

1. What is Matte Painting?

Matte painting is a technique used in the film, television, and video game industries to create highly detailed and realistic backgrounds and environments that would be too expensive, impractical, or impossible to recreate or achieve through traditional on-location or practical set design.

It involves creating 2D or 3D images or paintings that are seamlessly integrated into live-action footage or computer-generated imagery (CGI) to enhance the visual storytelling of a scene.



Although similar, it still has some major differences compared to the [virtual production](#) technique. It's also different from [photo manipulation](#).

The term "matte painting" originated in the early days of cinema when artists created glass matte paintings and placed them in front of the camera to create backgrounds for scenes. Unlike traditional matte painting, modern matte painting is predominantly done digitally, but the principles of creating realistic backgrounds remain the same.

Some say that the matte painting technique originated from the background pictures shown in theaters during performances.

Nowadays, seeing a glass matte painting is relatively rare, but there are still some art lovers who value the traditional methods and the effort required to create hand-drawn matte paintings, and even more importantly, artists who make them.

Digital matte painting is largely done using digital software like Adobe Photoshop, After Effects, Nuke, and sometimes Autodesk Maya, or various other 3D modeling and rendering programs. This allows for greater flexibility and precision in creating and compositing complex scenes.

If you want to see how digital matte painting is done in real-time, here's a super insightful video by Boris FX on this topic.

In larger teams, matte painters often collaborate closely with other departments such as visual effects, environment artists, cinematography, and art direction to ensure that the final composition meets the creative vision of the project.

As a matte painter, you must pay attention to detail and ensure every element you add to the composition matches the original lighting, perspective, color grading, etc., and make it as realistic as possible.

Matte painting is sometimes also used to create concept art. This helps producers and other creators to visualize something before executing, which in turn saves a lot of money on possible mistakes.

History of Matte Painting

The history of matte painting is closely tied to the development of cinema and the visual effects industry. The traditional painting methods have evolved over the years from practical, hand-painted glass mattes, stained glass window art pieces, and fine art to today's sophisticated digital techniques.



Here's an overview of the key milestones in the history of matte painting:

- **Early Cinema (1900s-1920s)**

The use of matte painting in cinema can be traced back to the early 1900s. In these early days, artists painted directly onto glass panels (called "glass mattes"), and canvas backdrops, which were then placed in front of the camera.

This technique allowed filmmakers to create background elements or settings that were not physically present during shooting. Early silent films and pioneering filmmakers like Georges Méliès utilized matte paintings to create fantastical and imaginative worlds.

- **Development of Miniatures (1930s-1940s)**

During the 1930s and 1940s, matte painting continued to evolve as artists painted backgrounds for miniature sets. These miniatures were often used to depict large and elaborate locations, like cities, that were too costly or impractical to build full-scale. The combination of matte paintings and miniatures became a standard technique for many Hollywood productions.

- **The Golden Age of Cinema (1950s-1960s)**

The 1950s and 1960s are often considered the "Golden Age" of matte painting. Artists like Albert Whitlock and Matthew Yuricich became renowned for their work in creating

highly detailed and realistic matte paintings for classic films, including "The Ten Commandments" (1956) and "Ben-Hur" (1959).

- **Transition to Digital (1980s-1990s)**

With the advent of digital tools and digital technology, matte painting began to shift away from traditional, hand-painted matte paintings. Computer-generated imagery (CGI) and digital compositing tools allowed artists to create and integrate digital matte paintings more seamlessly into live-action footage.

Films like "The Abyss" (1989) and "Terminator 2: Judgment Day" (1991) marked significant steps in the transition to digital matte painting, and soon a new generation of digital matte painters was born.

- **Contemporary Digital Matte Painting (2000s-Present)**



Today, digital matte painting is the industry standard. Artists use software like Adobe Photoshop, After Effects, Nuke, Autodesk Maya, and other tools to create highly detailed and realistic backgrounds.

The integration of CGI and digital matte painting has become a standard practice for creating complex and visually stunning environments in films, television, and video games, as well as digital art.

- **Oscar Recognition & Awards**

Matte painters have been recognized with Academy Awards for their contributions to the film industry. The matte artist Albert Whitlock, in particular, received a Special Achievement Award at the 43rd Academy Awards for his outstanding traditional matte paintings in "The Birds" (1963).

The history of matte painting reflects the ever-advancing technology and artistic creativity in the field of visual effects.

While the techniques have evolved from hand-painted glass mattes to digital compositing, the fundamental goal of matte artists remains the same: to create realistic and immersive

backgrounds that enhance the storytelling and visual appeal of films and other visual media.

The Process of Matte Painting in Films

The process of matte painting in films has evolved with technology, but it typically involves creating highly detailed and realistic background images that are integrated into live-action footage or computer-generated imagery (CGI) to enhance the visual storytelling of a scene. Here is an overview of the modern process of matte painting in films:

- **Concept and Planning**

The process often begins during pre-production, where the director, production designer, and visual effects supervisor discuss the visual requirements of the film, including scenes that might benefit from matte painting.

The matte painter collaborates with the creative team to understand the artistic vision and narrative context of the scenes to be painted.

- **Location Scouting and Shooting**

The live-action scenes are shot on location or on sets, and the footage is captured with the actors and any practical elements. Sometimes, blue screens or [Green Screens](#) are used to shoot scenes that will later be combined with matte paintings or CGI.

- **Previsualization and Storyboarding**

For complex scenes, previsualization (previs) is used to plan camera angles, movements, and integration points for the matte painting.

Storyboards and animatics may be created to plan the composition of the scene, showing where the matte painting will be inserted.

- **Digital Matte Painting**

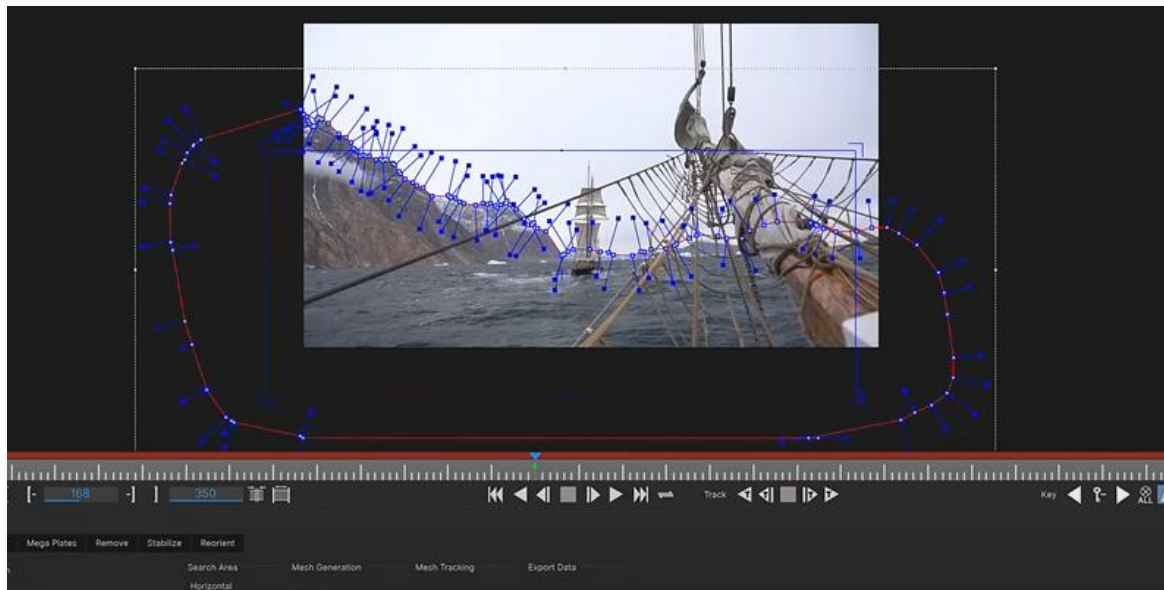
The matte painter, often working digitally, creates a detailed background image. This involves using software like Adobe Photoshop, Autodesk Maya, or other 3D modeling and compositing tools.

The painting is based on concept art and references, and it incorporates lighting, perspective, and other visual elements to match the live-action footage.

- **Compositing**

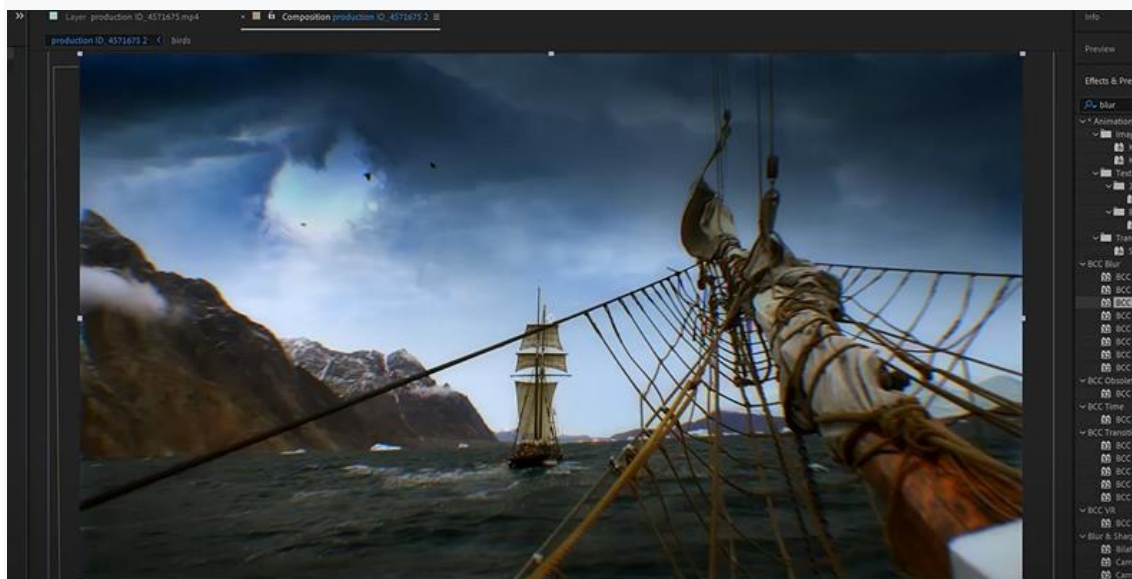
The live-action footage and matte painting are combined using compositing software like Adobe After Effects or Nuke.

Techniques such as masking, blending, color correction, and depth-of-field adjustments are used to seamlessly integrate the painting with the footage.



- **Lighting and Color Matching**

The matte painting must match the lighting conditions and color grading of the live-action footage. This involves adjusting the matte painting's colors and lighting to make it appear as if it were part of the original scene.



- **Camera Movement and Parallax**

If the camera in the live-action footage moves, the matte painting must account for this movement to maintain a consistent perspective. Parallax is created to simulate the depth and distance between objects in the scene as the camera moves.

- **Quality Control and Final Rendering**

Extensive quality control is essential to ensure that the matte painting looks realistic and seamlessly integrated into the scene. This may involve revisions and feedback from the director and visual effects team.

The composited shot, including the matte painting, is rendered into the final format for the film.

- **Visual Effects and Post-Processing**

Additional visual effects and post-processing may be applied to the entire scene to enhance the overall look, including elements such as particles, atmospheric effects, and color grading.

The process of matte painting in films requires a combination of artistic talent and technical expertise. It aims to create visually stunning and immersive backgrounds that seamlessly blend with live-action footage, enhancing the storytelling and visual quality of the film.

2. Digital Matte Painting Ideas and Techniques

Matte Paintings play a significant role in the film and entertainment industries. They are displayed in the background to create and enhance the illusion. Matte painting ideas & techniques are taken as a module in the [VFX courses](#).

In order to generate believable, photorealistic scenes and backdrops for movies or TV shows. A digital matte painter will digitally replace the live/real components from a frame with required art as needed. Nowadays the art even extends to video game backgrounds and game cinematics.

Digital paintings are the application of traditional painting methods using digital tools via a computer and software. And this artwork is created directly on the computer using programs like Corel Painter, Adobe Photoshop, ArtRage, and open canvas. These tools provide painters with a setting that is comparable to that of a real painting.

While matte paintings can depict any background, they most frequently represent urban scenes and scenic views. Even though their panoramas contain fantastical elements, matte artists must be able to render outside views as realistic as possible. Understanding the perspective and how light affects colour on objects is necessary for this.

Even if the viewers are unable to determine the cause of the problem, they will surely recognise that something is wrong if the colour or perspective seems a little odd. The audience can become distracted from the story by even minor visual mistakes.

Matte paints aren't exclusively for science fiction and fantasy. They can be structures or urban scenes, and the important point is that the absolute greatest ones will appear so realistic that they don't even look like paintings.

Digital Matte Painting before and after



Difference between Matte painting and Digital Matte painting

A [matte painting](#) is a representation of a scene that would be impractical for filmmakers to realistically replicate using traditional techniques. This could be due to the landscape not existing in the actual world, the expense of travelling there, or the inability to expand the set beyond what was filmed.

A matte painting is a painted depiction of a landscape, set, or far-off place. That enables directors to convey the feeling of a specific setting. A matte-painted image and live-action video have been merged in various ways throughout history by matte painters and cinema technicians. Depending on the level of expertise of the artists and technologists, the effect can, at its finest, be described as “seamless” and provide settings that are believable and genuine. The painting portion of the scenes is static, but movements are added on top of it.

The usage of digital 2-D visuals and 3-D computer animation, which replaced the black traditional matte painting with blue or green backdrops, has however superseded the traditional matte painting. Together with the film director, the matte painter creates concept art. That is drawn to utilize different processes. To get the required visual impact, some matte painters utilise Photoshop, while others draw it using pencils, paper, and pastels in the film. Finding reference material for a Photoshop matte painting usually involves looking for mountains, seas, or other objects that best exemplify the concept art.

Digital Matte Painting breakdown



Matte Painting Ideas

The following guidelines must be followed in order to produce realistic and trustworthy digital photographs. For instance, when multiple images are combined, respect for perspective is essential. For instance, if you are creating a city, make sure that every window is facing the same direction.

Photorealism really benefits from colorimetric. For instance, it is vital to colour-match all the merged features when blending mountain photos. This finding is particularly true if the images were captured using a variety of cameras in diverse locations at various times of the day or year. A picture's colour is shaped by all those little details.

Another important consideration is the balance between light and shadow. If you've ever looked at a photograph, you may have observed that the closest elements are darker and the composition is lighter the farther the background recedes. This perspective is atmospheric, like a fog or haze effect. You may give your photographs a deeper impression of depth by blending distant objects with the colour of the sky.

A good and comprehensive image bank must be available. The best way to satisfy this demand could be through the Internet. However, everyone needs to exercise caution when it comes to copyrights and picture quality. Both Photobash.org and Gumroad are great places to get stock pictures. It's also a terrific idea to use your camera, particularly with a good lens, to build your image bank. On the other hand, consider how long it could take to travel in order to collect as many various types of landscapes as you can.

Digital Matte Painting Techniques

Another widely popular and most common application of matte painting is **set extension**. This is where only the background immediately behind the action is filmed and for practical,

budgetary, or other reasons, the remainder must be painted later. On locked-off shots, the simplest set extensions are possible as well. Finding the scene's vanishing points will help you understand the perspective of the scene when working on this type of photograph. The line tool in Photoshop makes this task relatively simple to accomplish. Use bright colours so that the lines stand out from the background. A good tip here is to use vector lines on shape layers so that they can easily be repositioned.

The brush and clone tools are generally used to fill in the missing set. To ensure that your new artwork matches the source plate, it'll be wise to choose the colours directly. But a closer look reveals that the photographic grain seen in the plate is absent from the parts that were painted by hand. Since the footage's grain animates, it is typically brought back in during compositing; nevertheless, the matte painter might need to give the compositor an alpha channel of the freshly painted area.

Matte Painting VFX

Without much fanfare, the visual effect has helped the entertainment sector expand. The importance of originality, creativity, and an appreciation for aesthetics cannot understated. Because it is the culmination of these qualities that results in the story's message. Filmmakers are also appreciative of the development of digital visual effects because it has significantly improved the quality of their films. Their movie has been given more creativity, and the results are visible in the output and popularity of the project. Matte painting in Photoshop has revolutionized the media industry, numerous pieces of work including advertising bits have turned into incredible works with the master touch of the Photoshop effect added.

Benefits of Using Matte Painting in Film

- **Ability to create a believable environment with limited resources** - It's used in films, TV shows, video games, and even commercials to bring an imaginary world to life on screen.
- **Versatility and scalability of matte paintings to create unique visuals**- This technique offers an incredible degree of versatility and scalability, making it a great choice for creating unique visuals with limited resources. It can be used to create anything from large-scale environments and sweeping landscapes to complex characters or even abstract pieces of artwork.
- **Creates an "illusion" which can be used as a storytelling tool** - the ability to create an "illusion." By combining various elements from different sources and digitally manipulating them, matte painters are able to craft seemingly real scenes that are custom-designed for the story they're telling. Matte painting gives creativity the freedom to go beyond the limits of reality.

Reference

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