SCENARIO EXPLORATION · HOW IT WAS MADE

Iso Cycles

Five heroes, four isometric directions, four cycles, eight frames each.

A remake of a Pixel Engine isometric walk-cycle post, with a new cast and three more cycles: run, idle and attack. An AI agent, Claude Code, drove Scenario MCP. GPT Image 2.5 Sunburst drew every hero from two angles, Kling V3 I2V Standard animated each cycle, and a local script cut the loops and finished the pixels.

20	sprite sheets
640	frames
40	production clips
1,513.75	credits

Orc berserker
96 px

Stone golem
96 px

Necromancer
80 px

Elf ranger
80 px

Knight
64 px

Iso Cycles · Scenario · Scenario MCP · Scenario Skills

Two drawings, four directions

The starting point was an isometric walk-cycle post made with Pixel Engine: four characters, four isometric directions and an eight-frame walk for each, every character at a different pixel height. Iso Cycles rebuilds the idea with Scenario and a new fantasy cast: a knight, a necromancer, an orc berserker and an elf ranger, joined later by a stone golem. Walk gained three companions: run, idle and attack.

Claude Code did the work through Scenario MCP. The MCP recommend tool proposed the Retro Diffusion, GPT Image, Kling and ElevenLabs models, the reframed first frames were uploaded as assets, and every clip ran as a Scenario job. Everything after the clips (keying, loop search, pixel finish, mirroring) ran in local Python.

INSPIRATION **The Pixel Engine post (x.com)**

1 **WALKING MODEL**
Retro Diffusion Animation, tried first and dropped.

2 **TWO-ANGLE STILLS**
GPT Image 2.5 Sunburst, SE and NE in one image.

3 **ROUTE TEST**
Kling V3, a GPT Image sheet and Seedance 2.5 on one run.

4 **FORTY CLIPS**
Kling V3 I2V Standard, one clip per hero, facing and cycle.

5 **LOOPS AND PIXELS**
Loop search, palette, outline and mirror, run locally.

6 **THE FILM**
A 34.5 s build film scored with ElevenLabs Music v2.5.

Walk frame 1 of every hero. Only SE and NE were generated; SW and NW are the same frames mirrored.

Iso Cycles · Scenario · Scenario MCP · Scenario Skills

A purpose-built walker, facing the wrong way

The Retro Diffusion Animation sheet, enlarged 6× with nearest-neighbour. Rows: back, side, front, side.

The first recommend call asked for isometric pixel-art walk and run cycles in four diagonal directions. It returned Retro Diffusion Animation as the specialty model, with Retro Diffusion Plus as runner-up. The schema showed the limits early: the four_angle_walking style is locked to 48 × 48, and the styles on offer are four_angle_walking, walking_and_idle, small_sprites and vfx. There is no run or attack style.

TEST PROMPT · SEED 1101 · RETURNSPRITESHEET

“armored knight with blue tabard, silver plate armor, red plume on helmet, longsword at hip”

THE TAKE

A crisp 48 px knight on a 192 × 192 sheet: four rows of four frames. The rows face back, side, front and side, the cardinal directions, not the isometric diagonals, and each cycle has four frames instead of eight.

WHY

The mode is built for top-down RPG walkers. Writing “isometric” in the prompt does not move its camera.

THE FIX

Two stages instead: draw each isometric facing as a still, then animate that still with a video model.

03 · TWO ANGLES IN ONE IMAGE

One call keeps both facings on-model

The knight's two-pose still, the kept take of two. GPT Image 2.5 Sunburst.

GPT Image 2.5 Sunburst drew each hero twice in a single image: three-quarters toward the viewer, facing south-east, and three-quarters away, facing north-east. Drawing both poses in one call keeps armour, colours and proportions identical between the two facings. The background is flat magenta because no video lane emits alpha; the colour is keyed out later. SW and NW are mirrors of SE and NE, the standard sprite flip, which halves the generation work.

1536 × 1024 · QUALITY HIGH · OPAQUE BACKGROUND · 2 OUTPUTS PER CALL · THE BETTER TAKE KEPT

FROM THE STILL PROMPT TEMPLATE

"Left pose: body turned three-quarters toward the viewer, facing down and to the right (south-east). Right pose: body turned three-quarters away from the viewer, facing up and to the right (north-east), [we see the back and the shield]."

REFRAMED WITH HEADROOM

The figures filled about 90% of the frame height, which left no room for a raised axe or staff. A small script split each still and re-centred every pose at 58% of a 960 × 960 magenta canvas, with the feet on a baseline at 82%. Those frames were uploaded as the first frames of every clip.

The reframed SE and NE first frames of the knight, necromancer, orc berserker and elf ranger.

04 · THE ROUTE TEST

Three models, one run

Before the production batch, the knight's SE run was animated four ways. For the video lane, recommend (cost priority, with an end image) ranked Luma Ray 2 Flash 540p first; that model was not run. Kling V3 I2V Standard, from the same list, was.

KLING V3
first = last frame · 3 s

A real run with airborne frames, but standing frames at both ends, and the knight turns side-on mid-clip.

24 credits

GPT IMAGE 2.5
4 × 2 sheet from the still

Identity and facing are perfect, but the legs barely change between the eight named poses: a shuffle.

25 credits, 2 sheets

SEEDANCE 2.5
480p · 4 s

Keeps the SE facing, but moves more like a jog or a skip.

84 credits

KLING V3
first frame only · 3 s

“Treadmill” plus “always faces the bottom-right corner”: a steady SE facing and a real stride. A purple ground shadow appears and is keyed out later.

24 credits

Decision: the video route, with Kling V3 I2V Standard.

Kling V3 I2V Standard · 3 s · 1:1 · no audio · 24 credits a clip

MISTAKE TWO: AN END FRAME ON A LOCOMOTION CYCLE

Pinning the same still as first and last frame makes a 3-second clip start and stop the run inside itself, so the loop gets standing frames and a drift. Walk and run use the first frame only; idle and attack keep first = last, because they should come back to rest.

05 · FORTY CLIPS

One clip per hero, facing and cycle

Kling V3 I2V Standard animated every first frame: four heroes × two facings × four cycles made 32 clips in the first round, and the golem added eight in the second. Each clip is 3 seconds, 1:1, with no audio, at 24 credits; only the fixed back-view runs later took 5 seconds. The knight's batch ran first as a check, then the other 24, and all 32 succeeded. A script wrote the prompts from one template per cycle and facing; each hero adds its name, its secondary motion (a plume, a robe, a braid) and its attack.

WALK, RUN

First frame only. “Like a treadmill”, so the hero runs in place and stays centred. The negative prompt adds “slowing down, stopping, standing still”.

IDLE, ATTACK

First frame = last frame, so a breath or a strike returns to the rest pose and can chain into idle.

EVERY CYCLE

The facing named in screen terms, a locked static camera, a flat magenta background and no ground shadow.

RUN, FRONT VIEW (SE) · FIRST FRAME ONLY

“Pixel art game sprite animation, like a treadmill: the armored knight immediately starts running in place and keeps running for the whole clip, a steady repeating run cycle (knees high, arms pumping, torso leaning forward, both feet leave the ground between steps, red plume bounces). He always faces diagonally toward the bottom-right corner of the frame (isometric three-quarter front view from above, the same angle as the first frame), never turning to a side view.”

NEGATIVE PROMPT

side view, profile view, turning around, camera movement, zoom, travelling across the frame, ground shadow, drop shadow, background change, extra characters, blur, 3D render, slowing down, stopping, standing still

The knight's raw SE attack clip, every eighth of 73 frames at 24 fps. The pinned end frame brings the slash back to the ready pose.

06 · MISTAKE THREE

The back-view runs turned sideways

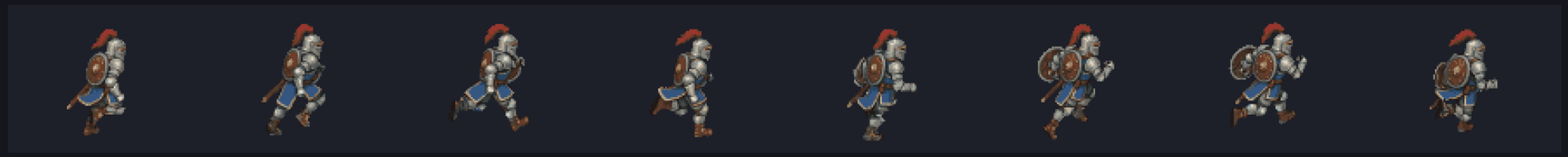
All four NE runs turned into a side-on profile, running east, while the walks, idles and attacks held their angle. From a back three-quarter first frame, a fast locomotion prompt most likely pulls the model toward the profile run it knows best; “faces the top-right corner” was not enough.

RUN, BACK VIEW (NE), THE FIXED VERSION

“Pixel art game sprite animation seen from behind. The armored knight runs away from the viewer, toward the top-right corner of the screen, on a treadmill so he stays in place. We keep seeing his back, his round shield and the back of his helmet at the same diagonal angle as the first frame for the whole clip: his left shoulder is closer to us than his right.”

BEFORE

First version: the knight's NE run turns to a profile.



AFTER

Shipped: fix B holds the back three-quarter view.

FIX A · FIRST FRAME ONLY · 3 S — **24 credits**

The run described as moving away from the viewer, with the nearer shoulder named. Better, but it still drifts.

FIX B · FIRST = LAST FRAME · 5 S — **40 credits**

The same prompt with the end frame pinned to the first. The back three-quarter view holds for the whole run; the loop search takes the steady middle, with a seam of 0.26× the motion baseline.

Fix B was applied to the necromancer, orc and elf NE runs, and all three held the view, with seams of 0.44×, 0.32× and 0.15×. It reverses the rule from the route test: on a 5-second clip the start and stop happen at the ends, and the middle is usable.

Cut the loop, not the clip

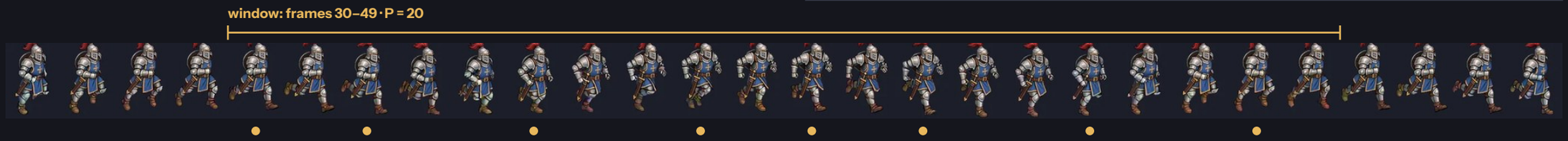
process.py keyed the magenta field to alpha, which also removed the purple ground shadow, and pulled the magenta spill out of the edges. For walk, run and idle it then searched every start frame from frame 3 and every cycle length P, and kept the window whose seam was smallest compared with the motion inside it.

Eight frames are sampled evenly across the window, and playback runs at 8 × 24 / P frames per second, clamped.

score = seam ÷ baseline

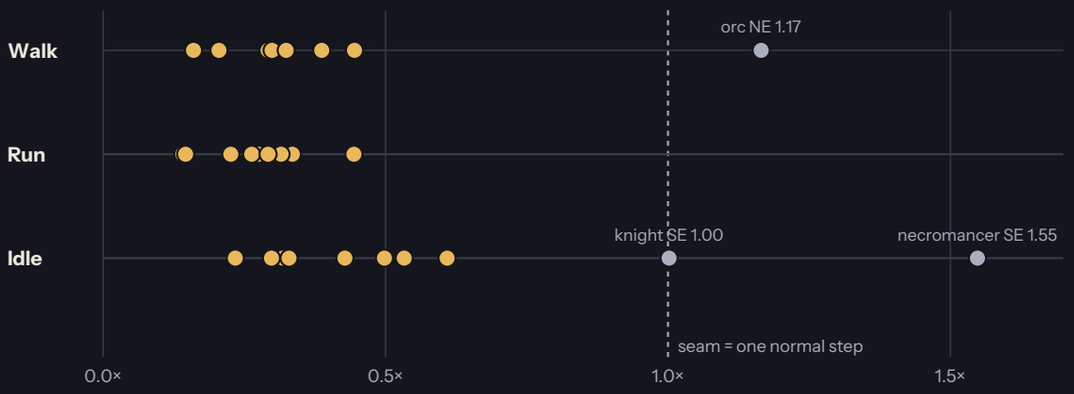
seam: the difference between frame s and frame s + P. baseline: the mean frame-to-frame difference inside the window.

Walk	12–34 frames
Run	8–24 frames
Idle	24–66 frames
Attack	the active window, where frames differ from the rest pose



The knight's SE run, keyed frames 26–53. The chosen window starts at frame 30 with P = 20 (score 0.28×, 9.6 fps); dots mark the eight sampled frames.

SEAM SCORE OF EVERY LOOPING CLIP



The same eight frames in the shipped sheet.

Most loops close at 0.2–0.45× their motion. Weak but kept: the orc's NE walk (1.17×) and idles on near-static clips, where the motion is tiny either way.

A bug on the way: the first sheets came out blank with streaks. The knight's slash trail reaches the frame edge, the crop box went negative and numpy slicing wrapped around. A padded crop fixed it.

From a 960 px frame to a 64 px sprite

ONE CANVAS PER HERO

Every clip of a hero is cropped to one shared box, the union of its figure across all eight clips, so the walk, run, idle and attack register on the same spot.

AREA-AVERAGE DOWN

Each frame is averaged down to the hero's height: orc and golem 96 px, necromancer and elf 80 px, knight 64 px. For the knight that is about nine times smaller than the source.

ONE PALETTE

A median-cut palette of 24–28 colours per hero, shared by every frame and cycle.

MIRROR

SW and NW are the SE and NE rows flipped horizontally.

Keyed source, frame 30 of the knight's SE run

Area-averaged only

Shipped: palette and inner outline

PUT THE OUTLINE BACK

The downscale averaged away the 1 px dark outline, so the sprites read soft next to hand-made pixel art. The fix: a small contrast and saturation lift (1.12×) before the palette, then every opaque pixel that touches transparency is darkened, an inner 1 px outline.

Lift: contrast 1.12 × saturation 1.12
Outline: edge pixels (4-neighbour) darkened to 38%
Palette: median cut, no dithering

09 · ROUND TWO

A sharper elf and a fifth hero

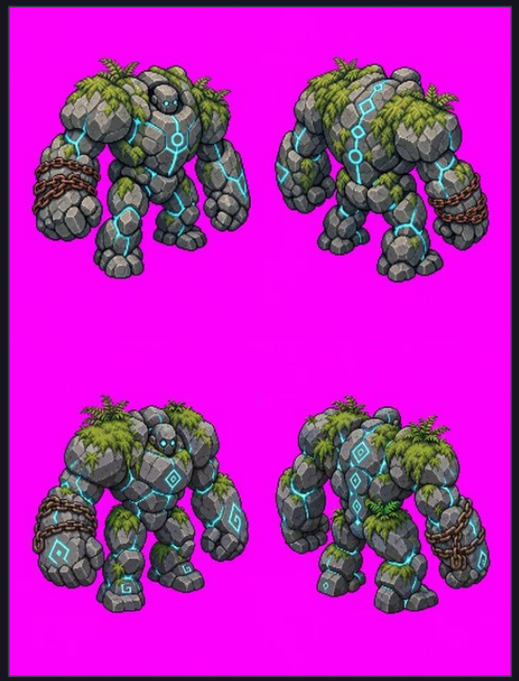
The elf was pixelated at 48 px on purpose, one of four heights, and looked very low quality. It was re-rendered from the same clips at 80 px, with a 28-colour palette. No new generation was needed.

The elf at 48 px (first round) and 80 px (shipped), beside the orc at 96 px. Session review image.

A SLOWER STRIDE NEEDS A LONGER WINDOW

With the default ranges the golem's SE run scored 1.08× and its NE walk 1.62×. The golem strides slower, so its search was widened to run 8–40 and walk 12–48 frames, giving 0.29× (P = 28) and 0.32× (P = 38). The override is recorded per hero in process.py.

The stone golem joined at the size and quality of the orc: 96 px, no weapon, cyan runes and a ground-pound attack. GPT Image 2.5 Sunburst made two takes of the still; take A was kept for its clearer SE facing. Eight Kling clips followed, with the fixed back-view recipe on the NE run from the start.



The golem still, take A (kept, top) and take B.

24
credits, still

208
credits, 7 × 24 + 40 for clips

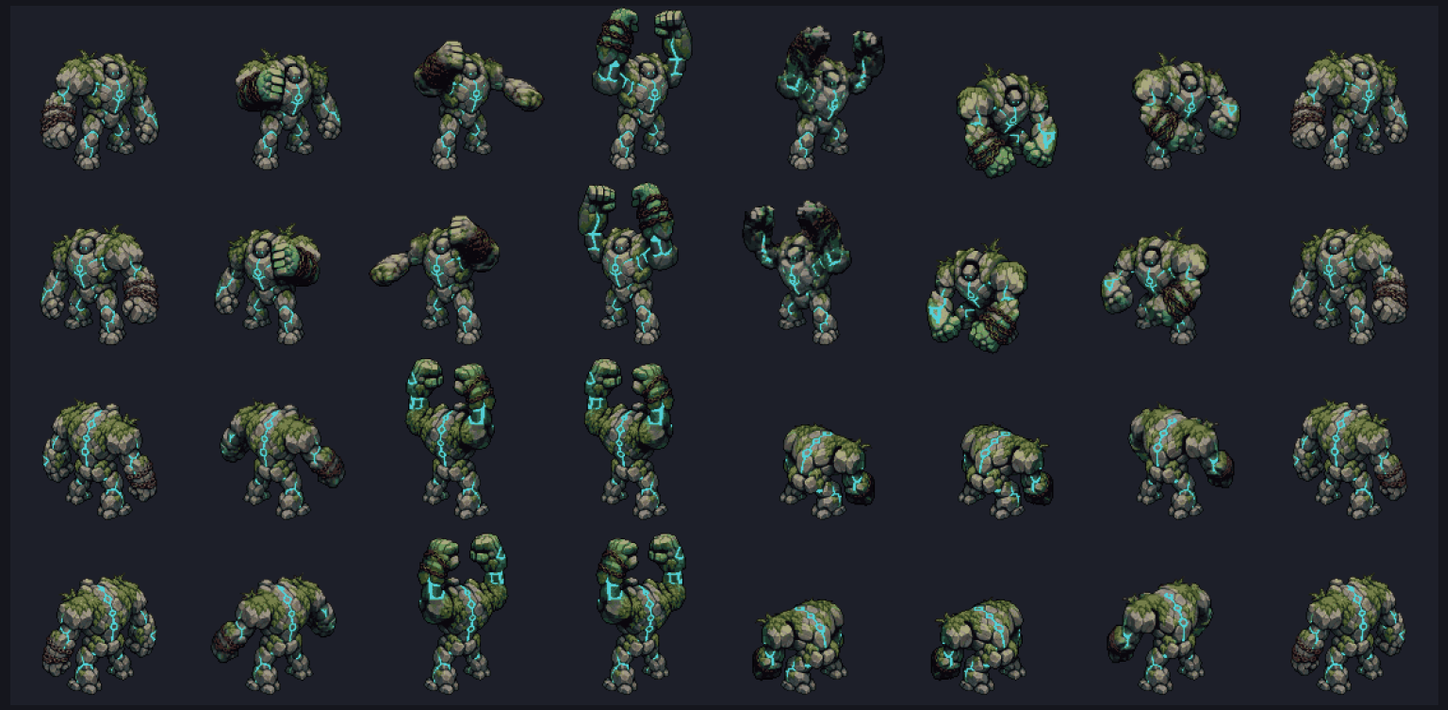
Twenty sprite sheets

The result is one PNG per hero and cycle: eight frames across, and four rows for SE, SW, NE and NW. A meta.json file records each sheet's cell size, palette, frame indices, loop scores and playback rate.

HERO	CELL (PX)	COLOURS
Orc berserker	144 × 142	28
Stone golem	140 × 137	28
Necromancer	140 × 122	24
Elf ranger	140 × 113	28
Knight	112 × 85	24

PLAYBACK, FRAMES PER SECOND	
Walk	6.2–8.0
Run	6.9–12.0
Idle	5.0–8.0
Attack	8.0

Each rate is 8 × 24 / P for the clip's loop window, clamped to 5–14 fps (attacks 8–12).



golem_attack.png: the ground pound, 8 frames × 4 directions, enlarged 2×.

necro_attack.png, 2×

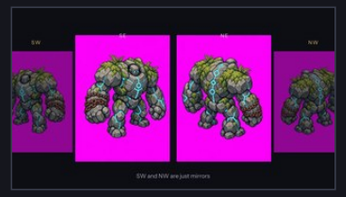
elf_run.png, 2×

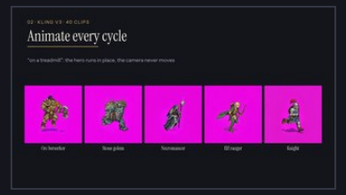
A build film, scored on the beat

A 34.5-second film shows how the sprites were made. render.py composes every frame from production assets (the two-pose stills, raw Kling clips, keyed frames and the final sheets) with Pillow and pipes them to ffmpeg at 1920 × 1080 and 30 fps.

ElevenLabs Music v2.5, first in recommend with ACE-Step 1.5 Quality as runner-up, made two 36-second takes from a prompt with a bar-by-bar structure at 120 BPM. Both measured 120.2 BPM. Take A was kept: the drums enter at 8 s with the clips, a breath at 22–23 s, the drop at 24 s on the line-up grid, a final hit at 32 s. The film was trimmed from 36 to 34.5 s with a 0.8 s audio fade.

"Exactly 120 BPM, steady four-on-the-floor."





Frames of the film: the line-up grid at the drop (left); two drawings, four directions, and the clips (right).

WHAT IT COST

STEP	MODEL	RUNS	CREDITS
Walking-model test	Retro Diffusion Animation	1	16.75
Two-angle stills	GPT Image 2.5 Sunburst	4	96
Route tests	GPT Image 2.5 · Kling V3 · Seedance 2.5	4	157
Cycle clips	Kling V3 I2V Standard	32	768
Back-view run fix	Kling V3 I2V Standard	5	184
Fifth hero: stone golem	GPT Image 2.5 Sunburst · Kling V3	9	232
Film soundtrack	ElevenLabs Music v2.5	2	60
Total		**57**	**1,513.75**

Scenario credits by step, as recorded in the build log and the page's cost table.

Make your own: the exploration page carries the prompts, the sprite sheets and an agent skill, scenario-isometric-sprite-cycles, that teaches the technique through Scenario MCP.

Iso Cycles **Scenario MCP** **Scenario Skills**

The Pixel Engine post **Scenario**