Level Design in a Day: The Worlds of Sunset Overdrive

(Presented at GDC 2015 / 25 minutes. These are my notes but not exact and only a guideline. These notes are also incomplete, so please follow with the slides).

Hello everyone, I am Liz England. I am a designer at Insomniac Games and this talk is titled "The Worlds of Sunset Overdrive" because I'm going to talk to you about how our city found its identity.

When we finished Sunset Overdrive, we shipped Sunset City, which is the colorful world with skyscrapers and that modern-day platforming playground that you are probably familiar with if you played the game. But it was just the final iteration of a long series of trial and error FOR US in open world city-building. Before we ever made Sunset City, we had two previous cities – Greenlight and Razor City. Greenlight was our initial prototype, while Razor City was supposed to be our final city but ultimately we threw it out to start anew.

Today I am going to show you what happened with those cities and why we decided to throw two of them out.

As a brief overview, Sunset Overdrive is an open world action game that focuses on the player's traversal abilities - wall-running, bouncing, grinds, poleswings, water dash, air dash, slam bounce, handsprings and so on. The gameplay is all about momentum and movement.

But let's rewind the clock a bit. I need you to forget all of that. Because when we started working on Sunset, this traversal system just <u>Did. Not. Exist.</u> And as you can imagine that had a huge impact on our level design.

Second: don't forget that despite a focus on cheery, colorful, irreverent attitude Sunset is still a post-apocalyptic game with zombies. And if you looked at other games with zombies – Dead Rising, Dead Island, State of Decay, and so on – there's some consistent themes. You scavenge for supplies, craft equipment to help you survive, and defend your base from the horde.

These were our initial design pillars, and the geometry we built was created to serve it.

This brings us to our first open world: Greenlight

This was our open world prototype – and I mean that literally, as we'd never made an open world game before. The reason I am going to cover Greenlight is that there's a lot of design ideas that continued to make it's way into our level design, even when our game changed drastically.

Greenlight was a short, squat city environment that players mostly encountered from street level. Notice, how there are no paths leading the player UP through the world here. Roads were actually safe areas that acted more like conduits that connected gameplay spaces, while enemies spent their time lurking in interiors with, obviously, loot. These interiors were prefabbed so they could be copy and pasted throughout the city with randomized loot and enemy encounters built into them. Interiors actually played a huge role in the game, with giant mission interior spaces for the player to explore since we had defined interiors as places for enemies to gather in.

So, as I mentioned before, you have to forget what you might know about traversal - that agile, bouncing, leaping, grinding movement in the final game did not exist at all at this point But we DID have a traversal system. It was basically stolen (inherited) from another game we were working on. The player could walk, run and strafe while in combat, and traversal abilities were limited to crouch, jump, vault, ledge-shimmy, and climb.

These abilities were slow and deliberate - definitely much slower than what people associate with Sunset. Mobility and movement was part of the gameplay, but speed and flow weren't. That meant the player was encouraged to stop, explore the nooks and crannies of the world, scavenge for loot, and so on.

Speaking of combat – at this point in time the player could NOT traverse and fight at the same time. Spaces were clearly separated into traversal spaces or combat spaces. At most, players might use their traversal skills to get them into a better position to fight from, but that's about it. Instead, our traversal abilities were highlighted with a kind of puzzle-platforming that took advantage of those shimmying and climbing moves with a focus, again, on exploration and discovery.

Since traversal had such an impact on our level design, I just want to show you what one of these traversal puzzles in Greenlight looked like. One of our missions was the Storage Facility, which took place in a huge instanced interior - think along the lines of the dungeons or interiors of Skyrim or Fallout 3.

This facility also had a few traversal puzzles, when I say "puzzle" I mean that really loosely - our puzzles were really just about observing the space and using obvious traversal cues to navigate it. They weren't all extremely linear – some had a more playground feel that let the player explore as a slow, open world platformer, but NOT an agile one. This wasn't a Ratchet and Clank style of platforming.

So clearly, this is almost the complete opposite of the game we ended up with. So, how did we get from this slow exploration and puzzle-like traversal to the bouncing, grinding, momentum-based gameplay later? We hosted an internal game jam!

Now, a lot of really cool stuff came out of the game jam but I am only going to go over the one that really pertains to us: new traversal moves (and a greater overall emphasis on traversal).

We had a problem. We didn't really do much in the open world. All the exciting stuff happened in interior mission spaces, or at your base. Most of the time in the open world, you were just walking around. We tried some traversal puzzles but that was a band-aid. Traversal 2.0 began with an early prototype involving skateboards, ramps, and trampolines. The result? Everyone loved it. Suddenly, the city was no longer boring to run across: it was FUN and full of ACTION. We kept our original moves like climbing and shimmying, but also expanded that moveset with wall-running, bouncing, and grinding. But we didn't actually stop there! We tried a lot of different traversal moves at this point – even jetpacks entered the game very briefly.

But the reality was that while the whole team got behind the traversal moves and emphasis on speed, we also had to sit down and define our traversal metrics and how level design would interface with it. Traversal went from a mechanic for exploration, to a core design principle that informed most of the level design. Players no longer just walked around the streets: they used everything to move around the city. Suddenly walls, corners, fences, rooftops, balconies – all became part of the critical path in our city.

This changed the way we built the world on a massive level.

Greenlight was our first world and as we started to get a cohesive sense of what Sunset Overdrive was, we finally scrapped it

So, why change?
- Well, Greenlight was always just a prototype – it was the demo we made in order to get Greenlit by our publisher, and a learning experience for us
- We left preproduction and entered production!
- Finally had a tech update that allowed us to make streaming, open world games – which was a huge headache because our engine was originally built for linear games.
- We finally knew (or thought we knew) what our game was. We were ready to make it.

All these seemed reasonable, so scrapping the city shouldn't be a surprise.

After Greenlight came Razor City. This was our production city. This is the city we THOUGHT we were going to ship with.

It was large and sprawling, with tall buildings and layered geometry that encouraged players to climb high and move quickly through spaces vertically like a free-running jungle gym.

We also encourage horizontal movement with long grindrails or wires that crisscrossed environments, or connected players like ramps up and down the layered geometry. The level design in the open world encouraged free movement in every direction and took advantage of our traversal system.

It was all starting to look a LOT like our final game, but Razor City didn't survive the chopping block. So let's go over why.

We still had interior spaces dotted throughout the world. This broke momentum - Our traversal system meant players moved too quickly and erratically – bouncing, grinding, wall-running, jumping, vaulting – to make these small interiors feel good. They felt claustrophobic in ways that the slower moving earlier prototype didn't. Players would overshoot their destinations, run into walls or geometry, and not have enough room to actually move around in. Interiors – once common and planned throughout the city - were de-emphasized and used sparingly, BUT! we still had interior mission spaces – so let's talk about those for a minute.

One of our early missions was the Hot Dog Factory, a giant landmark building in the open world. Like in Greenlight, this was an instanced interior environment. It was designed as a really linear space: player would enter a room, fight, exit, traverse, enter a new combat arena, fight, traverse again, and so on.

While the other, smaller exploratory interiors had problems with compact, claustrophobic, frustrating spaces, since the mission interiors existed as a separate instance and didn't have to fit within "real space", designers had a lot more freedom. Spaces were large enough to accommodate traversal skills and the player's speed. At this point in development, the player still could not shoot AND traverse at the same time, but combat designers were still trying to take advantage of your speed and agility, so loops like the one in this room were mostly about getting the player quickly out of the reach of the mutant horde and into different defensive points around the room. This created a stop-and-go and stop-and-go feel to combat.

We also still had traversal puzzles in our missions. In the Hot Dog Factory, these consisted of long traversal segments that let the player jump between grindrails to dodge your typical hot-dog related hazards. This was a lot more like Ratchet and Clank style of grindrails: linear, focused, one-direction, and puzzle-like.

The focus on mission spaces as instances caused major problem. Obviously, we needed to scale back on scope. But we had a TARDIS effect, where the inside was bigger than the outside. For the Hot Dog Factory, with this giant industrial building on the edge of the map, it wasn't too noticeable. But if you look at another mission space – the Radio Station. The interior was about the same size as the Hot Dog Factory we just looked at but… the exterior was tiny, and it was in the middle of the city! You could actually fit several copies of the Radio Station building INSIDE the Radio Station. Logic just broke down totally.

This mismatch was because the level design needs of the open world – free flow, multi-use spaces - were different than the level design needs of our interior mission spaces – linear, combat-focused progression. By the time we were ready to scrap Razor City, we decided to cut interiors completely.

That covers mission spaces in interiors, but many of our mission spaces were designed to exist in the open world. I'm going to use our BBQ mission as an example here: most of the gameplay took place in exterior environments in the open world.

But… instead of fully integrating our missions into the city, they either existed as separate, sprawling interior instances divorced from the world around it, or they created dead spaces in the city that players could not explore at will because traversing through them and reaching the landmark – in this case a rooftop encampment - was supposed to be a specific challenge for that mission. Even the walls became unusable dead space to prevent players from exploiting wall-run to get inside of it. This interrupted the player's flow during open world traversal, loot collecting, minigames, and in multiplayer missions, which shared the same spaces.

Also, the idea of linear puzzle-like traversal elements - now more action-packed but also more difficult to master - still intruded into the open world design. The player unlocked the first gate, and then began to traversal to the roof of the building in a series of platforming movements – jumps, vaults, bounces, pole swings, and careful timing – that used our new traversal moves. This severely limited the way the space could be designed to prevent players from exploiting stronger moves (like superbounce or infinite wall-run) to skip puzzle segments. We overreacted a few times by actually nerfing traversal moves in favor of level design, but eventually backpedalled, restored traversal to its freeform state, and simple said: we cannot have traversal puzzles and locked 'dead spaces' in the open world. Missions would have to be TRULY integrated into the open world design.

[These talk notes end here and are incomplete – refer to the slides for the wrap-up]