

SCENARIO EXPLORATION / MAKING OF

AAA In The Browser

KEY ART: GPT IMAGE 2.5 SUNBURST, FROM AN IN-ENGINE FRAME

An agent builds AAA-style game levels, fully rendered and playable in a browser tab. Asset pipeline: Scenario MCP.

AAA-style levels in a tab: four claims, four figures



IN-ENGINE FRAME, LEVEL 1

The playable game inside is a first-person shooter in five levels. An agent wrote it with Claude Fable 5.2 in Claude Code, on three.js. Every generated asset came through Scenario MCP: stills, skies, materials, 3D models, sound and music.

AAA RENDERING

7

passes behind a frame, from the mirror of the wet ground to bloom and the final grade

AAA ASSET PIPELINE

98

3D assets through Scenario MCP: 73 from a concept image, 25 built or edited with named parts

AAA SCOPE, ONE AGENT

5 / 6 / 8

levels, weapons and kinds of machines, all playable

IN THE BROWSER

191 ms

longest block of the page during a level load, first visit, one round. One click to play.

A full-size pair decides when a level is finished

01 Design document → 02 Target stills → 03 Grey-box of the whole loop → 04 Look pass → 05 Look loops



LEVEL 1 EARLY IN THE BUILD



THE SAME VIEW AT THE END

The loop: capture, set our frame next to the target at full size, name the largest gap, fix it. At least four times per level.

Two stills per level, before any geometry

GPT Image 2.5 Sunburst



TARGET FOR FOUNDRY 4



TARGET FOR WET LAB C

They fix the palette, the light, the density and the hero objects. They are also the list of assets to order.

8 stills for the 4 new levels, 1920 x 1088 each

A panorama as the sky, checked at the seam

Scenario Skybox GPT, then Scenario Skybox Upscale



THE LAST SKY OF DOCK 2: THE KEPT TAKE AFTER THE UPSCALE

4.9

step across the seam, left edge to right edge

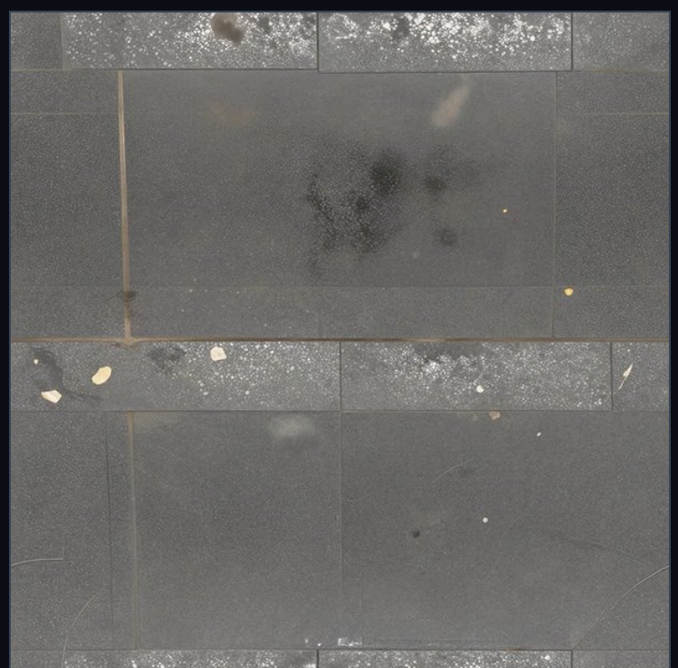
21.5

step between two columns a quarter turn apart, for comparison

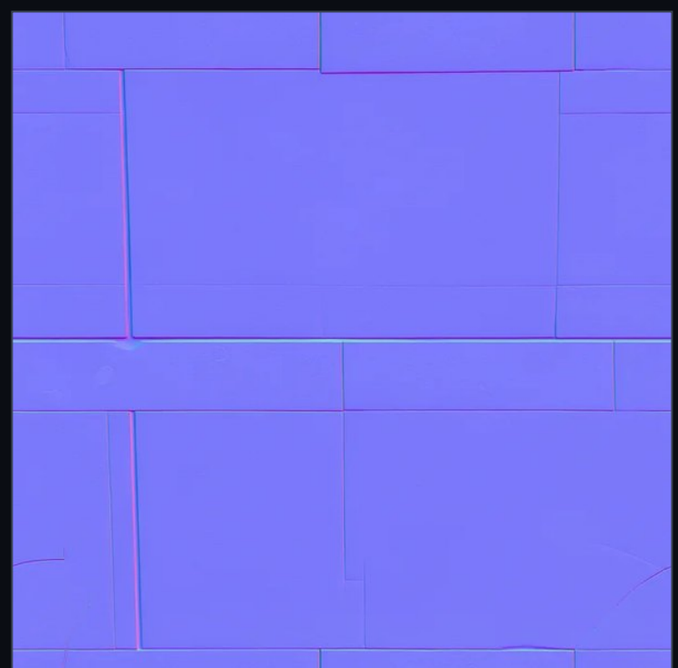
The left and right edges of a panorama meet behind the player. The step between them is compared with two columns a quarter turn apart: far lower means no visible line.

PBR sets, calibrated in the engine

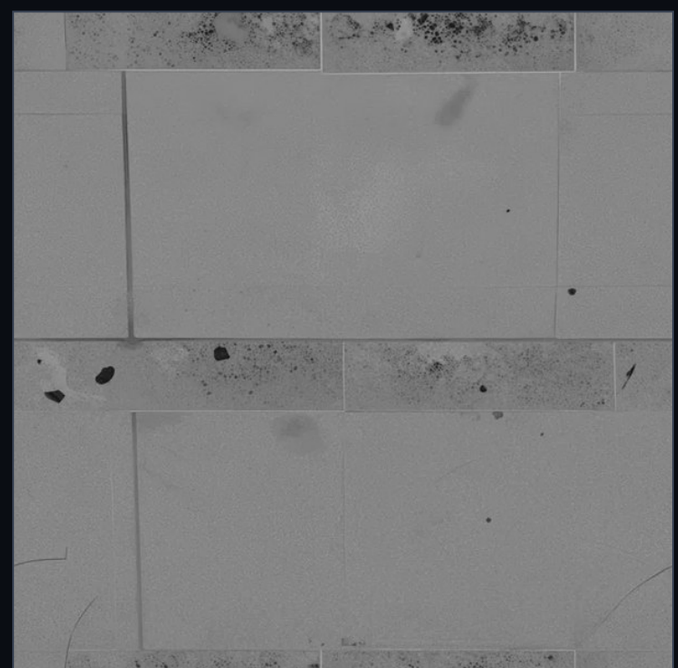
PATINA Material



BASE COLOUR



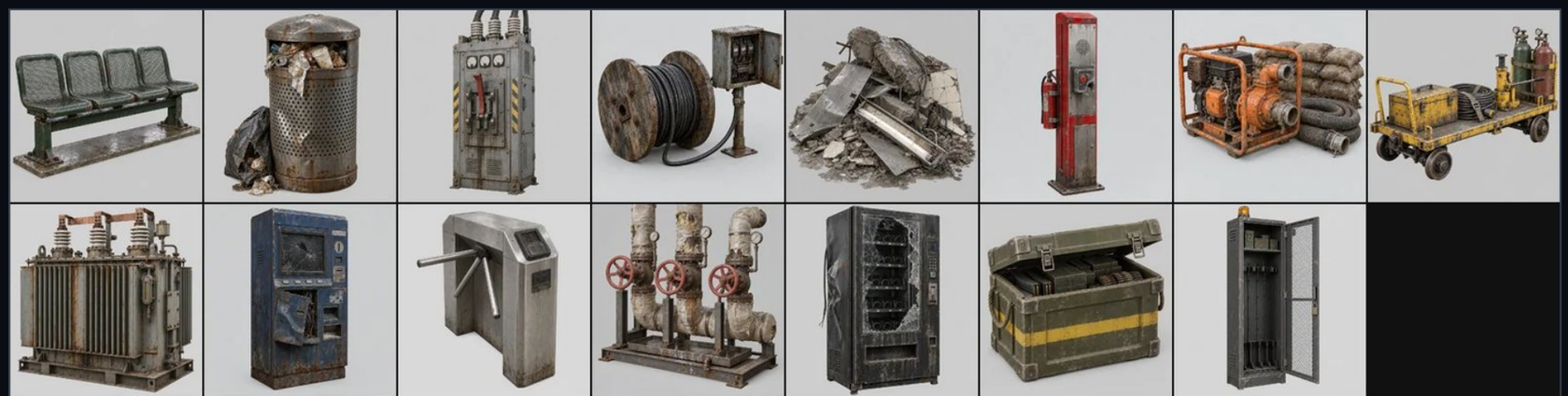
NORMAL



SMOOTHNESS

The station floor of Line 9. Smoothness is inverted into roughness, then roughness is calibrated in the engine, surface by surface.

A concept image, then a mesh



CONCEPTS FOR LINE 9: GPT IMAGE 2.5 SUNBURST. LAST THREE, LEVEL 1: GPT IMAGE 2.6 SUNBURST

2 MB

roughly, per mesh, after reduction in Blender from about 15 MB



MODEL 1 | MODEL 2: TRIPO P2, KEPT | MODEL 3

Three image-to-3D models on one concept, judged at 1 m in the engine. Tripo P2 was kept: all 73 image-to-3D meshes of the game come from it.

A hero prop from a prompt, with named parts

Scenario Claude Fable 5.2 3D



THE RETURNED FILE, ONE COLOUR PER NAMED OBJECT



IN THE ENGINE: THE CASTING HALL OF FOUNDRY 4

The prompt gives dimensions in metres and the names of the parts. The file came back with 17 objects and 44,928 triangles.

```
plinth shell bands wind_belt tuyeres mouth_housing spout melt platform
ladder stack pipes
```

A variant is an edit

Scenario Claude Fable 5.2 3D



THE RETURNED BLENDER FILE, WITH ITS STUDIO SET



IN THE ARMORY: KR-9, DOCK 2 EDITION

The scene file goes back in with a prompt. The edit kept all thirteen part names and positions, so the reload code works unchanged. New paint and additions sit on one new material.

FROM THE EDIT PROMPT

```
Keep every object name exactly as it is [...]. Do not merge, split, rename or delete objects. Join any new geometry into the existing object it sits on, do not add new objects.
```

Seven edits, everything else intact

Scenario Claude Fable 5.2 3D

Seven edits on four machines: one texture, four motion, two geometry. On all seven, names, pivots and existing clips came back identical, compared key for key before any render.



TEXTURE / WALKER

Clean-room livery

"Change only the look of the materials: repaint this walking machine in a clean-room livery for a sterile laboratory."

New paint on four materials. 20 parts, 13,500 triangles, 6 clips unchanged.



GEOMETRY / BULWARK LOADER

Blade becomes a grapple

"Replace the dozer blade with a two-finger grapple. [...] Do not change hull, blade_arm, [...] the tracks or the wheels."

16 parts become 18: two claws on hinge pivots, keyed in all five clips.



GEOMETRY / WALKER

Battle damage

"Make a battle-damaged variant by changing geometry in three places only."

Plate torn off, lens cracked, antenna bent. 21 parts, 14 % more triangles.



MOTION / WALKER

New clip: death

"Add one more action named exactly death [...] 1.5 s (frames 0 to 45), plays once, not a loop."

The hull drops 0.58 m and rests on the ground. The six clips kept.



MOTION / WALKER

Walk edited into a limp

"Change it into a damaged limp: the rear right leg [...] is dead and drags."

The dead foot stays on the ground in all 31 frames; the three others keep the walk.



MOTION / WARDEN SENTRY

New clip: deploy

"The sentry unfolds from a stowed pose into its idle pose."

1.2 s: yoke, ball, then each gun in turn, still for the last 6 frames.



MOTION / GNAT DRONE

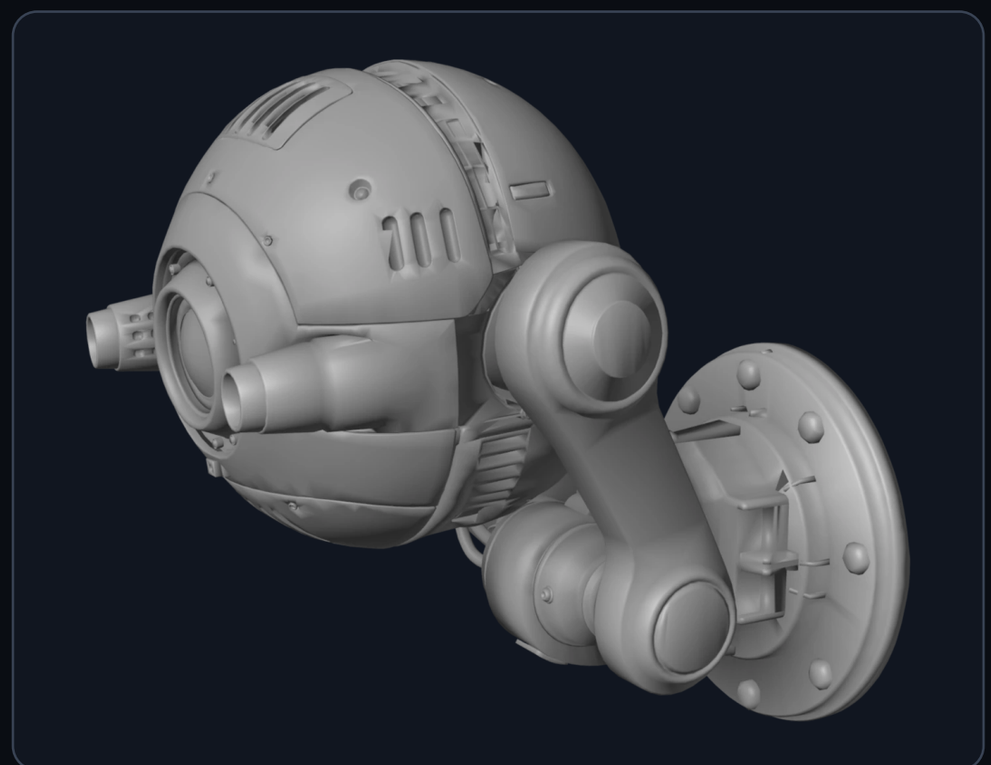
New clip: evade

"The drone dodges sideways with a barrel roll and recovers."

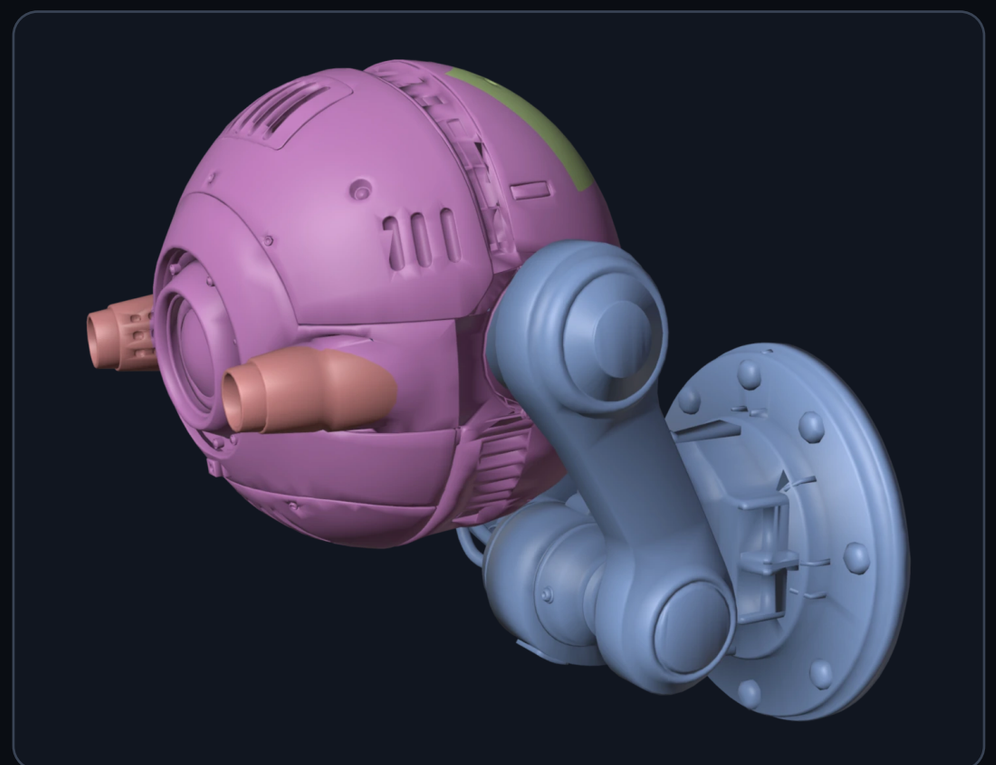
One full roll keyed on every frame, 0.8 m to the side, level at the end.

One fused mesh becomes four movable parts

Scenario Claude Fable 5.2 3D



BEFORE: AN IMAGE-TO-3D MESH, ONE OBJECT



AFTER THE EDIT base turret barrel cover_plates

> The edit also placed each origin on its axis, so the turret can turn, the barrel can tilt and the cover plates can break off.

Rigid parts, pivots at the joints, clips as keyframes

Scenario Claude Fable 5.2 3D



THE RETURNED WALKER, ONE COLOUR PER NAMED OBJECT

HIERARCHY

```
root
  hull
    head
      gun_L  gun_R
    plate_FL  plate_FR  plate_RL  plate_RR
    leg_FL_upper
      leg_FL_lower
        foot_FL
    ... same for FR, RL, RR
```

CLIPS

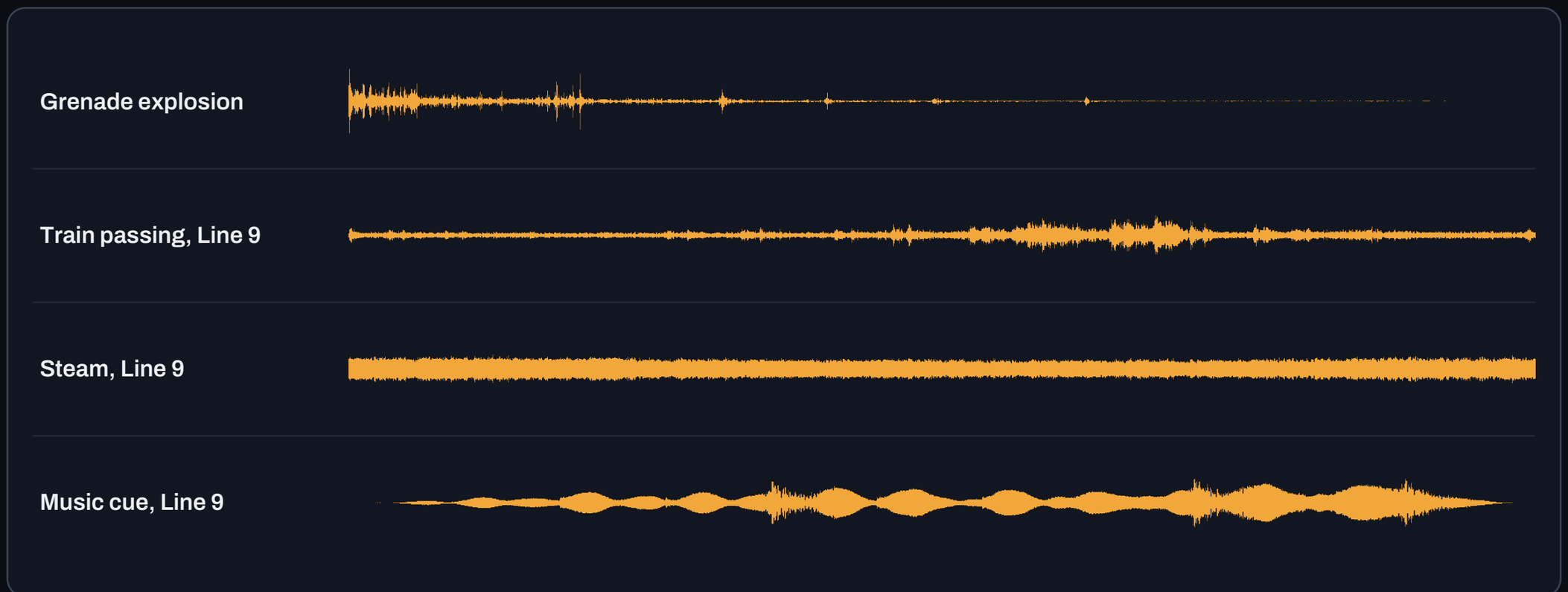
`idle` `walk` `aim` `fire` `hit` `run`

20 parts, 13,500 triangles, six clips. The run came from an edit that states its numbers: 2.9 m/s, 0.87 m per stance, 1.74 m per cycle.

Machines are ordered as rigid parts with keyframed transforms, so no skinning is needed.

Sound checked by measurement

ElevenLabs Sound Effects v3, ElevenLabs Music v2.5



WAVEFORMS OF FOUR DELIVERED FILES, EACH DRAWN TO ITS OWN PEAK

Each file is measured for duration, peak, level and speech content, then trimmed and normalised.

The look is a stack of passes



1 SCENE ONLY



2 AMBIENT OCCLUSION BUFFER



3 WITH FOG AND LIGHT CONES



4 FULL FRAME: BLOOM, GRADE, GRAIN

Level 1 on the last build. Also in the frame: a mirror for the wet ground, shadowed key lights with cached maps, and practical lamps baked into the shader (16.3 ms per frame against 31.0).

Level 1: thirteen look loops



IN-ENGINE FRAME

13

look loops on this level

> Level 1 was studied against a set of target frames. The four other levels were then held next to it.

Line 9 16 LOOK LOOPS

TARGET STILL



IN ENGINE



Foundry 4 5 LOOK LOOPS

TARGET STILL



IN ENGINE



Wet Lab C 11 LOOK LOOPS

TARGET STILL

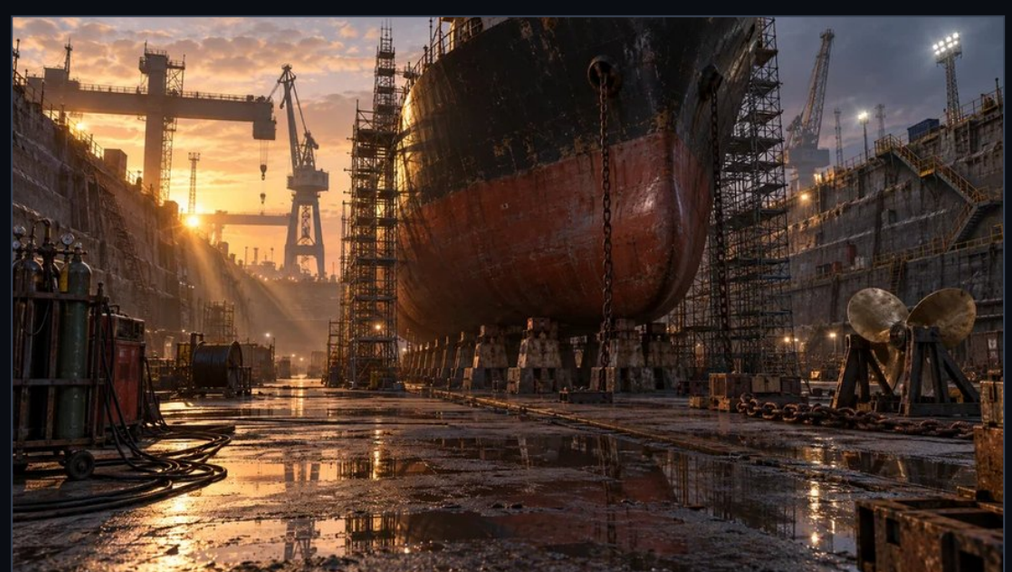


IN ENGINE



Dock 2 10 LOOK LOOPS

TARGET STILL



IN ENGINE



Six weapons, one family finish



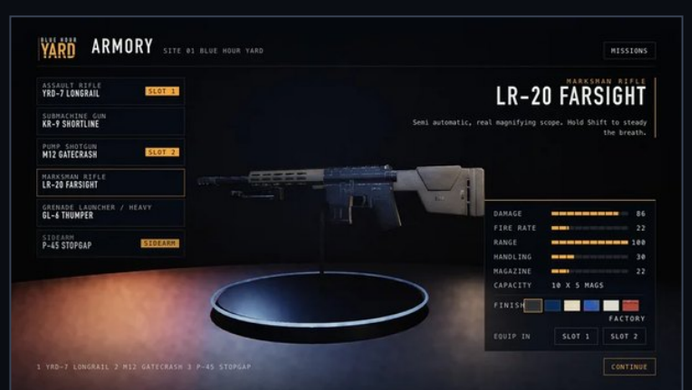
YRD-7 RIFLE



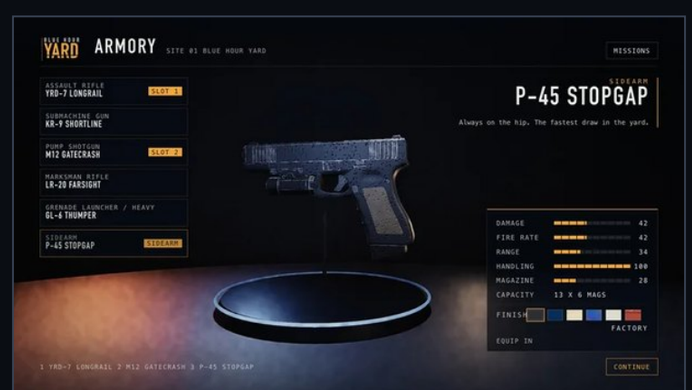
KR-9 SMG



M12 PUMP SHOTGUN



LR-20 MARKSMAN RIFLE



P-45 SIDEARM



GL-6 GRENADE LAUNCHER

Each weapon is a builder model with named parts (magazine, bolt, pump, slide) that code moves for the reload. One shader gives all six the same edge wear, and five site skins.

Eight kinds of machines, feet planted



THE WALKER, IN ENGINE

A clip advances by ground distance over stride, so a foot holds where it lands. The walker's foot slide fell from 0.65 to 0.05 of body speed.



GNAT DRONE, RETURNED FILE

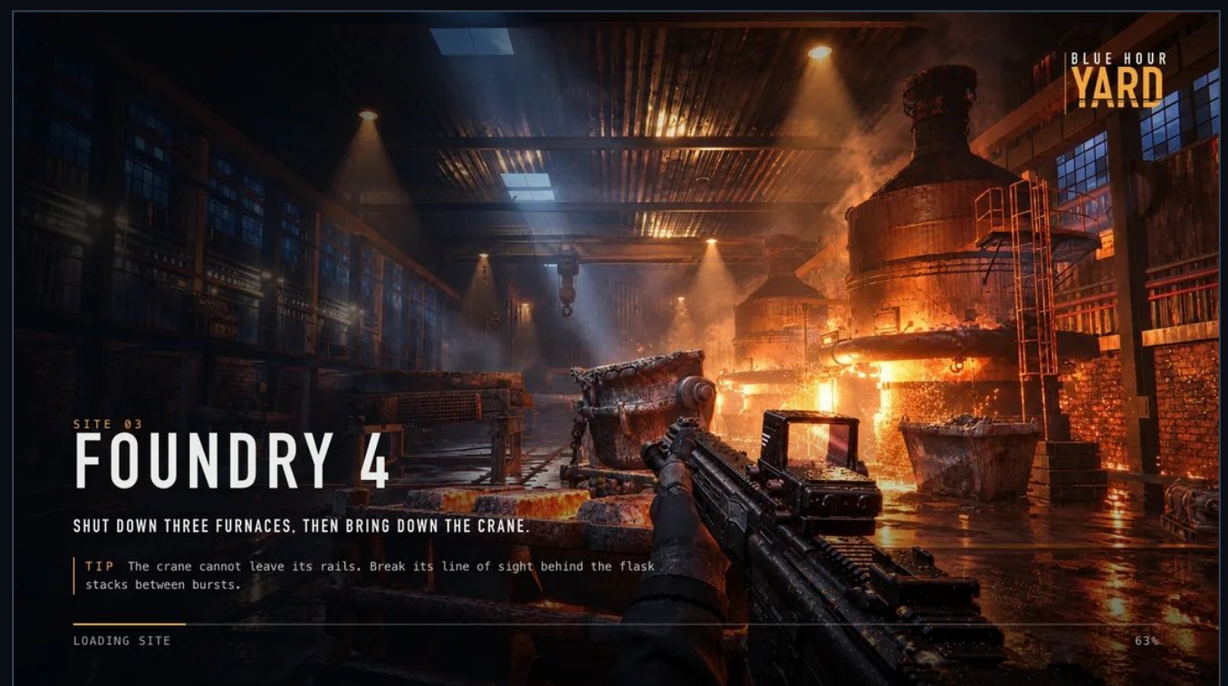


PURGER STERILISER, IN ENGINE



ARC WELDER SPIDER, IN ENGINE

A level start no longer freezes the page



LOADING SCREEN OF A LEVEL

5.9 to 6.7 s
longest block of the page at each level start, before

75 to 383 ms
after, same condition, two rounds on five levels

0
shader programs created in the first 20 s of play

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
6,595 ms before	6,555 ms before	5,914 ms before	6,673 ms before	6,263 ms before
111 and 245 ms after	76 and 129 ms after	75 and 155 ms after	127 and 335 ms after	261 and 383 ms after

The load is built in slices of 9 ms: work without GL in workers, textures a few per slice, every shader program created before anything draws, first frames drawn in pieces behind this screen. First visit, build v2.4: ready in 10 to 18 s, longest block 64 to 191 ms. Level 1 on the last build: ready in 4.8 s, longest block 106 ms.

Two defects that only a test could see



FRAME 208



FRAME 209



FRAME 210

One white frame

A single non-finite pixel in the mirror, spread by the bloom. A scan of every frame found 17 in three clips. A guard where the scene buffer is first read removed them.

Impacts in mid air

8,637 + 4,621 of 33,760 test rays, first version

11 + 10 at most per level, of 48,384 to 62,208 rays

Shots were tested against walking boxes. A shot is now a ray against the triangles that are drawn.

The method, the prompts and the scripts



IN-ENGINE FRAME, FOUNDRY 4

8
builder prompts in full

21
scripts from the build

Play the game

Download the Agent Skill

Connect Scenario MCP

> The Agent Skill scenario-threejs-game-world holds the method for any genre, the builder prompts, the render recipe, the game systems, the tests and the scripts. 20 of the 21 scripts were run again on the game's own files.