

Hey Siri, who watches the watchmen?

A shortcut to the appropriation of surveillance.

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Abstract

An exploratory reflection of the iOS *Shortcuts* application, and the affordances of programmability and appropriation that have provided opportunities for a shift in usage and purpose on an otherwise restrictive interface in terms of customization. Illustrated by the example of the shortcut “I’m getting pulled over,” the application highlights a new narrative surrounding the role of the general public within a technologically advanced society, and how user experience is an important actor within the discourse. What remains to be seen is the true intentions of a user-sourced product in an era of surveillance and control.

Key words: *ios Shortcuts, Apple, user appropriation, programmability, politics of artifacts, surveillance, societies of control, technological activism, mechanisms of affordance*

I

The global COVID-19 pandemic was not the only issue dividing the United States in the late Spring of 2020. Public criticism of law enforcement's blatant racism overwhelmed household conversations, the news, and eventually, the movement spilled into the streets as protests began surging in cities across the country. The police presence at protests further agitated the conflict and contention, as officers began inciting violence in the most inappropriate of times. As the world watched, technology companies joined the conversation, with some being called out for technical and digital support of an overbearing and racist authoritative system, while others were being touted as anti-surveillance heroes with the tools to prove it. One tool started to gain attention in protest-themed social media posts, and later mainstream news outlets, though it was not a revolutionary technical advancement, nor did it originate from Silicon Valley. It was a shortcut called "I'm getting pulled over," and it was created by a man using the iOS *Shortcuts* application on his iPhone.

Created in a lesser contentious climate in 2018 by reddit-user Robert Petersen, the popularity of the shortcut was intensified by the events leading up to, and continuing during, the Black Lives Matter protests of 2020. The shortcut was programmed to react to an oral command sharing the same wording as its name, preceded by "Hey Siri", and subsequently setting off a script of 18 actions. It is programmed so that once the command is spoken in the presence of the phone, the device will pause any music or media playing, go into 'do not disturb' mode, fade the screen to black, and begin filming a video from the front-facing camera. GPS coordinates are then sent to an emergency contact, and the video is uploaded to a pre-chosen cloud server (Leswing and Eadicicco 2020) . While Petersen created the shortcut in an act of solidarity and technological activism with the intention of holding the authority accountable and providing a 'civilian equivalent' of the widely used police body cameras, he did not expect it to gain so much popularity two years later (Vincent 2020). The tool not only gave hope to activists and protesters, but it started a conversation about the societal ramifications of the power of technology in the hands of the people. While the application is presented as an artifact yielding its power to the user whom it belongs to, one must continue to question the implications of usage, and track the overall trade-off between users, Apple, and the data flow between.

To understand the underlying political nature and intricacies of control within the iOS *Shortcuts* application, one must look into the platform's methodology of encouraging user programmability, and further, enabling appropriation.

II

In 2018, Apple released the iOS12 update for iPhones and iPads, and with it came an application that would introduce a profound way to interact with the devices. The application, named *Shortcuts*, is the result of Apple's acquisition of *Workflows*, a tool used to automate lists of actions and scripts, and in turn, simplify complex tasks into a single command based on a user's prerogative (Apple 2020). The Apple-branded *Shortcuts* of today remains true to its original purpose, with the application allowing users the opportunity to imprint their daily routines and conditional habits into their devices for a smoother and more personalized experience. With Apple's iOS systems being historically restrictive to the same degrees of customization that their competitors had embraced over the years, the shift to allow such a personal appropriation of the system was unexpected. Alongside these newly provided allowances, otherwise referred to as affordances as an expression denoting the possible actions and capabilities one may employ with a technological artifact, there is a spectrum of uninhibited freedoms on the iOS devices (Bucher and Helmond 2018). Instead of switching between applications and implementing several functions, *Shortcuts* consolidates many tasks, or 'actions', into a simple command spurred by one click or a Siri dictation. Convenience is not foregone by the additional option of voice-commanded execution, with customized verbal cues. Users may simply say "Hey Siri, help me get ready for work" and the device will navigate itself through the steps of setting a timer for teeth-brushing, playing a favorite playlist, preparing a route on Google maps, and more.

Not only focused on combining multiple actions, another important prospect of *Shortcuts* is its ability to perform actions which previously required numerous application exchanges and various interfaces, for example the endeavors of turning a video into a gif, turning a document into a PDF file, or speaking the body of an article. These shortcuts are manually summoned from a command, or could also be automated, which expresses the act of executing tasks upon arrival at a designated location, or at a specified time. The gallery within the application provides a plethora of ready-to-use shortcuts that can be added to a user's repertoire, organized into

categories loosely defined by types, lifestyles, and hobbies. While there are plenty of suggestions available to adopt, the most intriguing aspect of the application is the way that users are encouraged to create their own shortcuts. In the guidelines of the application, the idea of customization is offered to users by proposing that if a task involves ‘too many taps’ across various applications, then it is an ideal candidate for a shortcut (Apple 2020).

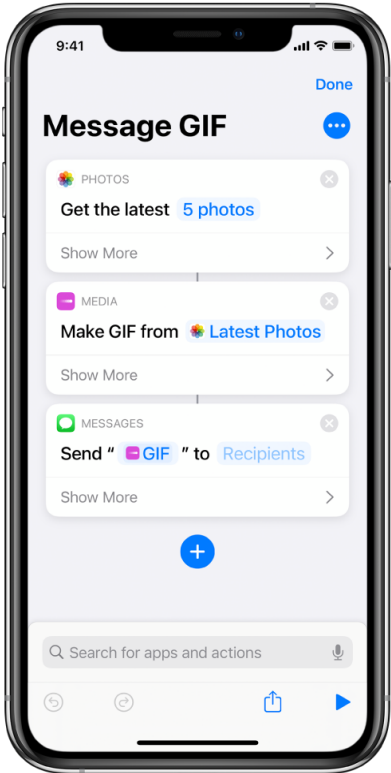


figure 1



figure 2

III

Considering the extensive opportunities that users are provided with in *Shortcuts*, the application articulates the concept of customization with ease. Within the introductory pages of the application, the native terminology is defined, explained, and illustrated. An action is described as the building block of a shortcut, and is a single step that performs a function. They are the main features of an application, broken into smaller parts (Apple 2020). The architecture of the platform is modular throughout, down to the layout of a shortcut, promoting the prospect of constructability as well as potential (Poell et al. 2019). When a shortcut is run, the list of selected actions is performed chronologically from top to bottom, with some actions fetching

information from a device or the web, others transforming information such as editing images and creating visuals, or even sharing information with other apps and contacts (figure 1). The application illustrates the process with a pop up on the screen highlighting the actions as they are executed, creating a subtle tutorial on how to approach programming these consolidated scripts. The application's mechanisms of affordance, and what they encourage and allow, are the driving force between the users and their opportunities on shortcuts (Davis and Chouinard 2016). The method of turning otherwise complicated scripts into accessible visual representations allows users to learn the language of *Shortcuts*, encouraging an enhanced experience through creation and customization.

In an overview of a selected shortcut, there are action connections that promote the resemblance of a timeline. When actions are separated by a vertical line, it indicates the output of one action will be the input of another (figure 2). Users are encouraged to explore the input and output capabilities of an action to determine their most optimal usage. The user is further introduced to scripting terminology and grammars within *Shortcuts*, such as the conditional *If actions*. These indicate the conditionality of the shortcut, which results in varying outputs depending on the situation. If this, then that. Actions are able to take different paths pending conditions. If a situation isn't so straightforward as to afford varying results of a shortcut, there are *Choose from* actions that pause the performing shortcut and present a menu of options to the user when executed.

By visualizing the structural content of a shortcut and animating its execution, script and function legibility is encouraged in *Shortcuts*, and the opportunity for user-programmability is enabled by the grammars of action, or the syntax of software and how data is collected and organized (Agre 1994). The content overview of any given shortcut appears as building blocks situated on a vertical timeline, indicating the importance of consequential planning. A menu of potential actions is summoned by the click of a "plus" button, and after any given action is selected and added to the flow, it remains designated by hyperlink-blue styling when included in the overview. This stylization choice, among those previously mentioned, is a recognition of the capabilities of perceived affordances from a user perspective, indicating continued encouragement of programmability. In this context, most users will recognize the affordances available to them, and how to use them, based on how they appear (Bucher and Helmond 2018). Regardless of programming skill, a person who is familiar with the internet will recognize the

ability to click the hyperlink and expect some sort of reaction, and in this case, they are presented with the opportunity to choose an alternative action. Throughout the application, the instructions on how to interact with dynamic objects make use of embedded knowledge of the implemented stylization and design. The intended outcome of using the application is to invite users to a new normal in user experience consisting of convenience, consolidation, and an introductory-level of coding language, evident by the methods of governance. Specifically, how the opportunities are organized, described, predicted, and instrumentalized, as well as the mediation of user-input information (Bratton 2015). *Shortcuts* presses users to learn the language of the application, and add to the narrative, and many have risen to the occasion.



figure 3

IV

Despite the variety of suggested shortcuts within the application gallery page (figure 3), users around the world found the need for more, and began to create and share amongst themselves on the internet, successfully appropriating, or hijacking the functionality and purpose

of *Shortcuts*. The application requires users enable a setting to accept shortcuts created outside of the relationship between the specific user and their device. It refers to these types as “untrusted,” though with a flip of a switch, they are easily accepted. On a popular directory-style website named *ShortcutGallery.com*, users may upload their home-made shortcuts, and download others. The expansive categories cover education, entertainment, health, shopping, and more. On reddit, an exemplary media ecology ripe with subcultural discourse (Postman 2000), there is a subpage called r/Shortcuts. Impressive in size, with around 176,000+ active users who are participating in creating, modifying, sharing shortcuts and giving feedback to each other (figure 4). The community on reddit began in 2010, already having quite a lot of content by the time Apple acquired Workflows and transformed the software into *Shortcuts*. Not only are there links to the official iOS *Shortcuts* user guide on the community, but there are various tutorials, demonstrations, and other resources that nudge the potential of user-sourced creativity. The feedback offered between members of the community, whether supplied in words or suggested by new codes building off of each other’s work, embodies the collective practice of programming, seeing what others have done and how to incorporate a product alongside theirs in the same context. Appropriation is cultivated within a community that fosters its users in an environment where they are able to develop their own perspectives on a technological artifact, and how they make sense of the creative opportunities through vernacular affordances which represent the collective understanding (Mcveigh-schulz and Baym 2015). Needless to say, the nature of the application’s purpose allows it to submit to the appropriated product of a user-community, regardless of its inability to host the conversation itself.

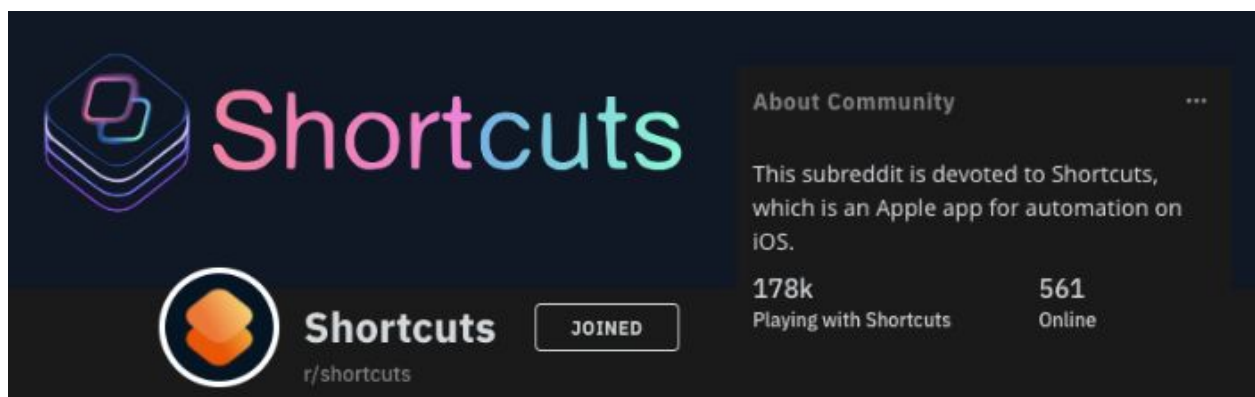


figure 4

The scripts and functions that users are encouraged to adopt and combine into the flow of their lives are not only chosen out of convenience, but in some cases, necessity. The shortcuts themselves are artifacts of a social constructivist lens and key components of an equation rooted in the actor-network theory. They are symbolic of what is missing from the technological aspect of daily life, a direct reflection of the culture from which they were created, and interact as non-human actors alongside various other human and non-human counterparts to perform an event or outcome (Light et al. 2017). Time becomes monitored, allowing the user to focus on a task at hand in a fast-paced world. Media files are adapted, circumventing the need for a specified technical skill in many cases. Automation affording a user to have what they need, when they need it. In the case of “I’m getting pulled over,” the shortcut itself highlights various shortcomings of authoritative accountability, as well as the narrative of complacency among civilians. The shortcut turns down any music playing on the device, as well as the screen brightness in an attempt to go unnoticed while filming, as police can become agitated and combative with subtle confrontation. The video is sent to a cloud to escape the reach of an officer with their name on the line. The GPS coordinates of the pulled-over car are sent to an emergency contact, implying that something will go wrong, or to add to the overall factual foundation of a police-encounter story, as many become unclear. This shortcut is not only a witness to be summoned, but a political artifact that is reflective of the controversy at hand.

V

The politics of a technological artifact remain an important aspect of the culturally embedded features of human creation (Light et al. 2017). The exact purpose that a person is creating a tool or technology to fulfill is reflected in the device itself, on various humanistic levels, and the arrangement of affordances indicate a political dimension based on values and motives (Winner 1980). One may consider the fact that the *Shortcuts* application allows this sort of off-platform community and source to be re-adopted by the application in the form of user-created shortcuts as quite democratic in terms of other iOS software, as Apple is notoriously rigid with customization in the realm of user-interface standards. The very presence of such a large community located off the platform is reminiscent of a culture of open discourse and mindset, building the collective narrative of *Shortcuts* as a whole rather than simply submitting to the offers of the in-app gallery. The promise of openness, neutrality, and community is one of

great interest to a democratic information society (Gillespie 2018). Though the combination of data and politics is a double-edged sword, and with convenience and freedom comes the risk of automated surveillance and algorithmic control (Ruppert et al. 2017).

It is impossible to ignore the presence of big data in the application's political orientation, and it may be wise to look into the inherent nature of disciplinary societies and societies of control through the lens of surveillance capitalism. Disciplinary societies are traditionally described as enclosed environments that offer the components of walls, and barriers, while societies of control are open and vulnerable to surveillance and manipulation (Deleuze 1992). In the age of surveillance and big data, our real time behavior is tracked, developed, and driven to please our algorithmically defined identity while funding a digital economy (Cheney-Lippold 2011). The *Shortcuts* application is an example of new media that perpetuates the system of control. By encouraging users to adopt or create shortcuts on their devices through lite coding that include many actions through various apps with a simple command, Apple not only embeds itself in the lives of the user population, but boosts the amount of data supplied to various platforms, in connection with each other and the user. The generative entrenchment of Apple is amplified to the highest degree when a user appropriates their iOS device to control their own brand of time, space, habit, and conditional behavior. While users are relying more on the technology, the technology is feeding connected data of the individual from Google Maps to Spotify to Social Media, and the algorithmic-driven identity of the user becomes a little sharper (Bucher 2012). The cultural and customizable implications of the embedded codes in our lives strengthens the conditions of possibilities and promotes the manipulation of our individual experience online. Under the guise of freedom and convenience, users submit themselves to surveillance to the Nth degree, and in turn, stimulate the exchange of big data and the value of behavioral modification (Zuboff 2016).

VI

There is no sense in looking at technological artifacts through a moralistic lens, as Marshall McLuhan once advised Neil Postman, because that would be an unfortunate distraction from the goal of understanding new media's true nature altogether (Postman 2000). The "I'm getting pulled over" shortcut created and championed by the Black Lives Matter movement is an example of user appropriation of a technology created with the intention of serving a societal

value, driven by several types of affordances. While the shortcut itself may carry a cultural weight with it, the politics of the iOS *Shortcuts* application itself, much like a society of control, has no designated ‘good’ or ‘bad’ behaviors, but only a range of tolerables, and the systematically-excluded intolerables (Seymour 2019). Apple had historically been rigid in customization allowances with their products, much to the chagrin of their users, though now a more collectively democratic policy has been adopted. While Apple hasn’t completely opened the doors to personal modification of the iOS experience, *Shortcuts* is certainly a step. The company's change of heart pertaining to its previous reluctance may be its redemption, as the ability to see how users appropriate the technology to fit their needs better is quite the asset to a company seeking an embedded role in daily life. While the intentions of *Shortcuts* prove to be accommodating, the extent of the application’s programmability is not accessible to all users, with certain skills and language needing to be acquired within the application or elsewhere before reaching the full potential of customization techniques. The question becomes whether the term ‘shortcut’ in the context of the application is implying a convenience for the user, or for the algorithm responsible for connecting the dots between data and an individual, and the generative entrenchment of a technology giant in the lives of the public.

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Images

Figures 1-3

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Figure 4

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