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VOLUMETRIC CAPTURE

An Introduction For Media Planners by Jan Carlo Hendriks

INTRODUCTION

This document provides insights into how the immersive capabilities of Volumetric Capture can be effectively to address client briefs and enhance media campaigns..

Immersive technologies are used to create almost any kind of environment or experience, including gaming, simulation, training programs, virtual reality, and more. It can also be used to enhance real-world environments by adding elements such as digital objects or people.

As we increasingly use screens to interact with our digital worlds, it is only natural that we look for ways to extend our experiences into it. Immersive technology is an emerging field that enables us to do just that by combining VR, AR, and haptics with other technologies.

For brands, Volumetric Capture can untap a new world of possibilities into the immersive realm, by leveraging its unparalleled innovative and flexible features.

WHAT IS VOLUMETRIC CAPTURE?

Volumetric Capture is a technology that allows for the creation of highly detailed 3D models of real-world objects or environments.

Cameras and other sensors are used to capture data from all angles of an object or scene.

This data is then processed and combined to create highly detailed 3D models that can be used for a variety of applications such as virtual and augmented reality, animation and film production, and more.

Volumetric capture can also be used to record human performances and movements, allowing for hyper realistic avatars to be created for use in virtual environments.

Volumetric Capture's Distinctive Edge

Traditional methods of bringing immersive technologies to potential media solutions lack all the benefits that Volumetric Capture offers.

Commissioning the development of 3D scenes and 3D characters to digital artists can be expensive and time consuming. In addition, the results can often fall into the so-called ‘uncanny-valley’ - creations that look "almost" human but clearly are not, causing a negative emotional response from its audience and a reduction in engagement.

On the contrary, Volumetric Capture records the true depth and detail of its subject, and can be faster and more efficient, especially when dealing with complex shapes or moving subjects. It can be used to create a wide range of models, including people, objects, and environments.

Volumetric Capture delivers a significant advantage by offering hyper realistic experiences to viewers.

How Is Volumetric Capture Created? The Technicalities

In partnership with Evercoast and Microsoft, WPP has recently acquired a state-of-the-art Volumetric Capture studio to be housed at the WPP Amsteldok campus..

A Volumetric Capture studio is a large, enclosed space where objects or people can be captured from all angles by a number of cameras and sensors. The stage is equipped with lighting and other controls to ensure that the captured data is of the highest quality.

Specialised software allows for the processing and combining of the captured data into a single 3D model. This software can be used to create realistic avatars, virtual environments and more.

How Is Volumetric Capture Created?

Stage	Duration
Build	1.5-2 days
Rig & Calibrate Cameras	1.5 days
Capture	1 day
Cloud Render	2 hrs per 60s
Clean Audio	1 day
Code Experience	0.5-5 days
License + Launch	0.5 days

Advantages For Brands

Immersive and Engaging Content Creation

Volumetric images and holograms combine the visual quality of traditional images with the unique immersion achieved through spatialized content. Viewers have the ability to control the content by freely looking and moving anywhere within the image, creating a heightened sense of presence. This immersive experience can help brands address the objective of capturing and retaining audience attention, which is especially important in today's highly competitive media landscape.

Enhanced Storytelling

With volumetric capture, brands can enhance storytelling by placing viewers right in the middle of the action. This technology enables the creation of narratives where viewers can move around characters or objects, creating a more personalised and impactful narrative. This addresses the challenge of making content more emotionally resonant and memorable for the audience.

Memorable and Shareable

Volumetric Capture creates content that is fun, surprising, and emotionally engaging. Marketers can encourage viewers to share their experiences with friends and followers on social media platforms. The shareability of volumetric content enables it to go viral, generating buzz and significantly increasing the brand's visibility.

Potential Applications of Volumetric Capture

Virtual & Augmented Reality experiences

Create 3D models of real-world objects and environments to create immersive virtual and augmented reality experiences, including WebAR.

3D Product demonstrations & visualisation

Create 3D models of products, which can then be used in advertising campaigns as product demonstrations or digital product visualisations from multiple angles.

Film & video production

Can be used to create highly detailed and realistic 3D models of characters and environments, which can then be used in film and video production.

Gaming

Create highly realistic 3D models of characters and environments for use in gaming, including the capability of importing captured avatars into virtual game environments.

Virtual events

Create realistic avatars of people, allowing them to be broadcasted as a digital version of themselves in virtual events.

Training & education solutions

3D models of various environments and objects for educational and training purposes such as industrial training, architecture, design, engineering, e-learning.

Example Applications of Volumetric Capture

Volumetric Capture in Music

Notable examples include Radiohead and Eminem, who used volumetric technology to represent themselves in their music videos. Furthermore, artists like Imogen Heap have utilised volumetric capture to create immersive music performances specifically designed for VR headsets on platforms like TheWaveVR. Holograms of iconic figures such as Michael Jackson and Madonna could be seen at the opening performance at the Billboard Music Awards. ABBA has also reunited through digital avatars for holographic concerts in 2022 and 2023.

Example Applications of Volumetric Capture

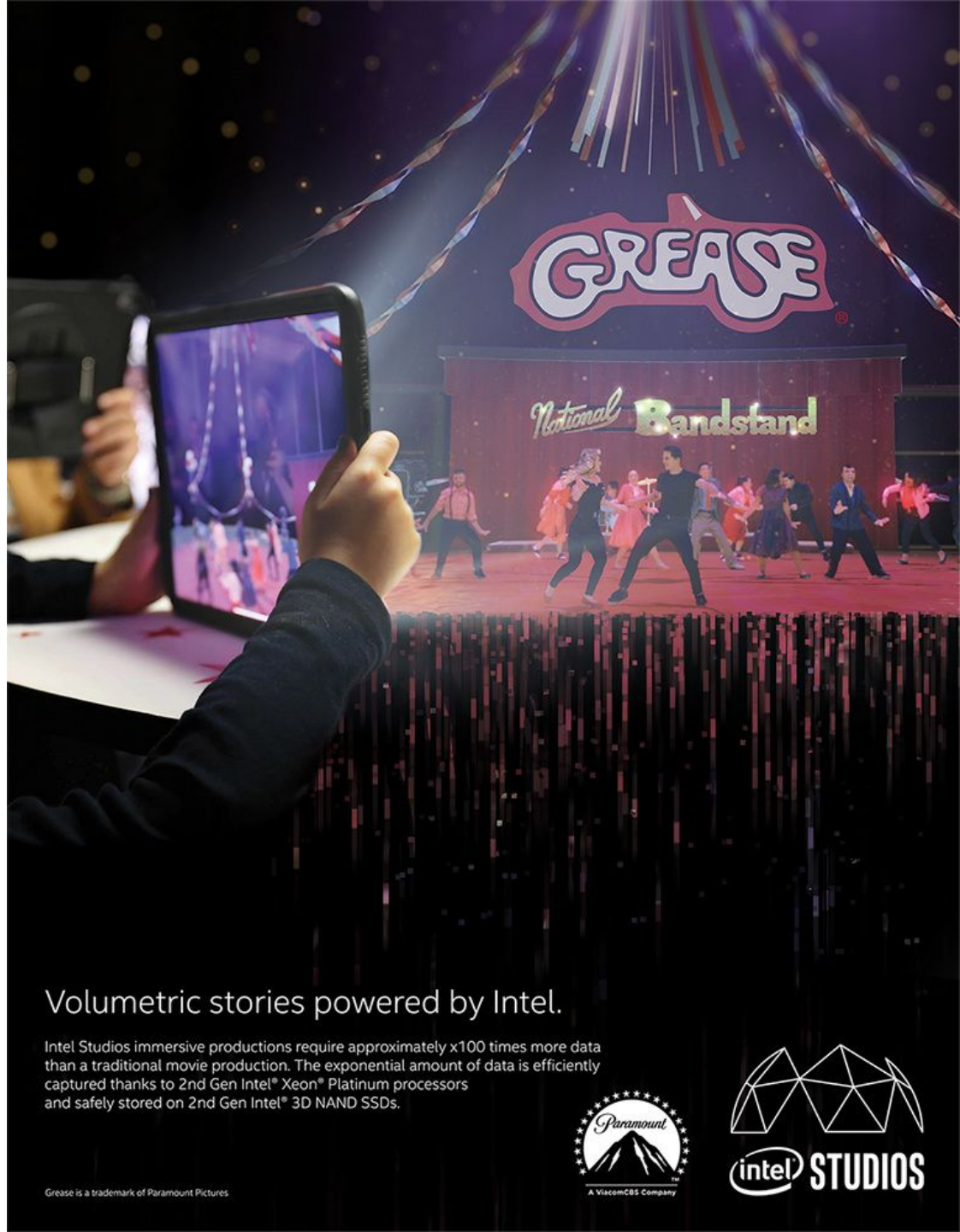
Volumetric Capture in Sports

In 2019, with the use of Intel's 360-degree TrueView technology, Premier League viewers could explore the game from any angle using. In 2017, the Super Bowl utilised Fox Sports' 'Be The Player' POV technology, enabling viewers to step into the shoes of the players on the field. Since 2022, NBA broadcasts offer fans a deeper understanding of the game, allowing them to analyse plays from multiple angles and gain insights into player movements and strategies.

Example Applications of Volumetric Capture

Volumetric Capture in Filmmaking & Documentaries

In Grease XR, a multi-user, location-based experience users can immerse themselves simultaneously in a three-minute live-action performance in augmented reality, featuring a volumetric capture of 20 dancers across four scenes. In Matrix Resurrections, Volumetric Capture was employed to recreate the iconic bullet time effect that was a hallmark of the original film. In Kvöldvaka, it offers a playful augmented reality experience inspired by Icelandic folklore and its relevance in the face of the climate crisis.



Case Studies Of Volumetric Capture In Marketing Campaigns

Gatorade's Beat the Blitz

In this campaign, volumetric capture technology was utilised to enhance the immersive experience of the game. A volumetric capture of former All-Pro quarterback Peyton Manning was incorporated into the game, allowing players to interact with a true-to-life sized hologram of him. The objective of the project was to develop a Virtual Reality (VR) game that is fun and physically engaging, intended to educate players, particularly young athletes, about the importance of proper hydration. The game served as a promotional tool for Gatorade by incorporating its branding and messaging into the VR experience. It also allowed the brand to reinforce its association with hydration and athletic performance.

Case Studies Of Volumetric Capture In Marketing Campaigns

Burger King's "Whoppa" on a Whopper

Burger King teamed up with one of the most legendary uk rap artists, Tinie, to offer a bespoke virtual performance of the music maestro's summer anthem whoppa... on a whopper®. By launching the project in WebAR with 8th Wall, the need to download an app was negated, and it was made possible to share the experience natively via message or on social channels. Over the course of the campaign, 10.8 MILLION social impressions were delivered, driven by influencer activity, 468k TikTok views, and 220 pieces of media coverage from across the globe.

Concepts

The Adidas Sporty Tryouts

A short video game embedded on the e-commerce website of the apparel brand. The game allows customers to virtually try out different clothing items in various scenarios with their selected Adidas virtual ambassador, providing an interactive and engaging experience.

Concepts

The IKEA Personal Assistant

Virtual AR Assistant for smartphones, designed to offer user specific answers about products and services such as product alternatives or opening hours and delivery options based on the user's location. It also provides a personalised catalogue based on the requirements given by the user. This assistant can be controlled by voice and allows users to visualise furniture in their space, demonstrating products in real life scenarios with people using the furniture, as well as displaying the mounting of the items, aiding an elevated informed decision-making for customers from the comfort of their home.

Concepts

Transavia's Virtual Travel Companion

Transavia's Virtual Travel Companion is an innovative AR-based application designed to enhance the travel experience for customers. This virtual assistant, accessible through smartphones, aims to provide personalised travel recommendations, real-time flight information, and interactive visualisations of destinations. By leveraging cutting-edge Volumetric Capture technology, Transavia aims to address the challenge of streamlining and enriching the travel planning process, ultimately encouraging customers to choose Transavia for their travel needs.

Considerations

Processing Time

After capturing volumetric data, extensive processing is required to create a coherent 3D model. This involves stitching together the data, aligning frames, and creating a seamless volumetric representation.

Data Storage and Bandwidth

Volumetric data can be quite large due to the multiple perspectives captured. Storing, transferring, and streaming this data can be demanding on storage infrastructure and bandwidth, particularly for real-time applications.

Realism and Quality

Achieving high-quality and realistic results with volumetric capture can be challenging, especially for fast-moving or intricate subjects. The quality of the capture largely depends on the number and arrangement of cameras, lighting conditions, and the subject's movement.

User Experience

While volumetric capture can provide immersive experiences, it's important to consider the end user's hardware capabilities and internet connection speed. Ensuring a seamless experience for a wide range of users can be a challenge.

Recommendations for Effective Volumetric Capture Usage

Clearly Define Objectives

Start by defining clear goals for incorporating volumetric capture in your media campaign. Understand how the 3D and immersive nature of the technology aligns with your message and audience engagement.

Collaborate with Experts

Work closely with experienced volumetric capture production teams and technical experts. Their insights can help you navigate the complexities of the technology and ensure a successful implementation.

Budget Allocation

Allocate budget considering the costs associated with volumetric capture technology, including equipment, personnel, processing, and post-production. Plan for potential contingencies to avoid unexpected financial challenges.

Content Suitability

Choose content that benefits from the 3D and immersive experience offered by volumetric capture. Content that involves movement, interaction, or spatial storytelling tends to work best.

User Experience

Prioritise the end user's experience. Optimise content for a wide range of devices and connection speeds, and consider offering different quality levels to accommodate different hardware capabilities.

Integrating Volumetric Capture into Media Planning Workflows

Early Collaboration

Involve volumetric capture experts during the planning phase. Collaborate closely with them to align the technology with your campaign goals and creative vision.

Storyboard and Pre-Visualization

Develop a clear storyboard and pre-visualizations to guide the volumetric capture process. This helps ensure that the captured content aligns with your intended narrative.

Scheduling and Timing

Plan the capture schedule to optimise lighting conditions and minimise disruptions. Coordinate closely with the production team to ensure smooth execution.

Data Management and Processing

Plan for efficient data management and processing workflows. This involves considering storage needs, processing time, and post-production tasks.

Best Practices for Maximising Impact

Engaging Storytelling

Craft narratives that leverage the immersive potential of volumetric capture. Utilise the technology to tell stories in unique and captivating ways that resonate with your audience.

Interactivity

Explore interactive elements within the volumetric capture experience. Allow users to control viewpoints or engage with the content, enhancing engagement and immersion.

Contextual Integration

Ensure that the volumetric content seamlessly integrates with the overall campaign context, whether it's an event, digital platform, or physical space.

Personalization

If possible, consider tailoring the volumetric content to individual user preferences, creating a more personalised and engaging experience.

Education and Accessibility

Educate your audience about the technology and how to experience the content. Ensure that the necessary hardware and instructions are readily available to enhance accessibility.

Thank You!