Hue City: A Map Design Case Study in Rising Storm 2

Robert Close

Introduction

The first-person shooter genre comprises an extremely diverse set of computer games. Even if you only look at the multiplayer games in the genre, you can find a huge variety in the design of the experience on offer. Some offer an organised esports experience for small teams battling in fantasy worlds, while others strive for realism and offer large numbers of concurrent players a simulated battlefield.

Rising Storm 2 is a multiplayer FPS that sits towards the latter end of this spectrum. While certainly not in the true military-simulator category, the game is still considerably more realistic than other popular shooters thanks to its complex health and damage model, which often results in players being killed in a single hit. This feature gives the game its terrifying character, and allows the developers to offer a uniquely immersive experience of the Vietnam war.

It also brings unique challenges to the task of map design, as a delicate balance must be struck between the competitive fairness of the map and the realistic features that could be placed within. No map better exemplifies this than ***Hue City***, a map that proved immensely popular on release, but one with a mixed reputation within the community. This is mainly because after voting ended for the next match's arena, players often found themselves sent to *Hue City* at every possibly opportunity. Fighting in *Hue* (pronounced *hoo-way*) is often extremely intense, with ferocious urban combat sometimes lasting over an hour. Experienced players can finish games having racked up over one hundred kills, and new players often find themselves serving their team only as a shield made of meat. The map can be a blitz to both attack and defend, and I believe that this is largely because of the interaction between its design and the idiosyncratic damage model of the game. By examining this interaction my goal is to explain why the map is so popular, and how changes to the game's design could amplify the unique experience offered by games similar to *Rising Storm 2*.

Time To Kill – Rising Storm's Fingerprint

What makes *Rising Storm 2* distinct from other shooters is how quickly a player can kill another player. The decision to attempt real bullet damage simulation marks a significant step away from the world of *Call of Duty* in the direction of the hardcore military simulators like *Arma*, and few games take that step.

In the first-person shooter community the term ***'Time To Kill'***, often initialised as TTK, is used to define a perspective for a spectrum of shooters. Used broadly, *Time To Kill* refers to how long a player must spend shooting another player before they get the kill. A classic example of a higher TTK shooter is *Halo*, though some like *Team Fortress* and *Overwatch* surpass *Halo* significantly. Meanwhile, *Call of Duty* and *Battlefield* are popular examples of low TTK games. The TTK can vary dramatically across the range of weapons on offer in a single game, so players are usually considering the average case when characterising a game's TTK. Specific scenarios may be analysed quantitatively if greater detail is needed, such as finding the best-case time to kill. This enables players to make informed decisions on how they approach their targets. For example, *Halo* players will try to carry certain combos of weapons, because a fast way to kill someone is to use one special pistol shot to break an enemy's shield, and then to use a rifle to finish the kill. The superior TTK of *weaponcomboing* defines the playstyles of skilled *Halo* players.

If every shot is an instant kill, then the game hits zero *Time To Kill*, but this false zero can be avoided by padding the TTK with reasonable estimates for a *Time To Aim*. This padding prevents the breakdown of the numerical TTK analysis that motivates tactics like weaponcomboing in *Halo*. Furthermore, almost zero popular games occupy this extreme territory. A truer zero for this spectrum lies instead in the realm where bullet damage and player health begin to mimic reality to a convincing degree. At this location, several games cluster while remaining undeniably distinct, and *Time To Kill* ceases to be a useful metric for categorising first-person shooters.

Rising Storm 2 (2017) shares this space with its forbearer, *Red Orchestra: Ostfront 41-45 (2006)*. The first *Rising Storm (2013)* was created by the dedicated and talented modding community of *Red Orchestra*, itself the sequel to a mod for *Unreal Tournament 2004*. Along with the damage model, these games also attempt greater realism for several other aspects of the design. For example, these games use a minimalist UI and structured team hierarchies featuring squads and a team leader. These features help sell the greater immersion on offer, while also encouraging emergent team play even from silent individuals. However, the experience is still not too unfamiliar for players who enjoy higher TTK games such as *Call of Duty* or *Halo*. Many of the more hardcore aspects of military-simulators are not present in *Red Orchestra,* and so for a long time *Red Orchestra* was almost alone in a gulf across the otherwise crowded shooter landscape. Games inspired by *Red Orchestra* have finally emerged such as *Insurgency (2014)* and its sequel *Insurgency: Sandstorm (2018), Verdun (2013), Post Scriptum (2018), Squad (2015),* and *Hell Let Loose (2019)*. These titles have pushed this subgenre of pseudo-realistic shooters into bold new territory. The last two examples in particular are

achieving unprecedented popularity. According to *SteamCharts.com,* while *Rising Storm 2* and *Post Scriptum* struggle to achieve a thousand daily players, *Squad* and *Hell Let Loose* in the past have regularly pushed well past ten thousand daily players. Such success has not gone unnoticed by the industry at large, and the acquisition of the *Hell Let Loose* IP by *Team17* for up to £47 million indicates just how much untapped potential is thought to exist in this region of the TTK landscape.

It is important to this burgeoning market then that designers understand the consequences of the unique characteristics of these games. They can then make more informed decisions in their designs and deliver new and exciting experiences that cannot be found elsewhere in the TTK spectrum. By looking at how the *Time To Kill* influences the experience of playing a shooter, we can start to identify what aspects of maps are most important to the experience of players. This will then allow us to examine *Hue City* in detail to understand why this map proved so popular and what lessons we can learn from it.

The Landscape of the TTK Spectrum

Games with a high TTK offer skilled players opportunities to react and respond to an attack with effective movement and counterstrikes, even if totally surprised by several enemies at once. Games with a low TTK offer skilled players in safe positions the opportunity to deliver a tremendous amount of damage to opponents, even when massively outnumbered.

Table 1 describes the influence of *Time To Kill* on shooters in greater detail. The widespread influence of weapon TTK is why it can be a powerful metric for categorising shooters. *Halo*'s scarcity of low TTK weapons is what leads to many of the distinct features of the game's multiplayer. Novice players may be insensitive to the important differences between the *assault rifle* and the *battle rifle,* but easily recognise the power of the *sniper rifle* and the *energy sword*. Expert players will combo their weaponry to minimise TTK and overtly move in big groups as bulky *teamshotting* squads that are tough for a lone player to kill.

Perhaps the most relevant aspect of *Time To Kill* to map design is the effect on the relative strength of attackers versus defenders. In a game with a high TTK, a player under fire has some time to move to the nearest piece of cover. Several attackers moving together may simply have too much health to be effectively blocked. This makes it more difficult for defenders to establish killzones that deny attackers traversal across the map. Correspondingly, in games with a low TTK a single well placed defender can prove a lethal block to the progress of many attackers. Thus in games like *Rising Storm 2*, matches often break down into a sequence of chokepoint engagements, with the progress of attackers occurring as checkpoints towards their objectives. For map designers in low TTK games, deliberate consideration must be made as to the location and hardness of chokepoints throughout the map. This is why the map *Hue City* has proved so popular in *Rising Storm 2* – it offers a sequence of well thought out chokepoints in a narrow area, funnelling even novice players into ferocious yet balanced combat.

Table 1: The gameplay influence of Time To Kill in shooter games.

Low TTK	**Notes**	**High TTK**
Initial position of combatants crucial.		Engagements feature continuous repositioning of combatants.
Reloading and other defenceless periods are very dangerous.		Reloading is relatively safe.
Relative strength of defenders increased.		Relative strength of attackers increased.
Critical hits increasingly prove inconsequential as TTK decreases.	Melee weaponry and headshots are ubiquitous sources of critical hits in shooters. Cause of *Halo weaponcomboing*.	Decisive critical hits.
High maximum engagement range.		Low maximum engagement range.
Variations in player health, armour, and weaponry often prove decisive.	This enables high-TTK games like *Team Fortress* and *Overwatch* to offer their diverse character sets.	Gameplay is less sensitive to variations in player armour, health, and weaponry.
High maximum kill rate.		Limited maximum kill rate.

Hue City – Preliminaries

Before we examine *Hue City* in detail, a short explanation of some of the important aspects of *Rising Storm 2's* design is in order.

The Territories Game Mode

The popular version of the map uses the *Territories* game mode, where the attackers must capture a sequence of zones, sometimes in parallel, before running out of time. Typical games feature 32 players per team. There are also a limited number of respawn tickets per team, with the attackers receiving more tickets than the defenders in acknowledgement of the natural strength of defenders in the game.

The Squad System and Team Leaders

Each team is composed of *Squads* of six players at most. Each Squad has a *Squad Leader* (**SL**) who has important control over how their Squad members may respawn after being killed, as well as several other unimportant special abilities.

Each team also has a *Team Leader*, who nominally has the authority to direct their team. In practise, their influence on the match rarely goes beyond calling in off-map artillery and other abilities at opportune moments.

Player Roles

Before spawning into the game, each player must choose a role within their team. A team can have an unlimited number of *Riflemen*, who are typically armed with an assault rifle and form the backbone of any team. There are then a limited number of more specialised roles such as machine gunners or scouts which can provide a team with heavy weaponry or specialised equipment such as smoke grenades.

The Asymmetric Design of Attackers and Defenders

On *Hue City* the attackers are the US Marine Corps (USMC), while the defenders are the National Liberation Front, more commonly known as the Viet Cong. These two factions' in-game behaviour is different in several ways, but what is relevant to our discussion is the way in which USMC players respawn.

USMC soldiers have the option of either respawning at a location that is a long way away from the capture zones they are attacking, or they may choose to respawn next to their Squad Leader. There are relatively few limitations on when an attacker may respawn on their SL, and they may even respawn into a capture zone to immediately increase their team's progress towards the capture.

Thus, for the attackers, progress usually means clearing a safe path for SLs to get ever closer to the capture zone. Defenders, on the other hand, can wipe out attacking progress by identifying and eliminating USMC Squad Leaders and their squads, and then reoccupying previously fallen positions.

Limitations Of Our Analysis

Finally, something should be said about the purpose and limitations of the following analysis. The goal here is to examine the design of *Hue City* from a *descriptivist* perspective that merely tries to explain the map's popularity, rather than to search for *prescriptivist* rules that all maps must then conform to. In particular, as *Hue City* is fully committed to urban combat, our chokepoint analysis approach may not be as useful when applied to long range combat maps where chokepoints are not so clearly defined. What we hope to do instead is to use the chokepoint analysis to highlight more abstract suggestions for why *Hue City* is a successful design. It is then up to an individual designer's discretion as to how appropriate any one suggestion is to their intended design.

Hue City – Carnage On The Perfume River

The map *Hue City* is based on the *Battle of Huế*, which occurred during the Viet Cong's Tết Offensive. After the shock initiation of the offensive in January 1968, most of the historic city lay in Viet Cong hands. Over the following month they were gradually driven out by the USMC and their allies in one of the longest and bloodiest battles of the Vietnam war.

Players on both teams have the freedom of choosing where in the city they want to fight, and they can expect to find an intense and enjoyable battle regardless of where they go. Why is this?

Simple Team Defence

First of all, the narrow design of *Hue City* encourages the establishment of firm resistance from even novice defenders. Chokepoints across the breadth of the map are likely to be occupied by a defender simply through sheer lack of choice, and fatally large gaps are unlikely to form.

Inability to establish chokepoints is a common basic failing of defending teams in *Rising Storm 2*, and this leads to short battles that are too easy for the attackers and too brutally unpleasant for the defenders. *Hue City* instead reliably meets the balanced combat expectations of players, and this forms the base for the experience.

An Interesting Chokepoint Network

Secondly, the chokepoints on *Hue* offer progress to attackers in interesting sequences before a capture zone is finally overcome.

A breakthrough at one chokepoint may lead to attackers flanking and eliminating other nearby chokepoints. These ***chokepoints in parallel*** give attackers interesting freedom in their approach. Blocked attackers can try pressuring different sections of the map and their efforts may cause teammates elsewhere to make progress, as well as offering sweet revenge.

Furthermore, it may take several such breakthroughs before the attackers can complete the capture of a zone. ***Chokepoints in series*** give defenders time to counterattack small breakthroughs before they seriously impact nearby sections. Attackers must hold on to their gains until reinforcements bring enough stability to attack the next chokepoint.

The combination of chokepoints in parallel and in series form a complex ***chokepoint network***, and the network to be found on *Hue City* is both simple for the defenders to establish and interesting for the attackers to assault. This is where map designers can learn from *Hue City*. When creating a map the designer can keep a running model of the network being created, and deliberate decisions on the network's design can be made to deliver an enjoyable experience full of character.

Hue City – The Chokepoint Network In Detail

We will focus our attention on capture point C – The Citadel Walls. After capturing A and B, the attackers must now cross the perfume river to attack the large walls of the old imperial city of Huế. There are relatively few gaps in the wall for the USMC to attack, and the clear occurrence of chokepoint engagements makes this capture point a good case to examine in detail. To aid our discussion, the chokepoint network and the attackers' experience of it may be depicted diagrammatically with the visual elements shown in Figure 1.

Small areas where players frequently gather can be depicted with rectangles, and connections may be drawn between rectangles to represent the different experiences to be had when traversing between these areas. It is also useful to split the map at this point into sections, with rectangular containers to delineate each section. There is no strict meaning to the position or size of the elements, however there is a rough correlation with the actual geometry of the map.

Using these visual elements we may create an abstract map of how the players experience combat, as in Figure 2. Even for a relatively simple capture zone such as this, the complete chokepoint network is extensive. However, close examination of the network reveals some key features.

Consider, first of all, the difficulty of getting into the capture zone. Attacking players may only enter the capture zone through a chokepoint, as there are no other traversal options available. Furthermore, to cover each chokepoint at least once it takes only eight defenders out of a team of thirty-two. It is rare for the attackers to reach the capture zone without challenge, and thus the capture zone reliably meets the basic combat expectations of players.

Secondly, inspect each section in isolation and consider the possible choices an attacker has in their approach towards the capture zone. Each section offers a varying amount of risk and reward, and traversing between sections can only be done, with some risk, once enough progress has already been made. Moreover, there are relatively few opportunities for firing at players in other sections. This structure of semi-independent sections, each with unique character, frequently gives players on both sides an interesting combat experience, and is reminiscent of the lane structure used in smaller-scale arena-shooter maps.

The USMC Spawn and the Capture Zone

The USMC spawn is a simple set of houses along the river bank opposite the wall, as well as a ladder down into the tunnel.

The capture zone itself is a roughly symmetrical collection of areas, with a tall tower offering sight lines across the whole map. It is usually fire from the tower and the connecting ramps that makes traversal in other sections risky.

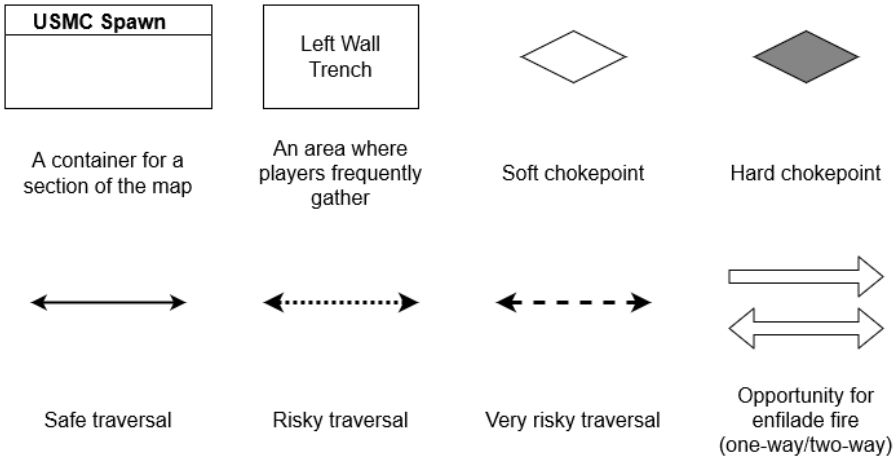

Figure 1: Visual elements that may show a chokepoint network diagrammatically.

The Tunnel

The tunnel offers a linear series of chokepoints to the capture zone, allowing stable progress to be made. Within each area, the USMC squad leaders may serve as well protected spawn points that make it difficult for defenders to undo attacking progress. The price of this stability is the small throughput of soldiers in the tunnel, and the large number of costly chokepoints that must be overcome before the capture zone is reached. Furthermore, a lone breakthrough from the tunnel is difficult to convert into a complete capture, as moving from the *Left Wall Landing* to more influential areas is risky. More often it is attacks on the left flank that offer opportune moments for a major breakout from players waiting in the tunnel.

The Left Flank

The left flank features a large bastion protruding into the river, and this offers defenders ample opportunity for hitting attackers across the map with enfilading fire. Attacking the bastion is difficult but rewarding for the USMC. Not only will it allow the attackers to support their allies across the map, it may also lead to a complete capture if the defenders fail to respond to the USMC momentum.

Attacks through the two holes in the left flank wall don't usually start until attackers have progressed up the right flank, opening up the less risky traversal options through the centre. These chokepoints lying in parallel with the bastion can then disrupt the defence of the bastion.

The Centre

The centre offers attackers the most direct route into the capture zone, but players are very exposed on their approach. A quick rush may be possible, but if players fail to make it inside the gate they will likely take fire from the bastion. Even if they do make it inside, without sufficient pressure elsewhere on the wall they will struggle to hold their position or make further progress. Similar to the tunnel, breakthroughs in this section are costly and difficult to

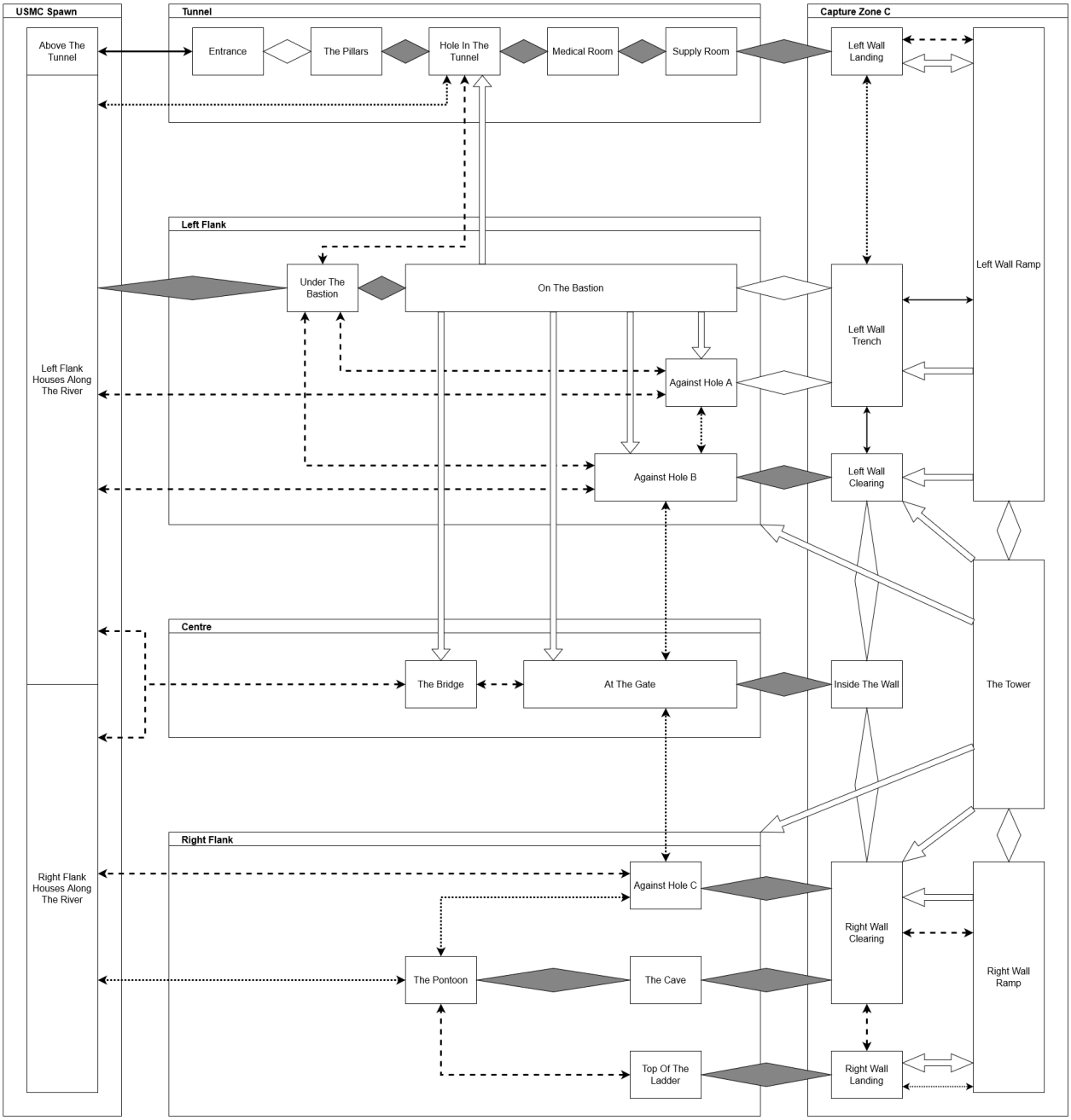

Figure 2: The chokepoint network around zone C on Hue City.

convert to a full capture, but the centre can bring additional winning momentum to breakthroughs on the flanks.

The Right Flank

Only the influential right flank can rival the tunnel for combat intensity. If USMC squad leaders can reliably make it to the pontoon, the attacking options for their team open up considerably. Attackers now have a safer route to the centre, and then onto the holes in the left flank wall. Furthermore, starting from the pontoon there are three chokepoints in parallel that lead into the capture zone. Each one is tough target for a breakthrough, but a collapse of the right flank can quickly break the centre, while simultaneously putting pressure on the tower.

Summary Of The Network

In summary, this part of the map offers a diverse range of attacking options against a firm enemy.

The left and right flank offer two independent and unique choices for trying a costly yet major breakthrough. Meanwhile, the tunnel and the centre redistribute some potentially redundant flank attackers to areas where their firepower can enable additional momentum in the event of a successful attack elsewhere. The tunnel and centre remain distinct however; the ratchet progress in the tunnel builds long term pressure, while diversifying into the centre allows right-flank attackers to weaken the bastion for their allies to the left.

I believe similar things could be said about attacking the capture zones elsewhere in *Hue City*, and this is why I think this map proved so popular. There is a consistent and enjoyable intensity between matches, yet the specific experience can vary dramatically as players choose to serve their team in different areas. It makes for some memorable experiences and leaves players hungry for more.

Lessons From Hue City

So what can pseudo-realistic FPS developers take forward from *Hue City*? I would summarise the key lessons as:

1. Make deliberate high-level decisions as to the nature of the experience in different areas of the map.
2. Consider the low-level choices players can make at different areas of the map and whether they deliver an interesting experience.
3. Be precise when defining strategically important areas like chokepoints and capture zones.
4. Design a map, and a game, that enables easy emergent team play.

The first three of these points are for the map designers, but the last point is a bit different. For the final point we will examine how *Hue City*'s popularity is also due to the broader design of *Rising Storm 2*, and how changes to the game's design might empower map creators to be more creative and bold with their designs.

1 – Make deliberate high-level decisions on the experiences across the map

Designers can make maps interesting by offering a variety of experiences across the map. On *Hue City*, we have seen how even for a single capture point there may be several sections with different kinds of combat. Furthermore, the strategic consequences of success in each section varies as well. This brings extra diversity to the possible experiences, as the nature of a successful capture can vary from match to match.

We have only looked at the nature of multiple sections on the approach to a single capture zone, but deliberate high-level decisions can be made as to the different capture zones themselves. They may vary in difficulty or strategic importance, or some may be close-quarters while others require long range engagements. Designers who are aware of the gameplay effects of their high-level choices can be more creative as they search for a design that works.

2 – Consider low-level player choices across the map

After high-level decisions have been made as to the intended experience, designers will then have a framework for assessing if the map is delivering the interesting experience that they want. We want to avoid designers using features injudiciously, as carelessness can lead to frustrating imbalances or opportunities for exploits.

Using their high-level decisions as guidance, designers can be deliberate with the details from the outset. For example, designers could create a quick skeleton of a map that may then be tested as a proof of concept. Then details, decorations, and oddities may be added to tweak and complete the map. With practise, designers will develop their instincts to find high-quality

design elements faster, and they can develop a repertoire of elements whose gameplay impact they already know from experience.

3 – Be precise when defining the position of strategically important features

Something that I believe *Hue City* consistently gets right compared to other maps in *Rising Storm 2,* is that the boundaries of capture zones are very well placed. Even a small change to the edges of a capture zone can have a large impact on the experiences of the players.

An obvious example is if the boundary of the capture zone were extended into the tunnel's supply room: suddenly the attackers have a relatively safe and simple capture opportunity that bypasses a lot of the interesting features to be found elsewhere. Indeed, I believe that several of the other maps in *Rising Storm 2* feature such locations that are exploited by experienced players to dodge the intended experience of assaulting a defended position.

A more subtle example is to consider the consequences of extending the capture zone to include the left flank bastion. This might seem like a natural boundary to the capture zone, as the capture zone now constitutes the entire wall. However, making this change would shift a significant amount of attacking attention to the easier left flank, and the other sections of the map would be negatively impacted. Furthermore, there would also now be a huge distance between the furthermost points of the capture zone. It can feel cheap to players on both sides when a capture zone changes hands due to isolated successes within a large capture zone. Again, I believe there are several maps in the game where capture zones naively follow natural seeming boundaries without enough attention being paid to the gameplay consequences of doing so. Perhaps the bastion could be included in a more complex system of parallel capture zones, such that both the left and right flank of the wall must be captured and held simultaneously in order to proceed. But this might then be too complex and difficult for teams to manage, depending on how well coordinated they are. We will explore this more in the next point.

What designers should understand from these examples is that when they place a chokepoint, capture zone, or other strategically important element, they are asking a specific question of the attackers and the defenders. The designer can then assess whether the demands are too complex or too simple and uninteresting, and so zero-in on a high quality design that may be enjoyed by both teams time after time.

4 – Design a map, and a game, that enables easy emergent team play

Hue City makes clear that there is a connection between the design of the map and the possible appearance of good team play. The narrow urban environment brings teammates close to each other, and prevents negligent defenders from leaving fatal gaps. It would then be a very sad conclusion to say that narrow or urban maps are thus naturally better. Instead we want to play on a range of maps, and we don't want to suffer from teammates letting us down if the map is more complex.

Unfortunately, I believe that in *Rising Storm 2* there is a disappointing lack of communication in most matches, and teams are minimally coordinated. This puts a limit on the complexity of

the strategic questions that maps can ask of teams, and so puts a limit on the designs that can be used. In particular, skirmisher tactics have historically been the remit of elite military units who undergo specialised training to perform their role effectively. This is in contrast to *Hue City's* close quarters combat, which can be enjoyed even by players who have little understanding of their role within their team.

Along with complaints about being overplayed, some feel that *Hue City* lacks the engaging tactical demands of other maps that feature wide flanks and many long range engagements. Ideally a game would offer both CQC and skirmisher maps, and each would prove equally engaging and popular. In reality, the minimal coordination of teams in *Rising Storm 2* makes it difficult for map designers to keep maps popular as they move towards the skirmisher end of the spectrum, and *Hue City's* uniquely extreme expression of urban combat helps it achieve unparalleled popularity.

Perhaps the only way for map designers to positively encourage team play is through good placement of capture zones, spawn points, and other important strategic elements. However, I think that map designers can, at best, only aim for a design that is not discouraging to emergent team play. Instead, the whole studio can empower map designers by giving them a game and a community that can handle the interesting maps they want to create.

Innovation in this area has already begun. As the primary and most direct successor to *Red Orchestra*, *Rising Storm 2* made very few changes to the core design of the game. However, significant changes have been made by *Red Orchestra's* other progeny. The following examples are by no means exhaustive of all the issues and solutions to be found, but they serve to highlight how the design of the game can either hamper or help the cohesion of teams. The expectation of a well coordinated team can then empower map designers to be more creative and bold with their designs.

Lack of Communication

The problem of how to encourage effective and respectful communications between players is famously challenging in the world of gaming, and *Rising Storm 2* suffers many of the same problems as other shooter games. A perfect solution to these problems might never be found, but some work has been done throughout the multiplayer gaming landscape that can serve as inspiration.

Hell Let Loose and *Squad* feature the milestone innovation of having dedicated chat channels for the squad leaders and their team leader. The team leader receives greater authority in directing their teams' approach, and each squad can be given a greater purpose to fulfil. New players remain agnostic of the grander consequences of their actions, but that doesn't necessarily stop them from performing what may be an unglamorous and selfless duty for their team.

A major difficulty for studios is that whether or not their players communicate well is largely based on the individual personalities of the people playing their game, of which they have little control. With that said, they can still do their best to shape the culture of their community in whatever way they can. Again, *Hell Let Loose* and *Squad* lead the way in that

they have successfully created communities that make prolific use of voice chat. For those games struggling with misanthropic communities, investment into the community is likely one of the cheapest and most efficient ways of positively changing the game experience for a significant number of players. For example, *Overwatch* developers *Blizzard* introduced a 'kudos' system. In the post-match lobby, players can send kudos to both allies and foes to reward them for their conduct in battle. This may be for players who played with a sporting spirit, or to reward those whose contribution to their team may otherwise not be fairly reflected by the final scores. The kudos system has been well received by the *Overwatch* community, and I personally hope to see similar systems become more common in the multiplayer gaming world.

Overwatch features another wise innovation, in that it allows players to select what role they want to fulfil within their team before they even start queueing for a game. Moreover, players are given a different matchmaking score for each type of queue. The empowered matchmaking system can then deliver the embryo of a cohesive team, even from independent players. Such a system may not transfer readily into *Rising Storm 2*, given the server-browser culture and the larger number of roles and players. But I think it is an inspired move to let players declare how they intend to play. In games like *Rising Storm 2*, the simplest translation might be for players to declare that they want the responsibility of playing as a team or squad leader, and to form opposing teams with leaders of similar skill. Another possibility is that players with a microphone could declare their intention to use voice chat, and then ask to be matched with players who are also using a mic. Players aren't frustrated that they are alone in trying to coordinate, and a culture of communication can more readily develop.

Scoring Player Actions

A common phrase in shooter communities is *'play the objective'*. Don't chase the personal glory of a high kill to death ratio, but instead focus on achieving the win condition of the match. What we want is for players to identify strongly with their team, and to sacrifice personal desires if they run counter to their team's objective. Again, this is a complex problem that practically all multiplayer games face.

For the teamplay focussed children of *Red Orchestra*, I believe that the score system is a powerful but underexploited resource for influencing player behaviour. Whereas the culture of games such as *Call of Duty* might call for a significant amount of personal gratification to individual players, games like *Rising Storm 2* are usually the choice of players who are looking for a grander team experience. This difference in culture should give designers more courage to experiment with their scoring systems, and I believe players will respect attempts by the studio to deliver the experience they are after.

Almost all multiplayer shooters have the same basic skeleton of giving points per kill and per zone capture. Usually there are also assist points and bonus points for kills near a capture zone. Personally, I hope to see more complex systems emerging in the future. For example, a grenade that lands next to a defiladed enemy may force them out of cover for a teammate to complete the kill. Intelligent grenades should be rewarded, even if they fail to get a kill.

There are a myriad of complex situations that may arise, and it may take time to build a game that is clever enough to accurately reward these actions. But I think players will appreciate the effort and seek to improve their teamplay when they know the rewards for doing so are out there. Studios might ease the problem of finding an effective bespoke score system by liberating themselves from the idea that score systems are fixed post-release. It is surprising to me that score systems are not updated in tandem with other entities in balance patches, and I hope to see studios attempting this in the future. Not only could the developers acquire lived experience of player psychology, but it could be another way for developers to connect with their communities and to create the sporting culture we are looking for.

Poor Squad Cohesion

With the exception of the team leader, every player in a match in *Rising Storm 2* is, ostensibly, part of a squad. However, it is uncommon for squads to act as a unit trying to achieve a goal on the road to victory. While this is mainly because of the aforementioned communication issues, there are other contributing factors to this problem.

First of all, when a server changes map, whoever's game loads quickly will have the freedom to choose the more exciting specialised roles such as snipers, before they then join the first available squad. This means that you often find that squads A and B are full of uncomplimentary specialised weaponry, while other squads are lacking in firepower or other essential tools such as smoke grenades.

A similar issue is that often the squad leaders are tempted to choose roles that run counter to their duty as squad leaders. USMC snipers and flamethrower-equipped combat engineers make particularly poor squad leaders. The mind boggles as to why some players choose to serve their team in this fashion.

Verdun solves these problems by predefining the composition of the squads on each team, such that every squad has its own dedicated officer role to act as the squad leader, along with other roles equipped with whatever specialised weaponry is needed by the squad. Some squads are focused on a particular type of combat, while others are more balanced. In this manner each squad has everything it needs to act as an independent unit, and teams can choose to use certain squads over others in order to adapt to the demands of the map.

Post Scriptum has a different approach for its large squads of nine soldiers. It too has a dedicated Squad Leader role for the first player, but each squad cannot access the more specialised roles until sufficient players have joined. It is only after a fourth player joins the squad that the radioman, machine gunner, or other specialised roles can be selected. Furthermore, there are limits on how many of these roles can be found in a squad, and in a team. This leads to some confusion and issues of its own. Players can struggle to understand why their squad cannot access a role, especially when it is because the team has hit the maximum possible number.

Conclusion

Rising Storm 2's idiosyncratic damage mechanics, inherited from its ancestor *Red Orchestra*, bring unique challenges to the task of map design. The ability for defenders to establish strong killzones from well protected positions makes them far more powerful than in other first-person shooters, and just a few veteran players may prove to be an unstoppable obstacle to the inexperienced. Many of the game's maps struggle to reliably create a lasting combat experience that satisfies both teams, and it is in this environment that *Hue City* achieves unparalleled yet controversial popularity. Understanding why *Hue City* proved so popular can help designers create better maps and even better games for us to enjoy.

What we have seen is that *Hue City* is a map that makes it easy for defenders to establish firm resistance. Once that base for the experience is in place, it then offers attackers interesting options for assaulting that defence. Progress to the attackers can occur in diverse ways, with some paths offering costly major breakthroughs while others undermine the long term stability of the defenders. The narrowness of the design makes the map a uniquely extreme expression of close-quarters combat, and, in the context of *Rising Storm 2*'s uncoordinated teams, that makes it simple for teamwork to occur even from teams of silent individuals. The result is a map that provides an engrossing combat experience, full of memorable encounters in a diverse variety of forms.

While *Red Orchestra* was once the choice of a niche corner of the gaming community, it has since inspired an increasing number of new releases with growing financial backing. As *Red Orchestra*'s descendants continue to grow in popularity, the designers in this realm will benefit from exemplary successes like *Hue City* as they push this blossoming corner of the otherwise ripened shooter world to its full potential. While it is not clear how much growth is still possible, I personally hope that one day a critical mass of popular appeal will be reached, such that a studio feels ready to launch a refined esports experience for this subgenre. This has already happened for games across the rest of the TTK spectrum, with unprecedented returns. If that lucrative milestone can be reached, I hope that the memory of *Hue City* and the other popular maps of today will live on through the competitive arenas of the future.