



OVERVIEW

Outputs & Usecases

Thanks for downloading this overview PDF from my [Services](#) page! This document aims to provide a basic overview of potential outputs and usecases of 3D reconstructions. If you have any questions please – please get in touch via info@belacsampai.com



Images

High-resolution stills, suitable for:

- Digital & Social Media
- Museum Exhibition Panels
- Print & Publications
- Merchandise & Large Format
- And more

Why and when should you use 3D-driven imagery?

While the initial creation of a 3D model is usually a rigorous, complex process, it unlocks unparalleled flexibility and scalability for your project:

- Unlimited Perspectives
- Rapid Iteration
- Return of Investment

Once the 3D master scene is complete, a virtually unlimited amount of high-resolution images can be rendered from any angle (and lighting condition) without the need for a total repaint or redesign. Realtime rendering allows for quick and efficient adjustments. Revisions or upgrades are possible even at a later stage.

Depending on the complexity of the subject, the initial investment in 3D often pays off quickly - especially when many images or variations are needed.

By using a 3D model as a foundation, high-quality stills often become a cost-effective "by-product" alongside main deliverables like films, interactive apps, or 3D prints.



Films & Animations

Optimized models that work from far-distance views as well as from close-up, allow me to produce a wide range of films, including:

- Cinematic fly-throughs
- Documentary video
- Educational video
- Schematic or stylized films
- Immersive first-person-view video
- Birds-eye video
- And more

Ideal for exhibitions, museum displays, web-presence (Website, Youtube, Social Media), cultural heritage apps, digital museum tours, and more.



3D Viewers

Annotated 3D-Viewers allow users to inspect and explore models or environments from all angles using **simple touch or mouse controls**, suitable for:

- Websites
- Mobile and Desktop Apps
- Museum Installations via Touchscreen Panels

They also enable **easy sharing** of 3D scans and reconstructions with colleagues in an academic context **without requiring any software installation**.



Virtual Reality

If done right, VR experiences have a huge potential - they allow the audience to travel back in time, to a past world. VR apps are usually deployed for:

- Special **Exhibitions**
- Museum or Archaeological Site **Tours**
- **at Home** via App Stores (great for users that are unable to travel)
- or other Scenarios

Users can experience a past world from a first-person viewpoint, with full controls and movement. Additionally following optional elements can also be part of a VR experience:

- **Audio** Soundscape and Narration
 - **Digital Human Population**, roaming the Environment
 - Interactive Elements and **Mini-Games**
 - Dynamic Day/Night Cycle and Weather Effects
 - and more...
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Augmented Reality

Augmented Reality, also known as Mixed Reality, superimposes 2D or 3D content onto the live view from a device's camera (phone, headset...).

This creates a composite view of the real and virtual world, in realtime.

It makes it particularly effective for:

- **Overlaying reconstructed architecture directly onto archeological sites or ruins**, for example during guided tours
- **Showcasing historical objects at true scale**, allowing users to place and explore them in their own environment, for example on a table at home



360° Panoramas

A 360° image or video captures the entire environment surrounding a fixed viewpoint, and **allows users to look around in all directions** as if they were standing in it.

What can be captured as a 360°?:

- **Real-World:** High-Resolution 360° images and videos, using a 360 camera or a drone
- **Virtual Environments:** Full 3D environments rendered as 360° panoramas
- **Hybrid Scenes:** A blend of digital environments and real-world photography

360s lack the dynamic and interactive benefits of dedicated Virtual Reality apps - but they can be used on a very **wide range of hardware** and are **very easy to use**. On web browsers, mobile phones, desktops, and VR/AR headsets.

They can be made as standalone 360s or integrated into apps, enabling users to navigate between connected scenes.



Interactive Experiences & Games

There are many approaches to creating experiences that feel unique and immersive while remaining intuitive and easy to control. Common frameworks for realtime apps with light interactivity include:

- **First- or third-person-view** exploration, where users can navigate an environment and **interact** with the world in various ways
- **Free flying** navigation, allowing users to move through the world from a bird's eye view
- Specialised **minigames**, designed around focused interactions and clear objectives

- **On-rails** experience, where movement is taken care of by the program, enabling users to concentrate on narrative storyline elements with occasional decision-making

How can these be deployed?

- **Museum installations**
 - **VR** headsets for fully immersive experiences
 - Home use via downloadable apps on personal hardware
 - Mobile devices such as **smartphones and tablets**
 - Other platforms
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Holograms

How do holographic displays work?

Using the "Pepper's Ghost" illusion, 3D objects are reflected off a semi-transparent glass pane - making them **appear to be floating in mid-air**, similar to a hologram.

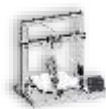
This setup is ideal for comparing a 3D reconstruction with the original physical object (or what's left of it), which can be placed behind the glass for a direct visual comparison.



Planetarium Shows

I provide specialized high-resolution content for fulldome planetariums, transforming these venues into spaces for immersive experiences.

- **Pre-rendered video**
 - **Realtime video**, streamed directly from a dynamic, interactive Unreal Engine environment
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3D Prints

Bringing history from behind the glass and into the hands of your audience, ideal for:

- Exhibitions
- Museum shops and outreach
- Education and haptic learning
- Accessibility

Objects that are typically kept behind glass can be experienced through touch, improving accessibility. This is particularly valuable for younger audiences and visually impaired visitors, creating more engaging and memorable museum visits.

They can be printed in a wide range of sizes, colors and materials:

- Full-scale (1:1) reproductions
- Smaller-scale replicas

“One of the benefits of realtime-ready 3D models is their versatility. A wide range of derivatives can be generated from a single optimized model - without the need to rework or adapt entire workflows.”

[Questions or Project Ideas? Send an Email.](#)