

Postmortem: Fatshark's Warhammer: End Times - Vermintide

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Martin Wahlund is the CEO and co-founder of Swedish game developer Fatshark. Martin was also CEO and co-founder of game engine developer Bitsquid acquired by Autodesk in 2014.

When we first started Fatshark, a lot of talented developers were leaving the industry because of a lack of work-life balance, so we wanted to create a home for experienced developers looking for more normal hours.

We started out as a team of subcontractors helping companies with programming on AAA titles, and then took on self-published titles. Warhammer: End Times - Vermintide is our first big project, and it's exactly the type of game we want to continue developing – a first-person multiplayer with RPG elements and melee combat.

As passionate fans of the Warhammer Fantasy IP, our team always wanted to create a Warhammer game – one that would stay true to the beautifully dark atmosphere of the world but also from a first-person perspective.

Our idea for the game came in 2003, when members of our now *Vermintide* team were working together on *Headhunter Redemption*. In our spare time, we played a lot of Warhammer Fantasy Battle, and always thought it would be cool to develop a Warhammer game.

At the time, we didn't have the money, experience or IP. Over the next ten years, we built a team and assembled the funds. Our Game Director asked me if he could approach Games Workshop to talk about the license, and after a couple of email exchanges, we went to Nottingham to tell Games Workshop our vision, and they really liked the idea. We initially

planned to bring in VC funding for the project but we sold our engine company, Bitsquid, to Autodesk in 2014, which meant we'd be able to self-fund the game we'd dreamt of making.

Warhammer: End Times – Vermintide is the first in the series to be set in first-person and during the End Times, an apocalyptic event that dramatically changed the Warhammer Fantasy universe. It takes place in the city of Ubersreik during a devastating attack from the Skaven, a loathsome race of rat-men swarming up from their underground lairs to kill everything in sight.

It's a director-driven, four-player first-person co-op, where the player assumes the role of one of five heroes defending the city, which features faithfully rendered environments like the top of the Magnus Tower or bowels of the Under Empire. Each hero comes with different playstyles, abilities, gear and personalities.

Working cooperatively, players use individual attributes to survive a full-scale Skaven invasion; letting a hero fall behind, or allowing a surprise ambush to catch the group off guard, can turn a successful mission into death and despair.

Since we're passionate Warhammer fans, getting all the details right was essential. We chose a unique main enemy – the Skaven, a race that has been quite underrepresented in previous Warhammer games – and placed a strong focus on melee weapons, which are a rarity in survival co-op games. We also developed a special loot system that encourages players to challenge themselves, testing out difficulties and collaborating to increase their chances of getting better loot.

It's been a really long journey, with ups and downs during development, wondering if we were doing the right thing, but in the end, we accomplished what we set out to do. We wanted to make a great co-op multiplayer game with many enemies.

What Went Right



1. Controlling the release date

Vermintide is developed, self-published and financed by Fatshark, so we were in charge of the release date. This meant we could prioritize making a great game, not meeting externally imposed deadlines.

Game development is all about finding fun, and it's hard to know from the on-set how much time will be needed to uncover what will be fun in a new game. You have to be prepared to delay the game's release if it is not good enough. Releasing a game too early usually causes a game to fail because consumers just don't have the time for bad games today. While I think it's vital to have a launch window set, the key is to give yourself the flexibility to move the release date as needed.

I would guess that 70 percent of all games today are released too early. One reason could be that the studio runs out of funds. Another could be that a publisher is too committed to a launch date because of heavy marketing spend and doesn't want to push back the release. Yet another could be the move away from big-budget movie tie-ins towards more mobile based movie games.

In our case, the ability to postpone the console release allowed us to spend more time making a really great game, which probably would have been much harder to accomplish if we had to get approval from a publisher's marketing team to delay the release. Luckily we had the funds to allow us to delay the release.

Another important thing was to be able to communicate the shift in release dates to Games Workshop and our board to be able to explain in a clear way why we all would benefit more from a later release date than originally planned for. Luckily all parties had the same goals for the game and we agreed that getting the right quality was key for the launch.

2. Remaining faithful to our original vision and not compromising on quality

One of the hardest things in game development is staying focused, particularly to avoid feature creep, and to remember why you set out to make the game in the first place. With *Vermintide*, we remained faithful to our original vision.

We never wanted to compromise in terms of quality, because when you do that, you put everything on the line – your reputation, fan base and team. To us, quality comes from a harmony of the different core parts of a game, such as gameplay, visuals, etc., and understanding what your players want and expect.

We always paid attention to the quality, because we knew that if we didn't, we could lose the game. That's one of the biggest benefits of being an independent developer; you can be very honest about what the game is about, who you are and what you are doing.

To stay true to our original vision, we developed some core pillars, like a strong co-operative play focus, staying true to the Warhammer brand and focus on replayability to give some examples which we always tested new features against. We measured every new suggested feature on how it could strengthen each core pillar. If a cool feature didn't support our pillars, it would likely be cut. Another thing that helped us reach this goal was having the same core team in place throughout the project, which allowed us to focus.

3. The right IP for our studio



For *Vermintide*, working with a well-known IP really paid off. Bear in mind the synergies we've had with Warhammer were only possible because the team really knew and cared about the IP. Almost half of the studio played Warhammer games before we started *Vermintide*.

To make sure everyone understood the IP, our producer held both board game sessions as well as RPG sessions in the office with the employees who had little knowledge of the story. People joining later in the process were given various Warhammer novels to read and catch up on the lore.

Being able to use the Warhammer IP helped us quickly set up the look and feel, providing a solid framework to start building the game. We could ask questions like "Does this feel Warhammerish enough?", and figure out the dos and don'ts for creating the world. Passion plus IP equals magic.

Our collaboration with Games Workshop was synergetic and smooth. We were given contact information to all the key people we'd need to approach if we had anything new to show – from concepts to in-game renders, marketing assets and so on. Throughout the project, we prided ourselves on creating both concepts and renders that were true to the Warhammer IP.

Only a few ideas of our ideas ended up being rejected by Games Workshop, which says a lot about how much we cared about the Warhammer lore. We had one piece of concept art rejected because we went a bit over top with it – a huge digging machine.

4. The right engine with the right engine team

For us, the engine choice was easy. In my opinion, the key thing when choosing an engine is to look at what kind of project you want to build. For *Vermintide*, we needed a flexible, multi-

platform engine that would make it easy to iterate content quickly. As co-founder of the Bitsquid engine, now the Stingray engine, we'd been part of its development process from day one, so we were very familiar with it and knew it was a great fit that would allow us to get the job done.

We also had a dedicated technology team that allowed us to adapt and extend the engine to our needs. That's almost necessary when you want to do certain optimizations that just can't be done in a general purpose engine.

In general it is easier to do optimizations when you know more about the game as you can do better assumptions on how things work, you don't need to cover every possible outcome, you can focus at the ones you know will happen in the actual game. Performance is critical, especially if you want to release your game on consoles. It doesn't matter how good your game looks or how fun it is to play if it doesn't run on your machine.

5. Outsourcing

We outsourced very little for *Vermintide*, because our team covered most if not all of the areas we needed. The few times we did outsource, the primary challenge was getting the right feel in the requested asset. When outsourcing, we look for a partner who understands our vision and the feel of the game we are going for.

Sending over a few keys and allowing them to play the game is a fundamental step to establish that relationship and connection. Oftentimes, we'll also use partners close to our office, since a face-to-face meeting is a much better way of getting your point across than using Skype or the phone.

Outsourcing is inherently tricky, especially for an IP like Warhammer; it's so distinct and its lore is incredibly rich. Having passionate Warhammer fans at the company allowed the rest of the team to identify these details quickly, but for an external partner this typically doesn't come as easily.

To avoid any issues, we decided early to select outsourcing partners for quality, not price, and made sure we could provide them with a solid description of what was needed, which was helpful for the end results to match our expectations.

What Went Wrong



1. Testing and infrastructure

We underestimated the testing and infrastructure investment necessary to complete the project in a smooth way, especially in the later stages of development. The main reason for underestimating the testing – we didn't have help from a publisher. Another reason was that *Vermintide* was a much larger project than previous endeavors.

We simply had not done self-published games on this scale before and underestimated the amounts of bugs that would rise from having up to 50 people working in the same files. A publisher with experience of delivering these type of high quality games would probably have seen that the amount of QA resources we planned for were too few.

We had to make sure everyone at the company played the game daily in addition to adding external QA to bring stability up to speed in the end.

It would have certainly paid off and saved us a lot of time if we'd set aside more resources for continuous integration and internal testing systems, including fine tuning our automated tests. With automated tests QA could have focused on other tasks and we would faster know if a certain map or feature were broken when running the automated tests. We also waited with large scale external testing until too late in the project, including compatibility testing, optimization, performance, tuning of progression and in game economy.

2. Human resources

It's certainly difficult to estimate a 2.5 year project's exact needs in terms of staffing, and we learned again that time spent planning resources is never wasted. Despite our best efforts, certain positions were understaffed, which hampered the process or led to unnecessary delays. For example, we had too few designers in the project's early phase, and on the production side only one. We could have definitely put two additional producers to good use.

Another mistake was not continuously reevaluating the project's needs and composition: as the team grew we didn't properly adjust the lead structure, which led to periods of unclear communication and leadership. When it came to the final push to release the game, we were somewhat unprepared in terms of HR planning.

Although several key project members became overworked in the last month of the project, we had reasonable overtime before that and no extended crunch periods. Every project, especially of this size, will be noticeably strained during the chaotic release period, which requires extra attention to scheduling and communication.

3. Customer support



Once released, we weren't prepared for the amount of helpdesk tickets. The problem was exacerbated because it was hard to reproduce many of the hardware issues experienced. The flood of support issues was something one could call a luxury problem - an unavoidable effect of a very successful release in terms of sales.

But, we should have had extra staff and outsourced resources on standby in case the release exceeded projections. Everyone on the team worked day and night answering questions at the help desk. As it turned out, our response times were very good, but it strained a team, which

had just gone through a hectic period before the release.

4. Large betas is crucial for matchmaking

Testing a multiplayer game is not easy for a smaller independent studio. We ran successful betas on the PC version that allowed us to fix issues that the players found. For various reasons we didn't run extensive betas on the consoles.

The lack of Betas was mainly due to bad scheduling on our part and a maybe too tight release schedule for the consoles. We had a Beta on Xbox One the week before launch that helped us know more about the state of the game but it would have been beneficial to run Betas a couple of months prior to launch.

This resulted in some unexpected matchmaking issues for some console gamers around launch which resulted in a lot of stress and hard work right after launch to fix these issues as soon as possible. Even though we were fixing those bugs as soon as we could, it hurt some of our reviews of the game.

As the console platform owners have a quality check, which is great, the round trip can be longer than on PC when putting patches out.

5. Stability

Stability in the project up until spring/summer 2015 was unacceptable. There was an understandable frenzy to get things in and done, and it wasn't properly balanced with resources fixing things that were broken. The number of people testing and working on bug fixes were too few in comparison to the large amount of features and content that had to be added to the game all the time.

To solve this, we started to use external QA and we also added more daily tests for all employees so that everyone got a better feeling for the stability of the project.

Conclusion



Vermintide has been a dream project for us. It's the first time our full team has been able to work on the same project, and we're proud of the results. We wanted to make a game that was fun to play, not just to make money or please investors, and that paid off. Working closely with Games Workshop, we were able to explore our favorite IP in a new and exciting way, and we've been both thrilled and humbled by the positive response from the gaming community, Warhammer fans and the press.

The 90% review score from PC Gamer U.S. that went live during our release event almost made me cry. Although we really believed the game was great, getting those reviews meant the world to us. It was wonderful to see the team's happiness as I knew how hard they had worked on the game.

This is also the first time we've published our own game with a budget fitting for the size and scope of our plans. Having the freedom that comes with self-publishing was both liberating and terrifying. While we had considerably more control of our schedule and had more creative freedom, we were also haunted that if the end result wasn't well received, it would be entirely our fault. Our biggest take away is that a little extra time can do a great deal for quality, but give a project too much time and you risk working on it forever.

The first year creating *Vermintide* consisted of a small team that did pre-production and prototyping. We spent the remaining 1.5 years with almost the full team at Fatshark finalizing the game. We have continued to work on the game after the PC release with patches, DLCs and the console versions. The first couple of patches and DLCs was aimed to address community feedback which delayed our original DLCs that contained levels and new weapons.

One example was that a lot of player felt the loot system was too random. To address this we added several mechanics to make it possible for players get the gear they wanted. For

example we added a possibility to reforge items and also items that lets the player decide for what class they get loot. The later DLCs contained more levels, weapons and a new game mode.

The reason for updating the game is obviously because we believe in working with a game more as a service even though some updates took way longer to release than we initially expected. The idea is to try to add to the game and trust that if it's great, it will sell.