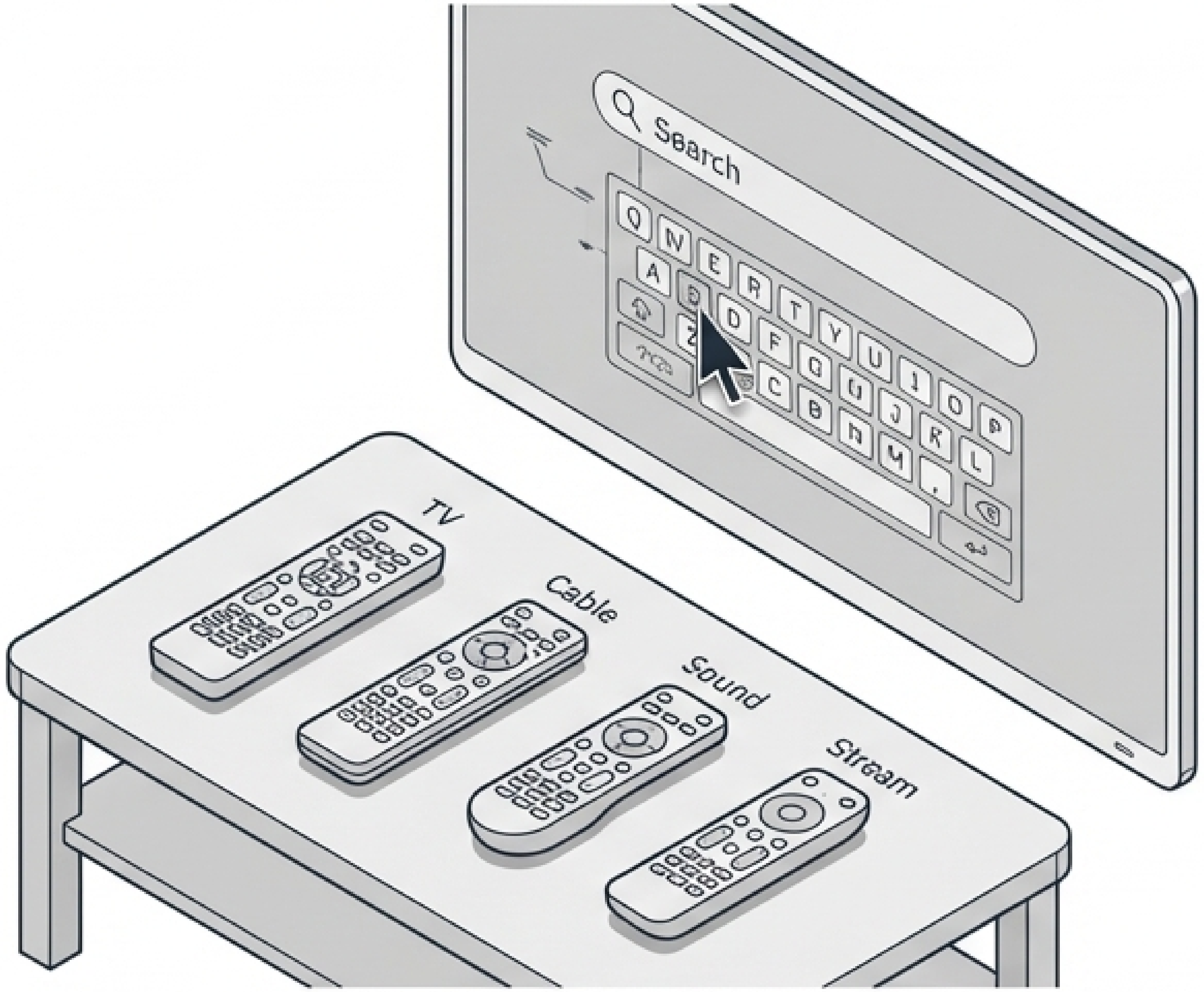
The Decentralized Control Platform

A Web-Based Method for Seamless Interaction Between Mobile Objects and Remote Displays.

US PATENT 12,346,399 B2
INVENTOR: EDWIN A. HERNANDEZ-MONDRAGON

Resolving the Friction of the “Smart” Living Room

CURRENT STATE: HARDWARE FRAGMENTATION

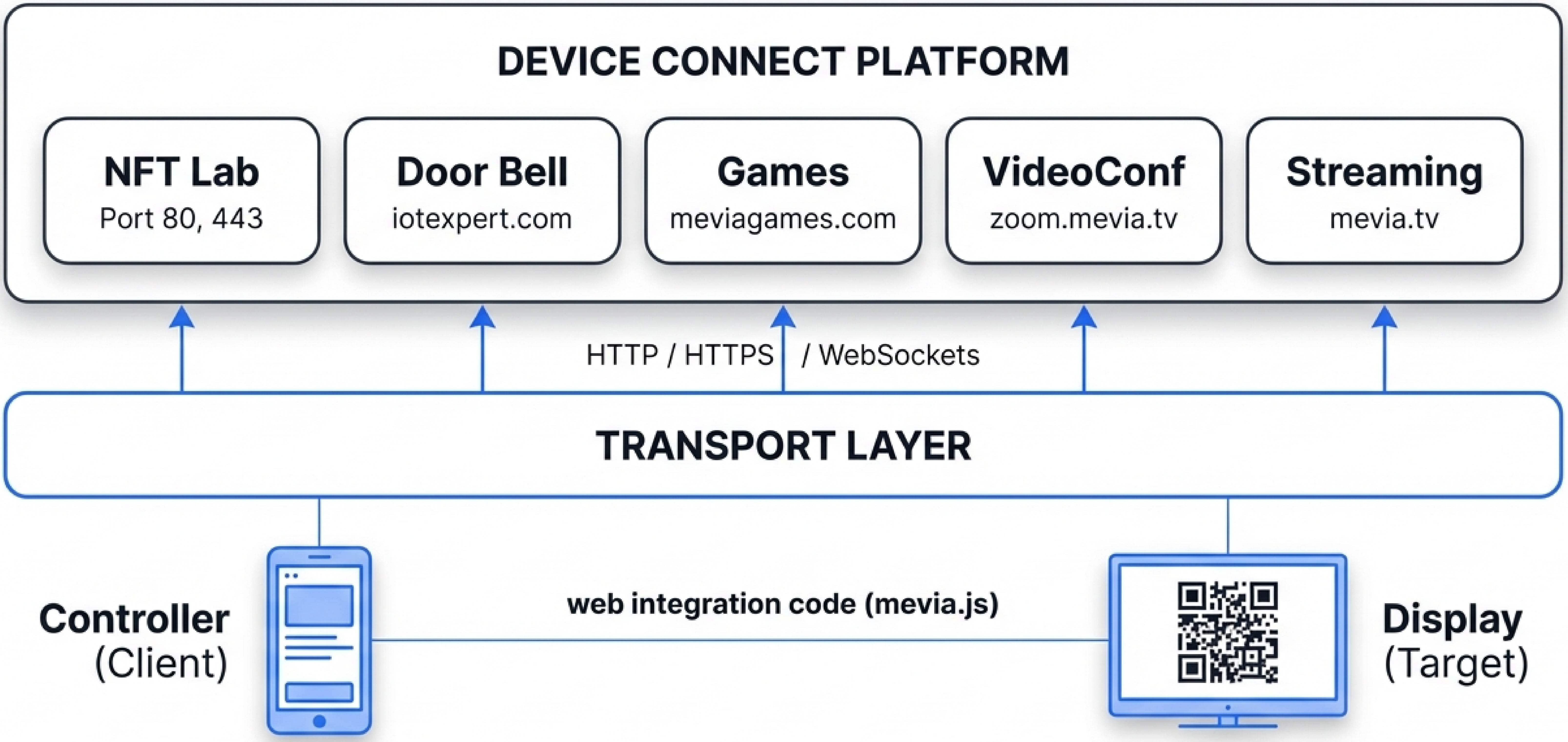


High Friction: Proprietary remotes, dongles, and slow on-screen typing.

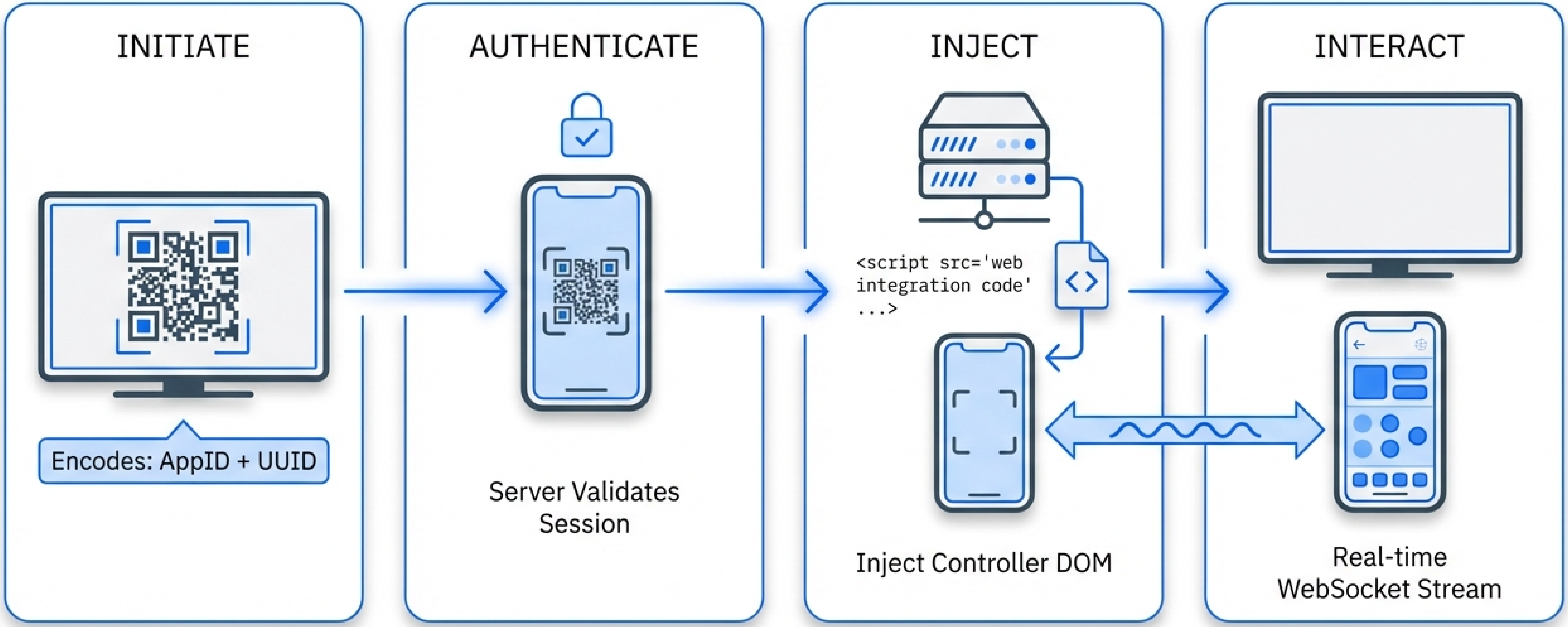
FUTURE STATE: ZERO-INSTALL WEB CONTROL

Zero Friction: Standard HTML5/JS. No App Store downloads. No proprietary lock-in.

The Device Connect Platform Architecture

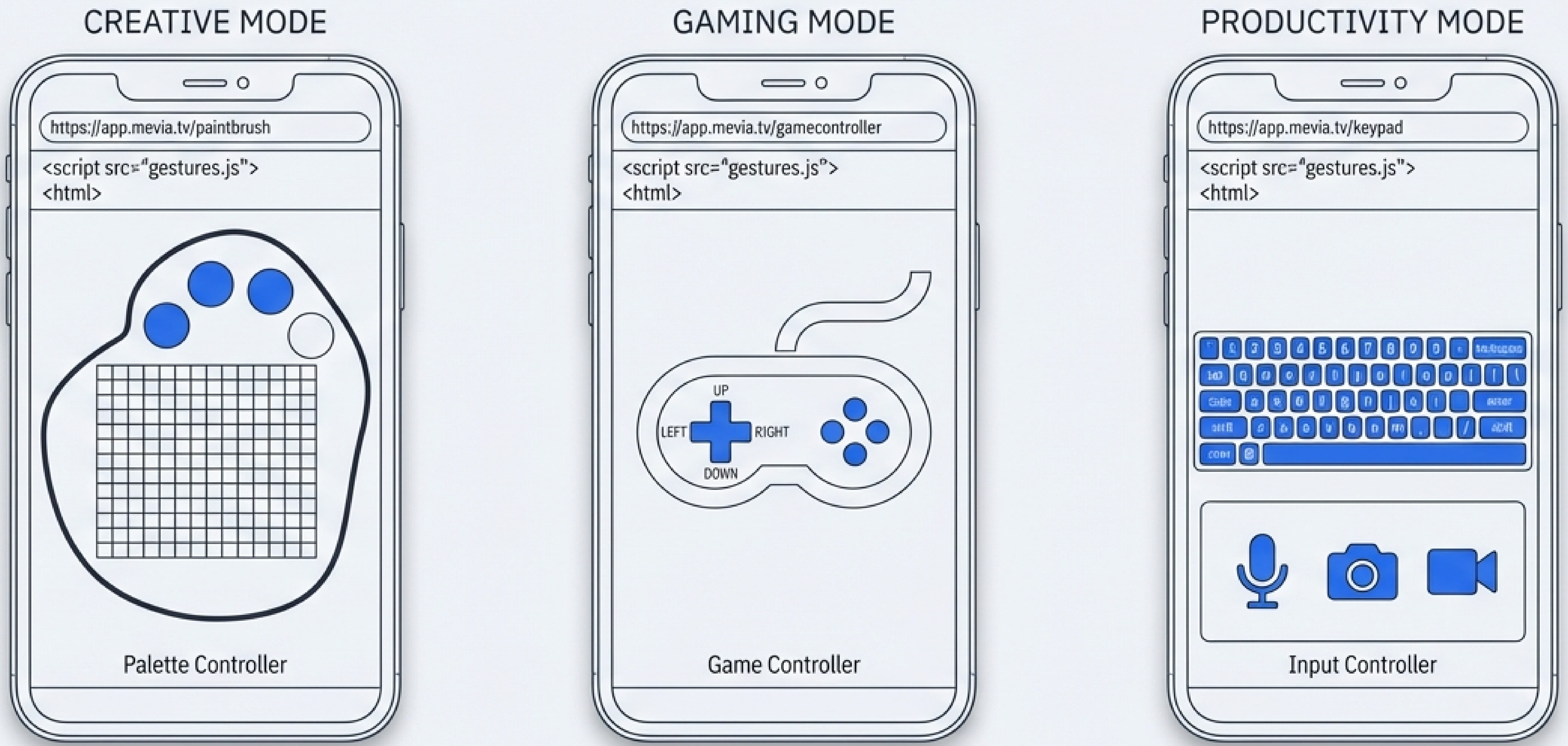


The ‘Handshake’: From Scan to Control



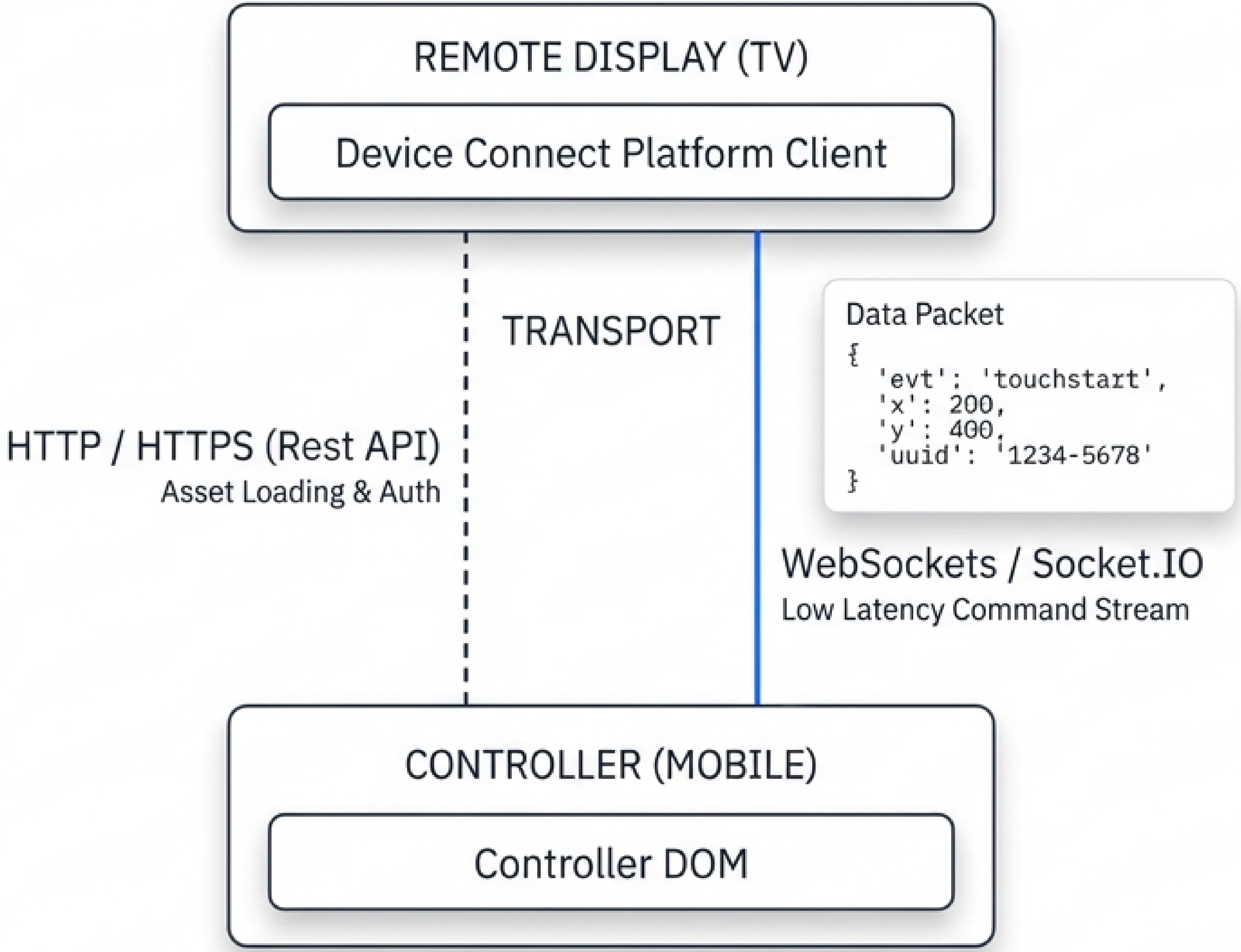
Dynamic Interface Adaptation

Context-Aware DOM Injection based on Remote Application

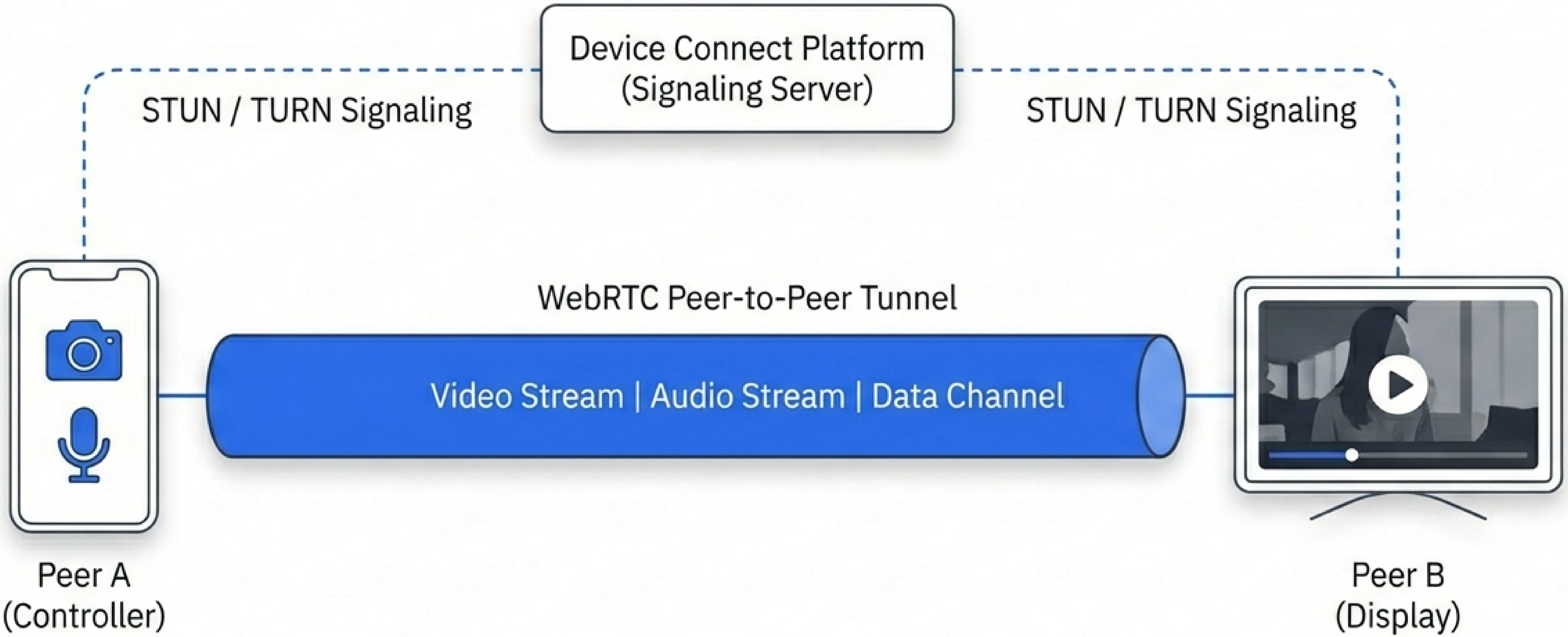


The remote application dictates the client interface via standard HTML/CSS assets.

Architecture Layer 1: The Web Stack



Architecture Layer 2: Advanced Multimedia Tunneling



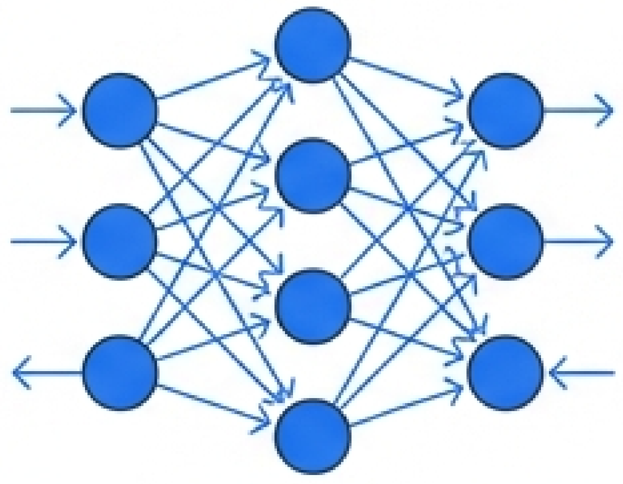
High-bandwidth media streams are tunneled directly between devices, bypassing the central server bottleneck.

AI-Driven Gesture Recognition

SENSORS
Sensor Amber IBM Plex Sans

Accelerometer
(x, y, z) + Time

PROCESSING (LSTM)
Connectivity Blue IBM Plex Sans

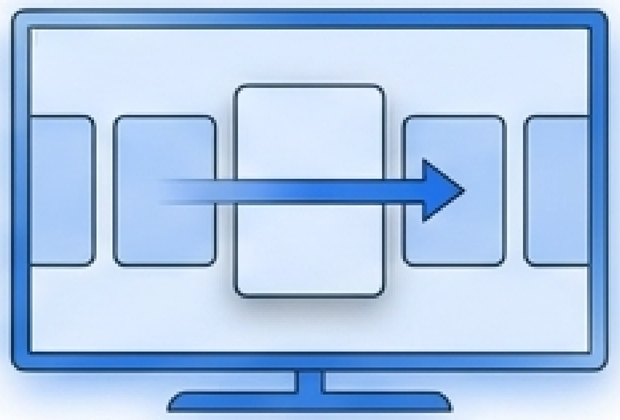


Pattern Matching & Training

INTERPRETATION
Connectivity Blue IBM Plex Sans

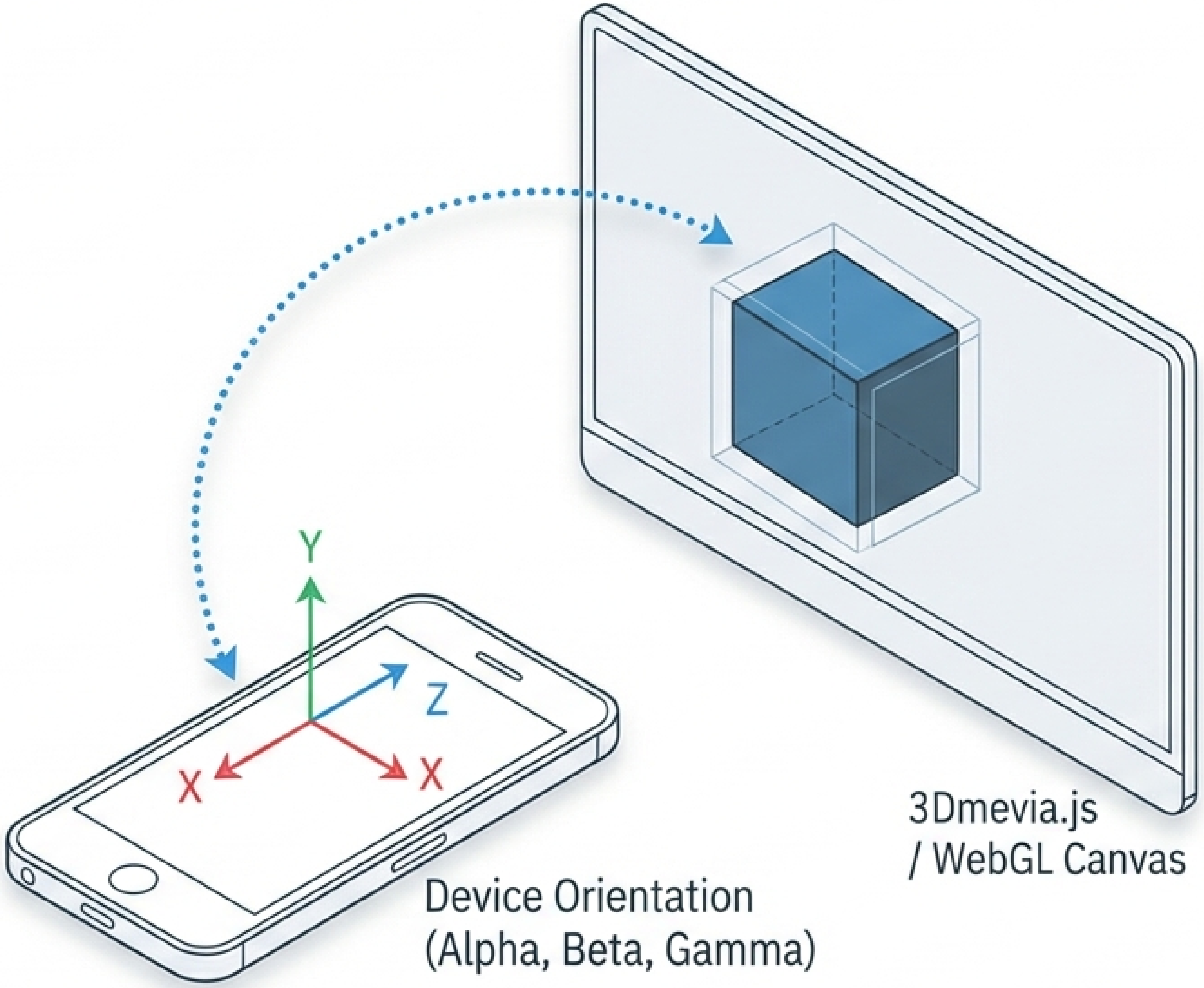
Swipe Right
Tilt Up
Shake
Circle

ACTION
Connectivity Blue IBM Plex Sans



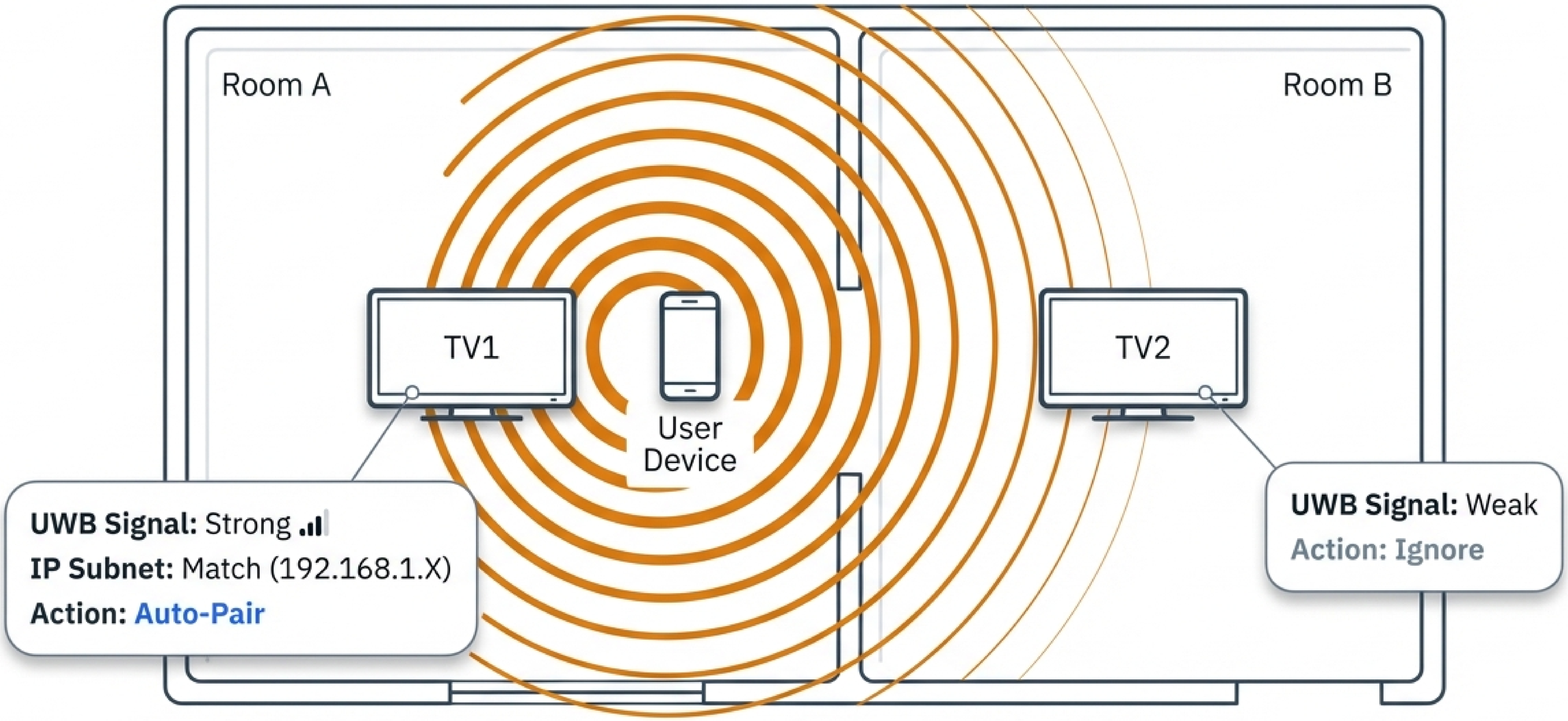
3D & Spatial Interaction

Integration with WebGL and Spatial Computing

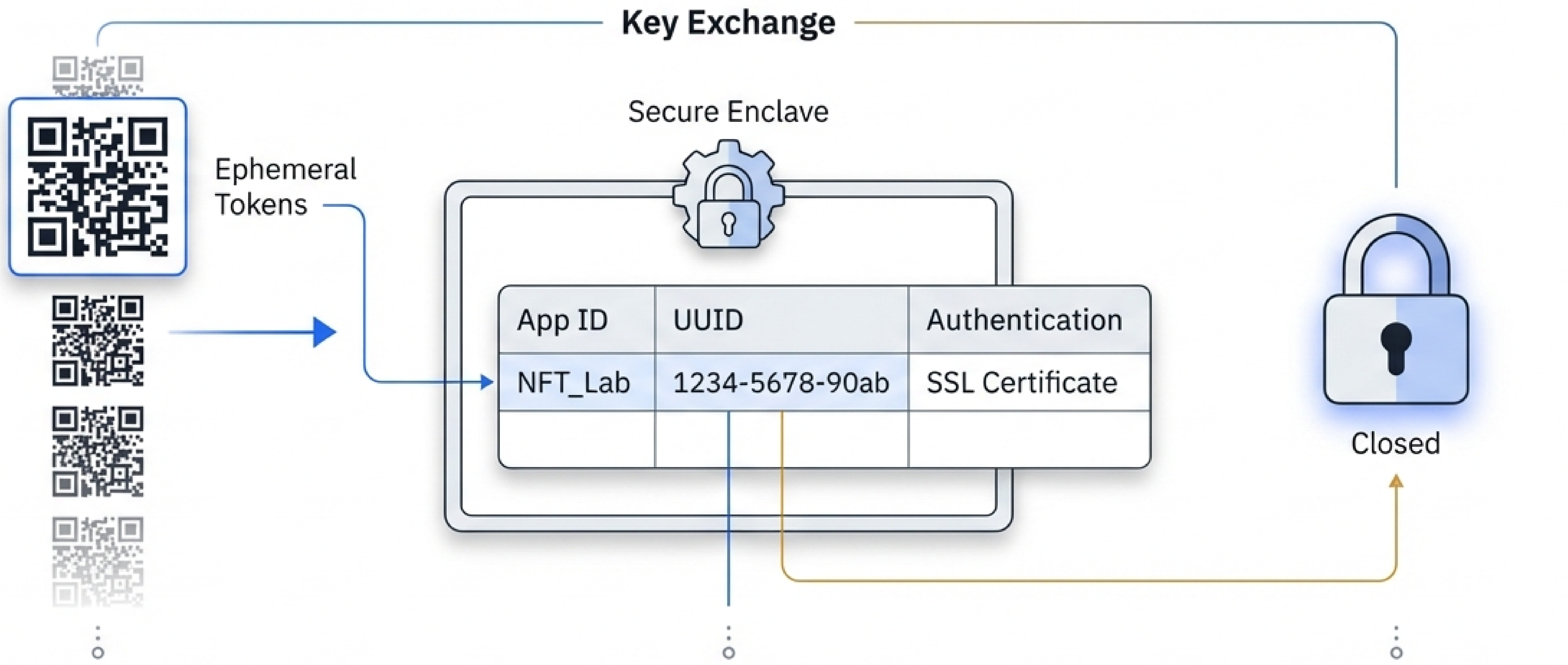


Spatial Mapping: Physical device movement is mapped directly to the 3D coordinate space of the remote canvas.

Automated Discovery & Proximity



Security & Session Integrity

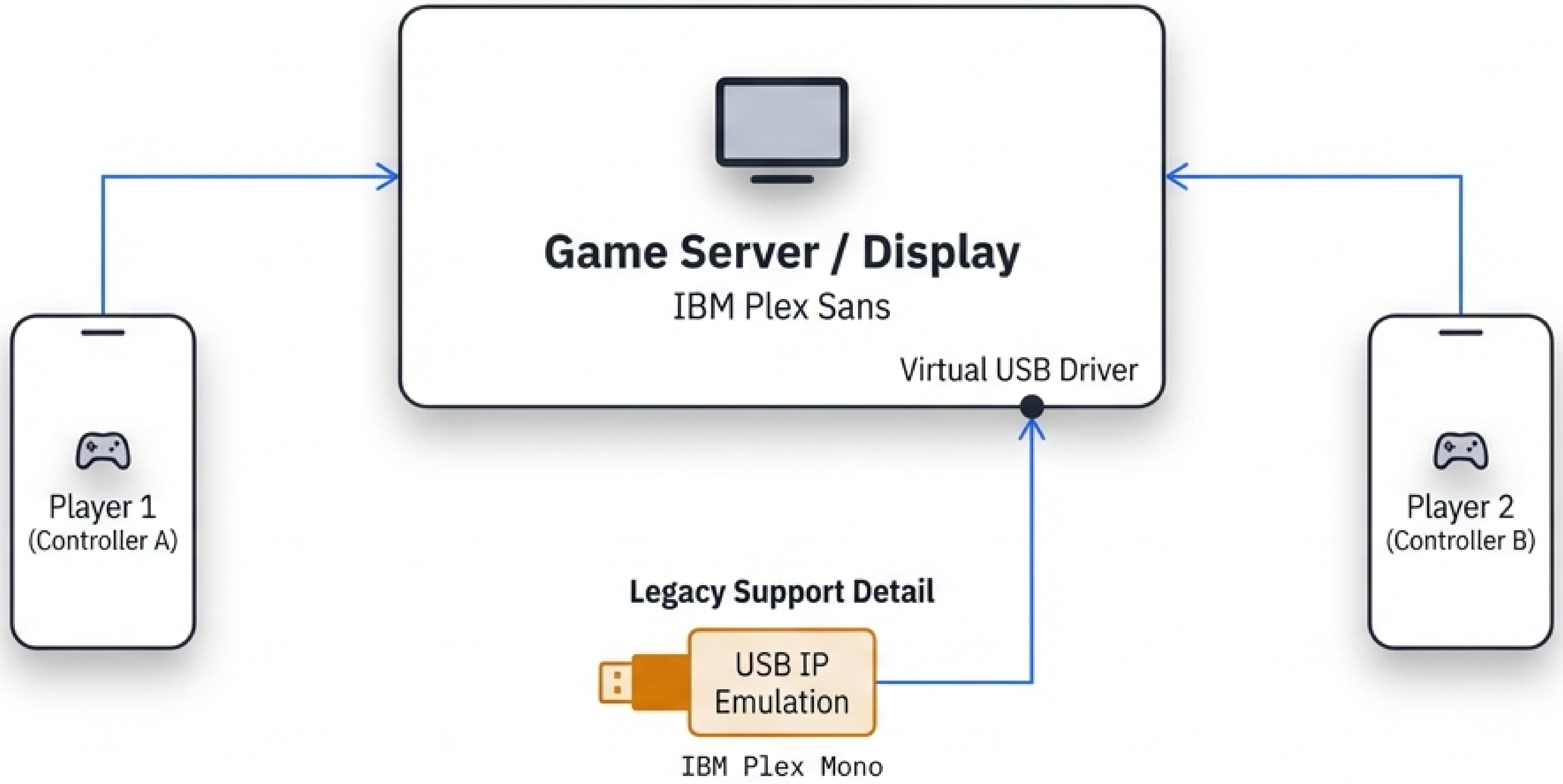


1. QR Code generates temporary fingerprint.

2. UUID locks the session to one specific device.

3. Certificate Authority validates the handshake.

Use Case: The Zero-Latency Gaming Ecosystem



Web inputs converted to standard USB Joystick commands for legacy game support.

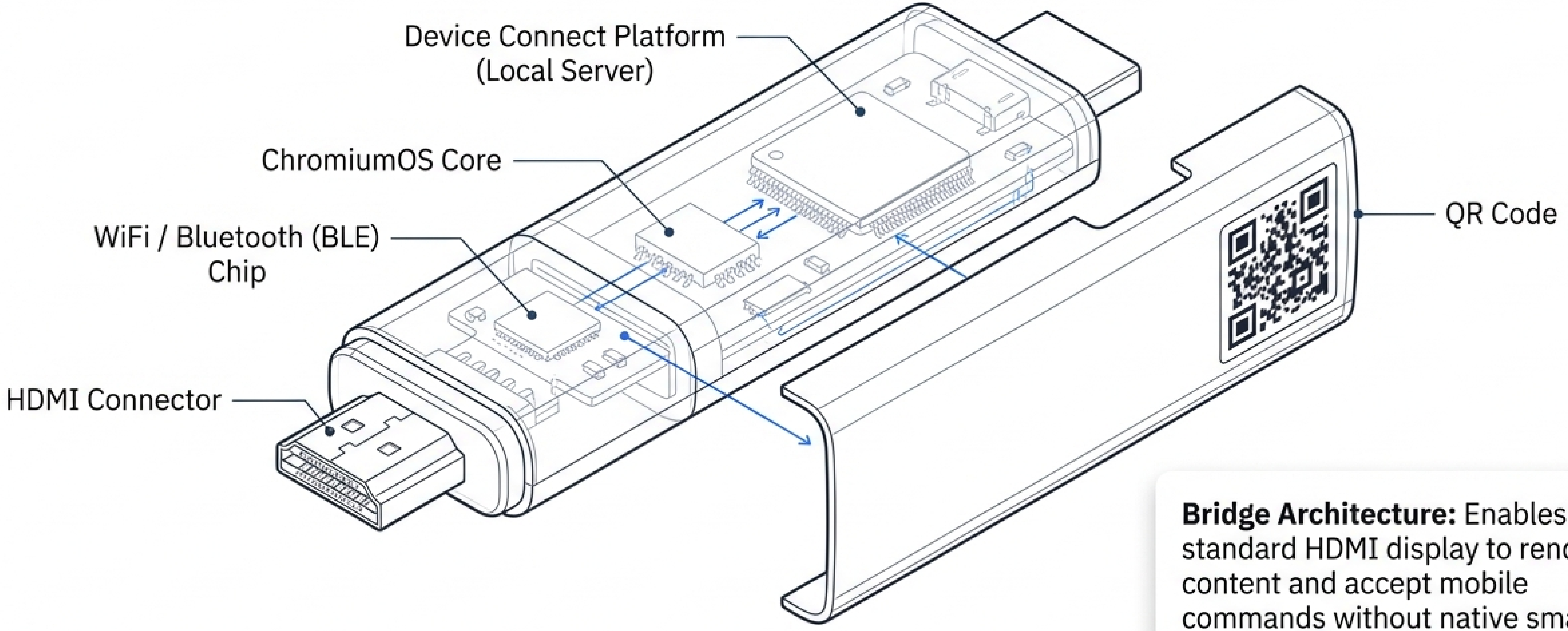
Features: Message Queueing | Load Balancing | Multi-threaded Input Processing

Use Case: Secure Commerce & Payments

Private vs. Public

Retrofitting Legacy Hardware

The Device Connect Dongle



Bridge Architecture: Enables any standard HDMI display to render web content and accept mobile commands without native smart TV capabilities.

The Universal Interface

- **Zero Friction:** QR-based, no-install access via standard mobile browsers.
- **High Performance:** WebSockets & WebRTC for real-time interaction.
- **Intelligent:** Neural network gesture recognition.
- **Secure:** Ephemeral, encrypted sessions.

Transforming the mobile browser into a universal, hardware-agnostic controller for the decentralized web.