

Game design and development report

Medifield

An overview of the general game idea, mechanics and game design principles

Medifield is a medieval themed PvP game with a payload mechanic. There are two teams, players can choose to be team blue, inspired by Scottish highlanders, or team red, inspired by the French templar. Both teams have a payload which they must push forwards to the other side of the map in order to win. They can push the payload forwards by being within a certain distance to the payload, such as its hitbox. If no players are near the payload, it will not go forward. The payload moves forwards along a main road in the middle of the map, and it cannot change direction. There are two smaller roads either side of the map for players to use to either flank the enemy or have more points of attack and defence. Players must also protect their payload from the opposing team as each team is able to destroy the opposing team's payload. When a payload is destroyed, it respawns at the last checkpoint taken. If no checkpoints had been reached, it will respawn at the spawn point of its team. Players must destroy the opposing team's payload to push it back and push their payload forwards as payloads cannot pass each other. Both teams will have slight differences in weapons, the blue team using round shields, axes and crossbows. The red team will use swords, kite shields and crossbows.

The desired target audience

The target audience for Medifield would include young adults and older who are interested in combat PvP games. The game would not be suitable for younger audiences such as children due to its violent nature and graphics such as blood. Furthermore, the historical factor would appeal more to older audiences who find this interesting as the game is more realistic, whereas more colour arcade games would instead appeal to younger audiences. Medifield also caters towards gamers who are interested in medieval themes and

weapons, especially melee weapons and combat, as the genre of the game is medieval PvP and the main weapons featured are melee.

Design/Theming choices

We decided on a period accurate medieval theme for the game. This is because we wanted to implement melee combat while keeping it realistic. Furthermore, there is a gap in the market for medieval themed PvP games that have a payload mechanic which allows the game to stand out from its competition.

Additionally, we decided on a red vs blue team system as this allowed the game to be more easily readable and accessible to a wider audience as many historically accurate games do not have this and it is hard to tell enemy from teammate in them making it less accessible to the casual gamer. The games payload mechanic and PvP system creates a good bridge between realistic period accurate simulator games and more casual arcade games that would allow for a wider audience.

Furthermore, we wanted to include a first person, and third person feature for players as this caters to players who either only want first person, or vice versa. For example, first person gameplay could offer a more realistic simulator like experience, similarly to games like Rising Storm 2 or Kingdom Come: Deliverance which offer a more simulator like experience, whereas third person could offer a more arcade-like and accessible experience to players who are less serious about realism in games.

Self-directed learning conducted

Something I learnt to do during this project was edge smoothing in Maya. Initially, I was manually smoothing edges in zBrush to prevent a polygonal look in my models. However, this wasn't an efficient method of smoothing edges, as the sharp edges were often still visible and this took time. I learnt from my lecturer that I could use a tool called 'smooth edge' in Maya. All I had to do was select the edges I wanted to be smoothed, then click the 'smooth edges' option. This helped me save a lot of time and increased the efficiency of my workflow.

Additionally, I learnt from a mistake I had made in my workflow which I will improve on in my next project. I had left the largest and most difficult to create asset for last. This was an issue as, I had encountered an error in Maya which meant I had to re-create the model from the beginning. However, due to the fact I left this as the last model, I did not have enough time to fix it. I have learnt that I need to expect possible risks and problems for projects and need to plan for possible issues, ensuring that I have enough time to resolve them.

Asset and weapons research

In the team, I had a primarily design orientated role. This meant that a lot of my research was visual, and design related, however, I also researched into historical weapons, shields and environments to ensure my designs were historically accurate and fitting in the game's medieval environment. For example, I had to design, model and texture a shield. As a group, we decided that the red team would be inspired by French templars, and so, I researched into what types of shields the French templars used.

Through this, I discovered that French templars primarily used kite shields, before transitioning into heater shields, often featuring their red cross insignia upon it.[1] I decided upon using a kite shield design in the game after discussing with my group, as this fit the game's era and stylistic choices better thanks to its more gritty appearance. After this, I researched into how kite shields were crafted and the various styles and sizes they would come in. I discovered that 'a typical kite shield was at least three to five feet high'[2] this allowed for increased protection for the user, however meant they were more difficult to hold. Due to this, extra straps had to be included to make kite shields easier for soldiers to handle. This is something I included into my concept art and final model and design.

Furthermore, I also researched into the materials and techniques used to craft the shields so that I could apply those same materials and techniques through my design choices to add realism to the final model. Through research, I found that they were constructed with 'layers of wood joined with glue and animal skin which increased stability'[3] with this, I ensured to mimic the texture of the wood grain in my final model on the inside of the shield. However, for the outside of the shield, 'it was covered with linen or leather'[3] with a 'metal shield boss' [4] and 'metal edges to reinforce the construction'[3]. With this knowledge in mind, I created a mood board including all important historical aspects of the kite shield, its designs, shapes and sizes and presented this to my teammates. I did this to show my idea for the design, for them to approve a team before moving on with concept

art. After hearing my team's opinions and discussing designs, I went on to drawing the concept art based on the mood board I had created.

For the sword, I had a similar research process to the shield. I researched first into different kinds of swords that existed in the era we were aiming for and investigated their purposes. I wanted a versatile sword design that would be appropriate to use with a shield, and so I investigated what swords were often paired with shields, as well as into what swords the templar frequently used as this was the design inspiration for the red team.

I discovered swords most commonly paired with shields included; Arming swords, falchions or rapiers [5]. However, I found that 'the longsword was one of the most widely used swords during the medieval period' [6]. Not only this, but the longsword was 'particularly effective when used in combination with a shield'[6]. This meant that it was the perfect candidate for the game both aesthetically and functionally. In addition to this, I investigated what swords the templar used. In this research, I found that the sword the templars used the most was a 'cruciform' or also known as the 'knightly sword'[7]. These were double-edged weapons, similarly to longswords, however they were shorter for ease of use with a shield. Measured at 70-80cm[7], they were designed to be effective both on foot and on horseback. Furthermore, templar swords featured engraved religious symbols, 'reinforcing the Templars' belief in divine protection'[8]. After learning this, i made sure to include this religious symbology in the sword but making it subtle to fit the game and to not appear too ornate in the rough environment and aesthetic of the game ensuring it was fitting and not out of place. I did this by including cross symbols carved into the hilt of the sword, reinforcing the templar aesthetic.

After this research, I created a mood board of designs of historical templar swords that I liked, to then show the rest of the team to see if they also liked the idea of the design I was going for. After discussing with my team my ideas and acknowledging their thoughts and recommendations, I went on to do concept art. I showed the team my final concept art to gain approval of the design and any critiques and then began modelling.

Game environment research

For the game's environment, I needed to create small assets that would fill the game world to make it seem alive and interesting. So, to do this, I researched into what objects were used in medieval times and what things would be seen on the streets of medieval towns. Through my research, I discovered that 'Market squares were an integral part of towns and cities during the middle ages'[9]. I thought of items that would be traded or used in markets, as these

would be most seen in a medieval town. To begin with, barrels would be necessary for storing goods such as vegetables, meats, hide and other various goods sold at markets. Furthermore, I investigated various game worlds set in a medieval landscape to see what other game designers chose as necessary props and decoration. Through this I discovered that barrels are indeed a medieval staple and often seen in games like *The Witcher*, *Dark Souls*, *Chivalry II* and more. With this in mind, I looked into how medieval barrels were made. ‘Oak, which was strong and durable, was the favoured choice’[10] for creating barrels in medieval times. Furthermore, the straps around the barrel holding the wood together were ‘usually made of galvanized iron’[11].

I then textured the barrels with the appropriate materials, using specifically an oak texture for the main structure of the barrel and iron for the hoops. I also created dents in the hoops of the high-resolution model to mimic the hammering of the hoops, as they were historically made at the time.

In addition to this, pots were a common and essential part of everyday medieval life [12] and used for storing and transporting dry and wet foods as well as being used in medieval markets for trade. This meant that they were a common sight in medieval streets and a good asset to create. I researched into different pottery designs online, as well as visiting the museum of Warsaw, Poland with friends. The museum had medieval pots from the 14th and 15th centuries of different designs. I found that designs were mostly simplistic and made of pottery materials such as clay. I had initially thought of more ornate designs, however, after this research I realised a more simplistic, easy to produce pot was most realistic and common in a medieval village [13]. While texturing, I also ensured to use a clay texture to fit the medieval period as ‘common pottery fabrics consisted of clay tempered with sand or shell, or a mix of sand and shell’ [14].

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