The Rise and Fall of Street Fighter II

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Twenty years ago, I would step into my favorite video game arcade, only to find every time that a crowd was already patiently awaiting their turns to get their hands on Nintendo's Donkey Kong. Since then many games had come and gone, and I never thought another game would ever be more popular. How wrong I was. Fast forward ten years to 1991. Kids skipping school to play this game. Wealthier folks buying the expensive arcade boards so that they could play this game at home. Fast food restaurant owners threatening to turn off the power to the arcade cabinets because the mob coming in to play this game was far greater in number than the food-buying customers. If there is ever a truly global phenomenon in the history of the video game arcade business, it has to be *Street Fighter II: The World Warriors*, released by Capcom in March 1991.

Ask any video gamer what the first fighting game is, and you will mostly likely hear Street Fighter II. Capcom, a Japanese video game company founded in 1979, is based in Osaka, Japan, with a US subsidiary in Sunnyvale, California, in the heart of Silicon Valley. In the 80's, Capcom produced a few arcade and NES (Nintendo Entertainment System) hits in the side-scrolling platform genre. Examples include Ghouls 'n Globins and the Megaman series. However, as admitted by even Capcom itself, no one ever expected Street Fighter II to reach the immense level of popularity among gamers worldwide. After releasing an unbelievable number of sequels and upgrades to Street Fighter II, about two dozens in total, Capcom gives the impression that it is always exploiting its licenses to maximize profits, leaving the Street Fighter II name tarnished with the lack of innovation over time. In 1996 Capcom succeeded in producing yet another genre-breaking game, Resident Evil. The format of this so-called survival horror game, PlayStation instead of the arcade, necessarily limits its impact on gamers when compared to Street Fighter II. Yet Capcom again managed to milk its Resident Evil license by releasing multiple slightly altered versions of the game.

The group that developed Street Fighter II and Resident Evil within Capcom is commonly known as the Yoshiki Okamoto team. Okamoto, as a graduate right out of school, entered Konami of Japan, another video game company, in 1982 as a graphics artist before joining Capcom as a game designer. Together with Shigeru Miyamoto of Nintendo (of Mario's fame) and Hideo Kojima of Konami (PlayStation's Metal Gear Solid), Okamoto is forever revered in the circle of video game designers in Japan the same way John Romero, John Carmack, and Sid Meyer are looked up to in the States. In 1997 he left Capcom to found another video game company called Flagship. Interestingly Onimusha, a PlayStation2 hit released in 2001, was developed by Flagship and published by Capcom. Onimusha is another survival horror game a la Resident Evil but in the setting of medieval Japan with samurais.

To understand how Street Fighter II was born one must understand the influences of martial arts on video gamers in the 80's. Martial art legend Bruce Lee's films were fresh in people's minds, and martial-art-themed comic and cartoon characters such as Teenage Mutant

Ninja Turtles and Hong Kong Phooey were hugely popular among teenagers. Numerous kung-fu-based video games came out in the 80's, including Irem's Kung Fu and Konami's Shoa-Lin's Road. These are side-scrolling fighting games, where the main character is relatively small and only a handful of moves are at a player's disposal against multiple enemies on screen. Data East's Karate Champ, released in 1984, is generally regarded as the first one-on-one fighting video game. The graphics is very crude, with stiff animation and irresponsive control. A year later, Konami released Yie Ar Kung Fu, a colorful one-on-one fighting game. Each of the opponents uses a different weapon and has a unique style of fighting. Unfortunately, the characters are tiny, and there is not much strategy to speak of with poor collision detection and a limited number of similar moves controlled by the player.

Capcom entered the one-on-one fighting arena with Street Fighter in 1987, and enjoyed moderate success with this brainchild of Nishiyama, another designer that Okamoto saw as a rival within the same company. Characters are much larger, with better animation and more moves available to the player. Special moves that require preset joystick motions to activate and reward a player with huge inflicting damage are introduced. Curiously, the control consists of a large button aside from the joystick. The intensity at which a player hits the button determines the strength of a punch or a kick. Street Fighter suffers from the technical difficulty of executing the special moves by rotating the joystick with ridiculous precision, and other problems like poor collision detection prevented the game from attaining stardom like its successor.

Okamoto was a troublemaker back in the days of Konami. He created two successful shooters, Time Pilot and Gyruss while working there. But his blatant disobedience in working on his own projects resulted in him getting fired by Konami, an uncommon act in Japan where lifetime employment at the same company is the norm. His dreams of developing a superior side-scrolling fighting game came true with the 1989 release of Final Fight. The vibrant colors, the large characters that respond instantly, the sheer number and variety of enemies and bosses, not to mention an exciting simultaneous two-player cooperative mode, all contributed to Final Fight's wild success. Okamoto was then determined to be the producer of the sequel to Street Fighter. The success of his Final Fight over Nishiyama's Street Fighter earned him the trust to handle the job.

Street Fighter II: The World Warriors was released in March 1991, using Capcom's new CPS arcade chipset. Both graphics and sound are a huge improvement over previous fighting games, especially in the one-on-one genre. Saying Street Fighter II was an instant mega-hit at release is an understatement. Apart from eye candy, the game does almost everything right, an achievement that is rare for a genre-breaker. Because of this large gap in quality between Street Fighter II and all the previous fighting games, many people have come to regard Street Fighter II, instead of Data East's Karate Champ, as the first one-on-one fighting game ever.

In Street Fighter II one can choose to play any one out of the eight characters, and in a one-player game, after beating all the other seven fighters the player will face the final four bosses. The graphics is gorgeous, the backgrounds are varied and beautifully drawn with animated bystanders, and most importantly, the control is tight. Timing for the special moves was relaxed from that in the Street Fighter's days so that now when a special move does not come out on the screen, one can only blame oneself for messing up the motion. For variety,

instead of just rotating the joystick, a separate class of special moves that involve *charging*, holding the joystick in one direction for two seconds before pushing it in the other and pressing a button simultaneously, saw its debut in Street Fighter II. Replacing the large force-sensitive button are six buttons corresponding to three varying levels of punches and kicks. The game engine cleverly recognizes the distance between the two on-screen characters, and automatically changes an attack animation to reflect this.

To solve the bad collision detection problems rampant in fighting games, the Capcom programmers subdivided each character or sprite into boxes, some of these becoming hit boxes in an attack. Now that which part of a sprite is getting hit could be easily identified, the programmers went on to put in different animations depending on the body part getting attacked. That means that an attacker can choose to execute consecutive quick jabs, throw or sweep her opponent to the ground, each action resulting in a different animation and creating a unique distance between the two fighters. When hit boxes from the two characters collide, the question of who wins is decided by the move priorities. Possessing a thorough knowledge of the move priorities is a prerequisite to mastering Street Fighter II. Combine all these with forty to fifty moves per character, most of them quite intuitive to execute (press buttons in rapid succession to hit faster, shake the joystick to get out of a hold), and you have a fighting game that has an amazing depth in strategy.

As can be easily imagined, Street Fighter II became the hottest two-player head-to-head game of its time. Since a two-player game consists of winning two out of three rounds, taking merely a couple of minutes, arcade owners grinned at the rapid rate Street Fighter II machines were gobbling up quarters from the customers. With eight characters to choose from (though Ryu and Ken from the original Street Fighter are virtually identical), it takes a long time playing Street Fighter II before one can truly become a master at all the fighters. Whether playing a one- or two-player game, one will never face a character with the same moves. The other person can be bigger or smaller, be more nimble or slower, shoot projectiles or even extend his limbs in attacking. This falls into the *asymmetry* as described in Chris Crawford's *The Art of Computer Game Design* published in 1982. Though it looks unfair on the surface, it encourages the player to exploit her own character's strengths and her opponent's weaknesses. In previous fighting games, it is far too easy to rely on one particular useful move to go through the entire game. In Street Fighter II this asymmetry ensures that while continuously shooting fireballs against fighter A is a great strategy, it is practically committing suicide against fighter B. In total there exist 88 different pairings of fighters, each requiring a different strategy.

Witnessing two expert human players duke it out in Street Fighter II is arguably more exciting than watching a live brawl or a martial art movie, in that miraculous comebacks from near death occur from time to time, and beautiful combos of attacks dished out by a master are a sight to see. While the fun factor requires some of Street Fighter II's moves to be impossible to execute in real life, Okamoto's team wisely avoided employing overly magical (as in calling on illusions in Capcom's later game Darkstalkers), comical or violent (flooding the enemy with tears or taking out a machine gun in Marvel vs. Capcom 2) references. Therefore there is always a sense that these fighters are real people controlled by oneself. What is the best way to defeat your opponent? It depends on the character chosen by your human opponent of course, but a large part depends on your opponent's style of play too. Against a turtle who is too happy to

block every attack you hand him? Choose from your arsenal of unblockable holds, chokes and throws available in the game. However, to execute these moves you must move towards your opponent within a certain distance depending on your character. Your turtling character can then realize your strategy and become more aggressive in order to stop you. In summary, this is like a paper, scissors, rock game where a player's best strategy depends on both players' actions, and there is no definite answer to whether one should be offensive or defensive. Chris Crawford calls this *triangularity*, a typical trait of good game design.

However, there is one aspect of video game design outlined by Crawford that Street Fighter II does not seem to obey. A *smooth learning curve* is nowhere to be seen in the game. Maybe that is not necessary anymore. In the old days a smooth learning curve was implemented to ensure even a beginner could enjoy some progress as reflected in the score. In Street Fighter II no one plays for a high score; everyone is trying to impress others by landing strings of combos or defeating as many human challengers as possible. Just like learning a martial art in real life, it takes at least a few months of practice before one can feel confident about using all the learned moves together in a coherent way. In other words, Street Fighter II can be frustrating to newcomers, especially if the machines are constantly hogged by the masters. Instructions for the special moves, unlike some other fighting games, are not printed on the arcade cabinet. What resulted from all these was a vast amount of discussion of the game by the players outside— hardly a negative consequence. FAQ's online, newsgroup discussions, guidebooks, school yard chats, and the ensuing rumors about the game all provided free publicity for the game. In addition, numerous terms like ticks, reversals, sac throws, and meaty attacks were constantly being coined by players to facilitate discussion.

Only a few minor problems existed in porting Street Fighter II to the US. Some people complained that the intro scene depicting a white man hitting a black man was racist, but nothing was done. Capcom swapped the names of the boxer and the final boss, as the boxer's original name M. Bison was rumored to be a caricature of Mike Tyson and that could spell legal trouble for the company.

All this time SNK, a well-known video game hardware and software manufacturer in Japan, had been watching Capcom's games closely. Its one-on-one fighting game Fatal Fury came out at about the same time as Street Fighter II but did not receive widespread acclaim due to inferior control and character design. Nonetheless, SNK, just like Capcom, went on to make dozens of fighting games with different themes in the following decade. Both SNK and Capcom are generally considered to be the best 2D fighting game makers ever, though the former seems to be much more popular in Japan than in the US.

There is one game that seemed to be able to challenge Street Fighter II in popularity, albeit mostly in the US only. Mortal Kombat from Midway, headed by John Tobias and Ed Boon, uses photo-realistic digital images for its characters. With a signature combination of jerky animation and ultra-violence, it elevates the level of secret moves in fighting games by allowing a player to execute an extremely graphic final move called a fatality on a dying opponent, by inputting a series of joystick and button commands. This sparked the beginning of the bashing of video game violence, headed by Senator Lieberman. In fact when Capcom finally

ported Street Fighter II to the home consoles, fans were relieved to find that blood was not censored in the translations.

Technology has always played an important role in the development of fighting games. Okamoto admitted that the CPS chipset allowed, for the first time, special moves to be detected reliably. On the other hand, memory was traditionally expensive, and a good fighting game requires lots of frames for animation that translate to a high memory requirement. Street Fighter II is eight megabytes in memory in the arcade. To fit economically in a game cartridge for Super NES, Capcom managed to compress the game into a mere two megabytes. SNK's home console NeoGeo was aimed at the affluent, and their fighting games typically sold for close to *$200* each. With the advent of CD-based home consoles like the Sony PlayStation, memory has suddenly become very inexpensive. However, it now takes time to load the data from the CD to the RAM (Random Access Memory) of the machine, and it is natural that 2D fighting games are notorious for long load times between rounds of bout. Hopefully as CD drives evolve to transfer at a higher and higher speed, this will cease to become an issue. One reason why 3D fighting games have largely replaced 2D ones nowadays is that polygon-based characters require far less memory. A modern 3D fighter typically has more than a hundred moves under her belt, each requiring dozens of frames of animation. At this level of smoothness in animation, it is unfeasible for the graphics artists to draw all these frames in advance, not to mention the lack of RAM to store all of them in the machine.

A year after the release of Street Fighter II, in April 1992 Street Fighter II: Champion Edition greeted players with player-controllable bosses and more balanced gameplay to encourage fairer two-player head-to-head competition. At this time pirates were releasing hacked versions of Street Fighter II with flashier moves, and Capcom countered with Street Fighter II Turbo: Hyper Fighting in November of the same year to turn players' interest back to the official game. In August 1994 SSFII (Super Street Fighter II: The New Challengers), on a brand-new CPS 2 board, came complete with 3D QSound and four new fighters. At this point players had already grown tired of Capcom's incessant upgrades to Street Fighter II, and were looking forward to something new like Street Fighter III. Allegedly Capcom overestimated the demand of SSFII for the home market, and tens of thousands of game cartridges went to the landfill—a mini-repeat of the fiasco of Atari's E.T.

It took Capcom many more upgrades before they finally brought out Street Fighter III. After five versions of Street Fighter II, they experimented with a prequel with mostly new fighters called Street Fighter Alpha (a.k.a. Street Fighter Zero in Japan), which spawned four versions (Alpha, Alpha 2, Alpha 2 Gold, Alpha 3). Only Alpha 3 earned Capcom a late but well-deserved round of applause. Following the footsteps of the successful Mortal Kombat franchise, Capcom allowed Incredible Technologies to make a Street Fighter game with digitized fighters from Street Fighter II. The product, no better than the abysmal movie of the same name, is Street Fighter: The Movie, released in 1995. At this time Sega was having more and more success with its Virtua Fighter series, the industry's first 3D fighting game. Capcom again entrusted a separate team led by Arika to design a 3D version of Street Fighter II, which subsequently received a lukewarm welcome from the gaming world. This Street Fighter EX similarly saw multiple versions of itself (EX, EX Plus, EX Plus Alpha, EX 2, EX 2 Plus, EX 3). Capcom is constantly trying to diversify its fighting games with its popular Street Fighter 2 cast,

putting them in SFC (Street Fighter Collection), SFC 2, Pocket Fighter (with super-deformed characters for a comical effect), X-Men vs. Street Fighter, Marvel Super Heroes vs. Street Fighter, and even the Marvel vs. Capcom series, which includes the most famous characters in Capcom's entire lineup of games. Most recent Capcom fighters are referred to as *button mashers*; the on-screen action is so furiously fast with exaggerated and confusingly colorful animation sequences that people resorting to just randomly rotating the joystick and pressing all the buttons can sometimes unknowingly dish out a lot of damaging combos and supercombos. Apparently a number of players are willing to pay this price of some loss of control in exchange for a graphical treat for the eyes.

When Street Fighter III: A New Generation of Street Fighters was finally released in 1997, at a size more than ten times larger than the original Street Fighter II thanks to the most fluid animation and detailed graphics, it was too late and too much of the same. Even Capcom admitted that Street Fighter III was not performing as well as they had expected. Then the unthinkable happened. In Capcom vs. SNK: Millennium Fight 2000, the two best known 2D fighting game makers joined forces to pit the characters of each company against one another. Capcom vs. SNK is seen by some as a joint move against the powerful movement in the fighting game genre to move to 3D. Today's gamers tend to view Sega (of Virtua Fighter's fame) and Namco (Tekken) as the current leaders of 3D fighting games. 2D games, by and large, only manage to retain a small niche of still loyal players. It is not obvious whether Capcom really should have devoted more resources to 3D earlier, or as some players have been grumbling for years, whether Capcom should not have been so complacent of its success with Street Fighter II that it has continued to hang onto the license for far too long before moving onto another newer and better venture. It is indeed a sad sight to witness the Street Fighter II cast not being allowed to retire peacefully after serving the company for a decade, and worse, being recycled time after time in countless upgrades and follow-ups.