

A LOOK AT SUCCESS: UNCHARTED 2: AMONG THIEVES

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Abstract

This document contains a game analysis for *Uncharted 2: Among Thieves*, a video game exclusive to the PlayStation 3. This is a portfolio submission for the Florida Interactive Entertainment Academy at the University of Central Florida's Center for Emerging Media. This analysis discusses, in great detail, the various aspects of the development process that has made *Uncharted 2* successful.

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INTRODUCTION

Fifteen years ago video game development cycles were basic and projects generally consisted of only a few people. Today, developing a game is a very complex process that involves thousands of people, large global collaborations, and multi-million dollar budgets. Even though the video game design process is complicated, there are still thousands of games being developed across dozens of platforms on a yearly basis. With this level of saturation, most games are of poor quality and do not yield high returns. However, each year there are dozens of games that stand out amongst the rest, with some even being considered industry changers. *Uncharted 2: Among Thieves*, developed by Naughty Dog, and published by Sony Computer Entertainment America, is an industry changer.

Coming off a very critically acclaimed *Uncharted: Drake's Fortune*, Naughty Dog had the daunting task of living up to the first game's high esteem. With the *Uncharted* series, Naughty dog has captured the feel of an interactive action film. During development, they made many breakthroughs in motion captured cutscenes and animations. Their success in these areas, and the success of the entire series, can be contributed to their excellent strategy in the development process.

For their second installment, Naughty Dog did not rest on their laurels. With *Uncharted 2*, they improved various aspects of the first game. First, they further tightened their focus on their audience. Secondly, they further developed their characters, storyline, and artistic style making sure that each aspect remained grounded in reality. They then took an already impressive process of motion captured cutscenes and fine-tuned it even further. Next, they found new ways of using the power of the PlayStation 3 to enhance the game's graphical capabilities. Finally, they developed an excellent strategy that allowed for the addition of an online multiplayer component.

REMEMBER THE AUDIENCE

Regardless of the medium, whether it is movies, novels, magazines, or video games, understanding the audience is crucial. Understanding the audience gives the development team a central basis. If the audience is not established early on, or if the team loses focus of the audience entirely, the project begins to lose continuity. If this occurs, the team may spend a lot of time developing what they think is a great feature, only to find out that audience had completely different expectations.

From the very beginning, Naughty Dog was focused on their audience. With *Uncharted 2*, they had to please an even larger audience than before. Since the storylines in the *Uncharted* series are based around historical, treasure hunting experiences, the respective audience is quite eclectic. First there is the action fanbase, which generally prefers gunfights and explosions. Then there is the adventure fan that likes visiting exotic locales and has a taste for danger. Naughty Dog also had to consider the puzzle solving fan. With an audience this large, they had to make sure that there was something exciting for each facet. Naughty Dog accomplished this by developing and fine-tuning a multi-genre experience. According to Lead Game Play Animator Jeremy Yates, *Uncharted 2* had "three pillars of gameplay."

These pillars are traversal, gunplay, and hand-to-hand combat, all of which cater to a specific type of audience (Technology and Gameplay (BTS #1), 2009, time 00:04:28).

THE THREE PILLARS

In *Uncharted 2*, the adventure fan enjoys a greater deal of variety in terms of traversal. The traversal pillar represents segments of platforming in which the player must navigate the game levels by completing death defying feats. While the first game allowed the player to scale temple walls and swing across vines, it offered little variety and tended to stale quickly. For the sequel, Naughty Dog designed a broader spectrum of levels that made the sense of adventure even greater. The player is now able to traverse street posts and store signs of a Nepalese city, climb over ice-covered mountain paths and ancient Tibetan statues, and even jump aboard a moving train. With this variety, the platforming is far more enjoyable for the adventure fan.

Aside from climbing mountains and jumping on trains, also returning is the puzzle element found in the first game. Using various clues, the player has to solve ancient mysteries to continue their quest. While these segments certainly pleased the puzzle facet of the audience, this element fell a bit short this time around. While there were still a few puzzles to be solved, the gaps between these segments were quite large. Naughty Dog did not completely neglect the puzzle fan though as the puzzles that were included were a bit more thought provoking.

For the action fan, there was gunplay and hand-to-hand combat. These two pillars are the predominant gameplay elements and they were changed very little from the first game. The gunplay is still shown from a third-person perspective and the cover system works in pretty much the exact same way. The weapon interface, aside from a new display for grenade count, is generally untouched. While hand-to-hand combat played a slightly larger role this time around, it too was completely identical.

To keep the gunplay fresh and exciting for the action fan, Naughty Dog had to develop what they call “active cinematic experiences” (Technology and Gameplay (BTS #1), 2009, time 00:03:17). Active cinematic experiences are sequences of gameplay that allow the player to play out intense action sequences that are usually saved for pre-rendered cutscenes. For example, during an earlier part of the game, the player is actively pursued by a fully armed, combat helicopter. Instead of just showing the action, Naughty Dog puts the player right there. Trapped inside a crumbling building, the player has to dodge helicopter gunfire, kick over tables for cover, nearly miss death by missile fire, and escape the crashing building by jumping through the window of another building. These active cinematic experiences are one of the games most endearing features, and it is what sets *Uncharted 2* apart from every other action game. When making these sequences, Naughty Dog took into account exactly what the action fan enjoys and they delivered on their expectations.

THE SEQUEL EFFECT

When working on a sequel, sometimes developers feel they have to change various aspects to keep things fresh. However, in doing this, they can occasionally forget what made the first game successful. Often times they will remove features or change them entirely just for the sake of change. They lose focus of their audience and neglect expectations simple to produce something different.

Naughty Dog avoided these sequel pitfalls. They did not spend time making fancy new gameplay features. The audience praised the gameplay from the first game, so they left it exactly the same. They instead spent more time creating new levels and focusing on the active cinematic experiences. While the gameplay may have remained the same, these additions gave the player an entirely new experience and they solidified Naughty Dog as one of the leading developers of the action-adventure genre. Their success in this genre can be contributed to the fact that they never forgot about their audience.

BUDGET SETS THE STAGE

For *Uncharted 2*, Naughty Dog was given the same budget as the first game, which according to Co-president Evan Wells, was roughly \$20 million (Nunneley, 2009). In terms of video game budgets, that is slightly above par. According to Yo Takatsuki of BBC News, the average estimated cost for a PlayStation 3 game is \$15 million (Takatsuki, 2007, para. 5).

While the budget may have remained the same for *Uncharted 2*, a lot of the aspects of the development process were already in place. For the most part, the returning characters remained the same, the gameplay remained untouched, and the motion capture cutscene process was already set up from the first game. This allowed them to hire more staff, create new levels, and even design new features, such as a multiplayer component (more on that later).

According to Lead Game Designer Neil Druckmann, they were able to add approximately 20 to 30 more people to the staff (Graft, 2009, p. 2). This larger team was able to spend more time creating new level designs, adding more characters, and improving various other aspects of its predecessor in an effort to develop a more polished title. This also included finding new ways to push the power of the PlayStation 3 (more on this later as well).

With more room freed up in the budget, members of Naughty Dog were able to travel to Nepal and areas of Tibet to witness first-hand the culture, the artistry, and the general architecture that was going to be used in the game (Story and Art (BTS #2), 2009, time 00:04:20). Since the *Uncharted* series is heavily influenced by history and various cultures, being able to use real life influences can really add a more believable layer to the game. This trip was a huge benefit as many of the ideas and artwork they sketched from that experience undoubtedly helped shape many of the levels found in the game. As put by the Art Director Erick Pangilinan, "Sometimes reality is better than almost anything you can create" (Story and Art (BTS #2), 2009, time 00:04:32).

BUDGET BREEDS EXPECTATIONS

When a video game development project receives a \$20 million budget, expectations are high. On top of the pressure already inherited in managing such a large budget, there can also be pressure from those financially invested in the product. Often times it is just one publisher who controls the financing, but it can sometimes come from a series of publishers or other third parties. The more parties involved, the more complex the budget and the higher the expectations.

In the case of *Uncharted 2*, none of this was a concern. The game is exclusive to the PlayStation 3 and it was solely published by Sony Computer Entertainment America (SCEA). In fact, in 2001, Naughty Dog became a subsidiary and production studio for SCEA (Naughty Dog Company Information, para. 2). As such, all of the funding came directly from Sony and most of the development process was completed in-house. With that being the case, Naughty Dog had to please only the executives at Sony, and based on the success of the first game, they were more than likely given a great deal of creative freedom.

Something else to consider when discussing expectations is the release date. The developer and the publisher (or publishers) have to work together to determine the most reasonable release window based on the given the budget. However, there are some instances where a publisher will have unrealistic expectations. Sometimes a publisher may demand that a game be released by a certain date. This is often seen during the holidays when publishers will do whatever it takes to get the game out in time for holiday shoppers, even if it means sacrificing the quality of the product.

With *Uncharted 2*, the release date stayed the same throughout and the game was never knowingly delayed. This meant the fans were never disappointed by long delays or release date promises. Also, with it releasing in October 2009, Sony has had enough time to properly market and convince the holiday shopper.

Naughty Dog used their budget wisely and the profits for *Uncharted 2* have already exceeded the production costs. According to Philip Rosenberg, a Senior Vice President at SCEA, *Uncharted 2* had sold approximately one million copies as of mid-November 2009 (Reilly, 2009). At approximately \$60 per copy, the title has earned roughly \$60 million since its release two months ago. While this figure does not take into consideration such things as shipping costs or continued marketing, it is still a good indication of the exceptional return on investment.

DEVELOP THOSE CHARACTERS

Another reason for *Uncharted 2's* success is the excellent character development. For the first game, Naughty Dog spent a lot of time creating fully realized characters. The result was a down to earth, relatable set of characters that grounded the story in reality. For the sequel, they took that one step further. They fleshed out the original cast even more and added new, unique characters. In fact, Evan Wells thinks the biggest enhancement to the sequel is the “experience that you get through having that

really rich, character-driven narrative; the fact that as you are playing through the game you really start to care about these characters” (Kelly, 2009, p. 4).

The success starts with their main character Nathan Drake, who Naughty Dog claims is an “everyman” (Story and Art (BTS #2), 2009, time 00:02:15). Drake is relatable. He makes mistakes, has flaws, and is charming and humorous. A very relatable character makes the experience more enjoyable for the player because they can put themselves in the shoes of the character and pretend that they are in the action.

Drake is just one of the many characters in *Uncharted 2*. Most of the secondary characters also have separate personalities. As they interact with Drake, these personalities tend to pull him in various directions. Through these interactions, the player is able to see even more aspects of Drake’s personality. Druckmann, regarding character development and secondary characters, had this to say:

Here you have a guy who is a criminal and hangs out with criminals, but has a conscience. That contradiction is what makes him interesting and gives him depth. And surrounding him with interesting characters as satellites brings different characteristics of his personality out. (Graft, 2009, p. 3)

Naughty Dog had to be careful when creating new characters. Like Drake, each new character had to be believable and they had to have their own set of traits. Naughty Dog also had to be careful when bringing back previous characters. Players of the first game would expect certain behaviors from returning characters. As such, they had to create dialogue and interactions that coincided with how the character acted in the original game. If they had failed on either of these aspects, the entire experience would have suffered.

Another aspect that made the characters so believable was the well written dialogue. The writing was clever, witty and enjoyable. Each character sounded relatable as they spoke and behaved like an average person. Druckmann, regarding the dialogue, said “He [Drake] has the same reactions as a lot of our players have. When he sees a building collapse, he’s like, ‘Holy crap, we were just in that!’ That’s what the player is feeling” (Graft, 2009, p. 3).

THE GRAND ADVENTURE

While character development was indeed a great success in *Uncharted 2*, the plot itself was also a contributing factor. Well developed characters are meaningless if they are not given a solid storyline. If the characters go around completing random tasks that do not follow any linear flow, they would seem out of place and irrelevant.

The stories in the *Uncharted* series are based around a “real-life historical mystery” (Story and Art (BTS #2), 2009, time 00:05:03). In *Uncharted 2*, Drake and his companions are seeking answers to the mystery of Marco Polo’s lost fleet. With a story loosely based around historical facts, the plot feels more grounded, thus making the characters more realistic. The journey takes the characters to various locales where they often find themselves in grave danger. When in moments of crisis, a person’s character

usually comes to the surface. In *Uncharted 2*, this is no different. Naughty Dog created a plot full of danger so that the player could see the real personalities of each character (Story and Art (BTS #2), 2009, time 00:02:47). While the plot may not be the greatest adventure ever told, it still delivers an enjoyable experience that showcases the strong character development.

Creating characters and developing a plot like *Uncharted 2* is no easy task. This is made evident by the fact that most video games, aside from role-playing games, usually have very little character development and uninspired plots. The process takes a great deal of time and planning and most developers decide to instead focus more of their time on perfecting the gameplay. What sets *Uncharted 2* apart is that it has both impressive gameplay and a well planned narrative. Each piece in its own right is an outstanding achievement. When combined together, they form a very rare experience, and *Uncharted 2* is very successful because of this combination.

NOT YOUR TYPICAL CUTSCENES

The cutscenes are possibly the most unique, and successful aspect of *Uncharted 2*. With the *Uncharted* series, Naughty Dog has practically revolutionized the cutscene process by developing a unique method of motion capture. Rather than recording the voices and the motion capture separately, they instead treat each sequence as “miniature plays” (Making of the Cinematics (BTS #3), 2009, time 00:01:01). This means that the actors that do the voices also act out the motion capture sequences as if they were preparing for a stage play. An advantage to this approach, according to the Lead Cinematic Animator Josh Scherr, “is that you get this unique energy when actors interact with each other that you just don’t get when you record everybody separately in a sound booth” (Making of the Cinematics (BTS #3), 2009, time 00:00:20).

The cutscenes created by this process are unrivaled. The character models in the cutscenes have realistic arm, hand, head, and lip movements and the interaction between characters is also fluid. When comparing their process to other developers, Scherr said the following:

There’s been a lot of instances where you have studios who record the voices separately for the mo-cap, and the end result almost always looks, at best, looks [*sic*] like pantomime, and at worst, looks like people running around flailing their arms. (Making of the Cinematics (BTS #3), 2009, time 00:02:05)

Scherr makes an excellent point. Most cutscenes found in other games are not realistically fluid. They usually have poor lip syncing and the character movements are robotic, stiff, and blocky. However, the process that Naughty Dog has developed practically eliminates this problem.

What also makes their approach so unique is that they prepare each sequence as if they were recording a film. They begin by creating an outline and a script. From there, they rehearse the scenes with the actors in the studio. During this step they revise the script and make various changes. Finally, they record the sequences with everyone in full motion capture suits. Also, since the dialogue is being

recorded live as the sequences are being acted out, the actors are capable of doing improvisation. This allows for enhancements to the script. Had the voices been recorded separately, improvisation would have been impossible (Making of the Cinematics (BTS #3), 2009, time 00:00:39).

Naughty Dog has created a process that should now be considered the gold standard. They put a great deal of work into planning, producing, and fine-tuning their cutscenes and this is evident from the final product. The cutscenes in *Uncharted 2* are some of the best around and they are yet another reason why the title is successful.

PUSHING THE PS3

The PlayStation 3 is a pretty robust piece of hardware. However, more often than not most of its power goes unused. This was not the case with *Uncharted 2* as Naughty Dog spent a great deal of time learning how to get every ounce of power out of the PS3. According to Co-president Christophe Balestra, “for our first game, we were using probably only 30% of the power of the cell, and this time we were like [sic] getting close to 100% of like [sic] using all the power of the PS3” (Technology and Gameplay (BTS #1), 2009, time 00:00:47).

By using Assembly programming, they had found a way to offload some of the graphics processing onto the PS3’s cell SPUs (synergistic processor units). Through this process, they discovered that the SPUs were very efficient at doing this kind of work. As such, they began adding more functionality that allowed them to improve various aspects of the game, including graphics, lighting, and animations (Mastering the Cell (BTS #6), 2009, time 00:00:22).

With *Uncharted 2*, they were able to add a lot more graphical details. According to Lead Programmer Pal Engstad, each character model typically consisted of eighty-thousand polygons. With many characters on screen, and various background elements, they were pushing roughly 1.2 million triangles through the graphics chip per frame (Mastering the Cell (BTS #6), 2009, time 00:00:45). This leaves very little room for improving post processing effects such as lighting and motion blur. However, by utilizing the power of the SPUs, they were able to offload bloom lightning, downsampling, and focal blur. This freed up the graphics chip, allowing them to render even more objects. For example, the original game was capable of rendering only 150 objects per frame, while *Uncharted 2* is capable of rendering over 500 objects per frame (Mastering the Cell (BTS #6), 2009, time 00:03:52). Having more objects and better post processing effects improved the graphics significantly.

Another aspect that was improved by their new SPU process was the animation. With *Uncharted 2*, they were able to incorporate an animation blending system that mixes and matches animations. This allowed them to create a large number of animations for each character. A single character is capable of having as many as twenty animations on them at a given time. These animations encompass various body parts such as the hands, face, back, and legs, with each one being very realistic. The biggest advantage to this system is that it removes the need for an animator to have to create hundreds of animations for every possible combination. They can instead just take animations and blend them

together or stack them on top of each other to quickly create combinations (Mastering the Cell (BTS #6), 2009, time 00:1:14)

The last technological improvement to discuss is the addition of the Havok physics engine. For the first game, Naughty Dog developed a proprietary physics engine. By switching to the Havok engine, they were capable of adding more elements. For example, objects such as light fixtures and trees would now move dynamically in accordance to what was going on around them (Technology and Gameplay (BTS #1), 2009, time 00:01:45). By using Havok, they were also able to improve the cover element of the gameplay by creating destructible cover (Technology and Gameplay (BTS #1), 2009, time 00:02:00). With the Havok engine, and with the other technological improvements, *Uncharted 2* is one of the best graphical offerings available on the PlayStation 3.

MAKING IT MULTIPLAYER

One of the biggest features absent from the first game was online multiplayer. Adding multiplayer is never an easy task as it requires a great deal of planning and development time. Aware of this, Naughty Dog knew that they had to commit to this idea from the beginning. They hired extra designers and artists that would work specifically on the multiplayer. This guaranteed that the single player experience would not suffer from the addition of a multiplayer component (Graft, 2009, p. 3). While their efforts produced a solid multiplayer experience, a few of the aspects fell a bit short.

The first challenge was figuring out how to transfer all of the detailed animations and gameplay elements over to the multiplayer component. They wanted the online experience to have the same look and feel as the single player component. Because of the animation blending system, the new SPU process, and the extra staff, they were able to accomplish this task. According to Game Designer Justin Richmond “everything that we do in single player shows up in multiplayer” (Online Technology (BTS #5), 2009, time 00:01:08).

They also wanted to make the online component as simple as possible. They wanted the player to be able to just jump online real quick and begin playing. To do this, they created a quick and easy matchmaking mode (Online Technology (BTS #5), 2009, time 00:01:20). All the player has to do is connect to the multiplayer and select a game type. From there, the system would pair up players from similar regions. The player does not have to choose specific servers or find their own matches as the system automatically does this for them. They also added a simple party system that allows the player to invite friends. Once together, the entire party can either create a custom game for themselves, or they can pair up for the matchmaking process. (Online Technology (BTS #5), 2009, time 00:01:54)

On top of making it a simpler process, they wanted to give the player the ability to save and view replays of their most recent matches. Naughty Dog accomplished this task by creating a feature called Cinema Mode. In Cinema Mode, there are a plethora of options to choose from. The player can stop, fast forward, rotate the camera, watch the entire match from the perspective of another player, or even get a glimpse of the match from a bird’s eye view. The player is free to adjust the speed of the playback,

zoom in and out, and even tilt the camera as well. The player can also take screenshots of slow motion zoom ups, and even upload saved replays to Naughty Dog's servers so that they can share them with their friends. (Online Technology (BTS #5), 2009, time 00:02:27)

Finally, they developed a good system to manage the constant upkeep that comes with an online multiplayer component. With their update management system, they are literally capable of adjusting almost any aspect of the online component on the fly. They constantly monitor statistics to see where minor improvements can be made. If they notice that maybe a certain level has too many kills, they can remove certain weapons or even tweak the power of each weapon. The most impressive aspect is that they can do this without having to create large patches or without taking down the multiplayer component. (Online Technology (BTS #5), 2009, time 00:05:06)

While they successfully accomplished many of their goals with the online multiplayer, the matchmaking system is *Uncharted 2's* only flaw. Naughty Dog claims that the matchmaking system puts the player into competitive matches (Online Technology (BTS #5), 2009, time 00:1:39). However, most of the time the player ends up competing against other players who have levels that greatly exceed their own. Also, the option for choosing a particular game mode is very limited. For example, there is no way to consistently play a favorite game mode. The player must select from a group of game modes and then hope that their favorite mode comes up, and even then, they have to hope that it gets voted on by the majority. This is very frustrating as the player is not given the freedom to choose their own experience.

Although the online multiplayer has a few flaws, the experience offered in *Uncharted 2* is fairly good. It may not be as robust as other online multiplayer experiences on the market, but it is unique because the multiplayer is almost identical to the single player experience. From start to finish, Naughty Dog's online component was well planned out. Overall, it further adds to the success of the game.

CONCLUSION

With a tight focus on their audience, wonderful character development, and terrific cutscenes, Naughty Dog has made one of the most polished games in recent memory. Flaws are few and far between, with the single player experience being practically flawless. With *Uncharted 2*, they were able to take everything that was great with the first game and make it even better. They were also able to add more functionality such as the multiplayer component. They continued their excellence with motion captured cutscenes, and once again, their animations were industry leading. With so many positive aspects of *Uncharted 2*, one does not have to look very far to see that *Uncharted 2* is a complete success.

REFERENCES

Graft, K. (2009, November 13). *Reflecting On Uncharted 2: How They Did It*. Retrieved December 1, 2009, from Gamasutra:

http://www.gamasutra.com/view/feature/4191/reflecting_on_uncharted_2_how_.php

Kelly, K. (2009, February 4). *Talking Uncharted 2 with Naughty Dog's Evan Wells*. Retrieved December 1, 2009, from Joystiq: <http://www.joystiq.com/2009/02/04/joystiq-interview-talking-uncharted-2-with-naughty-dogs-ewan-w/>

Making of the Cinematics (BTS #3). (2009). Retrieved October 31, 2009, from YouTube:

<http://www.youtube.com/watch?v=tzkYa44raI8>

Mastering the Cell (BTS #6). (2009). Retrieved October 31, 2009, from YouTube:

<http://www.youtube.com/watch?v=Az0CXkyoWjg>

Naughty Dog Company Information. (n.d.). Retrieved December 1, 2009, from Naughty Dog:

<http://www.naughtydog.com/company/>

Nunneley, S. (2009, February 4). *Uncharted 2 Has Budget of \$20 Million, Says Wells*. Retrieved November 21, 2009, from VG247: <http://www.vg247.com/2009/02/04/uncharted-2-has-budget-of-20-million-says-wells/>

Online Technology (BTS #5). (2009). Retrieved October 31, 2009, from YouTube:

<http://www.youtube.com/watch?v=u2CQg4xb-r4>

Reilly, J. (2009, November 12). *Uncharted 2 Sales Topping One Million Units*. Retrieved December 1, 2009, from IGN: <http://au.ps3.ign.com/articles/104/1044637p1.html>

Story and Art (BTS #2). (2009). Retrieved October 31, 2009, from YouTube:

<http://www.youtube.com/watch?v=Yd1jS1Zf5-o>

Takatsuki, Y. (2007, December 27). *Cost Headache for Game Developers*. Retrieved December 1, 2009, from BBC News: <http://news.bbc.co.uk/2/hi/business/7151961.stm>

Technology and Gameplay (BTS #1). (2009). Retrieved October 31, 2009, from YouTube:

http://www.youtube.com/watch?v=D_p58o6RJ88

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