

*Before the*  
FEDERAL TRADE COMMISSION  
Washington, DC 20580

**In the Matter of** )  
 )  
**“Privacy and Security Implications** )  
**of the Internet of Things,”** )  
**an FTC Public Workshop** )  
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**COMMENTS OF**

**The Center for Digital Democracy**

1 June 2013

The Center for Digital Democracy is pleased to take this opportunity to offer its comments in anticipation of the Federal Trade Commission’s upcoming public workshop on the “Privacy and Security Implications of the Internet of Things.” This discussion is especially timely. For despite the commission’s insistence on couching its inquiry in terms of “the not too distant future,” CDD is convinced that this future has already arrived, driven by advances in mobile, geo-location applications, increasingly sophisticated facial recognition systems, digital signage applications, offline and online data tracking and targeting, and the attendant growth of “advanced advertising,” including real-time ad targeting exchanges.<sup>1</sup> The “Constant Connectivity” that is emblematic of today’s digital consumer provides the framework for addressing the Internet of Things—now.<sup>2</sup> The commission has lagged in developing the privacy and consumer safeguards necessary to protect consumers from the array of contemporary services that now closely follow and analyze them throughout their daily lives. Of significant concern is the need to ensure that sensitive data applications, involving finances, health, ethnicity/race, and youth, among others, are addressed.

Indeed, as we urged in our July 2012 Comments to the Federal Communications Commission (CC Docket No. 96–115, Telecommunications Carrier's Use of Customer Proprietary Network Information and Other Customer Information),

Mobile marketers continue to expand their mobile and location data collection practices with insufficient regard to consumer privacy—placing the public at risk. Given the growing use of mobile phones and locational applications delivering critical services involving personal finances and

health information, it is incumbent on the FCC (and FTC) to develop safeguards that empower the public to be in charge of mobile data collection.<sup>3</sup>

Far from a science-fiction plot in which the machines, for good or ill, collectively assert their free will, the IP connectivity that is at the heart of the “Internet of Things” is well established—and increasingly monetized—in the mobile marketplace. Relatively few household appliances or medical devices today have been imbedded with IP addresses, it is true. But the advertising-driven data collection system that will one day undergird such connectivity (and which already grows more pervasive and powerful every day, we would argue) is well established.<sup>4</sup> Marketers help embed data collection applications for targeted marketing within new and emerging platforms and services.<sup>5</sup> Consumers confront widely used but little known tracking marketing paradigms—such as Path to Purchase and SoLoMo—which reflect how consumers are being monitored and subsequently reached whether they are at home, in the street, or shopping.<sup>6</sup>

The mobile phones that the vast majority of Americans carry with them everyday, after all, are chief among the many “things” that are now part of the Internet universe.<sup>7</sup> As CDD filed at the FCC in 2012,

... mobile devices, no longer a luxury or merely an option, have become a fundamental part of the communications and marketing landscapes—increasingly integrated into the broader cross-platform system of digital marketing, data collection, and targeting. Second, these devices are unique, with specially designed user interfaces that raise significant consumer protection and privacy issues. Third, the growth of the “mobile marketing ecosystem,” and the rise of locational targeting, pose new challenges to consumers as they confront sophisticated and non-transparent techniques designed to collect and manipulate their information for marketing and other purposes.<sup>8</sup>

The power of the mobile revolution, and its enormous impact on so many aspects of our personal and professional lives, has been amply chronicled. But consumers are largely unaware of the dramatic growth of mobile marketing applications that identify and target them in real time. Marketers are directing these changes, as a leading marketer focused on the mobile platform wrote recently in the *Harvard Business Review*:

Mobile technology presents all marketers with a tantalizing proposition. Mobile devices function like an extension of ourselves, present throughout every moment of our day, an arm's reach away at night, and panic-inducing when outside our reach. They are globally ubiquitous, and ownership frequently transcends economic and social boundaries. ... The key reason behind this hesitation is the speed at which mobile reached scale, coupled with the unrelenting pace of disruption in the mobile ecosystem. To

understand this rapid scaling relative to other landmark consumer electronics, consider this: It took 38 years for the radio to reach an audience of 50 million consumers, 13 years for television, four years for the Internet, but only two years for the iPhone.<sup>9</sup>

New mobile and geo-location technologies enable more precise tracking and targeting of users, through such techniques as “geo-fences” that alert users to special offers available from nearby merchants.<sup>10</sup> The extent to which marketers can now stalk mobile users is clear when examining geofences, which allow “developers to draw any area on a map—a circle, a polygon—a state border—and create a ‘trigger’ event when a mobile device enters or exits the virtual area. The trigger can be a marketing offer, an alert or alarm, a log file or an event record. Typical geofences include areas around retail store locations, malls, airports, arenas, schools or state boundaries.”<sup>11</sup> Highly hyper-local mobile targeting now enables marketers to identify a consumer in real time who may be near a competitor’s store, who can then be reached via the mobile device to come to a different nearby location.<sup>12</sup>

The growth of mobile ad targeting, especially through ad exchanges, illustrates how a consumer can now easily be identified and sold to the highest bidder in milliseconds.<sup>13</sup> Marketers and agencies have focused considerable resources to understand how mobile device users behave, and the best ways to target them. Perhaps one of the most emblematic illustrations in how today’s digital medium provides real-time targeting is the growing use of mobile coupons, which has been widely embraced by consumers. The growth of Quick Response Codes also helps connect the geographic environment with online consumers’ digital experience.<sup>14</sup>

Current data practices reflecting the growing use of “Big Data” applications now allow for the nearly instantaneous merging of offline and online data for consumer profile-based targeting. Facebook and many others are also increasingly merging shopper buying data with online information so a user can be specifically targeted. Consumers can now be tracked across all of their major platforms as well.<sup>15</sup>

Companies like Google have developed a marketing paradigm that reflects the consumer’s journey both online and in the real world. Known as the “Path to Purchase,” this 360-degree approach outlines precisely where consumers can be tracked and targeted, both online and off, overtly and covertly.<sup>16</sup> Advances in shopper marketing and facial and gesture recognition locational technologies contribute to the infrastructure of pervasive consumer tracking at the core of today’s Internet of Things.<sup>17</sup>

Despite the FTC’s 2012 privacy report, with its call for just-in-time consumer notification and other safeguards, the combined impact of the mobile marketing and real-time data revolution and the Internet of Things places consumer privacy at greater risk than ever before. The need for new, more robust safeguards is especially clear in the areas of financial and health-related transactions online—as

well as in all matters concerning multicultural groups and children, who are growing up in this new era of pervasive computing.<sup>18</sup>

In the financial area, the pending growth of mobile wallet is just the latest example of how both consumers and marketers are conducting transactions in real time. Consumers now can be targeted on the spot for a payday loan or some other financial product. Hardly anyone is aware of how financial marketers are using mobile and social media, as well as ad exchanges, to target a consumer for a financial matter.<sup>19</sup> In the health area, a consumer's "patient journey" is closely tracked and analyzed, and they are offered up to pharmaceutical companies, surgery centers and other medical marketers.<sup>20</sup>

Hispanics, African Americans, and Asian Americans are in the forefront of using mobile devices, in part because that is one of the most affordable methods to obtain Internet access. These multicultural groups are being targeted in real time with an array of mobile and social media data-driven targeting, including for financial and health services. They require a special focus from the commission as it examines this issue.<sup>21</sup> Finally, teens are often at the epicenter of the real-time tracking and targeting environment. The commission has previously acknowledged that they require unique safeguards, and they should also receive attention as it examines this issue.<sup>22</sup>

The FTC should focus its work on the Internet of Things to include a thorough examination of the current landscape and its impact on privacy and consumer protection. By engaging stakeholders in a debate on what is required *today*, the commission may contribute in better safeguarding the public in the digital world of tomorrow.

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<sup>1</sup> Jörg Müller, Florian Alt, Daniel Michelis, *Pervasive Advertising* (New York: Springer, 2011).

<sup>2</sup> Lisa Gevelber, "The Shift to Constant Connectivity," Google Think Insights, May 2013, <http://www.google.com/think/articles/shift-to-constant-connectivity.html>; Google, "Mobile," <http://www.google.com/think/ad-types/mobile.html>; "GroupM Next Study Illuminates the Evolving Role of Digital in the Consumer Journey," BusinessWire, 30 May 2013, <http://www.businesswire.com/news/home/20130530005449/en/GroupM-Study-Illuminates-Evolving-Role-Digital-Consumer> (all viewed 1 June 2013).

<sup>3</sup> Center for Digital Democracy, "Telecommunications Carrier's Use of Customer Proprietary Network Information and Other Customer Information, CC Docket No. 96-115," comments filed with the Federal Trade Commission, 13 July 2012, p. 2, <http://www.centerfordigitaldemocracy.org/sites/default/files/CDDFCCfiling071312.pdf> (viewed 29 May 2013).

<sup>4</sup> See, for example, Center for Digital Democracy and U.S. PIRG, "Complaint and Request for Inquiry and Injunctive Relief Concerning Unfair and Deceptive Online Marketing Practices. Federal Trade Commission Filing," 1 Nov. 2006, [http://www.centerfordigitaldemocracy.org/sites/default/files/FTCadprivacy\\_0\\_1.pdf](http://www.centerfordigitaldemocracy.org/sites/default/files/FTCadprivacy_0_1.pdf); Center for Digital Democracy and U.S. PIRG, "Supplemental Statement In Support of

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Complaint and Request for Inquiry and Injunctive Relief Concerning Unfair and Deceptive Online Marketing Practices,” Federal Trade Commission Filing, 1 Nov. 2007, [http://www.centerfordigitaldemocracy.org/sites/default/files/FTCSupplemental\\_statement1107\\_0.pdf](http://www.centerfordigitaldemocracy.org/sites/default/files/FTCSupplemental_statement1107_0.pdf). See also EPIC, Center for Digital Democracy, and U.S. PIRG, “In the matter of Google, Inc. and DoubleClick, Inc., Complaint and Request for Injunction, Request for Investigation and for Other Relief, before the Federal Trade Commission,” 20 Apr. 2007, [http://www.epic.org/privacy/ftc/google/epic\\_complaint.pdf](http://www.epic.org/privacy/ftc/google/epic_complaint.pdf); EPIC, Center for Digital Democracy, and U.S. PIRG, “In the matter of Google, Inc. and DoubleClick, Inc., Second Filing of Supplemental Materials in Support of Pending Complaint and Request for Injunction, Request for Investigation and for Other Relief,” 17 Sept. 2007, [http://epic.org/privacy/ftc/google/supp2\\_091707.pdf](http://epic.org/privacy/ftc/google/supp2_091707.pdf) (all viewed 29 May 2013).

<sup>5</sup> Interactive Advertising Bureau, “Guidelines, Standards & Best Practices,” <http://www.iab.net/guidelines> (viewed 1 June 2013).

<sup>6</sup> Brian Stoller, “Column: Mobile Marketers Are Way Too Slow for SoLoMo World,” 13 Feb. 2013, <http://www.adweek.com/news/technology/column-mobile-marketers-are-way-too-slow-solomo-world-147254>; Amy Gesenhues, “New Google Analytics Path To Purchase Report Provides Benchmark Data On 11 Different Industries,” *Marketing Land*, 25 Apr. 2013, <http://marketingland.com/new-google-analytics-path-to-purchase-report-provides-benchmark-data-on-11-different-industries-41455> (both viewed 1 June 2013).

<sup>7</sup> Google, “Our Mobile Planet: United States,” May 2012, [http://ssl.gstatic.com/think/docs/our-mobile-planet-united-states\\_research-studies.pdf](http://ssl.gstatic.com/think/docs/our-mobile-planet-united-states_research-studies.pdf) (viewed 30 May 2013).

<sup>8</sup> Center for Digital Democracy, “Telecommunications Carrier's Use of Customer Proprietary Network Information and Other Customer Information, CC Docket No. 96–115,” pp. 2-3. See also IAB, “Mobile Rising Stars Ad Units,” <http://www.iab.net/risingstarsmobile>; Mobclix, “Meet the Advertising Partner You’ve Always Wanted,” <http://www.mobclix.com/advertisers.html> (both viewed 13 July 2012).

<sup>9</sup> B. Bonin Bough, “Four Ideas for Creating Mobile Strategy,” *HBR Blog Network*, 6 Mar. 2013, [http://blogs.hbr.org/cs/2013/03/four\\_ideas\\_for\\_creating\\_mobile.html](http://blogs.hbr.org/cs/2013/03/four_ideas_for_creating_mobile.html) (viewed 29 May 2013). See also, “Vision Statement: How People Really Use Mobile,” *Harvard Business Review*, Jan.-Feb. 2013, <http://hbr.org/2013/01/how-people-really-use-mobile/ar/1> (registration required); Leslie A. Perlow, “Are You Sleeping With Your Smartphone?” *HBR Blog Network*, <http://blogs.hbr.org/hbsfaculty/2012/05/are-you-sleeping-with-your-sma.html> (viewed 29 May 2013).

<sup>10</sup> Placecast’s ShopAlerts service, for example, “creates a ‘magical marketing moment’ that makes everyone happy: brands get increased store traffic and more purchases, and customers get the inside scoop and convenient mobile offers they want.” Placecast, “Solutions,” <http://www.placecast.net/shopalerts/brands.html> (viewed 29 May 2013).

<sup>11</sup> Locaid, “Geofences,” <http://www.loc-aid.com/geofence>. See also, SAS Software, “Mobile Ad Strategies: Geo-Targeting,” YouTube, 2 Mar. 2013, [http://www.youtube.com/watch?v=q0IY\\_EsvTDs](http://www.youtube.com/watch?v=q0IY_EsvTDs); Locaid, “Locaid Xchange Gateway,” [http://www.loc-aid.com/sites/pdf/Location\\_XChange\\_Datasheet.pdf](http://www.loc-aid.com/sites/pdf/Location_XChange_Datasheet.pdf) (all viewed 29 May 2013).

<sup>12</sup> PlaceIQ, “PIQ Customer and PIQ Customer Plus,” <http://www.placeiq.com/products/piq-customer-piq-customer/>; “AcuityAds Takes Geotargeting to the Next Level with Digital

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Element's IP Geolocation Technology," 21 May 2013, [http://www.digitalelement.com/press\\_room/AcuityAds\\_Takes\\_Geotargeting\\_Next\\_Level.html](http://www.digitalelement.com/press_room/AcuityAds_Takes_Geotargeting_Next_Level.html); Mark Walsh, "70% Of Mobile QSR Campaigns Use Location Targeting," *Online Media Daily*, 30 May 2013, <http://www.mediapost.com/publications/article/201362/70-of-mobile-qsr-campaigns-use-location-targeting.html#axzz2UzZcLGww> (all viewed 1 June 2013).

<sup>13</sup> Mobclix, <http://www.mobclix.com/>; Nexage, <http://www.nexage.com/> (both viewed 1 June 2013).

<sup>14</sup> Interactive Advertising Bureau, "Mobile Marketing Center of Excellence: Growing Mobile for Everyone," <http://www.iab.net/mobilecenter>; "Marketers and Publishers Unite to Unlock the Secrets of Tablet Advertising," PR Newswire, 3 Apr. 2013, <http://www.prnewswire.com/news-releases/marketers-and-publishers-unite-to-unlock-the-secrets-of-tablet-advertising-201250311.html>; Rachel Lamb, "QR Codes: Do Them Right or Not at All," *The Mobile Retail Blog*, 6 May 2013, <http://www.themobileretailblog.com/in-store-shopper-marketing/qr-codes-do-them-right-or-not-all/>; eMarketer, "Digital Coupons, Mobile Give Cheapskates Staying Power," 29 Apr. 2013, <http://www.emarketer.com/Article/Digital-Coupons-Mobile-Give-Cheapskates-Staying-Power/1009847> (all viewed 1 June 2013).

<sup>15</sup> BlueKai, "Data Activation: The Data Exchange," <http://www.bluekai.com/bluekai-exchange.php>; Cotton Delo, "Facebook to Partner With Acxiom, Epsilon to Match Store Purchases With User Profiles," *Advertising Age*, 22 Feb. 2013, <http://adage.com/article/digital/facebook-partner-acxiom-epsilon-match-store-purchases-user-profiles/239967/>; "Catalina Launches Personalized Mobile Advertising For CPG Brands," 11 Mar. 2013, <http://finance.yahoo.com/news/catalina-launches-personalized-mobile-advertising-142500028.html>; Drawbridge, <http://www.drawbrid.ge/> (all viewed 1 June 2013).

<sup>16</sup> See, for example, Google, "The Customer Journey to Online Purchase," <http://www.google.com/think/tools/customer-journey-to-online-purchase.html>; The Oath to Purchase Institute, <http://p2pi.org/>;

<sup>17</sup> Viziware, "How Viziware Works," <http://www.viziware.com/solution.html>; Dawn Klingensmith, "Harnessing Big Data," *Path to Purchase Institute*, 28 Apr. 2013, <http://p2pi.org/node/121917> (both viewed 1 June 2013).

<sup>18</sup> For the growing use of mobile phones for financial transactions, see Rimma Kats, "Why the Mobile Wallet Will Reign in 2013," *Mobile Commerce Daily*, 7 Jan. 2013, <http://www.mobilecommercedaily.com/why-the-mobile-wallet-will-reign-in-2013>; Google, "Google Wallet Overview," YouTube, 1 Aug. 2012, <http://www.youtube.com/watch?v=VuFVsaFCzsw>; (both viewed 30 May 2013). Monitise, "Mobile Wallet: Six Elements of a Successful FI-Driven Mobile Wallet Strategy," Feb. 2013, <http://info.monitise.com/6-Elements-of-mWallet-Strategy-WP.html> (registration required). For the impact of digital technologies on healthcare (and the privacy threats therein), see Center for Digital Democracy, U.S. PIRG, Consumer Watchdog, and World Privacy Forum, "In the Matter of Online Health and Pharmaceutical Marketing that Threatens Consumer Privacy and Engages in Unfair and Deceptive Practices. Complaint, Request for Investigation, Public Disclosure, Injunction, and Other Relief: Google, Microsoft, QualityHealth, WebMD, Yahoo, AOL, HealthCentral, Healthline, Everyday Health, and Others Named Below," Federal Trade Commission Filing, 23 November 2010,

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<http://www.democraticmedia.org/sites/default/files/2010-11-19-FTC-Pharma-Filing.pdf> (viewed 15 May 2013); Center for Digital Democracy, "Written Comments: Promotion of Food and Drug Administration-Regulated Medical Products Using the Internet and Social Media Tools," Food and Drug Administration filing Re: Docket No. FDA-2009-N-0441, 28 Feb. 2010, <http://www.democraticmedia.org/files/u1/2010-02-28-FDAcomments.pdf> <http://www.democraticmedia.org/sites/default/files/2010-11-19-FTC-Pharma-Filing.pdf> (viewed 15 May 2013). For the threat that mobile and location-based advertising poses to young people's privacy in particular, one need look no further than at the invasive practices of Facebook. See, for example, Cotton Delo, "Facebook to Partner With Acxiom, Epsilon to Match Store Purchases With User Profiles," *Advertising Age*, 22 Feb. 2013, <http://adage.com/article/digital/facebook-partner-acxiom-epsilon-match-store-purchases-user-profiles/239967/> (viewed 30 May 2013).

<sup>19</sup> Ben Plomion, "Retargeting with Facebook Exchange (FBX)," Chango Blog, 2 May 2013, <https://www.chango.com/blog/Retargeting-with-Facebook-Exchange>; Jason Ankeny, "MCX Taps Gemalto to Build Cloud-based Mobile Wallet," *Fierce Mobile Content*, 17 Apr. 2013, <http://www.fiercemobilecontent.com/story/mcx-taps-gemalto-build-cloud-based-mobile-wallet/2013-04-17>; Roger Cheng, "How MasterCard Plans to Transform Mobile Purchases," *C|Net*, 24 Feb. 2013, [http://reviews.cnet.com/8301-13970\\_7-57570783-78/how-mastercard-plans-to-transform-mobile-purchases/](http://reviews.cnet.com/8301-13970_7-57570783-78/how-mastercard-plans-to-transform-mobile-purchases/); Chantal Tode, "Google Takes Lessons from PayPal, Apple's Passbook to Drive Mobile Wallet Adoption," *Mobile Commerce Daily*, 20 May 2013, <http://www.mobilecommercedaily.com/google-takes-lessons-from-paypal-apple-playbooks-to-drive-wallet>; Edmund Mierzwinski and Jeffrey Chester, "Selling Consumers, Not Lists: The New World of Digital Decision-Making and the Role of the Fair Credit Reporting Act," *Suffolk University Law Review*, 1 Oct. 2012, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2188560](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2188560) (all viewed 1 June 2013).

<sup>20</sup> Google, "Healthcare," <http://www.google.com/think/industries/healthcare.html>; Catalina Health, "Solutions," <http://www.catalinamarketing.com/health/solutions/video.php> (both viewed 1 June 2013).

<sup>21</sup> Center for Digital Democracy, "Digital Target Marketing to African Americans, Hispanics and Asian Americans: A New Report," 18 Feb. 2013, <http://www.centerfordigitaldemocracy.org/digital-target-marketing-african-americans-hispanics-and-asian-americans-new-report>; Center for Digital Democracy, "Targeting the Digital Latino: FTC Needs to Address how Digital Marketers are Tracking Hispanic Consumers, inc. Youth," 28 May 2013, <http://www.democraticmedia.org/targeting-digital-latino-ftc-needs-address-how-digital-marketers-are-tracking-hispanic-consumers-inc> (both viewed 1 June 2013).

<sup>22</sup> Lucia Moses, "One in Four Teens Uses a Cellphone to Get Online," *Adweek*, 16 Apr. 2013, [http://www.adweek.com/news/advertising-branding/one-four-teens-use-cellphones-get-online-148577?utm\\_source=newsletter&utm\\_medium=email&utm\\_content=04-17-2013&utm\\_campaign=advertising\\_&branding](http://www.adweek.com/news/advertising-branding/one-four-teens-use-cellphones-get-online-148577?utm_source=newsletter&utm_medium=email&utm_content=04-17-2013&utm_campaign=advertising_&branding); "Gen Z: Digital in Their DNA—Study Examines Attitudes and Tech Habits of Teens and Tweens, and Their Parents," *JWT*, 18 Apr. 2012, <http://www.jwt.com/genzdigitalintheirdnastudyexaminesattitudesandtechhabitsofteensandtweensandtheirparents> (both viewed 1 June 2013).