

(Digital) Footprint, Profiling, and Surveillance

(數位) 足跡、剖繪、與監控

2020-07-29

Forum on “National ID Card & Personal Identification in the Digital Era”
「數位時代下的國民身分證與身分識別」研討會

Tyng-Ruey Chuang
Academia Sinica (IIS, CITI & RCHSS)

莊庭瑞
中央研究院 (資訊所、資創中心、人社中心)

Concepts 概念

- Surveillance 監控、監視、監察
- Persistent Identifiers 持續識別碼
- Profiling 剖析、描繪、剖繪
- Footprint / Trace 足跡
- Online Resources 線上資源
 - Wikipedia! 維基百科！
 - Taiwan Association for Human Rights 台灣人權促進會
 - 隱私權專題 <https://www.tahr.org.tw/issues/privacy>
 - *TAHR PAS* 2014 春季號：數位時代公民權 <https://www.tahr.org.tw/publication/1369>
 - Electronic Frontier Foundation 電子前鋒基金會 <https://www.eff.org/>
 - Course materials 課程資料
<https://www.iis.sinica.edu.tw/~trc/public/courses/MassSurveillance2014F/>

Surveillance 監控

- A notion of comprehensiveness: Time **duration**, spatial **extent**, sizable **population**, fine **resolution**, long-term **archive**, on-demand **analysis**

全面性的意涵：時間長度、空間範圍、人口數量、精細刻度、長期保存、隨時分析

- Surveillance can be on a group, on a target, or on an unknown;

Surveillance is done by governments, corporations, and individuals

對群體、對特定目標、或是對非特定個體的監控；政府、商業機構、個人都可為之

- Surveillance can be mutual, e.g. the use of Amazon Ring in a community;

Cross-breeding, e.g. Amazon Ring and the police departments

相互監控，例如於社區之內。監控的彼此加持，例如社區與警政之間





“Ring cameras turn neighborhoods into surveillance networks. But do they really slash crime?” Glenn Harvey / for NBC News

<https://www.nbcnews.com/news/all/cute-videos-little-evidence-police-say-amazon-ring-isn-t-n1136026>

(Data) Surveillance (資料) 監控

- “Collect it all, tag it, store it. . . . And whatever it is you want, you go searching for it.”
 - what had been said about Keith B. Alexander's program at the NSA
- 「先都收起來，作好標記、存起來……，任何你要的題目對象，你就去查找。」
 - 用來描述美國國安局局長 Keith B. Alexander 作法的一段話
- Power asymmetric in surveillance 非對稱的權力關係
- Surveillance leads to behavior change and coercion 監控導致在行為和意念上的改變



“... people are reluctant to use their rechargeable Octopus cards for fear of leaving a paper trail of them having been present at the protest.” – @maryhui, Jun 12, 2019

<https://twitter.com/maryhui/status/1138675837165641733/>

Persistent Identifiers (PIDs) 持續識別碼

- PIDs link together multiple entities, cross-reference various attributes
透過持續識別碼可連結多項資料來源，拼接不同的屬性值
- PIDs of things: phones (IMSI/IMEI), IP addresses, MAC addresses, car license plate numbers, e-payment card numbers (anonymous or not)
關於物件的持續識別碼：電話、IP 位址、機器特有位址、車牌號碼、電子票證號碼（與匿名與否無關）
- PIDs relating to people: national IDs, credit cards, bank accounts, login names, social media handles, nicknames
關於人物的持續識別碼：身分證字號、信用卡號、銀行帳號、系統登入名稱、社群媒體代稱、暱稱

Persistent Identifiers (PIDs) 持續識別碼

- PIDs of activities: transaction records, serial numbers, etc.
關於活動的持續識別碼：交易紀錄編號、序號等
- PIDs are machine readable and embedded in daily activities
持續識別碼可為機器讀取，日常生活中到處都是
- PIDs can be unique; even if not so still useful in cross-linking entities and activities
持續識別碼可以是唯一的；即使不是依舊可用於串接個體與活動

Profiling 剖析、描繪

- Profiling on a group, on a target, or on an unknown
 - What can be inferred about a subject based on the data already collected about them? How can these profiles be used for profits and/or against them?

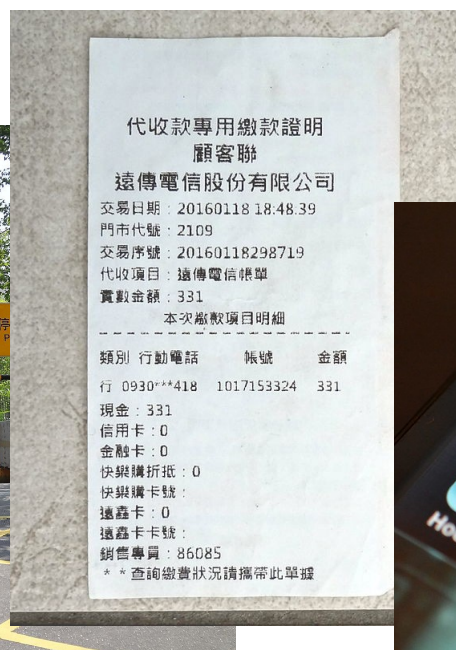
對群體、特定目標與非特定個體的剖繪

- 就手邊關於這些人的資料，可以推演出什麼？這能否用於牟利或是對付他們？
- Continuous profiling based on data collected from consumption behaviors, social media and interactions, transportation logs, etc.
從消費行為、社群媒體的發文互動、交通紀錄等進行常態性的剖繪

Profiling 剖析、描繪

- (conceptual) comprehensive surveillance vs. fragmentary profiling
(概念上) 監控是全面的：剖繪是碎片的
- (pragmatic) PIDs interlink various profiles from multiple sources
(實務上) 持續識別碼可用來連結來自不同來源的剖繪碎片

By Shizhao, CC BY SA 3.0, <https://commons.wikimedia.org/>



Both images by Solomon203, CC BY SA 4.0, <https://commons.wikimedia.org/>

Jason Howie, CC BY 2.0, <https://www.flickr.com/photos/jasonahowie/7910370882>

Digital Footprint 數位足跡

- Digital footprints are embedded with PIDs
數位足跡內嵌著持續識別碼
- Interlinked PIDs leads to accurate profiling
相互串接的持續識別碼導致精細的剖繪
- Large-scale accurate profiling is surveillance
大規模、精細的剖繪就是監控