# Architecture as teambuilding in Left 4 Dead 2

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In the fifteen years since my younger brother, David, and I first booted up *Wolfenstein 3D* on the family 486, we've become bona-fide first-person shooter experts. This isn't to say that we're FPS players exclusively—I keep a copy of *Fallout 2* installed on my laptop, and David is perpetually on the lookout for a game "that's as good as *Age of Empires*." As a general rule, though, we spend most of our screen time peering over the barrel of a virtual gun. Of course, half the fun of two siblings wielding a portable arsenal is the opportunity to discharge it alongside each other. Over the past decade we've honed our ability to lay down covering fire, set up ambushes, and act like rampaging buddy cops across battlefields ranging from bombed-out European villages to floating space castles. Of course, wanton destruction is always more fun with a friend, but for us, it's also quality family time.

And that's what makes Valve Software's *Left 4 Dead 2* our current game of choice. In *Left 4 Dead 2* Valve has crafted an experience where constant communication is essential for success—the ability to convey information to one's teammates trumps being a crack shot or a brilliant strategist. Through a deft combination of mechanics and level design, Valve created a game that encourages teamwork at literally every turn. Even though my brother and I have grown up playing first-person shooters together, the intense level of coordination required by *Left 4 Dead 2* presents a unique challenge that is both more difficult and satisfying than any game we've previously played.

The narrative of *Left 4 Dead 2* is pure fluff – the zombie apocalypse has landed, and the few people who haven't been

infected by the "green flu" virus are doing everything they can to escape the drooling hordes.   You play as one of these survivors and, along with three companions (the titular "4"), are tasked with fighting your way through post-outbreak cities, swamps, and the odd amusement park in an effort to find someplace where the zombies can't eat you.   Sure, it's derivative, and a sequel, no less, but that's what makes it work so well.   By evoking such familiar archetypes and scenarios, the game allows the players to confidently step into its fiction and understand their objectives. Unlike other horror games, there is no vast conspiracy to uncover, no deep-rooted psychological trauma to confront, no complicated social metaphor to deconstruct; the narrative of *Left 4 Dead 2* is simple enough to be immediately understood by anyone who's had the slightest brush with contemporary pop culture.   The *Left for Dead* apocalypse is accessible, but that doesn't mean it's going to be easy.

Indeed, a single-player round of *Left 4 Dead 2* seems like a throwback to an earlier era.   Playing the game with three computer-controlled companions against a horde of computer-controlled opponents is as simple and straightforward as a first-person shooter can be.   Following the trend of contemporary single-player design, the levels of *Left 4 Dead 2* are puzzle-free processions from the starting areas to the endpoints (which, in a trope not seen since the days of *Doom*, are actually marked with a bright red "exit" door).   Dead teammates can be resurrected later in the level after being discovered in survivor closets, and even the appearance of the game's "special infected" (monster classes with attacks ranging from the ability to pin a survivor to the ground to the capacity to spit massive quantities of highly-corrosive acid) are little match against the perfect aim of an AI bot.

And unlike humans, bots don't panic.

Bots don't start yelling that they've been blinded by Boomer bile and start unloading an automatic shotgun into the horde of zombies swarming them, despite the cries of pain and protest

from their nearby teammates. Bots don't get cocky and stay back to snipe a Smoker from a building ledge, only to find themselves dangling over the side after a surprise attack. Bots don't hold grudges when you save the last healthkit for yourself instead of using it on them.

On the other hand, bots can't listen.

Bots can't run up to a doorway and cut aside at the last second, hoping to bait an infected ambush. Bots can't patiently negotiate narrow catwalks, taking evasive action at the first sign of trouble. Bots can't kite around a Tank, using lamp posts for cover, or understand the most environmentally strategic location to create a wall of fire with a Molotov cocktail.

And most importantly, bots don't have ideas.

This is the fundamental difference between the single-player mode of *Left 4 Dead 2* and it's competitive, multiplayer counterpart, known as "Versus Mode." By replacing the AI teammates with four human players, and giving control of the super-powered "special infected" to an opposing team of four, *Left 4 Dead 2* transforms into a game that is as competitive as it is cooperative. In Versus, each team plays the map twice, once as survivors, and once as infected. Points are only awarded to the team playing as survivors; these points are based on the amount of distance each player travels. In order for a team to achieve the maximum score, each player must make it all the way to the finish line. The objective of the infected team is stopping the survivors as early as possible.

This asymmetrical gameplay—of the survivors attempting to travel across the map, and the infected attempting to stop them—is filled with enough nuances to fill thousands of divisive Steam Forum posts. Much of the game is randomized, created at the whim of a game-dictating artificial intelligence dubbed "The Director." Available weapons and health, placement of said weapons and health, types of special infected and the timing of hordes are decided anew with each round, making pre-planned

strategies impossible due to the infinite amount of permutations available. Only the environment itself—with its long hallways, open fields, narrow doorways, and high rooftops--remains unchanged. As the only constant in a game full of randomly-generated variables, a profound understanding of the environment is required for successful gameplay.

Earlier, I asserted that successful *Left 4 Dead 2* play hinged on the ability of a team to communicate effectively, and that teamwork was "literally" encouraged by every turn of the game. In terms of level design, this is a basic tenet: infected players can't spawn anywhere that can be seen by survivors, and, as a result, the visual obstructions of the environmental architecture (corners, rooftop edges) play a critical role in structuring the flow of the game. Abstractly speaking, the easiest map for the survivor team to win would be a wide open space with no visual obstructions at all, effectively denying the infected team any location to spawn from. Therefore, every piece of architecture, every twist in the map, represents an opportunity for the infected and an obstacle for the survivors. For both teams, however, a game of *Left 4 Dead 2* is about effectively coordinating with each team member to capitalize on the environment, and conversely, understanding how the environment itself enables the detailed level of communication that the game requires.

Essentially, the architecture of *Left 4 Dead 2's* level design facilitates teamwork and communication among players in a way that few other games do. The notion of employing architectural structures to encourage cooperation isn't a new one. For decades, ropes courses have been used as a means of "trust building" for everyone from high school students to company executives. In many ways, the collaborative mentality and open communication required to successfully navigate the post-apocalyptic world of *Left 4 Dead 2* is similar to that of a group of individuals assigned to traverse a ten-foot wall, or pass themselves through an elaborate rope spider web. But what specific environmental qualities encourage collaboration? What

makes the layout of *Left 4 Dead's* playspaces "more collaborative" than other first-person shooters?

Fundamentally, the rules of *Left 4 Dead 2* require teamwork to earn points. Unlike team deathmatch games, where a single player can effectively lead a team to victory with a series of killstreaks, in *Left 4 Dead 2*, each player carries an equal quarter of the team's score. The one player who dashes ahead across the map, abandoning his teammates and shooting everything in his path, is not a hero, but a liability. This gameplay mechanic is transformed into architecture by structuring the maps not as arenas, but as tracks, to use Michael Nitsche's terminology. In nearly every first-person shooter, multiplayer is an arena-based affair, with players competing against each other in a space that is defined primarily by its external perimeter, which provides "a canvas for performance."

The boundaries of an arena mark the edge of the playing area and everything inside is a free-for-all. To play a game in an arena is the equivalent of performing on a stage, an opportunity to show off individual prowess. Even in team-based arena games, such as *Counterstrike* or *TeamFortress 2*, the map is designed to maximize individual player choice, and de-emphasize the importance of team cohesion. For example, a typical team arena map includes two bases for each team, a common objective (be it a bomb about to explode, or a flag that needs to be defended) in the central area, and a wide smattering of opportunistic architecture throughout, ranging from sniper perches to underground passageways.

The intention of arena architecture is to improve the flow of the game by preventing any single path to the objective from becoming dominant. Rather than being able to focus on a single, optimal route, each team must divide their forces across a variety of gateways. This inability to fully anticipate where the next attack will come from contributes to the game's challenge level, keeping the play interesting. The order that a player experiences the map structure is completely up to them; do they

start in the sniper tower, and then run across the exposed battlefield, or attempt to take cover in the nearby warehouse? Do they crouch in the stairwell, and then ascend to the roof, or flank through the alley?   These are the choices that drive arena-based shooters: split-second individual decisions that make or break a kill/death ratio.   In these games, team coordination is kept to a minimum, because pausing for consensus or discussion is more a liability than an asset in a game where death and respawns are cheap.

In contrast to the extreme spatial liberties afforded by arena-based play, the construction of *Left 4 Dead's* track-based maps "affect the range of available choices, and restrict interactive access to a shadow of its potential."   If an arena uses its boundaries to mark the limits of the playing area, a track's boundaries are the playing area.   The worlds of *Left 4 Dead* are built as linear paths, expressly funneling the players from Point A to Point B with minimal ambiguity.   In this way, the game's rules and player objectives are expressly established by the environment itself.   The players want to reach the finish line, and the environment is set up to direct them there.   Whereas arena levels attempt to maximize the number of possible paths, tracks work to pare possibilities down and giving players a shared sense of direction by universally establishing "forward" versus "backward."

Unlike the playground-esque construction of the arena, with its myriad of environmental possibilities, players in *Left 4 Dead 2* are seldom confronted with more than a single fork in their paths. This reduction of player choice serves to encourage player cooperation by making decision points obvious.   Left or right? Inside or outside?   Upstairs or downstairs?   These choices are significant. Electing to go into a room to search for health could give the opposing team the time they need to coordinate an extra attack while rushing ahead may allow a team to gain distance at the expense of being healed for the next encounter.   The level design of *Left 4 Dead 2* not only limits the number of choices that players may make, but also makes those choices readily

apparent. This provides clear moments for discussion, and a better environment for coordination than the open-world arenas of other multiplayer shooters.

Even more crucial to cooperation than the environments is the way that players move through them. More than any other action game, *Left 4 Dead 2* creates a sense of rhythm through its spaces, a form of inherent coordination. Technically speaking, rhythm is movement regulated across time, and while static architecture itself has no time element, it plays a crucial role in regulating the movements of the players and the time it takes them to reach the saferoom. In the case of *Left 4 Dead* 2, architecture combines with infected respawn waves to set the pace of the game. After an infected player dies, they must wait roughly 20-seconds before they can spawn again. Taking advantage of these twenty-second windows is crucial for the players, as they represent pockets of time when they can move across the map without being attacked.

In David's words, "the key is to bait attacks in the easy areas, and then push through the hard areas." It's a sensible strategy, and one that gives high-level matches of *Left 4 Dead 2* the feel of a blood-drenched ballet. Players collaboratively dance around in open areas, attempting to lure the infected into attacking them in these easy to defend spaces, and then push through the hard areas, such as the previously mentioned three-story high catwalks or narrow, cramped hallways. By matching the countdown of the infected respawn timers against the architectural challenges of the environment, it's impossible to anticipate exactly when an opening will occur, but when it does, the entire team must be prepared to push forward, encouraging a kind of dynamic collaboration that's seldom seen outside of competitive sports. While other games may require players to have awareness of their teammates, *Left 4 Dead 2* pushes for synchronization.

The necessity of being able to move together not only requires open and constant communication, but the ability to succinctly

articulate a path through the game environment. As previously mentioned, the world of *Left 4 Dead 2* is our own, left to rot in the aftermath of a global zombie attack. As the players make their way through the level, they pass abandoned cars and mobile homes, fast-food joints and cheap motels. In addition to embodying the game's narrative, however, these aesthetic choices serve as visual waypoints for players, providing easily understood spatial references. For example, one player might instruct another to "go block spawns behind that van." Because Valve's artists have worked to ensure that the in-game 3D-model is recognizable as a van, the second player is able to not only understand what object the first is referring to ("van"), but where to stand in relation to it ("behind").

What the visual design of *Left 4 Dead 2* provides is a common vocabulary for all the players to draw from, facilitating the effective communication that enables efficient navigation. By setting the game in a world that emulates everyday reality, Valve ensures that even the most novice players will be able to orient themselves on the fly. By contrast, if the gameplay of *Left 4 Dead 2* were to be transported into, say, the fantastic world of *Bioshock*, with its diesel-powered bathyspheres and similarly fantastic steampunk technology, the unfamiliar trappings of the world would make it much more difficult for players to articulate directions to each other. After all, who can easily recognize the front end of a diesel-powered bathysphere?

By creating maps that 1) clearly signal objectives and direction to players, 2) encourage players to take synchronized movements, and 3) allow players to easily articulate their spatial position and direction to others, the design of *Left 4 Dead 2's* environments facilitates gameplay that is not simply multiplayer, but genuinely cooperative. While other games may have rules that encourage cooperative behavior among players, no other game is able to transform those concepts into architectural structures as thoughtfully as Valve has. In doing so, they've created a world that demands to be explored with a group of friends, or at the very least, a relatively talkative sibling.

## REFERENCES

Nitsche, M. (2008). *Video Game Spaces*. Caimbridge MA: MIT Press.

Walz, S. (2010). *Ludic Architecture*. Web: ETC Press.