Level Design 1

Paper

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2DAE-GD1

Contents

1. About the Game

Resistance and Liberation is a first person multiplayer-only WW2 infantry simulation mod. It aims for playable realism, and features: No HUD, no crosshair, no kill/death messages, no kill counter nor score. The only score in the game, is winning with your team; which will be considerably harder without proper team-play.

Both teams start out with a certain amount of tickets (reinforcements). Every player can respawn as many times as he wants, as long as the team didn't run out of tickets. Each respawning player subtracts 1 ticket from the team-pool.

For level design, it's important to know how the different teams (and their weapons) have been balanced:

- On most maps, the Axis play a defensive role, while the Allies need to push up and capture all of the objectives.
- Weapon-wise, the Axis have superiority on long range fighting. But on close/medium range, the Allies are at the advantage.
  The Axis focus on a combination of soldiers equipped with Kar98K and an MG42 to suppress the enemy and to keep them at range. At closer ranges, they have MP40, FG42 and G43.
  The Allies mainly rely on the M1a1 Garand, which is a deadly weapon on close/medium range. They also have the Thompson, .30 cal MG and the m1 carbine.
- The attacking team (most often the Allies) starts out with more tickets.

Every map consists of multiple objectives which need to be captured in a certain order, controlling the flow of the game. Most often, objectives can be re-captured by the defending team, should they choose to. Capturing an objective will usually take a toll on the ticket-pool of the attacking team, so the defending should carefully consider if re-capturing is worth the cost.

Winning the round can be done in 2 ways:

For the Axis: Draining all of the enemy tickets, or holding at least 1 major (some objectives only act as spawn-points, and allow more movement to other major objectives) objective when the round-timer ends.
For the Allies: Draining all of the enemy tickets, or capturing all of the major objectives before the round-timer runs out.

Lastly, players are able to climb over obstacles ranging from 0 – 2 meters in height. This allows for obstacles to be both cover and pathways (e.g. Walls).

2. Map Visualization

The map is called Sainte Marie DuMont, designed after an existing town in France. The landscape is largely characterized by hedgerows which players can use as (visual) cover to approach objectives.

In every map, you'll find a lot of fog; this is due to technical limitations of the source engine. The mod already uses the maximum level size that source allows, and is filled with props. So, to keep the frame-rate acceptable, and not give people with a good computer an advantage, fog was added on medium range.

Next, you'll see the overview map of the level, which is also accessible in-game. Several items were added to make the map more readable.

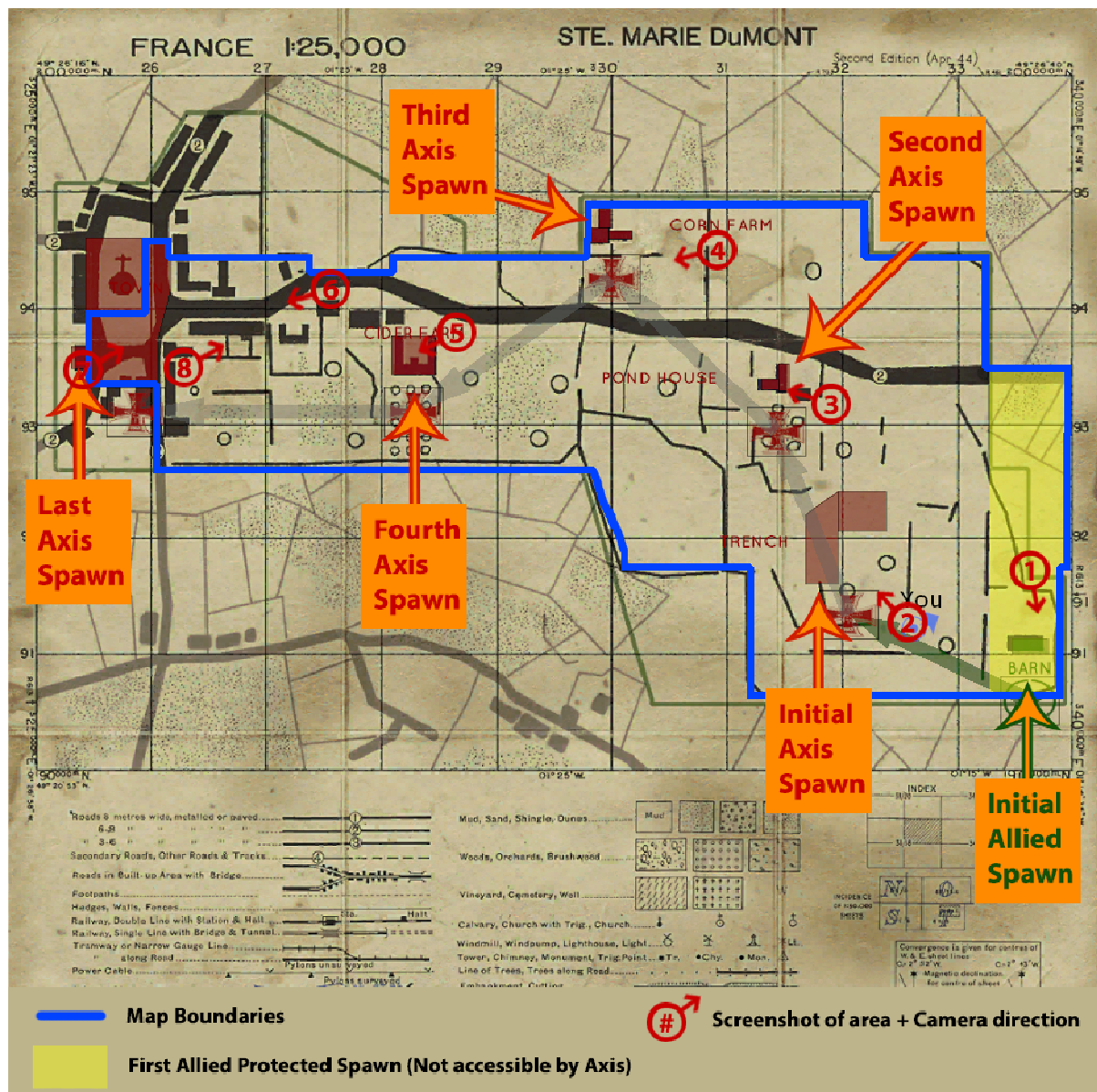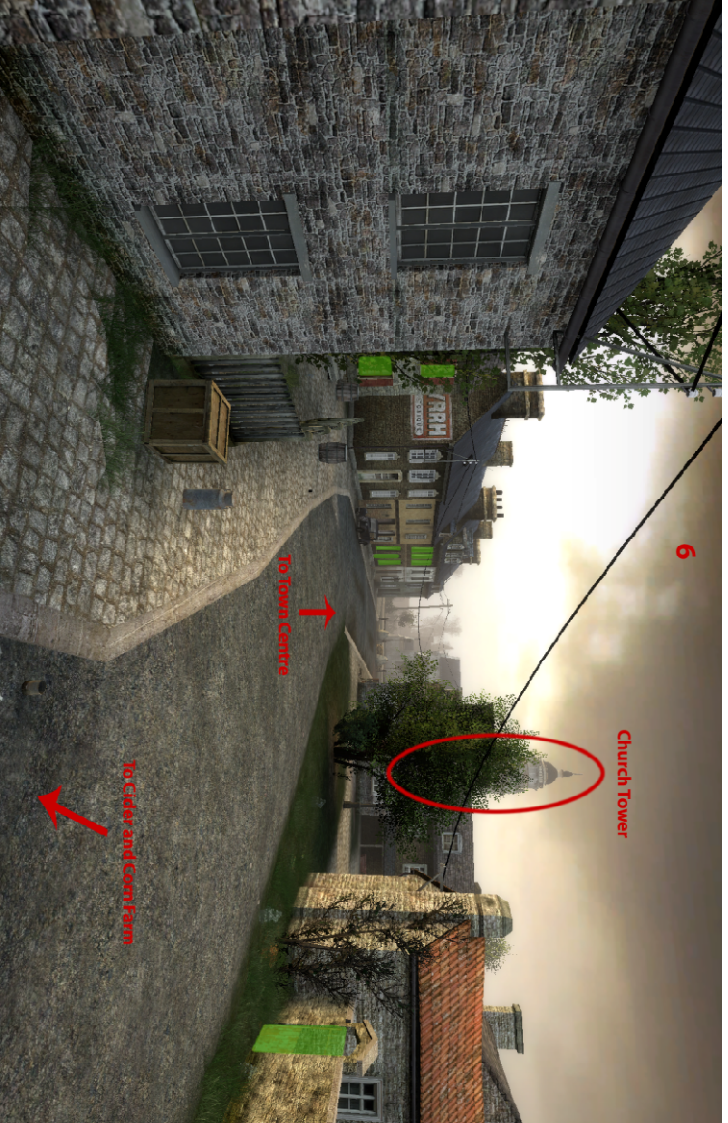On the screenshots, green areas indicate doors/windows that are accessible by the player.
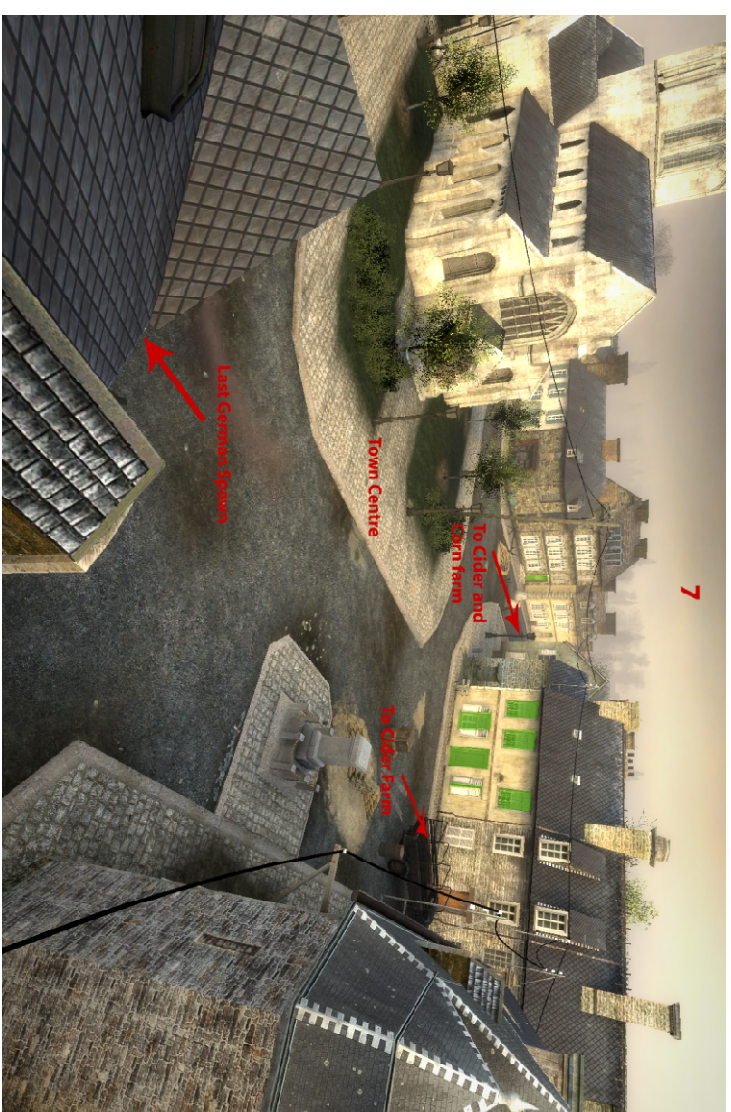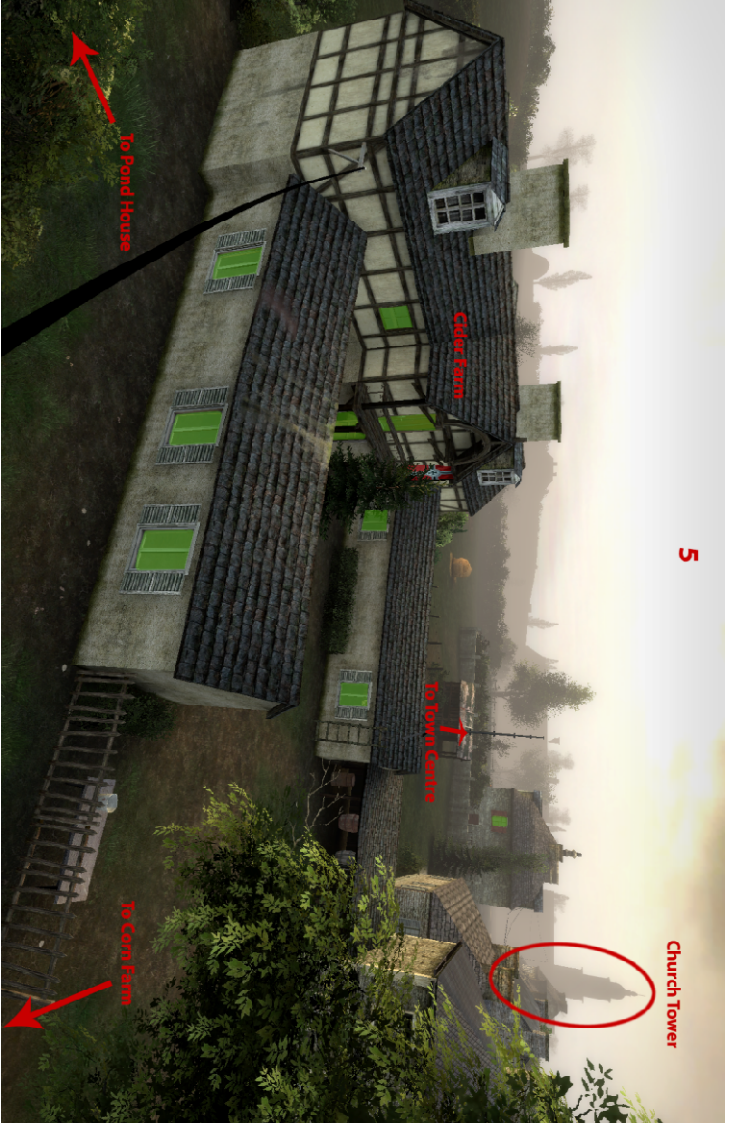

Figure 1: Overview Map

1

Allied Initial Spawn

Main Road to the Pond House

To Trenches

2

Church Tower (town centre)

Trenches

Pond House

3

To Trenches

To Cider Farm & Town Centre

Corn Farm

Pond House

4

To Pond House

To Cider Farm

Church Tower

Corn Farm

6

To Town Centre

To Cider and Corn Farm

Church Tower

5

To Pond House

Cider Farm

To Town Centre

To Corn Farm

Church Tower

8

To Town Centre

To Cider Farm

7

Last Garage Spaces

Town Centre

To Cider and Corn Farm

To Cider Farm

3. Objectives Break-Down and flow

I'll give an example of a match, where the Allies will have captured all of the objectives in the end. The Axis will never push back to re-capture a lost objective; if they would have, the frontline would shift more towards the right.

Legend:
Striped areas indicate "frontlines" where the Allies will sustain most of their casualties during their assaults. Most of the German casualties will be in or around the objectives.
Green arrows indicate the paths that the Allies will take to attack the objective.
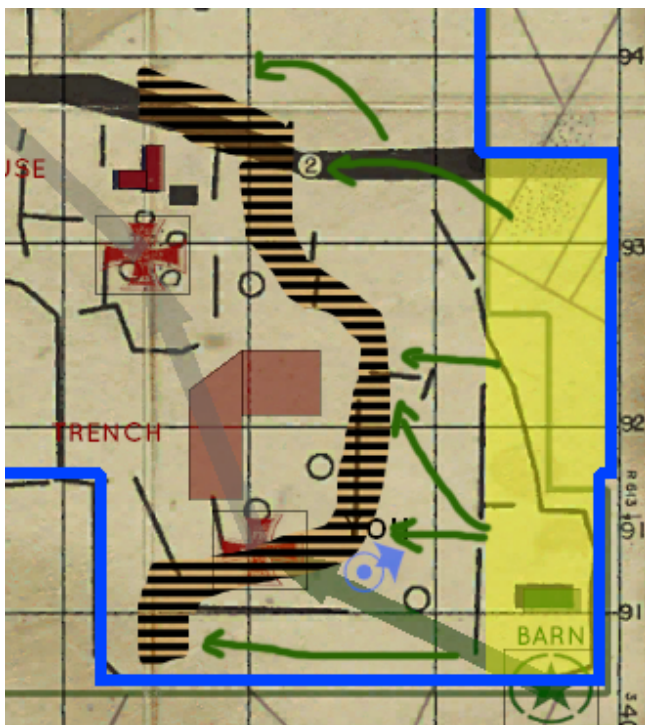
The map starts and the Axis take defensive positions in both the Trenches and the Pond House. Doing so will stretch the frontline, but it's important that the Allies can't get behind the Axis defensive line.

The Trenches themselves are in a valley, and hard to defend, unless the Axis move towards the spawn exits of the Allied team.

From the Pond House, you have an excellent view of the surrounding area. Deploying soldiers on the top 2 floors gives you an arc of fire of nearly 360 degrees. This allows you to cover the top side of the trenches, the road leading up to the Pond House and the area to the left of the Trenches.
With a decent team, you can hold the Pond House for a considerable amount of time and drain a lot of enemy tickets.
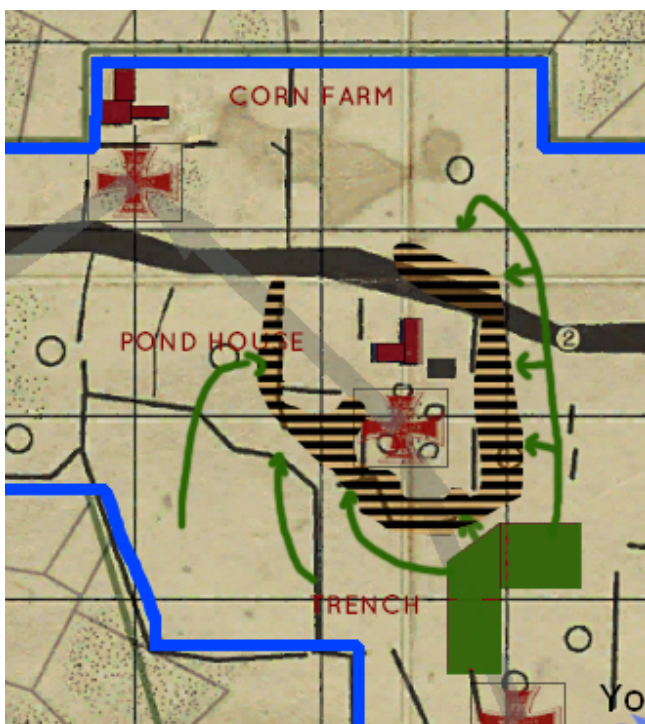

At this point, the Axis have lost the Trenches where the Allies will now spawn.
Because of the 3-story house on an elevated position, it's possible to hold back enemy attacks and allow Axis reinforcements to come in from the Corn Farm.

At this point, the Axis are at the advantage with their long range weapon superiority + excessive cover from the house.

The Allies have to make good use of the surrounding hedges and smoke grenades to get into the house. Once into the house, the Allies have an easier time with their M1a1 Garands.
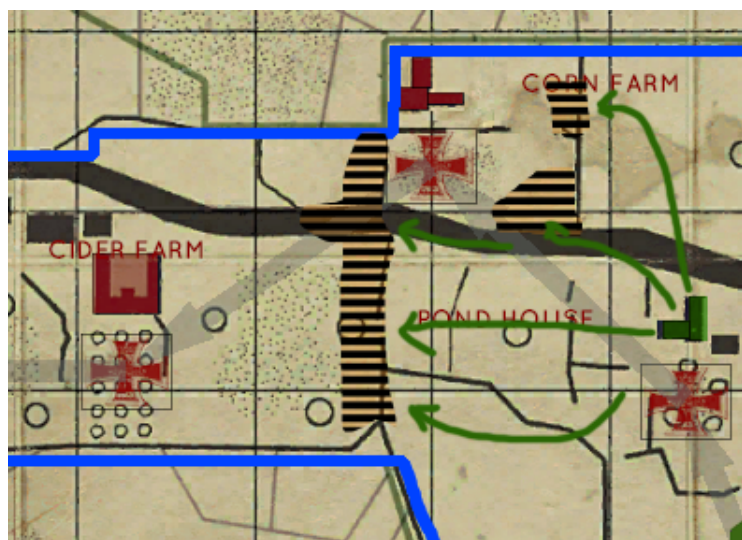
The Axis have lost the Pond House and have been pushed back.

While the Allies need to attack the Corn Farm, the Axis have set up defenses in both the Corn- and Cider Farm, because the Cider Farm can cover the back-side approach to the Corn Farm.

Not to forget: If the Cider Farm would be undefended, the Allies would be able to enter it and force the Axis to spawn in the city.
This would make them unable to get back to the frontline in time to prevent the capture of the Corn Farm and the Allies already have a foothold in the next objective.
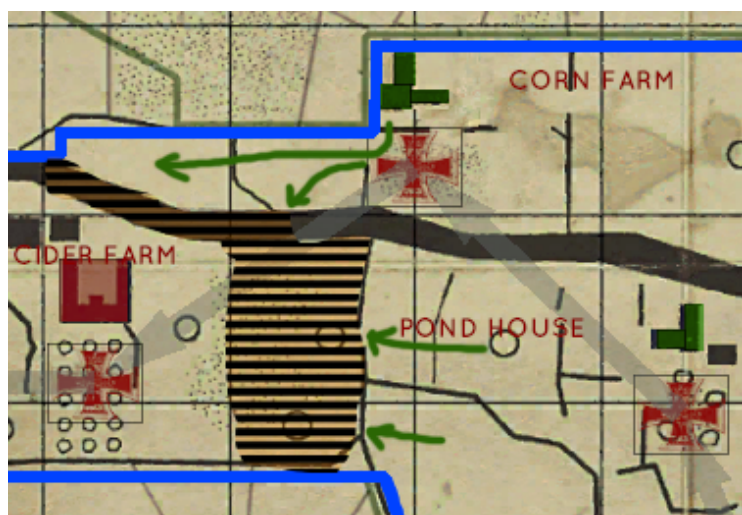
The Corn Farm has fallen. This part of the map is turning more and more into a bottleneck, giving the defenders an easier time defending a smaller frontline.
However, the shooting range is getting smaller because of more tightly packed hedgerows and sloped terrain, giving the Allies the advantage with their rifles.

At this point, the Allies will be attacking from the Corn Farm and the Pond House.
The Cider farm itself is located in a valley and nearly no windows on the top floor, giving the Allies a serious advantage in their approach.
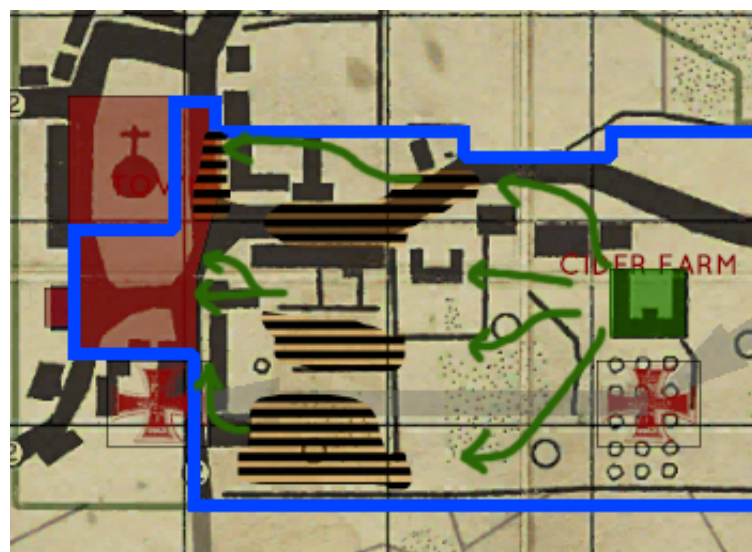
Now is the assault on the final objective. At this point, gameplay is changing drastically as the combat moves into the town. Open fields have been replaced with window to window shooting and excessive cover for both teams. However, the CQB combat will prove to be disastrous for the Axis team.

On top of that, the final objective is a large one to hold, and the Allies have 4 different (main) entry points into the city. Once the Allies manage to get a foot into the city, they can prevent the Axis from exiting their spawn, provided they have enough firepower.

Once the Allies have more people than the Axis in the zone, they will start capturing the objective. At this point, the round is already concluded in favour of the Allies.
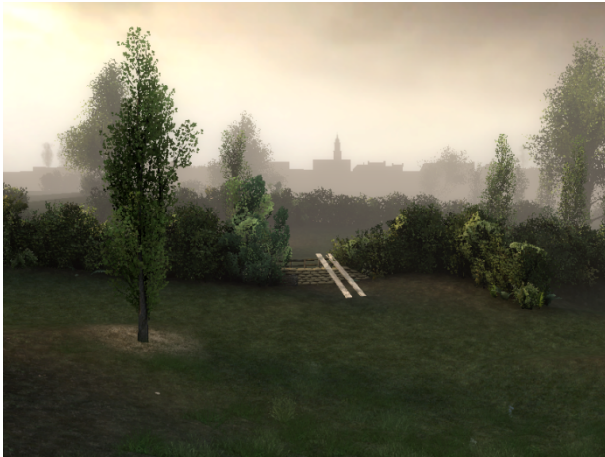
4. *Visuals*

a. Lighting, silhouettes and landmarks

The map plays just before the sun sets with a cloudy sky, creating a more dramatic setting.

No matter where we are, we can always see the outlines of the town, and especially the church tower, guiding us towards the final objective of the map.

Silhouettes are mostly important on the range where the fog starts to kick in heavily. In the fog, we can quite easily distinguish buildings, trees, hedges, etc.
Players are a little bit harder to distinguish and forces players to think more while playing. Coordination and patience are key in preventing friendly fire.

b. Skybox

The entire map is surrounded with a 3D skybox. Before getting into the town, the skybox mostly contains hedges, trees and fields. Once we enter the town, we get the impression of being into something bigger with added streets and buildings.

c. Cover

Cover is absolutely essential in a game like Resistance and Liberation and can be classified into several categories:

- Visual cover such as hedges, grass, trees, etc. Very useful to stay hidden and approach areas unseen. However, visual cover is just that, and does not provide actual cover when shot at. In Ste. Marie DuMont, there is plenty of such cover all the way up to the town entrance. Hedges are the main source of visual cover and are extremely valuable to cover the Allied assault.
- Easily penetrable cover, including wooden objects, doors, etc. These can be penetrated by most weapons, but still provide some visual cover.
- Hard to penetrate cover: Thin/medium-sized walls, shacks, etc. These get more common towards the town and are only penetrable by heavy machineguns.
- Terrain. A prone position behind a hill provides the best cover there is, as the terrain can't be penetrated. Since the terrain is quite hilly, there can be sharpshooters from both teams anywhere.

d. Sound

Sound is a very important aspect in the game. Gunfire can be heard across the map, and a trained ear can distinguish weapon-fire at any range and judge by the falloff where the shot was fired.

Secondly, footsteps can give away your position to other players. Sprinting will produce the most sound, while crouched walking will produce very little sound. This encourages careful play even though speed is sometimes crucial.
Footsteps also depend on the material you're walking on. Running on a gravel road will produce a very high-pitched sound which can be heard from quite far away.

Lastly, players can speak in-game, which uses a 3D positional audio system. Sound is emitted from the players position with proper falloff and is also blocked (and reduced) by objects, walls, etc.
In grassy areas, one can easily judge where the sound comes from; in the town, however, it's more difficult due to walls interfering with the sound.

5. Conclusion

The best part of the map is its dynamics; keeping the gameplay refreshing and fun at all times. The first few objectives are located in open fields, surrounded with hedgerows. After that, the fighting moves towards the town with a couple of buildings along the road. At this point, we slowly switch to CQB-style combat. If we proceed 50 more meters, we now are in the town itself which consists of buildings only. At this range, the same kinds of defenses no longer apply for the Germans, as their main weaponry is now no longer overpowering the Allied one.
If the Axis had been playing defensive until now, now they are forced to counter-attack the cider farm, or they will lose the round if enough enemy tickets are left.

Another positive aspect is the need to coordinate with your team in order to win. Axis reinforcements to an objective under assault have to be intercepted or the battle will go on forever.

Negative, is the fact that the Axis can camp the exits of the first Allied spawn, which can lead to a severe Allied ticket drain before they manage to capture the Trenches and the Pond House.