Postmortem: Frozenbyte's Trine

PRINT

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Trine (2009, PlayStation Network and PC) is a fairytale-inspired platformer with realistic physics, which offers three characters and requires clever solutions to a myriad of challenges. The gameplay is based on fully interactive physics and each character's different abilities and tactics can be used to invent new ways to overcome obstacles -- and save the kingdom.

Frozenbyte was formed in 2001 by gaming enthusiasts with no professional game industry experience. Our debut game -- *Shadowgrounds* (2005, PC) -- was well-received by critics and gamers alike and we felt like conquering the world. In 2006, after the dust had settled on *Shadowgrounds*, a great "AAA" concept was developed.

Most of the company worked on the project for almost two years, while smaller teams worked on prototype projects and outsourcing work that made it all possible. Of these projects, only our internal *Shadowgrounds Survivor* (2007, PC) was ever released.

Ultimately it became clear that the publishers who had enough money did not believe in our ability to deliver the AAA game we were pitching to them, and the publishers who had enough faith did not have nearly enough money.

In hindsight, asking for five to 10 million dollars, going from PC-only to multiplatform overnight, and hiring a lot of new people should've set off our own alarm bells too.

Shutting down the project was a painful process and resulted in a company much smaller in headcount. The remaining development team was left without a project, but these developers quickly found their home in the *Trine* project -- previously a one-man operation with a couple of interns in its pre-production stage. The project looked promising and suitable for a bigger release than originally planned.

As the third game for us, *Trine* had a lot riding on it. If it would not be successful, it would be hard to find the strength to carry on, and the financial debts would probably devour the company. But it was also a project full of potential -- *Trine* was to be the rebirth of Frozenbyte.

What Went Right

1. The decision to re-design the game

Trine, then under a different name, had been in pre-production for almost two years. It was an old school-inspired (MSX era) platformer with focus on large freeform levels. We often referred to it as one programmer's "hobby project". The project was also a test bed for interns and new employees. It was starting to feel like fun.

With the added manpower from the failed AAA project, the game's original design was seen as too small and unambitious -- and it was deemed to have major design flaws due to its old-school roots. The game was essentially

redesigned over the weekend and greenlit for production the next Monday. The team needed work to do.

How do you transform a game designed to be made in a few dozen man-months into something that takes hundreds of man-months? While the process was painful, the key was understanding that change was necessary. Many of the original design decisions were made to fit the original plan -- less than 12 months of production with a team of just a few inexperienced people.

The game world was to be "free" and very adventurous, levels were to be copy-paste jobs, including plenty of backtracking, finding keys and other puzzle elements, and having a difficulty of old-school proportions -- unforgiving by today's standards.

The new design evolved over time but certain things were set from the beginning. More weight was given to physics, and a key factor was giving the Wizard the ability to summon physics objects into the world.

One of the main gameplay elements in the original design was a time limit for character change. Essentially levels were supposed to have segments that had a time limit for completion, and the player could choose whichever of the three characters he wanted to tackle the challenge.

If the player failed and couldn't get to the end of the segment within the time limit, he'd have to do it again (perhaps try another character). This design was now seen as punishing the players and was completely removed, which changed the core gameplay drastically.

The original design also had much less differentiation between characters -- all characters had more or less the same basic attributes and their differences came from the various items that the player could give to them. The characters were redesigned and given distinct personalities and capabilities.

While some criticism has been laid out as to why the capabilities were not made into a single character -- and in fact many prospective publishers commented on this -- we felt and still feel that the three character decision was key in making the game feel cohesive, have a better story and have more marketing power.

The three characters are mentioned in every article about the game and the message it says to potential players is very clear. It also brings in mind classic old-school games such as *Lost Vikings*, which was welcome, even if the game's new design was not as big of an homage to old classics as its original design was.

A key point in the new concept and its level design was allowing players to play the game in their own way and solve

simple puzzles with any character or their combination. Almost all situations in *Trine* can be solved with any character and clever use of the environment.

While many of these design decisions brought a lot of anxiety with them, they were crucial to the success of *Trine*. The game can be seen as a very relaxed, play-at-your-own-pace type of adventure, suitable for both hardcore and casual gamers, and this fact has probably attributed to the game's success.

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2. Art team and the almost complete freedom given to them

Having worked so long on an AAA-class project that never made any income for the company, a crisis was evident when the project failed. Some team members left the company, some of whom were considered very important at that time, and motivation for the remaining team was swinging from left to right when they were added to the *Trine* team.

A decision was made -- partly because of lack of time to focus on such a task amidst all the chaos -- to give the art team and the newly promoted art director almost complete freedom with regards to the game's visual style.

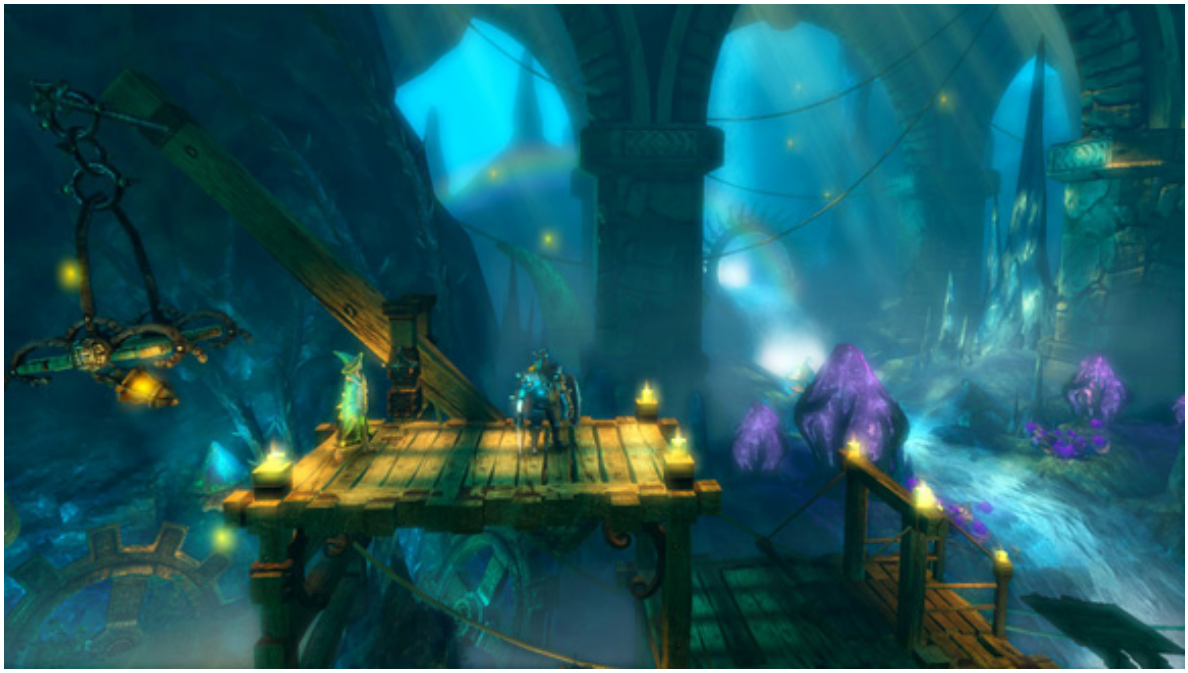
The artists could do what they wanted as long as they kept to certain loose boundaries, such as completing a level in a set amount of time.

If the schedules failed, instead of "just get it done", we would opt for design changes such as dropping an unfinished level completely or shortening existing levels. This way the artists could polish the levels using their own judgment. No producer or outsider was telling them what they needed to do, or what was good enough.

This gamble paid off. The artists didn't polish the levels indefinitely but instead got the levels done in time with the amount of details they were happy with. There were only minimal schedule delays, most of which were caused by external additions, such as marketing materials.

Low-level communication also helped a lot -- the project didn't have any middle management, and many issues were solved by direct communication between artists and programmers. While this approach caused certain issues with regards to schedule and task accuracy, it fit the project's haphazard development method very well and perhaps helped the whole team pull together better.

The art team also came up with many features. The management approved each idea that got into the game and gave it a certain amount of schedule time, but by and large the art team was free to do what it wanted and spend some time on experimenting. This is related to the evolving design of the game -- *Trine* followed a vision, not a strict design.



The most important gameplay addition to the game by the art team was the intelligent-looking skeletons that climb walls and follow the player. This was achieved by the animator and the level designer using very simple tools and triggers -- the AI behind the system is not complicated but it gives the illusion that the skeletons have some thought processes going on.

Another example is the big skeleton "boss" in the third level of the game. It's just a regular skeleton sized five times bigger and it's not very polished -- hitting it in the head will do the trick, but it's just trial and error until the player figures that out. *Trine* lacks enemy variety and the big skeleton seemed like a good idea very late in the project, and it seems to have worked. Many reviewers and user comments talk about "bosses" in *Trine*, and half of the thanks go to the big skeleton, despite it being a rather weak effort.

The art team's freedom was considerable and they came through with flying colors. Approximately half of the art team were experienced developers. For the rest *Trine* was their first game, which is even more astonishing in hindsight.

3. Getting to consoles, finally

Frozenbyte had always wanted to make the move to console platforms and with the bubbling digital distribution market making a splash, *Trine* felt like a title that would fit the market. Coming from a strong PC background, we had formulated a PC and Xbox Live Arcade strategy.

When a prospective publisher felt XBLA had too much competition and asked if we could do the game for the PlayStation Network, the answer was obvious -- yes. The Finnish tax authorities were close to planning to liquidate the whole company, so despite not having any experience or working knowledge whatsoever of the PlayStation 3 platform, or any console platform for that matter, it was a simple decision to make.

At first we were only able to afford one PS3 debug unit. With that and access to the relevant documents and information, we began porting our existing technology to the PS3 in January 2009. In five weeks -- and lots of overtime from the programmers -- a bare-bones version of *Trine* was running on the debug.

In the following months we gained the trust of the publisher and Sony. Later on this feeling got even stronger internally and we felt *Trine* was leading the charge of big, retail-quality downloadable games.

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4. Introducing the game early enough with a good trailer, and taking an active role in marketing

The first trailer for *Trine* was released on the 5th of December 2008. Most gamers and journalists had not heard of Frozenbyte before, and the announcement came out of the blue. We wanted to launch with a trailer because it was possible -- the contract had been signed just a few months prior and the game was already running fine, so we planned to use that to to our advantage.

The trailer itself took many weeks of careful planning and hard work. It was very much a personal mini project for the game's producer and original concept creator. Many passages of the levels were modified to suit the trailer -- obstacles were removed, geometry reworked, enemies added for extra fodder, and so on.

The producer's background in programming and knowledge of the game engine and editor were essential for this work and paid off in the end. Multiple people took part in various parts of the trailer and the whole team offered their thoughts and feedback and as a result the trailer became very good and showed the game in a positive light.

The response to the trailer was totally unexpected and overwhelming. Even communities known for their harsh criticism approved of the trailer. After three years of setbacks and failures, the team was reinvigorated with newfound passion.

The spirit at the office increased rapidly. This cannot be overlooked in the overall quality of the game, and it was probably crucial with the art team's freedom and their ability to succeed. The newfound spirit and confidence was somewhat new to the company, as this time it applied to the team as a whole and not just to a few crazy individuals.

The success of the first trailer brought in plans for more trailers of similar quality (it became much easier towards the end as the game got closer to release) and helped enormously in reinforcing our belief in the game. We did everything we could from materials to press announcements, previews, interviews, websites, reviews and ultimately end-user support . We were keen to get as much press coverage as we could and it paid off.

5. Getting the atmosphere and mood right

"Once upon a time in a land far, far away..." is *Trine*'s opening line. It was one of the first decisions made story-wise and it set the tone for the rest of the story and characters. We knew we did not want the game to be doom and gloom -- rather, we should embrace the then-developing colorful art style to the full and instead of highbrow fantasy, we should aim for a fairytale atmosphere.

Considerable time was spent on making sure the characters fit the game's atmosphere. Originally the game featured a very generic knight, thin and lean with a sword and shield. As the game's art style progressed into a more and more vivid and vibrant direction, the knight started to feel too serious and boring.

Screenshot illustration of the old knight character (left) facing a skeleton enemy and the new knight (right) battling against the 'boss' in the third level of the final game.

His transformation was the driving force for the final mood of the game -- making him fat instantly stroke a chord with the team and spurred further ideas, including great, just-right animations. In a rather stereotypical fashion he also became daft, and then gained his voice. This led to the game's overall vocal tone. With the help of an experienced casting director, *Trine* got a cast that felt spot-on, including a narrator who we wanted to sound like "a grandfather who tells the story to his grandchildren".

The narrator tells the story of three characters thrust into saving a kingdom. There's no princess in the castle but the story follows a treaded fairytale path and doesn't divert too far off. A simple story, and behind it, a long-winding and complicated process.

There had been a couple of (internal) writers and many of their ideas had been good, but things hadn't moved forward. The art team had been making levels without any regard to the plot, and at some point it was realized that the levels were more or less ready and there was no story connecting them, as there was no story at all other than a few different introductions and dialogue pieces.

A goal was set -- whatever the story, it shouldn't affect existing levels; instead it should focus on simple things and try to convey the desired atmosphere and mood of the game. In essence, it was accepted that the story would not bring the game any awards -- we weren't aiming for the moon and stars -- but at the same time it should not bring it down in any way.

With time running out and effort needed elsewhere too, we cut everything that we could and stuck to the bare minimum. Levels got accompanied by simple loading screens that showed the heroes' journey -- Indiana Jones-esque travel plans were abandoned for a much simpler yet similar presentation.

The narrator's speech accompanied the loading screens, and if the speech lines got a bit too long in order to get the story across, so be it, because we could not include a whole lot of dialogue in the beginning of each level due to fear of combat gameplay getting in the way. These oneliner-like musings of the characters were important in getting the characters' personalities through in a rather small amount of dialogue.

We also decided not to have dialogue in the middle of levels, and this gave clear focus points for writing (although in hindsight we should not have been as strict -- many players would have liked to hear more dialogue during the

levels).

In the end, we achieved the atmosphere we wanted, and reviews reflected this. The characters got mostly positive comments, the narrator was praised a lot, the story was mentioned and usually in neutral or positive tone, even though very few really understood what was going on, except the basic premise of undead rising and threatening a kingdom.

But it didn't matter -- the presentation and atmosphere were so strong that people gave the story a free pass. Music played an incredibly important part as well -- the beautiful soundtrack that spans the entire game is one of the most memorable aspects of the game to many gamers.

Embracing our limitations and constraints helped form a better game and enabled us to focus on other, most likely more important, areas of the game.

What Went Wrong

1. Design, budget and schedule -- do they ever match?

The original budget for *Trine* was 30,000 euros. The plan was to buy a lot of ready-made assets to speed up the development -- graphics quality was not a concern at that point. We weren't sure if it would be released as a Frozenbyte game or as something else; a different label was discussed and it could have ended up as a true indie release as well.

When the project was elevated to "proper status" and the budget was increased to 300,000 euros, it was clear the original plan needed revising. While the broad scope of this change was successful and didn't have many problems, we kept making small design changes to the revised design down the line.

It is hard to say whether or not this was a bad thing as such because each change made the game better, but the journey became very stressful to everyone who was involved in the design of the game.

In many cases it was "design by committee" -- only to be overruled by the design director further along, and despite those final decisions being key in making *Trine* a successful game, they caused a lot of grief to the people involved.

Everyone was passionate, especially the original designer/producer/programmer who also had money invested in the project, and passionate people do not give up on their ideas easily. Each design change also had to get communicated to the team and sometimes the confusion stemming from design arguments would cause uncertainty as to what the final design was supposed to be.

When the game moved from PC-only to PC and PS3, another slew of changes was required. The budget was almost doubled once again, and the team's ambitions were set even higher. And even after this, the budget continued to increase in portions of 100,000 euros, and each time some of the previous work was rendered useless, and a new bar was set for quality.

The budget finally ended up at around 800,000 euros at gold master time. Support, patches and other post-release activities have added their own share. As our contract with the publisher was more akin to a distribution one than a full-blown publishing contract, our increased ambition was not in any way reflected in the milestone payments we had agreed upon, and ultimately we ended up funding two-thirds of the project on our own.

2. Unrealistic scope of design and production

Frozenbyte's previous games, *Shadowgrounds* and *Shadowgrounds Survivor*, both suffered from horrible delays in production. *Shadowgrounds* missed its original release target by two years (delay of 100 percent), and even *Shadowgrounds Survivor* -- which was supposed to be a quick but professional job -- by six months (delay of 50

percent). But we thought we had learned from those experiences, and everything was fixed -- as if by magic -- and we wouldn't need to improve anything or put more focus to scheduling.

The project's budget and resources were in constant motion. Instead of cutting down design and scope in the early stages, we pumped up production resources with a "yes we can" attitude and gradually added more people to the project. Luckily, our empty bank account kept us from going overboard, otherwise we probably would have made the fatal mistake of adding too many people to a delayed project.

Programmers had too many items on their to-do lists, and instead of rebelling and throwing scissors (like the artists might have), the programmers cut corners in their code and crammed in as much as they could in as little time as possible. This was known by the management -- and was essentially a continuation of practices from the early days of the cash-stripped company -- but the problems started to become evident with *Trine*, especially during the testing phase where weird and "unfixable" bugs occurred.

We neglected proper design documentation, production plans, programming plans and sometimes even art supervision. Everything happened at the last minute. In hindsight it's great to reminiscence how the team pulled together, but it certainly did not feel like the right way to do things at the time.

Because of indecisiveness and procrastination, the final story -- not just a revision of it, but the whole thing -- was written two days before recording was scheduled to begin in March 2009, a few months before the scheduled gold master date. The night before recording, a new, important revision was written.

Another day would probably have helped and made the story more sensible -- we doubt most gamers understand the story about the three artifacts (and in fact, there's even a notable inconsistency in the narrator's loading screens -- we lost the plot in the wee hours of the morning ourselves.)

The state of the overall project and its overambitious design was finally understood in May 2009, roughly a month before the scheduled gold master. Some partially-developed gameplay features were cut, such as the third upgrade slot for the characters' skills, along with a graphically unpolished icy mountain level and other art content, as were many small gameplay features.

This also caused headaches down the line, for example in localization, as much of the text had to be revised and combined even though the game had already been completely translated once and VO had been recorded.

Screenshot of the inventory screen from early summer 2008, showing an early draft of the inventory itself, old character models/faces, six skills (final game has three) and five upgrade slots (final game has two).

Testing of the game started a couple of months before the scheduled gold master date and it was imposed on inexperienced, part-time trainees, who did a good job but could not fight against the reality of the situation. Despite this, our in-house QA was much more useful than the external QA the publisher had set up -- in the future we plan to use in-house QA and general testing sessions to a much greater effect, and start them earlier.

Nevertheless, development was more or less completed by mid-June and the PC version was released shortly after, on July 2, 2009. The PS3 version, however, fell into a QA mess.

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3. Console game fail

For an independent developer, shipping a console game is not like shipping a PC game. This lesson has been repeated over and over by experienced developers, but being stubborn and having confidence in our abilities, we didn't pay much attention to it. The game was done and it was good, we felt comfortable with the console, early builds had met with great success at Sony. How hard could it be to get the final version released on PlayStation Network?

Trine was submitted to SCEE in the beginning of June and we considered it "done". We could not find any more critical bugs or anything that would prevent release. The plan was to release the game first on PSN and then a week or so later on PC, which needed some additional work on the menu system, mainly due to configurable controls.

When the PSN submission was returned with a bunch of bugs, we started to see that the plan would fall apart -- but little did we know that we'd have to pick up the individual pieces from the ground in a very tedious way.

The submission process was shrouded in mystery as all the communication with SCEE was handled by the publisher. Throughout the development, our relationship with the publisher had been difficult, and the submission process probably suffered from this as well.

Relevant information sometimes got lost along the way, despite (or because of) everyone on both sides working hard

to get the game out.

Not only were we making our first console title, the publisher too was doing their first PSN title and the doubled inexperience really took its toll on the game. In addition to simple game-related bugs that needed fixing, a number of issues could have been solved by better understanding of the complex TRC document -- in other words, more experience.

Another group of bugs, such as wrong filenames or wrong program version numbers, could have been solved by a more experienced publisher, or by having direct control over the submission process.

We had to keep "supporting" the PS3 version until September. Fixing the bugs in each report was a matter of a couple of hours, but the mental stress started to build up.

The three to four months the game spent in QA caused a lot of anxiety and uncertainty on the whole team, most of whom had moved on to other projects by then. The team's, and especially the management's and the programmers', moods swung from the first submission's triumphant joy to annoyance to desperation to humorous disbelief during these weeks of constant waiting for new QA notes and final acceptance.

And it wasn't just internal -- many PS3 gamers were getting furious as the wait got longer with each passing week. Our long history of successful forum interaction with our fans backfired, when the estimated release dates we posted were missed time and again. When we realized the process could take longer, we became more vague with "no comment" posts, which did not do much to help.

We got more than our share of press coverage on websites all over the internet, and with each delay the user comments started to turn more and more frustrated, especially with the busy Christmas period and its slew of great AAA games coming up.

The PSN versions were finally launched on the 17th of September (EU) and the 22nd of October (US) of 2009 -- the one month delay between Europe and North America further highlights the submission and launch problems with the project, as the only major difference between the versions is the amount of languages -- Europe has six languages, North America only three. Both versions had been completed at the same time.

The situation remained much the same with patches -- the European version promptly got the patch that added proper Trophy images and made the last level easier, but the North American version had to wait over half a year until several non-technical aspects fell into place. It is much more difficult to get game updates released on the console platforms, and this was something we were not prepared for.

In hindsight we probably should have fixed many additional things during the submission process but after a couple of failed submissions we were too intimidated by the risk of breaking existing stuff and thus further delaying the game

that we rather went the "let's get it out and patch it later" route. If we had known what we now know, we would have made more content changes to the submission builds and eliminated the need for patching as much as possible.

At the end of the day, *Trine* lost most of its PSN marketing and launch hype due to the delays, especially in North America. This, in addition to the vastly different release dates and inconsistent pricing across the platforms, undoubtedly affected sales greatly.

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4. Dropping the ball at the last moment

When your game is divided into separate levels, in what order should they be created? We didn't struggle with this question -- the tutorial was made half-way through the project so that it would reflect the game reasonably well, and the last level and the end boss were left until the very end of the project. This was improvement over the *Shadowgrounds* games, where the development followed the games' level progression.

Naturally, when the time came to create the last level for *Trine*, we only had a couple of weeks until the game was supposed to be finished. Therefore all of our earlier thoughts on having a huge boss enemy were thrown out the window -- bosses take considerable time and we didn't have much.

An alternative plan B was schemed on the spot -- what if the player travelled upwards, avoiding rising lava? Several elements were added, such as an evil wizard (or the "old King" for those who tried to follow the story) who conjured objects such as boxes, planks, and spiked balls to hinder the player's progress.

The last level was to be the ultimate test of the players' abilities and how well they had understood the cooperation between the characters.

Everyone in the team had fun with the level. It was a considerable challenge and took many tries to get to the top. At the top a small regular fight awaited, and the game would end when the player reached the topmost platform. The feeling of accomplishment when the level was finally beaten was great, given the schedule constraints, and we were happy with the work-in-progress final cutscene -- the only one that uses the in-game engine and characters.

As time was running out, the level did not get nearly as much playtesting as e.g. the tutorial had got. We had made several changes to the tutorial -- for example, a few weeks before gold master we changed the Wizard's English tutorial hint message from "Draw a box" into "Draw a square" as we found out that some players started looking for a box to drag around instead of using the cursor to conjure a box out of thin air.

We knew the last level was a departure from the rest of the game, but we felt it was a nice change of pace. We had one outsider, an ex-employee, who tested the level before gold master. He did not enjoy it at all, but we ignored his feedback. He had only played a few levels of the game before so his opinion clearly wasn't valid.

We've never got so much negative feedback on a single level before. The majority of gamers did not enjoy the change -- the somewhat slow-paced gameplay had been transformed into a quick test of skill. There were some who enjoyed the level, but they were a minority. It could be speculated that *Trine* had reached out to a much larger target audience than we had perhaps envisioned, and that resulted in the clash. Many gamers also lamented the fact that there was no real boss fight.

In a way most of the decisions we made with the last level were perfectly sound -- they just belonged to a different game, such as the one *Trine* was originally supposed to be. Some parts of the level were (and still are) impossible to get past on the first try, as some of the triggers are simply unfair and do not give enough time for the player to react. This kind of memorization gameplay, in addition to hectic speed of the level, did not fit with *Trine*.

We made the speed of the rising lava slower with patches and removed it from the easiest difficulty. However, this did not help as much as we had thought -- while the Game Over screen featured a difficulty change option, many players did not take advantage of it and instead banged their heads against the spiked balls, and became frustrated.

As a result we slowed down the speed of the lava even more with further patches. While we are not believers in automatic difficulty adjustments, we will most likely consider some alternative approaches to difficulty levels in the future. Even something as simple as detecting player deaths and then changing the difficulty accordingly would have been much better and guaranteed a better experience for many gamers.

It's also worth noting that to this day, many gamers still think the last level of the game is too hard, because their own experience does not reflect the game in the post-patches stage. Some in fact think we made it harder, because we added a few skeletons into the mix to spice it up, and this is easier to notice than the adjusted speed of the lava.

This kind of inaccurate word of mouth does not change easily, and further emphasizes how important it is to get things right before launch. (And of course, making matters worse as of this writing is that the North American PSN version still features the original, tough-as-nails last level, although there are finally plans to have the patch released.)

In the future we'll definitely want to have the last levels made a bit earlier in the production and modify the difficulty afterwards, instead of pushing it to the end of the project. We will also focus more on bosses and such memorable events -- gamers and reviewers seem to have an innate need for "bosses", at least in certain game genres, and it would help to fulfill those expectations.

5. Leaving online multiplayer out of the game

Trine, like our earlier games, features an offline co-op mode for up to three players and it is considered one of the best aspects of the game. It changes the gameplay drastically, especially in three player co-op, where players truly have to work together -- and often a certain amount of hilarious mishaps are bound to happen.

So why do we get hundreds of negative emails and forum posts about co-op? Because it's not online. Gamers these days expect that co-op means "online" by default, and are sorely disappointed when they find out that *Trine* does not have any online multiplayer features.

Not having online multiplayer has been the biggest criticism against our games since day one, and it all goes back to 2002 when we were working on a realtime strategy game concept and made a decision not to pursue online/LAN features in favor of faster development times.

The same code base has been used in all of our games since, including *Trine*. As layers and layers of new code have been added to the engine, the cost estimate of adding online multiplayer has always increased with each project, and it became very hard to justify the additional cost of rewriting the game engine -- or rather, getting enough money to complete both the rewrite and whatever game we had in production.

While this decision has been a key factor in our ability to ship any games at all, it is hard not to dream of a time machine. A little bit more forward-planning in 2002 would have gone a long way. It's easy to fall into the "oh it's just a prototype, it doesn't have to be good" mentality, but if things don't go to plan and the project doesn't bring in the money everybody is expecting, the prototype will end up being used in more projects because it's cheaper and faster.

Trine probably could have doubled its sales and success had online co-op been included.

Conclusion

Trine as a game turned out great. *Trine* as a project was a big mess -- a series of unfortunate events that ended up just shy of miserable failure. But we got the game done and at the end of the day it's the game that counts. Many of the business issues and other hardships we went through during the project did not affect the final game at all. We were -- and still are -- very proud of *Trine* and what we accomplished.

And it's not just us. *Trine* got good review scores (Metacritic 80 and 83) and great feedback from gamers. Many have even said said that *Trine* is the best game they have played in a long time and it refueled their passion for games. It

doesn't get much better than that.

Bittersweet as it is to think about all the lost potential, there is no denying that *Trine* is the project that has catapulted Frozenbyte into a new stratosphere, and the great player feedback and reasonably good sales remind us of this. With more experience under our belt and a full code rewrite in progress, the next project will go without a hitch and right all wrongs. Right?

Facts

Developer: Frozenbyte

Publishers: Frozenbyte (PC online) / Nobilis Games (PSN EU & US, PC EU) / SouthPeak Games (PC US) / Square Enix Downloadable Games (PSN JPN)

Release Dates: July 2, 2009 (PC online), July-August, 2009 (PC retail EU), September 10, 2009 (PC retail US), September 17, 2009 (PSN EU), October 22, 2009 (PSN US), March 31, 2010 (PSN JPN)

Platforms: PC online, PC retail, PlayStation Network

Number of Developers: 3 at start, 16 at peak/end

Length of Development: 18 months

Budget: 850,000 euros

Lines of Code (Game): 298,000

Lines of Code (Engine and earlier games): 426,000

Main Development Tools: MS Visual Studio 2005, PhotoShop CS2, LightWave 9, Hansoft

Lines of code in the shipped game that include comment lines with "hack" or "todo": 1438

Outsiders who tested the last level before release: 1

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