

Designing Loved Product Experiences:

How we connect with our significant objects, and how we design these connections.

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Abstract

Designing Loved Product Experiences:

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We all own objects we love, objects we connect to and find value in over and above the simple reality of the object in front of us. A favourite kitchen knife, a child's artwork, a designer pair of sunglasses: all of these are loved objects, but for different reasons. These beloved objects, and our interactions with them, form a valuable part of our lives.

It is these objects we bond with and value over others.

This research builds on established work—notably the work of Don Norman, Mihaly Csikszentmihalyi, and Klaus Krippendorff—using a small study of semi-structured interviews to identify emergent themes in our contemporary relationships with loved objects. The interviews build on ideas drawn from the established research to explore and corroborate our relationship with these objects in a contemporary western context. Through analysis of these interviews themes in our relationship with loved objects emerged, and were synthesized to create a picture of the ways these connections form.

In order to contextualise these theories, a design project was undertaken with the intention of explicitly targeting these possible connections as a means to create a 'lovable' product. The project—the design of a domestic digital music player—began with responses to three separate themes identified in the research. The process produced three distinct design concepts corresponding to the themes. These concepts were discussed and evaluated before a single concept was selected and a high-fidelity prototype produced. This project design process is outlined here, and the resulting design concepts presented and discussed.

Key Words:

Loved objects, beloved objects, wallflower, digital music, stereo, design, product design, industrial design, interaction design, experience design.

“At the end of the day, when you’re looking around the objects in your house, and you’re deciding what here really has value to me. They’re going to be the things that have some meaning in your life. [...] Because, those are the true objects that truly reflect the true story of who you are, and what your personal narrative is, and the story you’re telling to yourself and no-one else because that’s the only audience that matters.”

— Rob Walker Objectified

Introduction:

“If you design something that is precious, that you *really* love, you’re never going to leave that.”¹

Today, products are being designed, produced, consumed, and replaced much more rapidly than at any point in our past; and these products are typically being produced in similarly inflating volumes. There is a growing clamor of products competing for our purchase in the marketplace; soliciting our attention with seductive promises of the new. While new products do often meet genuine needs for those buying them, the current consumerism culture often inspires a continued cycle of purchases driven by the desire for something new rather than a need. As a result, our relationships with today’s objects have generally become more fleeting and shallow, with fewer objects connecting meaningfully with owners.

While re-watching *Objectified*, Gary Huswit’s documentary on design and object culture, I was struck by Marc Newson’s pragmatic summation of this desire for the new:

“It’s all about wanting to have new things, isn’t it? I mean, ultimately, we could all still be using the mobile phone we had three years ago, but we’ve all had about five in the mean time.”²

An attitude we in the western world are all familiar with, and yet, there are still objects that buck this trend. Objects we connect with and are significant to us. Objects that we love.

As designers, we fundamentally are involved in the creation of new products. Almost every designer begins the design process with the aim to create a design that connects with its owner, their occupational pride driving them to design the object, interaction, or product that resonates and finds meaning with its audience. This instinct gains greater importance in the current climate of overconsumption. If we are to slow the rate with which we collectively consume new objects—and the resources that go in to those objects—then as designers we need to create objects that satisfy their owners for longer.

It is at this point that design can make a significant contribution. It is generally the goal of good design to create objects that connect with owners; however, to become loved by an owner this initial connection must deepen and become stronger, sustaining a more significant relationship over time. Bill Moggridge, a significant figure in both industrial and interaction design, described the value this connection can have:

¹ David Kelly, from Hustwit, G. (2009). *Objectified*.

² Marc Newson, from Hustwit, G. (2009). *Objectified*.

“I like the concept of wearing in rather than wearing out. You would like to create something where the emotional relationship is more satisfying over time. People don’t have to have a strong love relationship with their things. But they should grow a little more fond of them, perhaps, over time.”³

The intention to design a loved object is beautifully simple, however in practice the reality is difficult to achieve. While designers begin most projects intending to create a loved object, not every object we own is significant. Further complicating things is the varied and unique nature of what people find significant, and the different ways people judge what is significant and what is not. However, what is common to almost everyone is the presence of some significant objects, and it is here that we can discover something about how objects come to be loved.

There are several notable researchers who have investigated these objects we find significant and how we form these relationships. Two American researchers, Mihaly Csikszentmihalyi and Eugene Rochberg-Halton⁴, conducted a sizable ethnographic study of Chicago families and the objects they considered significant in their homes. The pair discovered some common trends to the types of objects those participants found significant. Cognitive scientist and design academic Don Norman wrote several books about objects and the mental and psychological components of our relationships with them^{5,6}. In addition several design researchers, notably Klaus Krippendorff⁷, produced research in the field of product semantics; a field concerned with the process of designing and discerning function and meaning in products.

³ Bill Moggridge, from Hustwit, G. (2009). *Objectified*.

⁴ Csikszentmihalyi, M. & Rochberg-Halton, E. (1981). *The Meaning of Things: Domestic Symbols and the Self*. Cambridge: Cambridge University Press.

⁵ Norman, D. (2004). *Emotional Design: Why we love (or hate) everyday things*. New York: Basic Books.

⁶ Norman, D (1988). *The Design of Everyday Things*. New York: Basic Books

⁷ Krippendorff, K. (2006). *The Semantic Turn: A New Foundation for Design*. New York: Taylor & Francis, CRC Press.

This research provided a solid reference to explore these relationships and how they form, however, in many ways the design of these objects remained a daunting challenge. Amid so many variables how do you judge success? On the surface, the selection of a loved object seems so personal—a unique combination of object type, design features and style, combined with contextual elements—that a successful combination resulting in a loved object seems impossible to predict. The direct question remained: what makes us love an object?

In an effort to address this question, and test some of the existing research in a contemporary context, a small series of semi-structured interviews were conducted. The interviews explored a significant object selected by the participant and their relationship with it, identifying factors that contributed to the participant’s perception of the object as special. The outcome of this combined research

was a collection of influences and behaviours that contribute to our love of an object and a short video highlighting and synthesizing these factors.⁸

With a new understanding of what contributes to an object being loved, a design project was undertaken to test if we can use some of this understanding of objects we love to help create a new loved object.

Several of the themes, and many of the loved objects from the interviews, had interactions and experiences as a significant component. A phenomenon Czikszentmihalyi and Rochberg-Halton also observed in their study:

“The majority of cherished objects do not relate the user to any larger system, or any other individual; they are valued because they produce an enjoyable sensation or interaction.”⁹

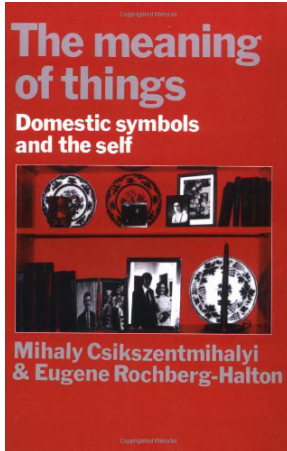
With the importance of this experiential element in mind a design subject that lent itself to enjoyable interactions and experiences was sought to be the first trial. After some searching a domestic music system was decided upon as a subject that showed strong potential. The playing of, and practices around, music have strong experiential components to work with. In addition, the current transition from physical music collections to digital music is changing the way we play music; what we think of as a ‘stereo’ is evolving, leaving a space relatively free of entrenched form or function archetypes.

The subsequent design process sought to produce a concept based around three themes: Association & Projection, Ritual, and Narrative & Nostalgia. These three themes evolved out of a substantial research process, and are described in depth in the research findings section of this paper. Using these themes as inspiration concepts were produced and refined, with a final design refined around each of these approaches. Wallflower, the proposed music player that emerged from this process, combines elements from these concepts in an effort to create a lasting connection with its owner.

Wallflower is a first attempt to design a product using the elements identified in this research, and explores how a design process may implement these findings. It is a new design approach intended to provoke and aid designers to follow their instincts to design loved objects.

⁸ Pawson, S. (2014). *What Makes Us Love An Object?* <http://vimeo.com/90169039> retrieved November 2013

⁹ Czikszentmihalyi, M. & Rochberg-Halton, E. (1981). P. 243.



Background:

The Meaning of Things: Domestic Symbols and the Self
(1981) Mihaly Csikszentmihalyi, Eugene Rochberg-Halton

In the mid 1970's Mihaly Csikszentmihalyi and Eugene Rochberg-Halton, a psychologist and a sociologist, studied a multi generational group of 82 families in the Chicago Metropolitan area. The study took place between 1974 and 1979 and explored all the objects participants identified as significant in their own homes. Interviews were conducted with at least one member from three generations of a family asking participants to identify the significant objects in their homes and discussing the reasons they gave for this significance. The study does not focus on loved items specifically, but many of the items discussed in the findings are identified with positive emotional associations.

Although the individual possessions people identified varied greatly between families, the authors identify categories of objects and responses that allow statistical comparisons to be made with breakdowns according to age and gender. While some of the variation between the subgroups is interesting, the framework of categories and the discussion around their definition provide useful insights into the relationships the respondents have with their possessions.

Interestingly the study found the vast majority of respondents (87%) reference themselves in the reasons given for selecting at least one object. The pair observed the personal nature of responses in general, noting that many objects seemed to be closely related to a personal view or value, and the generally egocentric nature of ownership. In contrast a similarly high number of responses referenced other people (82% close family, 23% extended family, 40% non-family) noting the value of kinship as "the ties that bind people to each other — that provide continuity in one's life and across generations."¹⁰ These two findings reflect two strong generalizations about our significant objects:

1. Loved objects tend to be strongly related to our sense of self.
2. Loved objects tend to be linked with significant people in our lives.

In addition to these person-related findings Csikszentmihalyi and Rochberg-Halton observed several other non-person related themes in the respondent's reasoning:

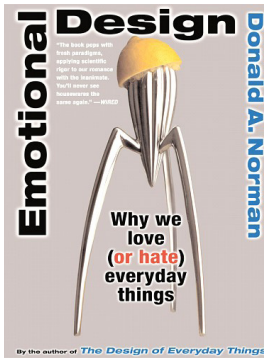
¹⁰ Csikszentmihalyi, M. & Rochberg-Halton, E. (1981). P. 85.

1. Experiences — objects related to enjoyment, ongoing habits or occasions (a regularly played musical instrument for example), or self-chosen 'release' activities.
2. Memories — mementos, heirlooms, souvenirs, or objects that are related to cherished recollections.
3. Intrinsic qualities — relating to the uniqueness, craft quality, or physical description of the object.
4. Personal values — embodiment of ideals or representations of accomplishments.
5. Associations — objects with associations such as gifts, or as part of a collection; or with ties to a wider value like ethnicity or religion.

These five categories provide a framework for the ways objects might become significant. In addition, it is easy to see how some of these categories might overlap and combine to increase an object's significance.

It is worth noting here that a significant number of these identified themes are projected on to objects by the owners themselves—memories or personal values for instance—and not necessarily drawn from any unique qualities inherent in the object. This poses an interesting conundrum: Does any aspect of an object affect its suitability to represent an abstract idea, memory or association? And would it be possible to design for an abstract association to happen anyway?

Thinking anecdotally, many of these associations have contextual roots in the narrative of the object's origin. For example, a gift from a loved one just before their death, or the sole souvenir from a memorable trip, are likely to be significant almost irrespective of what the object is. However these objects are seldom random, unsuitably perishable, cumbersome, or otherwise inappropriate. These objects need to be appropriately durable and recognizable so we can be reminded of the association when we happen across them, or seek them out should we want to be reminded of the association. While we can't force an association to happen, by creating objects appropriately recognizable and durable—in addition to being significant in other ways—we can allow for these associations to happen naturally if the owner has reason.



Emotional Design: Why We Love (or Hate) Everyday Things
(2004) Don Norman

Emotional Design, Don Norman's fifth book explores the role of emotion in our relationship with our products. Approaching this book from the same human-centered standpoint of his earlier books, Norman discusses the emotional responses people have to products, notably modeling them on three levels: Visceral (concerned with appearance), Behavioral (function and effectiveness of use) and Reflective (the rationalization and intellectualization of a product).¹¹ These three components interweave both emotions and cognition.¹²

Norman observes that these three levels exist in a hierarchy. The most basic level is visceral, consisting of immediate, basic, emotional responses concerned with appearance and the physical feel of objects. Visceral reactions occur rapidly, at a sub-conscious level bypassing the conscious mind to trigger instinctual responses such as fight or flight should danger any be detected.

The behavioral level is the site of most human behavior, concerned with use, performance, and the effectiveness with which a product fulfills its purpose. Behavioral reactions occur at a conscious level, although without more conscious thought than the intention to use an object for a purpose. For example, when dicing onions we are aware of the movements we are performing to complete the task, but mostly we complete it using a kind of behavioral autopilot. The task is completed using a familiar sequence of motions, monitored largely through visceral tactile feedback, and only when something unusual happens does the task get pushed into our fully conscious thoughts.

The reflective level is where our truly conscious reactions happen, concerned with the more considered reactions such as self-image, personal satisfaction, and memories. Reflective reactions are much less immediate and more considered, and unlike the other levels, evoke memories and associations.

Looking at these three levels, it seems all three have a potential part to play in creating significance with a user. Although a visceral reaction is immediate and fleeting it can be a pleasurable experience, and when involved in a repeated interaction this can become a key element of the experience we look forward to. We can also find lovable elements at the behavioral level, it is here where we derive pleasure from the skilled use of an object or from the way an object functions and feels while completing a task. Anyone that has a favorite tool they love to use, or experienced the frustration of a

¹¹ Norman, D. (2004). P. 5

¹² Norman, D. (2004). P. 6

non-functioning piece of technology knows the influence this level can have on our perceptions of an object.

While these first two levels directly contribute to the pleasures we discern from the use of an object, it is at the reflective level with its conscious thought and memory where we build relationships with objects. It is here where we the positive or negative feelings from the visceral and behavioral levels develop into trust, value and affection. It is also worth noting that it is at this level where almost all of Csikszentmihalyi and Rochberg-Halton's¹³ links take place, responsible for the memories and associations which effect our feelings towards an object. As Norman surmises:

“There is one other distinction among the three levels: time. The visceral and behavioral levels are about ‘now’, your feelings and experiences while actually seeing or using the product. But the reflective level extends much longer—through reflection you remember the past and contemplate the future. Reflective design, therefore, is about long-term relations, about feelings of satisfaction produced by owning, displaying, and using a product.”¹⁴

The Product Semantic movement

During the late 1980's 1990's and early 2000's the product semantic movement emerged in the industrial design field. The movement promoted a move away from anonymous or overly styled aesthetics and form in favour of a clarity of form. They argued this clarity of form allowed users to ‘read’ an object's meaning from physical cues, discerning an understanding of its purpose and function.

In *The Semantic Turn: A New Foundation for Design*¹⁵, a seminal work of the product semantics movement, author Klaus Krippendorff outlines processes and considerations for a semantic approach to design. Krippendorff's techniques focus on creating meaningful product form and intuitive control interactions, a blueprint for satisfying interactions at Norman's behavioural level.

¹³ Csikszentmihalyi, M. & Rochberg-Halton, E. (1981). *The Meaning of Things: Domestic Symbols and the Self*. Cambridge: Cambridge University Press.

¹⁴ Norman, D. (2004). P. 38.

¹⁵ Krippendorff, K. (2006). *The Semantic Turn: A New Foundation for Design*. New York: Taylor & Francis, CRC Press.

Design Research:

The primary research components of this project were undertaken in two stages. The first stage consisted of a series of semi-structured interviews with participants exploring their relationship with a beloved object. The purpose of this study was to synthesize and verify common elements among our beloved objects. The second stage focused on collecting contextual information and insights for the design of a digital music player. For this stage a range of information sources and methods were employed. These methods included several in-home user observations combined with informal interviews, expert interviews with high-end sound suppliers, and traditional product analysis. These two research stages and the findings are outlined below.

What Makes us Love an Object?



Still images from:
Pawson, S. (2014). *What Makes Us Love An Object?* (video)
vimeo.com/90169039
Retrieved November 2013

Over the course of five weeks, nine semi-structured interviews were conducted exploring the relationship between owners and a loved object. Drawing on themes and ideas from the secondary research outlined in the previous section, these interviews followed a qualitative approach, intended to adapt to the significant aspects of the participant's chosen object. The purpose of these interviews was to verify themes identified in the secondary research, and to identify any other factors that contributed to the object's significance to the owner.



Still images from:
Pawson, S. (2014). *What Makes Us Love An Object?* (video)
vimeo.com/90169039
Retrieved November 2013

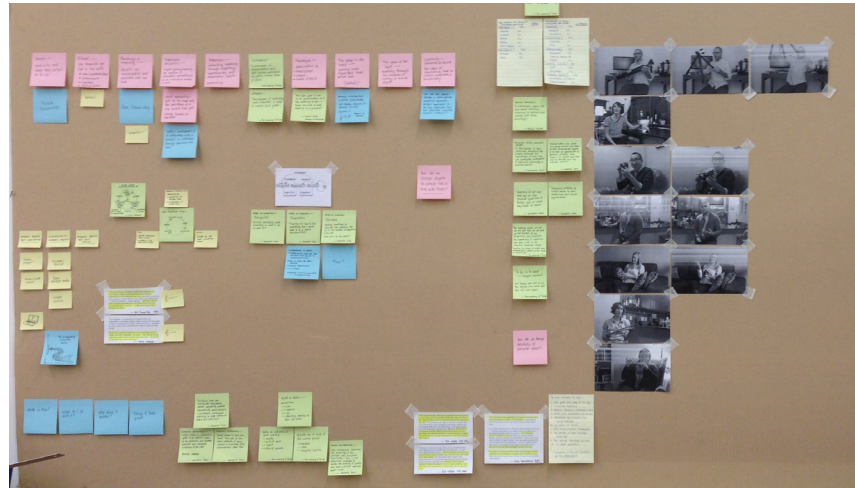
The interview process revealed a diverse range of selected loved objects, with participants having distinct approaches to determining what made their object significant to them. Overall the responses largely aligned with, and fleshed out, the themes drawn out of the secondary research, with a few extra insights added to the mix. Additionally, the interview process yielded a rich collection of stories, anecdotes, and experiences, and was used as a source of inspiration for the subsequent design exploration.

As mentioned above, this study was not intended to be statistically conclusive or exhaustive, instead its purpose was to verify and synthesize themes. Each interview was conducted with the aid of an interview guide consisting of topics and prompts to be discussed, although some areas were discussed in more or less depth as they were relevant to the selected object. These topics included: object acquisition, use rituals, relationship, and the object's role in the respondent's personal identity and aspirations.

This approach allowed the emphasis of the interview to shift organically to spend more time discussing the elements that seemed the best fit for the participant and their object, while ensuring each topic was addressed in every interview (the final version of this is included in appendix A). After each interview the interview guide was revisited and refined as necessary — where topics were consistently irrelevant they were left out, or in some cases an interview discussion would prompt the inclusion of new topics or prompts for verification in subsequent interviews.

With the permission of the participants all interviews were video recorded, capturing the discussion along with the nuances of interaction between interviewee and their beloved object. During the course of the interview the interviewer took note of responses and summarized answers back to the participant in an attempt to ensure the intention and context of the responses were properly understood.

After the interview, transcripts were coded using a Grounded Theory Analysis method to apply thematic tags to each distinct thought expressed in the interview. Once the transcripts were tagged they were checked to correct any overlap in tag subjects, and the tagged thoughts sorted into common categories and sub categories across all of the interviews conducted. These categories were again checked and sorted into related categories within a theme — it is this framework of themes and categories that form the bulk of the study findings in the next section.



Mapping out of interview themes using post-its.

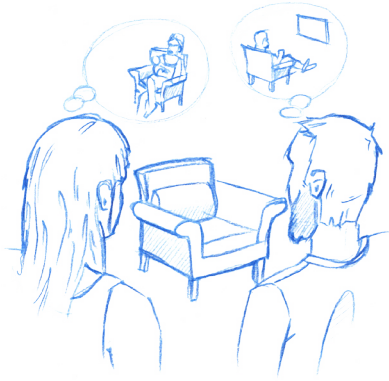
Lastly, the most frequently mentioned categories and sub-categories were identified from the interview responses. Snippets of the recorded interviews were then cut together around these common factors to produce a short video that anecdotally illustrates the findings of the study.¹⁶

Findings:

Principally, this research highlighted the complexity of people's relationship with loved objects; and illustrated that a loved object is usually significant due to a combination of the contributing factors identified here. It is worth highlighting that large portions of identified factors appear to be largely individual values, held by the owner and projected on to the object. These factors can be deeply significant to the owner's identity and personal narrative; however, they do not necessarily translate to others — particularly others who do not have a strong connection to the owner.

The emergent nature of this research enabled the following five themes to be drawn out of the semi-structured interviews and secondary research outlined above. Additionally, analysis of the interviews identified two kinds of behaviour adopted by the participants in their interactions with their loved objects. The following section outlines the themes and their subcategories, with the two behaviours included afterwards.

¹⁶ Pawson, S. (2014). What Makes Us Love An Object? vimeo.com/90169039 retrieved November 2013



Theme 1: Readings & Meaning

Our reading of an object is personal, the meaning each person finds is subtly different, informed by our experience and our impressions of the object of our attention. We create meaning through the transfer of personally held metaphors and the refinement of established mental models of the object. These connections occur rapidly, upon encountering something new, and are largely subconscious and independent of directed thought.

Reading & Meaning responses occur principally as visceral responses¹⁷, and are used to construct our understanding of meaning, function, quality, and value. Krippendorff¹⁸ highlights the importance of these kinds of connections, warning that poor experiences on these levels may turn someone away from an object before a connection has a chance to develop.

Readings & Meaning subcategories:

Object Reading

Our impression of the object's purpose based on its physical appearance, first tactile exploration, and the metaphors we read in its form.

Affordances

A physical quality of an object which affords the performance of an action. Affordances are the subtle cues embedded in an object that tell us, for example, to grip a handle or to rotate a dial.

Quality

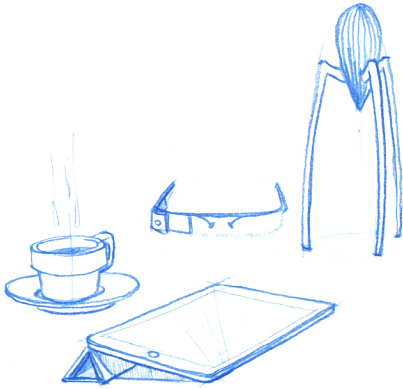
Our impression of the quality of an object and the value we see in it.

Discovery

The interactive process of exploring an object's affordances, interface or function in order to understand it.

¹⁷ Norman, D. (2004). *Emotional Design: Why we love (or hate) everyday things*. New York: Basic Books.

¹⁸ Krippendorff, K. (2006). *The Semantic Turn: A New Foundation for Design*. New York: Taylor & Francis, CRC Press.



Theme 2: Self-representation

“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.”¹⁹

We use objects to reflect ourselves, communicating our identity through a framework of things we own and use. This process can be outward facing, the social status of objects sometimes making owning more important than use; other times the audience is ourselves, as we combine objects to create a desired space, feeling, or state of mind.

It is easy to overlook the role of the audience in this exchange, for example, symbols of political power or social status change with culture and location as social norms and contexts shift within the audience. Similarly, the items you choose to bring to an exam are typically chosen to construct a confident, prepared state of mind; and will differ to reflect what symbols resonate with each ‘inner audience’.

Self-representation subcategories:

Identity

We use objects as social symbols to reflect our identity, displaying objects in proximity to ourselves to communicate desired associations such as wealth, physical prowess, or political power.

Status

Objects, usually with symbolic meaning, which link us to desired socially held conceptions of status. Typically these objects are rare, expensive, old, and/or attractive to others with status.²⁰

Pride

Value we place in the ownership or association with an object we find significant on a personal level, independent of any social significance, such as a personally constructed item, or a first dollar earned.

Aspiration

Objects that reflect the version of ourselves we desire to be, and often serve as tangible inspiration towards this ideal.

Trait Channeling

An object’s perceived ability to channel desired personal traits or abilities, or, it may inspire confidence in the desired results of our actions. Often these are personally held and used to construct a desired state of mind.

¹⁹ Norman, D. (2004). P. 6.

²⁰ Czikszentmihalyi, M. & Rochberg-Halton, E. (1981). P. 38.



Theme 3: Association & Projection

We can associate meaning with objects by drawing links to our established conceptions of the world. Direct associations are drawn from past experiences with the object in question, or an object of the same basic type. Direct associations may also be constructed from the physical context and environment surrounding an object. Abstract associations are assembled from relatable experiences and relevant conceptions of an object.

We can also project meaning on to objects, using them as representations of a larger idea, brand, personal achievement, or aspiration for the future. An object gains significance by manifesting this projected meaning for the owner.

Association & Projection subcategories:

Origin

The context and our experiences when we are introduced to an object can have a marked affect on the meaning we associate with it.

Association

The associations we link to an object affect our perception of its value. Some associations are intentional constructs like brand values, while others are individual like perceptions of modernity.

Experience

Past experiences, direct or relatable, strongly influences our understanding of a new object.

Accomplishments

Objects can gain significance through the role they play in signifying our accomplishments.²¹

Goal Embodiment

Our ability to project meaning on to an object as an embodiment of a goal. Often these objects represent a tangible step towards achieving the projected goal.

Challenge

An object that embodies a challenge we enjoy, and find value in testing ourselves against. A musical instrument, for example, embodies the challenge of playing that is pursued by those who value the skill.

²¹ Norman, D. (2004). P. 55.



Theme 4: Ritual

“True long-lasting emotional feelings take time to develop: they come from sustained interaction.”²²

As we continue to interact with a loved object we develop trust through the accumulation of positive experience. Rituals evolve around our ongoing successful interactions with an object, the satisfaction of achieving our intentions, and specific moments of use we fall in love with. Beloved moments often evolve around details of the object’s form, physical performance, interactions, or a combination thereof.

Ritual subcategories:

Moments

Moments are the short moments of performance, interaction, or feedback in our interactions with an object that provide a sense of pleasure or satisfaction.

Flow

Objects gain significance through their ability to facilitate our efficient and enjoyable completion of tasks in the heightened state of productivity termed ‘Flow’.²³

Ritual

Rituals evolve around our consistent successful interactions with a product. Ritual experiences may involve a combination of objects, a specific context, and are often shared with others.

Relationship

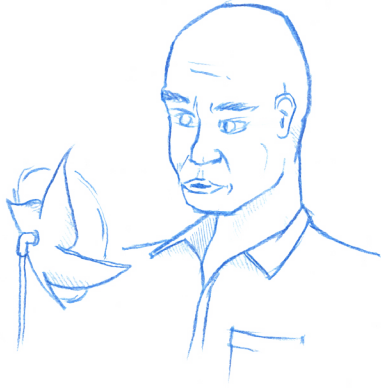
Our relationship with our loved objects deepens over time as we build trust in an object’s reliable function and its significance is reaffirmed.

Loyalty

We become loyal to objects as our love for them—and the significance we have invested in them—makes us resistant to seeing the same value in other objects of similar purpose.

²² Norman, D. (2004). P. 46.

²³ Csikszentmihalyi, M. (1990) Flow: The Psychology of Optimal Experience. New York: Harper Collins.



Theme 5: Nostalgia & Narrative

“Special items all evoked stories. Seldom was the focus upon the item itself: what mattered was the story, an occasion recalled.”²⁴

Objects we love can be linked with events or places, memories, and personal narratives. Most often this history and narrative is personal. However, sometimes significance can be drawn from significant people in our lives, ideals, family, or events. Most commonly objects are connected with events involving the owner and the object directly, adding significance to the physical object through this association.

Generally these associations are memory based and historical, however, objects can also be connected to personal narrative that is not always historical. Narrative linked objects are often linked to personal values, ideological choices, or aspirations.

Nostalgia & Narrative subcategories:

Memories

Memories are often linked to objects, transforming them into mementos of significant times, people, and places; and adding significance to the object through this ability to evoke the linked memories.

Nostalgia

Objects can be linked with events and values from the past, utilizing this connection to evoke personal significance, or associations with a time we may or may not have directly experienced.

Purpose

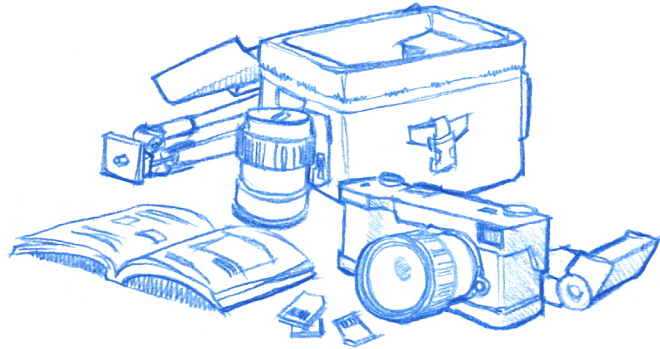
The intent with which an object was created can alter, or amplify, the significance we see in an object.

Connection to Ideals

Significance can be invested in objects that show a strong connection to the owner’s personal ideals and values.

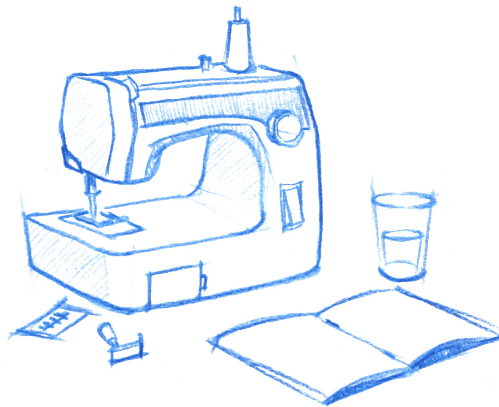
²⁴ Norman, D. (2004). P. 48.
Quote is an observation on the findings of Czikszentmihalyi, & Halton’s 1981 study.

Loved Object Behaviors



Behavior 1: Object Expansion

When we value an object we cultivate its place in our lives. Our deepening relationship with the object inspires us to display the object more prominently; extend its presence through supplementary objects; or subtly alter our daily routines to extend our interactions with it.



Behavior 2: Active Engagement

As affinity for an object grows, we invest our attention more deeply in it, exploring its potential and functionality, and learning the object's story, nuances, and quirks. Curiosity is driven by the value we see in the object and satisfaction derived from mastery of advanced interactions, the discovery of new potential, and refining our understanding of its purpose and story.

Domestic Music Practices



Photographs from in-home observations & contextual interviews.

The first research stage—investigating the ways we connect with objects—was largely completed before a design subject was decided upon for stage two of the project. This second stage of the project attempts to design a more lovable product using the findings from the first stage. This research consisted of an initial intensive burst at the start of the design process to capture necessary contextual considerations. This process was condensed under pressure of time, although additional research was conducted in parallel with design activity where it became clear that more information would be beneficial. Although not as clearly planned and structured as the interviews described above this parallel research process mirrors a typical product design approach.

First, let us elaborate on the design challenge. After several options were explored a domestic digital music device was chosen as the subject of the design challenge. This decision was made as the framework of factors from the previous stage was almost complete, and it became evident that a significant number of these factors related to experiential functions in their products. In most cases—as was indicated in the interviews—this experiential element of the object in use were directly or indirectly shared with others. A music playing device, with the inherent experiential qualities of music and shared experiences, seemed likely to enable more of the identified factors to be explored.

Furthermore, the current transition of music from physical media storage systems (CDs and records), to streaming and storage on digital platforms is having a similar effect on the way we listen to music. Digital platforms offer exciting new possibilities in the way we access and discover new music, however, this is often a more immediate and solitary experience. Stepping away from sound quality the shared experiences from digital sources are often poorer and less satisfying than those offered by stereos and systems based off music media. In fact, the research process made it increasingly evident that often shared digital music experiences involved patching a digital source in to an existing media based system, or was limited to small products to extend the audio output from a digital device (a smart phone/mp3 player dock for example). The opportunity for a product providing a richer, purposeful, and more easily shared experience lent itself to new product forms and approaches, and would be comparatively free from conforming to established product archetypes.

In short, a domestic digital music player seems particularly well suited to be the product area for this project.



An example of patching digital music devices to a media based system — the laptop is regularly used to stream digital music through the stereo speakers while the iPod rarely gets removed from the system, and has not had new music added in several years.

The initial stage of this product-focused research consisted of analysing the available products and digital platforms, exploring existing domestic music listening practices, and capturing contexts of use for the proposed product. With limited 'stereos' explicitly using digital music a short but intensive examination was undertaken of recent or upcoming audio product offerings in this area from mid to high-end audio brands. This was supplemented by informal expert

interviews with sales people from Definitive Audio, a local high-end audio showroom. In contrast to the notably few digital hardware options there has been a recent explosion of digital platforms, music streaming services, and web/mobile apps available to consumers. Several recent articles on these available services provided an invaluable breakdown^{25 26 27} coupled with informal interviews with three users of digital services. Although these interviews and competitive analysis was conducted on a condensed time frame, in each case multiple participants and sources were sought, and notes taken to compare and verify findings across sources.



Photographs from in-home observations & contextual interviews.



In order to capture contexts and practices around digital listening habits three in-home user observation and informal interviews were undertaken. For each visit the researcher was invited in to the participant's home where music was played in a social setting alongside the informal interview. A prompt sheet was used to ensure each visit covered the same topic areas. The topics included: music playing habits, music hardware, current music sources/collections, contexts of listening (individual, task orientated, social), sources and practices of obtaining new music, and music as self representation. Photographs were taken of the environment, context, and actions of participants, with additional photos taken of any interactions or insights raised by the interview discussion. Field notes were taken to capture the interview and fleshed out immediately following the visit. During the interview, responses were summarized back to participants in an attempt to verify the intention and context of comments.

²⁵ Dukovic, P. (2014) "How To Listen Now". Wired Magazine. Issue 22.05. Pp 83-94.

²⁶ Harvey, E. (2014). "Station to Station: The Past, Present, and Future of Streaming Music". Pitchfork.com, <http://pitchfork.com/features/cover-story/reader/streaming/> retrieved March 2014.

²⁷ Woods, B. (2014). "15 of the best music streaming platforms online today. Which one is best for you?" Nextweb.com. <http://thenextweb.com/apps/2014/01/17/15-best-music-streaming-services-which-is-the-best/1/#!BgDOc> retrieved February 2014.

Findings:

“During the week music is for working, for background. But on the weekend I want something special, something different.”²⁸

The notes, photographs, and findings from the various research activities were analyzed and distilled into themes in much the same way as the loved object research. The following six themes highlight some of the salient insights drawn out from the combined research activities that informed the design process.

Audience

Listener Group

Social (large groups), shared (small groups), and personal listening all have subtle but distinct differences. These contexts influence the type of hardware used, the intended atmosphere, and the selection of source music. The first two generally involved an attempt to include all those present while personal listening was often used to filter out distractions or as a principle activity of leisure.

Activity

Music was often played as either a primary activity, with little other demands on the audience’s attention, or as a background accompaniment to a separate primary task. This distinction often influenced the type of music chosen and the amount of listener input to the continuation of the musical experience.

Input

The degree of input desired by the listener can influence the choice of hardware or music source. When there were alternatives available different choices were often made depending on whether the listener wanted an active contribution to what was playing or a more passive consumption of a longer-term music choice.

Task matching

Sometimes specific music hardware, genres, or artists were selected with the intention of setting a mood or to match a desired mindset for a specific task. For example, music selected as the background for concentrated work was often very different to music selected to exercise to, or played to “get into the mood” before heading out to a party.

²⁸ Anonymous study participant. (2014)

Discovery / Exploration

Social discovery

The search for, and discovery of, new music is a social experience. Often the opinions and recommendations of multiple friends, acquaintances, or respected musical taste makers are canvassed for recommendations that are sampled, shared, and discussed further before purchasing.

Discovery comes with discussion.

Unsolicited discovery of new music also comes with discussion. This discussion usually happens at the time of introduction, asking someone who the artist playing is for example, or in conversation about a particular album or song which results in “you might also like” suggestions. This will often lead to ‘social discovery’ interactions described above.



An example of peripheral browsing — coming upon a record that isn't the one you are looking for right now but setting it aside to play soon.

Peripheral Browsing

Often the act of searching a collection for a particular song or musical theme brings forth multiple other suggestions that are not the desired result for this moment but are set aside to play in the near future. These suggestions often feed into *the current stack* outlined below.

Shared Engagement

Nostalgic reminiscing

A behavior, most often social, where the listening audience actively contributes to song choices around a musical thread and use these song choices to share stories and reminisce. Typically this occurs where an extensive collection is available for the audience to access, browse, and search.

Social DJing

A social listening behavior of shared musical selections. The active musical source becomes like a playlist with musical selections from the audience added to engage with the musical experience. Typically this behavior requires an accessible collection for musical choices to be selected from, and an aggregator—a person, digital playlist, or collection of physical music media—to manage and play from the selected subset.



A participant's record player — Stored out of the way, and used infrequently, the participant exhibited clear rituals around its set up and use.

Ritual / Relationship

Input attention

Rituals often developed around music sources that required regular short bursts of attention. These recurring interactions appeared to facilitate a stronger, often positive, link between the user and their music.

Moments

Small moments of a music source's operation or playback performance that have a disproportionate effect on the overall music experience. These could be positive, as in the interactions around cueing a record, or negative, like an unwanted advertisement in a digital music stream.

Collection management

Owners of sizable physical music collections will often employ an individual system to organize music. While this system principally exists to allow the owner to find any item easily, it also allows the collection to be arranged to match the owner's mental model, and be experienced as a tangible whole, deepening the owner's relationship.

The current stack

Many collections of physical music media were neatly ordered with the exception of a small number of CD's or records located accessibly near the music hardware. This stack represented recently played, 'high rotation', or pre-selected choices to be played soon.

An example of 'the current stack' one participant's collection of 'recently played' and 'will play soon' records.



Music Curation

Curation control

Listeners make a balanced trade-off of musical selections. Active curation, managed by the audience, was often chosen when a specific music experience was desired, while external music feeds were often selected when a wider variation of artists was desired.

Music themes Vs music seeds

A subtle digital streaming choice concerning the selection of a playlist made up of songs of a similar theme or a music stream generated from a single selected music 'seed'. Mostly this choice was habitual although streams generated from music seeds had the potential to introduce unexpected selections, and require more input from listeners than the more pre-defined 'theme' playlist.

Changing the musical vector

An active curation consideration concerning making a change to the direction of the current playlist without creating a jarring transition between the current song and the new selection. If a substantial change in mood is desired sometimes this transition is managed with incremental selections.



An example of physical presence — a favorite record set out of the owner's collection on display.

Self Expression

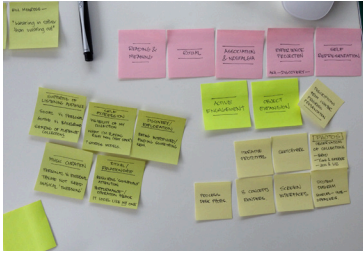
Physical presence

The display of musical media or associated artifacts as an act of self-expression. This can either be an act of appreciation for the aesthetic of the object, or to display a connection to the artist or genre. Within the home this can either be a display for the owner themselves or a more visible expression of identity for others.

Ownership & individuality

Music culture provides accessible opportunities to identify with values embodied by music scenes and, through them, express values of the owner's identity. These can be displayed obviously or subtly, or hidden as 'guilty pleasures' in the same way as any object of association.

Design process:



Project mapping using post-it notes.

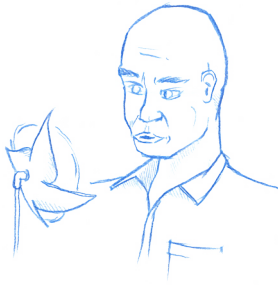
Once the product area was selected research findings were used to define the product space. The first step was to revisit all of the research findings and define an approach for the project that had both the themes for the creation of loved objects at its core, and a clearly framed design space. This process was mapped out using post-it notes to allow the research to be laid out visually, and enable findings to be moved and grouped together into defined areas. This early planning functioned as a design brief — although not a complete road map, it clearly laid out the intent of the project and developed some project constraints.

Examining the five themes—Reading & Meaning, Self-representation, Association & Projection, Ritual, and Nostalgia & Narrative—with a project lens there is some clear overlap between the areas. The first two are essential to the successful design of almost all products, and well integrated into a traditional design process, while the last three are somewhat more distinct in their areas. This observation led the project towards the creation of three distinct product concepts focusing on these three approaches. With these three areas set, the thematic subcategories and contextual findings were sorted and grouped together to define the distinct design spaces.

Looking at the resulting groups, and condensing the post-it groups into useful expressions of the space, it was clear that this approach had produced a project space defined more by experiences and behaviours than features and form. The intent to create an object of significance and continued interaction had brought these factors to the fore in the definition of the project approach.

Lastly, driven by the findings of the contextual music practices research the three groups were given a further behavioral focus. Nostalgia & Narrative lent itself to a past focus, promoting interaction with the owner's whole music collection. Ritual was given a present focus, enticing interaction and supporting active curation of the current music experience. Association & Projection was given a discovery focus, stimulating exploration of new music and the range of music in the owner's collection.

The three concept areas are outlined on the following page:



1. Nostalgia & Narrative

Past focused

- Stimulate connection with the music collection through allowing custom *collection management*.
- Inspire physical interaction with music collection.
- Encourage *nostalgic reminiscing* through enabling multiple contributors to easily access song selection.
- Promote visibility of *the current stack* of recent music choices.
- Facilitate elements of *self expression* by giving the digital music collection a more visible presence.
- Enable customization of the music experience to fit with *audience* considerations.



2. Ritual

Present focused

- Facilitate regular *moments* of interaction around short bursts of *input attention*.
- Support ritual connections through incorporating satisfying interactions around regularly used functions.
- Physically perform in operation by incorporating regular animated physical feedback.
- Facilitate engagement with the music experience through *curation control* choices and easy changing of the *music vector*.
- Promote visibility of *the current stack* of recent music choices.
- Facilitate elements of *self expression* by giving the digital music collection a more visible presence.
- Enable customization of the music experience to fit with *audience* considerations.



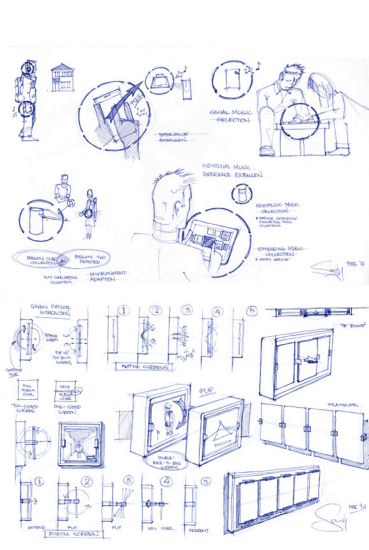
3. Association & Projection

Discovery focused

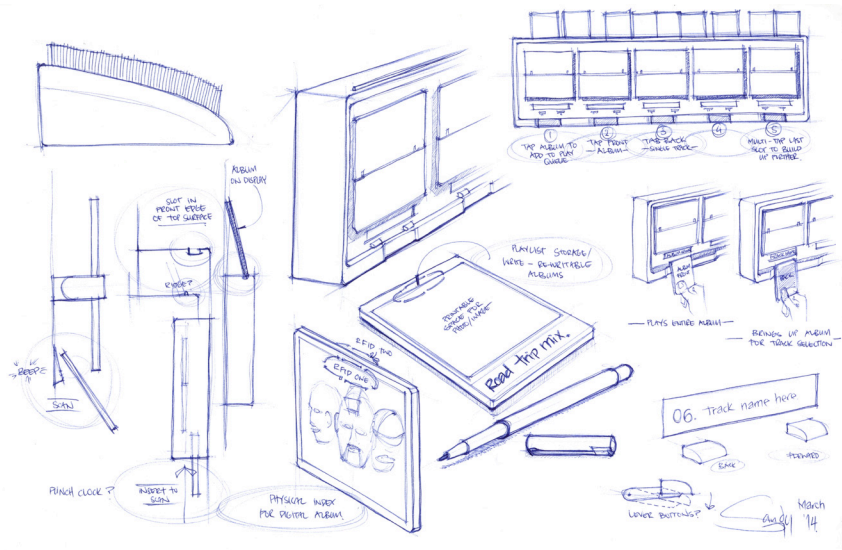
- Support *discovery* led music exploration, both inside and outside of the owner's collection.
- Provide *origin* information alongside recommendations and new music selections to provide context and stimulate association.
- Promote *social discovery* interactions around new music discovery.
- Enable *peripheral browsing* to support wider exploration of the owner's collection.
- Facilitate elements of *self expression* by giving the digital music collection a more visible presence.
- Enable customization of the music experience to fit with *audience* considerations.

Concept Generation:

The design process followed a traditional iterative design process within the three design spaces. All three concepts were developed in parallel with sketching employed as the early method for producing and exploring ideas. However, this ideation process was subtly different: the experience-led design specifications inspired a sketching process where elements of form and interaction developed together. Concept sketches often combined elements of storyboards, interfaces, or system diagrams, with form and detail sketches.

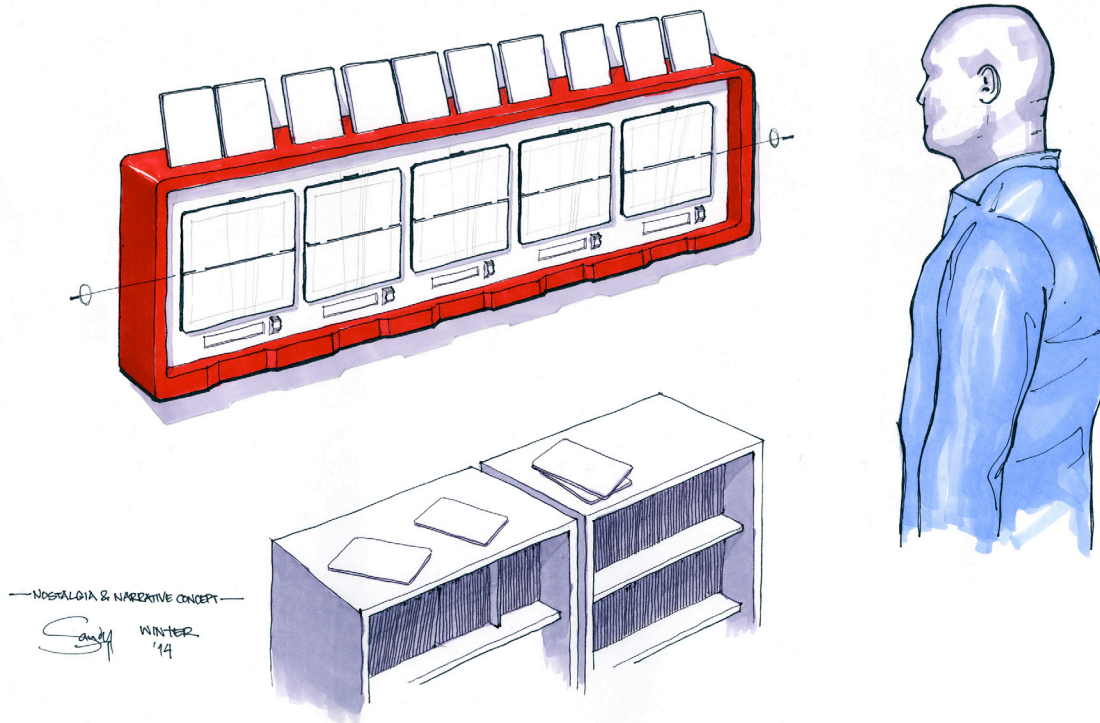


Examples of concept sketching — both form and interaction are developing together.



After several concept iterations exploring a diverse range of product formats a narrowing of the project scope took place. With quite a diversity of physical approaches available, the format of the concepts was narrowed to keep the focus on the experience and interaction with the products. At this early stage several concepts included a central wall display depicting some kind of play queue as a central feature, and independent speakers with wireless connectivity. With this wall display approach still affording plenty of room for design exploration it was adopted across all three concepts.

After several weeks of development each product area was distilled down to one distinct concept and presented for evaluation. These three concepts are included on the following pages.



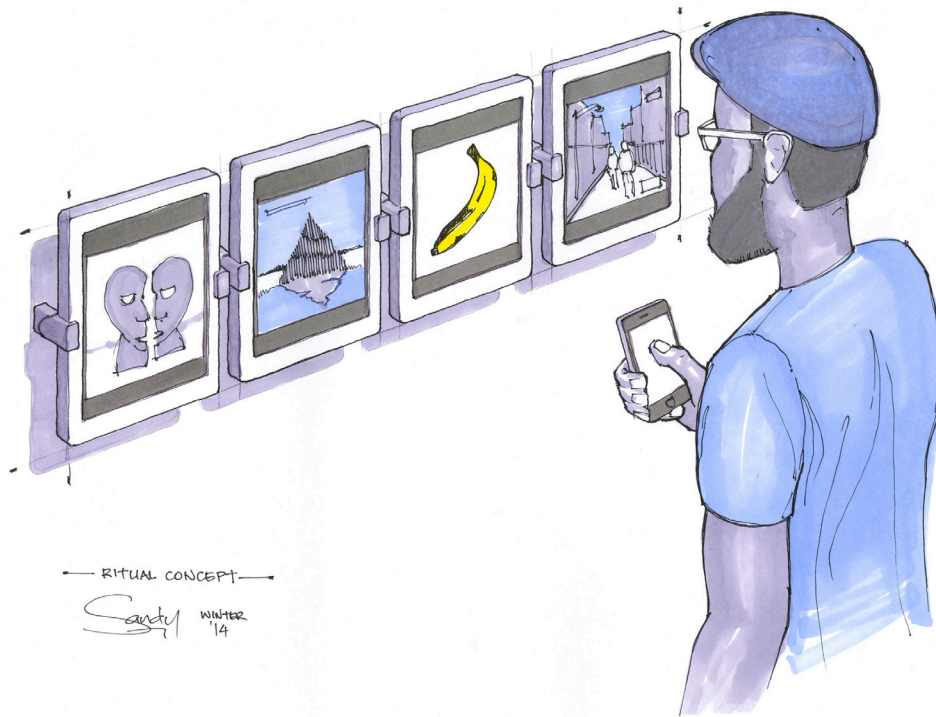
This concept took inspiration from items with a distinctly nostalgic feel. Flip screens, commonly used in train stations and airports, inspire the display. The musical collection is presented as a physically searchable, user organized collection of album tokens. A small ridge in the top surface of the device allows for tokens to be displayed and temporarily stored in a more visual version of the 'currently playing' stack. The compact collection of album tokens maintains the traditions of album art, and a search experience similar to that of a record store. Although the album tokens no longer contain the music information they are still used as a reference to locate an album or song within the internal digital storage. All other controls are kept mechanical to maintain a nostalgic tactile feel.

The display has five screens representing five spaces in a play queue; functioning similarly to a jukebox, the song on the left is the one playing while the following four places represent an "up next" queue. To operate the device the first step is to select an album that you wish to play,

either through browsing the collection or by searching for a desired album. The album token is then tapped on the shallow indent on the lower edge of the display frame underneath the position you wish to add it in the queue. Tapping the token album side out will queue the whole album, tapping the track list side out indicates an individual song will be selected off the album. Once the album token is tapped the screen will 'flip' to reflect the album art of the selected album.

To confirm the selection, an individual song or start point on the album must be selected. These selections are made using the physical scroll wheel and small screen below the album display. The digital system behind the display will then either queue the subsequent songs on the album, or use music tagging software similar to current streaming software to fill out the play queue. Making further selections in the same manner described above will update and alter the direction of the play queue.

Ritual

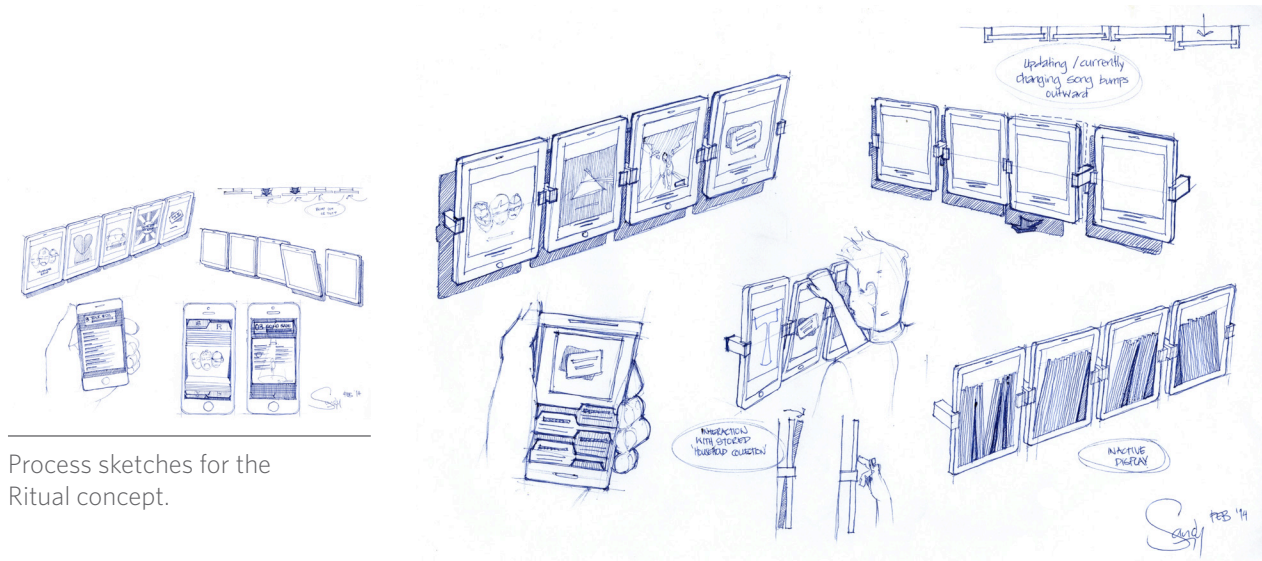


This concept took inspiration from tablet devices and a minimal design aesthetic. The Ritual concept evolved out of several early tablet and smart phone docking concepts, however, the final concept moves away from a single device docking process and embraces a multiple input system. The whole Ritual system is modular adapting to accommodate any number of tablet devices. Each tablet is held by a pair of articulated arms set to match the physical dimensions of the tablet device. The adjustability of this system means older or mismatched tablets can have their useful lives extended in the system rather than requiring brand new devices. The modularity also allows the number of tablets to be customized to fit a space or budget, and additional tablets added at a later time to extend the system.

Similar to the Nostalgia and Narrative concept the central display functions as a play queue — the current song positioned on the far left with the subsequent positions following to its right. Song selections can be made in two ways: by directly

interacting with the screen at the position you want to add a song, or from a digital device with your selection sent wirelessly to the desired position in the queue. Touching a tablet will activate it for a new song input made selected from the household music collection. Once active, the device will physically move away from the wall roughly 1.5 inches to indicate it is active and display the music collection for browsing. The collection may be flicked through using walking motions with the fingers, similar to flicking through a stack of records. Alternatively tilting the device forward or backward can skip whole artist, genre, or alphabetical sections.

When selecting a song from a digital device, an app will first prompt you to select a position in the play queue—again moving the associated tablet out from the tablet line—and bring up the music collection on the digital music device you are selecting from. At this point the tablet screen will change to reflect that of the digital device, displaying it to the room. The navigation actions



Process sketches for the Ritual concept.

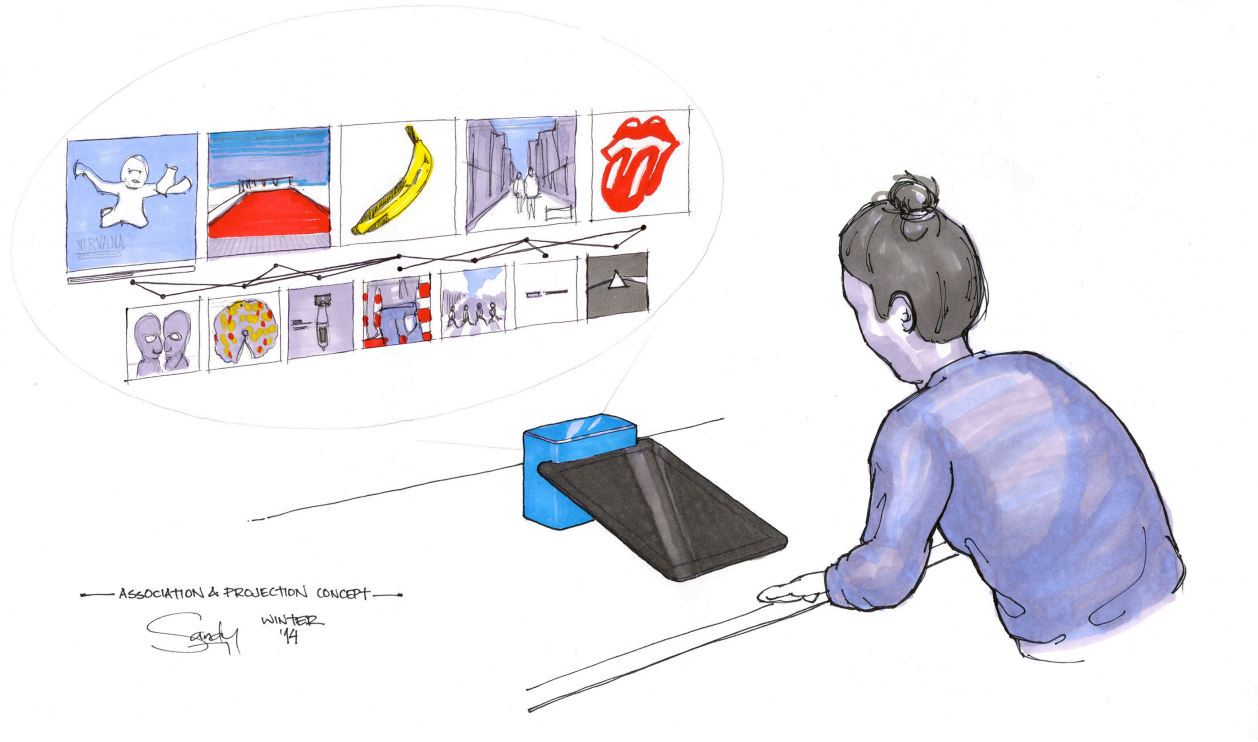
are the same as a direct interaction, effectively turning any digital device into both an available music library and remote sending device. The possibility of input from multiple music storage devices allows people to contribute songs to the play queue from their own collections in a manner that encourages collaboration and input from others in the room.

Once a selection has been made using either method the tablet will bow, tilting forward slightly, to indicate the choice has been confirmed. This bow will occur every time a song updates,

meaning at the end of any given song a ripple of bows will accompany the play queue updating along one position, with a new song generated and added to the end. When a user song choice is confirmed, this ripple of bows will also radiate out from your selection as the system's software fills in the blanks using a similar system of tagged music to current streaming services.

Lastly, this concept incorporates an inactive display depicting the albums recently played on the system, creating a digital visualization of the 'currently playing stack'.

Association & Projection

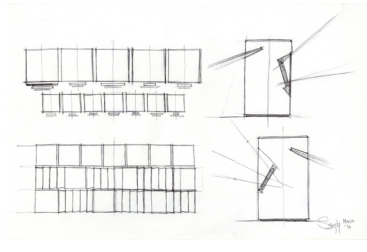


This concept is a much more digital experience than the previous two. The physical wall display is replaced with one projected on to the wall from a docking device situated on a table or flat surface below the display surface. While the display uses an “up next” play queue similar to the last two concepts the overall experience of the Association & Projection concept is much closer to that of a streaming service. The docking device accepts digital tablets or phones accessing the music collection on the digital device and serving as a means to identify and save music preference data for individual devices.

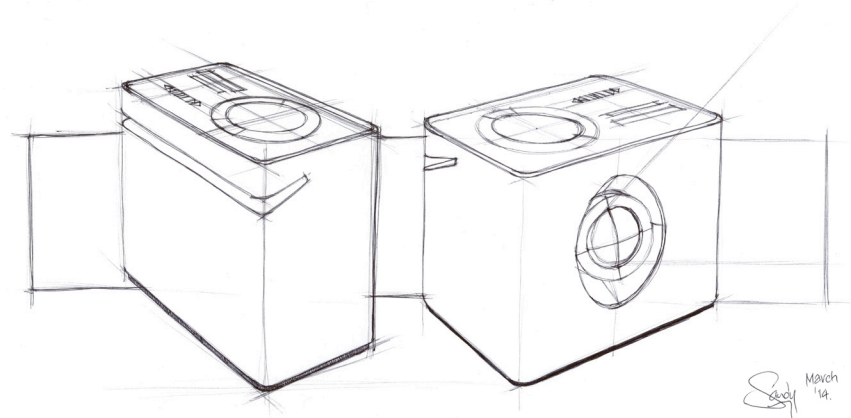
The compact nature of the combination dock and projector provides a much less invasive presence when powered off. When on, the projected display incorporates the play queue on its upper half—displaying songs to be played from left to right—with its lower half depicting alternative music selections. To select a song the tablet is used to navigate through the available music collection.

This collection includes any music stored on the device, and any larger collection available through a linked streaming subscription service. Selections can be made using either a dedicated search for a desired artist or song, a home screen of popular recent selections from that device, or new music options generated from your preference data.

Once a song has been found the selection is made by dragging the song into the desired place in the play queue at the top of the screen. The song options displayed on the tablet during the selection process are reflected in the projection below the play queue on the wall. Displaying these options more publicly encourages those present in the room to engage in contributing to music choices and to make suggestions. Once the first song is selected, the system uses a combination of thematic tags attached to every song, and your preference data, to populate the empty places in the play queue.



Process sketches for the Ritual concept.



If the system is actively playing a song and you make a new selection later in the queue, the system will use these two song inputs to replace the songs in between. These new selections will use the thematic tags of both songs to smoothly progress the musical experience from the song playing now to your new selection.

While the system is playing music is inactive the lower half of the wall display will suggest alternative music options using the songs in current play queue as inputs. The suggestions

will include a couple of options from within the user's established music selections combined with several new options the user might choose to explore. The display illustrates links between the songs in the play queue and the alternative suggestions, allowing the audience to associate expectations of what these alternatives may be like. This list of recommendations will organically update along with the play queue through the playing experience to continually offer the audience the chance to discover new artists.

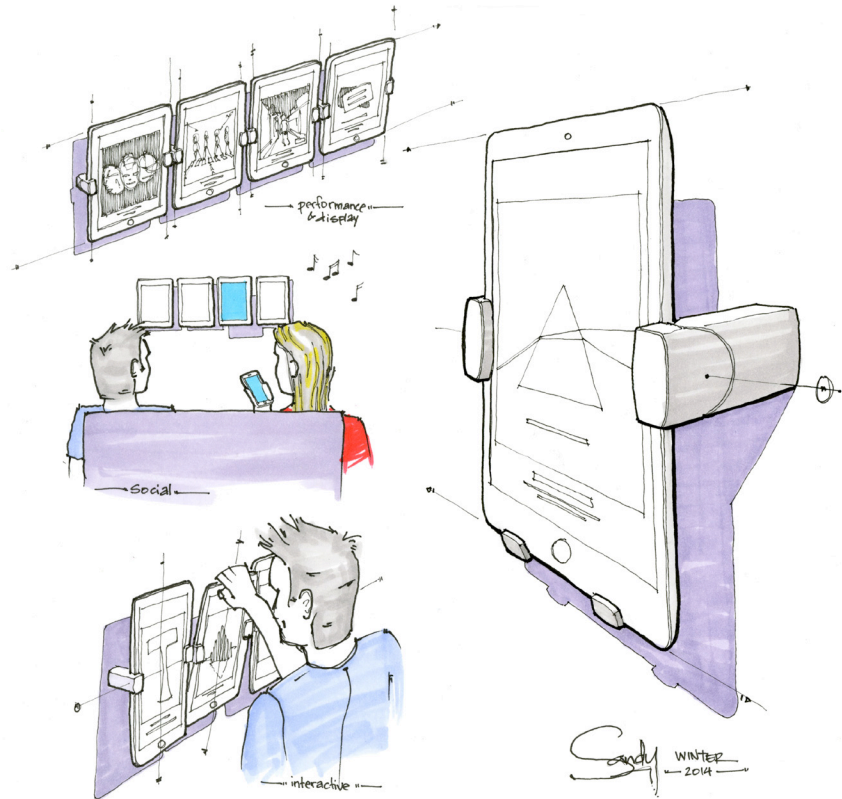
Towards a Refined Design:

The three design concepts described in the previous section were evaluated in order to make a final selection for further development and prototyping. At this sketch stage all three presented concepts were clear but relatively unrefined; this meant that detail judgments of form, function, and perceived quality—all relevant to the Reading & Meaning and Self Representation themes— had to be made with a degree of imagination. However, at this stage the collection of sketches did a convincing job of communicating interaction and the overall experience of the concepts — this was important for judgments of the Nostalgia & Narrative, Ritual, and Association & Projection themes. While the final details of form and function could be addressed with further development, it was important to resolve the desired experience at this point of the project.

After some deliberation, a final decision was made to progress the Ritual concept for this project with some small revisions. There were several important factors in this decision. Firstly, and arguably most importantly, when evaluating against the complete set of loved object findings, the Ritual concept was the most viable and complete solution. As mentioned above, this evaluation process, much like the concept generation itself, prioritized experiential elements, and this is where the Ritual concept proved the strongest.

The Nostalgia and Narrative concept also had a very strong sense of interaction and experience — particularly around the song selection process. However, the concept was judged to be weaker in terms of shared experiences and did not embrace the opportunities of a digital music source as completely as the other two. Additional concerns were raised about the viability of the collection of album tokens.

The Association & Projection concept's projected display offered an appealing ability to transform its presence between playing and off states, and presented a solution that would require a less substantial investment in hardware. Additionally, the operation of this concept embraced the possibilities of a digital source for music. However, of the three concepts the interactions for this system were the most complex, representing a barrier for some users. Also, this concept seemed the least accessible to sharing the music curation process of the three presented. Lastly, the ability for a short throw projector to effectively create the proposed display was also questioned.



The selected Ritual concept.

The Ritual concept was the most complete from the points of view discussed above, and offered a happy middle ground between the other two concepts. In its current state, the Ritual concept still needed refinement before a prototype could be produced. Specifically, the movement aspect of the concept's function; some detailed aesthetic development to communicate the articulation of the arms; and some further resolution of the screen interface were required. In essence some further definition of the finer details and technical solution was required.

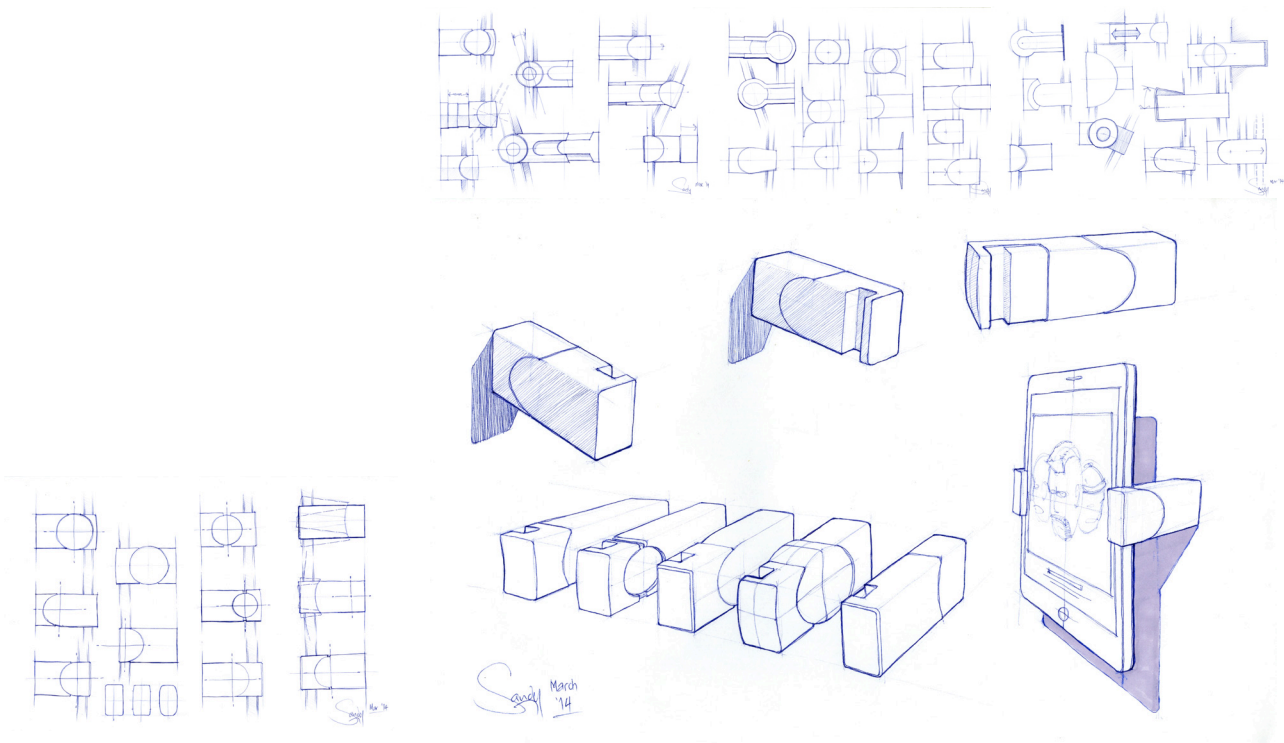
It was at this point that the end point of this project was discussed, specifically, the type of final deliverable to be produced. Much of the focus of the design process up to this point had been experience led, so a high-fidelity prototype was proposed in order to evaluate a close-to-genuine experience. A prototype of this complexity was a significant undertaking in the time available, so the refinement work began in earnest.

Design Refinement:

The major challenges to resolve in producing the prototype were form, movement, and interface related. The sketch development to date had provided good foundations for all three, but further development was needed before a prototype could be produced.

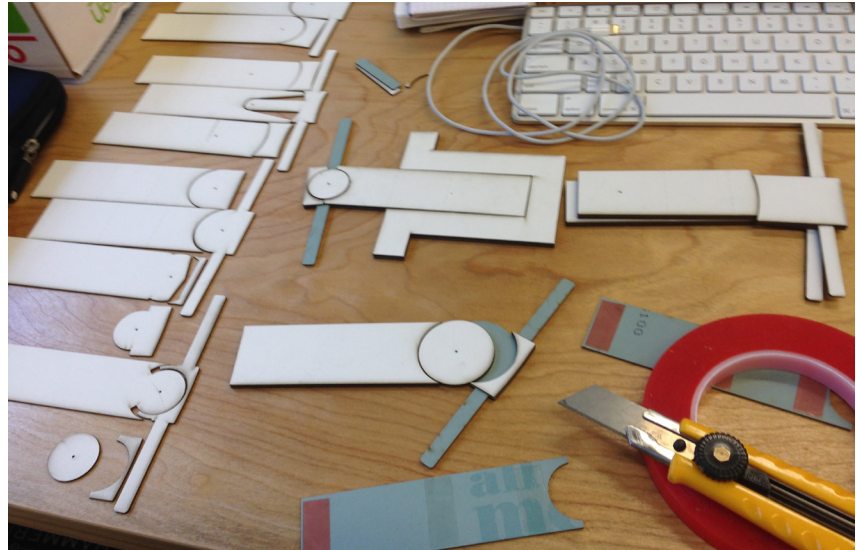
Over the next weeks a large amount of rapid iterative development took place to address these, and related, areas. The following is an overview of the significant developments.

Form Development:



Development sketches refining the form and pivot function of the arms.

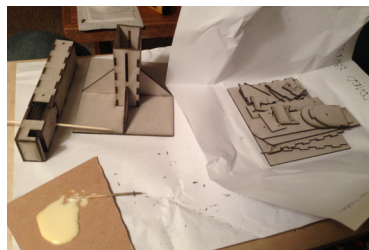
The concept form was refined through a combination of detailed 2D and 3D sketches and foam models. These processes were used to make decisions on scale, proportion, and position of design elements. This form development was undertaken in parallel with the movement development in order to allow the two related processes could inform one another. The final stages of form development were completed together with the mechanical components using 3D CAD software. The precision available in CAD allowed the form developments to produce product 'skin' that perfectly integrated with the 'skeleton' responsible for the product movement.



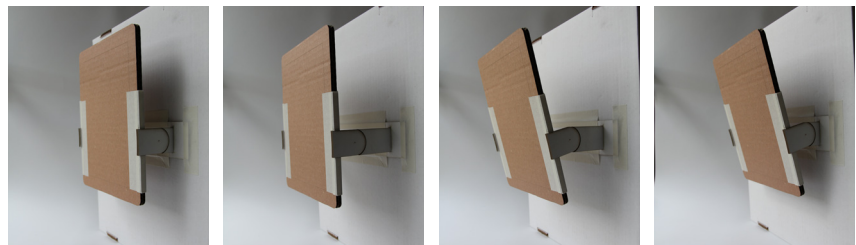
Simple 2D pivoting cardboard models — the first step in developing the movement system for the final design.

Movement Development:

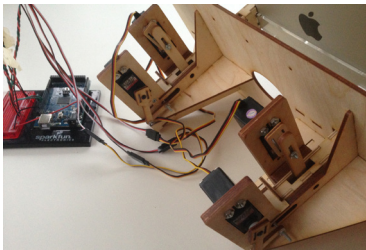
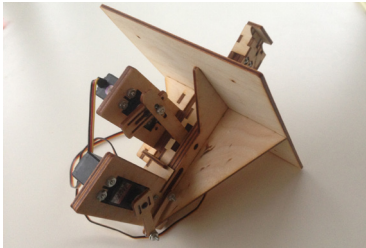
This was the largest challenge to be resolved, and the element that required the most 3D development. The first stage was to test some of the mechanical solutions suggested in the form sketching in order to evaluate the feel of the movement they produced. Several options were turned into 2D pivoting cardboard models, then crude 3D versions to test the movement with a tablet surface attached. Finally, more completely articulated 3D sketch models were developed in order to evaluate the clearance from the wall surface and the travel required for the slide movement. In all, approximately 25 cardboard mock-ups were produced to make these movement decisions.



3D articulated cardboard mock-ups used to quickly test different mechanical concepts, refine sizes and pivot points, and define ranges of motion and tilt angles.



With the movement parameters defined, the development moved to a mechanical focus. A second iterative process was undertaken to resolve the solutions established in the cardboard mock-ups into a workable mechanical solution. The internal structural and mechanical 'skeleton' was responsible for supporting the tablets while incorporating a sturdy, reliable mechanism to drive the articulations. The problems of timing and driving the arms were resolved using servo motors as actuators to supply movement, and an Arduino Mega board as the programmable 'brain' to control and time the motions. For this stage between thirty and fifty skeleton iterations were created in 3mm plywood, and many hours were spent resolving the Arduino code.



Some of the many plywood mock ups produced over the course of the project.



For the final prototype four sets of two arms were produced to enable full articulation of all four tablets.

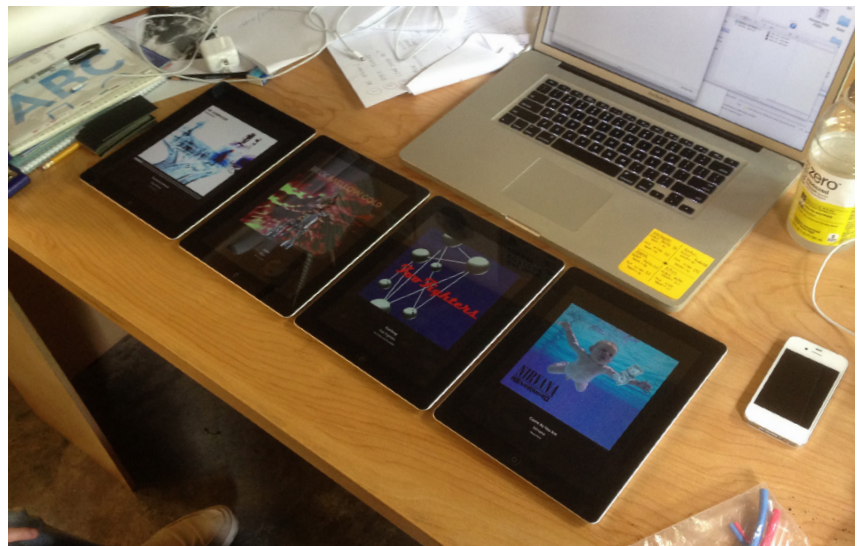


The final set of arms coming together, being tested, bug fixing the electronics and code, and installed on the display panel.



Screen Development:

The screen interaction for the prototype was presented as four looped videos played in sync to illustrate the range of functions possible within the system interface. Early concept stills for the screen interface were sketched in the development of the Ritual concept that were further refined into video prototypes illustrating transitions and playback concepts and embedded into a tablet app to play them as a loop on the tablets.



Running the tablets to test out the video app and fine tune syncing issues between the independent devices.

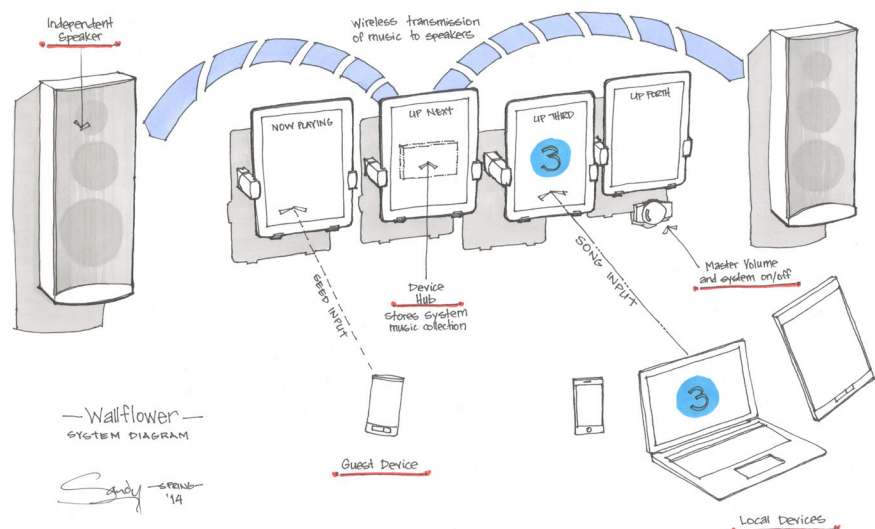
Wallflower:



The wallflower prototype.



Wallflower, the result of this loved object approach to product design, is a music system for the age of digital music. A modular system of tablets docked into articulated arms, *Wallflower* creates a dynamic play queue to encourage interaction with the music selection and playing process. Song selections can be made from the household's music collection by interacting with the tablet screens directly, or selections can be sent to the play queue wirelessly from digital devices. This ability to aggregate selections from multiple tablets and independent digital collections allows multiple users to seamlessly and collaboratively curate their own experience.



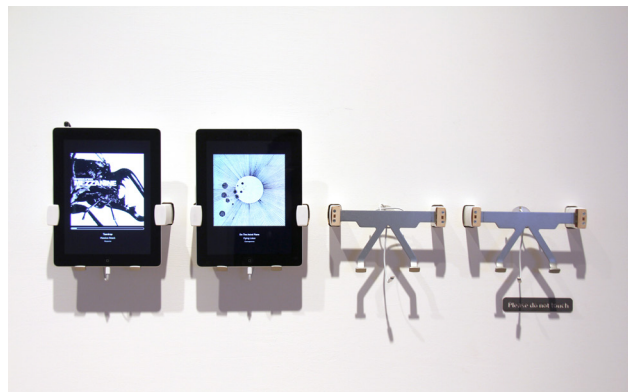
The wallflower system.

Using song tagging software Wallflower can make song suggestions and naturally flow the user's chosen songs together enabling listeners to take an active or passive role in their listening experience. Each tablet screen—playing songs from left to right—represents a position in the play queue. This queue makes the direction of the user's music experience visible, and enables easy, social adjustments to the music direction.

Wallflower incorporates subtle motion cues into its feedback and operation: interacting with one of the positions will cause the corresponding screen to step forward; song choices are confirmed with a bow; and position updates are accompanied by rippling sequence of bowing tablets along the queue. Lastly, when inactive, Wallflower displays recent music selections giving a tangible presence to the digital music collection.



Wallflower is a modular system that uses tablet screens to represent a play queue — think of it like a digital jukebox.



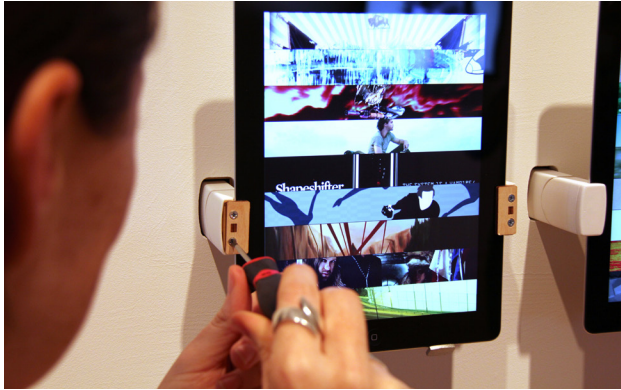
Extra tablets can be added to enable the display of more of the play queue.



Unlike a jukebox, wallflower displays what is “up next”, allowing you to seamlessly adjust and curate the future music experience.



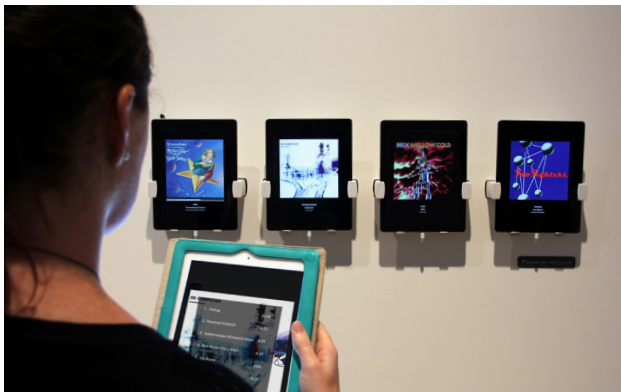
Tablets are inserted into wallflower's arms and docked to ensure they remain charged.



Wallflower's arms can be left open—allowing tablets to be temporarily docked and slid out whenever you like—or tightened closed to hold a tablet more permanently.



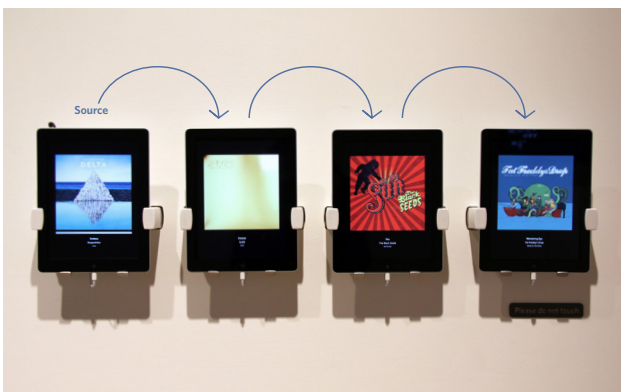
Any album or song from any digital device can be sent and played.



Music can be sent to any position in the wallflower queue from any digital music device within the local Wi-Fi network.



Musical choices are confirmed with a bow.



Using digital thematic music tagging systems like The Music Genome Project, wallflower populates the play queue from your music library or streaming subscription site.



Don't like a song? Choose a new song for any of the slots to change the direction of the play queue. Wallflower will update its suggestions to fill the gaps around your choices.

Wallflower experience storyboard.



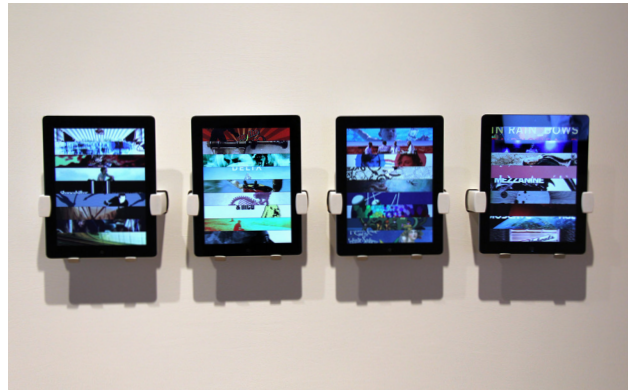
Playing music with friends? Collaborate to fill out the play queue from your individual music sources.



Wallflower acts as a hub for your household music collection, enabling albums or songs to be chosen by interacting with wallflower's screens directly.



When inactive, wallflower switches to passive mode, depicting a visual display of the albums played recently.



This physical display of digital music subtly expresses the individuality of the owner's collection and can act as inspiration for musical choices.

Wallflower experience storyboard.

Reflection:

The spark at the beginning of this project was an interest in the objects we love, and how these strong connections between owner and object develop. This interest was both personal and professional: personally, I find the objects people love intriguing, and as a design professional, I always start projects aiming to achieve this kind of impactful connection with the design audience. Throughout the research and design process for this project this core conception has remained, flourishing into both a provoking piece of product and interaction design, and a promising approach to creating more significant products.

The interview process in particular reinforced the value an object can have in our lives. Often we don't realize just how much the small pleasures and satisfactions we take from loved objects can positively affect us. While I found the interview process absorbing, it also highlighted the complexity and surprising variety of ways we connect with our possessions. The saying 'love is unpredictable' can just as aptly be applied to the objects we love as well as the people we love.

The specific themes and subcategories that came out of the primary research phase described in this paper are one of the most significant outcomes of the project. At the time they were compiled the network of themes were a fascinating collection of ideas that illustrated the many facets of our relationship with a loved object. Looking at them more closely reinforced just how complex these relationships can be. There truly is no road map to creating a widely loved object, and yet, there are many loved objects in the world.

Looking back at these themes now, in the wake of a first attempt to design explicitly using these themes, they have proven themselves in my opinion at least, to be more than theoretical fascinations. While wallflower is a prototype, the experience of observing and interacting with the system is excitingly reflective of the intentions that went in to its design. In evaluating the design approach that produced wallflower many of the exciting elements can be traced back to the project space framed using the loved object research findings. In some cases the effect is direct and marked: the motions of the system functioning as a pleasurable moment of interaction for instance. In other cases the effect is more general, as reflected by the social and nostalgic possibilities of interacting with music through the play queue. While one test is far from conclusive proof, and taking note that the design subject for this process was actively selected for its potential for strong experiential interactions, the results of this project

lend weight to a process with these connective themes at its core.

Reflecting subjectively about the design process I can identify two factors that I believe were significant to the success of this design project. Firstly, defining the project space using an approach that actively highlighted experiences and behaviors over features and form. Looking back at the early concepts that were developed and the early conversations around the project direction it is clear to me the influence this approach had. Secondly, the development of interactions and experience elements alongside details of form and function together in the ideation phase—and specifically in the sketching process—allowed these less tangible elements to flourish into important components of the proposed solution.

It is principally these two learnings, coupled with the findings from the loved object research, that I will carry forward to future design endeavors. I would also encourage others reading this paper to experiment with this design approach, not only to create more lovable objects but also to further explore the potential of this area.

Acknowledgements:

As with almost all design projects this thesis would not be complete, or near the piece of work that it is without the help, critique, encouragement and support of many people. I would like to take this moment to acknowledge a few of those who helped it along the way.

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I would also like to thank Scott Ichikawa, Catherine Lim, and Robert Payne who made small but invaluable contributions to the production of one very complicated prototype.

Lastly, I would like to express a special thanks to my fiancé, Janine Schenk, for her willingly offered help and ongoing steadfast support of my Master's adventure from the other side of the globe.

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Appendix A: Research Materials

The following are the final version of the interview guide used in the loved objects semi-structured interviews and a sample coded transcript from a randomly selected interview.

Please note the bold tags and shaded passages of text were used to select the passages of the video summing up the findings. The video produced is viewable online here:

What Makes us Love an Object?

An exploration into the facets of our love for objects.

vimeo.com/90169039

What makes us love a product?

Interview Guide

- interview purpose
- confidentiality / use of responses
- interview format
- length — 45-50mins
- pass on contact info for follow up
- ask if interviewee has questions

What makes you love this product?

Acquisition:

- What is your first memory of your product?
- How long have you owned your product?
- How is your specific product distinct? (different / individual)
- What were the contributing factors to your desire to own the product?
- Are these factors different now that you have owned the product for some time?

Use:

- Can you describe your pattern of use of the product? (Regular / sporadic)
- What are the specific moments of your use, or ownership of your product you enjoy or look forward to?
- Can you describe which aspects of the product you are conscious of, and engage with, when using your product? (use v result, 'Flow')
- Can you describe any moments that have been challenging or confusing in your experience using your product? (Can you walk me through how you overcame these and how they changed your perspective of the product?)
- How do you feel about your product aging and showing signs of wear?

Relationship:

- What is significant for you about your relationship with this *specific* product? (as opposed to other similar products, or the same product owned by someone else)
- Is this product associated with any personal ritual or aspiration?
- Under what circumstances would you consider replacing this product? (loyalty, replace with a new version)
- Can you explain any habits or rituals of your day or week that feature your product?
- Has this product, and your experiences with it, inspired any subsequent purchases? (extension)
- *What would it mean to be without this product?*
- *Does this product effect the way you outlook on a task?*

Identity & Aspiration:

- Does this product reflect any personal beliefs or aspirations? (catalyst / inspiration for desired activities)
- Do you associate this product with any passions or achievements in your life?
- How does using this product affect your state of mind?
- Do you share this product with others, or is it personal? (Which contexts?)
- What do you think this product says about you?
- Do you think this product reflects a particular aspect of your life? (professional, family, business, etc.)
- *Has this product been a part of any memorable moments in your life?*

Codes:

Transcription:

SP: First of all, what is your product?

JB: My product is this, Gitzo carbon fiber tripod.

SP: Gitzo?

JB: Yes, I can tell you a little bit about it.

Monetary Value,
Accomplishment

It's one of the more expensive tripods on the market. It's kind of like the BMW of tripods. It's the thing you save your money for. You work up to it.

Personal Identity,
Quality, Monetary
value

So, I have been a photographer for many many years. I've probably had about ten tripods. Pretty much every tripod I've either owned or used in a commercial setting. That's why, about three years ago, I saved up my pennies and dropped about \$900 for the whole thing. Which is a stupid amount of money to pay for a tripod.

Goal Embodiment,
Professional Identity

But when it's a piece of equipment that you live and breathe by and do everything with, this really is the perfect tripod in every way possible.

SP: What is it about this that makes it the product that you love?

Personal Identity,
Monetary Value

JB: I was trying to think about that before this interview, mostly just because it's a little embarrassing to spend this much money on just a tripod.

Quality, Affordances

But it's funny – everything about it is stuff that most people wouldn't even care about at all. But for photographers it's exactly what you need. It's really funny –

Loyalty, Quality

I just sold my camera, but I kept my tripod. I needed to raise money for a project I'm doing at school so I sold my really expensive camera, but I won't sell this tripod. There's no way in hell I would sell this tripod.

Quality, Reading,
Experience Projection

Every detail about it is has been thought through as far as the way you would use it as a photographer.

Details, Quality,
Experience
Projection,
Relationship

So carbon fiber legs to make it as light as possible. When you carry a tripod around, that little bit of extra weight - it's like being a bike racer – every little pound, it doesn't matter for the first mile. It's at mile 100 that you need this. Having a light tripod doesn't matter when you're picking it up and going for just a little jaunt. It matters at the end of the day, week or month of shooting. That's where it really pays off.

Details, Quality,
Relationship,
Experience Projection

It's the perfect height – it goes to slightly above head height. You usually shoot at either eye level or about waist level. So a perfect tripod is one that can go to the height that you usually shoot at and above it. You never want to be at the top of your tripod. You always want that little bit of extra room. It's not like an insane tripod – you know, it doesn't go 15 feet up in the air. It goes exactly the height that you need, so you don't have extra weight.

Quality There's nothing extra on it at all.

Details,
Affordances,
Experience
projection

Most tripods have these special spikes that they put in the feet that you can thread out. The spikes are always halfway out or halfway in or stuff gets stuck in them... it's like they just have this really really simple rubber foot. It has a little bit of an indentation on it, and then when the legs are expanded, this is exactly the width/angle that allows it to sit perfectly. It still lets it dig into soil if there's soil. But it also sits perfectly on concrete. Instead of having a complicated foot, you have the simplest foot possible that works on basically every surface ever. I've never had 'oh this doesn't work' – maybe on ice, but actually probably this would do just fine on a skating rink.

Quality, Details,
Relationship

It's the material – every single material that's used on it. Honestly I've never even really noticed these feet that much, until when I'm looking at it now.

Quality, Durability,
Relationship

The amount of abuse that these little feet take and it's a rubberized tip. These things should be shredded. I've been using it pretty heavily for three years – there's no way that this rubber should be still intact. But it is, so it's clearly made out of something incredibly high quality.

Details, Quality,
Affordances

My favorite features on it are – the biggest hassle with using a tripod, is the collar connector – because usually they have a twist lock or a flip lock. This is where you either, the twist lock, it takes the motion to open these things up, is you realize you have one, two, and often three points. That's anywhere from six to nine points in order to get the thing functional.

Experience
Projectin

So if you have a complicated mechanism that adds time– even if it takes thirty seconds extra per rotation – it can take you that much longer to set up the tripod. Then when you set up and tear down and set up and tear down – it really adds up. It's a hassle, it's annoying, and it's obnoxious.

Quality, Durability

This is the craziest system I don't know how they do it. I broke this mechanism once, and had to send it in to be repaired. They have to do it in the factory – they can't give you a replacement piece.

Moments, Quality,
Intent, Relationship

But for some reason it gives a little pop then it's loose with just a tiny rotation... just this much rotation. Then it comes all the way out and then back. So you get a lot of leverage to tighten it up, but when you release it, it takes less of a rotation to release it than to tighten it up. It's just this amazing mechanism. The slide is always really smooth – it's got this nice 'snap' to it.
It's a beautifully made piece.

Details, Quality

The legs are tubular, but there's no rotation to them. There's some kind of mechanism in here that keeps everything stiff and linear. I don't know what it is. I'm sure I could take it apart and figure it out but then it would be destroyed.
I could keep going on...

SP: What's cool at the top here?

Quality, Relationship, Experience Projection	<p>JB: So the head's actually the least interesting part. Actually I take that back. There's a ton of stuff going on in the head.</p> <p>This is a three way pan-tilt head which most people are used to using. But it's the lowest profile three way pan-tilt head anybody has ever made. Usually these sit another inch or two up, to give you full pan-tilt motion. That's really important because a lot of times you need to get the tripod really low to the ground. But if you look at the standard head on like a Manfrotto, it sits this high – so that's a good three or four inches that you can't get down to the ground. Especially when your camera sits up higher too. It adds a lot of top-weight.</p>
Quality	<p>It's magnesium, so it's sort of a crazy metal. Not a lot of stuff is made out of magnesium. I don't know a lot about magnesium, but it seems to be lighter than the steel heads, and it's way better than the aluminum heads, which seize up and they just do all the crap that aluminum does.</p>
Details, Quality	<p>You know, two bubble levels, I mean it's just nice, ya know. You can level your tripod, you can level your head, or you can level both. It's just a nice touch to have both of those in there.</p>
Details, Quality	<p>Best standard quick release plate ever made. Smaller than most people's... the Manfrotto uses a quick release plate that's about twice that size.</p>
Details, Quality, Experience Projection	<p>But the grip on it is way stronger; it's just this little twist lock articulation point. Even with a really heavy camera on there, and I use very large heavy cameras sometimes and nothing goes wrong with it.</p>
Details, Moments, Brand	<p>Little things too, this guy – if your camera comes out across it like this, this gets in the way. But it has a little pull-out. There's a...you can see a little nut in there, so this grabs the nut at any point, so you just rotate it. It's spring-locked. It always snaps back into place. Manfrotto made one like this too, but when you pull it out sometimes it will get caught and won't go back in. This one, no matter how you drop it, it always grabs a hold of that nut.</p>
Quality, Durability	<p>Even though you use it a ton of times, it never gets lose, it never strips, it's just perfectly made. Then there's a really simple safety latch, because you need your safety latch so that your camera doesn't fall off. So just a very simple safety latch mechanism.</p>
Details, Quality	<p>Then, this guy can go in any direction too. So it's not like, most of these are mono-directional.</p>
	<p>SP: Really interesting, geeking out there for a moment. You've talked a little about... I'm going to start at the start. First thing I want to talk about is acquisition – how you became aware of the product. What is the first memory you have of the tripod?</p>

Professional Identity, Reading, Brand

JB: Seeing other commercial photographers using them. I would make fun of people who would have this tripod because it's the super expensive. And it's French. I didn't even know how to pronounce the name... Because it's like 'G-I-T-Z-O... is it... ?!?!... It was kind of like this mystery.

Monetary Value, Brand

All I knew about them was that it was something that I couldn't afford. It has this real serious name recognition to it.

Brand, Goal Embodiment

Being a photographer, you always dream about the really expensive equipment. Like the Hasselblad camera or the Seiner cameras, any of the Swiss or German stuff – this is the tripod version of that basically.

SP: How did you first directly experience it?

Origin, Nostalgia, Quality, Durability

JB: I used hand-me-downs... the first time we ever used a Gitzo as a photo student... I think I used one at school, and it was a real big beefy industrial one. It was probably from the 70's or the 60s - they last for a really long time. It was just this beautiful, but just b-tail, almost like an old car or something. Totally durable totally indestructible but also beat to hell.

SP: The first time you came across all of these features you've talked about. Can you talk me through that experience?

Professional Identity

JB: Yeah, because you know a tripod as a photographer, a tripod is one of the first things... when you learn to use a tripod; it's what makes you a photographer. Everyone has a camera, but the person with the tripod is the photographer. It's kind of like this rite of passage.

Association

Tripods are usually expensive or kind of crappy.

Nostalgia, Personal Identity

I remember getting my Pentax K-1000, my old bulky 35mm camera. I was using a tilt-all, which are these really beefy tripods, probably from the 60's/70's as well. That was me being a photographer... putting the camera on the tripod and then putting the tripod on your shoulder and carrying it.

Pride, Personal Identity

Walking around and sort of this being your badge. When you walk around like this, people look at you and wonder 'what's going on?' Even if you're a geeky kid or something like that – you kind of have this sort of acknowledgement of what you're doing.

Aspiration, Origin, Nostalgia, Affordances,

From the start you notice all of the problems with it. The latches won't work, so it will slowly start to fall over. Or it will just pinch your fingers. Most tripods will pinch your hand or pinch your fingers. By the time you come across a Gitzo, you've really experienced all the pain and suffering of a tripod. Being like, 'alright I'm going to be this nature photographer, like Ansell Adams, and I'm going to go on a ten mile hike with my camera. And you get two miles in and your shoulder is killing you. You know, you put the tripod down and it falls over and your camera gets smashed. You're trying to see your scene and the head just, every time you

try to get it in the position you want it, the head moves a lot. Kind of jerks like this, so you're like 'why is this thing..?' and you think it's you and you don't understand how photographers can do all these things. Even the first Gitzo's I used were like that too, because they were 40 years old!

The bearings are all totally worn out and everything is all shot. So they're just as janky and as jerky as these ones are. It's not really until...

Professional
Identity,
Accomplishment

I don't think I really appreciated what this tripod could do until I had been a commercial photographer for a couple of years. I had made a little bit of money and I was finally like 'you know what? I'm sick of using these things.'

Actually this is interesting, I haven't really thought about this.

Moments, Origin,
Nostalgia

The first time I experienced one of these was in the camera store. Just going in and seeing the line of tripods and then picking these things up and being totally in awe with how smooth the leg action is how you move it out a little bit and it just stays. How it has a simple, very easy to move flip lock that just pops into position.

Benefits

Instead of the tripod that I was using which would, I would pull it out a little bit and it would just crash. And your camera would fall over – it just gets to you.. It's just those little things. Those little nit picky things that start to get you so frustrated that you don't even think to spend that much money on a tripod.

SP: You've owned this one for three years? You've talked about owning it for the first time; buying it was comparatively miles better than what you had before... so you're buying the promise of improvement. Is that fair to say that's what you're talking about?

JB: Yeah

SP: So have your feelings towards it changed now that you've owned it for a significant amount of time?

Pride, Quality,
Benefits

JB: It's one of those things where I compare it to drinking wine. I only drink shitty wine, because if I start drinking good wine, I can't drink crap wine again. If I start drinking \$15 bottles of wine, I can't buy my \$2 buck chug. This thing ruins the way you work with tripods anymore, because once you've used this for a while and get used to it; you can't use any other tripod. It totally spoils you; it completely spoils you, yeah.

SP: I'm interested in your use now, which you've talked about a lot now already. Knowing what I know about how you work now... what's your use pattern with it now. Do you still regularly use it all the time or is it sporadic?

Aspiration,
Personal Identity

JB: It depends on what my jobs are. I t actually doesn't get much use right now. But it's the kind of thing where, now being in school, I don't really have a need for it. But I know that in say five years from now I could need it. At some point in the future I might need it, and there's really nothing like...

Quality,
Relationship

This things not going to physically change. It's not going to wear out just sitting here. It's basically good for the rest of my life. I almost leave it around to admire it.

SP: You talk about it almost as if it signifies status?

Professional
Identity,
Relationship,
Loyalty

JB: Yes, status as like a photographer. This really to me, is my definition of being a photographer. It is owning this thing. It sort of says my commitment to photography. If I were to give up on photography I would sell this, but so long as I'm a photographer I will keep this device.

SP: It's an interesting idea. Note taken...

Professional
Identity,
Relationship,
Loyalty

JB: I feel like photographers are like that a lot. Photography is a lot about getting really familiar with one device. They usually spend a lot of time – they pick their camera or their system and they use the hell out of that thing. We get very loyal to our equipment. You kind of develop a relationship with it over time.

SP: Concentrating on using it, are there specific moments about using that or the events surrounding that that you look forward to?

JB: Yes, definitely. The whole act of...

Moments, Ritual,
Purpose

it's really perfect for the grab and go. You just pick it up and it pops together. It gives you that little 'thump', that beautiful resilience of this little rubber bumper that's right here. It pops up onto your shoulder. It's super light and just fits perfectly on your shoulder. Then from you shoulder you can then release the legs. Then you get that lovely 'snap' of the legs. So as you're setting up, the whole action...

Relationship,
Purpose

because you think the tripod is about holding the camera. But it's not; it's about going from this state of closed and small, to being carried, to being opened. And that's where this thing really excels, and it's also awesome when you have it open.

Relationship,
Moments, Ritual

But really, the tactile or the tangible nature of it is really in that – picking it up, carrying it and then setting it up and then putting it away.

SP: Is that something you're conscious of? i.e. I get to use that... or are you using it in the context of what you want to do?

JB: Well, photographers are gear-heads. We like our equipment.

Professional
Identity,
Aspiration

I definitely like my equipment so I'm conscious of the gear. I also like doing the thing, but honestly, to be an honest photographer, I will say that this will inspire me to go out on days when I wouldn't otherwise go out. It makes it such a fun and satisfying experience.

SP: I'm not sure if this is relevant, but was there any moments of owning it or figuring out how it works that were ever curious, or that you maybe didn't get how it worked the first time?

Details, Discovery

JB: Yes, that's another thing that I really love about it, there's a ton of stuff that's hidden in it. You don't really discover until you've worked with it for a long time.

Details, Quality, Affordances, Reading, Intent

One of them is, the little latch, here on the bottom for hanging a weight. Which you wouldn't think would be that useful of a thing, but it's actually the perfect size for hanging a backpack. So that's not something I even realized until I used it for a while, and then you can just pop it out and snap your backpack on it.

Quality, Discovery, Moments, Relationship

The quick release plate has a hidden feature that I didn't even know about until a few months ago. You can set it up to do a vertical that still gives you all of the other rotation points on the head by the way the quick release plate mounts. They don't advertise it as a feature - it's not something that's talked about. It's just something that they embed in it.

Relationship, Details, Quality

Also, adjusting things is... there are weird little adjustment points that you don't figure out until you've used it for a while. Just popping the head off... there's these nice little set screws and they usually embed the Alan wrench also in the tripod itself. So you have the little Alan wrench for hooking that in there. And they give you that Alan wrench. So it's just nice attention to detail.

SP: I'm going to ask about your relationship to the product now. This specific tripod, your Gitzo...this specific one that you own. Is there anything significant about this one that you own, is there anything significant about that one. Would you swap it for a different one of the same thing? What makes it about this that makes it yours and significant?

Replace, Loyalty, Relationship

JB: Would I swap it for another one?? I probably would. Yeah, I don't know if I'm really... I mean I am attached to it, but if I could have another one that was - if I could trade it in for a brand new one I would do it in a heartbeat. So I don't know if I have any kind of specific emotional attachment to it, because it is still a real tool for me.

SP: It's the functionality of the object and the way that it performs? It's not anything about that specific version of the product that you own?

JB: Yeah I'd go with that.

SP: So how do you feel about the product aging? Does that factor in to your experience to buy or owning it?

Utility Expansion, Maintenance

JB: I mean it does age - I have smashed the little control arm a little bit. I definitely take more care of it now so that it doesn't age. I don't want it to age.

SP: So are those concerns functional concerns? You don't want it stop functioning the way you want it to or you don't want it to look old?

Durability, Benefits, Purpose

JB: I don't really care how it looks. As you can see it's very neutral. When you look at it you almost don't see it – it almost disappears. It does get beat up, get dinged up, I think all my equipment does. But it's that loss of function. Because eventually this tripod will return to the state of all tripods, which is being an obnoxious piece of junk that pinches your fingers and falls over all the time.

SP: Are there any particular rituals you have around your tripod. Any quirky things you just do with it/unexpected things you do with it.

Professional Identity, Moments, Ritual, Relationship

JB: Well, there's the photographer's stance. It's this kind of a ritual, where you have the relaxed throwing of the tripod over the shoulder and being able to carry it around. As you can see I'm just doing it without really thinking about it now. It fits between my collarbone here – just sits right there and balances.

SP: So in the context of a shoot, I'm imagining you've got your tripod, camera bag, and possibly other camera equipment depending on what you're shooting. Are there any rituals around the way or order you put things up or the way you relate to that kind of object. Sort of along the lines of, some people buy a computer because when they stick out the disc drive they can set their coffee cup in it. You know weird stuff that's totally unrelated to what it's for but you have an attachment to it?

JB: Yeah let me think about that.

SP: The answer can also be, no.

JB: Let's table that one.

SP: I'm going to ask a little about identity and aspiration. Are there any particular memorable moments or stories that feature this product?

JB: All of my shooting sort of goes around this product. This is another interesting thing. I'm just remembering this. I actually,

Association, Goal Embodiment, Professional Identity

I put together an entire camera kit. I forgot about this. There's this commercial photographer in Japan who posted all of his gear online. And he was like, 'this is my gear' – and it was this beautiful layout of everything, it was all cordoned out. I actually bought every single thing that he had pretty much.

Which is not related to your question, but that was one of the reason why I got this thing and the camera combined.

Extension, Aspiration, Differentiation

It matches my camera as well. As far as an aesthetic thing, I'm really into things like Metropolis. Not like Science fiction aesthetic, but rather this art-deco/metal materialistic kind of metropolis aesthetic. So this is my kit and the tripod and the camera are really linked. They are totally designed to work together.

SP: Seeing it, I can totally see that. Does the product reflect any sort of aspirations around use? Have you bought things to do with it; does it represent something you want to do with your life?

Extension, Purpose JB: Yeah, I bought the tripod to go with the camera. This is basically one of the lightest, most easy-to-travel versions of this large format camera.

Ritual, Relationship, Goal Embodiment Which is one of the ways you can get one of the highest quality photograph possible. So this is the highest quality photograph in the lightest sort of setting.

Goal Embodiment So for me it's being able to pick this up and go pretty much anywhere and take the most spectacular picture that I can take.

SP: Impressive looking, crazy.

Pride, Professional Identity JB: It also has that affect on people too, because I do use portraiture. It's a way to give people reverence for the camera, which you don't really have anymore these days.

SP: Excellent point. Would you ever share your product? How does that fit on that scale?

Loyalty, Ritual, Protection JB: Oh it's just mine! Oh yeah, I shared it once, and they broke it. No, this is MY tripod; nobody gets to use it.

SP: So do you show it off then or is it a really private thing?

Aspiration JB: It's kind of private. Very few people would know. That's the nice thing about it.

Aspiration, Professional Identity There's nothing flashy about it. If I bring it out, nobody would know it's a \$1,000 tripod. It looks like any other tripod. Most people would look at it and think it's a \$25 tripod. The few people that would know would give you props or they don't or whatever. It's incognito.

SP: So you know and that's enough.

JB: Yes, exactly. Exactly.

SP: How does using/is there an affect on your state of mind using this product as opposed to other ones.

JB: Yes, definitely.

Flow, Aspiration, Benefits

This whole thing is about precision and since every motion locks into place. When I'm shooting, I start thinking in a very precise way. So I'll be like, 'no that line there - I want it over here.' And you start to really place things because you can do that very deliberately. With any other tripod you can get that line 'here, here or here.' But with this if you want it here, that's where it goes, and that's where it stays perfectly.

Pride, Connection
to Ideals

And you can see that in the photographs I take with this – all of the lines are deliberately placed.

SP: is there anything else you want to tell me about your product?

JB: I haven't even told you about half the features of this thing – I could talk for hours about it.

Appendix B: Design Documentation

The following two videos document two key stages of the project. They can be found using the links listed below.

What Makes us Love an Object?

An exploration into the facets of our love for objects.

vimeo.com/90169039

Wallflower: Domestic Music player

vimeo.com/97576554