



Half Life 2 Episode 2: Trapped

Version 1.0

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Level Design Document

Level Information

Quick Summary

"Trapped" is a singleplayer first-person shooter level created for the *Half Life 2: Episode 2* engine. The level takes place in the Half Life 2 universe, with the player assuming the role of a soldier in the battle-scarred ruins of City 17, tasked with escorting a caravan of medical supplies out of the city. The level emphasizes city combat, utilizing a combination of NPC AIs and scripted scenarios to give the player the sense that they are participating in an exhilarating firefight during a large-scale conflict.

Level Map(s)

Map of City Exterior

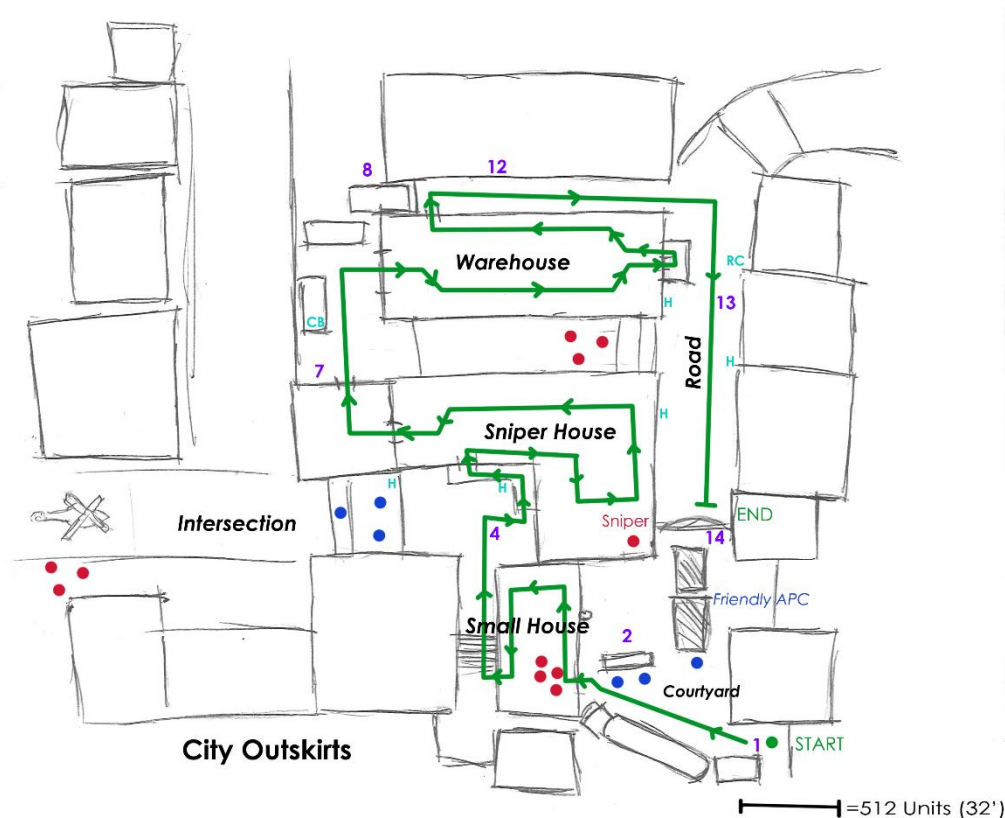


Figure 1: Exterior map layout

The image displays three hand-drawn floor plans, each representing a different environment with a green path and various weapons.

- Small Room:** A rectangular room with a green path that starts at the bottom left, goes up, right, and then down. A blue circle with the number **3** is located in the center. Two red dots labeled **SMG** are positioned near the top and bottom left corners.
- Sniper House:** A more complex, irregular room layout. The green path starts at the bottom left, goes up, right, and then down. A blue circle with the number **5** is located in the center. A blue circle with the number **6** is located near the top left. Weapons marked with red dots include **SMG**, **Shotgun**, and **Sniper**. A scale bar at the bottom right indicates **=512 Units (32')**.
- Warehouse:** A large, rectangular room with a green path that starts at the bottom left, goes up, right, and then down. A blue circle with the number **9** is located near the bottom left. A blue circle with the number **10** is located in the center. A blue circle with the number **11** is located near the top right. Weapons marked with red dots include **Shotgun** and **SMG**.

Figure 2: Interior room layouts

Map Legend

Legend

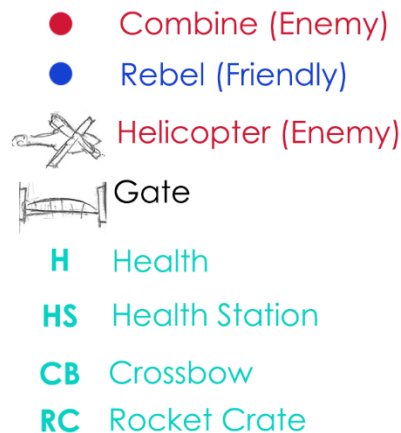


Figure 3: Map Legend

Note: Player obtains all weapons and ammo from fallen Combine and NPC units.

Map Label	Event Description	Key Info (e.g. Challenges, Actions)	Approx. Difficulty (1-10)	Approx. Time	Wow?
1	Intro to APC, friendly squad, and enemy sniper	Player starts in a courtyard along with 4 other rebels (all medics) trying to transport supplies out of City 17 in a captured APC. Player starts with crowbar. Two obstacles immediately stand out: A closed gate prevents the APC from continuing along the road, and a Combine sniper in a second-story window has pinned the rebel squad to the courtyard. As soon as the player enters the courtyard, a rebel peeks from his cover and gets sniped. The rebel leader gives the player their objective: "Find a way to take out that sniper!"	2	:10	Yes
2	Combine door breach!	A door to the west of the player's starting location begins beeping, indicating a Combine door breach. Door explodes. Four Combine soldiers enter the courtyard. Player and rebels take them out. Player can pick up SMG	3	:20	No

		and ammo from the Combine corpses. Player enters the Small House (see Small House section of Fig 2).			
3	Small House combat	In Small House, Player encounters two Combine soldiers carrying SMGs. Player takes them out. This sections acclimates the player to their newfound SMG weapon. Debris blocks the direct route to the exit, forcing the player to engage the two Combine soldiers around corners (prefacing the indoor room-by-room combat scenarios of the Sniper House).	2	:15	No
4	Helicopter massacres ill-equipped Resistance soldiers on street while player watches	Player exits Small House and walks up a set of shallow stairs to a smaller courtyard. To the West of the player, a scripted sequence plays out beyond an unscalable fence: Three rebels (1 on bridge, 2 behind barricade) engage a Combine helicopter. The helicopter takes out the three rebels with explosions and flies off. The force of the explosion flings a health pack to the player, which they may take if they want to. The player enters the Sniper House via an elevated walkway (see Sniper House section of Fig 2).	1	:15	Yes
5	Player takes out sniper, followed by short conversation between Resistance squad leader and player informing the player that they need to open gate (controls located in warehouse)	As the player enters the Sniper House, they discover that the Combine forces are expecting them, having barricaded themselves behind overturned tables and taking cover behind kitchen counters. To the player's immediate left sits a locked door, which the player will get to later. The player takes out two Combine soldiers in the kitchen and moves on to the next room. The player takes out the two Combine soldiers in this room and engages with the pesky sniper (a normal Combine soldier model who wields a shotgun). After the sniper has been dealt with, the rebels in the main courtyard emerge from their hiding places and communicate with the player through the window. They	4	:45	No

		explain that their mission is to deliver supplies to refugee camps outside the city. They want the player to go support another squad of rebels (Rogue Squad) who are currently assaulting a nearby warehouse in order to open the gate. New player objective: "Unlock the gate via the warehouse control room!"			
6	Ambush! Kitchen door breach	As player cycles back through the rooms, the locked door in the kitchen begins to beep. Another Combine door breach! Four Combine soldiers (carrying combination of SMGs and shotguns) pour into the kitchen. Player takes them out and enters through the newly unlocked door (kitchen counter and the barricades in the next room over provide the best cover against the door breach ambush).	4	:20	Yes
7	Warehouse exterior/Crossbow introduction	Player finds themselves outside the warehouse. A crossbow sits on an elevated platform. Three Combine soldiers charge down the alley towards the player, firing at the player. The player takes them out.	4	:25	No
8	Warehouse entry	As the player approaches the warehouse, an explosion sends a Resistance member flying out of the warehouse entrance. The player enters the warehouse through this entrance.	1	:10	No
9	Warehouse battle	Player enters warehouse just in time to see the rest of Rogue Squad wiped out by Combine bullets. To the immediate left, a Combine emerges out from behind a forklift with a shotgun. The player takes him out. The rest of the Combine forces in the warehouse (6 in total, with a combination of SMGs and shotguns) attack the player. The player wipes them all out in whatever way they choose to do so (this section rewards	6	1:30	No

		patience and transitioning between covers).			
10	Warehouse platform puzzle	After dispatching the Combine, the player now must solve a simple environmental puzzle. The player solves this puzzle by jumping onto some boxes/barrels at the south end of the warehouse, climbing up onto some higher boxes, traversing a wooden plank, jumping onto a raised catwalk, running along the tops of more boxes and clearing a gap to reach the far east catwalk. (Alternative design option: Using the forklift to lift a box into view that the player can jump on later)	4	1:00	No
11	Player tries to activate the gate from the warehouse control room, but discovers it's a trap	The player enters the warehouse control room. A single Combine soldier with a shotgun awaits. After taking him out, the player activates the controls. However, the gate fails to open. The rebels shout out to the player: "It's a trap! Get out of there!"	2	:30	No
12	Ambush! Combine rappel into warehouse. Player escapes, and fights the helicopter on the road	Soon after, the glass panels on the roof of the warehouse break. Ambush!! Combine soldiers carrying shotguns and AR2s rappel down into the warehouse and engage the player in furious combat. A Combine soldier near the warehouse entrance drops a rocket launcher upon death. After defeating the ambush, the player exits the warehouse through the newly-opened north exit and discovers the helicopter hovering at the opposite end of the street (above the gate). The helicopter rushes towards the player, blowing up cars in the way. The player fights the helicopter in the long street (a nearby rocket crate helps the player replenish rockets) and defeats the helicopter by hitting it 3 times with rockets and taking cover behind the obstacles on the street.	8	5:00	Yes
13	Destroyed helicopter crashes into gate	The defeated helicopter spirals out of control and crashes into the gate,	2	:20	Yes

		opening up a direct route to the rebel convoy.			
14	Player heads back to the APC	The player heads back to the courtyard, where they are greeted by the surviving members of the Resistance. The screen fades out, level ends, "Thanks for Playing!".	2	:10	No

Objective(s)

- Escort the APC out of the city
 - Find the controls to the gate blocking the road
 - Kill the sniper guarding the gate
 - Reach the gate control room in the warehouse
 - Eliminate the helicopter harassing the convoy

Hook(s)/Gameplay Highlights

- Constant pressure from Combine helicopter with scripted cinematic sequences
- Enemy sniper action
- Scripted battles between AI NPCs
- Intense close quarters firefights in dense urban environment
- Door breaches and ambushes!

Mechanics

“Trapped” emulates intense street skirmishes, and as such retains its core mechanics from the base *Half Life 2* engine. These mechanics include first-person movement, shooting, jumping, sprinting and interacting with doors/buttons.

Campaign

Context

“Trapped” takes place in the *Half Life 2* timeline during the events of The Uprising, a full-scale conflict waged between the human Resistance and Combine forces triggered by the return of Gordon Freeman. As a standalone level, it takes place alongside the main storyline of *Half Life 2: Episode 1*, particularly the “Exit 17” level where Freeman escorts citizens out of the city.

Backstory

Thanks to the reappearance of Gordon Freeman, the underground network known as the Resistance have begun to push back at their Combine oppressors with surprising tactical might in a globally significant event known as the Uprising. Their struggles pour into the streets of City 17, necessitating the need to move supplies and evacuate citizens caught in the crossfire. A squad of Resistance members has recently been tasked with the unenviable task of transporting medical supplies out of the city. The squad led by Corporal Ohtani proceeds with the mission, but quickly fall victim to a trap set by Combine forces bent on disrupting the relief operation.

Aftermath

With help from a fellow Resistance soldier, the medical convoy is able to free themselves from the trap laid by the Combine and resume their journey that takes them away from City 17. The unnamed soldier, however, returns to the fight- set on helping his brothers and sisters destroy the Citadel and free humanity from Combine rule.

Development Schedule

Milestone	Date
LDD	02/01/2017
Whitebox	02/08/2017
Gameplay	02/15/2017
Aesthetics	02/22/2017
RTM	03/01/2017

Key Theme References

City Outskirts/City Atmosphere

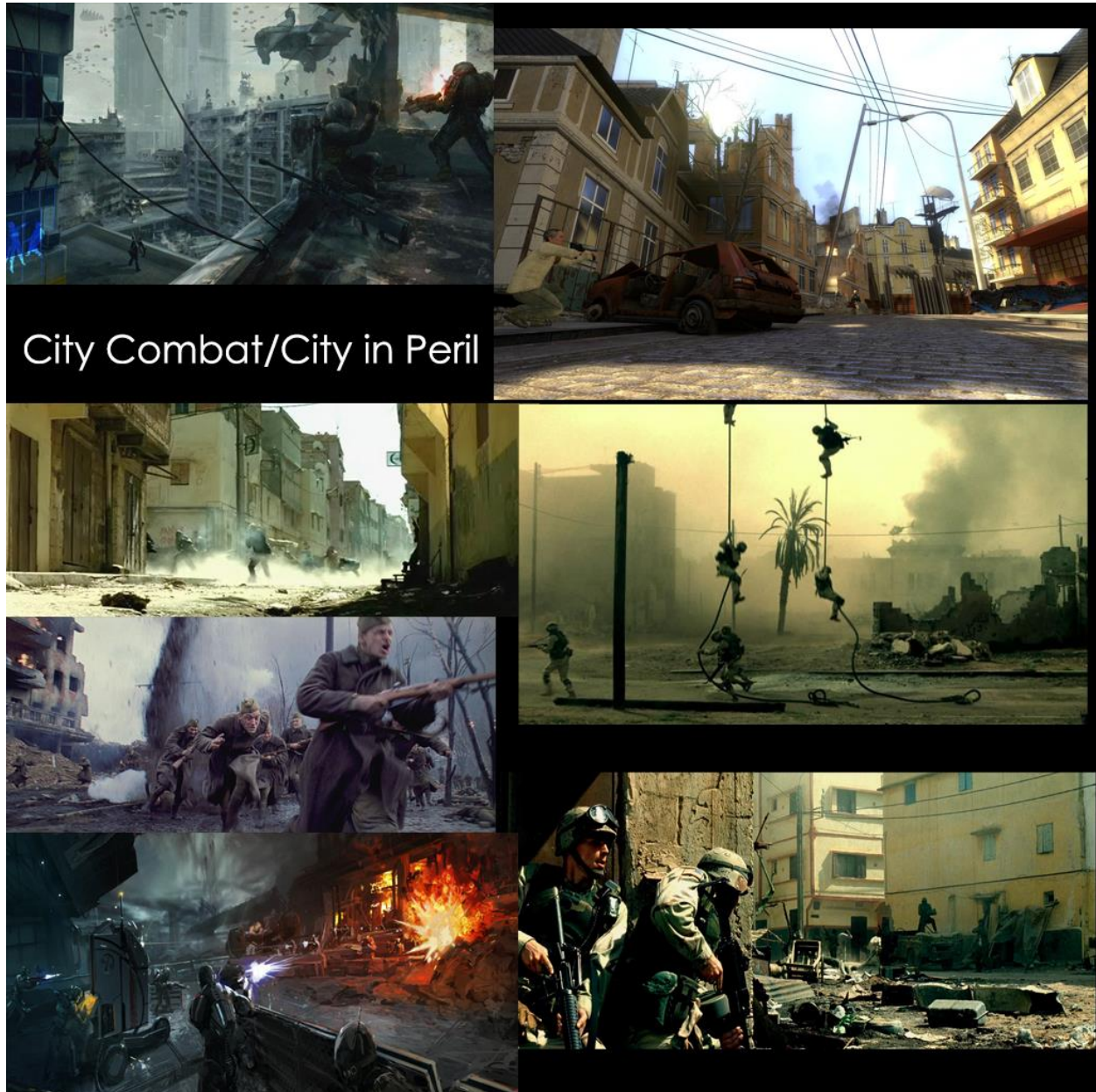


Figure 4: Contact Sheet for City Atmosphere

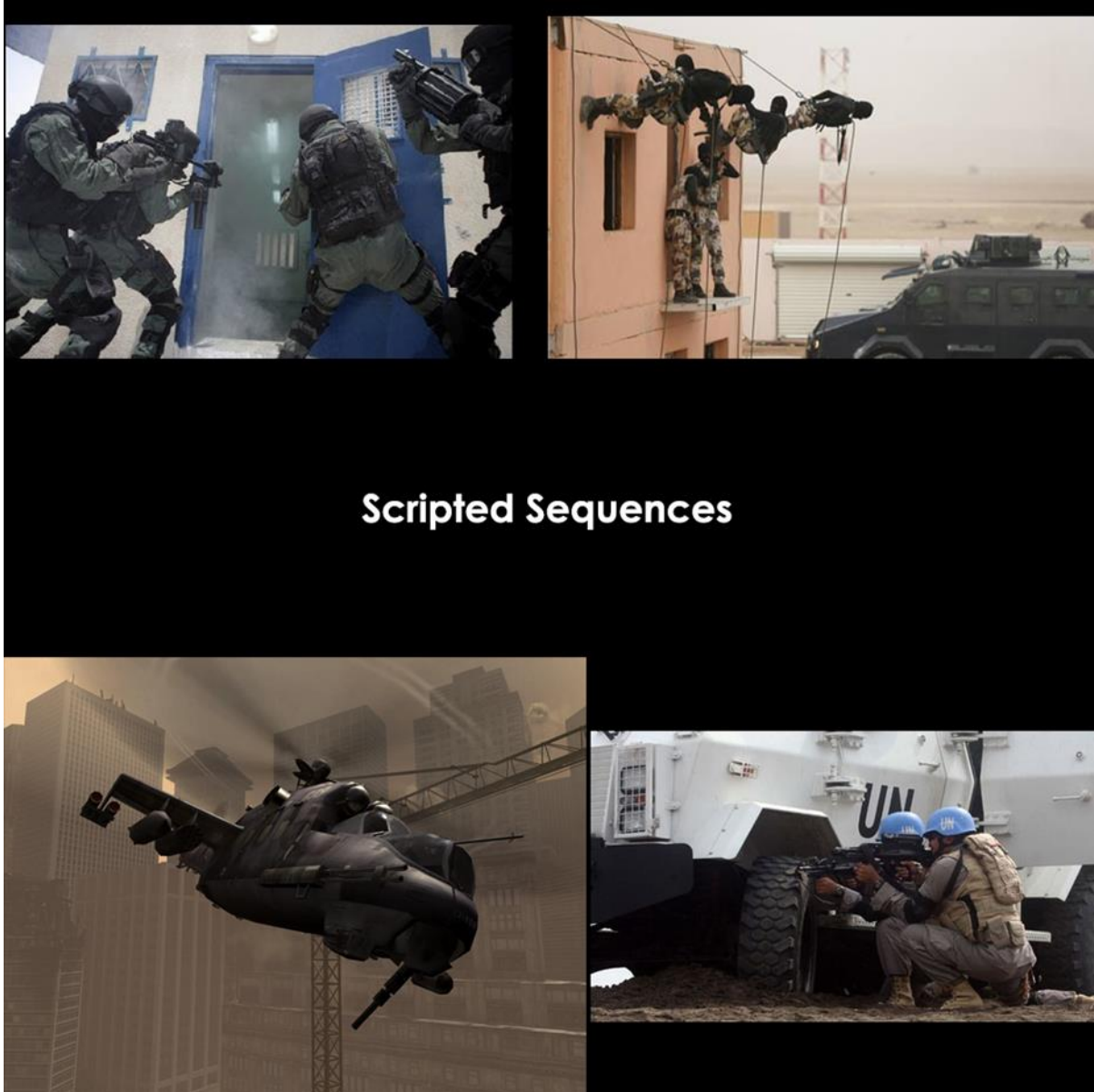
Scripted Sequences/Action

Figure 5: Contact Sheet for Scripted Sequences

Requirements

Map Label	Description	Type	Priority
2	Combine squad - door breach action	Script	High
4	Scripted helicopter fight	Script	Medium
5	Sniper room swap (from npc_sniper to npc_combine_s)	Script/Mesh	High
5	NPC dialogue through window	Script	Medium
11	Warehouse button trap conveyance	Script/SFX	High
12	Rappelling Combine ambush	Script	Medium
13	Final Helicopter fight	Script (AI)	High
14	Resistance members heading to APC	Script	Medium

Appendix (The 4 Questions)

Why is this fun/memorable?

“Trapped” emulates the exhilaration of urban warfare campaigns, particularly the chaos of close quarters combat. Each action performed by the player has a clear purpose: Escort the APC to safety, take out the sniper picking off members of the convoy, defeat the helicopter strafing the convoy, etc. The gameplay centers around fast-paced gun combat, and relies on pacing to keep the player moving. I gave the player urgent goals to promote the idea that if the player does not move fast enough, it could lead to dire consequences for the APC convoy entrusted in their care.

In what ways is your design going deep (how are you using assets in multiple ways)?

The level features one main enemy type (Combine Soldier) positioned throughout the level, with variance in equipped weapons (SMG, Shotgun, AR2) and tactical scenarios (Door breach, sniper, rappel ambushes). Over the course of the level, the player encounters Combine soldiers in a wide variety of circumstances both offensively and defensively, experiencing encounters that feel familiar yet open to surprises every now and then. In addition, a Combine helicopter continuously harasses the player as a prelude to an intense mini-boss encounter. The helicopter serves as the catalyst of several wow moments before the player gains the ability to fight it, ultimately resulting in a satisfying arc of progression (start on bottom, end on top). Both the Combine soldiers and the helicopter combine in varying ways to form the main opposing force to the player’s journey.

How will you communicate to the player what they need to do?

Since the level focuses heavily on combat, I plan to use enemy and NPC motion to guide players through the play space. Door breaches open paths to new spaces, the sight of an enemy helicopter flying off draws the player’s attention to their next objective, and the slightest movement by an enemy in the distance naturally leads the player to investigate. I also plan to utilize angles and suggestive sightlines to nudge the player towards points of interest. For example, when the player enters the main courtyard at the beginning of the level, their attention should be drawn towards a window on the second floor of a building at the other end of the courtyard due to the positioning of the surrounding objects: Roof lines, barricade placement angles, and the outline of the APC exterior (See Fig 6).



Figure 6: Courtyard Whitebox (Geometry outlines, NPC sightlines and NPC actions [such as shooting] all point towards sniper window)

How can the player break [the level] (and what will you do to prevent this)?

The player can potentially break the game by attempting to exit the level and messing with the order of scripted events. In order to prevent events from firing out of order, I plan to implement modular sequences to ensure that even one sequence does not fire, the sequences that follow it continue to work as intended (as they do not rely on other sequences to work). To keep the player from exiting the level, I plan to implement blocking volumes throughout and make sure that all fence/wall objects convey to the player that they can not jump high enough to clear the objects. During the last section of the level when the player fights the helicopter, I plan on placing a large ramp + gap at the far end of the road (where it curves) to convey that only vehicles can clear the gap, keeping the player from wandering away from the helicopter and out of the level.

References

Cover Image

[http://img02.deviantart.net/5aaa/i/2016/180/5/e/battle for city 17 by dakotaanesthesia-da85ckv.jpg](http://img02.deviantart.net/5aaa/i/2016/180/5/e/battle+for+city+17+by+dakotaanesthesia-da85ckv.jpg)

City Outskirts/City Atmosphere Contact Sheet Images

Fast rope soldiers: <http://blog.godreports.com/wp-content/uploads/2015/12/fast-rope.jpg>

City 17: <http://media.moddb.com/images/mods/1/13/12033/2a.jpg>

Black Hawk Down screenshot (wide): <http://www.isaacbotkin.com/img/color/blackhawk05.jpg>

WW2 Russian soldiers charging: <http://www.isaacbotkin.com/img/color/blackhawk05.jpg>

Sci-Fi Future Battle:

[http://www.wallpaperup.com/799164/War Helicopter Soldier World War Fantasy Cities Army sci-fi warrior battle apocalyptic art artwork city.html](http://www.wallpaperup.com/799164/War+Helicopter+Soldier+World+War+Fantasy+Cities+Army+sci-fi+warrior+battle+apocalyptic+art+artwork+city.html)

Sci-Fi Future Battle (Mass Effect concept art):

http://lvlr.bioware.cdn.ea.com/bioware/u/f/eagames/bioware/masseffect3/resources/assets/media/concepts/concept-011-street_battle-p.jpg

Black Hawk Down screenshot (soldiers in foreground):

<https://mymovieyear2012.files.wordpress.com/2012/05/079-black-hawk-down.jpg>

Scripted Sequences Contact Sheet Images

Door breach: <https://i.ytimg.com/vi/6VdxLn7ieNE/hqdefault.jpg>

Rappelling soldiers: <http://media.emirates247.com/images/2014/03/saudi1.jpg>

Helicopter:

[http://vignette4.wikia.nocookie.net/callofduty/images/3/3c/Hind MW3.png/revision/latest?cb=20120208231811](http://vignette4.wikia.nocookie.net/callofduty/images/3/3c/Hind_MW3.png/revision/latest?cb=20120208231811)

Soldiers crouching behind vehicle: <http://www.greanvillepost.com/wp-content/uploads/2016/09/UN-Soldiers-protect-aid-convoy-in-Syria.jpg>