An Advertisers Paradise: An Adventure in a Dystopian Post-"Do Not Track World"?

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1   Introduction

The W3C proposal on Do Not Track (DNT)[1] represents just one technical item in the quest to build into the existing web infrastructure for users to assert their preferences over how the information being collected is processed, and of course, in what manner it is being collected in the first place.

The current DNT proposal at minimum represents a single control point placed in the transport layer, in this case, the HTTP stack. DNT's failings come from a number of misunderstandings and misrepresentations of this, often stemming from the fact that this is just one control point with a certain scope and that the DNT protocol (because of this) is honour based in that it relies upon the good will of the receiver and not on the abilities of the client software closest to the user.

Secondly the scope of DNT is not sufficiently defined and as we have seen, this has extended to cookie management and lately fingerprinting technologies; such as tracking over browser characteristics such as the user agent string.

This paper does not attempt to address DNT's strengths and weaknesses. Indeed it is the belief of the author that this attempt to develop such protocols has positively focussed the discussion of what tracking really means rather than the underlying technology for implementing tracking prevention. At this stage this is an extremely good thing as it finally starts to bring technology itself and the engineering of privacy to the fore in the whole privacy discussions which is somewhat currently overwhelmed by legal and consumer advocacy positions.

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[1] W3C (2012) Tracking Preference Expression (DNT) W3C Working Draft 02 October 2012

As the focus here is to look beyond DNT, rather than concentrating on the technology, we can look at some expectations and consequences of such a technology, or at least some of the unexpected consequences that this might lead to.

The format of this is initially presented in the form of a short 'science-fiction' story[2], which may be viewed as somewhat extreme and something that most likely will not happen. However as we have seen in law making, science, economic theory etc, the consequences of one decision can be quite dramatic and unexpected.

It is the author's belief that the somewhat dystopian future described here probably won't happen, or at least, won't happen in the form described here. The purpose of this paper is to direct some focus on to what kind of developments might happen in the light of unexpected consequences of our collective decisions relating to privacy.

As background to this piece, it is an adaption of a short story written by Stephen Baxter called Glass Earth Inc., which appeared in the short story collection Future Histories edited by Stephen McClelland which collectively address possible futures enabled by developments in communication technologies which are enabled by said technologies.[3]

2   One Day in October 2018

Since the World Privacy Laws of 2013 all browsing was legislated to be anonymous. Even to the point that detailed semantic analysis to reveal the user was no-longer permissible. Indeed this had triggered some of the deepest research and insights into semiotics, semantics and information theory and its application into everyday life as revolutionary as the original World Wide Web. By 2017 two Nobel Prizes had been won directly stemming from this work such was its profound nature: one in physics on the subject of semantics and information theory, the other in economics. From the perspective of advertising, today's web is quite unlike the spam filled, chaotic, intrusive and unstructured advertising mess that so amply characterised the first fifteen or so years of the 2000s.

Initially there was a backlash amongst the advertisers and near war between them, the privacy evangelists and the technology providers. The outcry and resultant, hastily passed laws - initially starting in the EU and Canada and (surprisingly) rapidly spreading to the USA enforced anti-tracking compliance. By mid 2015 most advertisers had given up and the once mighty search and social media giants struggling with a need to find a new business model.

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[2]NB: The author does not write science-fiction and has no aspirations of doing so as a career - this might be welcomed by the reader(s)

[3]Stephen Baxter (1997) Glass Earth, Inc. In: (eds.) Stephen McClelland. Future Histories. Horizon House and Nokia Corp. 0-9530648-0-8

This new anonymity for users proved to something of a new freedom for users but left much of the commercial side of the internet stagnating. Out of this emerged a compromise: a centralised advertising proxy run as a government-independent private enterprise who would (sic.) *guarantee anonymity* from the producers and advertisers at the expense of each individual being required *not just to view* a certain amount of advertisements but to *interact* with them to ensure that the advertisement had actually been read. A person's quota would become the new currency of the internet and be based upon your social network, your willingness to promote products and ultimately to purchases.

Because of the necessity for personal anonymity, the specific details of the mechanisms of how this worked were somewhat confidential. That didn't seem to overly concern users, nor the privacy advocates, nor the advertisers - everyone got their share - *for privacy's sake...*

<p align="center">* * *</p>

John sat down at his office computer that morning, coffee in hand. London was never easy in the mornings, but a 45 minute trip on the tube gained him 45 advertisement credits - a bargain despite the veritable bombardment of special offers, new products, old products, brands and names on the senses.

With 200 advertisement credits left for the day, including the deduction for the London-McDonalds Bonus. The arch across the Thames was hideous, but 100 credits deducted from the normal daily tally was worth it. Some even said that next year's proposed Coca-Cola's branding of Tower Bridge might even bring another 100 credits deduction - who knows how many credits they would get for Pepsi's proposed sponsorship of Big Ben?!

Two hundred credits usually meant an hour or so of viewing and interacting with advertisements. Hell, he might just have to make that purchase of a computing device: a great offer this month tempted him with its bundled 2000 advertisement credits. Not that John needed another device, but almost two weeks without having to go through this daily routine...

Funny how one remembers the days when people complained about targeting advertising on the screen saver or when they were playing a game...oh those halcyon days of 2012...

It was an inevitable part of the deal..an anonymous internet for forced advertisement consumption via some centralised proxy, or whatever they were - part search engine, part advertiser, part social network.

That always bothered him to a point - most didn't really care - but they always seemed to know what advertisements to show him...a little too good given that the rest of the internet was anonymous; then again they were the only provider of advertisements now. Maybe that's why here was here, despite his job seemingly

almost futile now: privacy has been solved hadn't it?

The computer played the advertisements and almost subconsciously he clicked each strategically to demonstrate that he had sufficiently read the contents - it took him a while to acquire the skill to do that well enough to fool the system but once gained it freed him to perform some degree of multitasking. People were offering courses in 'strategic advertisement interaction' now; illegal in some US states apparently - a new black market forming?

A new breed of advertisements were coming too - multiple, cross-referenced adverts that demanded your understanding too.

He used a pen and paper, his little eccentricity...he toyed with various ideas, maybe even a novel of some kind, a great adventure possibly to relieve his frustration and boredom? He scribbled the line: *"In a hole in the ground there lived..."*. John smiled and continued writing, penning the title:

Globally Targeted Advertisement Tracking Preference Expression (DNT)
W3C Working Draft - October 2018

3   Discussion

Despite the whimsical nature of the story and the very real lack of technical explanation, the point here is to focus discussion on what we want to achieve through prevention-of-tracking technologies and what the unexpected consequences of those decisions might be based upon the very real needs to business, infrastructure and the end users: What would an internet without tracking look like?

If we succeed in limiting tracking do we destroy an industry(ies) or do we open ourselves for new business opportunities and in what form will these opportunities take? Would advertisers and anti-tracking product makers team up and provide for a self-fulfilling prophecy? Do anti-virus software vendors write viruses?

There is some current criticism on the speed of technical development of DNT - somewhat unfairly due to the scope of the problem and only now the technical aspects of privacy are being addressed. We still do not have a good theory of privacy or even common terminological framework that unifies the engineers, scientists, mathematicians, lawyers and consumer advocates - let alone the end-user - yet. Even when technical solutions appear are the three major factions[4] in this area even agreeing on the speed of development? What might be slow, painful work to one group is too fast for another.

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[4]I split this area into engineers/scientists (technical), legal and consumer advocacy

If we lose tracking with its identification issues, what does identity, linking and anonymity really mean in this environment? Would the pseudo-anonymity be acceptable? Would individual people be subject to a single identity or single pseudo-identity, or even, would multiple persona become the norm for everyone.

Compliance and enforcement would potentially lead to some kind of software certification for privacy. What effect might this have? Obviously all software would have to be certified before deployment in much the same way as medical, avionics and other safety-critical system are. Do we even have the necessary software engineering skills to fulfill this?

To summarise, while there are criticisms of DNT and related technologies in this area from various viewpoints, DNT **has** succeeded in opening up a more general discussion on the nature of privacy. Whatever DNT and related, forthcoming and future technologies lead to (as well as the development of legal and consumer advocacy), we must not be complacent regarding their effects and thus exceptionally careful not to create a dystopian disaster by being careless or too eager.