INSIDE STEVE’S BRAIN

The principles that guide Steve Jobs as he launches killer products, attracts fanatically loyal customers, and manages some of the world’s most powerful brands.

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It’s normal when talking about Steve Jobs to dwell on his control-freak tendencies or his propensity to rant and shout when frustrated, but that’s probably a little too superficial a view to take. The fact is Steve Jobs has single-handedly:

- Revolutionized the personal computer industry (in the 1970s with the Apple II and in the 1980s with the Mac).
- Built the world’s most successful animated movie studio (Pixar).
- Dramatically impacted on the music industry in the 2000s (with the iPod and iTunes).
- Turned around a Fortune 500 company which appeared to be in a death spiral (Apple Computer).

In other words, say what you will about the difficulty of working with Steve Jobs, this self-made billionaire must be doing something right. He has generated too impressive a track record of billions of dollars of product sales for it all to be dismissed as dumb luck or fortuitous timing. Jobs has succeeded where many other highly competent companies have stumbled and fell.

When you try and boil down what it is Steve Jobs does differently, it all comes down to his seven distinct personality traits:

1. **Focus**
   
   At a personal level, Steve Jobs excels at focusing on what he’s good at and delegating the rest to others. The same philosophy applies to business. When he regained control of Apple, his first priority was to get the company focused on what it’s good at.

2. **Despotism**
   
   When developing technology-based products, it’s easy to try and cram more and more features in. You’ve got to have someone who makes the hard call to stop developing new things and start manufacturing and shipping. Steve Jobs is good at acting like a despot and making the hard calls.

3. **Perfectionism**
   
   Steve Jobs has an obsession with the pursuit of excellence. Pure and simple, he lives to make great products, to do great things and to avoid compromises of any kind. He’s perfectly willing to keep doing things over and over until he gets them just right – or scrap the product altogether.

4. **Elitism**
   
   Steve Jobs believes strongly in partnering with A-players and firing all the bozos. He consistently seeks out the highest quality talent and recruits them to his projects. He attracts great people and then lets them do great work for him.

5. **Passion**
   
   To say Steve Jobs is passionate about what he does is an obvious understatement. More than anything, he aspires to “put a ding in the universe” – to do great things. In everything Jobs does, there is always an intense sense of mission.

6. **Inventive Spirit**
   
   An ongoing source of inspiration and new product ideas for Apple is the fact Steve Jobs pays careful and deliberate attention to the customer experience. He has good instincts for what customers will like. Jobs is certainly not infallible in this area, but his alertness is the creative spark for many great ideas.

7. **Total Control**
   
   Without any doubt whatsoever Steve Jobs is a no-compromise perfectionist. He always wants to maintain complete and total control over any hardware, software or access services he creates. This approach has always been regarded as Apple’s Achilles heel but now that customers are clamoring for devices which are well-made and easy-to-use – like the iPod – controlling the whole widget rather than just one part just might turn out to be the right business model as the digital entertainment age comes into full bloom.
At a personal level, Steve Jobs excels at focusing on what he’s good at and delegating the rest to others. The same philosophy applies to business. When he regained control of Apple, his first priority was to get the company focused on what it’s good at.

Irrespective of any personality issues which may become involved, Steve Jobs is crystal clear about what he’s good at and what he’s not:

### Innovation

Steve Jobs is a past master at conceiving and then helping create innovative products consumers love. He’s passionate about this.

### Presentations

Steve Jobs is great at launching new consumer products with flair. Apple can guarantee he will generate attention for new stuff.

### Deal-making

Steve Jobs excels at negotiating good deals. He has shown this with Pixar and with getting record companies onboard with iTunes.

### Movie making

At Pixar, Steve Jobs knew better than to get involved as a director. He let others use their talents to best effect and was hands off.

### Wall Street

Jobs is no good at dealing with Wall Street types. He always works in conjunction with a competent CFO who manages this area.

### Operations

Equally, Jobs delegates the intricacies of operations to a COO he trusts implicitly. He stays out of this area completely.

### Dilution

Steve Jobs is proud of the products Apple hasn’t done. Instead of getting sidetracked, the company has stayed focused.

### Focus

1. Apple’s computer product line had become so confusing it was impossible for customers to tell one model from another.
2. Apple’s R&D engineers were working on some interesting stuff but nobody was doing the difficult work of buckling down and getting things market ready.

Jobs went through all of the product lines offered by Apple one by one and then came back with his “go-forward plan” which was considered to be quite radical at that time:

- Apple would develop and sell four machines – two notebooks (one for consumers, the other for professionals) and two desktops (again, one for consumers, one for professionals).

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<td>Power Mac G3</td>
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- Apple would sell everything else – its printer business, monitors, software, hand-helds, etc.
- Apple would focus on making premium world-class computers. Any research projects which did not relate to this aim were cancelled – which meant Jobs killed hundreds of projects with immediate effect.
- The product managers were responsible for matching staffing levels to the company’s needs moving forward – which resulted in mass layoffs. Jobs was careful, however, to retain a core team of talented engineers which he referred to as his A team. They would later work on the iPod.

- Jobs also streamlined Apple’s organizational chart so everyone knew who they reported to and what was expected of them.
- Jobs killed the Mac clones in the marketplace, and insisted on keeping everything Apple did totally proprietary.

“*The roots of Apple were to build computers for people, not for corporations. The world doesn’t need another Dell or Compaq.*”

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“*When I joined Apple in 1993 it was wonderful. You could do creative, innovative things. But it was chaotic. You can’t do that in an organization. You need a few creative people, and the rest get the work done.*”

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“*What are the great brands? Levi’s, Coke, Disney, Nike. Most people would put Apple in that category. You could spend billions building a brand not as good as Apple. Yet Apple hasn’t been doing anything with this incredible asset. What is Apple, after all? Apple is about people who think outside the box, people who want to use computers to help them change the world, to help them create things that make a difference, and not just to get the job done.*”

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“*Jobs has taken his interests and personality traits – obsessiveness, narcissism, perfectionism – and turned them into the hallmarks of his career. Jobs has used his natural gifts and talents to remake Apple. He has fused high technology with design, branding and fashion.*”

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Steve Jobs

Leander Kahney
When developing technology-based products, it’s easy to try and cram more and more features in. You’ve got to have someone who makes the hard call to stop developing new things and start manufacturing and shipping. Steve Jobs is good at acting like a despot and making the hard calls.

“Jobs always looked at things from the perspective of what was the users experience going to be, but unlike a lot of people in product marketing in those days who would go out and do consumer testing, asking people what they wanted, Steve didn’t believe in that. He said, ‘How can I possibly ask someone what a graphics-based computer ought to be when they have no idea what a graphics-based computer is? No one has ever seen one before.’”

– John Sculley, Apple CEO 1983 - 1993

“If I’d asked my customers what they wanted, they’d have said a faster horse.”

– Henry Ford, founder, Ford Motor Company

“User groups need naive users, but these users can’t tell you what they want. You have to watch and discover what they want. All the marketing data said the Walkman was going to fail. It was unambiguous. No one would buy it. But Sony founder Akio Marita pushed it through anyway. He knew. Jobs is the same. He has no need for user groups because he is a user experience expert.”

– Patrick Whitney, director, Illinois Institute of Technology’s Institute of Design

There is one other thing that Steve Jobs does when designing new products which is worth noting. He always asks for alternatives to be generated and then likes to pick the best. He is well aware there’s more than one way to do most things and he will usually ask for multiple variations of products under development to be made. Jobs will then look at these various mockups and prototypes, compare them in depth and then pick the best to run with. He habitually does this for all hardware and software development projects.

“Focus means saying no.”

– Steve Jobs

“Technically, Steve Jobs is at the serious hobbyist level. He had no formal training, but he’s followed technology since a teenager. He’s technically aware enough to follow trends, like a good stock analyst. He has a layman’s view. It’s a great asset.”

– Dag Spicer, senior curator, Computer History Museum

“Apple is engaged in probably the most remarkable second act ever seen in technology. Its resurgence is simply phenomenal and extremely impressive.”

– Eric Schmidt, CEO, Google

“There’s a new frontier in technology: digital entertainment and communication.”

– Leander Kahney
Jobs continued that trend with the launch of the original Mac. He correctly surmised most people who purchase a Mac would have no prior hands-on experience with computers. Therefore, the iMac’s screen, disk drives and circuitry were all housed in the same case. By having an all-in-one design, all of a PC’s normal wires and plugs were dispensed with. All the customer had to do to get started was to plug in the mouse and the power cord. The Mac also had just a simple on/off switch which was placed at the back of the machine so users couldn’t accidentally turn it off in the middle of doing something. The designers even went as far as to place a smooth area around the on/off switch to make it easy to find the switch by touch.

Steve Jobs was completely immersed in every detail of the Mac and carefully choreographed the design of the packaging. He considered the packaging of any Apple product is an integral part of the user experience. When the Mac was first released in 1984, Jobs believed the only people who would have used computers prior to that time would be engineers so he gave lots of thought to how the Mac should be packaged. He came up with these ideas:

- Jobs decided consumers should be involved in assembling the machine so they would familiarize themselves with the main components. Therefore, the computer, keyboard, mouse, cords, disks and manuals were packed separately in a box which had a black-and-white picture of the machine.
- When consumers opened the box, they saw a piece of packing foam. On removing that, they saw the handle at the top of the Mac – which suggested they should lift the machine out of the box and set it on a table.
- Consumers then typically opened the accessory box which had three cables – one for power, one for the Internet, and the other for the keyboard. It was obvious these three cables should be attached as the next step.
- The other components would then be opened, removed from their packaging and progressively added to the system.

Apple has continued to make the “unpacking routine” an integral part of its product design and development efforts and Steve Jobs is always closely involved in this. His attention to detail in this area is legendary. For example, shortly before the launch of the iPod, Jobs was disappointed to realize the headphone jack didn’t yield a satisfying click whenever the earphones were attached or removed. He instructed an engineer to work on this, and then Jobs had all of the dozens of sample iPods which had been issued to reporters and VIPs for a product demonstration retrofitted with the new headphone jack which delivered a better clicking sound.

“Jobs’s insistence on excellence sometimes delays products: and he’s quite willing to kill projects the team has worked on for years. But his unwillingness to compromise ensures that Apple products are never rushed out of the door until they are polished to his satisfaction.”

— Leander Kahney

“It sounds simple and obvious, but often getting to that level of simplicity requires enormous iteration in design. You have to spend considerable energy understanding the problems that exist and the issues people have – even when they find it difficult to articulate those issues and problems themselves.”

— Jonathan Ive, chief designer, Apple Computer

“Be a yardstick of quality. Some people aren’t used to an environment where excellence is expected.”

— Steve Jobs

Steve Jobs has an obsession with the pursuit of excellence. Pure and simple, he lives to make great products, to do great things and to avoid compromises of any kind. He’s perfectly willing to keep doing things over and over until he gets them just right – or scrap the product altogether.

“Design is a funny word. Some people think design means how it looks. But of course, if you dig deeper, it’s really how it works. The design of the Mac wasn’t what it looked like, although that was part of it. Primarily, it was how it worked. To design something really well, you have to get it. You have to really gasp what it’s all about. It takes a passionate commitment to really thoroughly understand something, chew it up, not just quickly swallow it. Most people don’t take the time to do that.”

— Steve Jobs

Even in the early days of Apple Computer when Steve Jobs and Steve Wozniak were developing the Apple II, Jobs knew design was important. So much so he hired a freelance designer who was an ex-Hewlett-Packard employee to design a professional looking molded plastic case for the Apple II. While other companies were putting their rudimentary computers into all kinds of cases, Apple’s computers looked like real mass consumer products. Jobs just has an innate feel for this. When it came time to debut the Apple II at the 1977 West Coast Computer Faire, a small batch of twenty Apple II cases were made. The company only had enough circuits to make three working computers for the trade show so the rest of the cases were stacked professionally at the back of the booth. This gave the impression Apple had already achieved high-volume production which, in those days, was considered to be a very big deal. Compared to the offerings of other computer manufacturers, the Apple II looked more like it was a finished machine ready to use rather than a hobbyist kit requiring more tinkering.

Steve Jobs is an absolute stickler for detail. People describe him as being a pain-in-the-butt perfectionist who is difficult to work with and so demanding it’s unbelievable. But those observations can easily be interpreted as being the byproducts of a tireless and intense pursuit of excellence as well.

The fact Steve Jobs insists on an unprecedented and unreasonable attention to detail is probably the reason why Apple has won so many design awards. It is certainly the driving force behind the company’s intensely loyal customer base. Jobs is perfectly happy to keep working on the design of a new product for as long as it takes to get it right and even to kill projects altogether if they cannot be well designed.

“When you start looking at a problem and think it’s really simple, you don’t understand how complex the problem really is. Once you get into the problem, you see that it’s complicated, and you come up with all these convoluted solutions. That’s where most people stop, and the solutions tend to work for a while. But the really great person will keep going, find the underlying problem, and come up with an elegant solution that works on every level. That’s what we wanted to do with the iMac.”

— Steve Jobs
Steve Jobs believes strongly in partnering with A-players and firing all the bozos. He consistently seeks out the highest quality talent and recruits them to his projects. He attracts great people and then lets them do great work for him.

There is no question Steve Jobs is an elitist. He believes you’re far better off having a small team of highly talented collaborators than you are having a vast army of mediocre talent. Accordingly, Jobs has always set out to hire the smartest engineers, designers and programmers on the planet. He has also forged long-term relationships with many of the world’s top brands – including Disney, Pepsi and the big record labels.

“I always considered part of my job was to keep the quality level of the people in the organizations I work with very high. That’s what I consider one of the few things I actually can contribute individually to – to really try to instill in the organization the goal of having only ‘A’ players. In everything I’ve done it really pays to go after the best people in the world.”

– Steve Jobs

When Jobs went back to working at Apple in 1997, he set about assembling an A team to work to turn the company around. He brought with him three of his trusted senior management team from NeXT who he put in charge of hardware, software and sales. He also brought in an experienced Chief Operating Officer who controlled all operations and logistics as well as a very competent Chief Financial Officer and retail store manager. And then, contrary to most expectations, Jobs delegated day-to-day responsibilities to these people without trying to micromanage everything. Instead, Steve Jobs used his considerable energy getting to work developing new products for Apple.

Steve Jobs has a strong preference for small teams. When he worked on the original Mac, he insisted on an upper limit of 100 people. If someone was added, someone else had to be dropped from the team. He believes large groups become unfocused and unmanageable and that small is best. Perhaps this preference harks back to the early days when Jobs and Wozniak assembled the first Apple computers by hand in a garage, or it may be that Jobs has learnt by experience that when it comes to teams, small is best. Regardless, Apple today assembles small development teams which have more in common with a garage startup than they do with a company of 21,000 employees.

So if Jobs isn’t really a “techo” per se, what is his contribution to a development team? While he cannot do some of the hands-on tasks like design a circuit board or make a computer case, he does provide the project with vision and guidance. Or put another way, Jobs gets involved in making most if not all of the key decisions. He rejects or accepts the work of his creative partners and keeps everyone on track. In the parlance of Silicon Valley, Jobs typically acts as the team’s “product picker” – the individual who has a nose for what will sell and what will not. Steve Jobs is very good at listening to a torrent of new ideas being suggested and separating the wheat from the chaff.

“The products bubble up but there has to be a czar. The success or failure of a startup depends on its first product. It’s a hits business. If you pick the right product you win big. It’s a high-wire act. It’s very clear when you fail. You have to risk everything every time you do it. It’s playing center-court at Wimbledon. And you have to have a lot of power to do it. Not many have the power or the will to push it through the organization without being edited or compromised or watered down. It doesn’t work if you pick by committee. Apple is a hit-driven company. It’s had one hit after another.”

– Gordon Moore, venture capitalist and author of Crossing the Chasm

During product development projects, Jobs gets involved in all the major and most of the minor decisions which get made. He’s very comfortable allowing other people to challenge his thinking, but they’d better be prepared to back up what they’re saying to the hilt. Jobs typically makes decisions by engaging in intense, hand-to-hand intellectual combat. The process can be pugnacious and demanding but it’s often from this kind of white-hot environment the most rigorous and creative ideas come out. Yes-men don’t survive the kind of intellectual combat which Jobs excels in. He respects those who stand up to him but they’d pretty darned well be sure of their facts or Jobs will find out and the flow-on consequences will be severe.

In addition to being an astute product picker, Steve Jobs is also the public persona of Apple Computer. He uses advertising exceptionally well to communicate the values he stands for personally and what Apple Computer holds to be important. Jobs’s personality enables Apple to market itself as being edgy, cool and different from other run-of-the-mill competitors. Apple has been positioned as being an icon of change and of revolutionary or bold thinking because of the long-standing partnerships Jobs has maintained with some of the world’s leading advertising agencies.

Jobs also uses secrecy to particularly good effect. Apple is divided up into a number of small teams, and when a major new product is under development, it’s not unusual for teams to be developing the various components without having any idea what the finished product is. The knowledge of the actual product is controlled on a very strict need-to-know basis, with all kinds of military-grade security technologies being used internally. The fact what the company is working on does not get leaked in employee blogs or other informal channels means a very healthy sense of anticipation builds each year in the lead up to the annual MacWorld Expo where new products typically get launched. That buzz can result in literally millions of dollars worth of free advertising for Apple Computer.

Jobs is a master at delivering speeches at MacWorld. He uses an impressive amount of precision and timing. In the lead up to the event, banners will be put in position guarded by wrapping and with their own 24/7 security guards. When Jobs casually announces new products, pulleys will unwrap the banner ads and the product will simultaneously show up on the Apple Web site. Jobs generally saves the biggest announcement for last in his speech, which he always introduces with his hallmark “one more thing” – almost as if it were an afterthought. As soon as the new product is announced, an advertising blitz will launch in magazines, newspapers, radio and TV. Within hours, posters will go up on billboards in bus stops around the country, with all the ads reflecting a consistent style and message. The messages themselves will be memorable: “One thousand songs in your pocket” is all you need to know about the iPod. Or “You can’t be too thin. Or too powerful” for the MacBook laptop. All of this is incredibly valuable free PR for Apple Computer and much of it is the direct result of what Jobs personally brings to the company.
To say Steve Jobs is passionate about what he does is an obvious understatement. More than anything, he aspires to “put a ding in the universe” – to do great things. In everything Jobs does, there is always an intense sense of mission.

Steve Jobs has always been on a personal mission to “make the world a better place”. This colors and influences everything and everything he does. He believes it’s perfectly OK to be very difficult to get on with as long as you’re passionate about what you’re attempting to do. Therefore, Jobs has no problems or qualms about yelling and shouting until he gets what he wants, even if others describe that as creating a “reality distortion field” around him. And oddly enough, most of Jobs’s collaborators like it that way. They appreciate his passion and find this pushes them, in turn, to do great things themselves. Sure, eventually it might result in burnout but in the meantime, some pretty amazing stuff will come together on the sheer drive and determination Jobs adds to the equation.

Jobs is famous for recruiting former CEO John Sculley away from being the president of PepsiCo to run Apple with the question: “Do you want to sell sugar water for the rest of your life, or do you want to change the world?” Sculley simply couldn’t resist the philosophical challenge Jobs had thrown down. “If I didn’t accept, I’d have spent the rest of my life wondering if I’d made the wrong decision”.

One interesting dimension of Steve Jobs’s personal stock of passion is he also has the ability to instil similar passion in the team members he collaborates with. The original Mac development team – a ragtag bunch of ex-academics and technicians – typically worked ninety hours a week for months on end. They even got sweatshirts which were emblazoned with: “NINETY HOURS A WEEK AND LOVING IT”.

“The goal was never to beat the competition, or to make a lot of money; it was to do the greatest thing possible, or even a little greater.”

– Andy Hertzfeld, lead programmer

“I’ve always been attracted to the more revolutionary changes. I don’t know why. Because they’re harder. They’re much more stressful emotionally. And you usually go through a period where everybody tells you that you’ve completely failed. Unless you have a lot of passion about this, you’re not going to survive. You’re going to give up. So you’ve got to have an idea or a problem or a wrong that you want to right that you’re passionate about; otherwise you’re not going to have the perseverance to stick it through.”

– Steve Jobs

Due in part to this exceptional level of passion Jobs personally brings to the projects he works on, it isn’t at all unusual for the people he works with to go on a “hero-to-zero” roller coaster ride quite frequently. Jobs is very demanding and expects high performance from the people who report to him. When people deliver, they attain hero status in his eyes. When people let him down, they are labeled as zeroes. Over the course of a project, the same people will go on this roller coaster ride several times. The people who this bugs typically don’t last but those who enjoy this intense level of feedback find the ride exhilarating.

Apple’s stock price has risen 1,250 percent since Jobs took over as interim-CEO in 1997. That means Apple’s employee stock options are incredible motivational tools. Most full-time employees at Apple have grants of stock options awarded when they join the company which vest after a year or so.

“At Apple we gave all our employees stock options very early on. We were among the first in Silicon Valley to do that. And when I returned, I took away most of the cash bonuses and replaced them with options. No cars, no planes, no bonuses. Basically, everyone gets a salary and stock. It’s a very egalitarian way to run a company that Hewlett-Packard pioneered and that Apple, I would like to think, helped establish.”

– Steve Jobs

When it comes to motivating people, Steve Jobs is actually highly skilled at both dangling the carrot and using the stick – most often simultaneously. He can persuade people to go after seemingly impossible goals and push them to go beyond what they assumed their limits were. He’s also more than willing to cajole, rebuke and bully if this proves to be more effective than painting a vivid picture of the future promised rewards. Jobs can alternate between being highly charismatic and being extremely intimidating in the blink of an eye. The usual result, however, is people end up producing work that is better than what they ever thought they were capable of generating.

There also have been times when Jobs has got this balancing act wrong and has stepped over the line to one degree or another.

“Everybody at Apple had been terrorized by Steve Jobs at some point or another so there was a certain relief that the terrorist would be gone when he left Apple in 1985. On the other hand, I think there was incredible respect for Steve Jobs by the very same people, and we were all worried what would happen to this company without the visionary, without the founder, without the charisma.”

– Larry Tessler, former chief scientist Apple Computer

People also talk frequently about the “reality distortion field” which surrounds Steve Jobs – sometimes described as “a ring of charisma so strong it bends reality for anyone under its influence”.

“The reality distortion field was a confounding melange of a charismatic rhetorical style, an indomitable will, and an eagerness to bend any fact to fit the purpose at hand. If one line of argument failed to persuade, he would deftly switch to another. Sometimes, he would throw you off balance by suddenly adopting your position as his own, without acknowledging that he ever thought differently. Amazingly, the reality distortion field seemed to be effective even if you were acutely aware of it, although the effects would fade after Steve departed. We would often discuss potential techniques forgrounding it, but after a while most of us gave up, accepting it as a force of nature.”

– Andy Hertzfeld, member of the Mac development team

Regardless of whether Jobs is charming, intimidating or a mix of the two, almost everyone who works with him agrees he has the ability to get more out of people than they themselves believe is possible. Jobs also tends to get credit for everything that goes right at Apple at the same time as he is blamed for absolutely everything that goes wrong. To most people, Steve Jobs is the heart and soul of Apple Computer, for better or for worse.
Apple has earned a reputation for being one of the most creative and innovative companies in the world. It is therefore somewhat surprising to note Apple has no formal system in place for generating new ideas and harnessing innovation.

“We consciously think about making great products. We don’t think, ‘Let’s be innovative! Let’s take a class! Here are the five rules of innovation, let’s put them up all over the company!’ Trying to systemize innovation is like somebody who’s not cool trying to be cool. It’s painful to watch. The system is that there is no system. That doesn’t mean we don’t have process. Apple is a very disciplined company, and we have great processes. But that’s not what it’s about. Process makes you more efficient, but innovation comes from people meeting up in the hallways or calling each other at 10:30 at night with a new idea, or because they realized something that shoots holes in how we’ve been thinking about a problem. It’s ad hoc meetings of six people called by someone who thinks he has figured out the coolest new thing ever and who wants to know what others think of his idea.” — Steve Jobs

Innovation at Apple is focused on shaping new and emerging technologies to the needs of customers rather than trying to force customers to try and adapt to new technology. In many ways, Steve Jobs tries to act as something of a “gravitational force” at Apple. That is, he looks at new technologies that are coming and tries to tie them together with a common theme – like setting up a digital hub that will allow all the devices within a home to communicate with each other and work together. Apple’s digital hub strategy is a guiding force which influences everything from the development of new products right through to the way Apple’s retail stores are laid out and presented.

“Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D. It’s not about the money. It’s about the people you have, how you’re led, and how much you get it.” — Steve Jobs

Of course not everything Jobs touches turns to gold. In 2000, Apple introduced the Power Mac G4 Cube. The company expected to sell 800,000 units the first year but less than 100,000 machines were sold. Jobs suspended production of the Cube in July 2001 and Apple reported a quarterly loss of $247 million. July 2001 and Apple reported a quarterly loss of $247 million.

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“Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn’t really do it, they just saw something. It seemed obvious to them after a while. That’s because they were able to connect experiences they’ve had and synthesize new things. And the reason they were able to do that was that they’ve had more experiences or they have thought more about their experiences than other people. Unfortunately, that’s too rare a commodity. A lot of people in our industry haven’t had diverse experiences. So they don’t have enough dots to connect, and they end up with very linear solutions without a broad perspective on the problem. The broader one’s understanding of the human experience, the better design we will have.” — Steve Jobs

The development of the iPod – which has single-handedly transformed Apple from being a struggling PC company into an electronics powerhouse – is a good illustration of the way Apple brings together key ideas from unlikely sources to innovate. Even though the iMac was selling well in 2000, Apple had not included a CD burner in the machine and customers were starting to complain loudly. Jobs asked why and realized more and more people were becoming interested in digital music. So to catch up, Apple licensed a music player called SoundJam from a small company. Jobs then convinced this software company to retool SoundJam into iTunes for Apple’s use.

While that was happening, Jobs and his executive team looked at the digital music players then on the market and thought they were poorly designed. At around this same time Toshiba approached Apple with a tiny 1.8-inch hard drive which they had developed but didn’t know what to do with. Jobs made the connection between this tiny hard drive and the need in the marketplace for a better digital player and gave the go-ahead for a product development project to be funded.

An outside team of engineers and designers were hired to work on the iPod project. Since they had been set a deadline of only six months to get to market, they took as many off-the-shelf parts as possible: the hard drive from Toshiba, a battery from Sony, control chips from Texas Instruments and then mixed in Apple’s own in-house expertise with power supplies, displays and so forth. The team had to work through all the issues which had bedeviled earlier products like inferior battery life and come up with better solutions. Over time as the group made prototype after prototype, other ideas like the scroll wheel were grafted in.

The iPod was formally launched on October 23, 2001 – about five weeks after 9/11. The first iPod looks very primitive now by comparison with the later models which have been developed but by April 2007, more than 100 million iPods have been sold. The device alone accounts for just under half Apple’s 2007 revenues. Even more impressively, Apple is on track to sell 300 million iPods by the end of 2009 – with some analysts forecasting the iPod could end up selling around 500 million units before the market is saturated.

“All of which would make the iPod a contender for the biggest consumer electronics hit of all time. The current record holder, Sony’s Walkman, sold 350 million units during its fifteen-year reign in the 1980s and early 1990s. Perhaps the most important aspect of the iPod’s success is the iPod doesn’t have a sole progenitor: there’s no single ‘Podfather’. It’s never just one person – success always has many fathers.” — Leander Kahney
“Jobs is a control-freak extraordinaire. He controls Apple’s software, hardware, and design. He controls Apple’s marketing and online services. He controls every aspect of the organization’s functioning, from the food the employees eat to how much they can tell their families about their work, which is pretty much nothing. Some have suggested that Jobs keeps tight control at Apple to avoid being ousted again. Perhaps, some have speculated, Jobs’s controlling tendencies are the result of his being adopted as a child. But Jobs’s control-freak tendencies have lately turned out to be good business, and good for the design of consumer-friendly gadgets. Tight control of hardware and software pays dividends in ease of use, security and reliability.”

— Leander Kahney

For many years, companies like Microsoft publicly vilified Apple with its preference for proprietary systems. But now, all of a sudden, even Microsoft is switching gears. The company is trying to build its own version of the “digital hub” for households with Microsoft’s own Zune and Xbox at the center. Microsoft is starting to build hardware as well as write software, which is quite a sea change from its usual modus operandi.

So why does Jobs insist on such total control over things? The answer is probably not as complex as it might appear at first glance. It appears Steve Jobs wants to control everything lock-stock-and-barrel for some hard-nosed philosophical and practical reasons. Jobs wants to make complex devices like smart phones and computers into genuine mass-market products. To achieve that, he needs to wrest control of the devices back from consumers and get everything working smoothly. The only way Jobs can achieve that is if Apple controls every part of the overall customer experience.

Whenever there is a tight integration of hardware and software, a more manageable and predictable system emerges. Sure, closed systems limit choice, but that restriction also means the resulting system can be made more reliable. Open systems are by definition more fragile because there are more people who can do things which might clash. Therefore, Jobs has always made systems which are closed to outside developers – from the Mac through to the iPod and now to the iPhone.

Admittedly, most of Apple’s computers now have expansion slots built in to them but this only reflects the fact expansion devices are now much more rigorously tested and certified. Furthermore, most of the components in the latest generation Mac computers are the same as almost any other personal computer. But Apple is the last company in the computer industry which has retained control over its own software. That means if things go wrong, customers can call Apple and get it sorted out. There is none of those frustrating standoffs which arise sometimes where the computer manufacturer blames Microsoft for a fault and Microsoft blames the computer manufacturer. Apple is in the drivers seat from go to whoa.

This also means upgrades can be handled seamlessly. Apple can upgrade its iPods quickly and efficiently through the iTunes software. When a customer next downloads a song, the new version of the software can be uploaded and installed without the customer even being aware it had happened. Apple can also build in all kinds of other integration – all thanks to Steve Jobs and his stubborn insistence on going it alone and controlling the entire widget.

Apple is also perfectly positioned to develop whole business systems rather than stand-alone computers and other gadgets. Apple can bring together applications which combine features of the operating system and totally integrated software and hardware in ways other companies simply cannot match because they don’t understand all of the components to the same degree.

“Apple’s the only company left in this industry that designs the whole widget. Hardware, software, developer relations, marketing. It turns out that that, in my opinion, is Apple’s greatest strategic advantage. We didn’t have a plan, so it looked like this was a tremendous deficit. But with a plan, it’s Apple’s core strategic advantage, if you believe there’s still room for innovation in this industry, which I do, because Apple can innovate faster than anyone else.”

— Steve Jobs

The fact Apple is able to deliver the whole experience with its iPod is probably the main reason no other companies have yet managed to bring to market an iPod killer. Most rivals attempting to dislodge Apple have focused on building a better gadget but the iPod’s real secret sauce is the blend of hardware, software and services which delivers a great customer experience. Apple makes all of those components come together in a way which delivers a great customer experience.

“The roots of Apple were to build computers for people, not for corporations. The world doesn’t need another Dell or Compaq. The great things is Apple’s DNA hasn’t changed. The place where Apple has been standing for the last two decades is exactly where computer technology and the consumer electronics markets are converging. So it’s not like we’re having to cross the river to go somewhere else; the other side of the river is coming to us.”

— Steve Jobs

“In a consumer market, design, reliability, simplicity, good marketing, and elegant packaging are key assets. It’s coming full circle – the company that does it all is the one best positioned to lead.”

— Leander Kahney

“It seems to take a very unique combination of technology, talent, business and marketing and good luck to make significant change in our industry. It doesn’t happen that often.”

— Steve Jobs