

Everyday Ideation: All of My Ideas Are On Pinterest

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ABSTRACT

We develop new understanding of how people engage in digital curation. We interview twenty users of Pinterest, a social curation platform. We find that through collecting, organizing, and sharing image bookmarks, users engage in processes of *everyday ideation*. That is, they use digital found objects as creative resources to develop ideas for shaping their lives. Curators assemble information into new contexts, forming and sharing ideas with practical and emotional value. We investigate cognitive and social aspects of creativity that affect the digital curation practices of everyday ideation. We derive implications for the design of curation environments that support information-based ideation.

Author Keywords

information-based ideation; creativity; pinterest; everyday design; curation

ACM Classification Keywords

H.5.m. Information Interfaces and Presentation: Misc.

General Terms

Design, ideation, theory.

INTRODUCTION

We develop new understanding of how people engage in digital curation with social media to support ideation in ordinary life. Through a grounded theory investigation of Pinterest, we find that digital curators perceive themselves to be finding and keeping information to form ideas. Social and interactive aspects of digital curation platforms shape the experience of and its role in everyday activities and design.

A growing number of increasingly popular platforms support *digital curation*: collecting, organizing, and sharing content from the Web [27]. Curation is a creative activity [26] that employs qualitative human reasoning to gather and organize items into collections, creating value beyond the sum of each asset [16]. Exercising creativity, such as by curating, fills a deep human need associated with health, well being, self-esteem [18], learning, and self-actualization [5]. Personally

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encountering new facts, concepts, and ideas progressively increases one's potential for realizing creativity: from mundane to more eminent manifestations. Ideation is the creative process of generating ideas and exploring possibilities.

People commonly gather, analyze, and manipulate objects in the home in response to needs through iterative processes. In the concept of *everyday design*, a critique of creative industries, everyday people engaged in the same activities as designers [25, 14]. Artifacts and actions serve as resources for addressing and streamlining life's situations and constraints.

Curation affords gathering and organizing information. Kerne et al. define *information-based ideation* (IBI) as human activities involving information in which new ideas are generated and developed [11]. IBI activities encompass a broad range of open-ended tasks such as redecorating a room, picking a thesis topic, and inventing new technologies. As people engage in IBI, they search for, find, organize, compile, and collect information, creating a curation product. The present research shows how Pinterest users engage in everyday forms of information-based ideation.

After conducting semi-structured interviews and analysis of digital curation in social media via Pinterest, we discovered IBI phenomena. We found that Pinterest boards are used as digital media of everyday design. Tens of millions of people use Pinterest [21] to collect Pins. Pins are based on clippings [11], i.e., images with short text snippets that effectively represent ideas within webpages and enable refinding. Pins (Figure 2) cover many topics [8], including recipes, photography, tutorials, and health and beauty advice. We report on a significant use of Pinterest where users gather Pins as *ideas* in meaningful and valuable ways, arranging them into boards which become design objects.

By *everyday ideation*, we mean ongoing processes in which curators look for, find, organize, and return to meaningful information as a means of provoking and forming ideas that address practical and emotional needs. These curators are informal designers that work with digital representations of information as design objects. Our contribution establishes that gathering and shaping ideas is a significant activity of digital curators, who function as *everyday ideators*.

We connect findings from creativity, design, personal information management, social psychology, and prior studies of Pinterest. We present our approach to qualitative data gathering and analysis. We derive four interrelated categories of phenomena: *Conceptualization*, *Social Interaction*, *Identity*,

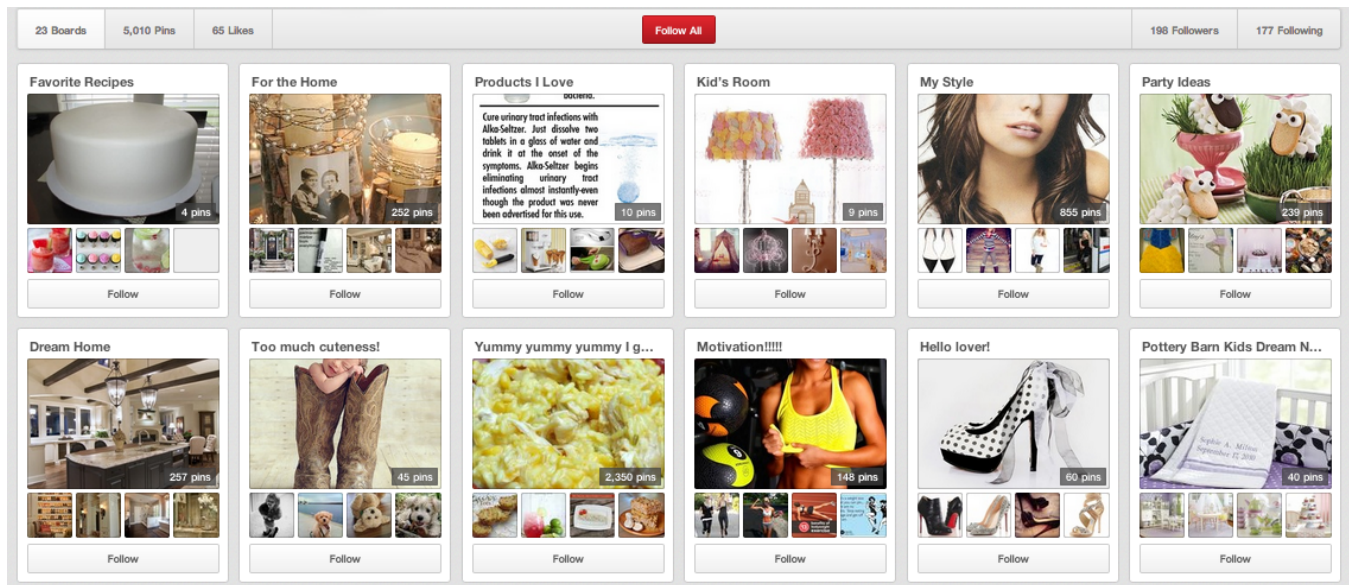


Figure 1. A selection of P9’s 23 boards she uses to ideate and Keep Found Things Found. She says, *I do a lot, like, for the home: renovating or decorating ideas, I have kid’s room stuff for my daughter, I have a lot of fashion, hair and beauty for myself, party ideas for little parties for my daughter . . . my dream home . . . food, . . . exercise, one just for shoes, . . . travel . . . and parenting tips. . . This is where all of my ideas are. I don’t have them anywhere else at all.*

and *Pinterest Every Day*. We conclude by discussing findings and developing implications of design.

RELATED WORK

To help formulate theory explaining observed ideation phenomena in Pinterest, we connect concepts from a range of interrelated research. We identify curation as an inherently creative activity. Because Pins can serve as bookmarks, we relate activities on Pinterest to Personal Information Management and media of curation. As emerging curation platforms increasingly employ feeds and sharing, we describe potential effects of social influence on both creativity and influence.

Creativity and Curation

In this work, we report on findings about *everyday* ideation. Kaufman et al. defines four kinds of creativity. In this model, kinds of creativity range from the everyday (little-c or mini-c) to eminent at the societal scale (Pro-c or big-C). Further, engaging in learning and synthesis can transition everyday forms of creativity into more eminent ones [10]. Exercising creativity increases self-esteem [18], and helps one learn and self-actualize [5]. The present research is based in mini-c and little-c forms of creativity. Participants reported using Pinterest to learn and combine.

Digital curation is a creative activity that requires human reasoning to collect and organize items into a meaningful whole [26]. The result is a collection of items with value beyond the sum of the assets [16]. Kerne et al. analyze media of curation at two levels: the medium of elements of curation (e.g. Pins) and the medium of their assemblage (e.g. boards) [11]. Webb et al. [26] develop a model of the curation process: people alternate focus among organizing, reflection, and interpretation. Wolf et al. link curation to learning through collecting, organizing, retelling, publishing, and interpretation [27].

Prior researchers have defined visual media for elements of curation. Teevan et al. found that for search and revisitation tasks, visual snippets, i.e., images with text overlaid, better summarize web pages than text or image representations alone [24]. *Rich bookmarks* go further, directly enhancing image clippings with structured metadata, in addition to affording revisitation [26]. Pins constitute rich bookmarks by enhancing an image clipping with title, source URL, creational context (user and board), and sometimes with additional metadata. The present research addresses how the role of the medium of Pins as elements of design contribute to their perception in social contexts.

Everyday Design

Wakkari and Maestri develop a concept of *everyday design* in which people commonly function as designers to address life’s needs [25]. They broaden the definition of “designer” beyond professionals in creative industries, potentially to all people. Maestri and Wakkary describe how families develop solutions as they make adjustments over time [14]. They describe phenomena of *appropriation*, i.e., remaking an artifact by placing it into a new context and thereby personalizing it. This corresponds to Kerne et al’s finding of Pins as digital found objects and elements of curation [11]. We see everyday design on Pinterest on two levels: (1) ideators gather and appropriate Pins as “ideas”, (2) boards function as media of everyday design. We present data showing how people use boards for pragmatic and emotional reasons, such as entertainment, comfort, and life planning.

Personal Information Management

Jones et al. performed an extended workplace study, investigating practices of Personal Information Management (PIM) for keeping track of URLs and content via browsers, email, and handwritten sticky notes [9]. Their functional analysis

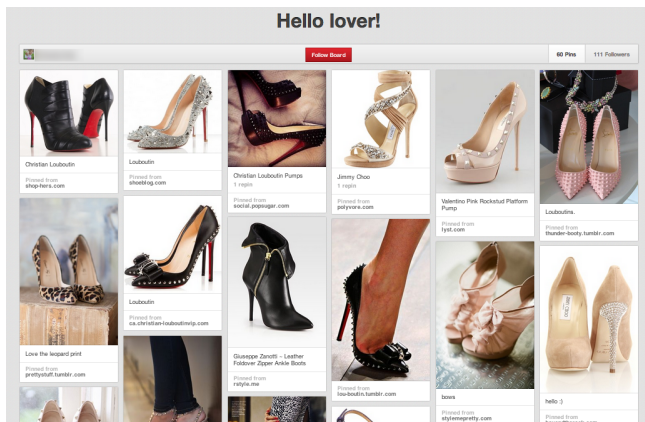


Figure 2. P9’s board, entitled *Hello Lover* is “Just about shoes.” Its title refers to a recurring line in the series *Sex In the City* where the main character exclaims over expensive designer shoes. Placing shoes in this context changes their social significance.

develops aspects of effective bookmarking strategy: portability, persistence, ease of access, ease of maintenance, and ease of sharing. Jones et al. title their work with an insightful question, “Once found, what then? [9]” The present research looks deeply into personal experiences of meaning and value in ongoing collections to answer their question anew.

Lindley et al. interviewed seventeen participants to investigate PIM on websites for personal archive, e.g., Flickr, Gmail, and Pinterest [12]. They identify five types of content, including collections that are curated online (e.g. Pinterest), and “content for consumption” and “content for the moment” (e.g. Twitter). We observed phenomena of development over time as well as daily planning on Pinterest. The present research focuses on PIM in which users engage in ideation.

Social Psychology and Creativity

Amabile takes a social psychology approach, modeling creativity as a function of three components: expertise, creative thinking skills, and motivation [1, 2]. She distinguishes between intrinsic and extrinsic motivation. Intrinsic motivation originates from within the individual, e.g. curiosity, drive to solve a problem, or enjoyment from performing creative tasks. Extrinsic evaluations, such as being penalized for missing deadlines, are detrimental to creativity. Amabile compared the performance of students writing silly essays under two conditions: expecting evaluation of content, and expecting to self-rate their mood [22]. Students who were told their content would not be judged produced more creative essays. Likewise, our participants do not feel judged or watched as they Pin. This positively impacts creative self-efficacy.

In some circumstances, however, extrinsic motivation can foster creativity. For example, when a consequence is perceived as bonus rather than a penalty, creativity may be positively impacted. The repin mechanism works as a consequential bonus to Pinterest users. It does not create a sense of impending evaluation.

Cialdini develops the principle of *social proof*, which states that one way people reason about expected behavior is to ob-

serve the actions of those around them. For example, children who were frightened of dogs were shown a video of a boy playing with a puppy. Four days later, sixty-seven percent of them voluntarily climbed into a pen with a dog. The effects of social proof are most powerful when the subject sees the other person as similar. When a person sees that someone like them can do something, they expect to be able to do the same thing [6]. On Pinterest, we argue that continued exposure to diverse content pinned by others perceived as ‘like me’ to a user encourages them to approach unfamiliar interests and try new things.

Pinterest

Pinterest’s medium of elements is the Pin, and its medium of assemblage is the board. Users curate content by *pinning* from the Web, and *repinning*: using others’ Pins. They may originally add a Pin by entering a URL, clicking a “Pin Me” button from a website, clicking a bookmarklet that enters the current URL for them, or uploading a picture directly. Alternatively, repinning, which accounts for four out of five Pins [21], enables users to copy any Pin they see to their own boards, while retaining attribution.

Pins can also be “liked” and commented on. To store and organize pins, users curate content into *boards* (See Figures 1 and 2). Pinterest supports a variety of ways to follow, browse, and find Pins. A user can search, browse categories, and view popular content and streams of Pins from boards s/he follows. Pinterest supports a variety of ways to follow, browse, and find Pins. Pins are visualized in a flow layout that places them contiguously into columns.

Gilbert et al. [7] collected a detailed algorithmic sampling of Pins from around the world. After analyzing a large sample, they found eighty percent of Pinterest users are female and twenty percent are male. They also compared comments on Pins to tweets on Twitter. Rather than using statistics, we investigate Pinterest qualitatively.

Hall et al. categorized activities on Pinterest as collecting, discovering, collaborating, and publishing. They investigated both professional and personal Pinterest activities, describing Pins as boundary objects with ranges of interpretation [28]. We explore how Pins and boards are conceptualized, attain practical and emotional value, and support everyday ideation.

METHODOLOGY

We conducted a qualitative study to investigate the perspectives of Pinterest users through experiential data. We engaged in a grounded theory methodology, building theory in a constant comparative process of data collection and analysis [23]. The goal of our study was to develop a better understanding of how and why people curate digitally.

Organizing Phone Interviews via Mechanical Turk

We conducted twenty telephone interviews with Pinterest users that we organized via Mechanical Turk. Mechanical Turk allows individuals or businesses to post small jobs, called “HITs”, (Human Intelligence Tasks) that Turk workers may browse and complete for monetary compensation [15].

Name	Age	Sex	Occupation	Hrs
P1*	31	f	teacher	2
P2	54	f	IT project manager	5
P3	23	f	photography studio manager	6
P4	27	f	not employed	2
P5	27	f	part-time admin	3
P6	30	f	equestrian facility	7
P7	25	f	bartender	3
P8	23	f	shift manager at a restaurant	10
P9*	32	f	works as a personal banker	9
P10	29	f	doctors assistant	1
P11	27	f	mother	9
P12	55	f	works as a lab technician	5
P13	33	f	freelance transcription	5
P14	45	f	playground supervisor	5
P15*	32	f	secretary and mother	10
P16*	27	f	parental consultant	6
P17*	66	f	grandmother	6
P18	25	m	works as an artist manager	13
P19*	36	f	math teacher	8
P20	25	m	works in sales	4

Table 1. Table of participants, name, age, gender, occupation, and the number of reported hours of spent on Pinterest per week. Asterisks indicate we were able to collect curation products.

Turk workers are usually offered jobs that are menial and pay in amounts lower than a dollar.

Our HITs contained instructions to call a phone number for a fifteen to thirty minute interview. A Pinterest user called from ten to forty minutes after a HIT was posted. Speaking with participants directly removed the need to perform data validation. We conducted each interview, later fully transcribing it for analysis. To vet very casual users of Pinterest, we asked that workers only take the HIT if they had collected at least 100 Pins. To make calls inexpensive for participants, we restricted the HIT to workers within the United States. To lower chances of receiving spam workers, we only accepted workers with an acceptance rate at least ninety percent.

We interviewed eighteen women and two men, echoing Pinterest [21] and Mechanical Turk [17] demographics. One participant used Pinterest solely for professional reasons (P18). A few used Pinterest for both work and personal collections. The majority solely used Pinterest non-professionally. In this way, our data addresses everyday users and their experiences. Participants were diverse (see Table 1). They reported using Pinterest between one and thirteen hours per week.

Data Collection and Analysis Process

We conducted semi-structured interviews, allowing the researcher to focus on questions most relevant to each participant. This allowed the subjects to discuss at any length what they saw as most important. We organized the interview guide questions by topic, and then from the most basic, broad questions to more specific, higher level ones. This hierarchy encouraged the participant to think critically about their own actions, and gave them time and a basis for articulating their thoughts and feelings on a topic. This process often led to the participant naturally going on to answer ques-

tions that had not yet been asked. Ultimately, our interview process gave the study flexibility, allowing each participant to independently highlight information and phenomena unique to their individual experiences using Pinterest.

After each interview, brief observational notes were recorded. After every five interviews, researchers convened to discuss the data and iteratively revise the interview guide. This iterative process helped us to ask clearer, more specific questions to pursue emerging phenomena. For example, instead of, “What do your boards mean to you?” We began to ask, “What makes your boards valuable to you?” This wording elicited less confusion and deeper responses from participants. The interview guide contained twenty-one questions in the first draft, and sixty-seven questions by the final five interviews. Interviews ran from eleven to forty-five minutes long, depending on the participant.

After a majority of the interviews were complete, two researchers independently open coded the transcriptions, noting themes that were interesting or persistent. Coding in this context refers the analytic processes through which data are fractured, conceptualized, and integrated to form theory [23].

We developed over thirty codes initially. We compared notes and codes, finished the interview and transcription process completely, and grouped codes and phenomena into categories. Four main categories of data were established. The researchers then selectively coded using these categories. This process gave us experiential insight into the motivations and behaviors of Pinterest users.

Adding Artifacts

After interviewing participants, we wanted to see the boards they made so that we could connect interview transcripts with artifacts participants created. We used Mechanical Turk’s API to send an email inviting our participants to perform a HIT to this end. Seven of the twenty responded. For each of these participants, we collected a PDF snapshot of their boards and user page as seen from a web browser. The artifacts provided complementary visual context to our analysis.

RESULTS AND ANALYSIS

We present our analysis derived through open and selective coding, which form the basis of our theory.

Conceptualization

Our participants appropriate information from the Web into Pins as resources for ideation, conceptualizing them as ideas that serve particular purposes in situated contexts. In Amabile’s model, creative production is maximized when creative thinking skills, motivation, and expertise are high. Participants reported being motivated by Pins (see Figure 2). Pins link to information resources, such as tutorials, which can support users’ increasing their expertise. We found that participants apply information-based ideation and creative thinking skills in seeking, collecting, analyzing, and testing ideas from Pins.

Pins Are Ideas

In answering questions about Pinterest, our participants use the word *idea* to describe Pins they collected. They use

the words “Pins”, “things”, and “ideas”, along with concrete nouns, interchangeably. The overwhelming majority, eighteen out of twenty participants, referred to looking for or collecting Pins as “ideas”. Gilbert et al. provide statistical evidence that the word “idea” plays a key role in distinguishing comments on Pins from tweets on Twitter [7]. We interpret this to mean that forming and presenting ideas is essential to how everyday ideators use Pinterest as a social medium of curation. We found that Pins support engagement in ideation by providing rich representations of many “different” ideas.

P11: I like that [Pinterest] has different *ideas* ... [for making] crafty things for your house.

P12: I'd much rather do Pinterest [than watch TV], because there's so many different *ideas* out there to look at.

Pins enable ideation, revealing previously unknown concepts and approaches. Everyday ideators use Pinterest to be inspired, not only by newfound ideas, but also by others engaged in everyday design in unexpected ways.

P7: [Pinterest] has a lot of ideas that I wouldn't think of on my own and they're really neat, and that you can just try just around the house. ... [There are] a lot of creative things that you can find on there.

P11: Pinterest is a direct field to what you want in certain crafts... I can type in “wreath”, “homemade wreath”, and it directs me tons of different ideas for wreaths, where if I go on the internet, I'm going to have to search through fifty million things.

People also think of and treat Pins like things. When talking about their boards, they do not say that they have pictures of things, but use diction consistent with owning corporeal collections. Similarly, they show each other pins from phones and other devices directly, as if they were objects.

Pins Are Flexible

Pins and boards span a wide range of topics. Our participants appropriate Pins for many aspects of their lives.

P4: There's a few [boards] that are for recipes: various types, one for alcoholic drinks, one for non-alcoholic drinks, one for vegetarian foods, one for just dinner ideas, a dessert one, I've got a Dr. Who board and one that's just cats, one that's just cake, like some design ones... and then lots of crafting ones.

Pins are used as a digital shorthand, connecting products or tutorials to the common to-do list.

P17: I redid my closet, in the hallway ... I got the idea from Pinterest and I used it to plan out like what I was gonna buy and what I needed for that project.

P4: I pin things ... that I plan to do in the future.

Everyday ideators curate Pins to suit personal means of emotional fulfillment, including entertainment or comfort.

P4: I just, I really like cats and if I'm ever, in, like, a bad mood, pictures of cats being ridiculous kinda cheer me up.

Pinterest users curate Pins for both personally practical and emotional reasons, planning for life's current and future needs.

More Than Pictures

Because Pins link to web pages, they are used as a visual medium for bookmarks. Many participants reported being frustrated with Pins that do not link properly to source pages. An example would be a user intending to buy a product represented by a Pin, but it is sold out or was made with a temporary link. Mis-linked Pins are sufficiently common that a website P5 mentioned, thehunt.com, rewards those that find substitute or original product links that correspond to images.

P12: I wanted to collect recipes off the internet, and rather than bookmarking them, I just wanted an easier place to put them to get easier access to them.

P17: If [a Pin] looks pretty, then that will make me go to the blog to investigate it.

The medium of Pins as rich bookmarks, combining images with links and metadata, enhances how people experience them. As our participants appropriate information from the Web, they situate them into a board with personal context. Ultimately, Pins as elements of curation are flexible and serve many purposes in fulfilling emotional and practical needs through ideation.

Social Interaction

Comments on Pinterest are rare, usually occurring among friends and family. Social actions mostly go unnoticed, removing inhibitions typically experienced when authoring social media. Though Pinterest does not support direct messaging, participants use alternate digital media and face-to-face communication to talk about Pins and boards. Ironically, despite the myriad of repinning, users perceive Pinterest as a solitary space for collecting ideas. They see other social media, such as Facebook, as spaces for conversation, e.g. self-promotion.

Commenting on Pins

Our participants rarely comment on Pins. Seven said they had never commented on Pinterest, despite long-term use. P19 uses Pinterest 8 hours a week, but has never commented:

P19: Um, not really no. I didn't even realize we could [comment on Pins] until I saw somebody else comment on one, but I've never commented on one.

When participants did comment, the Pin was usually authored by a friend or family member.

P7: Sometimes, [I comment on Pins], if I like it and if it's somebody I know.

While Pins display the attribution of who pinned and repinned them, our participants report that they pay little attention to the Pin authors, unless it is a friend or family member.

P18: I mainly focus on the Pins themselves, the ideas. It doesn't really matter who the person is. Are they really famous or not, or somebody that's pinned something that I've liked before? It doesn't really matter.

P8: I don't [pay attention to the Pin author] because a good idea is a good idea either way.

Despite the public nature of boards, Pinterest users do not feel scrutinized as they pin. They are more interested in the Pins themselves than where they came from, or who found them. This contributes to the feeling of anonymity in Pinterest users, which serves to dampen the kind of extrinsic motivation that is detrimental to creativity.

Pinterest allows a user to make up to three "secret" boards that can be only be seen by the creator. Four participants report having secret boards. Secret boards may contain ideas for health, life goals, or Christmas presents.

P11: [My secret boards are] like diet stuff I put in one board; and, then, when my daughter's birthday [was coming up] I didn't really want other people to see what I was going to do for it, so I put that in the board as well. ... There's certain things I don't really need everyone else to know, that I'm on a diet or just, I feel, that's just something I keep private in my life.

Comparing Sociality In Other Networks

We asked participants to compare aspects of using Pinterest to other social media platforms they use, such as Facebook, Twitter, and Instagram.

The social actions of pinning or repinning are generally publicly visible. Yet, Pinterest users do not feel watched or judged. Forte et al. [28] compare the semi-anonymous feeling of using Pinterest to walking unnoticed through a busy marketplace. Participants enjoy the feeling of separateness afforded by Pinterest. It creates a sense of personal space.

P13: On Facebook and Twitter, I felt a little more connection with the people posting, so comments would be a little more personal. But with Pinterest ... I don't really feel personally connected with people. Which makes me like it more, actually. Yeah, I actually prefer to be a little separate from people. ... It makes me not feel as involved, which means that it doesn't take as much of my energy.

P12: It seems more private in Pinterest than it is in Facebook, because it feels like Pinterest is just for me. ... [On] Facebook everyone else is seeing everything, I guess some people are seeing it [on Pinterest], but they don't know me, I guess.

Because users feel that they have a separate space, they are not pressured by extrinsic judgments on the quality of their Pins and repins. According to Amabile's model [2], this avoids "killing creativity".

Participants contrast this sense of uninvolved sociality with social networks, which users sometimes grow tired of, causing them to take breaks or even delete their accounts altogether [4]. Other social networks are seen as venues for self promotion. Pinterest is seen as space for sharing things and ideas, with few social constraints.

P10: [With Pinterest], it's like "Let me share this cool thing I found with you", but not like, "Oh look at me."

... Facebook is more for family and friends more, to keep in touch ... Pinterest is more like sharing ideas.

P9: I just haven't seen the negativity on Pinterest that has been on Facebook. ... I know they're not gonna make mean comments or tell me I'm stupid. ... I don't think a lot of people even comment on stuff. They just repin it.

Our participants report that getting a "repin", when a Pinterest user Pins something from another's board, is a minor, yet positive, social interaction. The repin is not expected, but it is a welcome occurrence.

P8: It makes me feel like I've got a good idea that somebody else wants to use.

P2: Oh it's a compliment. Um, not only is it nice to know that someone shares my interests, it also feels like someone complimented you. It makes me smile every time I see that someone repinned it. ... Like someone patting you on the back is what I think of.

The repin produces extrinsic motivation which encourages creativity because it is an unanticipated bonus. Repins provide encouragement without making users feel obligated to engage in further social interaction.

Identity

We find that Pinterest affords exploring and shaping identity. We asked participants, "Who do you pin for?" They consistently report that they pin for themselves, and sometimes for their families as well.

Identity can be understood through sets of personal attributes, such as interest, skills, and beliefs [20]. Our participants use boards to express interests and motivate personal change. As they revisit collections over time, they sometimes reflect on how their sense of self has changed.

Pins accrue intrinsic value as users develop new tastes, hone skills, and become motivated. Boards attain an irreplaceable quality as everyday ideators integrate them into their lives, making them very valuable. Repeated exposure to others' Pins constitutes tacit social proof, making new goals and personally untested ideas appear achievable.

Discovering Tastes and Interests

Participants used curation as a means to discover and articulate tastes and interests. P14 uses curation on Pinterest to learn about herself and discover her tastes over time.

P14: I ... thought ... if I collect enough of these pins, I would be able to get a visual [sense] of my style. Like something would emerge, like a common theme or something that would help me understand myself more.

P4 uses Pinterest to broaden her interests.

P4: I think I've expanded the types of recipes and everything that I try ... I can bake bread better. I make lotion and soap now!

Personal Value

As Pinterest users acquire Pins, they feel their boards accrue intrinsic and practical value.

P20: [Pinterest is] almost like a record book, for me, so it has almost more of an intrinsic value than ... putting a status update on Facebook ... that no one really cares about. [Pinterest has] an emotional value ... It gives me kind of a archive to hold on to things that I think are important.

Personal attachment to boards increases with their size and use, seen in P9's response to the question, "What would you do or what alternative would you turn to if Pinterest shut down?"

P9: I've got 3,600 Pins so far... I would just die, especially my recipes ... I don't know what I would do.

Social Proof

In Cialdini's concept of social proof [6], people observe the actions of others to help them understand what is socially acceptable and personally achievable. This effect is most pronounced when observed actions are performed by people perceived as similar. A user will sometimes sense that another is "like them" because the other user curates Pins that are relevant to their interests or similar to their own tastes. Common situations, such as birthday or dinner parties make ideas and tutorials on Pins seem personally achievable.

P5: I didn't even know how to cook or, how to do the simplest meals. [Pinterest] gives me step by step [instructions], and I see other people trying it. Then, I'm like, "Okay this isn't that hard." ... I've seen people [on Pinterest], like, I should be their friend because they have all the same stuff as me.

P11: My daughter's first birthday was last Wednesday, so I used it to plan her first birthday party. ... I typed in "Mickey Mouse Clubhouse" [to Pinterest search] and I got different ideas from different people that have had birthday parties... from decorating, food ideas, on crafting ideas, so I took everything off of Pinterest, basically.

Pinterest Every Day

Our participants replaced prior entertainment habits with Pinterest, in part because they believe it uplifts their lives. They see Pinterest as a better use of time compared to other forms of entertainment, such as watching television. From spare moments to hour-long sessions, users are constantly growing boards, looking for new ideas.

We asked participants to describe a typical Pinterest session. We found that those who spend less time on Pinterest each week tend to use it in bursts during in-between time, especially on a mobile device or tablet. Those who used Pinterest five or more hours a week replaced or augmented other entertainment habits with sustained sessions, in which they use Pinterest for an hour or more. P2 uses Pinterest as part of her daily routine, comparing it to the habitual act of reading the newspaper. Because Pinterest is accessible on many devices, such as mobile phones, participants such as P10 can use Pinterest in short bursts that last only a few minutes, several times throughout the day.

P2: Growing up, we'd always have the newspaper, right, and that's what you read in the morning and go get your breakfast. And now I have a laptop instead ... Part of the news is Pinterest.

P10: [I use Pinterest] whenever I have a few minutes here and there, a lot of times I'll be on my phone. Or if I'm on my laptop I'll go on. But it varies it could be morning, it could be late at night. Just whenever I have spare time.

Participants made quick decisions on whether or not to repin, reporting that they take fewer than five seconds to determine. They experience excitement when they encounter Pins worthy of collecting.

P20: Usually I just go on kind of just for visual stimulation, ... but I don't go on with the intent of finding a specific pin or specific content.

P19: If it's funny, ... and if I think it's gonna be useful, ... how it looks, how easy it is to understand, [If] I can look at and get right away, or ... If I don't have time to do it right then, I'll pin it so I can look at it later.

Our participants used Pinterest on a daily basis, growing curations over time. We observed two kinds of seeking behavior: (1) casual browsing with no particular goal in mind, such as with P10, and (2) responding to a specific IBI task, such finding a new hairstyle.

P10: I log in like just once a day and ... I kinda just go through things and pin them if I like them. ... I don't have the time to go through because there's so many like sites I'm on and other things I need to take care of.

P13: I'm usually browsing for particular things. I'll be like I might be looking for like a new hair product, or a new hairstyle. ... I don't have a lot of time so I just stay focused.

We asked participants, "Have you ever finished a board?" All users responded that they had never finished a board. Curation on Pinterest is an ongoing process.

P9: Finished a board? ... Is there like a limit to how many pins we can have? Because I mean, I didn't know if you could limit one out or not. ... There's always more ideas that you can pin.

In daily use of Pinterest, our participants grew boards to address the needs of life, both practically and emotionally. Boards are constantly altered by Pinterest users in ongoing processes that become entwined with everyday life.

DISCUSSION

We discuss how everyday ideators use boards as a medium for design, curating for different purposes. Pins, once appropriated into boards, function as uniquely contextualized found objects. The meaning and utility of these found objects change as people exercise creativity and invoke their ideas. Social perceptions of Pinterest help motivate everyday ideators, increasing their expertise and creativity.

Everyday Ideation

Pinterest users engage in everyday processes in which they look for, find, organize, and return to meaningful information as a means of provoking and forming ideas that address both practical and emotional needs. They see Pins as ideas, assembling them into boards with specific purposes. Through pinning and repinning, they curate personally meaningful archives, engaging in self-directed information-based ideation. While everyday designers manipulate furniture and objects in the home to support daily routines and activity, these everyday ideators grow boards which function as design media of curation.

Pinterest users often have an information-based ideation task in mind, such as P17's trip to Italy with her daughter, or her plans for weekly meals and entertainment for her friends and family. P17 makes weekly meal plans on Pinterest, and each week, she adds Pins to a temporary board for meal planning. After she tries a recipe, she moves the Pin into either her "Tried It Loved It" or "Tried It Wouldn't Make It Again" board. In this way, P17 curates a reusable repository for responding to her life's needs.

As social online curation platforms grow, more people use them for everyday ideation. People appropriate information to address life's needs, and use curation to plan, motivate, and expand their interests. The phenomena of everyday ideation we observed on Pinterest are a product of general human needs, the affordances of the Pins / boards conjunction as a medium of curation, and the Pinterest platform's support for social interaction.

Appropriation Into Pins as Found Objects

Through the act of choosing a Pin and placing it into a board, a user changes its context and purpose, transforming an image clipping into a *found object*. Duchamp introduced *Fountain* as a found object under the alias, "R. Mutt", by placing a urinal in an art exhibit [13]. He appropriated the urinal, creating new significance and meaning by changing its context and function. The creative act of finding, choosing, and placing an object or Pin into a new context changes its meaning and function.

As Pinterest users curate Pins, they appropriate them to suit their own personal needs and taste. Personal context determines a Pin's purpose and meaning. For example, P17's Italy board contains a Pin of a "salted rose" pastry. In a dessert or food board, the salted rose would not have locational significance, but P17's board maps out activities for P17 and her daughter's trip to Italy. The salted rose pastry Pin in this context carries additional meaning as a planned activity involving Italian culture. Fitness and life planning boards similarly appropriate and recontextualize Pins.

To Duchamp, changing the place and title of a found object has the potential to transform its useful significance [13]. In this same way, a board's title transforms its Pins' meanings. P13 collects shoes in her board "Hello Lover," referencing a recurring line in the television series *Sex in the City*; the main character, Carrie Bradshaw, has a strong affinity for designer shoes. This reference possesses cultural connotations

of wealth, sexiness, and style. Pinterest users apply cultural references to board titles to add meaning and personality.

Motivational boards exemplify the appropriation of heterogeneous found objects. P9's board, entitled "Motivation!!!!!!", includes 144 diverse Pins, including an image of a bowl full of yogurt, fruit, and nuts, and pictures of women exercising on the beach. Again, Pins are transformed and accrete meaning through the context of a board. "Motivation!!!!!!" integrates the practical function of providing tips to become healthier with visual reminders of the ideal self. It serves as a source of personal strength. Similarly, while the cats P4 curated come from a variety of sources with different original purposes, the context of her board uses them to provide her with comfort and entertainment. When P4 is in a bad mood, she uses her cat board to help feel better. This curation serves her as a useful and meaningful assemblage of found objects.

The Purposes of Pins

Pins are flexible. Everyday ideators appropriate information, pinning and repinning with particular purposes. Purposes we encountered include: motivation, planning, ideation, goal-setting, to increase expertise, to comfort, to entertain, and to self-actualize.

P5's recipe board motivates her to try new things. P11 collected ideas to plan her daughter's birthday party. P13 uses a secret board to set longterm life goals. P12 has increased her crocheting and cooking expertise. P4's cat board entertains and comforts her. P14 uses Pinterest to self-actualize, expressing and developing her style and interests in the pursuit of "learning about herself".

The purpose and meaning of Pins and boards may change over time. Consider P17's trip to Italy with her daughter. When she started the board, she had the practical purpose of planning her trip. After her trip, she did not delete her board because it still held value; its meaning evolved to represent memories of her vacation. When she goes on another trip, she can reuse Pins. For example, one of the Pins on the Italy board includes a comprehensive checklist of items to bring on international vacations. When P17 needs this Pin again, it will be easily accessible. In this situation, the board becomes practical again, while still retaining its emotional significance. Similarly, many kinds of boards evolve in meaning as context and needs change. For example, food, vacation, and wedding boards may become more meaningful after the events they were created for have passed.

When users take ideas from Pins and invoke them, such as following craft guides or traveling to planned destinations, Pins become more meaningful. P17's board *Try It Loved It* contains one hundred Pins, mostly recipes. This personalized archive is a system she uses to plan meals. Pins' accrue what P20 calls "intrinsic value" serving both as a record and a reusable system.

A Social Medium For Not Killing Creativity

In Amabile's model [2], motivation and expertise are key for creative production. Pinterest's medium of curation affects motivation by providing a sense of unevaluated workspace,

the opportunity for a bonus validation, and a culture of positive feedback. Everyday ideators' expertise broadens through repeated exposure and social proof.

Pinterest provides a sense of unevaluated workspace. In curating, our participants ironically felt nearly anonymous. Users feel free to work on Pinterest without judgement, in contrast to social networks like Facebook and Twitter. To P12, everyone sees everything on Facebook, but "it feels like Pinterest is just for me." Pinterest users see boards as works in progress rather than finished ones. This sense of virtual solitude averts the extrinsic evaluation that can kill creativity.

At the same time, pinning creates the potential for a repin, which acts as a motivational bonus. To have a Pin repined provides outside validation of one's ideas. From P2's perspective, the repin serves as a compliment because another person shares her interest. P2 compares this to a pat on the back. Comments on Pinterest, while rare, are also overwhelmingly positive.

Our participants used Pinterest to increase their expertise, and often felt other users were similar to them. Participants reported seeing many "different" ideas from others with whom they share common interest. They are constantly exposed to ideas from users they follow and Pins others have collected. The effects of social proof strongly influence a person's perception, making unfamiliar activities seem achievable. In trying new things, people gain skills and expertise, key components of creativity.

IMPLICATIONS FOR DESIGN

We develop implications for design of social media of curation that support everyday ideation, addressing the representation of media of curation and the level of sociality of shared workspaces.

Curation Media: Assemblage of Image Clippings

Represent elements of curation with image clippings. Enable them to be visually assembled. This will support expression, decision making, and juxtaposition as scaffolding for ideation.

Pins, Pinterest's elemental medium of curation, are image clippings that function as rich bookmarks [26]. Pins possess visceral and informational value. For most participants, a Pin's image is most important. Images convey implicit information that is immediately understandable. Our participants enjoyed looking at and collecting images they consider beautiful and inspiring. For example, P4's looks at her collection of cat images to feel better.

The visual semantic nature of Pins helps users choose and evaluate their metadata. Our participants prefer Pins that catch their eye, are easily understandable, or are in a particular style. In searching Pinterest or browsing large boards, they evaluate many Pins. Participants reported taking fewer than five seconds to decide to pin. They rely on fast visual cognition when choosing and refinding. Metadata affords exploration of the source page, board, or original pinner.

Boards show Pins together, visually assembling the elements of curation into rich juxtapositions. Combining content in different ways stimulates the generation of new understanding and ideas [11]. P14 uses boards as a basis for reflection. As she curates, she *looks* for emergent themes that build and express a sense of her style. Baddeley has established the role of human capabilities involving visual cognition and integration, beyond cognition of text [3]. By invoking visual, textual, and integrative human cognitive capabilities, the medium of boards of Pins provides scaffolding for ideation. The medium affords everyday ideation in ways that textual entries and individual element views cannot.

New contexts are created by assembling digital found objects as Pins into boards. P9's "Hello Lover" (Figure 2) board develops layers of cultural context through image clippings, metadata, and assemblage. The medium of boards of Pins also contributes to social context. They build social proof, making unfamiliar activities, such as making soap, seem achievable, because people "like me" perform them.

Support Lightweight Collaboration

Create spaces for lightweight social engagement and collaboration that simultaneously enable independent work and access to others' ideas. Pinterest users pin for themselves. They rarely comment on Pinterest. Users report that Pinterest avoids negative external evaluation, which Amabile showed is detrimental to creativity [2]. P13 reported that it takes less "energy to Pin" than to post on Facebook, because she experiences Pinterest as "her own" space.

Ironically, despite users reporting that they experience Pinterest as a separate space, four out of five Pins are repins [21], copied from another user's board. Anyone may curate a public Pin into their own board, constituting a lightweight form of collaboration.

As participants' Pins were repinned, they felt encouraged, but not obligated to further engage socially. Pinterest notifies the owner when someone repins. This reinforcement encourages engagement through pinning, without an onus for follow-up social action. While 7 of our participants had never commented directly on a Pin, they frequently repin.

Prior experiments in brainstorming in Engineering Design show that restricting overt communication, e.g. textual or verbal interaction, generates more ideas in groups [19]. In C-Sketch, a technique for collaboratively generating ideas, people communicate visually, without textual or verbal communication during ideation. To begin the technique, a person starts a sketch. Next, s/he passes it to a group member to continue sketching. This is repeated until ideas converge. C-Sketch supports individual ideation to increase creative production. Pinterest users also communicate visually. They assemble Pins into new contexts, combining ideas. Because P17's Italy board contains many repins, it constitutes a lightweight collaboration among many Pinterest users. These collaborators only needed the medium of the Pin and social affordance of the repin. Create spaces where lightweight collaboration is supported, but overt communication is not required, to foster everyday ideation.

CONCLUSION

We formulated the notion of everyday ideation, in which people engage in popular curation activities as a means of generating ideas, which they see as enriching their lives. We developed a new understanding of how social media of digital curation can support everyday ideation. Using grounded theory, we discovered that everyday ideators use Pinterest to gather information and form ideas through the medium of Pins. Boards constitute a medium for assemblage of Pins to support planning, goal setting, comfort, entertainment, gains in expertise, and self-actualization. By appropriating Pins and information from others, people use boards as lightweight social contexts in which they juxtapose and recontextualize found objects, supporting information-based ideation.

As a social and collaborative platform, Pinterest fosters creativity with “just for me” workspaces, which remove fear of evaluation, while enabling positive feedback. At the same time, social proof effects from constant exposure to others’ Pins encourage users to expand their expertise and interests. Everyday ideators create new meaning in ongoing processes of appropriating information in response to personal needs, shaping ideas through media of curation into systems that improve their lives.

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