

PROPVR SPATIAL OS

Spatial Drive

*Immersive Community Drive-Through
Experience for Real Estate*

Real buggy + gaming console + immersive LED room + Unreal Engine — drive through your project before it is built.

LOGITECH G29

180° - 360° LED

UNREAL ENGINE

REAL VEHICLE

01 WHITEPAPER

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01 EXECUTIVE SUMMARY

Drive through your future home

Real estate marketing has always struggled with one fundamental question: how do you let a buyer experience a community that does not yet exist? Renders show static images, videos offer fixed-path walkthroughs, scale models give a bird's-eye view. None answer the question every buyer instinctively asks: **what will it feel like to live here?**

Spatial Drive answers it. A real buggy, golf cart, or car simulator sits at the centre of an immersive LED room (180°, 220°, 270°, or full 360°), connected to a professional Logitech G29 racing console. The visitor sits in the vehicle, grips a real steering wheel with force feedback, operates real pedals, and drives through a photorealistic real-time 3D recreation of the community built in Unreal Engine. The roads, landscaping, buildings, amenities, parks, retail zones, and infrastructure surround them on every side.

They drive at their own pace, choose their own route, and experience the community as they would on move-in day — except the project may be years from completion. The immersive LED walls eliminate the boundary between the vehicle and the virtual world. The force feedback steering creates a visceral physical connection. **The result is not a video, not a simulation on a screen — it is a drive through the future.**

“You don’t show someone a community. You let them drive through it. Spatial Drive turns every sales gallery into a destination — and every buyer into a resident, before a single road is paved.”

THE SPATIAL DRIVE THESIS

02 THE PROBLEM

Selling a lifestyle that doesn't exist yet

Master-planned communities, townships, and giga projects sell a lifestyle – not just a unit. The buyer is purchasing a neighbourhood, a commute, a view from the car window, a drive past the park to the clubhouse. But the available tools cannot convey that experience.

RENDERS

Renders are static

Architectural renders show the community from an elevated camera angle no resident will ever see. They cannot show what the drive from the main gate to Block C feels like, how landscaping frames the road, or what the retail boulevard looks like at street level.

TOUCHSCREEN

Touchscreens lack context

Interactive kiosks display the masterplan on a flat screen. Useful for unit selection and data lookup, but cannot convey the feeling of being inside the community. A 2D map of the road network does not communicate the experience of driving it.

VIDEO

Videos are passive

Pre-rendered flythroughs follow a fixed camera path at a fixed speed. The viewer has no control – cannot slow down, turn left instead of right, or stop to look at a building. Every visitor sees the same video regardless of interest.

PASSIVE

No physical engagement

All current tools – screens, headsets, brochures, models – are fundamentally passive. The buyer looks at content but does not physically interact. No tactile engagement, no sense of control, no physical memory. The visit blends with every other gallery visit.

VR

VR headsets are isolating

Immersive first-person views, but the experience is solitary. The buyer is isolated inside the headset while family, agents, and colleagues stand outside with nothing to see. Uncomfortable for extended use, causes motion sickness for some.

RESULT

The cost

Developers invest heavily in marketing content but cannot bridge the gap between showing a community and letting the buyer experience it. The most powerful sales moment remains unavailable until the project is built. By then, the sales window has closed.

03 THE SOLUTION

Drive through the future — three components

Not a video. Not a VR experience. Not a game. A **physical, immersive simulation** that puts the buyer behind the wheel of a real vehicle and lets them drive through a photoreal recreation of the community — surrounded by immersive LED walls that eliminate the boundary between real and virtual.



VILLA COMMUNITY DRIVE — LIVE POV



DRIVER POV — CITY STREET, REAL WHEEL

01 COMPONENT 1 The vehicle

A real buggy, golf cart, or car simulator at the centre of the room. The visitor sits in a real seat, grips a real steering wheel, operates real pedals. Logitech G29 console provides professional-grade force feedback steering, responsive pedals, and precise input mapping.

02 COMPONENT 2 The immersive room

An immersive LED room around the vehicle — configurable from 180° (front and sides) to 220°, 270°, or full 360° wrap-around. LED walls display the community at life-size scale, extending beyond peripheral vision. The vehicle appears to be driving through the actual community.

03 COMPONENT 3 The Unreal Engine app

A real-time 3D recreation of the entire community built in Unreal Engine on Spatial OS. Every road, building, landscape element, amenity, park, and infrastructure feature is modelled and rendered in real time. Turn the wheel and the view turns; accelerate and the scenery moves faster.

“The steering wheel is real. The pedals are real. The seat is real. The community surrounding you is real-time 3D on immersive LED walls. Your brain cannot tell the difference. You are driving through your future home.”

03 DELIVERS

A live, interactive drive — not a video

Spatial Drive is built as an Unreal Engine gaming application within the PROPVR Spatial OS platform — using the same real-time 3D rendering pipeline, physics engine, and input handling as professional driving simulators and AAA racing games.



LIVE 3D — NOT PRE-RENDERED VIDEO

LIVE 3D

Not pre-rendered video

A live, interactive 3D world that responds to the driver's input in real time. Frame rates maintained at 60fps+ for smooth, nausea-free motion. Camera position matches the driver's eye level inside the vehicle. Field of view calibrated to the LED room's wrap angle for accurate spatial perception.

VISCERAL

Physical & multi-sensory

Force feedback steering resists on turns, vibrates on different surfaces. Optional bass shakers simulate road vibration through the seat. Optional fan systems create a wind-in-hair effect. The brain integrates all of these into a single coherent "driving" experience.

G29 NATIVE

Logitech G29, natively supported

The G29 is natively supported by Unreal Engine — precise force feedback, steering-angle mapping, pedal response curves, and button input without custom driver development. Zero-latency input from wheel and pedals to on-screen response.

SHARED

A shared experience

Unlike VR headsets, Spatial Drive is shared. The driver operates the vehicle while passengers — family, investors, colleagues — sit alongside or stand in the room, all seeing the same immersive community. The sales agent presents while the drive is underway.

04 JOURNEY

The visitor experience — 7 steps



VISITOR EXPERIENCE — THE ROOM IS THE DESTINATION

STEP	WHAT HAPPENS
1. Enter the room	The visitor enters the immersive LED room. A real buggy or golf cart sits at the centre, surrounded by LED walls displaying the project’s branded intro sequence. Cinematic atmosphere — the room itself is the first impression.
2. Take the wheel	The visitor sits in the vehicle. The Logitech G29 steering wheel, pedals, and gear shifter are integrated into the buggy’s dashboard. A real driving position, real steering wheel, real seat.
3. Select route	The sales agent selects the starting point — the community main gate, a specific neighbourhood entrance, or the visitor’s preferred building cluster. The LED walls transition from the branded intro to the photoreal community environment.
4. Drive	The visitor presses the accelerator and drives. Force feedback steering — resistance on turns, vibration on different surfaces. The LED walls respond in real time: turn left and the entire visual field rotates, accelerate and the scenery scrolls faster, brake and the world slows.
5. Experience the community	Buildings, landscaping, parks, retail zones, schools, clubhouses, and infrastructure at street level — exactly as a resident would see them. Photoreal 3D with dynamic lighting, shadows, vegetation, and ambient elements.
6. Guided highlights	The agent triggers points of interest as the visitor drives — pause at a building to show unit details, highlight an amenity zone, or display a pop-up with specifications. The drive becomes a guided tour.
7. Close	The session ends with a branded outro on the LED walls. The visitor exits the vehicle having physically experienced the community. Lead capture and follow-up happen while the emotional impact is at its peak.

05 CAPABILITIES

Key features & capabilities

DRIVING
Real-time interactive driving

Full driving control via Logitech G29 — steering with force feedback, accelerator, brake, gear control. Drive at your own pace, choose your own route, stop wherever you want. Each visitor's drive is unique.

PHOTOREAL
Photoreal community exteriors

Roads, buildings, landscaping, water features, parks, retail facades, infrastructure, signage, and ambient elements (vehicles, pedestrians, vegetation animation). Dynamic time-of-day lighting — morning, afternoon, golden hour, evening.

VEHICLE
Physical vehicle integration

Real buggy, golf cart, or custom car simulator as the seating platform — stationary but authentic. Real seat height, dashboard perspective, steering position. Optional bass shakers for road vibration and fan systems for wind effect.

G29
Professional racing console

Logitech G29 with dual-motor force feedback steering, stainless steel paddle shifters, responsive pedal unit (accelerator, brake, clutch), and 900-degree steering rotation. Natively supported by Unreal Engine.

ROUTES
Multiple route options

Fully open 3D community — the visitor can drive any road, take any turn, explore any area. Pre-configured scenic routes for guided presentations: main boulevard, waterfront drive, neighbourhood loop, or custom developer route.

SHARED
Multi-passenger experience

The driver operates the vehicle while passengers sit alongside or stand in the room, all seeing the same immersive community on the LED walls. The agent presents and discusses while the drive is underway.

ROOM
Configurable immersive room

Deployable in any Spatial Cave LED room — 180°, 220°, 270°, or full 360° wrap-around. Any existing Spatial Cave deployment can add Spatial Drive without additional display hardware.

POI
Points of interest & narration

Agent triggers contextual overlays as the visitor drives — building names, amenity descriptions, unit availability, distance markers, specs. Optional audio narration provides guided tour while the visitor maintains driving control.

ANALYTICS
Session recording & analytics

Every drive is recorded — route, speed, stops, areas of interest, duration. Analytics reveal which neighbourhoods attract the most exploration, where visitors slow down, and which routes are most popular — informing sales strategy.

06 ARCHITECTURE

Technical architecture

SOFTWARE STACK

COMPONENT	DETAILS
Rendering engine	Unreal Engine (latest stable) – real-time 3D at 60fps+
Application type	Unreal Engine gaming application within PROPVR Spatial OS
Input system	Logitech G29 force-feedback console (native UE integration)
Physics	Unreal Engine vehicle physics – steering, acceleration, braking, surface response
Display output	Multi-GPU rendering pipeline for 180°–360° LED wall configurations
Synchronisation	nDisplay / custom multi-screen sync for seamless wrap-around projection
Content management	Route configuration, POI management, content updates via Spatial OS CMS
Analytics	Session recording, route heatmaps, engagement tracking

HARDWARE SPECIFICATIONS

SPECIFICATION	DETAILS
Driving console	Logitech G29 – force-feedback wheel, pedal unit, shifter (optional G Driving Force Shifter)
Vehicle platform	Real buggy, golf cart, or custom car simulator chassis (stationary, elevated on platform)
Display	Spatial Cave LED room – P0.9 to P1.5 LED panels, configurable 180° to 360°
Compute	High-performance media servers with multi-GPU (NVIDIA RTX 4090 class) for real-time rendering
Audio	Surround sound system integrated with LED room – engine sound, ambient audio, narration
Optional: bass shakers	Tactile transducers mounted under vehicle seat for road vibration simulation
Optional: wind system	Directional fans synchronised to vehicle speed for wind-in-hair effect
Connectivity	Ethernet backbone for GPU sync; Wi-Fi for CMS, analytics, remote management
Room size	Minimum 15ft × 15ft (180°); recommended 20ft × 20ft+ for 270°–360°

07 USE CASES

Where Spatial Drive earns its keep

COMMUNITIES

Master-planned community galleries

The primary deployment. Township and master-planned developers deploy Spatial Drive as the centrepiece of their sales gallery. Visitors experience the community at street level before any construction begins. Particularly impactful where the community experience — not just the unit — is the primary selling proposition.

EXPERIENCE

Flagship experience centres

Premium developments and branded residences deploy Spatial Drive as a signature experience. Complements other Spatial products — visitors explore the masterplan on Spatial Touch, examine a unit on Spatial Holo, then drive through the community on Spatial Drive. Each product reinforces the others.

GIGA

Giga projects & smart cities

Giga projects span thousands of hectares with diverse districts, infrastructure, and precincts. Spatial Drive lets stakeholders and potential residents drive through the full masterplan, exploring districts at street level. For government presentations and sovereign wealth fund reviews, the drive communicates scale and vision more effectively than any slide deck.

INVESTORS

Corporate & investor presentations

For investor roadshows, board presentations, and JV pitches, Spatial Drive communicates project quality, community design, and lifestyle positioning in a format that demands attention. The physical, interactive nature differentiates it from standard pitch materials.

EVENTS

Property exhibitions & launches

High-impact experience at property shows and project launches. The combination of real vehicle + immersive LED walls generates foot traffic, social-media sharing, and press coverage. Exhibition visitors queue for the experience, sustaining engagement with the developer's brand throughout the event.

HOSPITALITY

Tourism & destination marketing

Resorts, integrated tourism developments, and hospitality projects let visitors experience the destination — drive along the beachfront, through the resort village, past the marina, up to the hotel entrance. A visceral sense of place that photographs and videos cannot replicate.

08 | ROI

Engagement & business impact

METRIC	TRADITIONAL GALLERY	WITH SPATIAL DRIVE
Average visit duration	15–25 minutes	40–60+ minutes
Emotional engagement	Moderate – visual	Very high – multi-sensory, physical
Visitor recall (1 week)	Low to moderate	Very high – physical memory of the drive
Social-media sharing	Rare	Very frequent – visitors film entire sessions
Word-of-mouth referrals	Standard	Significantly higher
Return visits	Low	High – visitors bring family and friends to drive
Press & media coverage	Standard gallery coverage	Feature-worthy – the experience itself is newsworthy

BUSINESS IMPACT

DESTINATION

Destination gallery

Transforms the sales gallery from a functional space into a destination. Visitors come for the experience, not just the information.

EMOTION

Emotional conversion

The physical act of driving through the community creates emotional ownership – the visitor mentally moves in before they sign.

LIFESTYLE

Community selling

For master-planned projects, the community experience is the primary value. Spatial Drive is the only tool that lets the buyer live it before construction.

REUSE

Content leverage

3D community assets are shared across the entire Spatial OS ecosystem – built once, deployed on every product.

HARDWARE

Spatial Cave synergy

Runs on the same Spatial Cave LED hardware. Galleries with Cave can add Drive as a software deployment, maximising the hardware investment.

BUZZ

Exhibition dominance

At property shows, the Spatial Drive booth draws the largest crowds and longest engagement times – sustained brand exposure throughout the event.

09 COMPARISON

Traditional marketing vs Spatial Drive

Side-by-side, the gap between viewing a community and physically driving through it is visible at every capability.

CAPABILITY	TRADITIONAL MARKETING	PROPVR SPATIAL DRIVE
Community experience	Static renders, fixed-path video	Self-driven, real-time drive-through
Visitor control	None – passive viewing	Full control – steering, speed, route
Physical engagement	None – screen or headset	Real vehicle, real steering, force feedback
Group experience	VR: 1 person; screen: passive	Everyone in the room sees the drive
Emotional impact	Moderate – visual only	High – multi-sensory, physical, memorable
Personalisation	Same video for everyone	Each visitor chooses their own route
Exterior visualisation	Aerial renders only	Street-level driver’s perspective, 360°
Immersion level	Screen-bound or headset-isolated	Room-scale LED – no boundaries
Repeat value	Low – same content each time	High – different routes, different experience
Social sharing	Rare	Extremely high – visitors film the experience
Ecosystem	Standalone content	Part of Spatial OS – shared 3D across 9 products

10 ECOSYSTEM

One twin, every product

Spatial Drive connects to the Spatial OS data pipeline. The 3D community is built from the same master asset library used across all Spatial products. When the developer updates the community design – new buildings, revised landscaping, additional phases – changes propagate to Spatial Drive alongside every other Spatial product.

PRODUCT	DESCRIPTION	SHARED CONTENT FROM SPATIAL DRIVE
Spatial Drive	Immersive buggy drive-through simulation	The source community 3D environment
Spatial Cave	Complete immersive LED/projection room	Cinematic flythrough mode reuses Drive's community exteriors
Spatial Holo	Interactive 3D holographic model viewer	Building models shared with the holographic display
Spatial Lens	AR tablet viewer	Building models for AR overlay on physical surfaces
Spatial Touch	Touchscreen kiosk / table / wall	Masterplan data feeds interactive exploration
Spatial Table	Interactive tangible tabletop	Masterplan + unit deep-dives from the same data
Spatial Tour	VR headset interior walkthroughs	Interior content triggered from Drive POI stops
Spatial Agent	AI-powered conversational assistant	Spatial context for the AI's answers
Spatial Map	Projection mapping for physical scale models	Same 3D community data augmenting the physical model

“Build once, deploy everywhere. For galleries already running Spatial Cave, adding Spatial Drive is a software deployment on the same LED room – no additional display hardware required.”

11 IMPLEMENTATION

From assessment to go-live in 6–8 weeks

PROPVR manages the complete implementation – LED room, vehicle platform, gaming console, 3D content, software, and support. For galleries with existing Spatial Cave rooms, timeline reduces to 4–6 weeks (vehicle and content only).

01 WEEKS 1 - 2 Site assessment & design

Gallery or venue assessment for LED room placement, vehicle positioning, power and structural requirements. Room configuration (180° / 220° / 270° / 360°) determined by space and budget. Vehicle type selected (buggy, golf cart, custom simulator). Output: installation design with hardware specs and content scope.

02 WEEKS 2 - 6 Community 3D asset creation

Complete community exterior built in Unreal Engine – roads, buildings, landscaping, amenities, infrastructure, signage, ambient elements. Driving physics calibrated for the community road network. Pre-configured scenic routes designed. Points of interest mapped and content created.

03 WEEKS 4 - 7 LED room & vehicle install

Spatial Cave LED room installed (or existing Cave configured for Drive). Vehicle platform constructed and positioned. Logitech G29 integrated into vehicle dashboard. Compute hardware installed. Multi-screen rendering calibrated to LED room geometry.

04 WEEKS 6 - 8 Integration, testing & go-live

App configured with route options, POI content, branding, analytics, CMS integration. Force feedback tuning and pedal response calibration. Full system testing including multi-hour endurance testing. Staff training on operation and presentation. Go-live with on-site support.

EXISTING SPATIAL CAVE ROOM? EVEN FASTER.

Galleries already running Spatial Cave can add Spatial Drive in **4–6 weeks** – vehicle and content only, no new display hardware.



CONTACT US

Put your buyer behind the wheel.

Whether you are building a flagship experience centre for a master-planned community, adding an immersive experience to an existing Spatial Cave room, creating a signature attraction for a property exhibition, or presenting a giga project to government stakeholders – PROPVR delivers the complete drive-through simulation from one partner.

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