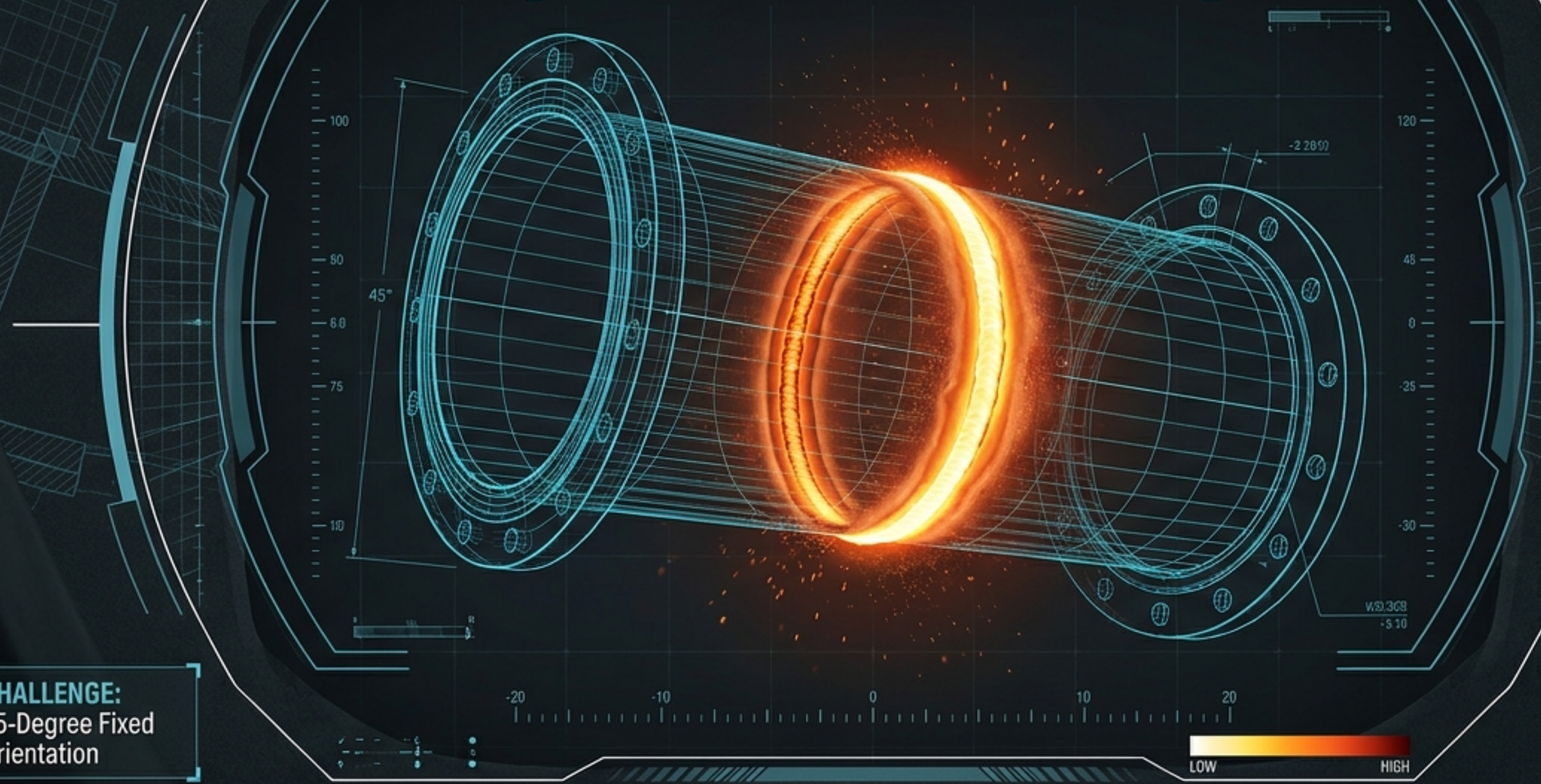
DECONSTRUCTING THE BOSS LEVEL: GAME 7 6G PIPE MASTER

Translating the ultimate real-world AWS D1.1 physics challenge into a highly scorable, high-fidelity cognitive simulator.

TARGET:
AWS D1.1 / API 1104 Qualification



CHALLENGE:
45-Degree Fixed Orientation

ENGINE:
Welder Esports Season 3 (Pro League)

Gemini Notebook

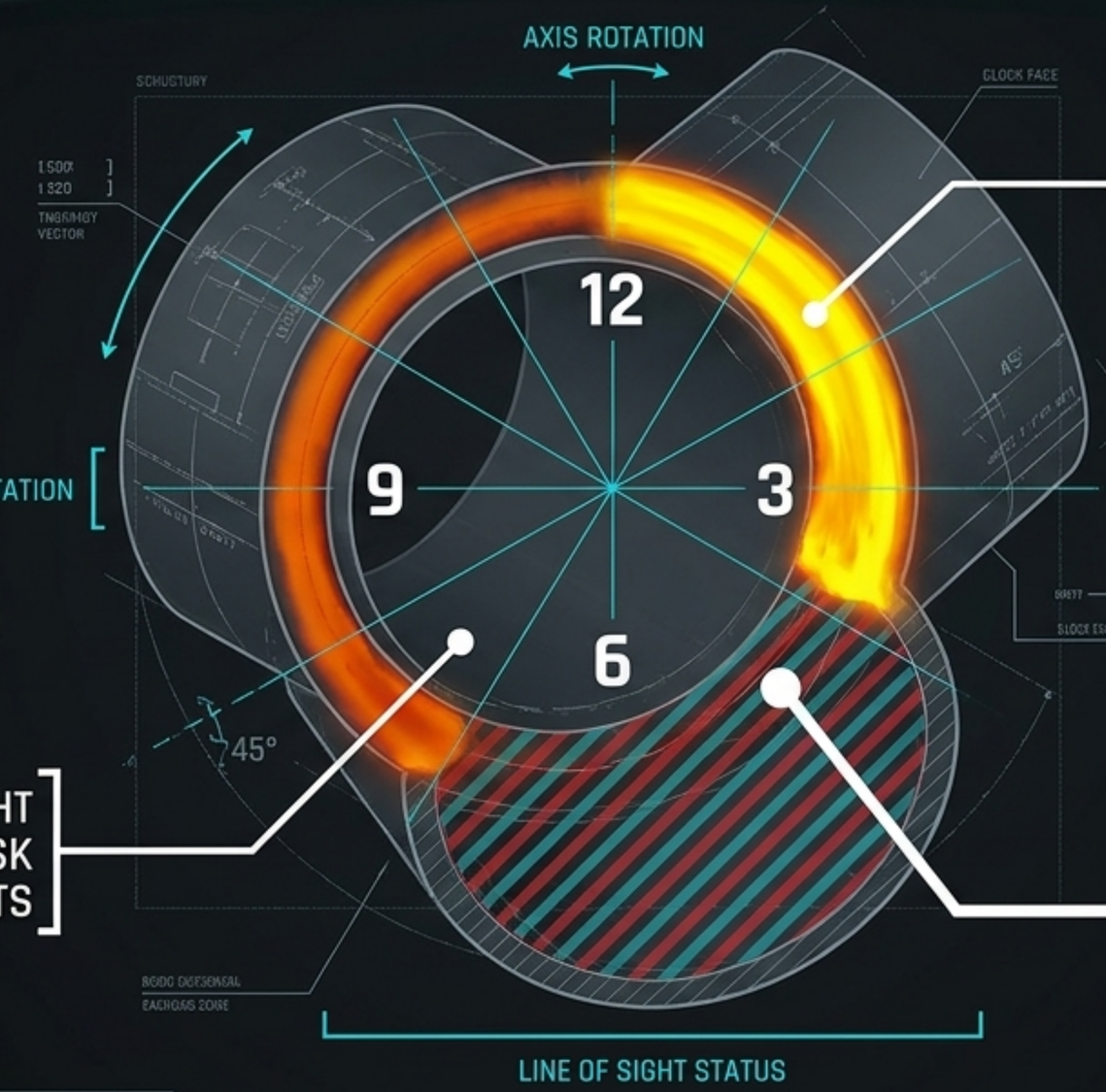
THE QUALIFICATION MATRIX: WHY 6G IS THE MASTER KEY

POSITION	PLANE	GRAVITY IMPACT	VISUAL LINE OF SIGHT	QUALIFICATION YIELD
1G	Flat	Neutral (Puddle stays put)	100% Unobstructed	Qualifies: 1G
2G	Horizontal	Sagging (Requires compensation)	100% Unobstructed	Qualifies: 1G, 2G
3G	Vertical Up	High Drag (Game adds joystick drag)	100% Unobstructed	Qualifies: 1G, 2G, 3G
4G	Overhead Inverted	Drip Threat (Inverted puddle)	80% (Awkward angle)	Qualifies: 1G-4G Plate
6G PIPE	45° Fixed Multi-Planar	Constant Shift (Clockwise variation)	50% (Blind spot created by pipe)	Qualifies: **ALL POSITIONS**

MASTER KEY STATUS CONFIRMED // UNIFIED QUALIFICATION ACHIEVED

Gemini Notebook

THE 6G SPATIAL MODEL: A CLOCKWORK OF GRAVITY AND BLIND SPOTS



12 TO 3: DOWNHILL FLOW, REQUIRES FASTER TRAVEL SPEED.

6 TO 9: UPHILL FIGHT AGAINST GRAVITY, HIGH RISK OF DRIP EVENTS

THE THREAT ZONE: LINE OF SIGHT OBSTRUCTED. MANDATORY MIRROR WELDING ZONE.

Gemini Notebook

THE DIGITAL VISOR: TRANSLATING PHYSICS INTO TELEMETRY

SYSTEM CALIBRATION: OPTIMAL
DATA STREAM: ACTIVE

SYSTEM STATUS: [illegible]
THERMAL SENSOR ARRAY: ENGAGED



PUDDLE MONITOR

TRACKING MOLTEN PUDDLE DIAMETER: 5mm (+/-0.5mm). CONNECTED TO HAPTIC FEEDBACK LIMITS.

TARGETING THE EXACT ROOT OF THE 45-DEGREE JOINT.



ARC LENGTH SENSOR

MAINTAINING PRECISE 3mm DISTANCE. TRIGGERS RED WARNING BUZZER IF DRAWN TOO LONG OR SHORT.



TRAVEL SPEED VECTOR

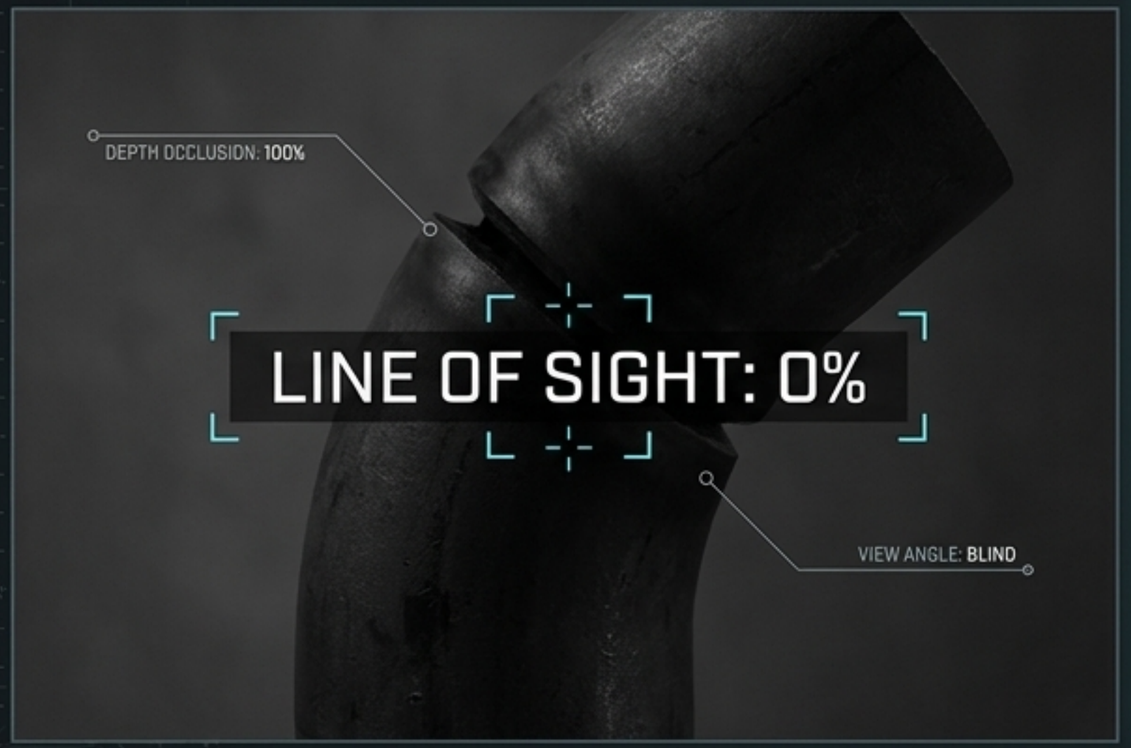
TRACKING 5mm/s (+/- 0.5) TRAVEL SPEED REQUIRED FOR BEAD CONSISTENCY.

TECHNICAL BRIEFING // DIGITAL VISOR MOCKUP // AWS D1.1 COMPLIANCE READY

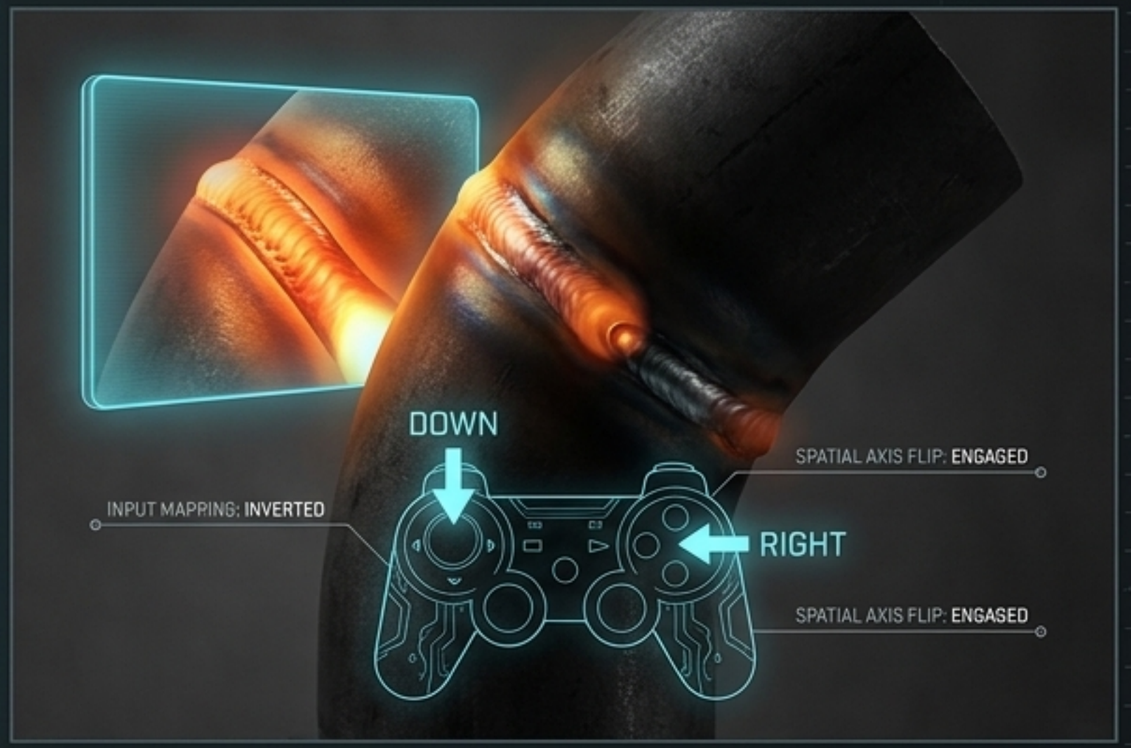
Gemini Notebook

THE MIRROR MECHANIC: HACKING SPATIAL COGNITION

(THE REALITY)



(THE GAME TOGGLE)



MODE STATUS: ACTIVE // DURATION: 50%

THE MECHANIC: During Mirror Mode (half the 6G pass), players rely entirely on a digital mirror reflection.

THE COGNITIVE LOAD: Controller inputs dynamically invert. Players fight natural muscle memory to control the 5mm puddle while moving backward.

MUSCLE MEMORY CONFLICT: HIGH // INPUT LAG: +5MS

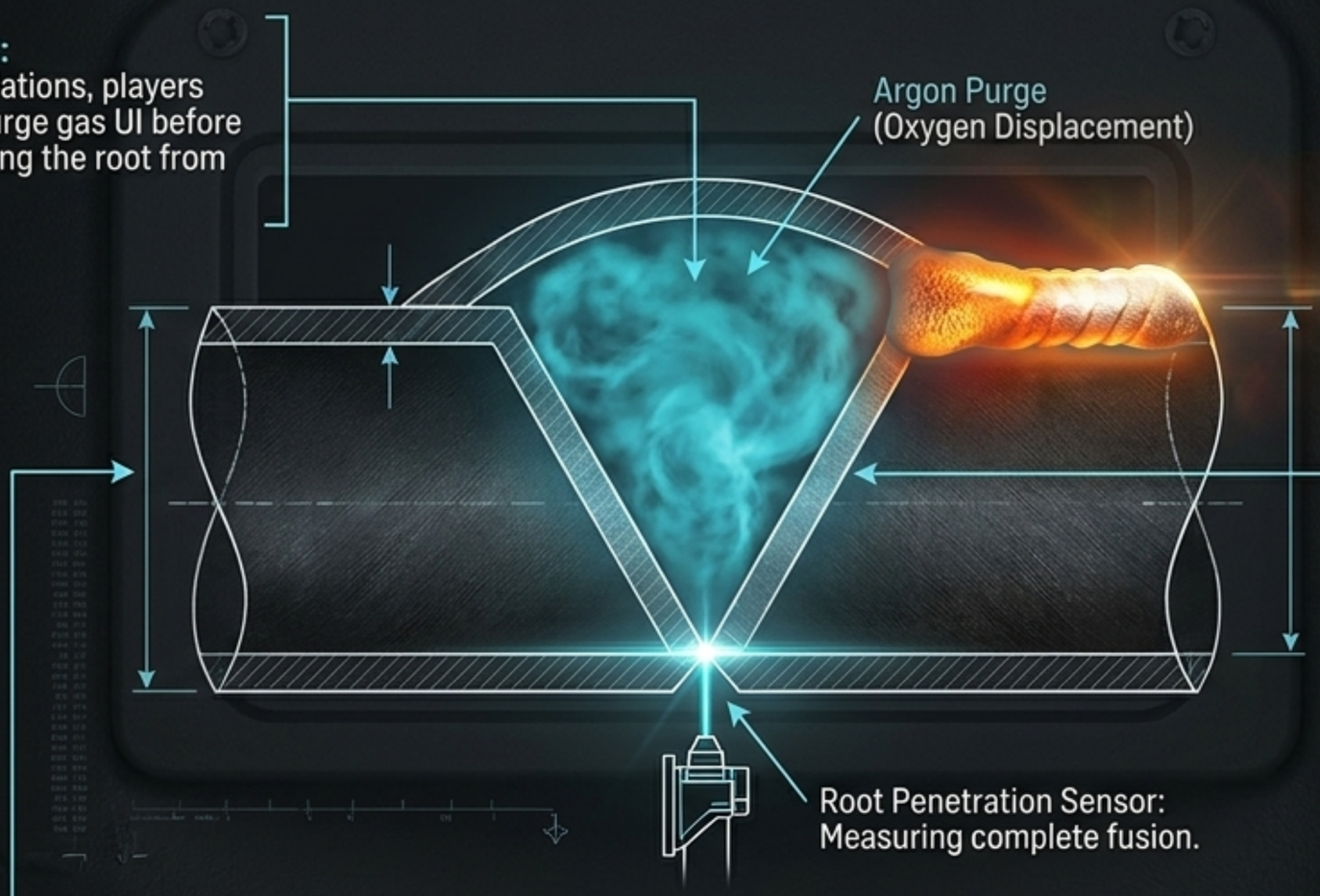
THE REAL-WORLD OUTPUT: Forges spatial awareness and the steady hand required for tight field rigs and roadside maintenance.

FIELD APPLICATION: CRITICAL // PRECISION GAIN: +40%

Gemini Notebook

SIMULATING THE INVISIBLE: ROOT PASS PURGING & INTERPASS MAINTENANCE

THE PURGE MECHANIC:
For stainless steel simulations, players must engage internal purge gas UI before striking the arc, protecting the root from oxygen contamination.

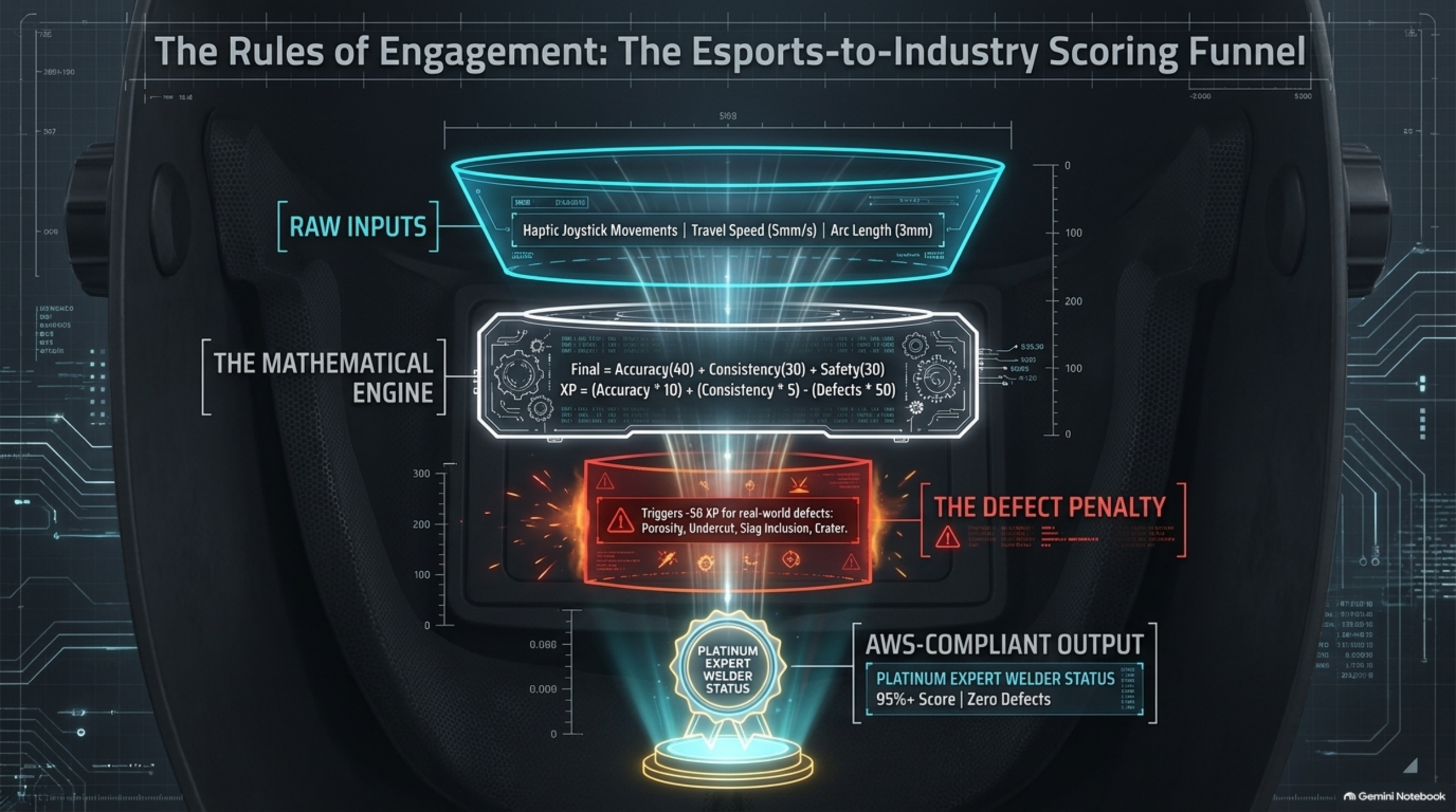


MULTI-PASS SEQUENCING:
Players cannot simply fill the 45-degree groove. They must execute a precise three-pass sequence (Root, Fill, Cap).

INTERPASS TEMPERATURE CHECK:
HUD locks out the next pass until the digital thermometer confirms metal has cooled to the acceptable preheat/interpass threshold, teaching distortion control.

Gemini Notebook

The Rules of Engagement: The Esports-to-Industry Scoring Funnel



Gemini Notebook

The Anti-Score: Enforcing AWS D1.1 Visual Standards









[POROSITY]

Cause: Poor gas coverage (failed purge mechanic or extreme arc length).

Penalty: -50 XP

[UNDERCUT]

Cause: Excessive heat input or incorrect joystick angle during gravity-sag phases.

Penalty: -50 XP

[SLAG INCLUSION]

Cause: Failing to trigger the 'wire brush' cleaning mechanic between passes.

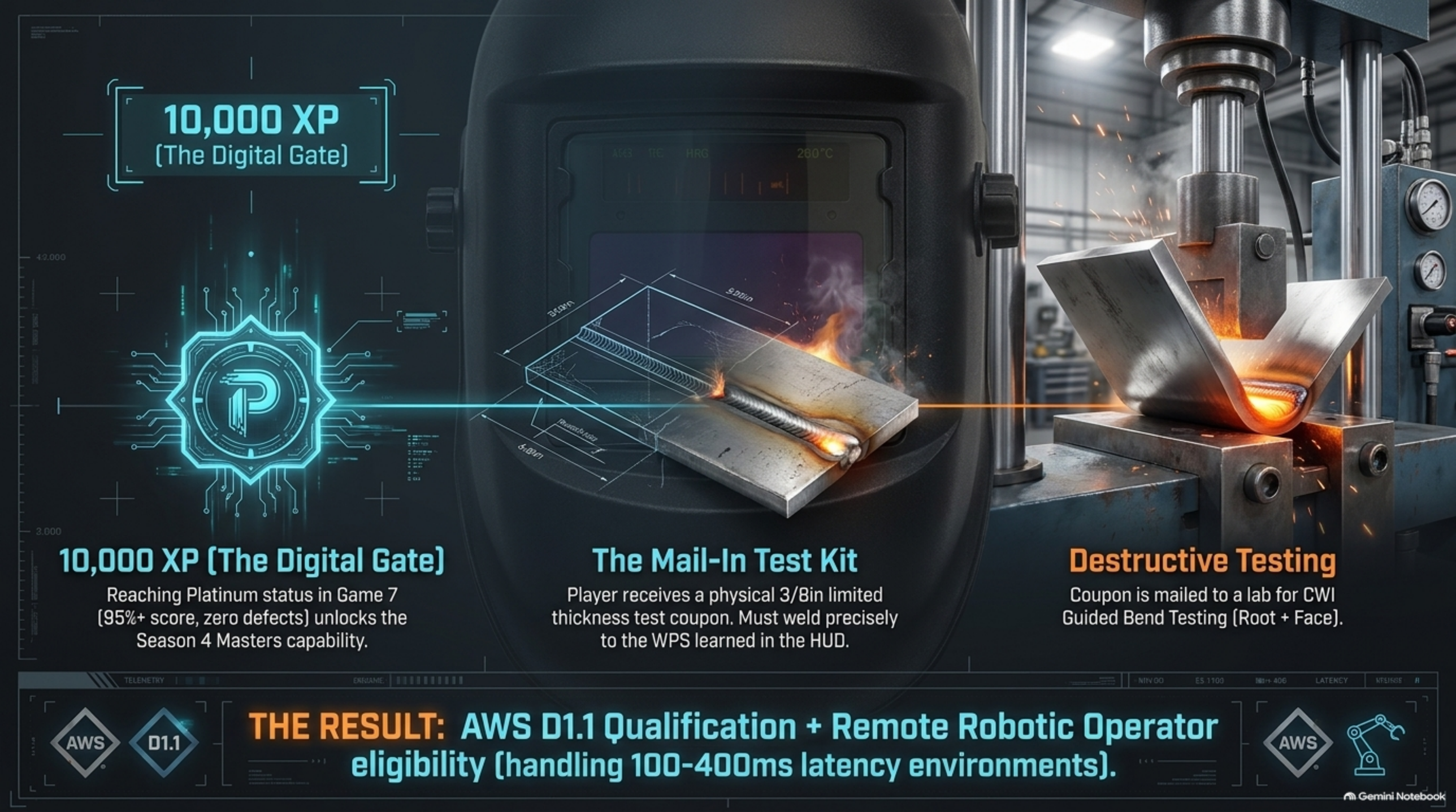
Penalty: -50 XP

[THE STANDARD]

Enforces exact AWS D1.1 Table 4.11 visual inspection criteria.

A single defect prevents the player from achieving the Platinum Tier.

Gemini Notebook


10,000 XP
(The Digital Gate)
10,000 XP (The Digital Gate)
Reaching Platinum status in Game 7 (95%+ score, zero defects) unlocks the Season 4 Masters capability.
The Mail-In Test Kit
Player receives a physical 3/Bin limited thickness test coupon. Must weld precisely to the WPS learned in the HUD.
Destructive Testing
Coupon is mailed to a lab for CWI Guided Bend Testing (Root + Face).
AWS
D1.1
THE RESULT: AWS D1.1 Qualification + Remote Robotic Operator eligibility (handling 100-400ms latency environments).
AWS
Gemini Notebook

The Loop of Mastery

[Gear 1: The Physics (Simulation)]
Gravity drag haptics, multi-pass cleaning, and root purging mechanics simulate the unforgiving 45-degree reality.

[Gear 2: The Interface (Cognition)]
Mirror View toggle and 5mm puddle telemetry rewire the brain for spatial inversion and intense focus.



[Gear 3: The Standard (Rigor)]
The mathematical filter (-50XP per defect) ruthlessly enforces AWS A2.4 / D1.1 visual standards.

Gemini Notebook