
esr

VIZUALIZATION WORKFLOW

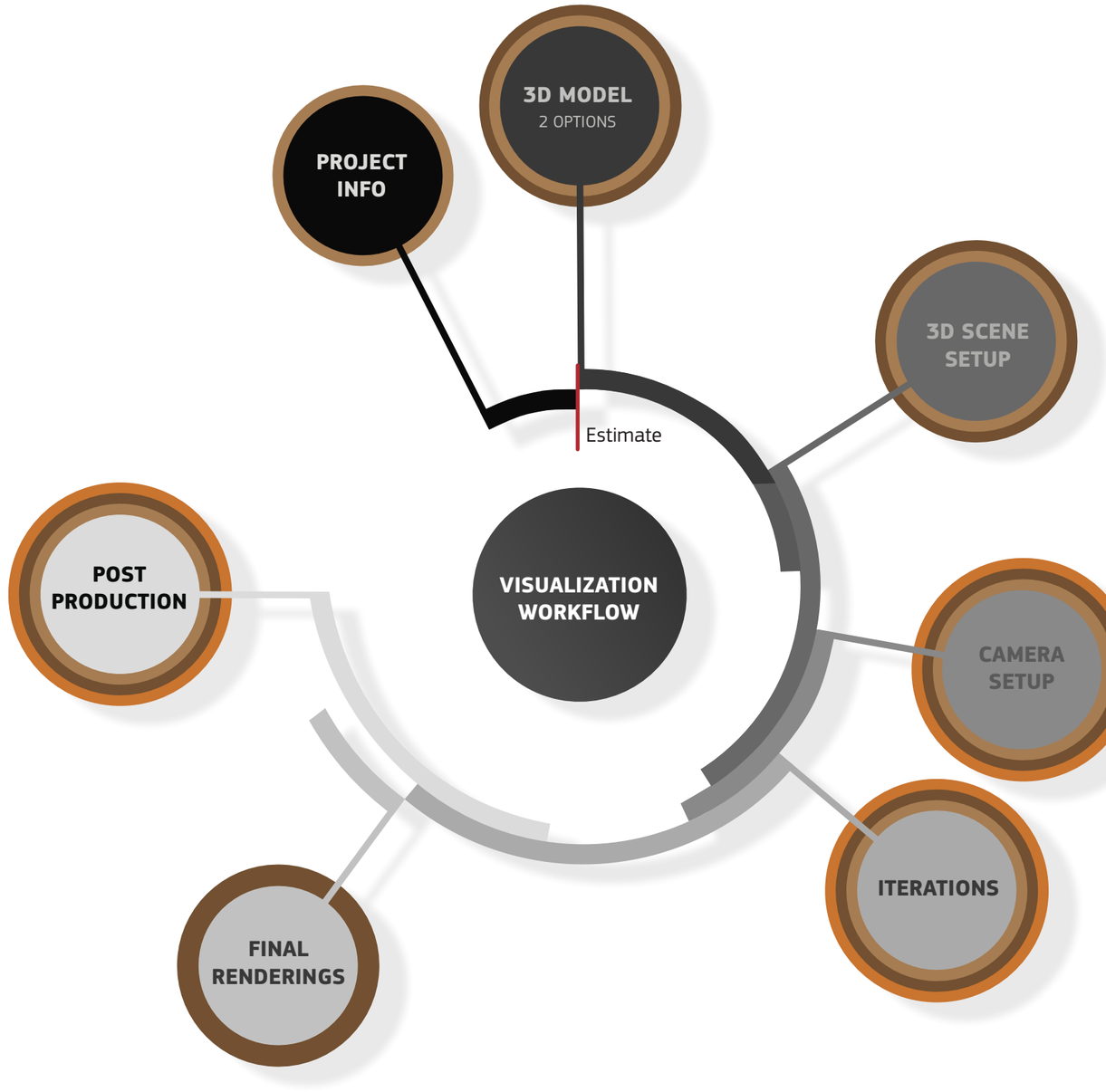
OVERVIEW

This is a quick introduction of the way ESR-dc's Vizualization Team works in order to help us understand each other.

What to expect

When developing a 3D Scene for Rendering, Virtual Reality and Animation purposes. Timeline for each type of scene creation and project varies greatly, primarily determined by the project deadline/presentation. The infographic to the right outlines each stage and the overlap of stages that will likely occur.

Refer to Legend for a better understanding of points of collaboration.



CAMERA SETUP | **ITERATIONS** | **POST PRODUCTION**

REF: Visualizing Arhcitecture_Alex Hogrefe

VISUALIZATION WORKFLOW

PROJECT INFO

- Scale of the Project
- Concept/Inspiration that drives the project Narrative
- Precedent Images that explain the overall aethetic
- Will a 3D model be provided or created by ESR
- Number of Renderings, Virtual Reailty and/or Animations
- Deadline/Meeting Date

3D MODEL

There are 2 Options

A - Model is PROVIDED

Ideally in 3ds Max, Revit, Rhino or Sketchup.

Option A often means a quicker turn around time and less time completing iterations. Note that a 'bad' 3D model sometimes can consume more time than making a new one. We suggest that you divide the model into constuctive elements. For examples, all Walls on 1 Layer, all Doors on 1 layer, etc...

REQUIRED:

- 3D Model

Emailed/WeTransfered in a .3ds, .rvt, .dwg, .dxf, .3dm, .skp, or .fbx, format is acceptable.

B - Model is CREATED

In 3ds Max, Revit, Rhino or Sketchup.

Option B often means a longer turn around time and may end up consuming more time completing iterations. This will require a closer interaction with the Project Manager and staff.

REQUIRED:

- 2D Drawings

Level of Detail in the Drawings defines the Level of detail modelled for Rendering

    - Context Plan
    - Site Plan
    - Floor Plans
    - Elevations
    - Sections
    - Details (ex. Millwork, Fireplaces. etc.)

- Precedent Images - Aid in the explanation of certain architectural details

SCENE SETUP

Building Models are created using 3ds Max, Site and Context models are created in either 3ds Max or Unreal Engine.

3DS MAX

It is imperative that file organization begins from the beggining of a Scene Creation. Especially when DataSmith is used to prepare files for Unreal Engine.

To create a collaborative workflow within the Vizualization staff it is important to be organized and name every object as it is created. This will aid in the simplicity of the iterative workflow and simplify the workflow for DataSmith to Unreal Engine. A consistent Workflow using DataSmith still requires refinement.

CREATED: Stage 1 **(for Stills and 360 Renderings)**

- 3ds Max Model with X-Refs

ex. Typical Residential X-Refs

    - Context (ex. surrounding Houses, street etc... if necessary)
    - Site (ex. Driveway, Entrance steps & benches, Landscaping...)
    - Building
        - Level 1
        - Level 2

ex. Typical Tower X-Refs

    - Context (ex. surrounding Buildings, Street, Parks etc...)
    - Site (ex. Driveway, Entrance pond & retaining Walls, Landscaping...)
    - Building
        - Podium_with Furniture
        - Tower
            *- Typical Floor **No Furniture***
            *- Typical Floor **Furniture Only***
            *- Penthouses **with Furniture***

CREATED: Stage 2 **(for Stills, 360 Renderings and Animations)**

All HPA animations will be created using Unreal Engine.

To create a more realistic and faster turn around will require more lead time intially but it will allow for a higher quantity and likely higher quality of Render Output. This will help the client to understand the project more clearly and be inside the project using a VR Application and an Ipad, currently Yulio.

Workflow from 3ds Max to Unreal using DataSmith must be refined further.

CAMERA SETUP

After a model is setup the next stage is to start prioritizing the spaces we would like to highlight, while always referring back to the narrative/driving force for the project. This will help determine focal points within each image and control how wide the camera needs to be. The purpose of setting up cameras early in the process is so that we can focus on parts of the scene and not waste time on things that won't be visible in the renderings. Initially the preliminary cameras will be setup with the Project Manager, then rendered with no textures and basic environment lighting for Siamak to review. Accompanying precedent images will help explain the narrative/atmospheric direction.

In order to streamline the workflow it is imperative that once a camera angle and field of view is confirmed that it will be less likely to change after this stage of the Vizualization Workflow. This part is very important because Simak's visual aesthetic for renderings requires a lot of post-production in Photoshop and changing a camera angle can cause a lot of problems in terms of time management. Please take this into consideration when making your decisions.

REQUIRED:
- Preliminary Camera Setup

ITERATIONS & POPULATE SCENE

The camera setup may blend into the 'Iterations & Populate' stage because it may be difficult to setup a camera without certain furniture or populated attributes. There will be a combination of iterations, type A iterations are to the Building/Architecture of the project, while type B iterations are to the objects, furniture, people, etc to the file. The Populate portion of the scene will come later in the iterative process with only the essential populate attributes added initially.

REQUIRED:
- Final Camera Setup
- Sign off on each Camera
- Narrative confirmation for each Camera

Type A then B
- MarkUps on Architecture & Populated Attributes
    - through Sketches
    - through CAD Drawings
    - through Precedent Images

PRODUCED:

Type A
- Preliminary Renderings_material override white, exclude glass mat.

Type B
- Preliminary Renderings_with textures, photoshopping, and colour corrections

FINAL RENDERINGS

After everything has been approved final renderings at a minimum of 5000px will be produced either through 3ds Max or Unreal Engine. It is imperative that only photoshop edits remain otherwise the image quality will be greatly reduced, the image will become more muddy and there is a chance the image may not be able to be completed.

REQUIRED:
- Final sign off on Precedent images for each Camera
- Final Narrative confirmation for each Camera

FINAL POST PRODUCTION

In order to create the atmosphere and Narrative direction, confirmed in the two previous stages, it will require photoshopping the colouration and addition of 2D people in the foreground to establish the visual narrative of the project and keep this consistent and evident for each Camera view.

REQUIRED:
- Feedback on colouration and 2D people added to the foreground.