

Two thirds of Americans use a subscription service for everyday goods, which has created its own economy valued at \$1.5 trillion. Subscription services have become more than just a business model—they're now an entrenched part of American consumer culture. At this point, 75% of direct to consumer companies offer these services. At their best, they make life easy through auto payment and recurring delivery or content. They excite evolutionary pleasure points by triggering variability when the box that arrives each month contains a new, special item. 51% of consumers listed their leading reason for purchasing a subscription box was to try new products. Even better, products that used to be bought outright have an additional lure—they're mostly now free, at least in the beginning. Free trials have proliferated, which when done properly, are a benefit for both the consumer and the company. In the past, a bad product meant wasted money. Now consumers can try before they buy, and cancel if the product is not up to snuff. Companies are no longer able to get away with hoping to pawn off a bad product on an unsuspecting consumer, and have been forced to increase the quality of their offerings, knowing that with the costs of acquisition, they will lose money by losing a consumer after the free trial. This results in shady industry practices that keep the consumer around for as long as possible—hiding cancel buttons deep in a website, doing away with cancel buttons altogether and making the person call in. In some cases, write in. The internet is riddled with horror stories of subscriptions that don't have a way of getting canceled. The sneakiness is not from an underbelly of shady websites, it includes upstanding, well-funded, generally rules following companies, from the New York Times to Fabletics. Only an upswell of angry consumers and bad publicity seems to get an otherwise well-intentioned company to change their unctuous subscription practices. The result is that Americans pay for far more subscriptions than they are aware of—a study found that the average consumer thinks they're spending \$86 per year (?) on subscriptions, when it's actually \$219. A study done in Washington projected that 59% of their population had mistakenly enrolled in a subscription plan, and that 100,000 were unable to cancel plans they wanted out of because it was "too difficult."

Political reaction to one of the largest consumer outrages of our time has been slow. California was early to regulate subscription businesses in 2010, but their response was tempered and other states have been slow to follow. It's only as of this year that New Jersey has taken the lead on cracking down on the deception tactics subscription companies utilize. Their law that just took effect mandates that companies have online, phone and mail cancellation methods, give clear notice of those, and acknowledge the cancellation. Financially-incentivized companies move much faster than politics though, so while this legislation is a good first step, it is more pyrrhic victory than robust consumer protection. Even with stronger legislation though, consumers will still find themselves spending on unwanted subscriptions due to simply forgetting when a free trial ends. We've all done that and realized too late—one of the authors didn't notice as a free month trial for Hulu turned into a \$55 per month charge for over a year, a charge that was not wanted nor caught until too late. The problem is so ubiquitous at this point that whether fraud or forgetfulness, most likely you and those around you have experienced a forgotten or nearly impossible to cancel subscription.

There has been some legal remediation recently. Amazon was sued by the EU for its "dark patterns" in canceling Prime, and now has to adhere to a two click rule for cancellations. The education company Age Of Learning (LA Times) is paying \$10 million to

settle a suit for not properly disclosing a renewing membership fee and forcing consumers to navigate byzantine rules. But these are small wins in an ocean of losses for consumers. There are easy potential laws that would chip away at companies' abilities to undermine cancellation attempts—for instance, number of clicks to cancellation, or a parity law that mandates online cancellation if the sign up initially occurs online—but legislatures for the most part aren't keen on starting down that road of regulation.

People take to the internet to vent their grievances and experiences. Websites dedicated to the topic are a veritable collection of frustrations. The world's "facepalm" hotline, Reddit, has a thread detailing babysitting apps that charge monthly without a booking, children's book apps that continue sending books and charging after cancellation, six months free of a magazine that never arrived while the charges did.

There has been a proliferation of endless-subscription deterring apps and a myriad of ways to approach the cancellation.

## Competition

The competitive space has become more crowded over the years, reflecting the increasing problem that uncanceled trials and subscriptions pose, and also the variety of ways to address it. We can think of the different approaches as functionally covering different corner cases that evolve to evade certain types of solutions. Think of these approaches as somewhere along the spectrum of escalating functions that play to different parts of one's wallet, whether it's the cards in it or the code that reminds of an impending payment deadline. Something that should be noted is that in the spectrum of solutions, none do automated subscription cancellation.

## DoNotPay — Free Trial Surfing

On one side of that spectrum, oddly developed by a software engineer, is Free Trial Surfing. Joshua Browder, a trailblazer in the consumer advocacy space (his original company, DoNotPay, is an AI system that gets people out of unfairly given tickets or fines), started Free Trial Surfing to address the functional gaps of the code-only subscription cancellers. The idea behind Free Trial Surfing is to stop the payment at its source and not deal with the layers built over payments. The company issues a virtual credit card number and a fake name that one uses to sign up for their free trials. Then, when the website attempts to start charging after the free trial ends, the card gets rejected because it has no money on it. Given that most free trials test for sufficient funds when signing up, the company had to pair up with a bank to avoid crashing into the first hurdle (this is not a finance class though, so we won't go into the financial and banking dimension of this mechanism). Such a technique for this function should incite a cynical reaction—namely, if this prodigy coder needed to go as deep into a bank's portfolio as issuing fake credit cards, does that say something about the utility of companies that rely on slick code to prevent payment?

## Mint Premium

Mint uses AI to recognize and inform someone of their subscriptions, but stops short of canceling them for the user. Originally a banking app in the money management space, their approach leverages the credit or debit charges that a person has already given them access to for their banking needs. Given that they already have all the receipts of their customers, we can think of this as a product extension of their primary offering, one that required the building of an AI filter that could match recurring dates, company names and charges to form a high probability guess that the corresponding commerce represents a subscription. An extra layer of complexity is that the AI is not confused by recurring charges, and is able to separate those from subscriptions. Recurring charges are usually necessary, like a heating bill or other utility, or an insurance premium, and the product wisely is able to not confuse those with a Hulu subscription, as it might render itself useless, or at least unusable to weed through.

#### Bobby subscription tracker

Bobby is a subscription tracker that relies on the user to input their various trials and payments. The log is entirely user-generated, and allows someone to put in the length of a trial, the company, category and description. It has the added feature of adding up all the monthly payments to give the user a better idea of their cumulative spend. They notify when a bill is soon to be charged. More of a notification service than actionable features, it demands the user do much of the initial work for subscription recognition and only gives notifications as the result.

#### PocketGuard

PocketGuard functionally has subscription tracking features but is mostly an app for people looking for overall budgeting help. PocketGuard has the user group their spend into categories, so they can more easily see where their money is going for the purpose of being more aware of the breakdown of their spend. Their core value-add is revealing habits that people don't realize consume a lot of their income—something as simple as their coffee every morning becomes a large expense in the long run, and PocketGuard exists to reveal those budget busting but overlooked charges. It has the added feature of attempting to lower one's bills, and can negotiate cable charges on ones behalf. With respect to subscriptions, it will flag recurring charges in case the user is unaware of that regular spend.

#### RocketMoney (Formerly TrueBill)

A consummate banking app, RocketMoney has a feature-rich subscription utility. It organizes subscriptions in and notifies a user when payments are approaching. It uses AI to recognize recurring payments even if the user didn't input it to begin with. Their main offering above competitors though is they have a concierge that enables the user to cancel unwanted subscriptions or free trials run wild. An important element of the subscription canceller is that it uses real people the actual cancel the subscription, which shows how tricky automated technology to accomplish that is. Given that RocketMoney is a holistic banking app, the existence of a concierge fits better with their feature set and banking

model, and is not compatible with a standalone subscription canceller that doesn't have a multitude of income streams and services. They offer credit scores, mortgages and personal loans, and their concierges are likely operating in a full capacity across all their services, making their subscription cancellation services more of a marginal service. They claim to have canceled over \$155 million of subscriptions for their 3.4 million customers. It itself is a paid service and costs between \$3 to \$12 per month depending on the plan.

### **Automated Subscription Cancellation—Current Technological Barriers**

One of the largest hindrances for automating subscription cancellation is a CAPTCHA. A CAPTCHA is a program that protects websites from bots by producing and evaluating tests that humans can pass but current computer programs cannot. For example, a test may include for a user to choose images that contain boats or to read distorted text and type the words into a dialogue box, which currently computer programs can't. Through the process of unsubscribing, a majority of subscription cancellations utilize CAPTCHAs for human authentication. Therefore, without that validation, a computer program could not move forward to finalize or complete the unsubscription.

The next barrier would be around the Login Service API. This API, "...provides endpoints to manage the User Session in Conversational Cloud, such as User Login, Application Login, Logout and Refresh." If subscription services were aware that a software as a service was being created to unsubscribe users from their service then they would not be willing to create partnerships. They would build blockers and use preventative techniques to make it difficult for an easy login and try to create friction in the process.

Another impediment is around data privacy. This is becoming an increasing concern for end users across all web based applications. For one, a person may not want to store their passwords on another website in case of data breach. However, without passwords being saved, the login process could not happen automatically and therefore the process would not be able to be completed end-to-end. In addition, users may not want a company to know all of their subscription information. They may be private about their transactions or be apprehensive that their information can be collected as data and sold to third parties for marketing purposes.

### **What our product is / offers**

First stage of our product will be a repository of all subscriptions a user has. Once they login, they are able to add new subscriptions which will include: company name, trial duration and the date that the trial ends. After saving this information this will allow users to see all of their subscriptions. They will also be able to see what trials are active, what trials are inactive, and what trials have become subscriptions. Our software will then send out reminder emails when the trial is ending, so that users would be able to decide if they wanted to subscribe to the service or end the trial before their paid subscription starts.

The next phase would be to automate filling in the subscription form. The ideal situation is if a user signs up for a trial and all of the information is stored to Tryl automatically. There are two different approaches that could accomplish this. One option would be to have an integration with websites that would allow users to check a box and all of their information would be migrated to Tryl. The other option would be for users to be able to forward their

trial subscription confirmation email to a general inbox, and Tryl would be able to scrub all the pertinent information to the database.

The last phase would be to automate the unsubscription process. This is where we find most of the challenges and would require most work. We would need to solve the human authentication issue that CAPTCHA is currently working to protect. In the final stage of Tryl, users would be able to sign up for trials, have all of their subscription details stored automatically and then be able to decide whether or not they would like Tryl to cancel their trial for them automatically before the paid subscription starts. This would be a carefree seamless process for the user that is concerned that they sign up for trials and end up being subscribed to services for an indefinite period before realizing how much money they have been paying.