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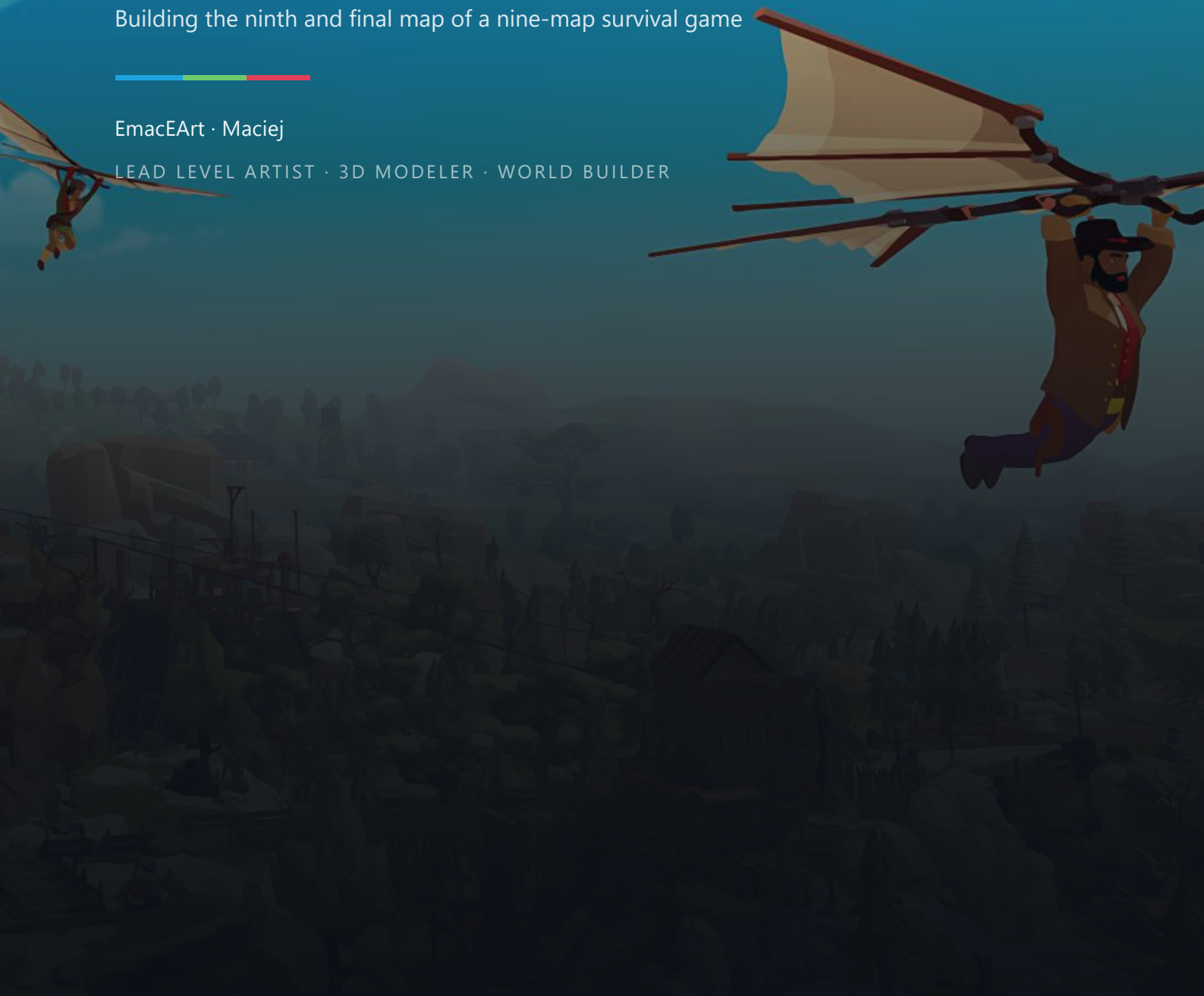
LEVEL ART CASE STUDY

Survival Machine **Winter World**

Building the ninth and final map of a nine-map survival game

EmacEArt · Maciej

LEAD LEVEL ARTIST · 3D MODELER · WORLD BUILDER



01 The project and my role

Survival Machine is a survival game by Grapes Pickers, released on Steam in May 2026 by Games Operators / PlayWay. In a team of twelve I was responsible for level art as Lead Level Artist and 3D modeler.

The game world is built from three biomes — desert, forest and winter — each divided into three semi-open areas. Nine maps in total. This document is about the last of them: the winter biome, the one that closed the beta and carried the game to release.

I have worked in 3D for close to twenty years. Survival Machine is another title along that road — a project where I deepened my craft as a world builder and put it up against a demanding production. I am showing the winter world here because it brings together all three things I do: modeling, composition, and the building of space.



Harbour. This is where the river ends and where the road ends.

02 Sculpting the terrain

Every area began the same way: an empty file in Blender and the question of what shape this land should have.

Before anyone placed a single rock, the map had to have:

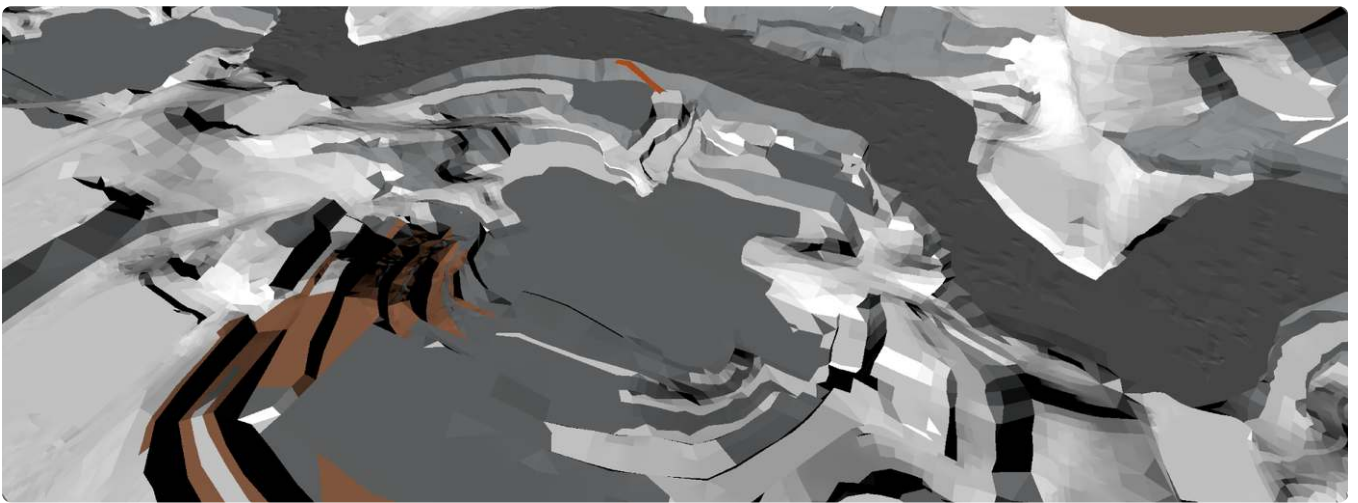
- a readable landform — ridges, valleys, narrow passes, places where the view opens up and places where it closes;
- a drivable road for the player's machine, wide enough for the vehicle to actually handle, cut into the relief so that it looks found rather than carved;
- orientation points placed so that the player walks toward them of their own accord;
- one element that exists nowhere else in the game.

I took that last point most seriously. Every area had to get something of its own — one place the player remembers it by, and which sets it apart from the other eight.

Only a terrain sketch of that kind went to the team for review, and only after it was approved did the rest of the work begin.



The whole map from above. The canyon splits the world into two loops, joined by the mine in the middle.



Early terrain shape with orientation points and the machine road marked. The stage before any dressing.

03 Three tiers

I stretched the winter biome vertically, across three levels:

underground → the valley and the ice trails → the summit with the last refuge of humanity

The terrain is laid out in loops, not as a corridor. Every path comes back. From the viewpoints the player sees the place they were fifteen minutes ago, and the place they have yet to reach.

Rock faces work as bumper rails — they lead and suggest a direction, but they never lock the player into a single road. There is always a third way through for anyone who cares to look for it. The player should feel they chose the road themselves, even if I was the one who lit it.

04 Colour as navigation

A winter world has one fundamental problem: it is white. After an hour the eye stops telling anything apart and the player gets lost in the glare.

I built the art direction on contrast — white, beige, black, graphite, deep green — and tied the colours to elevation. White belongs to the summits. Graphite to the underground and to the rock faces that guide the player. Green returns low, in sheltered places.

The most important thing, though, happens not on the snow but under it.

Snow stopped being a colour and became a mask, which I pull back wherever I want to say something about a place. The ground on this map has four colours and each one carries information:

- **white** — neutral terrain, walkable, promising nothing;
- **grass showing through** — warmer, sheltered places, visited more often; grass is also the single most important navigational cue, because it runs along the paths and leads the player out of the snowy emptiness;
- **exposed mud and packed earth** — someone walked here, vehicles drove here, something happened here;
- **bare rock and sand** — this ground was dug, this ground was disturbed.

The distribution of those colours follows the sun. Open, exposed slopes warm up all day, so the snow gives way there: grass emerges, the earth turns damp, the mud darkens. In shaded hollows, at the foot of walls and on the northern side of ridges, the frost never lets go — the ice stays, the colour dies, the terrain goes lifeless. Snow stops being a uniform backdrop and starts reacting to the shape of the ground beneath it. Exposed earth then arranges itself into bands that run exactly where a path would run: along ridges, across sunlit traverses, down the beds of streams. The player follows them before they have time to think that they are being led.



Rust and dark green break up the white. Exposed grass gives away where the sun reaches.

05 Landmarks, vistas and POIs

A snowy landscape offers no footholds on its own, so they have to be designed.

I seated the structures on the map so that they cling to slopes or protrude above their edge, and never hide behind a summit. Their silhouettes read from the far end of the valley, before the player realises they were looking for anything. That is how the settlement on wooden platforms works, how the dwellings high on the ridges work as shelter, and how the remains of industrial infrastructure and old manufactories scattered across the slopes work.

Each of these structures is a landmark — an object by which the player orients themselves in space from a long distance. I planned their placement together with the vistas, the points where the landscape opens wide and

reveals the next goal. The view is not a reward in itself; it is another sentence in an instruction nobody speaks out loud.

Some of them are POIs (Points of Interest) — locations where the player stops for longer. The proposal for such a place came from the level designer: where it stands, what it serves, how long the player should spend there. My job was to build that proposal in art — to give it mass, silhouette, material and surroundings that seat it in the terrain. Each POI also had to look different from the other eight on the map, even though they all came out of the same model library. That was one of the more interesting parts of this work, and the part that enriched the map the most.



The buildings climb the slope and rise above its edge — visible from the far end of the valley.

06 Three planes: background, storytelling, dressing

This is the core of how I work. The assets that fill a world split into three layers with entirely different jobs — and they land on the map in that order.

Third plane — background

Large objects: mountains, rocks, massive trees. They form a static backdrop and give the map its weight. On their own they are dead, so every so often you have to seat an element among them that breaks the rhythm: a deformed tree, a rock with a recognisable silhouette, a formation the player will name for themselves. Without accents like these the background dissolves into noise.

Second plane — storytelling

Medium objects. These are the ones that speak. A lone hut and the road that leads to it. The collapsed fence beside that hut. The little bridge on that road. Toppled poles. A ruined staircase someone once built to the summit, which today leads nowhere — you have to find another way.

This layer carries most of the story, because it is exactly the size the player takes in while moving, without having to stop.

First plane — dressing

The smallest props, right next to the player, mostly without collision. I add them at the very end, as the last layer. They give grain to the space you walk through and make sure there are no empty walls and no empty roads.

Sometimes they are pure ornament, and that is fine. They can, however, amplify the storytelling of the second plane: an object left by a fence suggests that someone leaned against that fence for a moment.

Discipline

An object does not stand in a scene because it is pretty. It stands because it answers a question the player has not yet had time to ask. That does not mean every prop tells a story — the player must not be overloaded, and most dressing exists purely so that the space has texture.

Storytelling can be done with anything. With an ordinary fence, if it is broken in one place — the player will understand that someone fled this way. With a walkway that breaks off above a chasm. With a cartwheel lying half a kilometre from the cart.

Little Nightmares is my reference point — a game in which not one line of narration is spoken, and yet the background talks without pause. What matters is that it tells every player something slightly different: it lets you guess, explains nothing, and leaves room for your own reading. That is the top shelf, and I treat it as a direction I would like to get closer to one day. For now I do something more modest: I tell plain, down-to-earth stories along the player's path and season them with a little mystery that I do not resolve on their behalf.

The same discipline keeps the technical budget in check along the way. When most objects have to justify their presence, a map does not grow without reason.

07 The lowest tier — the mine

Below the surface runs an organic network of caves, tunnels and mines. The player steps into darkness and escapes the blizzard for a while, but not the danger.

The heart of this tier is a three-storey mine. I filled it with complete extraction infrastructure: rails, conveyor belts, a lift, offices, staff rooms. Not as decoration, but as a plant that once worked and stopped mid-motion.

The deeper you go, the less order there is. It starts with single abandoned objects. Further down come things carried here from all over the map and set down without any arrangement: pots, dishes, tools, mirrors, coat racks, road signs, boards — anything that could be torn loose and dragged along. That growing mess announces who lives here. At the very bottom the player finds a dump, and zombies living on it. Nobody explains this to them; the warning was lying on the ground several storeys earlier.

I built the interiors on silhouette in counterlight: dark beams and pit props in the foreground frame a distant light source. The eye runs to the bright point on its own, and everything along the way — a beam, a prop, an overturned wheelbarrow — fills in what happened here before the light went out.



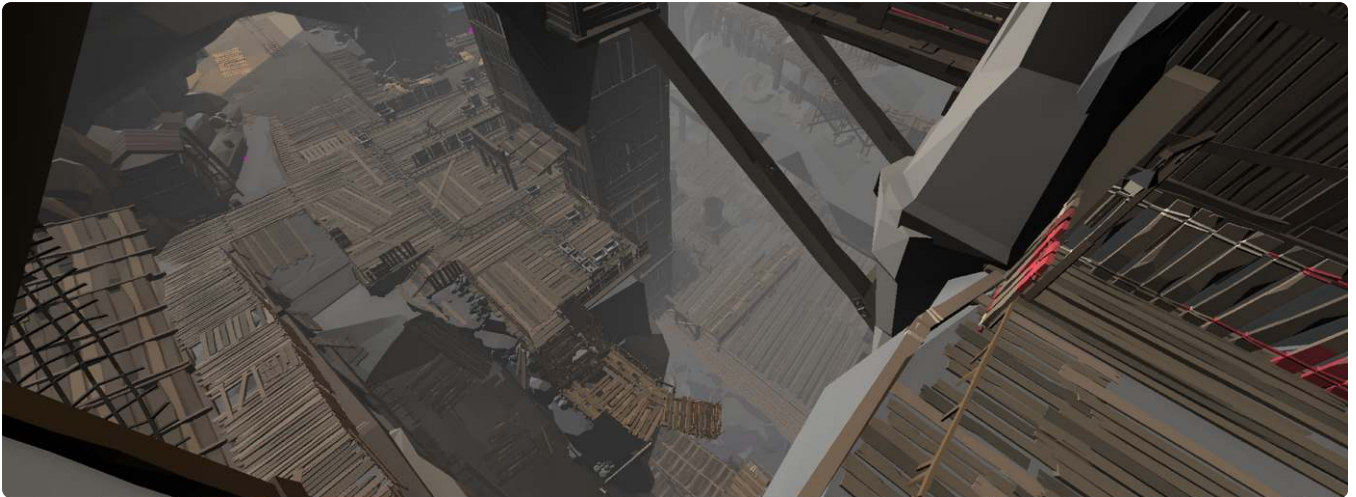
The mine entrance. The rails lead the eye into the dark before the player makes a decision.



The scale of the mine reads from the outside. The structure is measured against the trees at its foot.



A handful of props is enough for the player to understand: someone lived here.



The lowest storey. Everyday objects dragged down here — a story told without a single word.

08 The middle tier — the oasis and the river

Despite the relentless winter, I smuggled a surprise into the middle layer: a deep green slice of forest, hidden low between monumental rocks, in a microclimate that let the vegetation survive. Colour returns at the moment the player has stopped expecting it.

I went in there with a proposal for giant sequoias. In the years of prosperity they were felled and floated down the river. The river today is locked in ice — a white-and-blue motorway cutting through the rock canyon.

And that river ends somewhere: in the harbour, at the other end of the same map.

To me this is a model example of world building. The sequoia stands there because it explains the walkways. The walkways explain the river. The river explains the harbour. Nobody says any of it out loud, and still the whole thing holds together.



The green oasis. Under the snow, grass and the packed earth of the path are exposed.



A passage between tiers. Icicles in the foreground frame the shot.

09 Harbour

The floating river ends its run in the harbour. I led this location from the level art side: the shaping of the waterfront, the silhouette of the buildings, the composition of the prop scenes.

Its centrepiece is a great boat trapped in the ice. A separate, sprawling wing of the harbour is the workers' base, adjoining the whole transshipment infrastructure — the place where people ate, slept and worked for as long as they could. Work interrupted, crates left open, equipment abandoned exactly where someone last held it. The harbour was not calmly vacated — it was abandoned in a hurry, and you can see it in every frame.

The blizzard takes visibility away gradually, so the place has to be recognised by silhouette rather than by detail. That is also how it was built: large masses first, detail only within arm's reach.



Buildings along the waterfront. A prop scene: the moment work was interrupted.

10 Props and toolset

A map this size swallows a mass of objects — thousands of instances scattered across the terrain. They will not be made as unique pieces. They come from a limited pool of well-designed props that the player will not recognise as repeated.

- every model gets three proportion variants;
- every variant is rotated and shown from four sides → twelve silhouettes;
- objects occlude one another, so the player rarely sees a whole model;
- within each group I keep three scales: small, medium, large. Without that a scene goes flat immediately.

Spacing is designed, not random: two objects close together, a third clearly further away. Never evenly. About a quarter of the scene stays empty, because without emptiness no accent works.

Pickup Prefab and Place

At this scale, everything depends on the flow of the work. I supported the level art with a tool called Pickup Prefab and Place, which sticks an object to a surface in real time, lets you rotate it on the fly and freely set the direction of contact — bottom to the ground, top to a cave ceiling, side to a vertical wall. It also has its own library: I type a name, pick a model, and it lands in the scene at once, without opening folders and dragging assets one by one.

It is my right hand and I still use it today. The point is not saving clicks, but keeping the rhythm. When I do not have to break off work to operate the editor, I try a variant, reject it and check the next one in a few seconds — and because of that I make bolder compositional decisions. Scenes built in that flow look considered, because they genuinely went through several versions rather than the one version I had the patience for.

There is a second side to it as well. Props designed in series are the cheapest thing an engine can render. The repetition that the eye reads as a rich world is, to the graphics card, a saving. Good composition and good performance very often turn out to be the same decision.



My models from the winter biome. Proportion and silhouette variants of a single series.

11 Performance

Performance decisions are made at the art stage, not after it. Throughout the project I worked closely with the programmers and took on a fair share of the responsibility for keeping the map inside its technical budget.

- Collisions are planned while the objects are being placed. Everything the player walks on — one layer. Decoration, foliage, small detail — another. That one decision, made early, saves weeks later.
- The world is split into a regular grid of chunks. Each is a self-contained unit of work: it can be set aside, swapped out, and measured on its own.
- Geometry nobody will ever see is not in the scene. I worked out my own method for stripping everything that sits under the terrain or is permanently occluded. Tedious work, measurable result.
- Materials are simplified to a common denominator so that whole stretches of the map draw in a single pass.
- The terrain is verified against character navigation and corrected wherever the geometry gives the engine trouble. Reports from the programmers are treated as a brief.

Optimisation is not my main competence and I do not pretend to be an engineer. I treat it as the part of the craft that has to be kept in order so that I can get on with the rest in peace.

The winter biome entered beta without exceeding its budget, and it was the last of the nine to close the game world.

12 Closing

The winter world of Survival Machine was a test of the thing I consider the essence of this job: whether I can design a space that reads itself.

The project also put my thinking about my own workshop in order. A significant part of the organisational weight was lifted by additional tools from the Asset Store — such as Pickup Prefab and Place, which replaced rummaging through a vast model library with a single search, and the laborious placing of an object with sticking it to a surface in one motion. An artist's attention is an exhaustible resource. Every minute given to operating the editor is a minute taken from composition, so I now consider preparing the workshop before the start to be part of the artistic work, not a technical chore standing beside it.

Vertical rather than flat. Ground colour as navigation. Snow as a mask you pull back in order to say something. Landmarks visible from the far end of the valley. A river that ends in a harbour, though nobody explains it.

Good terrain does not stop at being walkable. A player who never reads a single line of description should know, after an hour, where people walked here, what they feared, and why they fled. Everything else — the sculpting, the colour, the silhouette, the spacing of the stones — is only a way of telling them that without saying anything.

The winter world of Survival Machine shipped on Steam in May 2026. The next terrain is waiting, empty.



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