An Interface without A User: An Exploratory Design Study of Online Privacy Policies and Digital Legalese

James Pierce
University of California Berkeley
Jacobs Institute for Design Innovation
Berkeley, CA, 94708 USA
pierjam@berkeley.edu

Richmond Wong
University of California Berkeley
BioSENSE, School of Information
Berkeley, CA, 94708 USA
richmond@ischool.berkeley.edu

Sarah Fox
University of Washington
Human Centered Design & Engineering
Seattle, WA, 98195, USA
sefox@uw.edu

Carl DiSalvo
Georgia Institute of Technology
Digital Media Program
Atlanta, GA, 30332, USA
cdisalvo@gatech.edu

Nick Merrill
University of California Berkeley
BioSENSE, School of Information
Berkeley, CA, 94708 USA
ffff@berkeley.edu

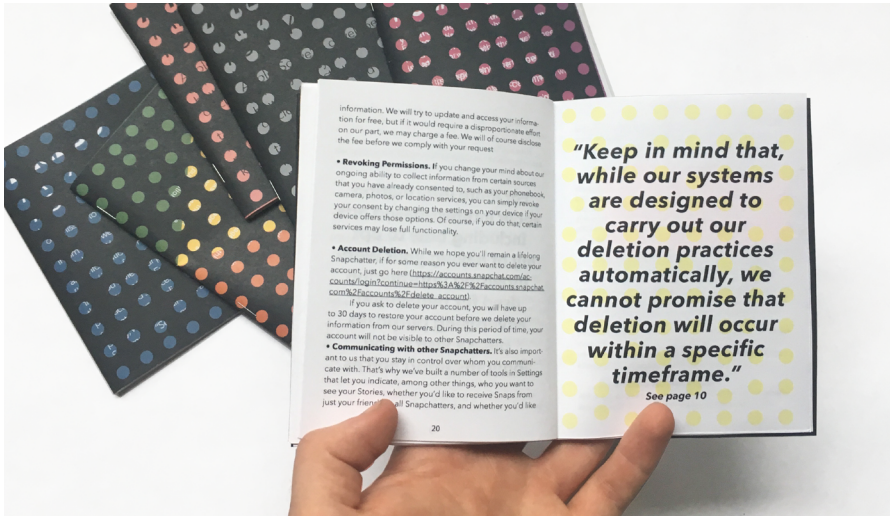
DIS 2018, June 9–13, 2018, Hong Kong.

ACM ISBN 978-1-4503-5198-0/18/06...$15.00.
https://10.1145/3196709.3196818

Abstract
Privacy policies are critical to understanding one's rights on online platforms, yet few users read them. In this pictorial, we approach this as a systemic issue that is part a failure of interaction design. We provided a variety of people with printed packets of privacy policies, aiming to tease out this form's capabilities and limitations as a design interface, to understand people's perception and uses, and to critically imagine pragmatic revisions and creative alternatives to existing privacy policies.

Authors Keywords
Privacy, security, privacy policy, terms of service, interaction design

ACM Classification Keywords
H.5.m.[Information interfaces and presentation (e.g., HCI)]: Miscellaneous;



Privacy and Data Policies in Print.

Introduction

With the proliferation of smart devices and social media come unprecedented social and ethical issues pertaining to privacy and security: Employers routinely pre-screen applicants based on the information they and others knowingly and unknowingly share about themselves (Pasquale, 2015). Sophisticated algorithms sift through "anonymized" personal data to deliver targeted ads that can correctly identify a users sexual orientation, if they have substance abuse problem (Daizhuo, 2017), or if they are pregnant (Hil, 2012; Vertesi, 2014). Cyberattacks result in users' passwords, finances, and other intimate data in the hands of unknown criminals. And willfully shared information can be used for discrimination (O'Neil, 2017; Pasquale, 2014) or stalking and harrassment (Citron, 2014).

In response, agreeing to the Privacy Policy and Terms of Service has become a requisite for using virtually any major online service, product, or website, even though few users will read these documents (Jensen, 2004; Pausquale, 2015). The nascent genre of the privacy policy exemplifies the growing pains and challenges for legislation, policy, and interface design alike to grapple with emerging concerns around the collection, analysis, sharing, mishandling, and abuse of intimate personal data. Ostensibly, these privacy policies seek to inform users about the collection and use of data, although legal and privacy scholars have argued their true purpose is legal protection for companies and the speedy surrender of rights, or possibly even to encourage users to disclose more information (Adjerid, 2013; Radin, 2004; Solove, 2013). Moreover, as our own personal experiences testifies and as studies have verified (Jenson, 2005), it is an interface that is often accepted without any substantive engagement. Engaging with this phenomenon, numerous designers, artists, scholars, and activist have drawn attention to the extraordinary limitations and absurdities of the privacy policy, terms of service agreement, and other digital legalese documents—and we discuss some key examples in the following pages.

Our work contributes to this active area of research, design, and activism by approaching the privacy policy and related digital legalese as not merely documents or legal agreements, but as *interfaces*. Privacy policies not only function as legal documents but also as interfaces to various options, settings, instructions, and recommendations. Approaching the privacy policy as an interface, however, immediately foregrounds the glaring shortcomings with respect to usability, usefulness, and user experience. Approaching the privacy policy as an interface reorients design and inquiry along some key questions: Who is it for, how is it used, how can it be improved, and what are the conflicting interests at play?

Consider a specific example. Some privacy policies state that users can opt-out of interest based ads that target them based on personal data generated through their use of the company's products and services. In some cases, a link is provided that allows the user to select the targeted opt-out. However, not only is this link buried deep within the privacy policy text, but the interface option is similarly hidden within the interaction hierarchy of the website, app, or device menu. Given that data and advertising are key sources of revenue, it appears that it is not in a company's interest for users to opt-out of interest-based ads. And yet privacy policies typically offer users hidden opt-outs as a way to accommodate cautious or paranoid users, comply with legislation, standards, or policies, or perhaps for other opaque reasons.

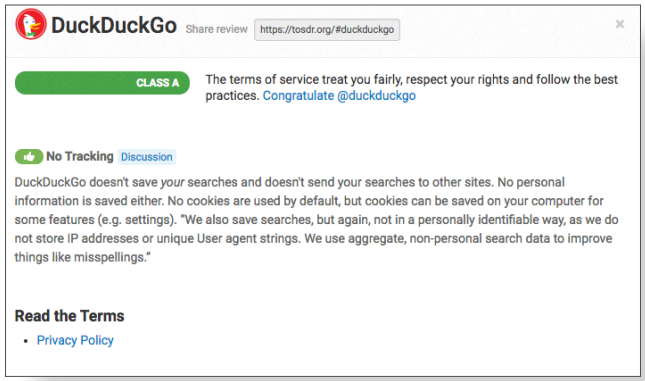
In this Pictorial we present several alternative designs of the privacy policy as a means for teasing out its capabilities and limitations as a design interface, for understanding people's perceptions and uses of this interface, and for critically imagining pragmatic revisions and creative alternatives. The centerpiece of this work is *Privacy and Data Policies in Print*, a set of printed materials that present original texts of online privacy policies through a fresh take on an old form. Created with a combination of participatory, interventionist, and conceptually-oriented uses, we synthesize a novel, open-ended approach as an alternative to conventional forms of prototype deployments, product distributions, user studies, or conceptual design exhibitions. Referred to generically as *design packets*, we experiment with a heterogeneous mixture of packet releases and engagements. Inspired by the diversity of approaches to privacy and cybersecurity while at times paralyzed by the complexity of the issues, our work is interdisciplinary and experimental: rigorous qualitative empirical methods combine with anecdotes and storytelling, activist interventions, conceptual experimentation, and solutions-oriented prototyping. Our work shows how open-ended design research can yield fresh insights, forge illuminating connections with prior works, and point toward promising pathways for future research, design, and activism in the areas of privacy, cybersecurity, and data ethics. We reach no definitive conclusions but instead piece together subtle insights and general observations and present them as seeds for future inquiry and practice.

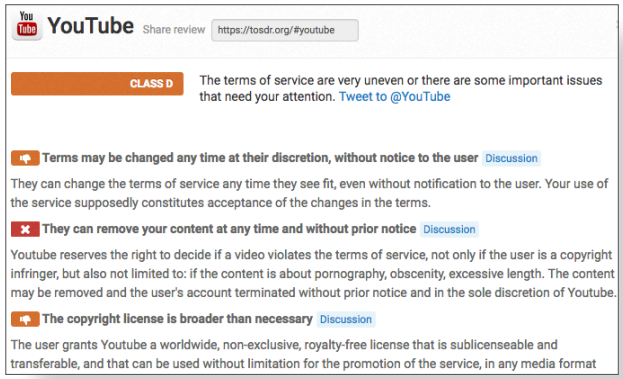
Digital Legalese in Design, Art, and Activism

Alongside academic privacy research, many artists, designers, and activists have created provocative and innovative redesigns and other interventions that offer commentary, critique, and alternative takes on the privacy policy, terms of service agreements, and other digital legalese documents.

Third-Party Ratings and Transparency

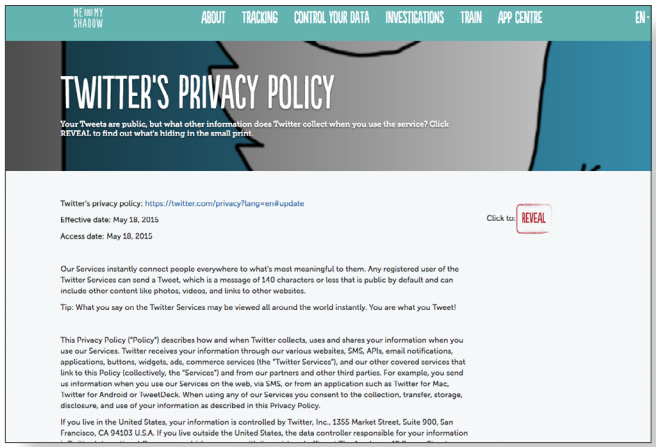
Various projects aim to distill and render legible dense digital legalize, either by summarizing relevant details or providing overall ratings on companies' behavior. Some of these efforts, such as *Terms of Service Didn't Read*, rely on community input to build a comprehensive database of web platforms with user-submitted ratings. Others, such as *Lost in Small Print*, aim to highlight the privacy-relevant aspects of companies' policies in their own words, with a minimum of commentary, ratings, or editorialization. Both of these projects underscore the significant curatorial resources required to maintain legible information about privacy in the face of constantly-changing policies, and an increasing number of platforms.





Terms of Service Didn't Read Browser Plugin (https://tosdr.org/#)

Terms of Service Didn't Read attempts to summarize the Terms of Service and Privacy Policies of various web platforms, assigning the platform an overall class from A (best) to E (worst) and scoring specific policy clauses with thumbs up or thumbs down. Ratings are submitted by the community and curated by site moderators.



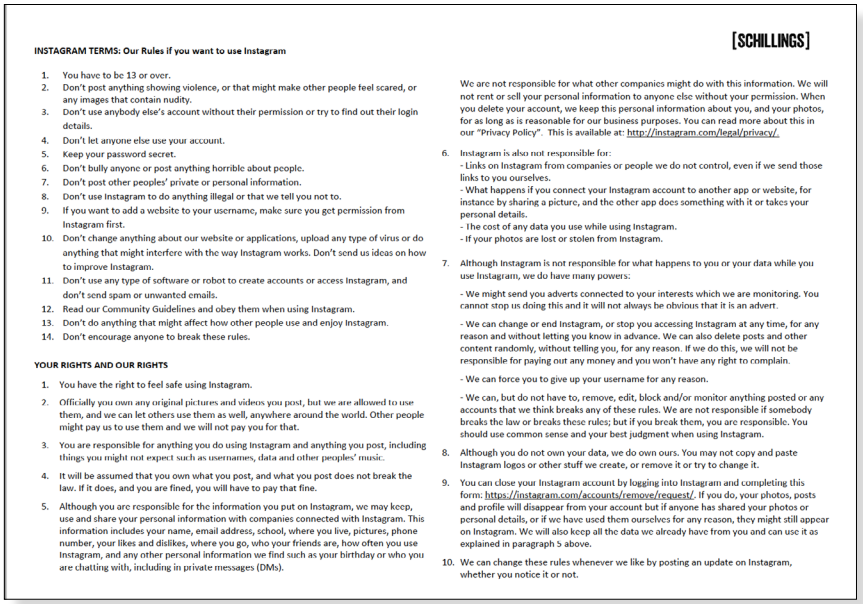
Lost in Small Print (https://myshadow.org/lost-in-small-print)

Tactical Technology Collective's Lost in Small Print attempts to highlight relevant (and understandable) portions of companies' privacy policies by enlarging key phrases and graying out confusing legalese, centering the particular types of data collected (photos, personal contacts, location), and what data companies may share with their partners.

Studying Privacy Policy Use and Simplifying Legal Language

Privacy policies purportedly provide users with "notice", following Fair Information Principles (upon which several national and international privacy laws and policies are based on (Gellman, 2017)). However, studies question individuals' ability to meaningfully understand and consent to these terms (Solove, 2013), finding that they are difficult to read and understand (Jenson, 2004),fully reading each policy encountered would take hundreds of hours per year (McDonald, 2008), and that formal notices may actually decrease users' trust in a website (Martin, 2016). Several design solutions have addressed these problems under the rubric of "usable privacy," attempting to simplify the language or standardize the display of the privacy notices to make them easier to comprehend and faster to read (Gage, 2009).

Examples of this approach include a British lawyer's re-writing of Instagram's terms of service into simpler labguage to be understandable by teenagers (See, Growing up Digital Taskforce, 2017), or McAfee's comic version of their privacy policy featuring a "privacy ninja" (McAffe, 2015). These simplified versions more clearly delineate rules created by Instagram, rights that users retain, and rights that Instagram retains. The UK's Children's Commissioner released a report containing the re-written terms, discussing the need for youth to understand their digital rights (Growing up Digital Taskforce, 2017). This example highlights how privacy policies and terms of service serve multiple audiences, and are implicated in asymmetrical power dynamics between companies and users.



INSTAGRAM TERMS: Our Rules if you want to use Instagram

[SCHILLINGS]

1. You have to be 13 or over.
2. Don't post anything showing violence, or that might make other people feel scared, or any images that contain nudity.
3. Don't use anybody else's account without their permission or try to find out their login details.
4. Don't let anyone else use your account.
5. Keep your password secret.
6. Don't bully anyone or post anything horrible about people.
7. Don't post other peoples' private or personal information.
8. Don't use Instagram to do anything illegal or that we tell you not to.
9. If you want to add a website to your username, make sure you get permission from Instagram first.
10. Don't change anything about our website or applications, upload any type of virus or do anything that might interfere with the way Instagram works. Don't send us ideas on how to improve Instagram.
11. Don't use any type of software or robot to create accounts or access Instagram, and don't send spam or unwanted emails.
12. Read our Community Guidelines and obey them when using Instagram.
13. Don't do anything that might affect how other people use and enjoy Instagram.
14. Don't encourage anyone to break these rules.

YOUR RIGHTS AND OUR RIGHTS

1. You have the right to feel safe using Instagram.
2. Officially you own any original pictures and videos you post, but we are allowed to use them, and we can let others use them as well, anywhere around the world. Other people might pay us to use them and we will not pay you for that.
3. You are responsible for anything you do using Instagram and anything you post, including things you might not expect such as usernames, data and other peoples' music.
4. It will be assumed that you own what you post, and what you post does not break the law. If it does, and you are fined, you will have to pay that fine.
5. Although you are responsible for the information you put on Instagram, we may keep, use and share your personal information with companies connected with Instagram. This information includes your name, email address, school, where you live, pictures, phone number, your likes and dislikes, where you go, who your friends are, how often you use Instagram, and any other personal information we find such as your birthday or who you are chatting with, including in private messages (DMs).

We are not responsible for what other companies might do with this information. We will not rent or sell your personal information to anyone else without your permission. When you delete your account, we keep this personal information about you, and your photos, for as long as is reasonable for our business purposes. You can read more about this in our "Privacy Policy". This is available at: http://instagram.com/legal/privacy/.

6. Instagram is also not responsible for:
- Links on Instagram from companies or people we do not control, even if we send those links to you ourselves.
- What happens if you connect your Instagram account to another app or website, for instance by sharing a picture, and the other app does something with it or takes your personal details.
- The cost of any data you use while using Instagram.
- If your photos are lost or stolen from Instagram.

7. Although Instagram is not responsible for what happens to you or your data while you use Instagram, we do have many powers:

- We might send you adverts connected to your interests which we are monitoring. You cannot stop us doing this and it will not always be obvious that it is an advert.

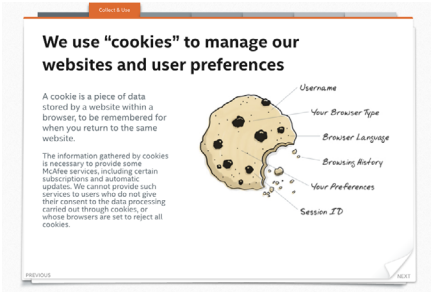
- We can change or end Instagram, or stop you accessing Instagram at any time, for any reason and without letting you know in advance. We can also delete posts and other content randomly, without telling you, for any reason. If we do this, we will not be responsible for paying out any money and you won't have any right to complain.

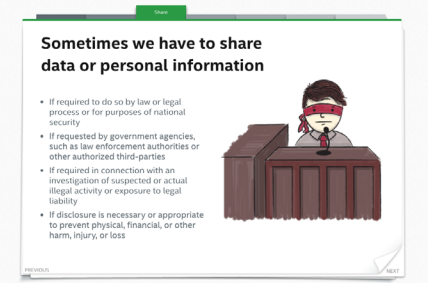
- We can force you to give up your username for any reason.

- We can, but do not have to, remove, edit, block and/or monitor anything posted or any accounts that we think breaks any of these rules. We are not responsible if somebody breaks the law or breaks these rules; but if you break them, you are responsible. You should use common sense and your best judgment when using Instagram.

8. Although you do not own your data, we do own ours. You may not copy and paste Instagram logos or other stuff we create, or remove it or try to change it.
9. You can close your Instagram account by logging into Instagram and completing this form: https://instagram.com/accounts/remove/request/. If you do, your photos, posts and profile will disappear from your account but if anyone has shared your photos or personal details, or if we have used them ourselves for any reason, they might still appear on Instagram. We will also keep all the data we already have from you and can use it as explained in paragraph 5 above.
10. We can change these rules whenever we like by posting an update on Instagram, whether you notice it or not.

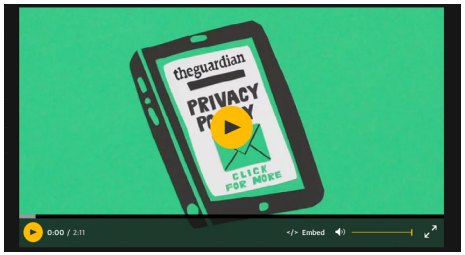
Simplified Instagram terms of service *(Schillings Law Firm)***.** Highlights include: "Although you do not own your data, we do own ours," "We can changes these rules whenever we like byposting an update on Instagram, whether you notice it or not," and "Officially you own any original pictures and vidoes you post, but we are allowed to use them, and we can let others use them as well, anywhere around the world."





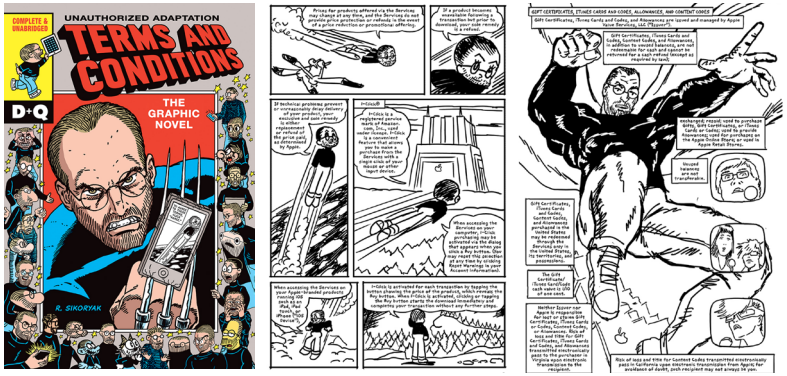
McAfee privacy policy. This circa 2015 version of McAfee's privac policy featured a web comic to explain the ins and outs of their policy.

The Gaurdian newspaper's animated privacy policy video (*Scriberia, Tim Gough, Evelynne Wilson. Voiceover: Alexandra Topping, theguardian.com)*. Video caption: "An animation of some of the key points from the Guardian's privacy policy. What types of data do we collect from you? What do we use it for? And how can you contact us if you have any questions?"

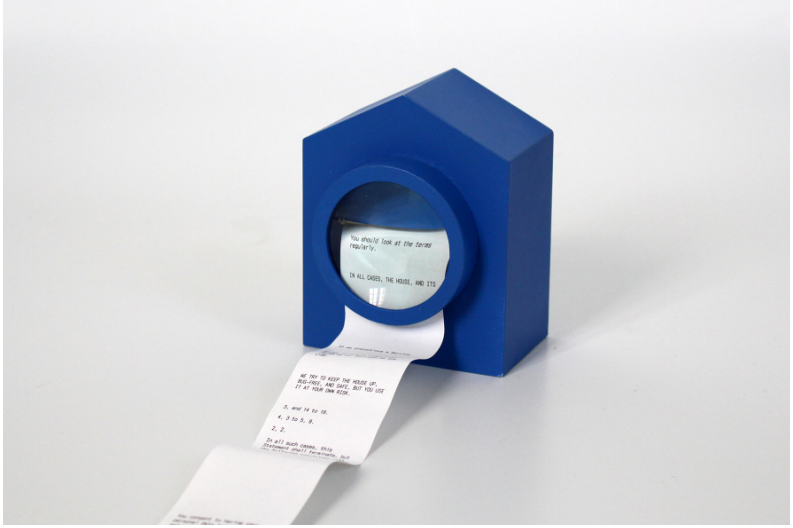


Artful Commentary and Speculation

Proving a potent format, artist Robert Sikoryak lays out iTunes' Terms and Conditions in its entirety as a graphic novel—pairing dense, legal text with the part of the newspaper people often gravitate toward. Released on Tumblr first and then in paperback, the novel pays homage to classic comics, with Steve Jobs standing in as the lead valiantly making his way through the terms. In an more defiant move, artist Adam Harvey designed a series of posters titled *Think Privacy* for the New Museum's year-long exhibition Privacy Gift Shop. In bold, minimalist type, he highlights key concerns around online privacy and data misuse. With the "Fuck My Like" poster, for instance, Harvey references a widely circulated study (Daizhuo, 2017) detailing how Facebook is capable of inferring intimate details about its users—such as whether one is queer or an alcoholic—simply from their interaction with posts (crucially, this inference is not specified in privacy policies that discuss "anonymized" or aggregated data). Casting these privacy concerns in a world of IoT prevalence, artist and designer Iohanna Nicenboim offers the *Terms of Service Printer*, a connected device that automatically prints the terms and conditions of each device that connects to one's WiFi network—no explicit acceptance of terms needed. Here, enrollment is automatic and lengthy terms are listed carefully in small type on thermal paper, gesturing to the implicit exchange of goods (namely, data) for (digital) services. Altogether these artistic interventions begin to offer glimpses into alternative policy experiences—from the playful to the provocative to the pervasive.



Terms and Conditions *(Robert Sikoryak. 2017)*. *Terms and Conditions* offers a graphic novel adaptation of iTunes' lengthy legal document, generating interest and adding a bit of whimsy to the often overlooked text.



Terms of Service Printer *(Iohanna Nicenboim, 2015)*. *The Terms of Service Printer* materializes one's implicit enrollment in the digital services of an IoT connected world.

Think Privacy *(Adam Harvey, 2016)* Harvey's series fof posters offers provocative entry into conversations on intimacy and inference on platforms like Facebook.

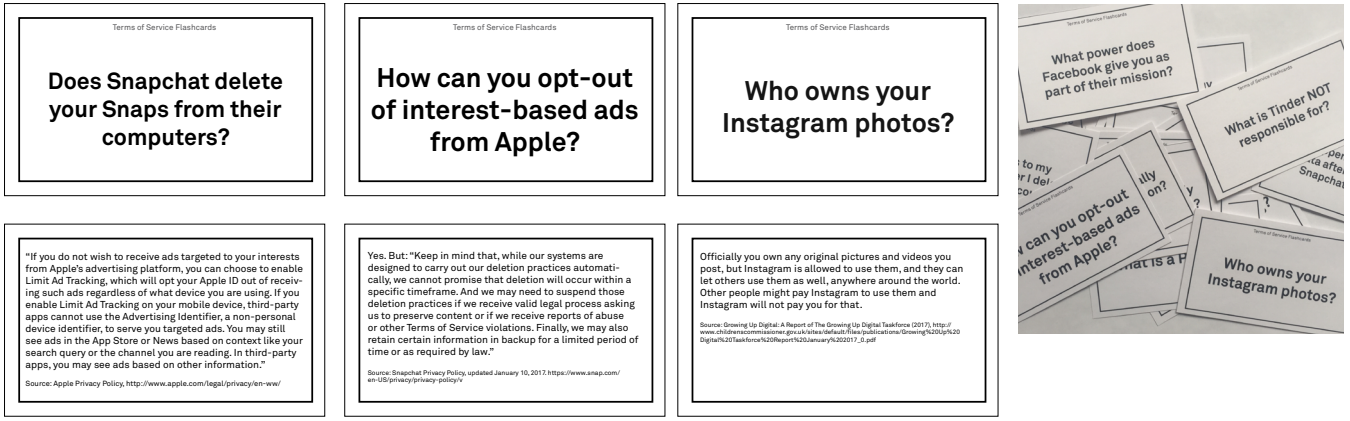
Digital Legalese Design Explorations

Informed by these activist and artistic engagements with digital legalese, we focused our inquiries around these digital documents as *interfaces without users,* a notion that highlights the ironic mismatch between purported intent and actual use, and which reframes the privacy policy as an exemplary instance of failed interaction design.

Many of the aforementioned works comment on the indecipherability, futility, and hidden nature of these documents. Our research foregrounds the ways in which these documents are ripe with interface options, features, and settings, but tend to exhibit the characteristics of exemplarily poor user experience design. Moreover, there are many privacy and security tools, settings, options, and dangers which are not accessible through the interface of the privacy policy or terms of service agreement.

Rather than approach digital legalese agreements as a set of binary yes/no choices, what if the privacy policy provided a fluid and empowering interface for managing privacy and safely navigating digital products and services? To begin to respond to this question, we conducted close readings of privacy policies, terms of service agreements, and other digital legalese documents. We pulled out instances of specific and actionable agreements, settings, configurations, and other choices presented to users. Here we present two sets of design explorations in which we give new forms to digital legalese as a way to provocatively imagine alternative interfaces for privacy policies of the futures and highlight conflicting values and interests.

RF exposure guides. All electronic devices emit RF (radiofrequency) radiation. Major electronics companies test RF exposure to comply with standards, such as those set forth by the US National Council on Radiation Protection and Measurements (NCRP). However, wading through the digital fine print of major smart phone manufacturers reveals that many devices are not tested with skin to skin contact. For example, Apple instructs consumers to carry some iPhones "at least 5mm away from the body to ensure exposure levels remain at or below the as-tested levels." To amplify these hidden pieces of RF exposure information we created a handy 5mm thick guide, using irony and humor to help highlight the potentially troubling information lost in the digital fine print.

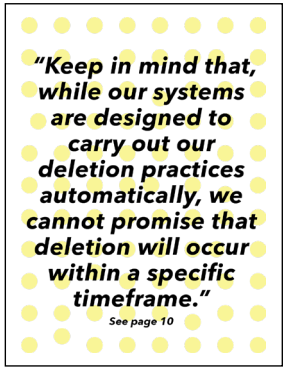


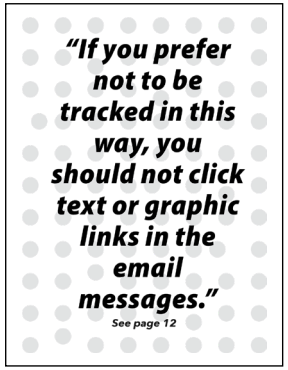
ToS Flashcards. Terms of service agreements for digital products and services are notoriously long and incomprehensible. Based on close readings of both digital legalese documents and expert legal and security analysis of them, we created a set of flashcards that clarify ambiguous language and highlight specific opt-outs and settings buried deep within privacy policies and terms of service agreements.

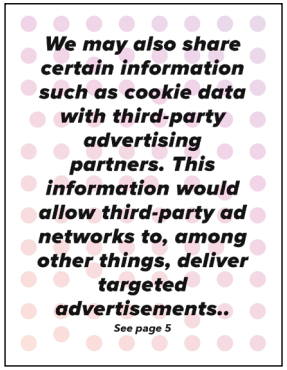
Privacy and Data Policies in Print Focusing our investigations around the privacy policy document as an *interface* that most people do not actually engage with, we devised a simple yet effective format for soliciting responses from people concerning the content and function of these curious interfaces. *Privacy and Data Policies in Print* is a set of booklets that present verbatim the privacy and data policies for some of the most popular digital services, products, and platforms. The design includes 4 primary components: (1) covers, (2) pull quotes, (3) comment cards, and (4) slip covers.

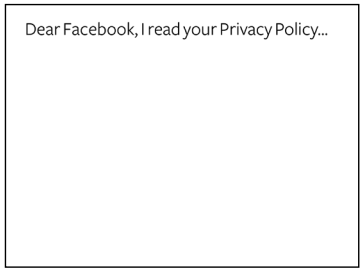
The title , covers, and pull quotes represent the only layers of textual commentary, which were deliberately kept minimal. While the *Privacy and Data Policies in Print* booklets can be read as a critical commentary, viewed as a proposed solution, or used as tools for qualitative data collection, we prefer to grasp them as combination of these uses, and others.

Covers. Ths third major design iteration of the booklets features a semi-transparent cover that invites a closer look at the contents beneath. Fonts and colors are matched to the original privacy policies and company branding.









Comment cards. Privacy policies invite users to contact them by mail if they have any questions. Our self-addressed comment cards facilitate this process.

Pull quotes. Commonly found in magazines, pull quotes highlight important snippets of text. They also allow a reader to quickly skim through and pull out key points. Based on our close readings of the source material, a handful of pull quotes were selected for each booklet. These selections focused on clauses that appeared contradictory, confusing, suspicious, or pertinent.

Design Iterations

The design of the *Privacy and Data Policies in Print* packets has to date gone through three major design iterations. Three key versions were produced reflecting subtly different goals and uses. The first completed version functioned primarily as a proof of concept. These packets were used to engage in discussions with designers and researchers and to elicit feedback. The key features and components of this packet, such as pull quotes and comment cards, carried through into subsequent versions.

The second version of the *Privacy and Data Policies in Print* was designed specifically for simple, inexpensive production using desktop printers. Approximately 50 copies were produced at a cost of less than $1USD per booklet. Color stock was used to reduce printing costs. We also experimented with different ways of distributing the packets, such as a marketing survey inspired concept for random mailings with a small monetary incentive to return the cards with feedback. These were used to conduct a range of interviews and other experiments in distribution and participant engagement, which we discuss later.

The third and current version of the packet was revised to focus on the visual design. Whereas prior packets presented a simple, economical, and unpretentious graphic style, the third version introduces an eye-catching cover and other visual elements. A unique cut-out cover design invites a reading of the text beneath the surface, while the random asymmetries subtly suggest taking a closer look at the material within. Fonts and colors are matched to the original privacy policies and company logos. Two sub-versions were constructed: an exhibition version features as laser-cut cover, and a more economical distribution version simulating the cut-out design.

(Version 1) Initial Prototype of Booklets and Comment Cards. Functioning primarily as a proof of concept, the key components and features of this version serve as a basis for subsequent versions.

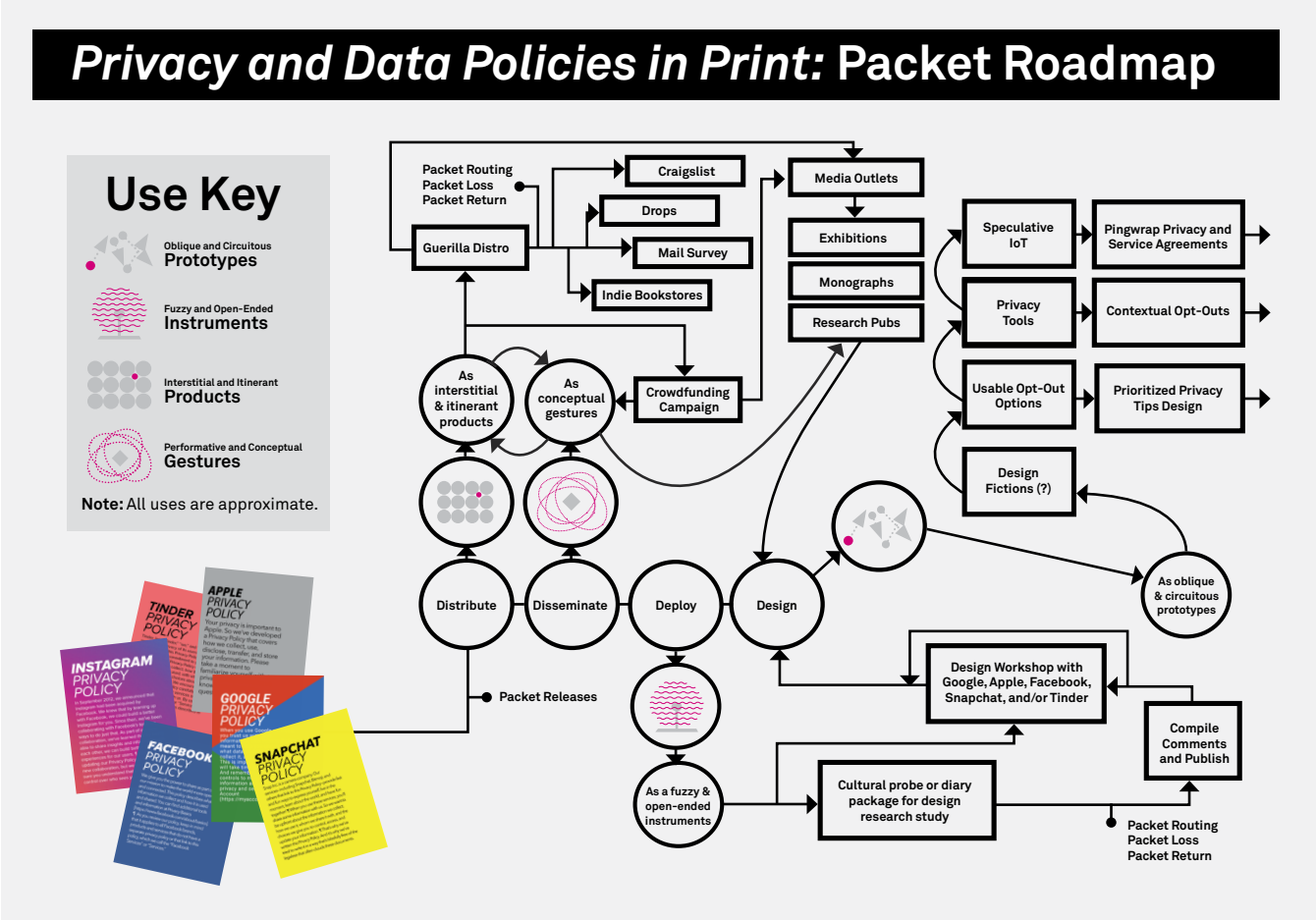
(Version 2) Low-cost prodution and Nielson Survey Inspired Mail Packets. With goals of economic self-publishing, this version features a simple, economical, and unpretentious design using inexpensive color card stock. These versions have been used for conducting interviews as well as experimenting with other forms of distribution and dissemination.

(Version 3) Exhibition. This final version features a unique cut-out cover design and colors and fonts matched to the original documents. This version is visually catchier, conceptually more potent, and consequently more suitable for formal exhibitions than our prior iterations.

Packeting Method and Packet Roadmaps

Rather than constrain the P*rivacy and Data Policies in Print* packets to specific roles or uses—such as prototypes to evaluate or cultural probe packages for eliciting creative responses—these packets have been designed for a multiplicity of conventional and experimental functions. As alternatives to methodological or formal tropes such as "prototype deployment" or "conceptual design", we experiment with roadmapping many different possibilities for the packets to function as prototypes, products, research instruments, conceptual gestures and commentaries, and other less easily classified things. The material, interventionist, and participatory dimensions of our packeting approach share much in common with approaches such as speculative enactments (Elsdon, 2017), material speculation (Wakkary, 2016), cultural probes (Gaver, 1999), the anti-art art of Fluxus, and diary and camera studies (Hannington, 2015).

This methodological experimentation is motivated in part by recent calls to appreciate research through design as a provisional and exploratory practice (Gaver 2012; Pierce et al, 2015). But the subject of our inquiry and the complexity of the issues at hand also motivate our unconventional methods. Through a highly specific and concrete design form we aim to forge connections among disparate artistic provocations, design experiments, and activist solutions to tease apart problems, explore options, and suggest solutions and alternatives. Next we highlight several examples of packet releases and subsequent engagements.

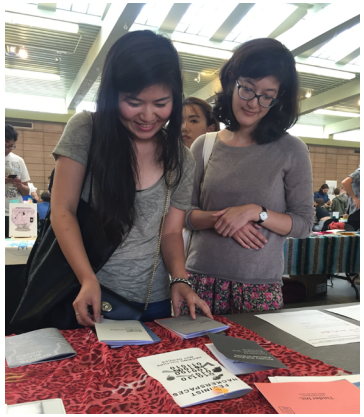


Packet Roadmap. In this version of our Privacy and Data Policies in Print packet roadmap we consider a range of possibilities. As an alternative to deployments or studies, we refer to these possibilities as packet releases, a term which indicates an openness to whatever happens next. Some of these releases have occurred, some are in-process, and others speculative possibilities without real intentions of actualizing.

Packet Releases and Engagements

To date we have released *Privacy and Data Policies in Print* packets across very different contexts of engagement that include in-home interviews, independent bookstores, online classified ads, and internal readings and discussions. We have distributed approximately 20 *non-returning packets*, conducted semi-structured interviews with 5 participants, and engaged numerous others through exposure to the packets in stores and book faires and through casual conversation. *We consider the aggregate accumulation of stories, data, and events without privileging one particular form over another.* Intentionally improvisational and open-ended, our small-scale experimental release of these packets has led to some inspiring and insightful outcomes to inform discourses pertaining to privacy and digital legalese.

Before summarizing and reflecting on broader insights and lessons learned, in the next two pages we highlight several packet engagements in the form of brief glimpses and snapshots. The partial and anecdotal character of these glimpses and snapshots is not merely an artifact of space limitations, but instead a reflection of the intentions of our experimental methods. While our initial packet releases have convinced us that these packets hold much potential for future, more rigorous



Zine fest events. Packets displayed and sold at a local even for self-published books and zines provided a venue for face to face informal conversations.

Insurgent adaptations. One person who purchased a copy worked as a part-time contractor for a major technology company. They told us they planned to secretly leave the booklets at their company when they returned to work the following week, suggesting to us that doing so might prompt discussions at work. In turn, this suggested to us a new type of activist insurgent packet release that we had not initially considered.

Independent book stores and cafes. Customers of a local book store bought all 5 copies we sold on commission. We released several other copies at third places including local cafes.

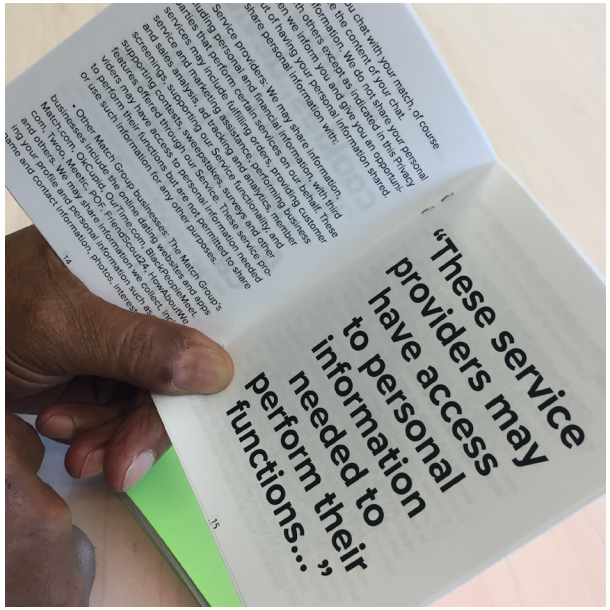
Chance encounters and contacts. In one instance, an engineering management student contacted us by the email address printed on the booklets, curious about potential uses of the packets with tech innovators and businesses. While nothing concrete materialized, this example suggests ways that the privacy policy booklets can solicit feedback and creative responses. This led us to consider future releases through random maillings and with more formal questionnaires or surveys.

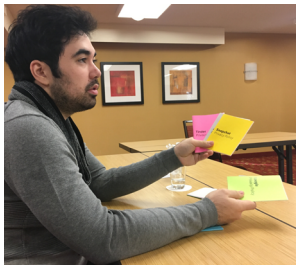
Online ads and laundromates. Other experimental releases included selling copies on the online classified ad platform Craigslist.com, and leaving packets with comment cards in places such as laundromates.

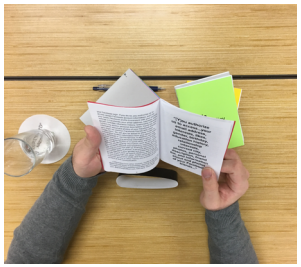
Failed engagements. Not all of our releases successfully resulted in the sorts of engagement we hoped for. In one instance, we experimented with leaving a comment booklet for people to respond. We returned the next day to find a booklet covered in what appeared to be adolescent doodling. This and several other examples serve as important reminders that while it is not difficult to solicit thoughtful and interesting responses in a structure, scaffolded research interview context, without this scaffolding many people have little interest in privacy policies, tools, or actions. As one person told us, “it’s not like I’m gonna not use [Facebook, Google, and other services].”

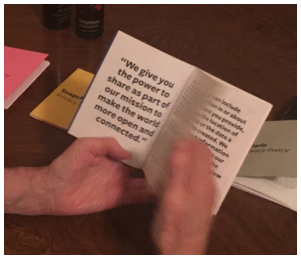
and systematic empirical research, our work also demonstrates how lightweight and radically exploratory design research may generate insight and inspiration through heterogeneous lines of inquiry and intervention that result in messy methodological mixtures of outcomes rather than clean data, pointed critique, clearly proposed solutions, or explicit artistic intent.

After reflecting on and across this rich mess of packet releases, four types of engagements emerged. **Scaffolded packet engagement** involves our own authorial structure, such as when conducting formal research interiews. **Open packet engagement** is characterized by a lack of research scaffolding and includes distribution through stores, ads, and interventionists tactics such as leaving materials in public places. **Internal packet engagement** consists of our own engagements with packets, such as reading the privacy policies or discussing future directions for our research. Finally, **speculative packet engagements** are possible but not-yet-actualized engagements, some of which appear on the packet roadmap on the previous page. Clearly there is some potential overlap in these categories, yet they serve as useful framings for comparing some of the key emergent uses of our packets and the insights generated.









Mike, a 65-year old male retiree living in Fremont, California
Mike, a former educator, business owner, Vietnam protester, and member of the Black Panthers, had much to say in response to the booklets. *On reading privacy policies:* "It doesn't matter what they put in that. They're gonna use my data any way that they want to, you know?" *On opt-outs:* "And so any company that has a policy like that, I don't even need to read all this. If I see that 'opt-out', you know, 'it's your obligation to opt-out if you don't want these things', then I know that I gotta protect myself at all times." *On updates to privacy policies:* "You're already on Tinder, you're already on Black People Meet [online dating sites], you know, then they change the policy. You don't give a shit about that! I mean, you're looking to hook up." *On our comment cards:* "An individual little postcard like this?: Is an exercise in futility."

Thomas, a 25-year old male psychology Master's student living in Walnut, California
Thomas moved from services he used least often to most often, skimming each and reading some parts in more detail. Closely reading parts of the policies, he noted Tinder's "We may use information" felt vague and sinister. Apple's "please take a moment to familiarize yourself with our privacy practices" belied the length of the policy. While Google's policy discusses "Information we collect", Thomas was more concerned about "Information I *give up* to Google."

Dan, a 70-year old retiree living in Oakland, California
Dan quickly picked out the platforms he used (Google and Apple) and read their packets thoroughly, cover-to-cover. While he was disappointed to read the privacy policies, he was "not scandalized," as he already suspected his personal data was being collected and shared with their advertising partners. He was particularly amused to discover that the guarantees these companies made to respect users' data deletion did not necessarily extend to third-party partners. "It shows me they care more about their advertisers—their real customers."

Mary, a 60-year female social worker living near Atlanta, Georgia
Mary frequently repeated that the contents came as no surprise—with an air of disillusionment, "I knew they collected all that shit." Her profession colored her concerns for data privacy and sense of urgency around the issue, often referencing how children are endangered by features like tagging photos (i.e. she thinks of "some creeper trying to stalk somebody cute...some cute kid"). Though she notes now, many of the children she works with use Snapchat or other, more elusive platforms—highlighting their increasing awareness and sophistication with these applications, as they also shift further from guardian oversight.

What we learned and what comes next

In conclusion, we first compare outcomes of our different types of packet engagements, and then briefly highlight some general insights that emerged across these different engagement.

Scaffolded engagement. Our releases revealed the format and layout of our booklet designs indeed invited and facilitated readings and discussion during scaffolded engagements through research interviews and studies. People readily skimmed through and read the booklets. Some read them cover-to-cover, while most focused on the pull quotes highlighting specific content within the policies. The pull quotes appeared tremendously successful in facilitating closer readings of the privacy and engaging in discussion anchored in specific content. For example, participants compared language and style across the privacy policies, commented on clauses that were particularly frustrating or confusing, and remarked on specific previously unknown options and settings.

Open Engagement. Open engagements with the packets further confirmed that the booklets we produced invite closer readings and facilitate reflection upon privacy policies. While it is perhaps unsurprising that participants engaged with the booklets during scaffolded research interviews, open engagements offer additional evidence that the booklets facilitate closer readings without our direct presence and authorial oversight. We sold about 15 copies at locations including a local independent bookstore, online advertisements, and a local self-published book fair. We sold out of copies at the book store and event. We also distributed the packets through interventionist "guerilla" tactics of leaving objects in shops, cafes, and third and public spaces.

Internal packet engagements. Importantly, our booklets were also used internally by us. They helped catalyze and concretize discussions about the content of privacy policies, construct research and interview questions, generate design concepts, and map out directions for future work. For example, our engagements with the pull quotes led us to the insight that much prior related work does not address the specific choices users have in terms of opt-outs, settings, configurations, and third-party tools and resources. This helped us formulate a future research agenda currently underway around privacy interfaces and cybersecurity toolkits. The process of designing and making the booklets was integral to our broader framing of the privacy policy as a curious type of interface characterized by an absence of an actual user or compelling use, highlighting design issues and tensions across competing stakeholders and interests.

Speculative packet engagement. Our speculative roadmap of possible future releases was internally useful for considering diverse contexts and uses of the booklets. We also found the people who interacted with our packets presented us with their own speculative releases, some of which overlapped with our own and some that were entirely new and refreshingly unexpected.

Some of our findings support and add nuance to prior studies of digital legalese, such as clear expressions of surprise, confusion, and frustration as well as feelings of powerlessness, futility, and disinterest (Jenson, 2004; Growing up Digital, 2017; Pasquale, 2015). However, here conclude by highlighting three clusters of insights that offer some fresh perspectives and subtle reorientations for privacy research, suggesting directions for the design of future privacy documents, interfaces, and third-party tools.

Amusement, confirmation, and insincerity. Many told us that despite some troubling surprises, overall their readings ultimately confirmed what they already knew about how technology companies operate and whose interests they truly serve. Remarking upon obviously insincere statements was a notable theme across participants. For example, one participant noted how Apple's instruction to ""please take a moment to familiarize yourself with our privacy practices" clearly belied the length and complexity of the policy. *How might companies work to engender trust and credibility from users rather than disdain and suspicion? How might they be more open and forthcoming about conflicting interests at play?*

"What are my actual options?" People often reflected on previously unknown interface tools and opt-outs. Some expressed frustration at how deeply buried these options were within the documents. One participant remarked on the functional downgrades that occur when limiting tracking and sharing: "I can not share my contacts, but the policy says I won't get the full thing." *How might policies and tools help highlight the specific options that users have at their disposal and those they do not, and the tradeoffs when using them?*

Marginalized and disengaged perspectives. In some instances, our packet releases surfaced perspectives that too often appear excluded or absent from academic, policy, and news media discourses on privacy. For example, one participant discussed how as a former Black Panthers member and Vietnam War protester "I've felt since then, and it continues, [that] *I don't have any privacy* ...maybe for white kids this lack of privacy is a new thing, you know, but for me it's a lifelong thing". One person told us they worked part-time at a major tech company and planned to secretly leave the materials at a lounge area of their company, suggesting that they were not pleased with some of their fellow employees and company practices. And on multiple occasions our packets failed to engage in the ways we had hope for, underscoring that many have little or no interest or feelings of agency when it comes to privacy agreements. *How do privacy policies support the privacy of some but not others? While researchers, activists, and institutions advocate for users' privacy rights, how are the needs of people who feel they have no power to privacy to be addressed?*

In this pictorial, we pushed on the limitations of existing privacy policies and the methods currently used to interrogate them by taking up a designerly lens to imagine creative alternatives to interacting with this nascent form. In doing so, we surfaced the power of active engagement with these policies—centering marginalized perspectives and highlighting the need for ready and clear user options. By re-framing privacy policies as a concern for design scholarship through the lenses of *the interface and interaction*, our work aims to seed future interventions into the interfaces that determine interaction with the terms, conditions, and policies that define and dictate our experiences with digital systems.

Acknowledgments
We thank the participants in our studies and everyone who engaged with us during this project. This work was funded in part by NSF Grant #1523562 and by a grant from the Center for Long-Term Cybersecurity.

References

[1] Idris Adjerid, Alessandro Acquisti, Laura Brandimarte, and George Loewenstein. 2013. Sleights of Privacy : Framing , Disclosures , and the Limits of Transparency. In Symposium on Usable Privacy and Security (SOUPS) 2013. https://doi.org/10.1145/2501604.2501613

[2] Citron, Danielle Keats. Hate Crimes in Cyberspace. Harvard University Press, 2014.

[3] Chen Daizhuo, Fraiberger Samuel P., Moakler Robert, and Provost Foster. "Enhancing Transparency and Control When Drawing Data-Driven Inferences About Individuals." Big Data. September 2017, 5(3): 197-212.

[4] Elsden, Chris, David Chatting, Abigail C. Durrant, Andrew Garbett, Bettina Nissen, John Vines, and David S. Kirk. "On Speculative Enactments." In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems, 5386–5399. ACM

[5] Robert Gellman. 2017. Fair Information Practices: A Basic History (Version 2.18). https://bobgellman.com/rg-docs/rg-FIPshistory.pdf

[6] Patrick Gage Kelley, Joanna Bresee, Lorrie Faith Cranor, and Robert W. Reeder. 2009. A "nutrition label" for privacy. In Proceedings of the 5th Symposium on Usable Privacy and Security - SOUPS '09, 1.

[7] Gaver, William. "What Should We Expect from Research through Design?" In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 937–946. ACM, 2012.

Gaver, Bill, Tony Dunne, and Elena Pacenti. "Design: Cultural Probes." Interactions 6, no. 1 (1999): 21–29.

[8] Hanington, Bruce, and Bella Martin. Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions. Rockport Publishers, 2012.

[9] Hill, Kashmir. "How Target Figured out a Teen Girl Was Pregnant before Her Father Did." Forbes, February 16 (2012): 2012.

[10] Carlos Jensen and Colin Potts. 2004. Privacy policies as decision-making tools: An evaluation of online privacy notices. In Proceedings of the 2004 conference on Human factors in computing systems - CHI '04, 471–478. https://doi.org/10.1145/985692.985752

[11] Carlos Jensen, Colin Potts, and Christian Jensen. 2005. Privacy practices of Internet users: Self-reports versus observed behavior. International Journal of Human-Computer Studies 63, 1–2: 203–227. https://doi.org/10.1016/j.ijhcs.2005.04.019

[12] Aleecia M McDonald and Lorrie Faith Cranor. 2008. The Cost of Reading Privacy Policies. I/S: A Journal of Law and Policy for the Information Society 4, 3: 543–568.

[13] O'Neil, Cathy. Weapons of Math Destruction. Broadway Books, 2016.
Pasquale, Frank. The Black Box Society: The Secret Algorithms That Control Money and Information. Harvard University Press, 2015.

[14] Pierce, James, Phoebe Sengers, Tad Hirsch, Tom Jenkins, William Gaver, and Carl DiSalvo. "Expanding and Refining Design and Criticality in HCI." In Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, 2083–2092. ACM, 2015.

[15] Margaret Jane Radin. 2004. Regulation by Contract, Regulation by Machine. Journal of Institutional and Theoretical Economics JITE 160: 142–156. https://doi.org/10.1628/093245604773861186

[16] Daniel J Solove. 2013. Privacy Self-Management and the Consent Dilemma. Harvard Law Review 126: 1880–1903.

[17] Janice Y. Tsai, Serge Egelman, Lorrie Cranor, and Alessandro Acquisti. 2011. The Effect of Online Privacy Information on Purchasing Behavior: An Experimental Study. Information Systems Research 22, 2: 254–268. https://doi.org/10.1287/isre.1090.0260

[18] Vertesi, Janet. "My Experiment Opting Out of Big Data Made Me Look Like a Criminal." Time. May 1, 2014. Accessed January 7, 2018. http://time.com/83200/privacy-internet-big-data-opt-out/.

[18] Wang, Amy B. “A Lawyer Rewrote Instagram’s Terms of Use ‘in Plain English’ so Kids Would Know Their Privacy Rights.” Washington Post, January 8, 2017, sec. On Parenting. https://www.washingtonpost.com/news/parenting/wp/2017/01/08/a-lawyer-rewrote-instagrams-terms-of-use-in-plain-english-so-kids-would-know-their-privacy-rights/.

[19] “McAfee | Privacy Notice.” Accessed January 1, 2018. https://web.archive.org/web/20150905234840/http://www.mcafee.com/common/privacy/english/slide.htm.

[20] “Growing-Up-Digital-Taskforce-Report-January-2017_0.pdf.” Accessed January 1, 2018. https://www.childrenscommissioner.gov.uk/wp-content/uploads/2017/06/Growing-Up-Digital-Taskforce-Report-January-2017_0.pdf.

[21] Wakkary, Ron, William Odom, Sabrina Hauser, Garnet Hertz, and Henry Lin. “Material Speculation: Actual Artifacts for Critical Inquiry.” In Proceedings of The Fifth Decennial Aarhus Conference on Critical Alternatives, 97–108. Aarhus University Press, 2015.