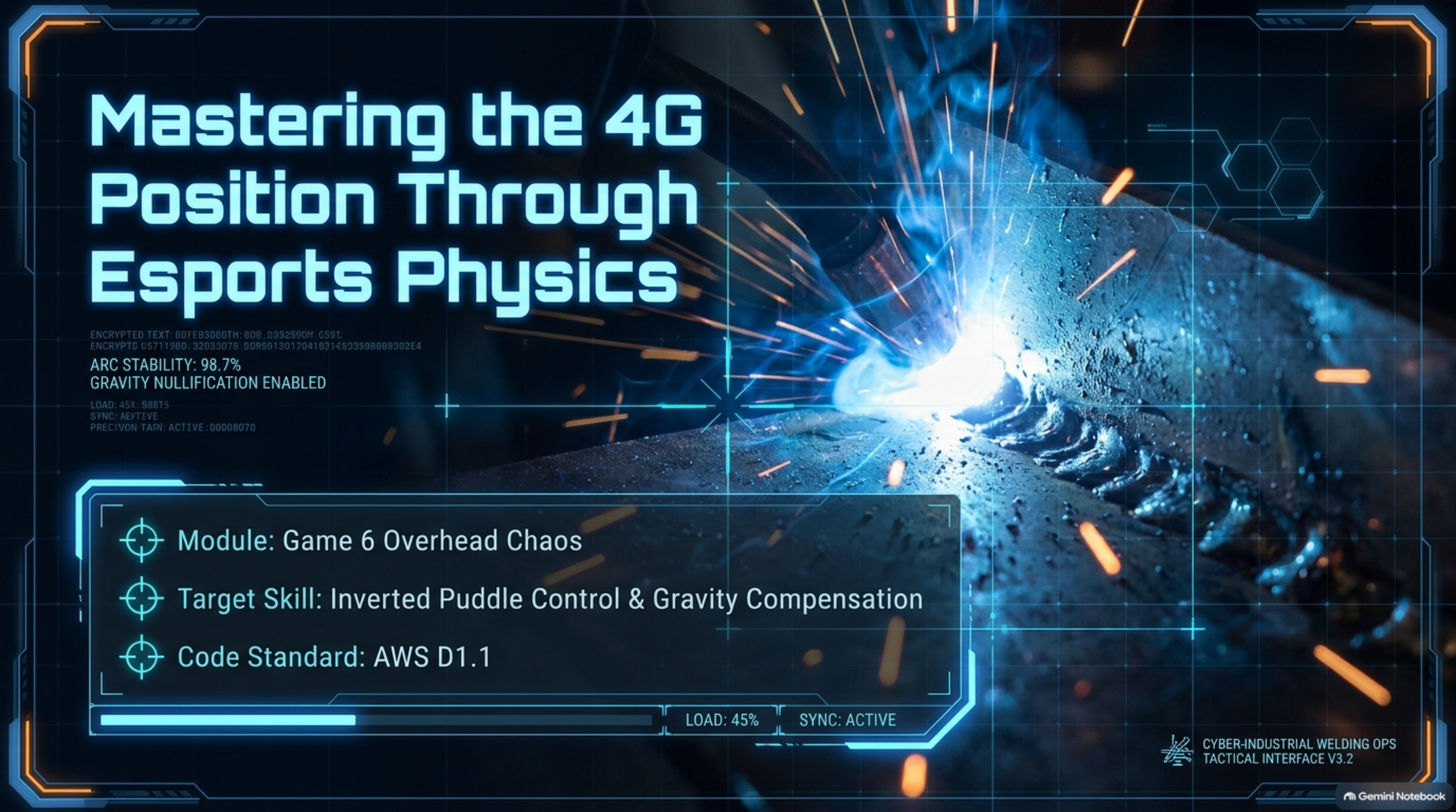
Mastering the 4G Position Through Esports Physics



ENCRYPTED TEXT: B0FEBS000TH: 808.0952890M.GS9I;
ENCRYPTD 05711960: 32033078 0GR991301704183145939980008902E4

ARC STABILITY: 98.7%
GRAVITY NULLIFICATION ENABLED

LOAD: 45X: S88TS
SYNC: AEVTEVE
PRECIVON TAIN: ACTIVE:00000070

- Module: Game 6 Overhead Chaos
- Target Skill: Inverted Puddle Control & Gravity Compensation
- Code Standard: AWS D1.1

LOAD: 45%

SYNC: ACTIVE

CYBER-INDUSTRIAL WELDING OPS
TACTICAL INTERFACE V3.2

Gemini Notebook

The 4G Challenge Pits 2,500°F Metal Directly Against Gravity

The Threat

Inverted welding forces the operator to manipulate a liquid metal puddle upside down.

The Stakes

A single loss of surface tension results in a ruined weld bead, structural failure, or severe burns to the operator.

The Goal

Build the precise muscle memory required to defeat gravity before the player ever steps into a physical booth.



Gemini Notebook

Transitioning from Flat Basics to Complex Inverted Environments

Season 1 & 2

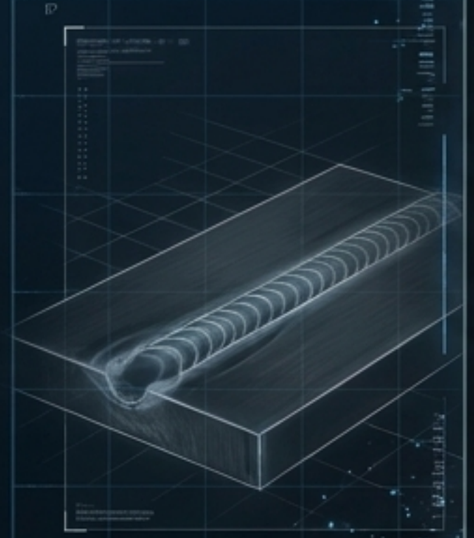
Foundational mechanics (puddle size, straight lines).

Season 3: Pro League

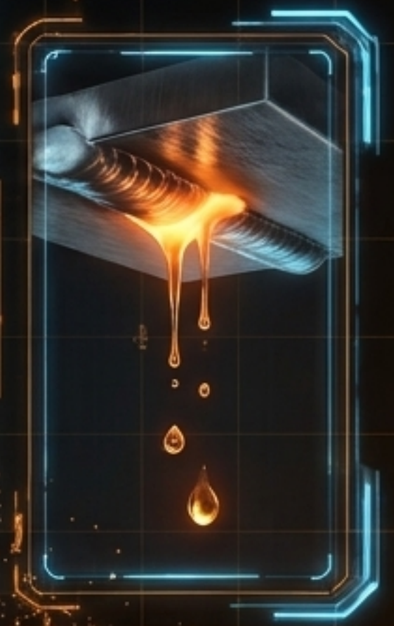


Gemini Notebook

The Mechanical Leap Requires a Complete Paradigm Shift



	1G Flat (Beginner)	4G Overhead (Pro)
Gravity's Role	Assists puddle formation	⚠ Fights surface tension
Travel Speed	Moderate & steady	Fast & reactive
Heat Input	High tolerance	Low threshold (requires fast freeze)
Failure Mode	Uneven bead	Drip events / complete puddle collapse



Gemini Notebook

Simulating Inverted Puddle Dynamics in the Physics Engine

FORCE BALANCE

SIMULATION STATUS: ACTIVE

GRAVITY: -1.2 G
TENSION: +0.8 G



SIMULATION STATUS: ACTIVE

TELEMETRY

The Balance

If heat input is too high, the puddle mass exceeds the surface tension threshold.

The Result

The simulation strictly calculates this mass-to-tension ratio in real-time. If the red vector overtakes the blue, a drip event is triggered.

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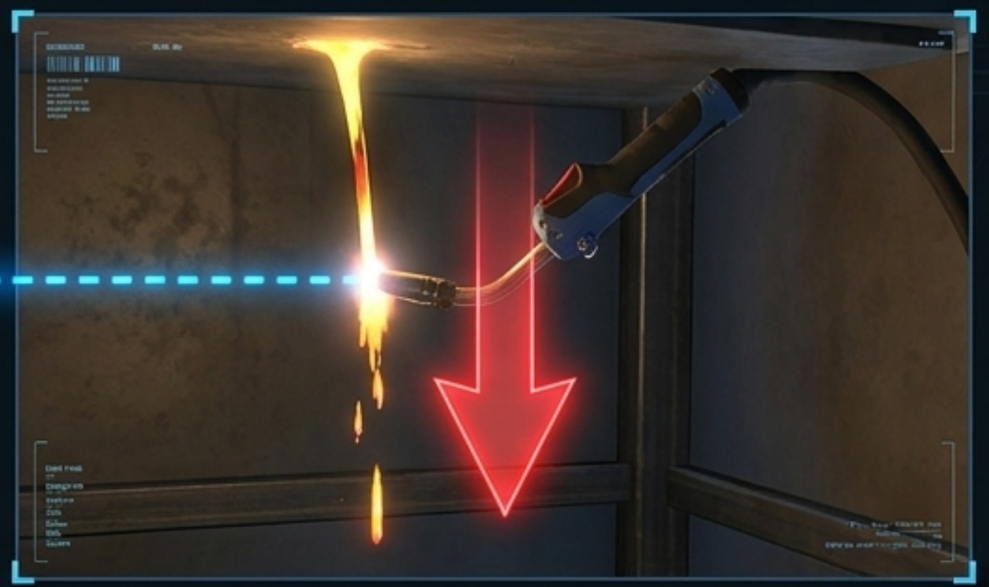
Hardware Haptics Force Players to Fight Virtual Gravity

PHYSICAL HARDWARE INTERFACE



Programmed Drag: The Game 6 engine applies persistent downward drag to the physical joystick.

VIRTUAL IN-GAME ENVIRONMENT



Muscle Memory: Players must exert continuous, calibrated upward physical pressure to maintain the virtual arc length, directly mimicking the physical fatigue and resistance of the 4G position.

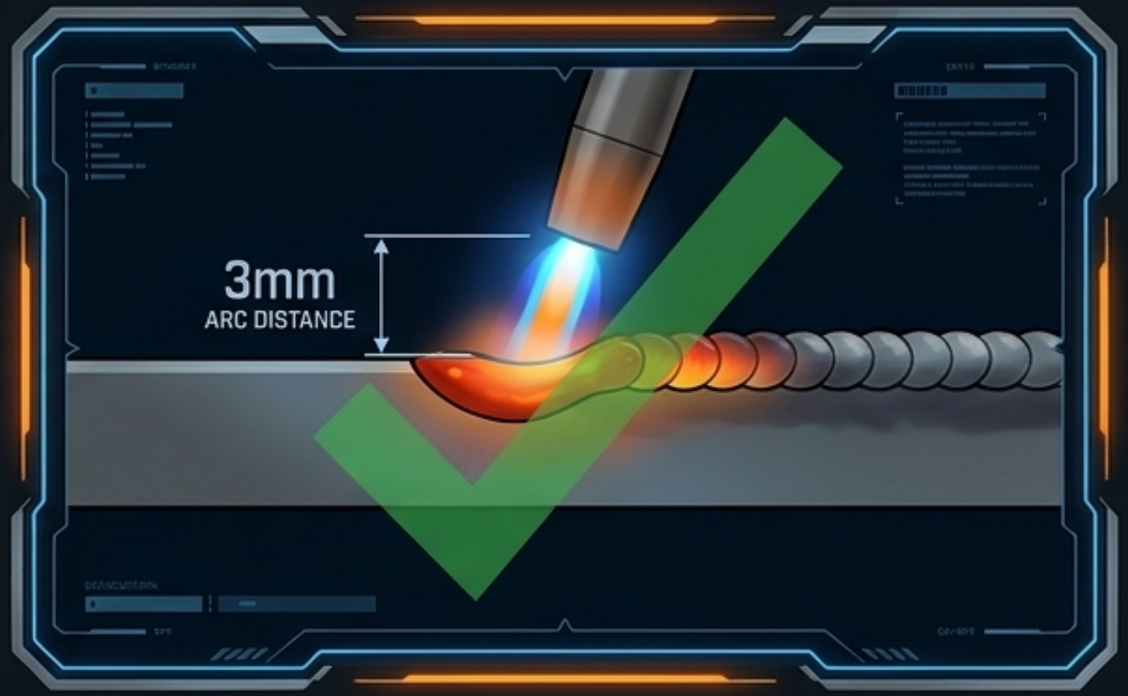
Gemini Notebook

Beating Gravity Demands the Short Arc and Fast Freeze Technique

Lower Amperage + **Faster Travel Speed** = **Rapid Solidification**



Long Arc / Slow Speed

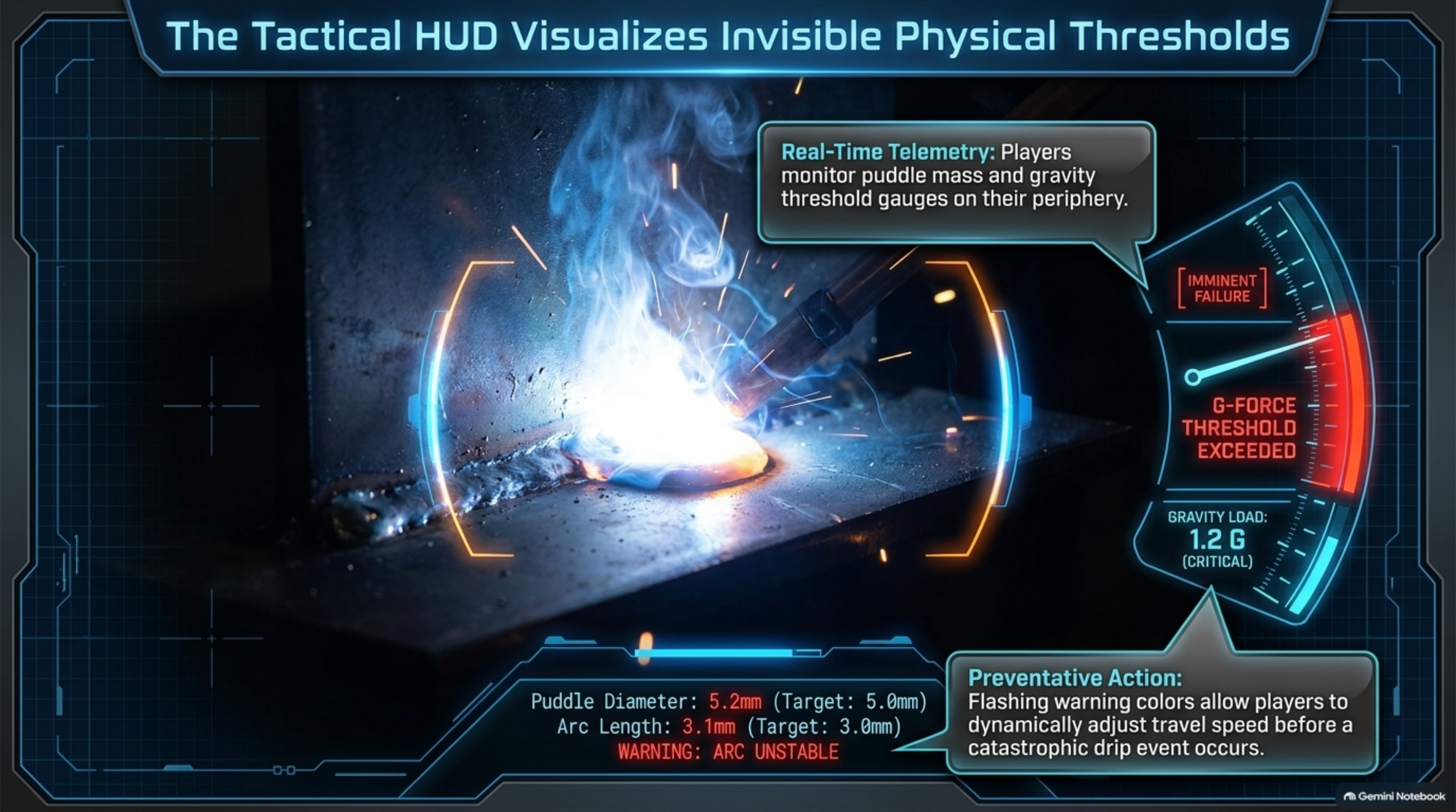


Short Arc / Fast Freeze

The Gameplay Loop: The game forces players to keep the molten state as brief as possible before gravity can take over.

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The Tactical HUD Visualizes Invisible Physical Thresholds



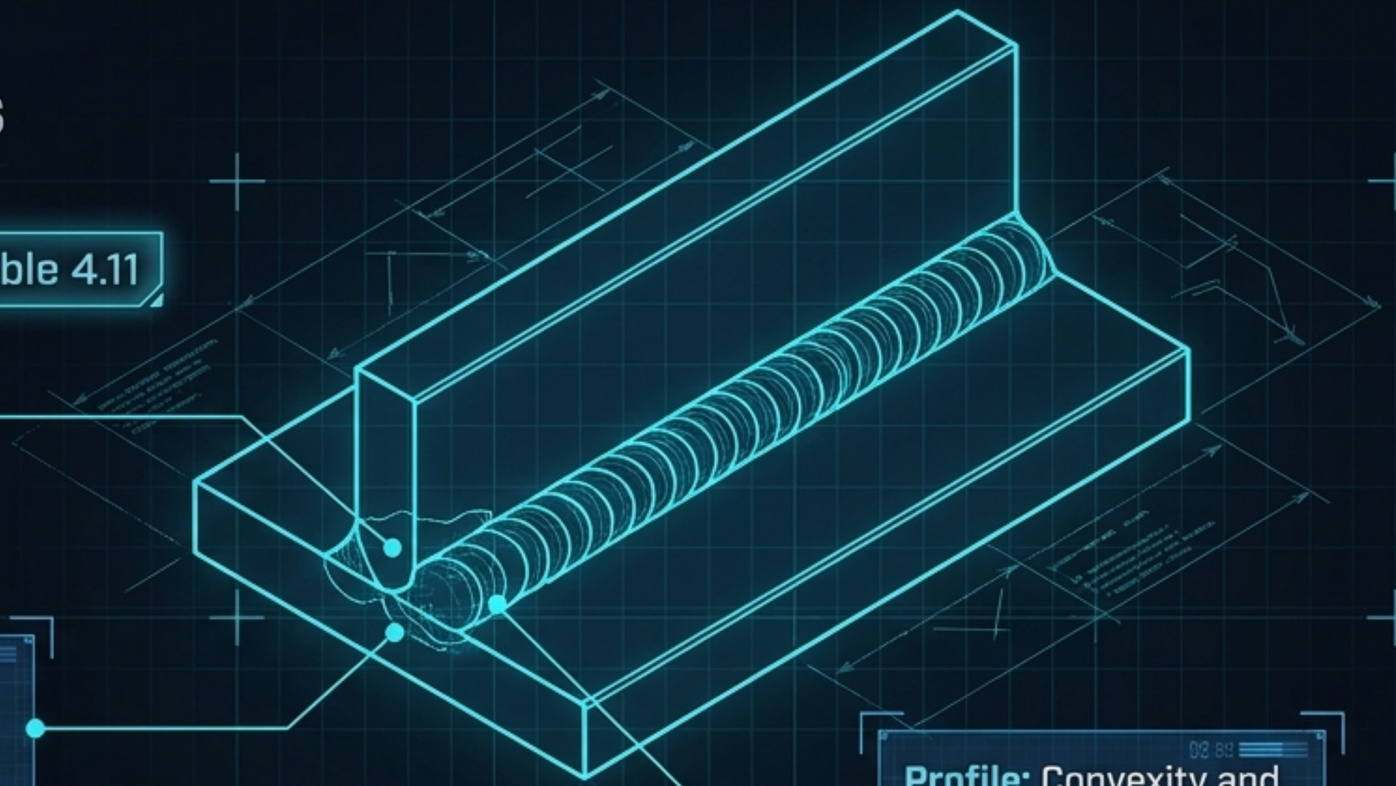
Gemini Notebook

Game Boundaries are Strictly Defined by AWS D1.1 Standards

AWS D1.1 Table 4.11

Porosity:
Max allowable limits strictly enforced.

Undercut:
Must not exceed depth tolerances.



Profile: Convexity and reinforcement precisely measured.

The Code is the Law: The physics engine is calibrated directly to the American Welding Society's structural code. If a bead fails visual inspection in the codebook, it automatically fails in the game.

Gemini Notebook

The Scoring System Privileges Consistency and Safety Above All

Accuracy (40%):
Adherence to a 3mm arc length and 5mm puddle diameter.



Safety (30%):
Strict adherence to OSHA protocols (virtual PPE checks, fire watch).

Consistency (30%):
Smoothness of travel speed and bead uniformity.

Gemini Notebook

The XP Engine Severely Punishes Structural Defects

Base Formula:
(Accuracy x 10) +
(Consistency x 5)

The Drip Penalty:
(Defect Events x 50)

9,850 XP

-50 XP Penalty

The Lesson: A single drip event or loss of inverted control instantly tanks a competitive run. Flawless execution is mandatory to reach Platinum Tier (95%+).

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OVERHEAD MASTERY IS THE GATEWAY TO PIPE AND TELEOPERATION



DEFEATING GAME 6 IS THE NON-NEGOTIABLE PREREQUISITE FOR UNLOCKING PLATINUM TIER JOB READINESS AND HIGH-PAYING REMOTE OPERATOR CAREERS.

Gemini Notebook

Bridging Virtual Reflexes with Physical Industrial Mastery





Game 6: Overhead Chaos builds the essential spatial awareness and physical muscle memory to conquer the hardest positions in welding.

Ready for the Master Weld-Off and the physical lab.

Gemini Notebook