighting is always an interesting topic as there are many approaches to this with many rendering tools available. We have quite a common architectural visualisation pipeline when it comes to rendering stills and like to keep things relatively simple.
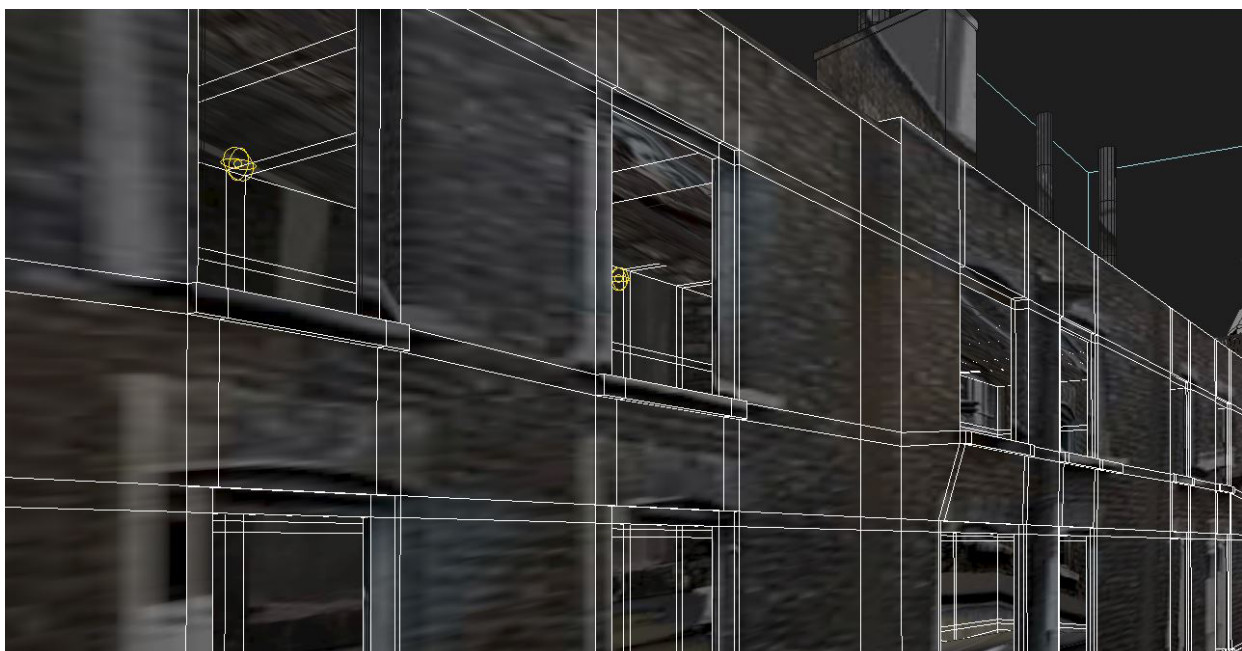
HDRI

I'll illustrate the main lighting setup of the scene, which included a single HDRI and the use of the Vrayenvironmental Fog.
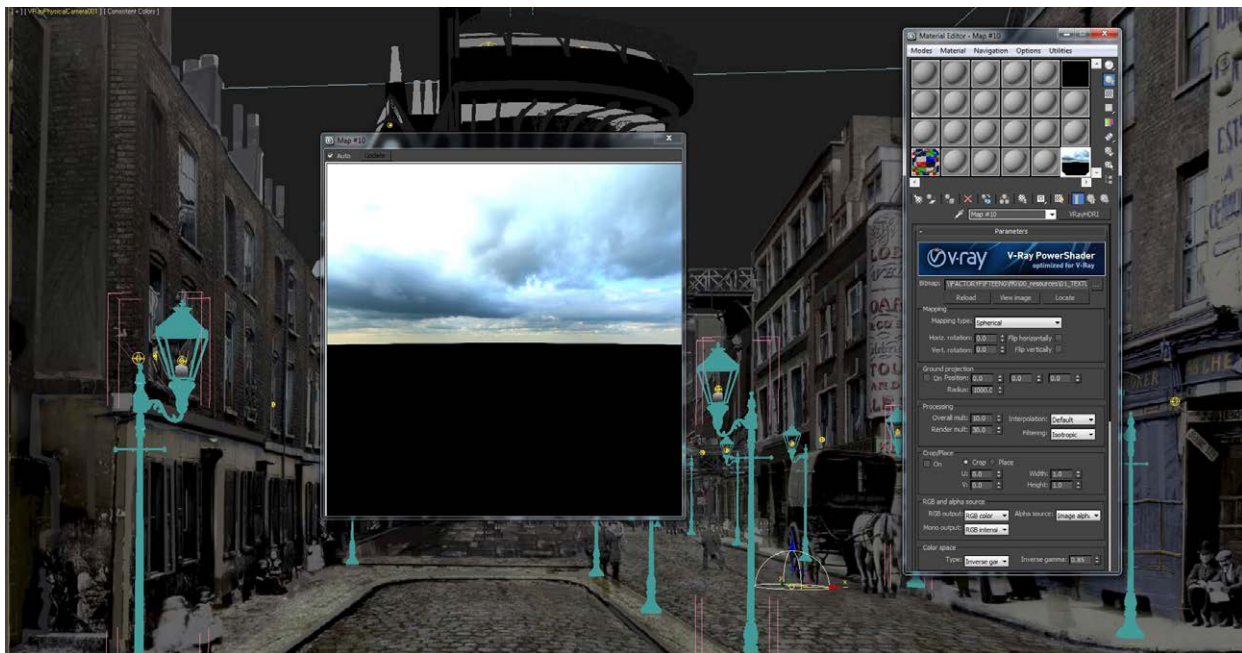
Additional Lights

I'll show how we used additional lights for street lighting and interior windows to re-light the base projected image.
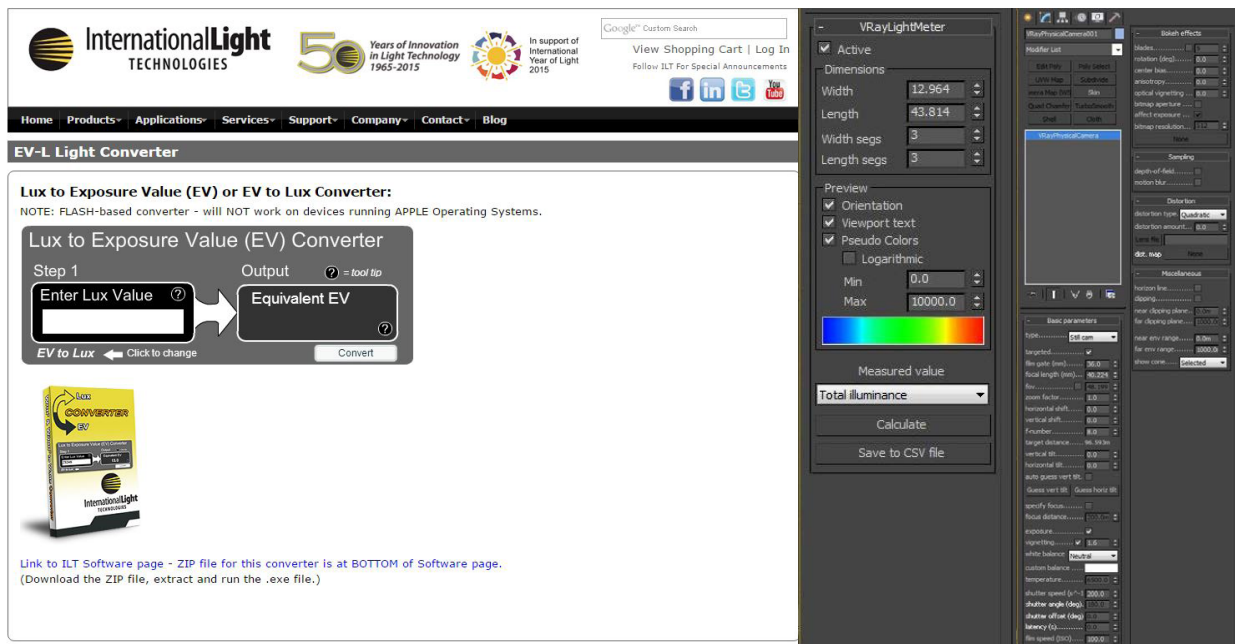
Rendering

There were a few interesting features that were used for rendering the image which I will illustrate in class. Just like with our lighting we like to keep the settings relatively simple but effective.
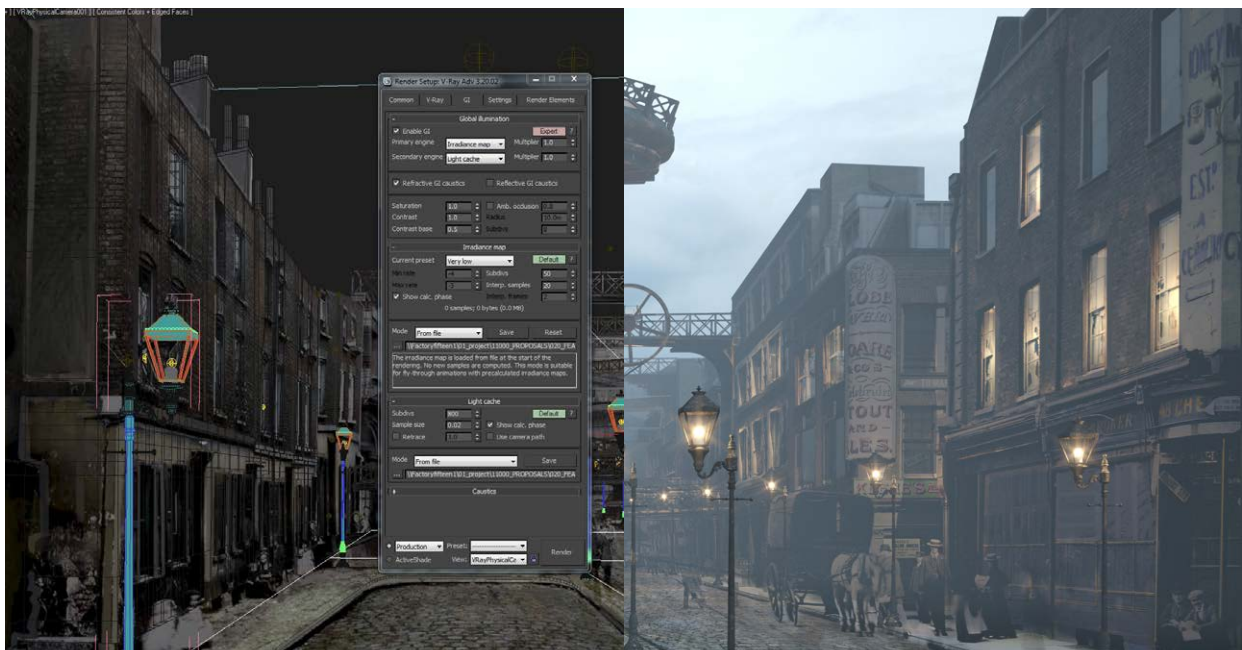
Camera Settings

The camera settings setup for this project utilised an underused feature of Vray, with the VrayLightMeter. With a simple scene I'll demonstrate how this can be utilised to minimise guesswork and test rendering.

Render Settings

With everything set I'll run through our final render settings and the use of the glare effects.

Learn how to create dynamic images using advanced post production techniques

Introduction

The lighting and texturing of your image doesn't have to stop in 3D. We are a very 3D based studio in our general workflow but in this case we went that extra step in photoshop to create the stylized look we were after.

Adjust Your RGB Using Camera Raw

The first thing we do before working on an render is adjust the RGB independently from the rest of the passes. To do this we use Camera Raw. Ill demonstrate the power of using this workflow with full 32Bit exr's with a few examples as well as our image in question. The aim is to get as good an image possible, before relying too heavily on using the passes or colour grading.

Using The Passes

Even with a well balanced RGB, it's inevitable (for us) to use the passes for a number of reasons which I will illustrate.

Additional Collage

With the image lighting complete I'll show you how more photographic elements and population were added back into the scene and graded to match.

Painting

We always add paint layers to images, weather it be a soft brush for fog or glow or in this case used to highlight and define both the architecture and people to create a very painterly look. I'll break this down to show the rationale behind the painting.

Colour Grading

The final and sometimes the most rewarding process is the colour grading. Again we use simple and effective techniques to give that extra flare to the image which I will break down.
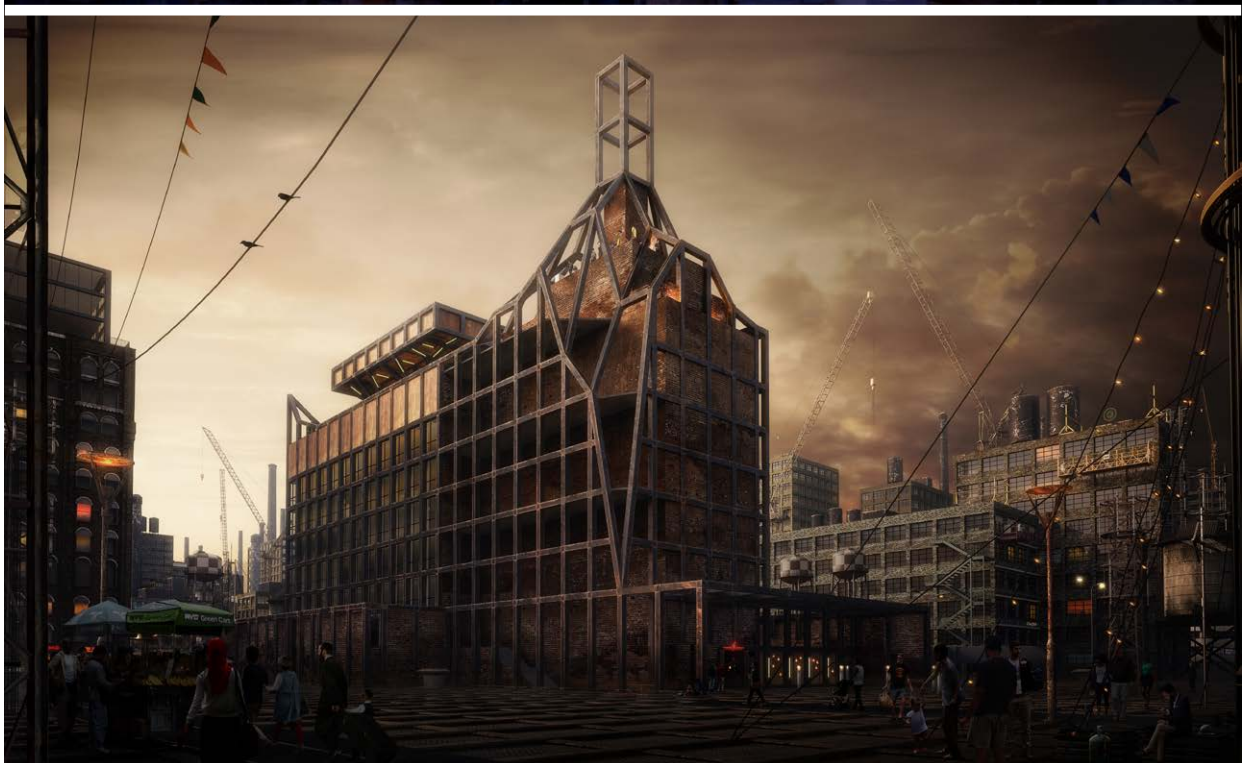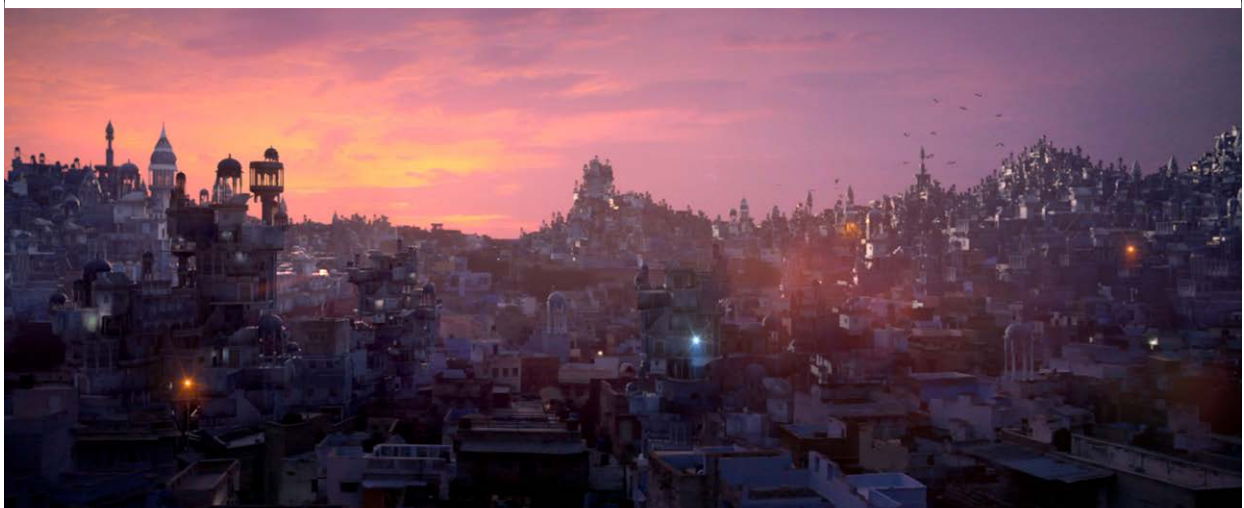
The Final Image

Additional Images Utilizing The Same Techniques

Additional Images Utilizing The Same Techniques