



Beyond WarCraft in Space
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The Firebat prodded the bones with his flamethrower. "It ain't one of us. Don't look like no Zerg scum either. Protoss don't have giant nostrils like this thing. What the heck is it, Jim?"

Raynor took a closer look. "I've read about this ancient species. It's an Orc."

"Don't look like no pork to me, Lieutenant."

Raynor continued, "They're extinct now, but they were eerily similar to us, almost like our forefathers. Long time ago, this place was called Azeroth and it was filled with elves, dwarves, trolls, and ogres. The Orcs tried to exterminate the humans, just like the Zerg are trying to do to us now."

"So they're just like the Zerg? Just as ugly I bet."

"Their melees were similar," continued Raynor, "but on a much smaller scale compared to ours. I've studied some of their battles, and the victor was always the one who could amass the most units and storm the other side's base. Time after time, the side with the strongest ground forces won. It was formulaic, no strategy."

"Not like our battles," interrupted a Marine. "We've got to balance our attacks and send in the right types of units. They didn't have to deal with cloaking, burrowing, or the air combat we've got to deal with either."

"That's right," said the Lieutenant, "We've got to deal with a greater number of units at a time and we're faster, smoother, and more coordinated than they once were."

"Still sounds all the same to me," said the Firebat. "We're fighting the same type of wars, and it's the same story all over again. You put them Orcs in space and you've got us."

"No," replied Raynor, "we've evolved."

WarCraft and StarCraft will forever be linked together as innovators in the real-time strategy game genre. Superficially, StarCraft uses many of the successful formulas that WarCraft 2 helped develop. The basic game play, the layout, and the rich narrative are characteristics of both games; however, a deeper inspection shows that the games are indeed quite different and that StarCraft is far advanced in many aspects to WarCraft 2 and to many other real-time strategy games as well. StarCraft may have begun as a carbon copy of WarCraft 2, but the final product was vastly different and much improved from the first prototypes. This evolution of StarCraft away from the WarCraft series would not have been possible without the commitment of Blizzard to scrap and re-scrap the game. Even after all of the development hardships, StarCraft was still remarkably successful due largely to its outstanding game play and still has thousands of gamers addicted today. StarCraft has made an astounding impact on the PC video gaming industry and set the benchmark for all real-time strategy games for the future.

To understand the evolution and success of StarCraft, an overview of Blizzard Entertainment's real-time strategy games is necessary. The WarCraft and StarCraft series include WarCraft, WarCraft 2: The Tides of Darkness, the expansion WarCraft 2: Beyond the Dark Portal, StarCraft, the expansion StarCraft: Brood War, and the newly released WarCraft 3. Combined, they have sold millions of copies and won numerous awards (Blizzard). They are all real-time strategy games, and while advanced game play becomes extremely complex, they all follow the same general idea. The goal is to defeat an opponent by constructing a base using mined or gathered resources. In addition, the resources allow the player to buy various units with special attack or defense abilities. After enough units are gathered, the player instructs them to kill the enemy's units and ultimately destroy the enemy base. The winner is the player who successfully destroys every building owned by his opponent.

Since WarCraft and StarCraft both fall into the real-time strategy genre and conveniently have similar titles, they would inevitably be compared to one another. In fact, there was a time when many critics and gamers considered StarCraft as simply WarCraft in space. Though StarCraft obviously draws heavily on WarCraft 2 and its success, StarCraft's history shows that despite the initial similarities, it has evolved into a much different and more advanced game. StarCraft's development began in 1996 when one of Blizzard's leading programmers, Bob Fitch, was assigned the daunting task of continuing the real-time strategy success of WarCraft 2. He did not see any point in deviating from the winning formula of WarCraft 2, so he set out to "take WarCraft 2 and turn it into a space game" ("Bob"). Within two months, Fitch had taken the WarCraft 2 code and thrown together a demo for the E3 conference in Los Angeles. The game looked remarkably similar to Warcraft 2, from the terrain, to the characters, to even the layout of the screen. StarCraft did not make much of an impact, however, and one gamer summarized the collective feelings of those that witnessed the demo, "Oh, Orcs in space." ("Bob")



Fig. 1 Final release of WarCraft 2 (Blizzard)



Fig. 2 Alpha version of SC built on the WC2 engine (Blizzard)

Fitch reworked the design and programming of the game, but it became evident that the technological limitations of the engine were holding back the design team. “The WarCraft II engine just was not capable of producing the effects that we were looking for. All of the spell abilities, such as the burrowing, the cloaking, and having interceptors on carriers, couldn’t be done. We just kept hitting all these walls because the engine wouldn’t support these new ideas” (“Bob”). The graphics had been touched up, but still maintained a strong similarity to the cartoon-like shading of Warcraft 2.



Fig. 3 The reworked StarCraft still using WarCraft 2’s engine (Blizzard)

At this point, Fitch completely discarded the WarCraft engine and took two months to create a more powerful engine that would give the designers the ability to do everything they wanted, plus much more (“Bob”). This was the defining point in the development of StarCraft.

The new graphics were remarkably improved, and the new engine could produce smaller, yet more detailed units, while increasing the number of total units on the screen at any one time. The game play was significantly improved to take advantage of the smaller units, so that they could be managed much more easily (“StarCraft History”).



Fig. 4 Improved graphics and game play with the new engine (“StarCraft History”)

Soon, the developers at Blizzard realized that StarCraft was exceeding expectations and might even become a better game than WarCraft 2. However, time was running out for the development team. They began encountering many typical development issues involving the balance of the game. The testers had to use brute force, by playing the game for hours, to test the strengths and weakness. This process was taking longer than expected, as one fix would cause another imbalance, which would have to be fixed as well (Swartz). In the meantime, Producer Bill Roper had managed to keep StarCraft fans eagerly anticipating the release date, but it soon became clear that the product would not be finished by the desired deadline. One delay followed another, and soon critics accused Blizzard of pushing back the release date for marketing reasons, to mirror the success of Diablo’s post-Christmas release the previous year. Roper explained in interviews that the delays were not marketing ploys; rather, the team was trying their best to develop the story for the single-player campaigns and to even out the game balance,

which would be the most important aspect of StarCraft (“Blizzard Holds Conference Call”). However, the press demanded to know the true cause of these delays, and many believed that StarCraft was still several months behind schedule. Several articles were published about how StarCraft would not be able to live up to Warcraft 2 or Westwood Studios’ Command and Conquer. In addition, a new frenzy had begun over Total Annihilation, released in September of 1997, which was billed to become the new leader of the RTS genre (Fudge). Responding to the pressure of the media and Blizzard’s directors, Fitch started working up to 80 hours per week to finish the product, but the team was still not able to implement every feature that they wanted. Frustrated gamers were tiring of the false promises, and Blizzard decided to release StarCraft before the hype backlashed on them. StarCraft was finally released in April 1998 and promptly sold over a million copies in the first three months alone (“Bob”).



Fig. 5 Final release of Starcraft (Helvey)

Several months later, Blizzard released the expansion to StarCraft, entitled Brood War. In addition to the continuation of the rich storyline begun in StarCraft, new units were added to even out each race's weaknesses, and many existing units had their abilities adjusted. Fitch claimed that this was the true StarCraft that was originally intended, but had been released as an expansion due to Blizzard's time constraints. The praise for StarCraft was unanimous as it accumulated a plethora of awards including multiple Game of the Year awards from the likes of the Academy of Interactive Arts and Sciences, Computer Gaming World, and PC Powerplay. In addition, it became the top selling PC video game of 1998 ("Awards").

StarCraft was certainly a smashing success, but what separated it from other real-time strategy games to warrant such accolades? Even with the progression of sharper and more detailed graphics with each remake, most gamers would agree that StarCraft's graphics are a very minor component of what has made it so exceptional. What has allowed Starcraft to stand out from other games is the game play, most notably the variation and balance. Fitch and the other developers spent several extra months refining the game play, and their efforts certainly show. The most remarkable feature of the game play is the three distinct races with completely different unit types. Too often, other real-time strategy games have created one set of units and copied them to each team with only minor variations. For example, in WarCraft, the basic assault units are the Footman and the Grunt. It is immediately obvious that both units have the same abilities and functions and only differ in their portrayals (Brude). This is not so with StarCraft. Each race has its own special land and air units, and even the lowly resource gatherers have different attributes. Roper emphasized the variation of each unit, "If every unit was a character in a book or a play, every character has its fatal flaw. Every character has its one major weakness. Every unit" ("Blizzard Producer Talks"). Furthermore, each race has its own attack and defense strategy, and playing each team requires a completely different mindset. The Terrans use conventional units, such as robots, infantry, spacecrafts, and tanks. They are more

defensive oriented than the other two races and have very strong ground and siege capabilities. The Zerg have the ability to out produce the other races and can conquer enemies by simply overwhelming the opponent's defense weaknesses. However, they are limited in their building capacities and have weak defense themselves. The Protoss are the most balanced and cunning. They have multiple methods of attack and a wide range of units, but the drawback is that they require the most resources to maintain (Brush).

In addition to the different types of units with their own special abilities, there are also different types of damages called concussive and explosive damage that affect large and small units to varying degrees and also another type of damage known as splash damage, which affects large areas instead of single units. These different types of damages cause some units to inflict reduced damage and essentially be worthless in combat against other types of units. This forces the player to keep a mental track of the opponent's attacks and construct counterattacks and defenses accordingly ("StarCraft Strategy Guide"). Programmers also wanted to remove the simple rush from the game, so they made it more difficult, but not impossible, to execute and included viable rush defenses for each race (Geryk). Players are left constantly guessing when their opponents will attack and what kind of attacks their opponents are amassing, so one might argue that reconnaissance and counterattacking is even more important than actually attacking the enemy in StarCraft. The concept of cloaking and burrowing also adds another dimension to the game. Cloaked or burrowed units cannot be seen by the opponent unless they possess a detector, which has a limited range of sight (*Starcraft Manual*). Therefore, all players must guard against these invisible assaults by spreading out detectors over their bases. Each race is not equally equipped to detect and defend against these cloaked units, so this adds yet another factor to the challenge of balancing each race. These factors give StarCraft an unparalleled element of strategy in its game play that prevents players from simply amassing one type of unit

and overwhelming the opponent like in WarCraft 2 and other real-time strategy games. It now took more than speed to win games, it also took strategy and cunning as well (Fudge).

However, due to the vast variations between races and units, game balance became a critical issue. In previous games such as Warcraft 2 there was no need to spend extra effort to balance teams, because all teams basically had access to the same units, buildings, and upgrades. With WarCraft, one minuscule variation in the abilities of Ogres to cast Bloodlust compared to the Knight's ability to heal arguably made the entire Orc race more powerful than the humans. The other units in the game were exactly the same, yet the game balance had been affected by just one spell. Now came the seemingly impossible task of balancing StarCraft, where not a single unit in the game has the same ability or stats. Balancing Starcraft would be a monumental accomplishment if it could be done. The developers at Blizzard were convinced that game balance would be the defining issue of StarCraft, and thus took extreme attention in calibrating the game play ("Blizzard Producer Talks").

Even after months of testing and several delays, this issue was not fully resolved with the first release of StarCraft, since external and internal pressures had lead to a slightly premature release date. StarCraft was still remarkably balanced compared to other real-time strategy games at the time, but after a few months, players had developed strategies to overly exploit the weaknesses of each race. Patches were available on Battle.net – Blizzard's online gaming network – to fix some of these discrepancies, but this no longer became necessary with the release of Brood War, which was able to balance each race's forces once and for all. The only way for the developers to calibrate all of these factors was to spend countless hours testing and adjusting the game play ("Blizzard Producer Talks"). At one point, Fitch even began sleeping and showering at the company, just so he could cram in as many hours as possible working on the game play ("Bob"). After the game was finally shipped, Gamespy commended Blizzard's commitment to delay StarCraft's release for game balancing:

Quite simply, those extra months that Blizzard spent polishing the game play are probably the reason for its success. People that are in the business of making strategy games should take a lesson from Blizzard. Balancing a game is more important than listening to naysayers and rushing a product out the door. Patience pays off. (Fudge)

There was only praise for StarCraft after the initial criticism. Critics and players agreed that the wait had been worth every minute and that the extra time spent had resulted in not only an incredibly varied game experience, but also much more replay value due to the game balance (Fudge).

StarCraft's game variety and balance have certainly been the driving force behind its ongoing popularity, and to this date, combined sales of StarCraft and Brood War have exceeded five million units worldwide, the most popular game Blizzard has released to date (Blizzard). Other real-time strategy games at the time, such as Total Annihilation, Command and Conquer, Age of Empires, and even WorldCraft 2, had similar graphics, multiplayer capabilities, and narratives, but they could not match the precision and depth of StarCraft's game play. StarCraft showed the PC gaming world that games take time and effort to master, even at the cost of several release delays and widespread criticism. StarCraft overcame the technological barrier of its outdated Warcraft engine and was forced to deal with the external and internal business pressures of releasing the game before it could be perfected. With the success of StarCraft, a revolution in real-time strategy games took place that firmly cemented Blizzard Entertainment at the forefront of the genre. In a special article on the history of real-time strategy games, Bruce Geryk wrote, "In the end, StarCraft is going to be remembered as the most successful of early real-time strategy games. It has provided a bridge to the current generation of games" (Geryk). Undoubtedly, future real-time strategy games will attempt to mimic StarCraft's game play,

which will certainly be a boon to the entire genre, but StarCraft will always be the first and foremost game to provide such a well-balanced gaming experience.

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