

Design Breakdown

Brief

- Redesign the Sky Odyssey level "The Desert Express" in UE5

Original Level Breakdown

[Video reference](#)

0. Level begins with a barebones cinematic, showing where to fly, and demonstrating unique mechanics (in this level's case the refuelling train) presented as a mission debriefing.
 - a. The player may hit checkpoint rings along the way, which serve as both wayfinding, and a way to gain extra points. Hitting checkpoints are optional.
 - b. At any point, the player can bring up a map to see checkpoints and the full field of play.
1. Immediately, the player's fuel tank has sprung a leak, and their fuel is rapidly decreasing.
2. Shortly after takeoff, the train departs from the station.
3. The player must follow the train to the final airstrip, refuelling as many times as they need.
 - a. The train can be considered an extended beat through the whole level, and little else (path destruction/blocking, weather effects, etc.) happens.
4. The player lands at the airstrip near the coastal village, finishing the level.

Design Thoughts

- The whole game is very clearly inspired by the early days of flight, if the bi-plane on the cover didn't make this obvious.
- Narrative is basically non-existent. It exists as an excuse to be running around a bunch of different islands collecting pieces of a map. I've got ideas on fun narrative design in a flight sim, but for now we're focusing on if the gameplay is any good.
- Mission briefing works very well as a thematic/diegetic way to explain the level and what to do. It's also just cool to watch.
 - The briefing should not reveal any parts of the level that aren't "intended" to happen, i.e. the briefing can talk about thunderclouds, but cannot talk about a lightning strike hitting the plane.
- A leaking fuel tank prompting a pilot to dock a plane onto a *moving* train is, inherently, very silly. I also do not care.
 - The speed of the train will be... interesting to mess with, considering the average biplane has a cruising speed of 160km/h.
 - That's *cruising* speed; I think we could reasonably say a train in the 1930s could hit 100km/h and the plane needs to slow down to hit it.
- I'd like to know which person decided the composer for Shadow of the Colossus should be brought onto a random obscure flying sim and kiss them.

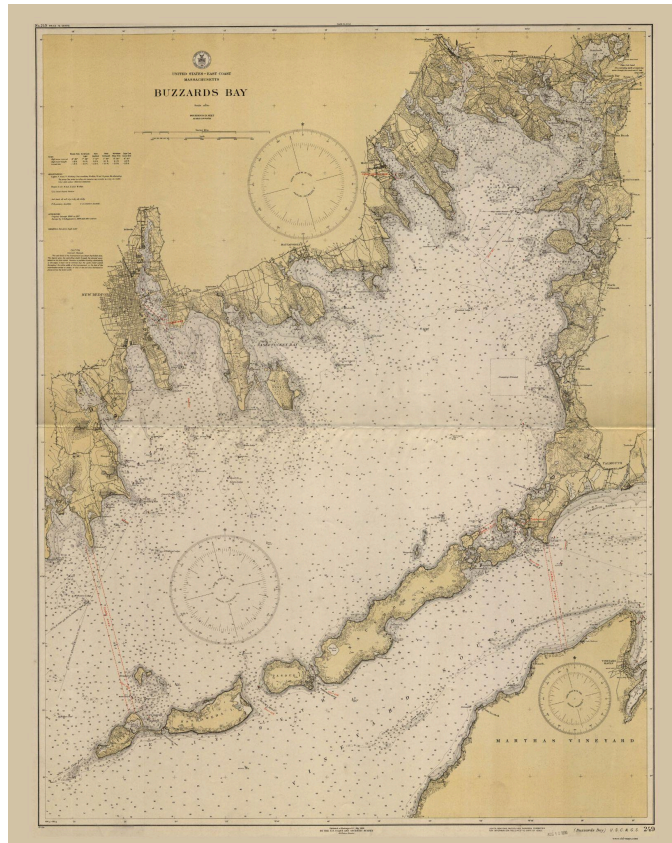
- Kow Otani did this before SotC????
- In order to explain how to refuel on the train, the fuel leak has to happen "before" the level starts, so there's a reason it's being included in the level briefing. This is more a note for me because I got excited about it triggering halfway through the level.
- The start of the level is very mean. You have to navigate around several cliffs and often refuel while trying to squeeze between them. It's fun, but feels like a point that would happen later. I think the train should at least start with a relatively clear strait so the player can get used to refuelling.
 - There's definitely potential in having to go from a high altitude (here, takeoff) and descending through some kind of obstacles to the train.
- Docking onto the train to refuel is janky as all hell. I don't think there's been a single time I've had to actually match my speed and be parallel to the train before it jerks me into position and autopilot kicks in.
- Train go toot toot. Would be nice if it was obviously responding to your movements, maybe with different horns or different toot lengths.
- The tunnel is an interesting point, but I think the original level could have pushed it a bit further. It is also the biggest train tunnel I have ever seen. I want to know how much it cost to move all that dirt.
 - Honestly the scale of everything in this game is... a choice. And huge.
- There's two tunnels. The first tunnel could be an introduction/easy version and the second an escalation.
 - It's already kind of an escalation? The second has a small bend in it and is longer, but it's not really significant enough to *feel* like it's an escalation.
- It's very possible to dock to the train once, and then never have any real obstacles throughout the level if you stay attached. The only real downside is a lower score from not hitting checkpoints, but most of the checkpoints are close to the train anyway.
- I think there should be a penalty (minor loss of control, maybe?) for drifting too far from the train instead of manually detaching.
- Checkpoints are a really useful way to guide the player on where to go next. They also don't make much sense to why they exist. I like them and the fun sound it makes when you fly through them that I'm not too fussed about it, and the game is arcadey enough that it isn't out of place, I feel.
 - Checkpoints are both positioned to guide the player through the desired path, as well as bringing them near interesting features in the landscape so the player can check them out. Some of these are off the desired path.
 - The final checkpoint is beyond the final airstrip so the player can check out the coastal village. It works nicely here with the happy music as an extra reward for finishing the level since there's little tension.
- So there's this mechanic all based around "acrobatic points," where doing stunts like rolls and flying close to the ground gets you points. Getting a perfect level score means you need at least 5000 acrobatic points. If you do a spin while going through a checkpoint, you get 500 points. I have mixed feelings about it.
 - On one hand, I understand why it exists. It's a way for the player to do something a bit more fun during calmer parts of the level.
 - On the other, it feels like a cheap way to pad out a level. Instead of thinking of a way we can make an extended strait where nothing happens more fun

from the design itself, we just hope the player's always going for perfect scores and wants to get all their points during it.

- Also, the majority of the time a Sky Odyssey level is an extended amount of tension, now with a random side objective to do sick kickflips for no reason.
- The majority of the time people will just do checkpoint spins and nothing else, making it feel a little redundant as a random extra thing to do everytime you hit a checkpoint.
- I'm leaning to cutting this entirely and just having perfect scores built around hitting checkpoints alone. "Acrobatic" stuff can be built into the levels themselves and called for when needed.
- The map is useful, but doesn't make much sense how a paper map is dynamically showing checkpoints and plane location. There's room to say "it's just a game" but I think it could be played with.
 - We could abandon the original theming entirely and make it some high-tech thing or radar-like view.
 - Not a fan; I like the bi-plane.
 - We could commit to the lower tech stuff with pencil marks striking off completed checkpoints.
- The train being visible on the map doesn't do much. You almost never let the train out of your sight and if you have, you're probably going to crash from a lack of fuel before you think about trying to find it again.
- When we hit the boundaries of the map we get a warning and are forcibly turned around, which feels a bit awkward. Not an issue for this level as you always run out of fuel before you hit the edge, but is something to think about for the hypothetical other levels we'd be making if this wasn't just a portfolio piece.

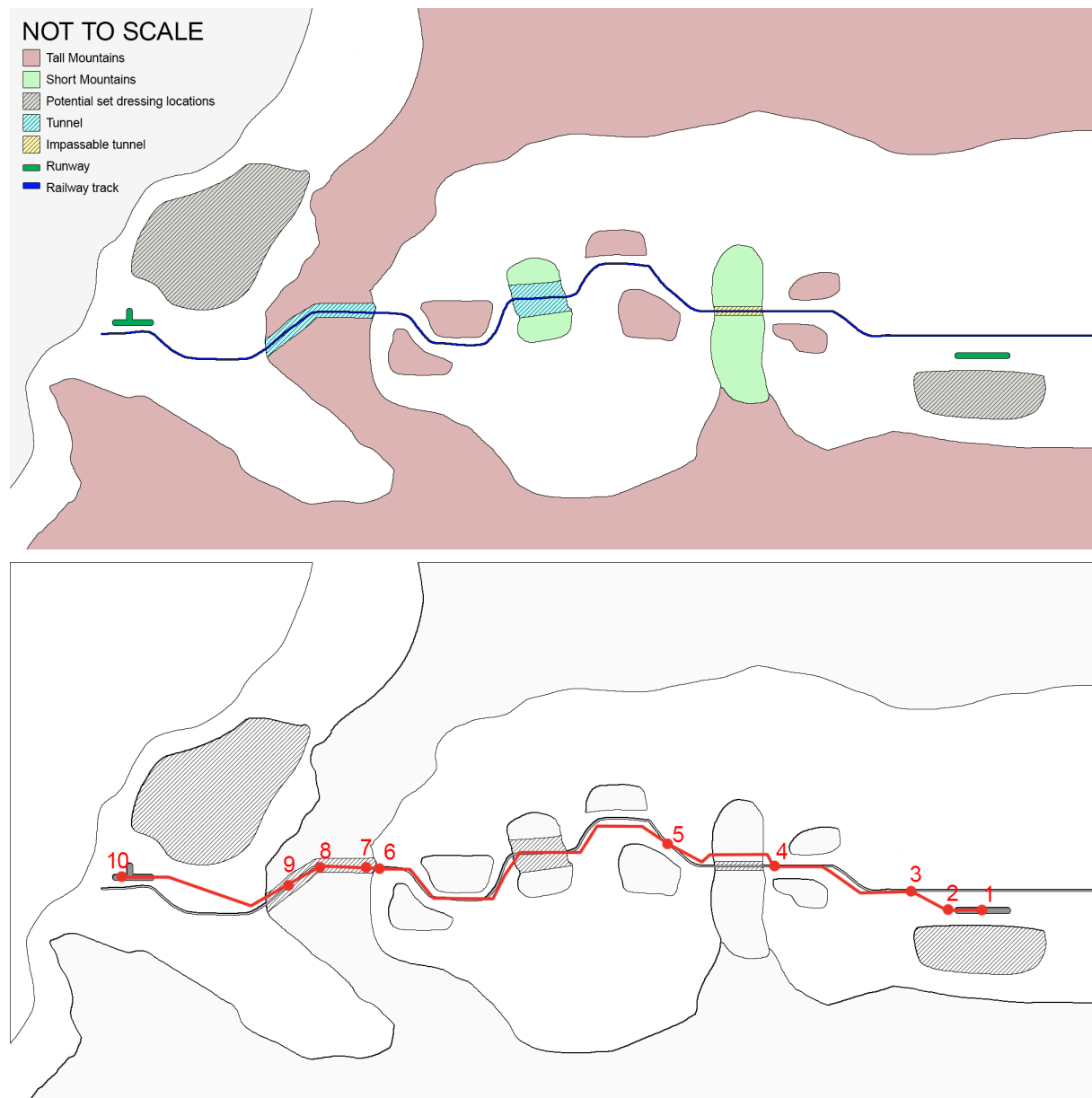
High-Level Plan

- This is a tense level off the bat. We have a fuel leak, a temporary fix, with the *actual* solution being the end of the level where we can get repairs. We want the player to feel unsafe until their wheels hit that final runway.
- Make sure that tension is retained even if the player stays close to the train the entire time. This could be done through things like dodging the landscape near the train track or forcing the player to detach.
- Checkpoints can be used as distractions for the player, encouraging them to detach away from their safe zone for extra points. However, their key use as a form of wayfinding needs to be retained.
- The map will be a paper map, inspired by old navigation/aviation maps, showing top-down terrain, checkpoints, and plane location.
 - Aesthetic reference [\(x\)](#) [\(x\)](#)



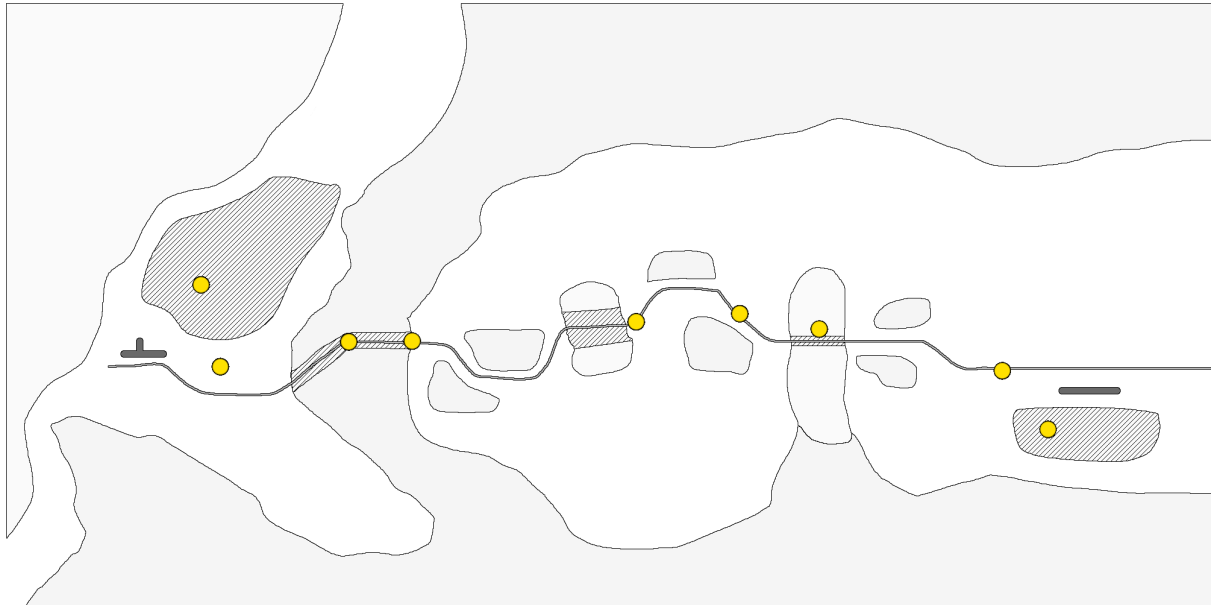
- Checkpoints will be shown with marks on the map, and struck off once flown through.
- The plane's location will be shown with a drawn line, showing the full flight path.

Level Map and Beats



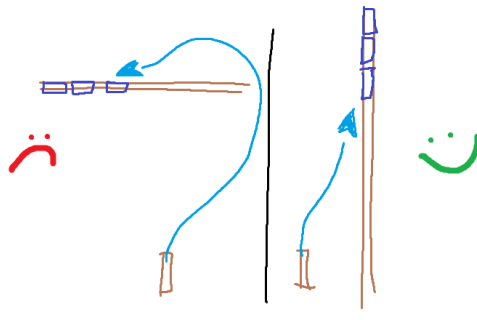
0. Mission briefing.
1. Starting runway; the player's fuel tank is already leaking.
2. Shortly after the player takes off, the train leaves the station.
3. The player must dock with the train before they run out of fuel.
4. The train enters a tunnel, which is too small for both the train and player to fit. The player must detach and go over the hill instead.
5. Having a significant amount of fuel drained, the player needs to re-dock with the train while navigating through tight mesas and uneven rock structures.
6. The train enters a second tunnel, which is large enough for both the train and player. The mountain face is too tall to climb over without stalling.
7. The tunnel starts to collapse, with rocks falling from the ceiling.
8. A rock falls onto the track. The train comes to an emergency stop, and can no longer continue.

9. The tunnel continues to collapse, and the player must continue the level without the train.
10. Final runway; the player lands at the airport and finishes the level.



Design Notes

- The start has been reworked to no longer make the plane perpendicular to the train as it takes off, making a nicer introduction to the level



- Difficulty is escalating as the level progresses. We start with a simple train docking with no obstacles, to minor terrain obstacles, major terrain obstacles, finishing with tight manoeuvres in a small space
- Next to nothing happened in the tunnels in the original level, making them fairly boring to navigate. The idea here is to have the first one be an obstacle in itself, and the second the climax of the level
- 5 -> 6 needs attention. Unsure if manoeuvring between more complex terrain is enough before the climax in the tunnel, if something else needs to happen here, if this section needs to be shorter, etc. etc.
- Terrain drawn here is key to the level. Other mesas/rocks/whatever desert fun can be scattered as art pleases
 - Mesas between 5 -> 6 will need iteration in seeing where the best places to put obstructions are, if it needs to be harder or easier, you get the drill.
- Checkpoints need to be tested carefully.

- I'm particularly weary of the one at the ending village because tension might be lost going for it instead of gunning for the airstrip.
 - Or, it ends up being very tense because of the risk. Can't tell until we play it.
- Checkpoint above the tunnel at beat 4 is critical, as this is telling the player that they need to go over.