



# Motion Capture Unleashed!

**Real-Time Markerless Motion Capture**

No Markers, No Sensors | Budget friendly | Unleash your Creativity



**AR51** has developed

# Real Time Parametric Capturing Technology

a **REVOLUTIONARY** 3D Content Capturing deep-tech

Based on a series of proprietary Deep Algorithms:



3D Skeleton  
Motion



Body ID



Finger Motion  
Synthesis



6DOF



## High fidelity

Whether it's that subtle wrist flick or tiny shimmy, our technology's extremely high fidelity captures the very essence of human movement. AR 51 markerless motion capture is extraordinarily accurate and high quality



## Real time

Our low-latency, high-fidelity capture ensures that the avatars created move just like their real-life counterparts, giving content creators the ability to see their digital creation come to life.



## Markerless

AR 51 motion capture technology is completely markerless, making it possible to capture your motion easily and seamlessly no matter what you're wearing and with no special attire required.



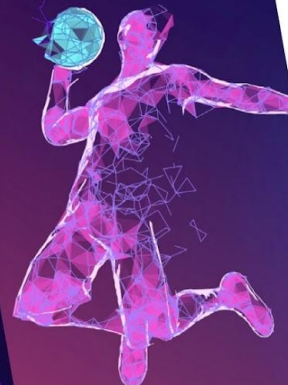
**XR  
Experiences**



**Puppeting**



**Research  
Centers**



**Animation**

# Main Advantages



## No Markers

World's first markerless motion capture system  
No markers, no suits, no wires



## No Wear & Tear

No Batteries, No Suits  
Less Hassle



## Less Operations

No Setup, No Preparations  
Less Employees



## 160 x Faster

World's Fastest Mocap AI  
Computes 4 Gigapixels per second



## Low Latency

9 milliseconds glass-to-glass  
Customers feel as they are really there



## On-Prem Solution

perfect balance of  
hardware & software



## Highly Scalable

AR 51 system fits all  
From a small room to a basketball field



## High-Fidelity

3mm spatial resolution  
More engaging more interactive



## Multiple Participants

No limit to the number of customers  
that will enjoy the experience



## A System in a Box

A turn-key solution with easy setup



## Easy Integration

SDK for popular game engines  
E.g. Unity, Unreal



## Seamless VR

Supports all leading VR headsets



## Automatic Proportion

Avatars fits automatically to all sizes, from  
kids to basketball players



## Body Identification

A unique identifier that persists  
throughout the experience



## Finger Tracking

Full integration with inside-Out  
Finger tracking



## Object Detection

Six degree of freedom prop tracking  
Tactile experience, allow customers to feel  
& touch everything



## Mixed Reality Videos

Create & share captivating videos of  
fantastic worlds



## Patent-Pending

Filed and processed

# Accuracy & Precision

## AR 51's system ensures **high fidelity** motion tracking

Global positioning, capturing movements with exceptional accuracy and fidelity.

Robust system - supports **High Speed** movements

Absolute Spatial Accuracy with less than **3 Millimeters** error

Object tracking with less than 1 Millimeter precision

### **Coming Q2 2024:**

Foot Contact Detection

Markerless Hands / Fingers Tracking

# Flexibility

## Unparalleled **Scalability**

**Robustness:** Reflective Floors, Indoor and outdoor

**Scalability:** Large capture space, Connected spaces, and spaces on different floors

**Unlimited** number of people

Automatic body proportions adjustment – capture kids and tall people

Hybrid – Full body and Object tracking – supports upto 100 objects in parallel

# Existing Pipelines

## Unparalleled **Scalability**

Full integration with: Unreal, Unity and Motion Builder

offering **compatibility** and flexibility for developers and studios across the industry.

Real Time Retargeting



# Ease of Use

- Short set-up
- Real-Time Calibration
- Persistent Unique ID
- Hybrid solution
- PROPS tracking
- Hands and Finger Tracking
- Existing pipelines: Unity, Unreal, Motionbuilder
- Easy Export: FBX, BVH and many other

**Next Gen:** AI Based Instant Post-Processing



# REAL-TIME CAMERA TRACKING

Outside-in moving camera tracking

Real time rendering into Unreal



# Roadmap for 2024



Discrete skeletal landmarks

Instant post-processing

Hands and Finger Tracking

# Best for:



Immersive experiences

Real time VFX

Live Events - 3D Live streaming

Game development - 2D and VR - Rapid content generation

Virtual Production - Camera tracking in Unreal

Previz - EMPOWERING CREATIVE DECISIONS WITH MARKERLESS MOCAP

## Next Gen:

VFX and CG - Final motion/pixel

## MoCap Unleashed in Action





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# Thank You