What is the truth about the contributions of Steve Jobs to computing and society?

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February 15, 2012

Word count: 2707

Abstract

The life and contributions of Steve Jobs to computing and society is a very interesting research subject and for this essay I tried to go deeper into the core believes of a unique human being that, may have been, one of the most brilliant minds of our generation. Writing this essay I have learned so much about what drives people to excel themselves and what it takes to truly change people's lives. Steve Jobs was a remarkable individual and his contributions are yet to be fully appreciated and comprehended.

1   Introduction

Identifying the truth about the contributions of Steve Jobs to computing and society is not straightforward, mainly due to the facts that it is hard to measure contributions, it is hard to identify what are the truths behind what are considered facts and above all that Steve Jobs was an uncommonly complex human being.

Nonetheless, in this essay I tried to separate Steve Jobs' personal life from his career, in order to get to the truth about his contributions. It was a daunting task considering how connected these two parts of his life were.

2   Personal life

It all started when Steve Jobs' biological parents – Joanne Carole Schieble and Abdulfattah Jandali – decided to put the soon to be born baby for adoption. Their only request was that the adoptive parents were both college graduates [1], thus when Steve was born on 24 of February of 1955, he was adopted by Paul Reinhold Jobs and Clara Jobs which were not college graduates but promised that Steve Jobs would go to college someday [1].

2.1   Education

Steve Jobs did go to college, however, he dropped out because he "couldn't see the value in it" [1] and he wanted to focus his attention on the classes that interested him rather than the required ones. The previously mentioned act of irreverence was in my opinion his first contribution to society, stating that one should pursue what one loves rather than do what is required.

I was precisely in one of these non required classes that Steve Jobs felt in love for design. It was the calligraphy class and he learned there "what makes great typography great" [1] and he "found it fascinating" [1]. This was in my opinion his second contribution to society, the focus on design and in creating beautiful products. However, I do believe that his desire for good design was already within him and he knew clearly what he was looking for when he took the calligraphy class.

3   Career

Steve Jobs's career started at Atari, Inc. where he had a job as technician [2].

3.1   Apple Inc.

Apple Computer Inc. was founded by Steve Jobs, Steve Wozniak and Ronald Gerald Wayne [3] on April 1, 1976 [4] and incorporated on January 3, 1977, in Cupertino, California [3]. It is important to have a quick look at the first products launched by Apple Computer, Inc. because Steve Jobs' contributions to computing and society started exactly there. Thus, the first products that Apple released:

Apple I The Apple I computer was the first computer produced by Steve Jobs and Steve Wozniak, which was basically an assembled circuit board without any kind of peripherals. It was the kick start of Apple.

Apple II The Apple II computer was the first computer produced after Apple Computer Inc. was founded and it was one of the most successful computers in history, with millions of units sold [5]. The Apple II was the very first personal computer, due to the fact that it was not target to enterprises nor hobbyists, it was targeted to common people.

Apple III The Apple III computer was not as successful as its predecessor due to the fact that Steve Jobs insisted not to have a cooling fan for a quiet performance, which caused the computer to overheat [4].

Apple Lisa While Apple was busy recalling thousands of Apple III computers due to the above mentioned overheating problem, in Xerox's Palo Alto Research Center they were trying to build what we know today as a desktop. Luckily, Steve Jobs had a chance to preview these new advances and he was fascinated, specially by the use of a mouse to control a GUI (Graphical User Interface). He started immediately to try and implemented these ideas in the new Apple Lisa computer.

Macintosh 128k The release of the Macintosh computer, more specifically the "1984" commercial "stands as watershed" [6] and it was considered a "masterpiece" [7]. Furthermore, it was recognized as the the "best commercial of the 1980s" by the Advertising Age [8] and "the greatest commercial of all time" by TV Guide [9]. The advert had the intention of having the Macintosh computer stand as a savior of humanity against big corporations. It is important to point out that at the time Apple was not a powerful corporation comparatively to nowadays where it was briefly the world's most valuable company [10]. It is also important to remember that the Macintosh was the first computer to have "beautiful typography" [1] which was due to the fact that Steve Jobs took the calligraphy class early on in his education that I referred on section 2.1.

Steve Jobs was fired from Apple in 1985 due to "an internal power struggle" [4] which for him "was devastating" [1], however, that did not stop him

from loving what he did so he started over [1] by founding NeXT Inc. the same year [11]. The fact that he was persuasive and wanted to keep doing what he loved is another characteristic of successful people, and people that actually contribute to change society like he did.

3.2 Next Inc.

Next, Inc. released its first NeXT Computer in 1988 and the NeXTstation in 1990 of which they sold just around 50,000 units [12]. Nonetheless, they had built an innovative object-oriented NeXTSTEP operating system, which preceded the release of OpenStep that was a programming environment standard [12].

Apple bought NeXT on December 20, 1996 and a considerable amount of the current Mac OS X system was developed on the top of OPENSTEP [13]. The most important outcome of this purchase was the fact that Steve Jobs was back at Apple for one of the most creative and innovation periods of the computing industry which is covered in section 3.4.

3.3 Pixar Inc.

While at Next, Inc., Steve Jobs acquired the "Graphics Group" from Lucasfilm's computer graphics division in 1986 for $5 million, then renamed it Pixar and added $5 million in capital [14]. The first intention of Steve Jobs when acquiring the company was to continue selling hardware, however the company was very unsuccessful leading to a deal with Disney to produce computer-animated feature films [15]. It proved to be one of the best partnerships in the history of movies, earning Pixar a total of 26 Academy Awards, 7 Golden Globes, and 3 Grammy Awards [16].

On January 24, 2006 The Walt Disney Company bought Pixar – in an all-stock deal – at a valuation of $7.4 billion [16], making Steve Jobs the largest single shareholder of Disney [17]. Steve Jobs brought the computing industry into the movie industry, proof of that is the Academy Award for Best Animated Feature which was introduced just two years after Toy Story 2 was released [15]. Disney/Pixar won 6 out of 10 Academy Award for Best Animated Feature, and without exception each feature film released by them was nominated until 2010 [18].

3.4   Return to Apple Inc.

Steve Jobs returned to Apple in 1996 after Apple bought NeXT [13], he then went to refocus the company in its core computer products particularly the iMac, and branching out to a few other sectors, namely music industry with iTunes and iPod, telecommunication industry with the iPhone, television industry with Apple TV and the creation of a new industry, the tablet industry with the iPad. Due to the creation of new products rather than just focusing on computers, Apple Computer, Inc. was renamed to just Apple Inc. which was focused on mobile electronic devices.

Steve Jobs also decided to go into brick-and-mortar, and the first official Apple Retail Stores opened in Virginia and California on May 19, 2001 [19]. The first major device released by Apple with Steve Jobs in charge was the iPod, discussed in the section below.

3.4.1   iPod and iTunes

The first iPod was released on October 23, 2001 and needless to say it was a major success, with sales going past the 300 million units mark as of October 2011 [20]. The sales proved that the consumers liked the product and the superiority of the product was proved by the various awards including engineering excellence [21] and recognition for the product design [22] that the iPod won. Furthermore, PC World stated that the iPod "irrevocably altered the landscape for portable audio players" [23].

The iTunes Store was announced in 2003 [24] and it made songs available for $0.99 each, as well as interlocking with the iPod. The released of the music store came together because Steve Jobs always believed that consumers would pay for music if a platform would make that easy, and he was right. The iTunes Store at first was seen as an evil move [20] by Steve Jobs which could increase piracy, but it turned out to be the opposite.

Thus, Steve Jobs changed yet another industry – the music industry – and a clear proof of that is the Grammy Trustees Award that Jobs won because of the iPod and iTunes on February 12, 2012 [25]. "He took technology and turned it into art, becoming a key player and leader in the entertainment world, particularly music, and changing the way we all use the Internet and consume music, TV, movies, books, graphics, and more." [26] the Recording Academy declared.

3.4.2 iPhone

The first iPhone was announced on January 9, 2007 with one of the slogans being "iPhone Apple reinvents the phone" [27]. The iPhone was a major success and was named by Time magazine as the "Invention of the Year" in 2007 [28]. Moreover, Walt Mossberg of the The Wall Street Journal stated their verdict was that "despite some flaws and feature omissions, the iPhone is, on balance, a beautiful and breakthrough handheld computer" [29]. It is important to notice that in the statement of Walt Mossberg he sees the device as a "handheld computer" and not simply a mobile phone, that really was the breakthrough of Steve Jobs. He brought computing to mobile phones, making them a powerful hybrid between a mobile phone and a computer with Apples's full-featured desktop operating system. "One of the big trends of 2007 was the idea that computing doesn't belong just in cyberspace" [28], and Steve Jobs was the pioneer in implementing that idea with the iPhone that people could carry with them all the time

Furthermore, the iPhone was also a "widescreen iPod with touch controls" as Steve Jobs introduced it on Macworld San Francisco 2007 and the latest iPhone, the iPhone 4S with its 8 megapixel and 1080p video recording camera is entering yet another realm – the digital photography and video.

Recapitulating, the iPhone progressed as an all-in-one mobile device into the areas of telecommunication, computer, music, digital photography and video, not to mention the possibility of apps which allow for the creation of software to enter the most diverse industries.

3.4.3 Apple TV

The Apple TV was originally released on January 9, 2007 [30] and it "allows consumers to use an HDTV set to view photos, play music and watch video that originates from limited Internet services or a local network" [30].

Apple TV is a clear attempt to bring computing, interaction and the internet to the television industry. It is still unclear at this stage which company is going to succeed, however, Apple TV is probably the most likely one.

3.4.4 App Store

The App Store was launched on July 10, 2008 [31] and as of October 4, 2011 [32] it has over 500,000 available apps and more than 18 billion total

downloads with an average download per app of approximately 36,000.

The App Store created another industry, the app development industry, making it possible for developers to create software for mobile phones. These developers could then sell their apps in an easier way in the App Store as musicians can sell music on iTunes Store.

3.4.5 iPad

The iPad was announced on January 27, 2010 and released for the first time on April 3, 2010 [33]. Apple has sold more than 55 million units as of December 31, 2011 [34]

The iPad, without dispute, has changed society. Among the most changed industries are business, education and healthcare not to mention common every day users.

Business users were the first ones to see the potential in the use of the iPad, just in the first 90 days of its release the iPad was adopted by 50% of Fortune 100 companies [35]. Frost & Sullivan concluded that the usage of iPad in the workplace " increased employee productivity,reduced paperwork, and increased revenue" [33]. Furthermore in aviation, the US Federal Aviation Administration has authorized the use of iPads in-cockpit to reduce paper consumption [36] and Alaska Airlines replaced pilots' paper manuals with iPads to effectively reduce more than 10kg compared with printed flight manuals[37].

In terms of education, Wired.com said that "the possibilities are really endless, limited only by our imagination" [38]. Universities and colleges are slowly starting to use the iPad [33], and SF Weekly stated that as a result of the use of iPads children with autism "have been able to communicate their thoughts to adults for the first time. Others have learned life skills that had eluded them for years" [39].

In the healthcare industry, hospitals have started to use iPads to administer their supply chain [33] in a more direct and quicker way. Moreover, the iPad dimensions and shape are very practical for health care professionals, as Guillermo Ramas the vice president of a health care contracting services company declares "doctors won't walk around a hospital with a laptop [...] with an iPad it's perfect to walk around the hospital with as long as they have the information they need" [40].

As a general use the iPad changed the way people watch TV [41], by allowing people to use it has a second screen and interact with the content

they are consuming [42]. It changed the way music can be created, Gorillaz's album, The Fall "was recorded on Damon Albarn's iPad" [43]. It changed the way agents promote their athletes, "Carl Crawford's agents went high-tech, sending interested teams iPads preloaded with an impressive video touting the free agent's strengths, showing highlights and offering testimonials" [44].

3.5   Post-Steve Jobs

Apple on January 19, 2012 announced the iBooks Textbooks for iOS and iBook Author for Mac OS X, this announcement is closely related with the desire of Steve Jobs to "reinvent the textbook and education" [24].

It is uncertain what path Apple is going to take, but it is unquestionable the influence of Steve Jobs in everything it has done so far and in the foreseeable future.

4   Conclusion

Steve Jobs was a visionary, he believe that products should be beautiful, simple and superior in engineering. There is no question that the contributions of Steve Jobs to computing and society were immense. Summarizing, the Apple II was the very first personal computer for the masses, the Macintosh popularized GUI, Pixar with Toy Story changed the animated feature films, Apple stores changed the way a brand can use brick-and-mortar to increase brand awareness, sales and user experience when buying products, the iPod revolutionalized the way music is consumed, iTunes saved the music industry and gave musicians much more power over their music, the iPhone changed not only the mobile phone industry but it entered the photography, video, email, Internet industries, the App Store created a whole new industry and there are thousands of full time mobile developers, the iPad launched the tablets industry and offered a platform for digital newspapers, magazines, books, and videos to be consumed, and Apple itself, which was considered by Steve Jobs as his greatest creation and is at the time of writing this essay the most valuable company in the world with a "market capitalization of almost $470 billion" [45].

Undoubtedly, Steve Jobs contributed more than any other person on the planet to the development of the computing industry. He was a pioneer and as computing takes over the world, so did Steve Jobs and his words

are timeless, "the minute that you understand that you can poke life and actually something will, you know if you push in, something will pop out the other side, that you can change it, you can mold it. That's maybe the most important thing. It's to shake off this erroneous notion that life is there and you're just gonna live in it, versus embrace it, change it, improve it, make your mark upon it" [46].

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