I, James N Bullock, hereby submit this original work as part of the requirements for the degree of Master of Design in Design.

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Design Principles for Emotional Durability

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Design Principles for Emotional Durability

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Abstract

Overconsumption has become a way of life for the average American. Our high levels of consumption, however, have not resulted in increased happiness—we are actually less happy.

Consumer psychologists suggest that the missing element in most unsuccessful user-product relationships is meaning. Buyers are looking for an increasing amount of meaning in the objects they purchase—something most products promise but don’t deliver.

The emerging concept of Emotional Durability seeks to alleviate the problems of overconsumption and user dissatisfaction by advocating for the design of meaningful products that facilitate long-term use. It rejects the outdated and Earth-destroying practice of planned obsolescence, imbuing products with characteristics that make them appealing at purchase, but even more appealing through use.

A wide spectrum of theorists and practitioners have written on the topic of Emotional Durability, but few, if any have created actionable guidelines for product designers. This thesis will investigate the root causes of consumption and failed user-product relationships in order to produce a set of principles for designers and manufacturers to utilize when designing new products and user experiences.

The resulting principles will be shared with designers in the hopes of shaping an appreciation for emotionally durable design as well as providing ideas for its implementation.
Acknowledgements:

This thesis is dedicated to my family for their love and encouragement and my committee for their excellent guidance and mentorship.
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Introduction

“Our enormously productive economy... demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfaction, our ego satisfaction, in consumption. We need things consumed, burned up, replaced and discarded at an ever increasing rate.”

-Victor Lebow

In the United States, we are currently facing an epidemic of immense proportion. This epidemic is overconsumption and the negative effects of which are far reaching-adversely influencing both the environment and our emotional well-being.

American proponent of sustainability, Annie Leonard, does a good job of both defining and identifying some of the root causes of over-consumption in her book, The Story of Stuff:

“While consumption means acquiring and using goods and services to meet one’s needs, consumerism is the particular relationship to consumption in which we seek to meet our emotional and social needs through shopping, and we define and demonstrate our self-worth through the Stuff we own. And overconsumption is when we take far more resources than we need and than the planet can sustain, as is the case in most of the United States as well as a growing number of other countries.”

It is impossible to stop consuming altogether as consumption is a natural and necessary human behavior. Instead, our collective aim should be to reduce consumption to more responsible levels.

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2 Annie Leonard, The Story of Stuff: How Our Obsession with Stuff Is Trashing the Planet, Our Communities, and Our Health—and a Vision for Change, chapter 4, para. 4
The emerging field of emotionally durable design offers an enticing and more sustainable alternative to the existing paradigm of planned and perceived obsolescence that fuels our consumptive urges. It seeks to imbue products with increased meaning at purchase and throughout their life span; offering the consumer a more meaningful product experience that results in increased satisfaction and brand loyalty.

Unfortunately, despite emotional durability’s many desirable virtues, very little has been done to increase its implementation within the design process. This thesis ultimately seeks to address that need by offering principles that designers may utilize throughout the creative process. The principles will be tested by designers in order to affirm both their value and ease of application.

Before we are able to outline design principles, we must first probe the root causes of overconsumption.

**A Short History of Overconsumption in the US**

The deepest roots of the underlying materialism that fuels overconsumption can be traced all the way back to prehistoric times in which hunter-gatherers of the Upper Paleolithic period began to construct items such as tools, body adornments, and other material artifacts. Necklaces made of ostrich eggshells and other non-essential to living pieces are of particular interest since they would have taken early artisans many hours to craft-time that could have otherwise been spent looking for food or shelter.³

Modern overconsumption, however, didn’t really begin until the Industrial Revolution. It was during this period that the time and expense required to produce durable objects dropped

sharply because of advances in manufacturing. With decreasing costs and increasing availability of products, consumers were able to possess more of the things they desired.

While increasing consumption was initially incidental to improved production, the US economy, boosted by augmented manufacturing capabilities in the wake of the Second World War, would make consumption its primary economic driver. In the 1950’s, the chairman of President Eisenhower’s Council of Economic Advisors stated that “The American economy’s ultimate purpose is to produce more consumer goods.”

Appropriately, it was around this same time that American journalist Vance Packard wrote The Waste Makers. In this influential book, Packard first coins the term “Planned Obsolescence.” As most designers will know, planned obsolescence is the act of designing a product so that it will become obsolete—whether by form, function, or desirability—within a predetermined period of time.

Packard’s book sparked a significant amount of interest in the life span of products and the potential ramifications of artificially shortening them. Throughout the ensuing decades, much has been said and written about the negative effects of such policies, but, even to this day, very little has been done to reverse or diminish this trend.

The Current State of Consumption

While continuing unchecked, the tandem duo of planned obsolescence and overconsumption has worked hand in hand to wreak havoc on the natural world.

In her video version of The Story of Stuff, Annie Leonard asks the viewer to guess what percentage of materials and goods are still in use 6 months after being introduced to the

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5 Chapman, Emotionally Durable Design, chapter 1.
consumer. The correct answer was only 1\%\textsuperscript{6}. 99\% of resources that enter the materials economy are trash after only 6 months.

This statistic would be understandable (although obviously unsettling) if planned obsolescence alone was limiting the life of almost all consumer goods to less than 6 months. While limited life span is, no doubt, a factor in many objects finding their way into landfills it is, sadly, not always the culprit. Jonathan Chapman, author of *Emotionally Durable Design*, writes that “Research has shown that, during recent years, ’25 percent of vacuum cleaners, 60 percent of stereos and even 90 percent of computers still function when people get rid of them’”\textsuperscript{7}

The fact that valuable resources and fully functioning products become waste in such a short period of time is symptomatic of a failed consumption paradigm. One could elaborate at length (and many have) about the negative environmental consequences of our current love affair with consumption-another consequence, however, may be far more troubling. Despite consuming more than we ever have before we are actually far less happy.

\textsuperscript{7} Chapman, *Emotionally Durable Design*, 30.
Unhappy Consumers

Given that Americans consume more resources and manufactured objects than any other country\(^8\), one might think that we would be amongst the happiest people in the world. The reality is that despite being able to buy and consume more than any other nation in history, we are actually unhappier.

According to an organization called the *New Economics Foundation*, a British think-tank that releases a report called *The Happy Planet Index*, the US ranked a dismal 114\(^{th}\) when comparing the relative happiness of 143 different countries.\(^9\)

Americans actually reported their highest levels of happiness and contentment in 1957. In that year we described ourselves as “very happy,” but have yet to achieve that level ever since\(^{10}\).

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\(^8\) Leonard, *The Story of Stuff*, Chapter 4, Unhappy Nation section.
\(^9\) Statistic found on www.happyplanetindex.org
\(^{10}\) Leonard, *The Story of Stuff*, Chapter 4, Unhappy People section.
When you also consider the fact that three times as many Americans are diagnosed with clinical depression than were prior to the advent of our current consumptive way of live,\textsuperscript{11} you begin to sense a developing trend of unhappiness that coincides with escalating consumerism.

It is paradoxical that we consume so much and yet we are not as happy as we once were. In order to completely understand the cause of this contradiction and what can be done to resolve it; we must first understand the psychology behind why we consume so much in the first place.

**Consumers Crave Meaning**

Chapman asserts that the true cause of this capriciousness is a societal migration away from finding meaning in traditionally valuable institutions such as religion, country, and community and towards the ownership and consumption of material goods.\textsuperscript{12} This view is supported further by Leonard who says that we have learned to identify ourselves primarily as consumers and not mothers, teachers, and fathers. Our value as citizens, consequently, is determined by our ability to consume.\textsuperscript{13}

“This epoch-making societal transition has cast us within an abstract version of reality in which empathy and meaning are sought from toasters, mobile phones and other fabricated experiences. Today empathy is consumed not so much from each other, but through fleeting embraces with designed objects.”\textsuperscript{14}

Influential social psychologist, Mihaly Csikszentmihalyi sought to determine how and why people attach meaning to objects in *The Meaning of Things.*

\textsuperscript{11} Leonard, *The Story of Stuff*, Chapter 4, Unhappy People section.
\textsuperscript{12} Chapman, *Emotionally Durable Design*, 18.
\textsuperscript{13} Leonard, *The Story of Stuff* film.
\textsuperscript{14} Chapman, *Emotionally Durable Design*, 18.
Csikszentmihalyi carefully defines both people and things in the opening chapters of his book. People, Csikszentmihalyi writes, are essentially defined as aware beings that attend to and experience things because it suits their goals and strengthens their sense of self. Things are defined as any bit of information that people are able to consciously recognize. Csikszentmihalyi argues that people and things are mutually dependent. People depend on things to give them meaning and things do not exist outside of a person’s cognition.

Man-made things, or objects, are powerful signs that people use as conduits of meaning. He writes, “The objects people use, despite their incredible diversity and sometimes contradictory usage, appear to be the signs on a blueprint that represent the relation of man to himself, to his fellows, and to the universe.”15 “To understand what people are and what they might become, one must understand what goes on between people and things.”16

An object, therefore, is only valuable insofar as it is able to provide meaning and reinforce the identity and goals of the user. An Apple computer, for example, may be of great importance as an object to a designer not only for its function but also because of what it signifies and how that meaning is transferred to the designer’s definition of self.

It is because we are more attracted to what an object says about us than what it provides in a purely functional sense that we discard objects before they are physically worn out or technologically outdated. Ultimately, an object that fails to provide or reinforce a desirable meaning or reflection of self to the user will be discarded in favor of one that does.

Cognitive scientist and design advocate, Donald Norman, reinforces Csikszentmihalyi’s notion of object as a conduit for meaning in his book, Emotional Design: Why We Love or Hate Everyday Things.

Norman writes:

“The objects in our lives are more than mere material possessions. We take pride in them, not necessarily because we are showing off our wealth or status, but because of the meanings they bring to our lives. A person’s most beloved objects may well be inexpensive trinkets, frayed furniture, or photographs and books, often tattered, dirty, or faded. A favorite object is a symbol, setting up a positive frame of mind, a reminder of pleasant memories, or sometimes an expression of one’s self.”

Csikszentmihalyi and Donald Norman provide a high level explanation for the symbiotic relationship between people and objects. Understanding the true psychological underpinnings of this societal shift in which we seek identity and meaning from the man-made world is complicated and varies from rational to irrational. Taken as a whole, however, one can see that the reasons we consume are no longer tied to what the object has to offer in a functional sense. Yes, an object still has to provide some kind of functionality: a broom must sweep and a hammer must drive nails. We still purchase instruments for these conventional reasons. However, the vast majority of overconsumption does not occur because we are dissatisfied with the way in which our broom is sweeping and hammer, hammering. Objects are more than mere material possessions and in an increasingly abstracted world we seek objects that will provide us with a source of meaning. This meaning may be “a symbol, setting up a positive frame of mind, a reminder of pleasant memories, or sometimes an expression of one’s self.”

Regardless of its exact permutation, it is meaning, or rather a consistent source of meaning that an object lacks that leads to its ultimate abandonment.

17 Donald Norman, Emotional Design: Why We Love (or Hate) Everyday Things, 6.
18 Norman, Emotional Design, 6.
Honeymoons and One-Night Stands

Product empathy will always exist at the beginning of a user-product relationship. After all, we purchase a product because we want it. The initial satisfaction that a user feels for a product is often described as the “Honeymoon Period.”

A Honeymoon Period between two people may last a lifetime. As people we evolve with one another; the bond between individuals can actually become stronger as memories create a cocoon of empathy which helps sustain relationships through even difficult times.

“In the material world, transitions from honeymoon to daily life are anything but smooth and occur with an awakening jolt. In this context, it can be seen that the onset of normalcy sounds the death knell for most objects, and thus must be regarded as nothing less than the beginning of the end. During recent years, consumers have become serial honeymooners, and today subject-object relationships are less marriage, more one-night stand.”

A new product comes with a certain level of mystery that a user must unravel. Consumers mine these layers of meaning until they have exposed all there is to discover. This action is often referred to as “deflowering.” After a product has been deflowered, it, in most cases, has nothing new to offer the user.

The relationship and eventual outcome between user and product can be neatly summarized using the following model.

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19 Chapman, Emotionally Durable Design, 63
“Perhaps the biggest challenge to product developers is, not only to enhance the pleasure of a person-product relationship (PPR), but also to ensure that the pleasure is prolonged for as long as possible.”\textsuperscript{20}

The model above, referred to as the person-product relationship model, shows the flow of experience from the first encounter that a user has with a product to two possible outcomes of the ensuing relationship.

The first three stops are fairly intuitive. A user sees something that catches their attention and they commit to purchasing or acquiring that object. At this point, the relationship between user and product is coated in a layer of empathy as the user is entranced in all that the new product has to provide.

\textsuperscript{20} Gary Davis, \textit{Prolonging the Pleasure}, 317.
All products vary in the duration and intensity of their respective honeymoon periods. Items that require a large investment of time and money (such as an automobile) will typically have a longer honeymoon period than other products. Some objects may even enjoy numerous honeymoon periods due to revived user interest following a product update or resurgent trend. Regardless of number, duration, or intensity of honeymoon periods, a product will eventually advance into the next stage of its life cycle.

It is after the honeymoon period has concluded that a product may go in one of two different directions: If the product has successfully created a bond with the user then it may enjoy a long-term, enduring relationship. This is obviously rare. More often than not, the object has been deflowered-extinguished of all mystery and appeal; subject to a relationship breakdown that ultimately ends with the product seeing the landfill and the user seeking its replacement.

This creates a challenging problem for the designer. Users will mine any object of meaning until there is nothing left to be consumed. If any of the layers of meaning that an object possesses fails to deliver an adequate experience, then the relationship with the user comes under threat. With this understanding we can conclude that “waste is nothing more than symptomatic of a failed user/object relationship, where insufficient empathy led to the perfunctory dumping of one by the other.”

It is therefore imperative that designers possess an understanding of this risk and develop a methodology for shaping objects that are capable of withstanding the consumer’s deflowering gaze.

Many designers fall short in this aspect by placing more emphasis on technological innovation than on imbuing meaning and substance. Chapman writes “Industrial design has become a subordinate packager of contemporary technologies, housing intangible hardware within intelligible synthetic membranes whose purpose is to enable consumers to easily interact

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without altercation or thought.\textsuperscript{22} Regardless of whether this statement is completely accurate, focusing only on the features and functionality of a product is one of the surest ways to ensure its short life span; functionality should not be the basis for a product’s life span. When a consumer is motivated to buy a product based on its capabilities alone, they will undoubtedly be tempted to replace that product the moment another product with improved capabilities becomes available.

Until the myriad of causes that result in the premature withdrawal of interest in a product are addressed we will continue to feel unfulfilled in our relationship with the objects that we consume.

**Emotional Durability**

“Emotional Obsolescence: the failure of a product to quench the human thirst for new, fresh experiences.”\textsuperscript{23}

To ask a consumer to stop consuming would be a futile effort. You might as well ask them to stop breathing air. In fact, it is human nature to consume and the behavior is deeply ingrained within all of us. A better tactic would be to ask consumers to consume less. William McDonough, the author of *Cradle to Cradle*, exposed many designers to the three R’s: Reduce, Reuse, and Recycle. Much has been written about all three of these possibilities. This thesis focuses on Reducing.

If consumers are replacing their items because those items lack meaning, then perhaps the obvious way of reducing consumption would be to make items more meaningful. The concept of Emotional Durability strives to do just that. Emotional Durability seeks to imbue products with

\textsuperscript{22} Chapman, *Emotionally Durable Design*, 16.

\textsuperscript{23} Chapman, *Emotionally Durable Design*, 47.
qualities that endear them to the user—effectively extending the user-product relationship beyond the honeymoon period and into a longer relationship. Of course the ultimate goal for a product that utilizes Emotional Durability would be a life-long “marriage” to the user and perhaps the attainment of heirloom status.

Much has been written about the concept of Emotional Durability and the topic has roused considerable interest in the product design world. Very little, however, has been done to create actionable principles that could enable designers to put Emotional Durability into action when crafting new products.

The next section of this thesis will concentrate on putting forth principles that designers may utilize when creating Emotionally Durable products. Through an exploration of consumer psychology as well as a review of existing writings on Emotional Durability we can zero in on what qualities give a product long-term desirability. This thesis offers 13 guidelines or principles with supporting case studies and suggestions for implementation where appropriate.

**Design Principles**

These principles are not intended to be prescriptive. Indeed, some may or may not make sense for different product typologies and within various contexts. They are instead meant to serve as inspiration and thought-provokers for designers who wish to imbue their products with qualities that will ensure a longer product life-cycle.
1. Leverage Universal Preferences and Prejudices

“Emotions are idiosyncratic; the conditions that underlie and elicit them are universal”\(^\text{24}\)

Meaning, for the most part, is contextually specific and varies from user to user. There are, however, certain properties that people are universally attracted to or repelled by. Our common response to these various properties is governed by a shared evolution. In other words, we are all genetically programmed to react the same way to them.

The list of things that we are predisposed to like or not like is relatively tacit. Donald Norman, however, does a good job of creating a list in *Emotional Design*.\(^\text{25}\)

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**Genetically Programmed to Like**
- Warm, Comfortably Lit Places
- Temperate Climates
- Sweet Tastes and Smells
- Bright, Highly Saturated Hues
- “Soothing” Sounds
- Simple Melodies and Rhythms
- Harmonious Music and Sounds
- Caresses
- Smiling Faces
- Rhythmic Beats
- “Attractive” People
- Symmetrical Objects
- Rounded, Smooth Objects

**Genetically Programmed to Dislike**
- Heights
- Sudden, Unexpected Loud Sounds or Bright Lights
- “Looming” Objects (objects that appear to be about to hit the observer)
- Extreme Hot or Cold
- Darkness
- Extremely Bright Lights or Loud Sounds
- Empty, Flat Terrain (deserts)
- Crowded Dense Terrain (jungles or forests)
- Crowds of People
- Rotting Smells
- Decaying Foods
- Bitter Tastes

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“Sensuous” Feelings, Sounds, and Shapes

- Sharp Objects
- Harsh, Abrupt Sounds
- Grating and Discordant Sounds
- Misshapen Human Bodies
- Snakes and Spiders
- Human Feces (and its smell)
- Other People’s Body Fluids
- Vomit

This list is by no means complete and the likes and dislikes of some people may not completely align. Preferences and prejudices are influenced by culture and individual experiences and will, consequently, vary from person to person.

While it is true that some people may acquire a taste or appreciation for things that we are genetically predisposed to dislike, designers can generally leverage universal properties to create objects that consumers are instinctually attracted to.
Figure 3: We have been genetically programmed to find symmetrical faces attractive.

2. Deliver What You Promise

In *Understanding the Seductive Experience* by Julie Khaslavsky and Nathan Shedroff, the authors describe how the design of a successful product is not simply a matter of form and function. Seduction (the authors chosen term for a user’s attraction towards a design or experience) results from a continual cycle of making promises and then delivering to the user’s expectations.

Khaslavsky and Shedroff describe the first phase in this process as “enticement.” Enticement is really a two-step action. The product must first grab the user’s attention. “Immediately afterward, the product has to make a promise of some kind to hold that attention. It might be a promise to
be interesting, exciting, or beautiful, but the more closely the promise connects with the goals and emotional aspirations of its viewers, the more deeply it begins to seduce”\textsuperscript{26}

The next step is to reward the user for their investment by delivering on the promise made earlier. This is where most products fall short. Marketing and advertising has developed a mastery of the first steps of seduction. If the product fails to deliver on its promises, however, the disenchanted consumer will lose interest and the product-user relationship will end.

Donald Norman also stresses the importance of products fulfilling their promises:

“Some well-designed items miss the target when it comes to fulfilling their purpose and thus deserve to fail. If a potato peeler doesn’t actually peel potatoes, or a watch doesn’t tell accurate time, then nothing else matters. So the very first behavioral test a product must pass is whether it fulfills needs.”\textsuperscript{27}

While perhaps intuitive or obvious to most designers, the importance of fulfilling promises cannot be overstated. It is up to the designer to make sure that a product is capable of meeting and even exceeding the user’s expectations.

\textsuperscript{26} Julie Khlavasky and Nathan Shedroff, \textit{Understanding the Seductive Experience}, 46.
\textsuperscript{27} Norman, \textit{Emotional Design}, 70.
3. Leave Room for Mystery / Discovery

“Consumption may be viewed as a process in which we attempt to know, familiarize and, ultimately, outgrow the wonders of artifacts.”

In an interview conducted for this thesis, musician Eric Davidson talked about his newfound interest in the steel guitar. When asked what qualities he found appealing about the instrument, he remarked (amongst other things) that he found the steel guitar to be mysterious and engaging.

“I think the novelty. When you look at a steel guitar, you can’t see a lot of the things that are happening on its underside. You almost wish there was a window or something that would show what’s happening on the inside. I think, before I got this, I went 10 or 12 years without really understanding how it works. I can look at a guitar and I can say, OK, you put your hand around the neck here and there are certain affordances for learning to play. With steel, there’s so much going on. There’s so much just with the technique. There’s a lot of mystery there to figure

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out. It’s a puzzle that keeps me engaged… I guess, once the mystery is figured out—once there’s nothing more to learn or do with an object—it loses its interest to me."  

In his philosophical classic, *Being and Nothingness*, Jean-Paul Sartre defines the process of familiarizing oneself with an artifact as “deflowering.” He writes, “To have seen through and therefore know is to deflower the entity.”

Consumption, one could say, is the process of deflowering or familiarizing oneself with the unknown attributes of an object. That object has been deflowered when we have learned or consumed all that it has to offer. The human mind, eager for fresh experiences and knowledge, will replace an object after it has yielded all of its secrets to the user. An object should, therefore, withhold some of its secrets so as to leave room for future discoveries. Eric said that it was the mysteriousness of the steel guitar that kept him engaged with the instrument. If he already knew all there was to know about the object, he may perhaps move on to another musical conquest.

If an object is to provide a durable narrative and warrant long-term usage, it must continually side step its owner’s deflowering gaze. Durable narratives are achieved by providing an enticing experience, while simultaneously maintaining a sense of mystery; never being fully understood.

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29 See appendix interview with Eric Davidson
4. Create Continuing Narrative / Facilitate Co-Evolution

“An ancient Arabic legend named *A Thousand and One Arabian Nights* depicts a tale in which a beautiful young woman is lured into the tent of a murderous sultan. The sultan’s original intention was simply to consume, then execute her. However, that night she artfully recounts the first part of a beautiful and mysterious tale. It is so compelling that he is unable to kill her since the story would not be continued the following night. As a result, the story goes on for 1001 nights, as does her life.”31

The reason that most products do not last much longer beyond the honeymoon period is because they are incapable of evolving alongside the user. Similar to a human relationship, one party is constantly changing while the other is not. This disparity eventually results in user boredom and even resentment towards the static object.

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31 Chapman, *Emotionally Durable Design*, 127
The key to maintaining a continuing narrative between user and product is to ensure that the product can evolve to some degree alongside the user. There are multiple ways to achieve this impression of growth.

A houseplant is an example of an object with extraordinary ability to sustain a narrative. A plant literally evolves over time-rewarding its owner’s efforts through steady growth. A plant obviously benefits by being a living entity; this behavior, nonetheless could be replicated in non-living objects.

Bicycles serve as another excellent example of a product capable of changing over time. Various parts of the bicycle such as the handlebars, shifters, forks, etc., may be exchanged in order to modify or enhance the riding experience or reflect the rider’s current preferences. A novice rider may have inexpensive/entry-level parts, but as their experience increases, they may update the cycle with higher-quality components.

Computers, despite, their susceptibility to technological obsolescence, also benefit from a certain degree of updateability. A tech savvy user, for example, may increase the amount of RAM or swap out a video card in order to extend the life of the computer. This is certainly limited by the amount of technological know-how that a user possesses and the availability of compatible parts, but updateability is, nonetheless, presented as an alternative to the dump.

Regardless of the exact method or mechanism by which an object changes over time, designers should work diligently to ensure that their designs are more than one-trick ponies: capable of delivering a great opening line, but incapable of evolving to sustain a continuing narrative with the user.
5. Simulate Product Autonomy / Consciousness

Consciousness in objects is perceived by users when a product seems to have a mind of its own or autonomy. Such products act or perform in a way as to suggest free will—often seeming to act on their own accord.

A dog is perhaps the ultimate example of how users form deep emotional bonds with fellow conscious entities. The appeal of a dog is that users have input in how they behave, but the dog ultimately will act on its own behalf. This freedom of will creates a deeply engaging and somewhat unpredictable experience that the user has some, but not total, control over.

Artificial intelligence is a growing technological trend that seeks to provide the same sort of subservient consciousness that a dog represents. Perhaps the most pertinent example of the
marriage between AI and product design is Sony’s AIBO—a robotic dog that is capable of following commands and even learning to some extent.

Not all products are, nor should be, as technologically sophisticated as AIBO. The same feeling of consciousness may be achieved through less technologically demanding means.

At minimum, the illusion of consciousness can be accomplished by bestowing an object with human-like features. This practice is referred to as anthropomorphism. Car designers have leveraged the power of anthropomorphism for years by giving automobiles recognizable “faces.” This and other tactics serve to elevate objects beyond inanimacy and facilitate an emotional bond between user and product.

![Figure 7: Giving a product a face is a simple, but effective way to suggest consciousness.](image)

6. Create a Sense of Product Dependency / Engage Nurture Instinct

An excellent way of achieving deeper and more immersive modes of user-product engagement is through product dependency.

Tamagotchi, the digital pet that achieved enormous success in the mid-90s is a good example of how making an object dependent on its user may help facilitate deeper emotional connections. It is said that the nurturing of another being is a fundamental human need.
Tamagotchi capitalized on this basic human requirement by depending on its user for its every need and its owners, consequently, felt a serious sense of obligation towards it.

Product dependency is an excellent tool for bridging the emotional gap between user and object. By imbuing products with an appropriate amount of neediness, designers can instill a sense of responsibility from users and help ensure a consequent long-term bond.

Figure 8: A Tamagotchi virtual pet starts as an egg and grows into an adult creature. It's up to the user to raise the egg into an adult. Taking better care of your Tamagotchi results in a creature that is smarter, happier, and less requiring of attention.

7. Design Objects that Get Better With Age

The idea that an object can get better with age is one with plenty of existing examples. Blue jeans, for instance, don’t fit quite right until you’ve worn them for a while. A cast-iron frying pan
needs to develop a patina or “seasoning” before it is considered to be optimized. Headphones require a period of “burn-in” before they sound their best.

The promise of better performance is of course enticing to any user-giving them something to look forward to and effectively extending the use-cycle for an object.

Material choice is an important consideration when designing products that improve with age. Natural materials such as wood, leather, and unfinished metal tend to develop a desirable patina, whereas painted plastics and other unnatural finishes tend to age poorly. Many believe that distressed objects, such as vintage guitars that show signs of use, actually look better than their newer counterparts.

Industrial designer, Remy Labesque, recently wrote an article entitled “Aged to Perfection,” in which he compares the surface aging of two objects: a metal-clad iPhone and a painted plastic camera:

The iPhone had achieved a look befitting of heirloom status by virtue of careful material choices. The aluminum casing documented a story of use in a flattering, even beautiful way, while the Canon case ended up looking “like garbage.”

Designers should be aware that a product will only be new for a very short period of time. Newness begins to disintegrate at the moment of purchase and diminishes through use. A designer can help ensure longer life and emotional durability for their creations by designing products that age gracefully or even improve through usage.

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32 “Burn-in” with refers to the process of loosening headphone diaphragms by playing through them for extended periods of time. Audiophiles insist that this process in necessary in order to optimize the sound output of the headphoens.

Figure 9: Material choice is one way of helping a product get better with age: the iPhone is clad in aluminum and has developed a nice patina. The Canon camera's case has not fared as well.

8. Facilitate Creative Partnerships / User Mastery

The time required to develop mastery virtually ensures a strong bond with any objects used throughout the user's skill development. The acquisition of a new skill helps the user feel special and the object is often credited as being a partner in this endeavor.

Musical instruments are very good examples of products that require time and effort in order to master. “The relative un-usability of musical instruments is accepted, in part because we know of no other alternative, in part because the results are so worthwhile.”

The time required in learning to play an instrument elevates its status from anonymous product to creative partner. A musician would, after all, be unable to play without an instrument. Product and user, in this scenario, form a symbiotic bond that is not easily or painlessly broken.

34 Norman, Emotional Design, 78.
Designers must, however, be careful in creating products that demand too much time and effort to use. Not all objects should require as much from the user as a musical instrument.

Regardless, when applicable, crafting products that require a degree of mastery rewards the user with a sense of accomplishment, while simultaneously elevating the status of the product to creative partner.

Figure 10: Mastering a musical instrument is no easy task. The commitment required helps to facilitate an emotional connection as the user feels pride in their accomplishment and perceives the instrument as a creative partner.

9. Encourage Slowness / Enriched Interactions

“Many interaction designers are beginning to suspect that as pace increases, experience decreases; this is sometimes referred to as diminishing returns.”

Design, historically, has contributed to the continual acceleration of daily life. By streamlining and reducing the effort involved in using an object, we have, consciously or not, inhibited the user’s ability to form an emotional connection. Consider, for example, the move from vinyl records to CDs and MP3s. There was a ritual associated with playing vinyl: The user would

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35 Chapman, *Emotional Durability*, 75
remove the record from its cover, clean any debris from its surface, gently lay it on the record spindle, lift the player arm and drop the needle onto the record. These deliberate and ritualistic behaviors forced a slower, but ultimately more rewarding interaction between user and object. The experience of using CDs and MP3s has become increasingly fast-paced; resulting in steadily diminishing user-object bonding.

“Slow Design” is an increasingly popular concept that seeks to inject the product development process with more time, effort, and passion in the hopes of, consequently, slowing consumption. By taking more time and effort and working to ensure a slower, deeper interaction with products, designers can slow the pace of consumption by facilitating a richer user experience.

![Figure 11: Slow, thoughtful, interactions are a welcome departure from today’s fast-paced, digital lifestyle. By slowing things down, designers can offer the consumer a more meaningful experience.](image)

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10. Encourage DIY / Handcrafted Objects

“Perhaps the objects that are the most intimate and direct are those that we construct ourselves, hence the popularity of home-made furniture, and art.”36

There is an increasing amount of interest in Do-It-Yourself objects in the US. Books, magazines, websites, and even entire television networks have sprung up in response. This certainly makes sense in the context of today’s mass-manufactured society where there is often an emotional disconnect between people and things that have been mass-produced. Mass-produced objects, after all, are usually designed for the averages, and not the specific needs and tastes of the individual consumer.

Aside from being better suited to individual needs, DIY objects also impart the user with a sense of accomplishment that endears the artifact to them. Donald Norman writes about how the Betty Crocker Company introduced a cake mix that allowed the average user to easily make cakes at home. The cake mix involved only adding water, but did not manage to sell well. It was only after the mix began requiring the breaking and adding of an egg that sales begin to soar. The simple act of adding an egg made the user feel more involved and gave them a greater sense of accomplishment.37

By allowing the user to contribute in the creation of a design, the designer becomes a mediator between user and product. The feeling of accomplishment and sense of uniqueness that the user feels toward the resulting design helps ensure that a strong user-product connection has been made.

36 Norman, Emotional Design, 48-49.
37 Norman, Emotional Design, 55.
The success of Etsy might be attributable to a consumer desire for more meaningful, non mass-manufactured products.

11. Seek Timelessness / Classic Style

There are many examples of past and even present designs that may be considered timeless. The Volkswagen Beetle, Eames Lounge, Braun designs from the 1960’s, and the Apple iPod are but a few. Why is it though, that these designs are considered timeless while so many (the vast majority, in fact) have been forgotten?

The answer to this question may be more elusive than can be determined in this thesis. Sam Grawe, editor-in-chief of Dwell magazine from 2006 to 2011 wrote the following in an article entitled *Timeless Design: Future Perfect*:

“While thousands of the objects we produce each year fall into obscurity without so much as an adieu, a select handful manages to survive and flourish with the march of time. The reasons for
this are largely indecipherable—popularity, technological advances, sales, usefulness, beauty, and whimsy, to name a possible few. The only true measure of timelessness is time itself.”

While an exact prescription for creating timeless products may be impossible to pinpoint, one could certainly avoid a common pitfall by paying close attention to one of Dieter Ram’s Ten Principles of Good Design.

Dieter suggests that good design “is long-lasting. It avoids being fashionable and therefore never appears antiquated. Unlike fashionable design, it lasts many years—even in today’s throwaway society.”

Perhaps timelessness could best be defined then as the opposite of trendiness. By avoiding trendiness and referencing successful examples of timeless design, designers may be able to maximize the possibility of creating an object that withstands the test of time.

12. Design for Customization / Uniqueness

In *Emotional Design*, Donald Norman talks about how the owners of Harley Davidson motorcycles will typically alter their bikes in order to make them unique:

“...people buy one from the factory and then immediately send it off to a custom detailer, who completely alters it, the alterations sometimes costing more than the cycle itself (already expensive). Each Harley is therefore unique, and owners pride themselves upon their special designs and paint jobs.”

In today’s mass-manufactured society, a tension exists between consumers who wish to express their individuality and the unavailability of unique products.

“There is a tension between satisfying our needs by purchasing a ready-made object versus making it ourselves. Most of the time we are unable to build the objects we need, for we lack the

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tools and expertise, to say nothing of the time. But when we buy someone else’s object, seldom does it fit our precise requirements. It is impossible to build a mass-produced item that fits every individual precisely.\(^{41}\)

Designs that are in some way unique-by way of savvy manufacturing techniques or through customization- are much more likely to endear themselves to the user. Unique objects, after all, are often thought to be irreplaceable-and a consumer will be less likely to discard something that they cannot easily replace.

![Figure 14: Services like NIKEID allow the consumer to participate in the creation of a product. The user receives a unique object and accompanying feeling of pride and accomplishment.](image)

13. Encourage Embedded / Associated Memories

Of all the principles presented, the ability for an object to embed favorable memories is likely the most important but also the hardest to achieve.

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\(^{41}\) Donald Norman, *Emotional Design*, 222.
Often, an object is of little monetary or intrinsic value, but has been lucky enough to be associated with a favorable memory. This was found to be true in the research that Mihaly Csikszentmihalyi conducted for *The Meaning of Things*. Csikszentmihalyi concluded that it was not the objects themselves that people found valuable, it was the associated memories that person had for the object. During one of his interviews, Csikszentmihalyi asked a woman what item(s) she found to be special in her home and received the following response:

“They are the first two chairs me and my husband ever bought, and we sit in them and I just associate them with my home and having babies and sitting in the chairs with babies.”

The tendency to associate special objects with memories was true in my own experience while interviewing people for this thesis. When asked what items she cherished, Liz Pisciotta, an architect, produced a brass keychain ruler. While having some functional benefit as a measuring device, the item’s most important virtue was its association as a gift from the interviewee’s mother.

“It’s brass and it has my name that she had engraved on it. It’s pretty worn now, but you can still see my name on it. She put a personal touch on it, which was really sweet and made it mine. It also has sentimental meaning to it because it’s so old and something that my mother had made for me.”

Although difficult to ensure, a designer can help facilitate or prompt the embedding of memories within an object. If one were to examine the bat of baseball legend Babe Ruth, one would find a series of markings around the Louisville Slugger logo. Each marking represented a home run by

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42 Csikszentmihalyi, *The Meaning of Things*, pg. 60
43 See appendix interview with Liz Pisciotta
the legendary player.\textsuperscript{44} Such an item signifies a series of achievements; with each marking, the bat became, no-doubt, more valuable.

If all designs chronicled the achievements and memories of their users in the same way that Babe Ruth’s bat did, users would find the item far more difficult to part with. The exact implementation would change depending on how the object was used, but designers can surely find ways to encourage this sort of interaction.

![Keychain ruler](image)

**Figure 15:** This keychain ruler is a gift from the interviewee’s mother. The item is associated with a special memory and is, consequently, very emotionally durable.

### Testing and Outcome

A survey was created to test designer acceptance and gather ideas for future improvements of the design principles. An online program, *SurveyMonkey*, was used to conduct the testing for its ease of administration and compiling of results. The survey consisted of several Likert-style and open response questions for each principle as well as for all principles in general. Respondents

\textsuperscript{44} [http://news-antique.com/?id=786869](http://news-antique.com/?id=786869).
read each principle in full before answering questions and moving to the next. In all, 24 student and professional designers took the survey.

![Survey Questions](image)

**Figure 16**: Screen capture from online survey. Respondents were shown the following questions after being introduced to each design principle.

In general, surveying confirmed that the principles would be a valuable resource for designers. When asked whether the “principles provided a good source of inspiration for designers seeking to create emotionally durable products,” 23 of 24 respondents stated that they either agreed or strongly agreed while none disagreed.

Surveying also established that the principles would not be difficult to utilize within the design process. When asked if the “principles would be easy to apply throughout the design process,” 67% of respondents agreed. Only 8% disagreed and no respondent strongly disagreed.45

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45 The full-results of surveying are available in the appendix.
In addition to surveying, the principles were also tested and proven successful within the context of the classroom. Professor Dale Murray used the principles as a guideline for discussion with his senior design theory class. Professor Murray commented that the principles made for a rich classroom discussion and that the students saw the principles as both inspiring and a good marriage of design theory and practice.

**Conclusion**

Testing has confirmed that the principles presented in this thesis are a good source of inspiration and offer designers a set of useful tools for forging emotionally durable products. Though validated through surveying and classroom application, it is important to note that the principles offered in this thesis should not be seen as a checklist in which designers should strive to apply all principles evenly to every design endeavor.
A preferable way of viewing these principles would be as a set of tools in which certain applications are more useful in the context of a design. The embedding of memories, for example, may be inappropriate for a product that is inherently short-lived (such as a toothbrush). In such a scenario, the encouragement of slowness or enriched interactions may make more sense in facilitating a meaningful experience. While some principles will be better suited for various applications than others, the exact use of each principle should not be predicted. To make use of the tool metaphor: a screwdriver may be designed to drive screws or bolts, but that does not prohibit the user from using it as a piercing or cutting tool.

Ultimately, this work should be seen as a jumping-off point and catalyst for inspiration and discussion. These principles must be continually honed and developed in order to increase real-world feasibility as well as designer acceptance and utilization.

In today’s world, it is important that tools such as the *Principles for Emotional Durability* be continually developed and pushed towards real-world implementation. The days of consumer overconsumption, after all, must come to an end. Its negative effects on the environment and user psychology are no longer worth whatever economic benefit that may exist. Consciously or not, consumers are becoming increasingly dissatisfied with the existing paradigm and the empty product relationships that accompany it. In an environment where such discontent is present, we have an opportunity to enact beneficial change.

Designers play a significant role in whether a product offers a long-term, meaningful experience or becomes a one-night stand. By utilizing the principles presented in this thesis and other sources related to the issue of emotional durability, designers can help bring about a new age in which prolonged, meaningful relationships with products is the norm.
Bibliography


Appendix

Interview with Eric Davidson, 33, musician/student on 2012-03-31

![Figure 18: Eric Davidson's steel guitar. The photo on the right shows the intricate mechanics on underside.](image)

**NB:** You say that all of these instruments mean something to you?

**ED:** Yeah.

**NB:** What do you mean?

**ED:** Well, I think the obvious answer is that an instrument provides a way of expressing yourself. Expressing the way you feel. The steel guitar is particularly meaningful to me because it's more than just an object. I think it is representational. This may be going really far out there, and the connection may sound silly, but it is representational of the past and my grandparents' generation. I think that one of the reasons I got interested in it, is because I started getting interested in country music. I was thinking, this is what my grandparents were
sitting around and listening to on the radio. People they knew, people of that generation were listing to it. To me, the steel became a vehicle, or representation of that particular time-to my family; my ancestors. Then I started thinking about, whether consciously or unconsciously, what’s the iconic thing about that music? To me, the guitar is so much a part of it. When I see someone playing the steel guitar, it’s amazing to me. I didn’t even really like the sound of it, until I saw someone playing one. It became this mystery. I don’t know, it’s something to be figured out-something to be understood. It made me want to try to figure it out.

It represents a lot more than just expression. It’s a connection to the past or what I perceive the past to be. It’s something have sought a long time-particularly this guitar and the other steel that I have. The other one was made in 1952. I feel like I have this relic from the early 50’s. Hand Williams was still alive. I guess it’s this piece of history.

NB: What is it about the connection to the past that is important to you? Why do you want to be connected to your history and ancestry?

ED: I think that understanding where I came from is important. I feel like I’ve inherited a lot from both sides of my family. Their lives and what they did in a day, was really connected to living. They worked to prepare their food. They worked to prepare for the winter. They worked for the fuel they used during the winter. I really appreciate that. I appreciate the self-reliance. I appreciate that generation. I feel like we’ve lost something. We have gone from relying on ourselves to having a job with no connection to a paycheck. I have a lot of appreciation for that generation and people who took care of everything themselves.

NB: You said earlier that you didn’t, at first, understand how the steel guitar worked; it was a mystery. What is important about a layer of mystery?
**ED:** I think the novelty. When you look at a steel guitar, you can’t see a lot of the things that are happening on its underside. You almost wish there was a window or something that would show what’s happening on the inside. I think, before I got this, I went 10 or 12 years without really understanding how it works. I can look at a guitar and I can say, OK, you put your hand around the neck here and there are certain affordances for learning to play. With steel, there’s so much going on. There’s so much just with the technique. There’s a lot of mystery there to figure out. It’s a puzzle that keeps me engaged.

**NB:** Would you say there are other objects that keep you engaged as much as the steel guitar does?

**ED:** Instruments in general such as telecasters and amplifiers. Figuring out how to wire a pickup, how to flip a capacitor, or change the tubes in an amp. I think that instruments, in general, are what keep me most engaged. I did not really think about all these electrical components until recently. There are all these things that I can change that will change my sound or the way I play. I can manipulate this. It makes it a deeper experience. I feel like there’s more to it than just picking up a guitar and strumming. I can switch out this capacitor. I can change this volume pot. They are something that allows me to get in deeper. It keeps me engaged. I guess, once the mystery is figured out. Once there’s nothing more to learn of do with an object, it loses its interest to me.

**Interview with Liz Pisciotta, 31, architect on Wednesday 2012-04-03**

Object: brass keychain ruler

**NB:** Liz, what is about this particular thing that you own that makes it especially endearing to you?
LP: Well, from a personal standpoint, I would say, it's something my mom gave me. It's a keychain that my mom gave me when I started school in first grade. Basically, right as I was going off to the bus she handed me this keychain and a key to the house. The idea being that I was old enough to have my own key and it was kind of a defining moment.

NB: A rite of passage?

LP: Yeah, a rite of passage. It's brass and it has my name that she had engraved on it. It's pretty worn now, but you can still see my name on it. She put a personal touch on it, which was really sweet and made it mine. It also has sentimental meaning to it because it's so old and something that my mother had made for me.

NB: How many years have you had this?

LP: Well, I'm 31 now and I started first grade when I was 5, so 26 years. I think it is also cool because it has this school-related functionality to it. It is a ruler; something you buy for someone at the beginning of his or her school experience. You know, you get your pencil case, rulers, and your markers. It's a ruler, and it ended up being very functional for me. It has metric and imperial-millimeters and inches. Coincidentally, it's ended up being very functional and useful for me because I ended up becoming an architect.

NB: Do you think that maybe this particular item shaped your destiny in a way?

LP: No. (laughs)

NB: You don’t think so?

LP: No, in fact, I lost it for many years and then I found it again and it was really exciting when I found it.
NB: You were actually excited when you found it?

LP: Yeah, because I felt like a jerk when I lost it. My mom had given this special thing to me on a special day. I think it turned up in a jewelry box years later. I’ve carried it ever since.

NB: Has this ruler’s appearance aged a lot since it was new?

LP: I don’t 100% remember. I think it was shiny when she bought it for me. You can see it has a lot of patina now. There are a lot of dings, nicks, and textures to it. The edges are marred. You know brass gets a patina to it. You can see fingerprints on to it. It has a nice mottled texture to it. It shows its age for sure. To me, it’s nice because it indicates how long I’ve had it. I think that brass ages well as a material.

NB: Do you think that you’ll pass this off to your children someday?

LP: I do not know. That is a good question. I may keep it for myself.

NB: Is it something they will have to fight over when you are gone?

LP: (laughs) Yeah, That’s not something that I’ve thought about before. It has my name on it, so maybe it’s something that I can have resurfaced and put their name on it. Maybe I can just leave my name on it and pass it on.
3. Do you have any general feedback about how to improve these principles?

Open responses to question 3:

1. Some are obviously much harder than others to apply (timeless design, for example--how much does the PT Cruiser suck?). I could see another one about facilitating social interaction? A lot of apps do this well. Actually, dogs do, too. I have met a lot of neighbors purely from that. I’m not sure if that makes sense as a principle. I wonder if reliability is another one that makes sense? I guess that could fit under the promise/seduction one?
   4/20/2012 4:06 PM

2. That’s a lot of information to keep in my brain whenever I attempt to create a new design, but overall, extremely well organized and analyzed. Thanks!
   4/20/2012 1:08 PM

3. I think that each of these principals are great for designers to think about and employ when designing a product. I believe that some of them are specific to certain products and services. Some of them will create a much stronger relationship with the product than others. Those that effect the consumer the most and also apply to the broadest products/services should be employed most often. If you tried to combine all of even a few of these in one product it could be like have too much information on one page. Almost like a sensory overload. Picking one or two principals that compliment each other would be more rewarding.
   4/20/2012 12:16 AM

4. These principles get increasingly abstract, I think maybe as a young designers I would like to see how some of these can be implemented in design and culture.
   4/20/2012 12:13 AM

5. I think they are good to think through but these aren’t things you can just apply to a design. You can’t try to create
6. a product that will have an emotional connection, but instead need to create a product WORTHY of an emotional connection.

4/20/2012 12:08 AM

7. These principles are all valid, but not all at the same time. They’re not all on the same level, timelessness and materials are not so comparable.

4/20/2012 12:06 AM

8. I completely agree that these principles would create emotionally durable products. I question if people or businesses really want emotionally durable products though. That thought has made me sad, but I support your principles and best of luck.

4/20/2012 11:55 AM

9. This is a very interesting topic that I’m going to think about as I further my design education. Some of the topics seem a bit difficult to employ but I think the overall cause is very worthwhile.

4/20/2012 11:55 AM

10. I think alot of designers would find this list inspiring. How do you translate that to marketing/business ppl. Isn’t the idea of creating less product kind of against the main SKU generating system in place now. Designers might agree but I feel like other ppl in the business actually decide what gets made.

4/20/2012 11:52 AM

11. Already noted. Several of the points are well thought out and presented, but not all of the principles are truly as black and white in terms of application as they are presented.

4/20/2012 11:49 AM

12. Concise words. Interesting, though.

4/20/2012 11:47 AM

13. these principles are very strong! thoroughly enjoyable and insightful read.

4/20/2012 11:42 AM

14. I think some of these are much harder to apply than others and that should be referenced somehow

4/20/2012 11:38 AM
**Survey Results for Principle 1: Leverage Universal Preferences and Prejudices**

1. **This principle is adequately explained.**

   ![Pie chart showing survey results for principle 1.]

2. **Utilizing this principle would help facilitate a long-term relationship between user and product.**

   ![Pie chart showing survey results for principle 2.]

3. **This principle would be easy to apply throughout the design process.**

   ![Pie chart showing survey results for principle 3.]

**Note:** Charts above based on 24 responses.

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4. **What, if anything, could be adjusted to make this principle better?**

   **Open Responses to question 4:**

   1. There are some interesting studies that link not just facial symmetry to emotion, but emotion to *perception* of facial symmetry. I wrote my undergrad thesis on this topic. -Liz. PS: I came back to this after seeing the next principle. I think the face symmetry image is confusing b/c I thought that was the principle, not that it was an example. Maybe label it as an example or also show a product that uses this principle?
   4/20/2012 3:25 PM

   2. maybe think of the idea of being able to evolve our predisposed likes and dislikes
   4/20/2012 12:04 AM

   3. I'm not sure what could make it better but a longer and more detailed list of things people instinctually like or dislike will help. More examples that designers can draw upon will most likely result in more ideas and ways we can incorporate into designs.
   4/20/2012 11:30 AM

   4. In this context or if ever do I have and understanding of WHY symmetrical faces or symmetry is attractive. I don't think it is enough to say “it's genetic” ...why has it become genetic? I feel some of these answers may be useful as well, because in some cases symmetry is not necessary in beauty.
   4/20/2012 11:30 AM

   5. This seems to somewhat contradict the idea that perfectly symmetrical things are boring or at the very least not dynamic. I would be interested to see which option people generally prefer in their products.
   4/20/2012 11:27 AM
I think the principle is correct. However, the major flaw is in its application. It is too easy to apply to the design process. By categorizing and making assumptions about the user we destroy the ultimate goal, which is a relationship between user and product. You cannot have a relationship with something or someone if you don’t take the time to get to know it personally. By making assumptions about what a user will like you have taken away the designers ability to get into the mind of the user and build a meaningful relationship. Instead, it becomes a simple system you apply to move the most amount of goods.

4/20/2012 11:27 AM

Noting how to deal with those who react oppositely to the ways we are all “programmed” to react.

4/20/2012 11:26 AM

It’s very general. It’s hard to imagine a product that everyone would like based on these principles, because they aren’t necessarily tailored to any other preferences of the targeted consumer.

4/20/2012 11:25 AM

Symmetric products? Organic shapes are more attractive.

4/20/2012 11:25 AM

There may be room for more examples.

4/20/2012 11:24 AM
Survey Results for Principle 2: Deliver What You Promise

1. This principle is adequately explained.
2. Utilizing this principle would help facilitate a long-term relationship between user and product.
3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. Maybe give two dissimilar examples? I think the pictures help a lot.
   4/20/2012 3:25 PM

2. incorporating the idea of reliability and building brand equity
   4/20/2012 12:04 AM

3. I think this is a great principle, but a tough sell on the design process. I feel like designers are often mostly if not completely excluded from the marketing and branding of products. Especially industrial designers or those who were closest to the conception of the product.
   4/20/2012 11:34 AM

4. This principle is VERY important. However, it is difficult in execution. It is in theory easy to apply throughout the design process, however, to deliver a product that follows through on its promises and comes in on time and on price is very, very difficult. Applying the idea is easy, making it actually happen is hard.
   4/20/2012 11:31 AM

5. I question if this is something that can be heavily influenced as industrial designers. We can influence form and function but not necessarily marketing and advertising.
   4/20/2012 11:31 AM

6. Promises have value if they don’t have a positive reputation. Chicken or the egg?
   4/20/2012 11:29 AM
7. There could be more definition of what completing the promise means in terms of the design.
4/20/2012 11:29 AM

8. N/A
4/20/2012 11:27 AM

9. Nothing. This principle is a universal truth, not just for designers
Survey Results For Principle Principle 3: Leave Room For Mystery/Discovery

1. This principle is adequately explained.
2. Utilizing this principle would help facilitate a long-term relationship between user and product.
3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. I don’t think the example of the steel guitar and the player adequately explains consumption. It seems to me like this is an example when he probably won’t move on to another type of instrument. It seems to me like he’s fallen in love with the one he’s already got.
   4/20/2012 12:50 AM

2. What if the user is disappointed once he/she solves the mystery?
   4/20/2012 12:04 AM

3. Give visual examples of a couple products that have an air of mystery.
   4/20/2012 11:50 AM

4. I think this creates novelty not a relationship. Our ability to make a product that continues to amazing people is very limited. If it works, then yes it is very effective. This isn’t principle isn’t about concealing things to make them unknown, but rather about constantly amazing or surprising the user.
   4/20/2012 11:36 AM

5. I’m sure you’re already aware of this but I think one of the difficult issues with this is how to make it work around technological advancements. How can we, as designers, create a product that can compete with something a decade later? In some cases this could be easy—people still use classic instruments because they have built this kind of relationship with them and there is a feeling of trust, but in any technologically dependent product this seems very difficult.
   4/20/2012 11:35 AM
6. I love this principle.
4/20/2012 11:35 AM

7. The user has to know that the product hasn't revealed all of its secrets yet. As long as the user is aware that there is more in store, this is a valuable principle.
4/20/2012 11:32 AM

8. Depends how well the product ages.
4/20/2012 11:31 AM

9. Noting any inconsistencies with the concept of complacency, or any instances when products continue to maintain a positive relationship with users even after “deflowering.”
4/20/2012 11:29 AM

10. It is a little confusing what you are talking about at first. I think the page needs a better quote at the front or explain the principle more simply
4/20/2012 11:28 AM

11. This is a very difficult thing to design into a product, but the principle is adequately explained.
4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. A good knife will do this well because you can sharpen it many times and it's like new. It would be interesting to talk to chefs or hairdressers about this. That's two professions where they own their own expensive equipment and it requires sharpening.
   4/20/2012 4:08 PM

2. I think an excellent example if the creation of applications on your phone. Anybody is able to customize their personal device in such a way that completely represents who they are as they grow.
   4/20/2012 12:53 AM

3. Based on the idea of interchangeable parts?
   4/20/2012 12:04 AM

4. This is crucial and is done poorly today. People don't have things for a lifetime anymore. The only things that this needs to be improved is a system to actually execute this well. It isn't about adding features or replaceable parts as much as it is about re-working the way we think. Replacing the here today gone tomorrow, with here and here to stay. (Music trends show this well. It used to be about making good music, know it is about having a chart topping hit.)
   4/20/2012 11:40 AM

5. It's missing something, I'm not sure what.
   4/20/2012 11:40 AM

6. You identified my previous concern. The idea that users could update their computers without a high level of tech savvy is an interesting problem.
7. Love it. Also I find that the previous questions are difficult to answer. Being "easy" to apply throughout the design process varies so much from one product, service, or experience to the next.

8. Not all products would benefit from being updateable, so I think it would work best within certain areas of the market.

9. If the user take the initiate to change the parts.

10. I think computers are a poor example. resoleable shoes? Idk.

11. Noting emotional evolution in contrast to physical evolution.

12. This is great with great examples to match.

13. I'm not sure how this is entirely different from the principle before.
Survey Results For Principle Principle 5: Simulate Product Autonomy / Consciousness

1. This principle is adequately explained.
2. Utilizing this principle would help facilitate a long-term relationship between user and product.
3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. Pandora might be a good example.
   4/20/2012 4:08 PM

2. I personally really don’t care for the idea of artificial intelligence and have an appreciation for keeping things low-tech.
   4/20/2012 12:04 AM

3. You can’t stick faces on everything.
   4/20/2012 11:43 AM

4. I think it is less about their ability to act on their own behalf and more about the ability to inter-act with the user. It is a literal relationship. When playing fetch with a dog, the dog is interacting with you and is also communicating love and appreciation that is lost in most automated devices.
   4/20/2012 11:43 AM

5. N/A
   4/20/2012 11:33 AM

6. I had to read though it twice. It could use a little more explanation. I was also misled a little by the robotic dog bit.
   4/20/2012 11:32 AM

7. give examples of uncanny valley where this is taken too far. I’m not sure I completely agree with this principle
   4/20/2012 11:30 AM
Survey Results For Principle Principle 6: Create A Sense Of Product Dependency / Engage Nurture Instinct

1. This principle is adequately explained.
2. Utilizing this principle would help facilitate a long-term relationship between user and product.
3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. I think this could be a good spot to talk about motorcycle maintenance, if you don’t already.
   4/20/2012 4:06 PM

2. As a child of the 90s, I had a Tomagotchi and I totally get the point you’re making, but I can say that if the object is too needy for the value it gives back to the user, it will end up unused. My parents hate the Tomagotchi because it never shut up, became too needy that it became unnecessary.
   4/20/2012 12:04 AM

3. I understood this principle from the image alone. Tamagotchi is a perfect example.
   4/20/2012 11:50 AM

4. This is a delicate subject, in our modern bustling culture, there are few things I want dependent on me. Especially inanimate objects. I love my car, when I have time I like taking care of my car, but when I don’t I feel irresponsible, neglecting it. That said my sporty car can be very rewarding as a driver. So I am alright with this investment/attachment. But things that do not bring such rewards are just annoying, like computers.
   4/20/2012 11:48 AM

5. It works for awhile but becomes too needy and a burden. There is no reward or cost based on the life of the product, and it is fun and a hit for awhile but doesn’t last long. It builds no longer term relationship. (Farmville is another example)
   4/20/2012 11:45 AM

6. Even the act of charging electronic devices (phones and computers) could be seen as a sort of neediness.
7. Not all consumers are dedicated enough to keep up with products like this. I don’t know many people who still have their Tamagotchi’s. After a certain point, a lot of users “give up.” Maybe designs could be a little more forgiving to users, so they wouldn’t feel overwhelmed by the “chore” of having to maintain their product all the time.

8. Noting reciprocated feelings between user and product, not just product dependency on the part of the user.

9. Once again, it could use a little more information but I like the idea of products as pets.

10. Adjusting for the fact that people might not want their products to depend on them. Maybe making it so it’s not necessary to form a dependent relationship, but that’s an option for the user.
Survey Results For Principle Principle 7: Design Objects That Get Better With Age

1. This principle is adequately explained.
2. Utilizing this principle would help facilitate a long-term relationship between user and product.
3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?
Open responses to question 4:

1. I agree with this principle, but don’t agree with the iPhone example. I don’t think any consumer electronics would fit into this better with age category, they’re too technology and trend based to stay relevant for too long.
4/20/2012 12:04 AM

2. This works well for certain things. We like certain things (electronics for example) to have a new, cutting edge feel. Where other goods that are more worn have a history and a story which is enticing. And if you are able to have the user share that history the product then it is very impactful.
4/20/2012 11:48 AM

3. I’m not sure that the iPhone casing is always seen as desirable. I’ve heard many complaints about having to buy a case for a product as soon as you get it.
4/20/2012 11:44 AM

4. I don’t think people would universally agree that the patina on an iphone is appealing. Furthermore, the appeal of the patina on the iphone probably wouldn’t stop the user from updating to better models. (iphone4 etc).
4/20/2012 11:39 AM

5. Cost dependent
4/20/2012 11:38 AM

6. Noting the intent of the worn appearance. Some users may appreciate a worn, heirloom look for their product at some point, while others would not. Some product may not benefit from such an appearance, as well.
4/20/2012 11:37 AM

7. Great examples. Also, shoes.
4/20/2012 11:36 AM
Survey Results For Principle Principle 8: Facilitate Creative Partnerships / User Mastery

1. This principle is adequately explained.

2. Utilizing this principle would help facilitate a long-term relationship between user and product.

3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. The idea of lasting connection between user and product is great, but are there any other examples other than music? Something that doesn't require learned user skill?
   4/20/2012 12:04 AM

2. I agree that it has to be chosen wisely. Some products need to be so intuitive that you don't have to use, but others create a bond between user and product when they are learning and growing with it through mastery. It is like that product has been with you the whole time. It has watched and helped you grow.
   4/20/2012 11:50 AM

3. Only dedicated users would purchase products like this that don't guarantee instant satisfaction.
   4/20/2012 11:43 AM

4. People may not have the patience to overcome a learning curve on a new product. Maybe the initial frustration would prevent the user from continuing to use the product--the bond never develops. When I buy a printer...I expect it to work immediately. I get annoyed when I have to install drivers, clean printer heads, etc.
   4/20/2012 11:41 AM

5. N/A
   4/20/2012 11:39 AM

6. Depends on user's passion, motivation, and commitment.
   4/20/2012 11:39 AM
7. There is a fine line between making something that can be mastered and making something that isn’t worth mastering. It was explained well.
4/20/2012 11:38 AM

8. You need another example beside a guitar. I don’t believe that this principle is applied anywhere else in products besides maybe a stick car
4/20/2012 11:33 AM
Survey Results For Principle Principle 9: Encourage Slowness / Enriched Interactions

1. This principle is adequately explained.

2. Utilizing this principle would help facilitate a long-term relationship between user and product.

3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. Ritual is a really important word here. Maybe should be in the title. In some ways this is similar to the nurture and mastery principles.
   4/20/2012 4:06 PM

2. Technology is a great thing, but it desensitizes users, it is a great idea to incorporate new while reflecting the old. For example: on tablets and e-readers book applications, the idea of swiping a finger along the corner of the screen to turn a “page” rather than just press a button. It is an attempt to continue rituals.
   4/20/2012 12:04 AM

3. I fully understand the example... but are there other that might have more grossly appealing impacts?
   4/20/2012 11:56 AM

4. I am torn on this. I like the idea of it, but not sure if it would be accepted in mainstream, everyday design and consumption.
   4/20/2012 11:53 AM

5. I agree with this in principle but it seems like it would be a difficult concept to put into practice based on what people think they went in their life.
   4/20/2012 11:48 AM

6. I think this only works if it’s a unique product. If competitive products are quicker, I don’t think many people would consciously choose the slower one, out of sheer instinct. But if it was a unique product, they wouldn’t know that there is a faster option available.

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7. how do you slow down a digital experience? More steps? more waiting? (no one wants to wait on a computer to load things). ?

4/20/2012 11:44 AM

8. Noting any schisms between users and products that would prefer a quicker interface, as well as situations that would call for/benefit from a slower interface versus a faster one.

4/20/2012 11:41 AM

9. If consumers are able to take a step back and not get too excited about rapidly advancing technologies.

4/20/2012 11:41 AM

10. Just like with a person, product-user bonding takes quality time.

4/20/2012 11:40 AM
4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. There’s a popular cook that does semi-homemade stuff on the food network. I notice some brands are really into advertising how to use their products in unexpected ways (like best foods mayonnaise).
   4/20/2012 4:06 PM

2. Maybe try to address the reasoning of “If this mix now requires me to add an egg, it must be less artificial than before, where I only had to add water.”
   4/20/2012 1:01 PM

3. Completely agree with this principle, don’t think it’s a trend, but more of an overarching theme among consumers/users.
   4/20/2012 12:05 AM

4. I question how this can be implemented in the design, however the R.A.T. mouse by sytek i believe has a highly customizable mouse that the user must invest time in configuring...
   4/20/2012 11:59 AM

5. There is a lot of truth behind this, but it does take some extra work to be able to figure out what needs to be done by the designer and what the user actually does himself to be successful.
   4/20/2012 11:55 AM

6. Ensuring the physical quality or durability of something hand-crafted
   4/20/2012 11:43 AM
7. Noting situations when mass-production is a better option than DIY, as well as noting any issues that arise with DIY products versus pre-fabricated ones.
4/20/2012 11:42 AM

8. A sense of accomplishment is key.
4/20/2012 11:41 AM
Survey Results For Principle Principle 11: Seek Timelessness / Classic Style

1. This principle is adequately explained.
2. Utilizing this principle would help facilitate a long-term relationship between user and product.
3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. This is the x factor principle. Many of the listed items lean on other principles (promise, symmetry, curves), but it’s done in the sexiest, most graceful way.
   4/20/2012 4:06 PM

2. I think you hit it right on the money with defining it as the “opposite of trendiness.” Is there anything else you could say about that?
   4/20/2012 1:01 PM

3. Designing something to be timeless is very difficult as a design. Not impossible. Having an emphasis on what makes a product timeless could make a stronger point.
   4/20/2012 12:17 AM

4. The original VW Beetle is iconic, but as a young person, when you say VW Beetle, I think if the more modern, recent ones, that have become overly cute and not so “cool” while the original ones still convey the “cool” factor, I think recent. They have somewhat overshadowed the former greatness with more recent not so good stuff.
   4/20/2012 12:05 AM

5. I feel like while this is highly ideal our culture stipulates that there must be a period where the product falls out of fashion before it falls back into use or appreciation. A VW may be timeless but they are not still in use. But also I’ve been thinking about how the iPhone 3G/GS seems to be much more timeless than the 4/S. Yet these products are falling out of use, only encouraged by Apple and lack of software support.
   4/20/2012 12:05 AM
6. I disagree. I think trends are so cyclical that anything that once was in will be in again. That is the whole premise behind the timelessness. They become cool again, or “retro”. I think it less about trends and style and more about quality and consumer reaction that makes something timeless. If it is popular, it is timeless. 4/20/2012 11:58 AM

7. I think the obstacle here is attracting the customers to something that is not currently “trendy”. 4/20/2012 11:52 AM

8. Not presenting it as such a cut-and-dry approach to design, noting the difficulty faced with making a product truly timeless. 4/20/2012 11:45 AM

9. Applying a hint of immediate gratification to current trend. 4/20/2012 11:44 AM

10. It’s difficult to design something timeless. If everything was timeless, nothing would change and we wouldn’t need designers. 4/20/2012 11:43 AM

11. I don’t believe I would call creating a timeless design ‘easy to apply throughout the design process.’ If it were easy, we’d all be making the next VW Beetle! 4/20/2012 11:39 AM

12. I think this principle would be very difficult to accomplish consistently in the design world 4/20/2012 11:36 AM

13. I disagree with this. I think that timelessness is the ultimate trend. Timeless objects are ALWAYS trendy. no matter what era, they’d always manage to fit in. 4/20/2012 11:31 AM
1. This principle is adequately explained.

2. Utilizing this principle would help facilitate a long-term relationship between user and product.

3. This principle would be easy to apply throughout the design process.

Note: Charts above based on 24 responses.

4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. Sometimes as simple as engraving, right?
   4/20/2012 4:06 PM

2. This is similar to Principle 4 concerning apps on a phone. Maybe reference that page once more, or talk of their similarities and differences.
   4/20/2012 1:02 PM

3. In theory this is easy to apply to the process but through manufacturing it is difficult.
   4/20/2012 12:07 AM

4. As a designer, the idea of customization bothers me, it takes away the importance of the designer and gives consumers that opportunity to make bad design decisions (that they may love, but they're bad).
   4/20/2012 12:05 AM

5. I think there has to be more than just customizing styles. It needs to fit you as the user.
   4/20/2012 12:00 AM

6. N/A
   4/20/2012 11:46 AM

7. I wish there were more about why we want to customize things.
   4/20/2012 11:44 AM
8. the more control you give the user, the less control you have over their experience. sometimes designers know what's best for consumers even more than they do. It takes a brand with some serious equity to pull something like this off.
4/20/2012 11:32 AM
4. What, if anything, could be adjusted to make this principle better?

Open responses to question 4:

1. How does a designer control this aspect? For example the chairs that Csikszentmihaly bought weren’t designed to be memorable aspects of her life, it was the common use that drove her to develop the strong bonds. 4/20/2012 12:16 AM

2. No too clear on this one. 4/20/2012 12:05 AM

3. I don’t know that the product has to literally make a mark for each memory but does need to be able to make memories and emotional connections. 4/20/2012 12:03 AM

4. Not presenting is as such a simple task to achieve when designing a product. 4/20/2012 11:48 AM

5. Maybe give more examples because I am still skeptical about a designer’s ability to design something that will automatically trigger good and nostalgic memories with its users.8. the more control you give the user, the less control you have over their experience. sometimes designers know whats best for consumers even more than they do. It takes a brand with some serious equity to pull something like this off. 4/20/2012 11:32 AM