

## David Chan's Dream Team

David Chan stood at the window of his second story office, tapping his fingers rhythmically against the windowpane as he watched the moist fall leaves dance in the wind. He had founded his first company Playtime just six months prior and already his goal of integrating remote control technology and a gripping story into smart toys was clearly within sight. It was a vision over 15 years in the making, but the speed with which he had arrived at this critical juncture for Playtime nonetheless caught him by surprise.

Chan felt that time was of the essence in executing his vision. He had built a broad network during his long tenure as an online gaming product manager at Electronic Arts. A network that was now rumbling about Disney developing a smart toy product quite like his own. While Chan had built a significant reputation in the online gaming community for forming strong teams that deliver quality products, he was aware of the formidable resources that a company the size of Disney could bring to bear.

As the rain pelted against the window, Chan barely heard his business partner and co-founder, Susan Radcliffe, enter the room. From her time with Chan making critical design decisions on a number of Electronic Arts projects, she knew that pensive look on Chan's face all too well. Only this time the stakes were much higher – Playtime was their company.

Radcliffe had been the creative genius behind much of their work at Electronic Arts and was concerned that the story behind the Playtime product had not been sufficiently fleshed out to be a strong draw for their primary target market, children and “tweens” (10-12 years old). If Radcliffe had just one more month, she was sure she could craft a truly compelling narrative. Chan had heard this argument from Radcliffe before, and her intuition in these matters was one of the key reasons he brought her on as a co-founder.

If the pressures from his partner Radcliffe and a potential strong competitor in Disney were not enough, finances were another consideration. Chan was proud of his ability to economize and

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run a low-cost operation. Despite this, there was only so much he could do. Based on his estimations Playtime had a short runway of only about 3 months of cash left to fund operations. Playtime had a substantial number of pre-orders, yet any unanticipated delays in shipping the product could lead to Playtime's demise. Chan had leveraged his network and gauged some strong interest among a few angel investors, but he wasn't sure if he had enough time to get those investors engaged if the need presented itself. He had been reluctant to accept external funding in the past out of concern that he would lose control of his vision. Chan didn't see that fear abating anytime soon, even with these well-known potential investors.

Chan was close to achieving his vision with an interactive toy robot he had patented long ago as part of an engineering project in college, a project that ended in failure. This time, Chan felt he had the right team and that all the pieces for realizing his vision had finally fallen into place. If he failed this time, how many more opportunities would he have to realize his dream?

## Early Life

David Chan was born in Hong Kong during the manufacturing revolution of the 1980's. Chan's father ran a consumer products manufacturing factory that produced a variety of goods, including umbrellas, electronics plastic flowers, novelty items, and toys. After spending time in the factory making toys, he became fascinated with toys and games, understanding the physical process that brought toys to life. He became very critical of toys in toy stores, always analyzing their manufacturing methods and flaws.

Chan left Hong Kong in the summer of 1989 to attend the Peddie School, a boarding school in New Jersey. The school promoted work, perseverance, and integrity, as highlighted by the school motto: "When we finish our labors, we begin them anew." Chan was active in sports there, playing varsity football and lacrosse, and he described his boarding school experience as "similar to the movie 'Dead Poets Society'."<sup>1</sup> When the time came to apply to university, Chan felt restless and desired a change of venue.

As a first-generation college student, Chan received little guidance from his family on selecting a college. He whittled down his choices to the University of California, Berkeley and the University of Southern California. He ultimately decided on Berkeley's Industrial Engineering and Operations Research (IEOR) program given its proximity to San Francisco and the Bay Area.

## College Years

Chan matriculated at Berkeley in the fall of 1992. During his time at the university, Chan was tired of taking "the same old... IEO classes"<sup>1</sup> so he decided to take a technology entrepreneurship course, Engineering 110 (E110), to spice things up. The course provided insight into the entrepreneurial process, customer discovery processes, market research, funding options, entrepreneurial finance and the creation of materials for a business plan. Unlike all the other courses Chan had taken at Berkeley which mainly allowed him to work individually or with other IEO students, E110 gave Chan the opportunity to work with students of different backgrounds. In the process, he met many foreign students with varied majors outside of IEO.

At the time, educational technology software grew as a market segment, targeted toward young children. Games like Reader Rabbit, featured a variety of simple games designed to teach schoolchildren basic reading and spelling skills. According to a survey of school priorities conducted by the Northwest Regional Laboratory for Research and Development in 1995, education technology was one of the six top issues in schools:

“Educational technology is increasingly available in homes and community settings. A study by the Software Publishers Association (Heller Report, 1996 as cited in "CD-ROM software," 1996) reported home sales of education-oriented CD-ROMs increased 136% during the first half of 1995. Another study reported that nearly one half of all American households own a computer, and 17% of those who do not already own one plan to buy a computer in 1996.”<sup>2</sup>

Given this trend, the principle assignment of E110 was to create an educational technology product.

Chan struggled to come up with an idea for the class project. Pondering the question in his apartment unit, he turned on the TV and saw a commercial for a new computer game for children. He stared at the TV screen with disappointment. Chan felt this overwhelming urge to set those characters free from that very impersonal monitor. The focus of his class project became creating a physical smart toy that controls the character on the computer screen.

Chan knew for his smart toy to be successful it had to keep children continuously engaged. He created a prototype with a teddy bear and a microphone that transmitted signals to a computer. The character in the game moved forward when the child correctly said the word “apple”, for example. In spite of Chan’s enthusiasm, the project ultimately failed due to a lack of technical expertise on the team to pull it off.

## Gap Year

After finishing E110 at Berkeley, Chan decided to take a year off in 1995 to work on several projects. He convinced the College of Engineering to let him do an internship under E110’s instructors, the Dickinson brothers. Throughout his internship, he did two things in parallel: continued to pursue the robotics project and started a karaoke studio.

To pursue his dreams of increasing interaction between customers, mainly young children and their content, Chan came up with the patent for an interactive computer controlled doll, Chan’s timing was prescient – the patent was issued at the beginning of the Dot-com boom and has been widely cited by such giants in the toy industry as Sony and Mattel (Exhibits 1 and 2). The patent pertained to personal computers and interactive toys and, more particularly, to a system in which a three-dimensional articulating doll interacts with a person operating a computer. His goal for this project was to provide a new and improved system in which a person interacts with a three-dimensional animated doll rather than just interacting with a character on a screen. Chan wanted continuous interaction for a richer experience.

In addition to this project, together with a college roommate, Chan purchased a karaoke studio in Oakland that had gone bankrupt. While they saved greatly on the purchase price, the studio was in an impoverished part of Oakland. Chan and his roommate took on this risk as they were able to identify a niche market, under-21 undergraduate college students from Berkeley who weren’t permitted to enter the karaoke bars prevalent at the time. Their karaoke studio offered an affordable yet quality experience for those under 21 to have a fun night out singing without needing to serve alcohol.

So Chan began building his first business experience working in the niche sector of “location-based entertainment.” Close to many different Bay Area colleges, Chan spent numerous hours marketing on college campuses. He noted how this karaoke marketing was able to teach him product-market fit in which their target customer base led directly to the karaoke studio

business model. Pricing each room at \$15/hour allowed Chan make money on his first entrepreneurial gig.

The success of the karaoke business did not come without its own challenges from its location and clientele. Chan had to overcome obstacles of customers fighting, at times with gunfire involved. On the upside, Chan didn't need a gun held to his head to recognize his future wife when she entered the karaoke studio one day.

After his educational hiatus, he went back to Berkeley to finish his degree and graduated with a Bachelor of Science with Honors in IEOR in 1997, becoming the first person in his family to graduate from college.

Chan next enrolled in and obtained his Master's Degree in Industrial Engineering and Engineering Management from Stanford University in 1998.

## Making His Mark

After leaving Stanford, Chan served as a product manager for several Dot-com companies from 1998-2002 including AOL, Yahoo, and REALTOR.com, before joining Electronic Arts in June 2003. As an online game product leader at Electronic Arts, Chan was instrumental in transitioning Electronic Arts from a business-to-business to a direct-to-consumer model.

Chan led a number of social community gaming efforts, including several generations of The Sims life simulation game, where children in particular were enabled to design and share their creations with other players.<sup>3</sup>

Chan also developed basketball and soccer multiplayer online games, where he learned and marketed the free-to-play business model to Electronic Arts consumers. Part of this work included the use of social interactivity tools such as matchmaking, buddy lists, badges and live sports data feeds.

Chan held the distinction of live producing Electronic Arts' biggest budget project "Star Wars: The Old Republic", a 3-year project which at launch in December 2011 broke the industry record for massively multiplayer online role-playing games (MMORPG) at the time, reaching a million subscribers only a week later, also the fastest growth in MMORPG history.<sup>4</sup> "Star Wars" had rich character development with several expansion packs as well as spinoffs into other media such as novels and comic books.<sup>5</sup>

## Playtime

Chan met Susan Radcliffe during his time at Electronic Arts, someone whose artistry and craftsmanship he felt complimented his more technical background. Radcliffe was considered a world-renowned artist in the gaming community, having won several Shorty Awards for Best in Gaming during her stint at Electronic Arts. Disney, among other companies, had tried in vain to poach Radcliffe from Electronic Arts to help jumpstart its own smart toy initiative. Instead, Radcliffe opted to leave Electronic Arts in 2012 with Chan to found Playtime and at long last realize Chan's "dream from the back in the robotic toy project in Berkeley...of freeing these characters from this trap, this prison, called a computer monitor or tablet."<sup>1</sup>

Playtime combined the physical and virtual worlds of play. With Playtime, Chan was able to launch a whole new cast of characters with a great storyline, using his smart toys. Early on, Chan realized that building intellectual property was a capital-intensive proposition. Playtime remained a "scrappy" company, keeping costs to a minimum to support intellectual property

development. Additionally, Chan chose to focus Playtime's initial smart toy line on the tablet technology space, a platform commonly used by children for education purposes.

Even with the acute focus on tablets, one aspect persisted to dog Chan and Radcliffe, that of distribution. Big players such as Disney had the lion's share of shelf space in physical stores, while Chan's chosen distributor possessed just a small fraction of that space. Ninety percent of Playtime's preorders were to be fulfilled in-store, with the remaining ten percent fulfilled online via Amazon, so distribution regarding initial launch was not a concern.

However, as word of mouth spread after the initial launch of Playtime's product, the challenge of continually exposing children (and their parents) to the physical toys on the shelf seemed daunting. If Playtime could even get a small foothold, though, Chan felt that Radcliffe's reputation along with the quality of their story could still result in a viral product. In particular, Chan felt he had found the "sweet spot", a unique niche of smart toy that intersected the three key areas that needed to be addressed (Exhibit 3). Chan hoped that that sweet spot, combined with the trending increase in online sales, would mitigate the risk of limited shelf space over time, as the story and demand evolved (Exhibit 4).

Playtime's team was very small and close knit, consisting of the two co-founders along with three young engineers to handle the technical leg work. Chan felt it was important to balance the stronger management and technical background of the founders with younger employees that possessed passion for his vision.

## The Smart Toy Market

Chan started Playtime during a boom in the smart toy market.

The notion of a toy that you could communicate or interact beyond the physical sense started in the 1960s. Mattel, the toy giant, came out with a product line of dolls with strings you could pull to make them talk. Although these rudimentary toys aren't considered high-tech they were important to the development of smart toys.

The smart toy industry took a huge step forward with the invention of the microprocessor in the 1970s. This allowed toys to contain much more computing power and complex computing systems. Initial microprocessor toys were guessing or spelling games, followed by more physical interactive smart toys such as the Furby, iDog, and AIBO. At the end of 1999, the smart toy segment accounted for 2.5% of the \$23 billion toy market. Current toys have built upon the rudimentary toys such as iDog and Furby, and have started to incorporate current computing and artificial intelligence technology to make toys seem like true lifelike, sentient beings.

Smart toys were quickly advanced by exponential technology advancement in the 2000s. As technology advanced, prices of electronic components dropped, and availability increased, the smart toy market started to boom. These high-tech toys became affordable and very attainable for a very wide market.

In 2012, the year Playtime was founded, the smart toy market was worth less than \$2 billion. As large players entered the space, the market value was forecast for strong growth, with an estimated market size of \$10 billion (8.38 billion euro) by 2020 (Exhibit 5).

## The Decision

After mulling over the feasibility of sustaining his business over the next few months in his office, Chan considered his options: keep going forward with the original release schedule or

put more time into Radcliffe's story development, at the risk of either running out of cash or relinquishing control to external financiers.

Continuing with Playtime would put the co-founders' livelihoods on the line. At the time immersive gaming was exactly what customers were interested in and Disney's rumored product could be extremely successful, mostly due to Disney's ability to draw from its rich catalogue of motion pictures. Without a long history on the market, Chan would have to first engage the right business and distribution partner to handle the marketing for the product.

On the other hand, delaying the release for any period of time could potentially cause him to miss out on one of the biggest shifts in the immersive entertainment industry, putting his dream out of reach, possibly for good. Realizing that he was onto something with Playtime made it that much more difficult to walk away.

Chan nodded in greeting to Radcliffe as she entered his office, observing the hopeful smile splayed across her face. Then he turned back toward the window, laughing to himself that perhaps those dancing leaves would give him some sign of what to do. But the time for laughter had passed; the most serious decision of his life awaited.

Exhibit 1:

FIG. 1

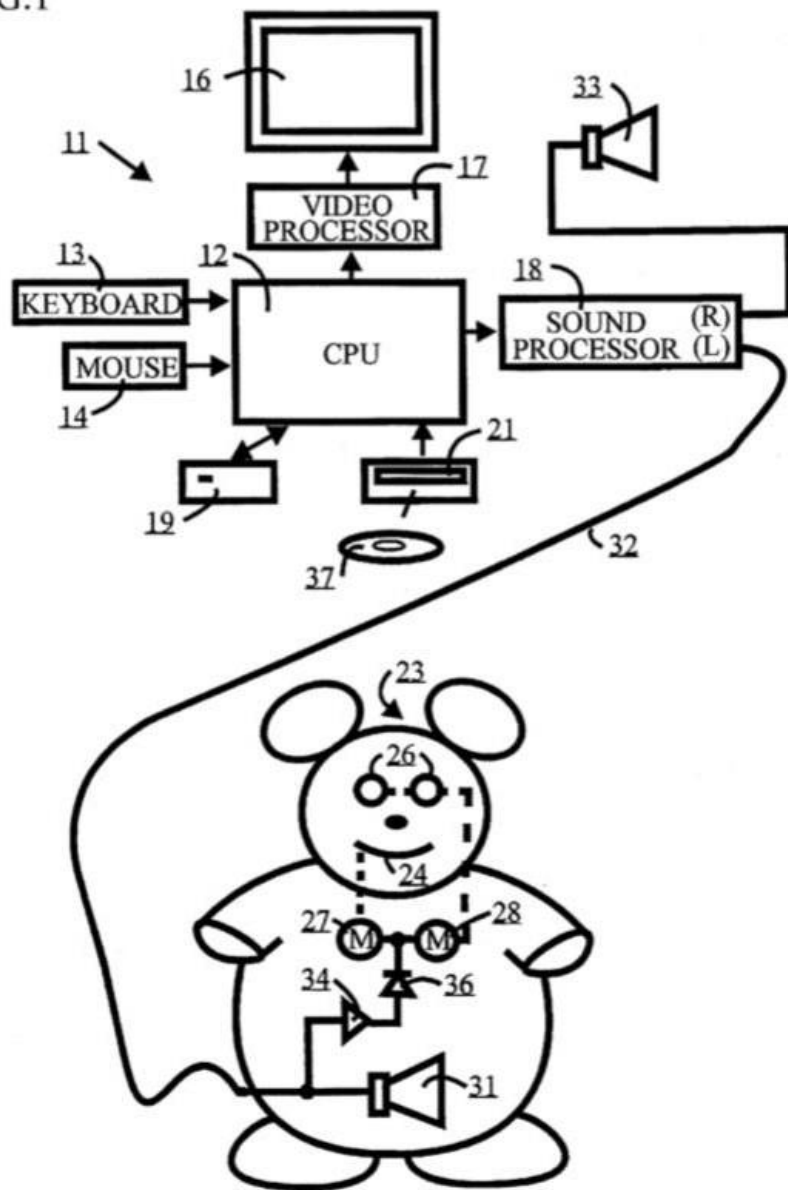


FIG.2

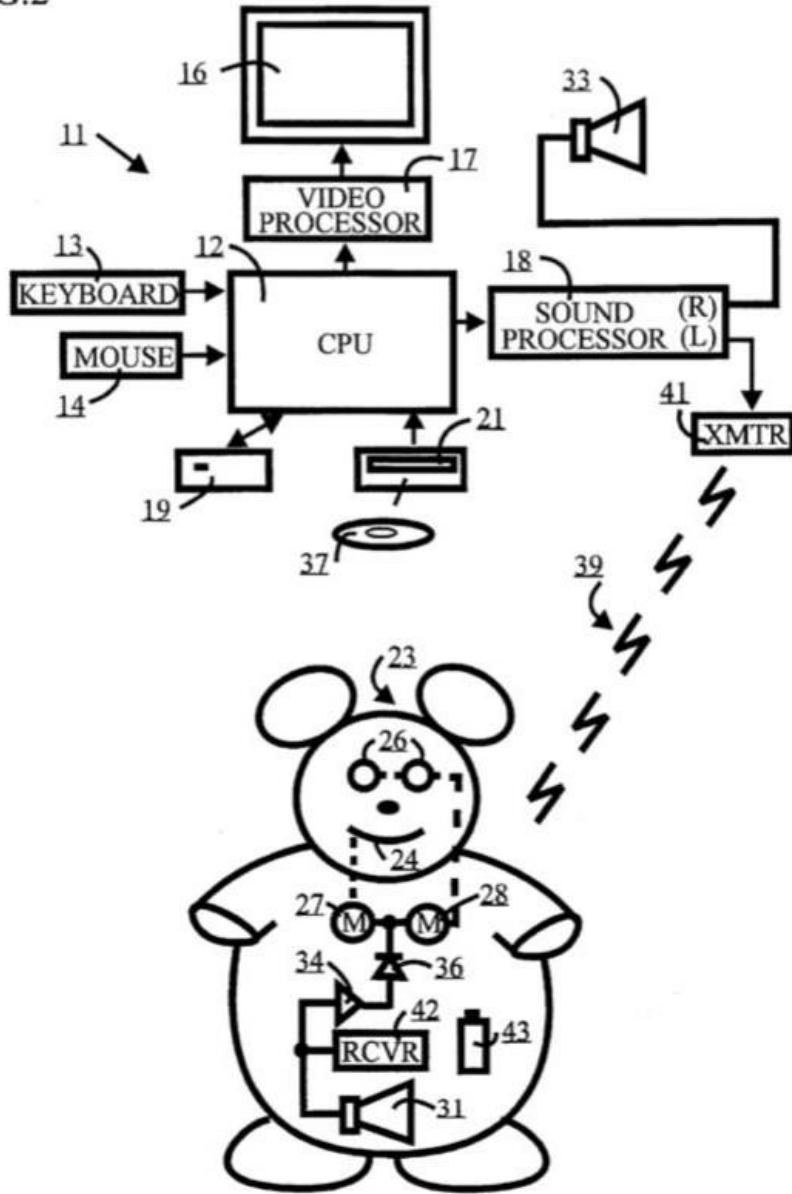




FIG.3

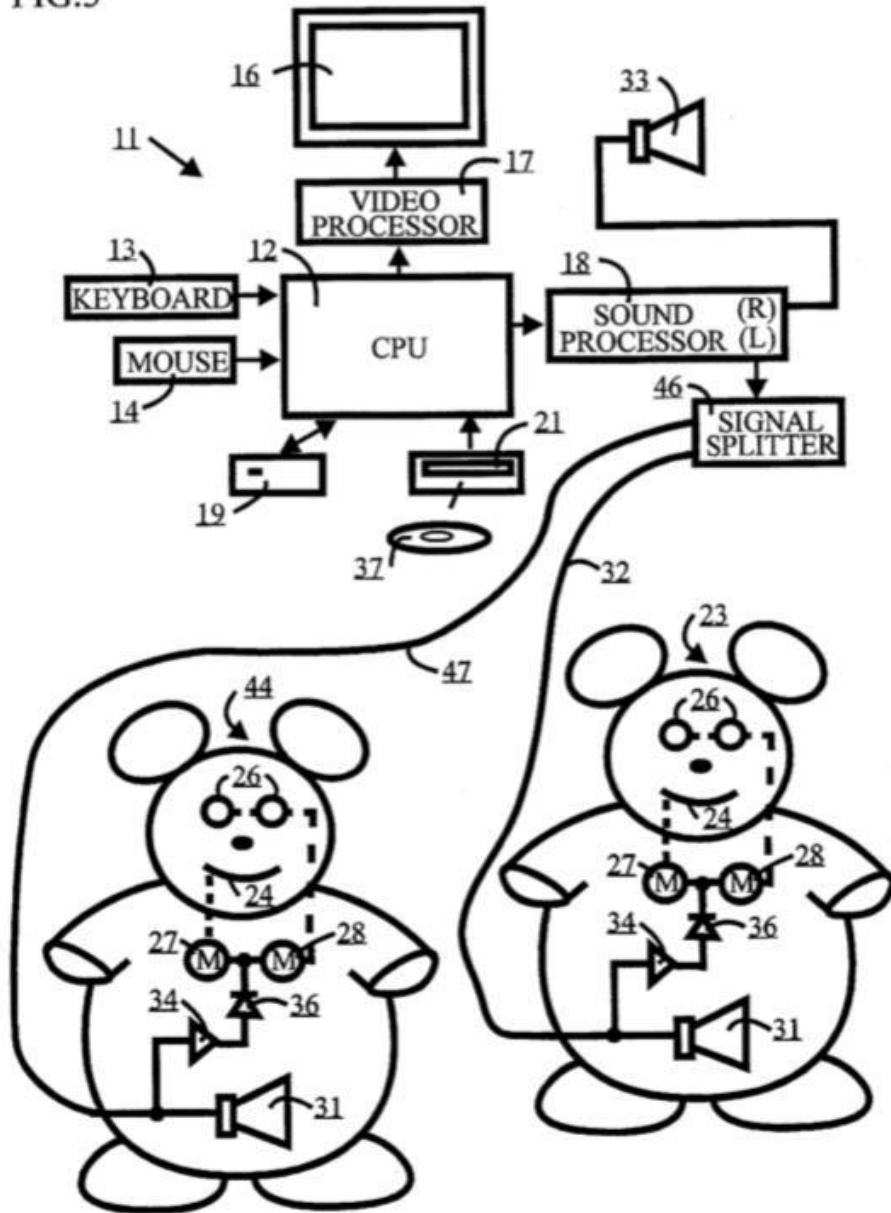


FIG. 4

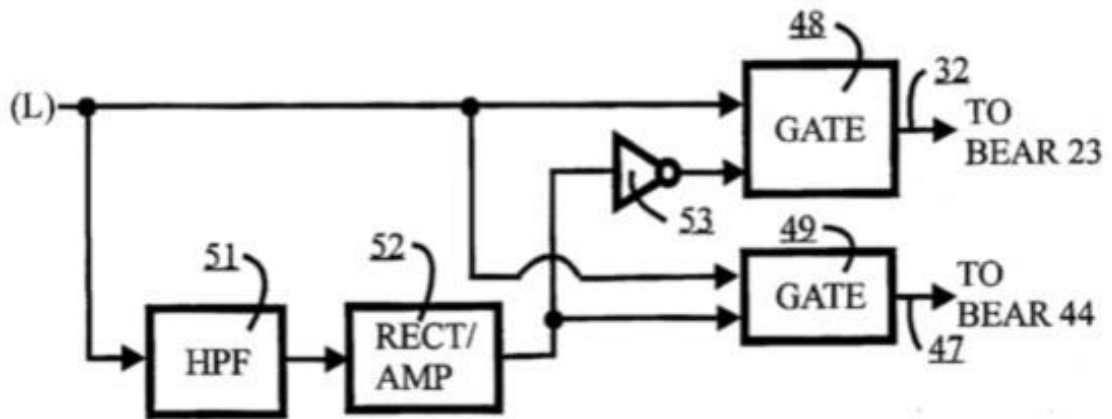


FIG. 5

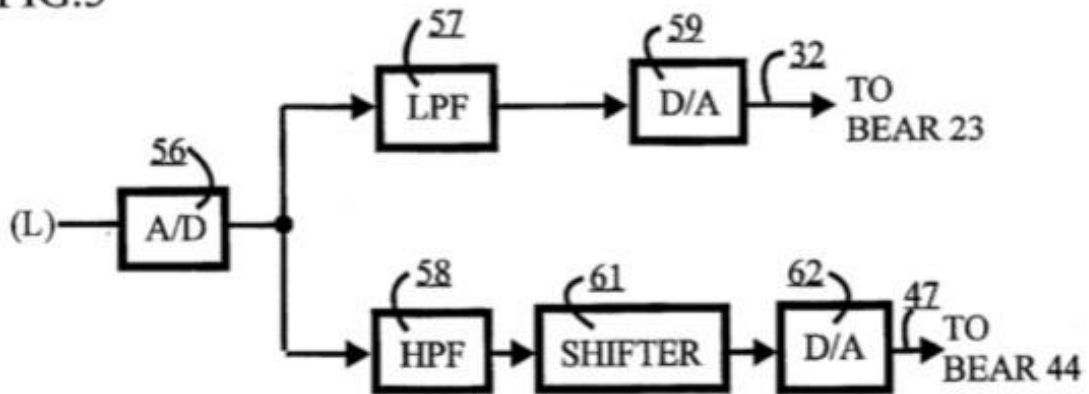
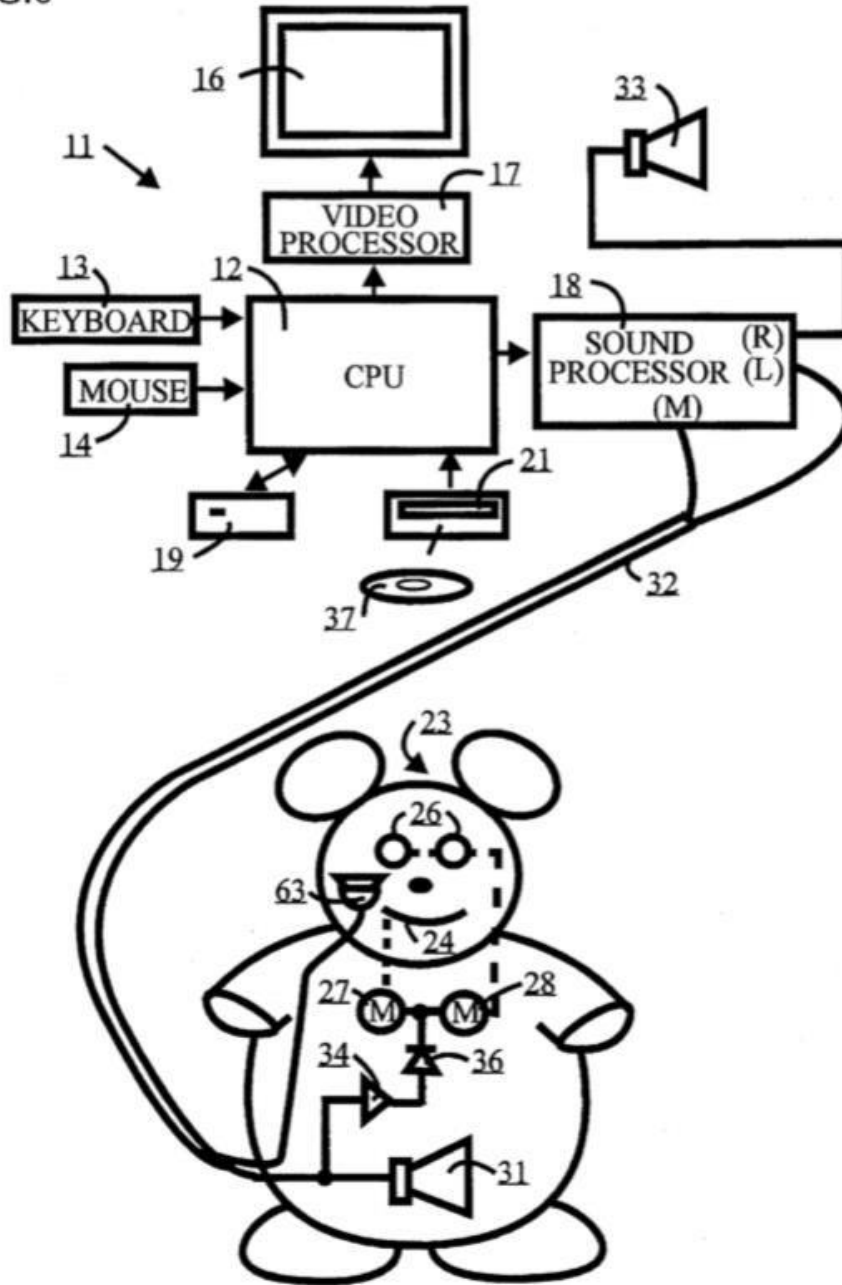


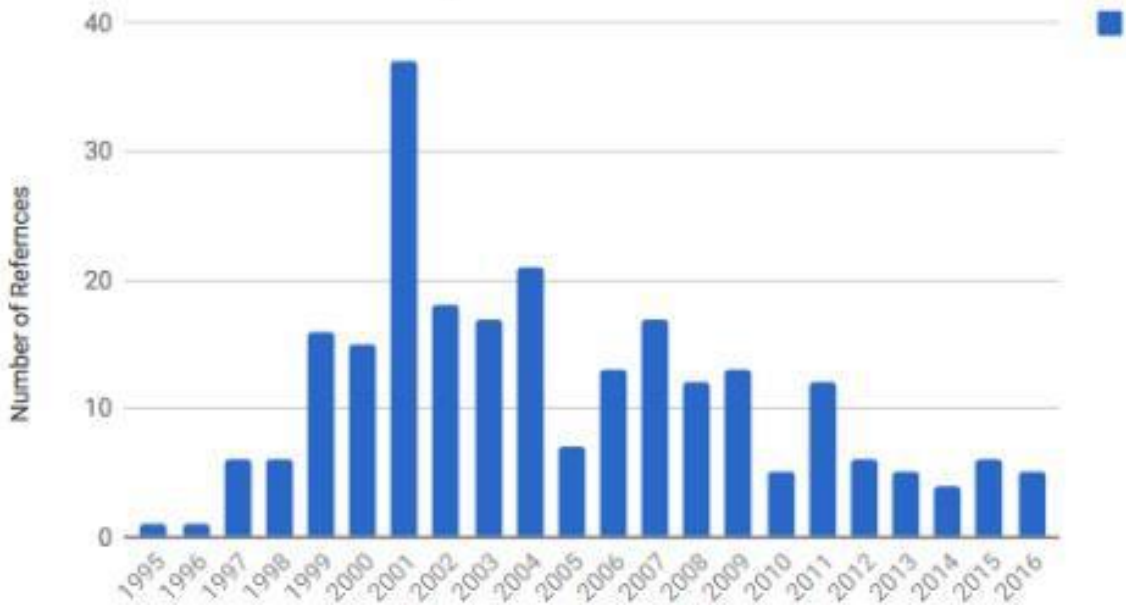
FIG.6



Source: Compiled by Case Researcher with data from the patent financial reports

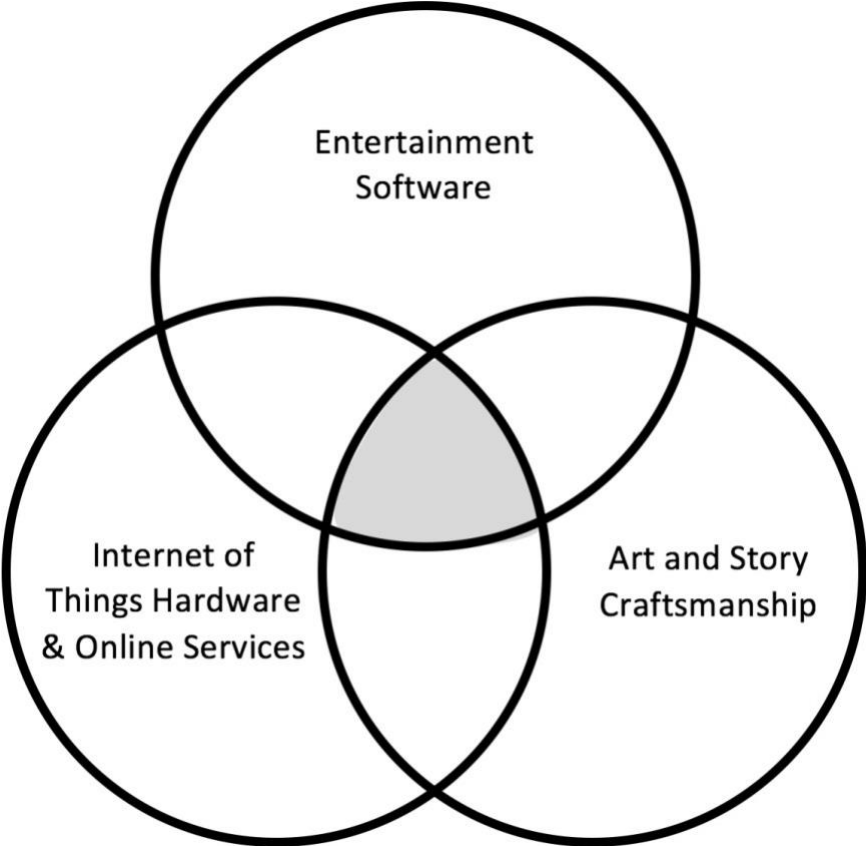
**Exhibit 2:**

**Number of References to Vincent Tong Interactive Computer Controlled Doll Patent by Year**



Source: Compiled by Case Researcher with data from the patent financial reports

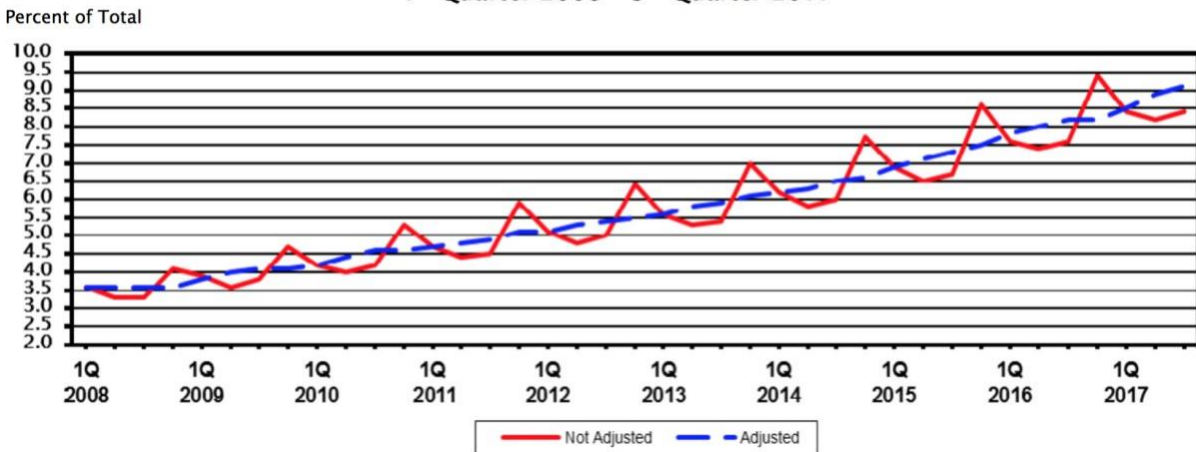
**Exhibit 3:**



Source: David Chan Interview

## Exhibit 4:

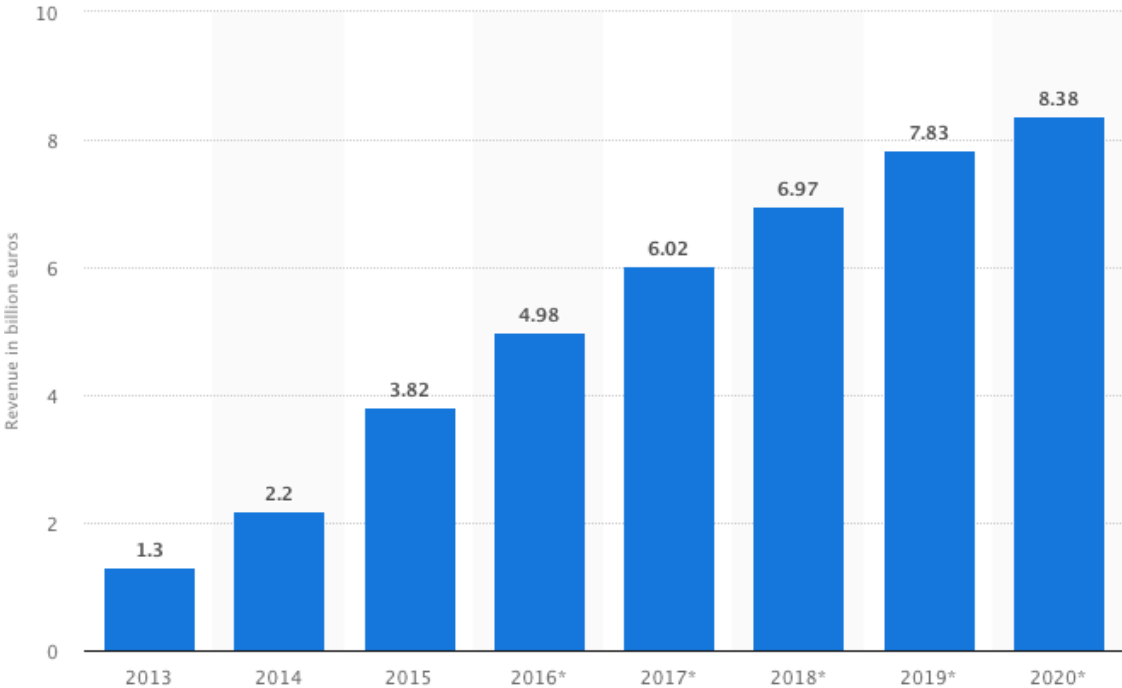
Estimated Quarterly U.S. Retail E-commerce Sales as a Percent of Total Quarterly Retail Sales:  
1<sup>st</sup> Quarter 2008 – 3<sup>rd</sup> Quarter 2017



Source: [https://www.census.gov/retail/mrts/www/data/pdf/ec\\_current.pdf](https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf)

**Exhibit 5:**

Forecasted Smart Toy Sales Growth: 2013-2020 (in billion euros)



Source: <https://www.statista.com/statistics/320941/smart-toys-revenue/>

## End Notes

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<sup>1</sup> David Chan Interview, November 14, 2017

<sup>2</sup> Plotnick, Eric. "Trends in Educational Technology 1995. ERIC Digest." Clearinghouse on Assessment and Evaluation, ERIC Clearinghouse on Information and Technology Syracuse NY., 30 Nov. 1995, [ericcae.net/edo/ed398861.htm](http://ericcae.net/edo/ed398861.htm).

<sup>3</sup> "The Sims." Wikipedia, Wikimedia Foundation, 23 Nov. 2017, [en.wikipedia.org/wiki/The\\_Sims](http://en.wikipedia.org/wiki/The_Sims).

<sup>4</sup> Waugh, Rob. "Record-Breaking Star Wars Epic Is First to Beat World Of Warcraft at Its Own Game." Daily Mail Online, Associated Newspapers, 28 Dec. 2011, [www.dailymail.co.uk/sciencetech/article-2079294/Record-breaking-Star-Wars-epic-beat-World-Warcraft-game.html](http://www.dailymail.co.uk/sciencetech/article-2079294/Record-breaking-Star-Wars-epic-beat-World-Warcraft-game.html).

<sup>5</sup> "Star Wars: The Old Republic." Wikipedia, Wikimedia Foundation, 26 Nov. 2017, [en.wikipedia.org/wiki/Star\\_Wars:\\_The\\_Old\\_Republic](http://en.wikipedia.org/wiki/Star_Wars:_The_Old_Republic).