mcmillan

Emerging technologies and Privacy Issues 2010: Location-based services



The Canadian Bar Association 2010 National Administrative Law, Labour & Employment Law and Privacy & Access Law Conference November 26, 2010

2010 is the year for Location-based services...

- December '09: Twitter purchases LBS provider Midxer Labs to know the location of tweets
- March '10: Twitter users can add their current location to their tweets
- March '10: Revised FB policy hints at location tagging
- April '10: Google publishes on its blog "the importance of geolocation services"
- June '10: Apple modifies its privacy policy to include its location data handling practices
- August '10: Facebook and new "Places" feature (available in Canada in September)
- September '10: Motorola purchases LBS provider Aloqa GmbH





What are location-based services?









Various uses for location data

- Location specific wireless features (ex: Location-based billing)
- Employee monitoring
- Taxi, trucks and cargo management
- Road and traffic engineering and planning (ex. Intelligent Transportation Society of America)

But also...





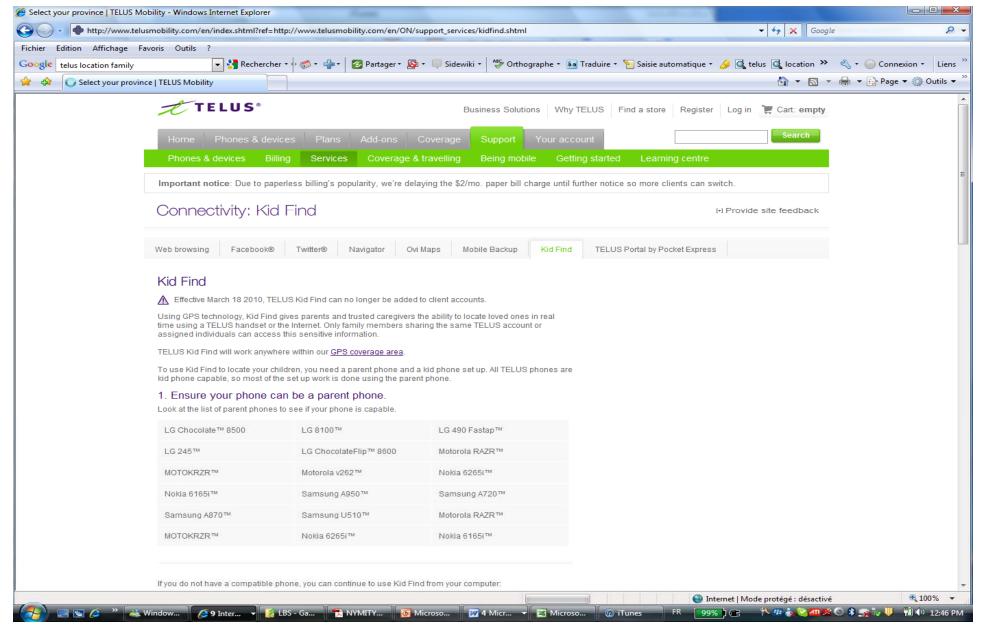
Various uses for location data

- Safety and Emergency Services:
 - e911, roadside assistance
 - Emergency warnings (closed roads, natural disaster, etc.)
 - Criminal investigations and National security
 - Compliance and security purposes (hospitals, governments buildings, etc..)
 - People tracking (ex. Family watch, Digital Angel, etc..)





People tracking (Family watch)



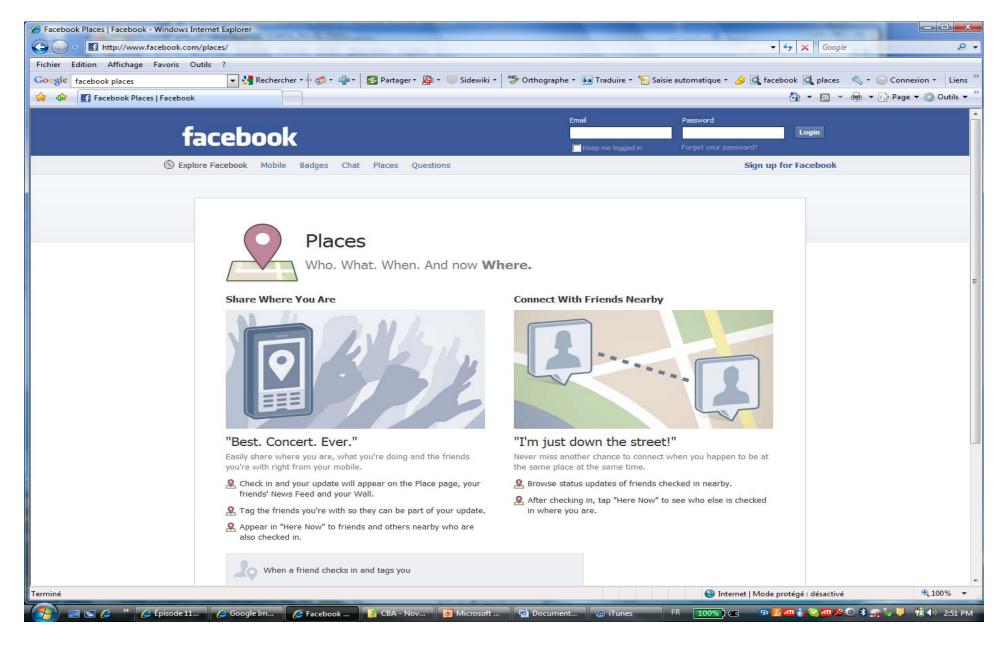
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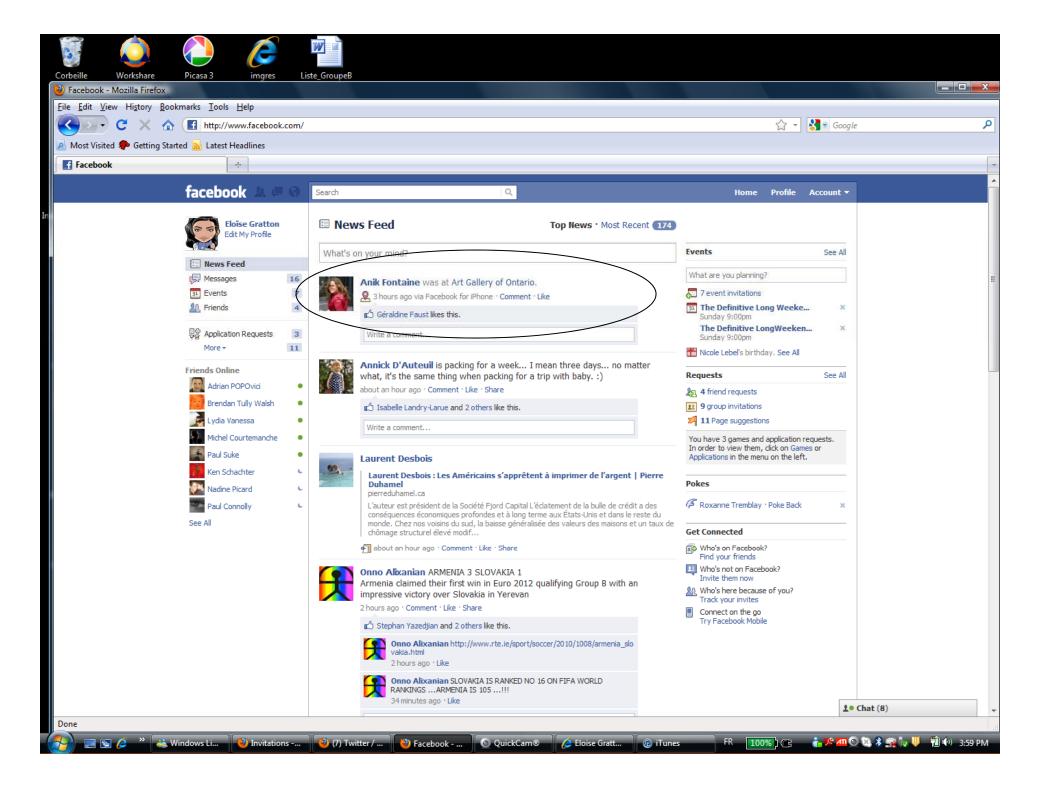
- Various other wireless services (potentially sponsored):
 - Traffic and navigation information
 - Proximity and directory services
 - Travel, finance services and alerts
 - Entertainment, mobile Gaming and mDating
 - M-commerce and shopping support
 - Buddy Lists



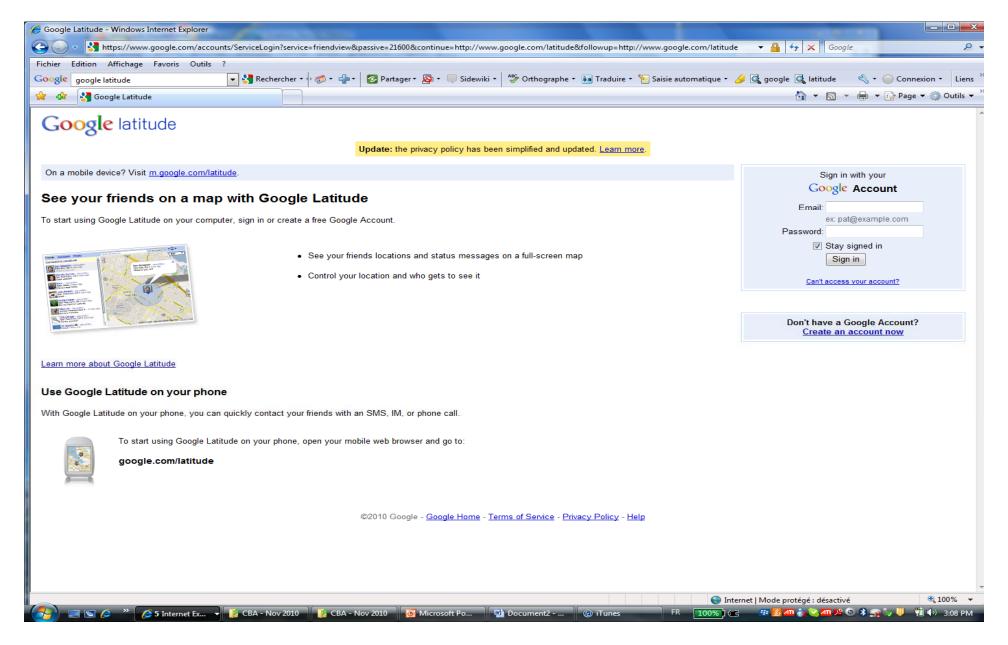


Locating friends

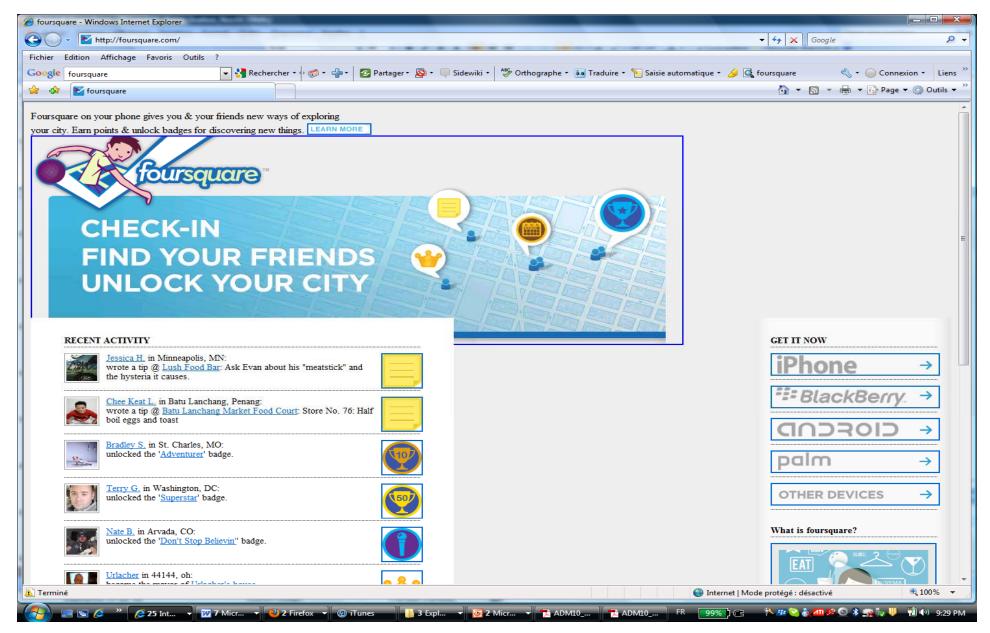




Locating friends



Locating friends



and... location-based advertising







Privacy issues?







1) Data protection laws





Data protection laws regulate the collection, use and disclosure of "personal information"





Data protection laws regulate the collection, use and disclosure of "personal information"





What is "personal information"?

- Canada, Quebec (private sector):
 - « Any information which relates to a natural person and allows that person to be identified.»
- Canada, PIPEDA:
 - « Information about an identifiable individual (...).»
- European Directive 95:
 - « Any information relating to an identified or identifiable natural person (...) »





Does location data = personal data?





Europe

 Article 29 Data Protection Working Party, Opinion on the use of location data with a view to providing value-added services, November 2005, 2130/05/EN.

« Since location data **always** relate to an identified or identifiable natural person, they are subject to the provisions on the protection of personal data laid down in Directive 95/46/EC of 24 October 1995.»





In Europe....

 Article 29 Data Protection Working Party, Opinion 4/2007 on the concept of personal data, Adopted on 20 June 2007, 01248/07/EN WP 136.

Example No. 8: monitoring of taxis' position to optimize service having an impact on drivers.

A system of satellite location is set up by a taxi company which makes it possible to determine the position of available taxis in real time. The purpose of the processing is to provide better service and save fuel, by assigning to each client ordering a cab the car that is closest to the client's address. Strictly speaking the data needed for that system is data relating to cars, not about the drivers. The purpose of the processing is not to evaluate the performance of taxi drivers, for instance through the optimization of their itineraries. Yet, the system does allow monitoring the performance of taxi drivers and checking whether they respect speed limits, seek appropriate itineraries, are at the steering wheel or are resting outside, etc. It can therefore have a considerable impact on these individuals, and as such the data may be considered to also relate to natural persons. The processing should be subject to data protection rules.



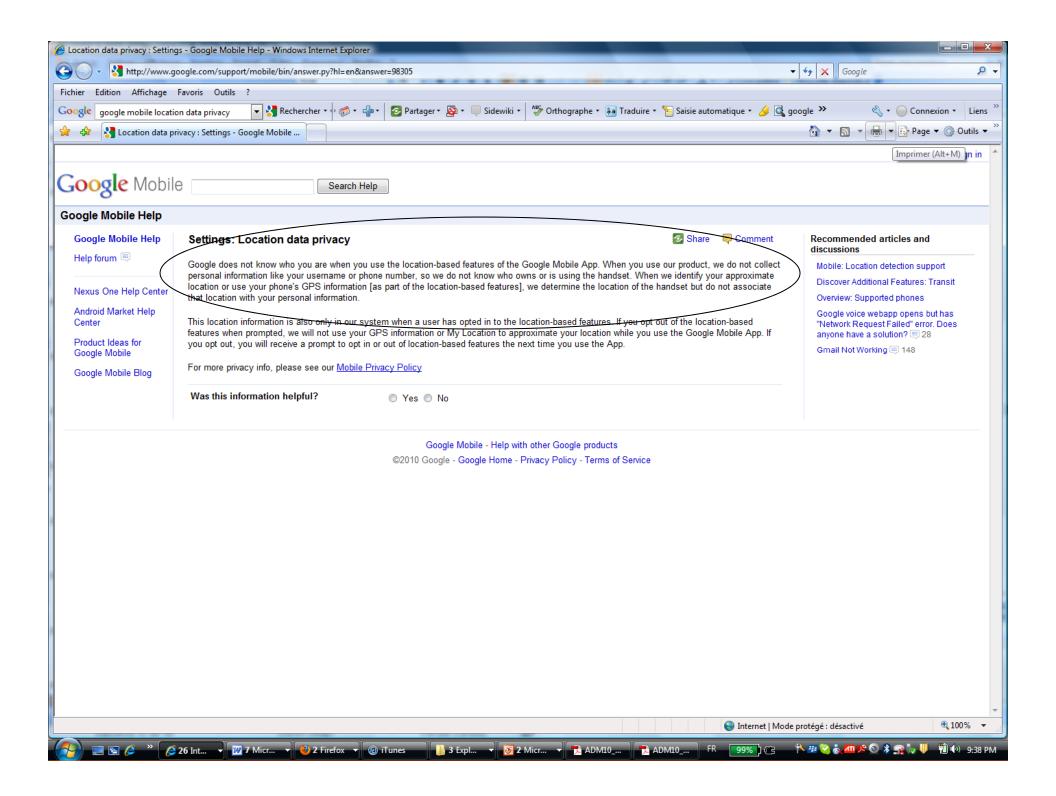


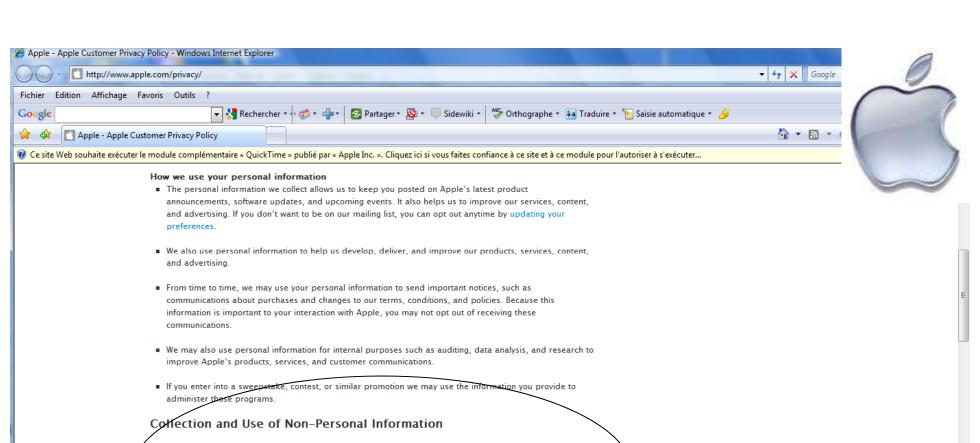
Profiling issues

- How will profiling be achieved in the mobile space?
 - Static profiling (demographic and psychographic data)
 - Dynamic profiling (historical location data)
 - Location-specific profiling (real-time location data)
 - And correlation with online profiles....









We also collect non-personal information — data in a form that does not permit direct association with any specific individual. We may collect, use, transfer, and disclose non-personal information for any purpose. The following are some examples of non-personal information that we collect and how we may use it:

- We may collect information such as occupation, language, zip code, area code, unique device identifier, location, and the time zone where an Apple product is used so that we can better understand customer behavior and improve our products, services, and advertising.
- We also may collect information regarding customer activities on our website, MobileMe service, and Tunes Store and from our other products and services. This information is aggregated and used to help us provide more useful information to our customers and to understand which parts of our website, products, and services are of most interest. Aggregated data is considered non-personal information for the purposes of this Privacy Policy.

If we do combine non-personal information with personal information the combined information will be treated as personal information for as long as it remains combined.

Cookies and Other Technologies

Apple's website, online services, interactive applications, email messages, and advertisements may use "cookies" and other technologies such as pixel tags and web beacons. These technologies help us better understand user behavior, tell us which parts of our website people have visited, and facilitate and measure the effectiveness of advertisements and web searches. We treat information collected by cookies and other



Does location data = personal data?

- If linked to a phone number or other unique identifier = personal information, especially since a device usually belongs to a unique individual
- If not linked to anything: maybe still personal information, <u>depends</u> on:
 - the quantity and quality of the information collected (potential analogy with clickstream data, AOL data scandal, etc..)

If it is personal information, is it **sensitive**? Probably!





Eric Smith, iPhone Applications & Privacy Issues: An Analysis of Application Transmission of iPhone Unique Device Identifiers (UDIDs), October 1, 2010.

Easy to track the location of an iPhone user

« While there is no direct evidence that this (location) data is being used to physically track iPhone users, it would be trivial to implement such a system using a combination of UDIDs and time-stamped IP addresses. The correlation of this data with a GeoIP library14 would allow an iPhone user's approximate physical location to be tracked in real time. The iPhone's hard-wired preference for local wireless networks over cellular data enhances this tracking ability, as the phone will only use the cell network for data when it has no wifi connectivity. While GeoIP lookups on cellular phone networks generally do not often provide useful location data, lookups on Wifi hot spots are often remarkably precise. »





Eric Smith, iPhone Applications & Privacy Issues: An Analysis of Application Transmission of iPhone Unique Device Identifiers (UDIDs), October 1, 2010.

Risk of location leaking from iPhones

« Privacy and security advocates, personal iPhone owners, and corporate iPhone administrators should be concerned that it would be feasible -- and technically, quite simple -- for their browsing patterns, app usage, and physical location collected and sold to unintended customers such as advertisers, spouses, divorce lawyers, debt collectors, or industrial spies. Since Apple has not provided a tool for end-users to delete application cookies or to block the visibility of the UDID to applications, iPhone owners are helpless to prevent their phones from leaking this information. »





Consent should be obtained prior to collecting, using and disclosing personal information





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Disclosure

- Content of the disclosure
 - Is the location data collected frequently and is it accurate?
 - Is the location data collected over (and kept for) a long period of time?
 - Who is the data shared with (LBS developer, LBS provider, content provider, network operator, etc..)?
 - What will happen to the location data if the organisation handling the data or any of its partners gets sold or goes out of business?



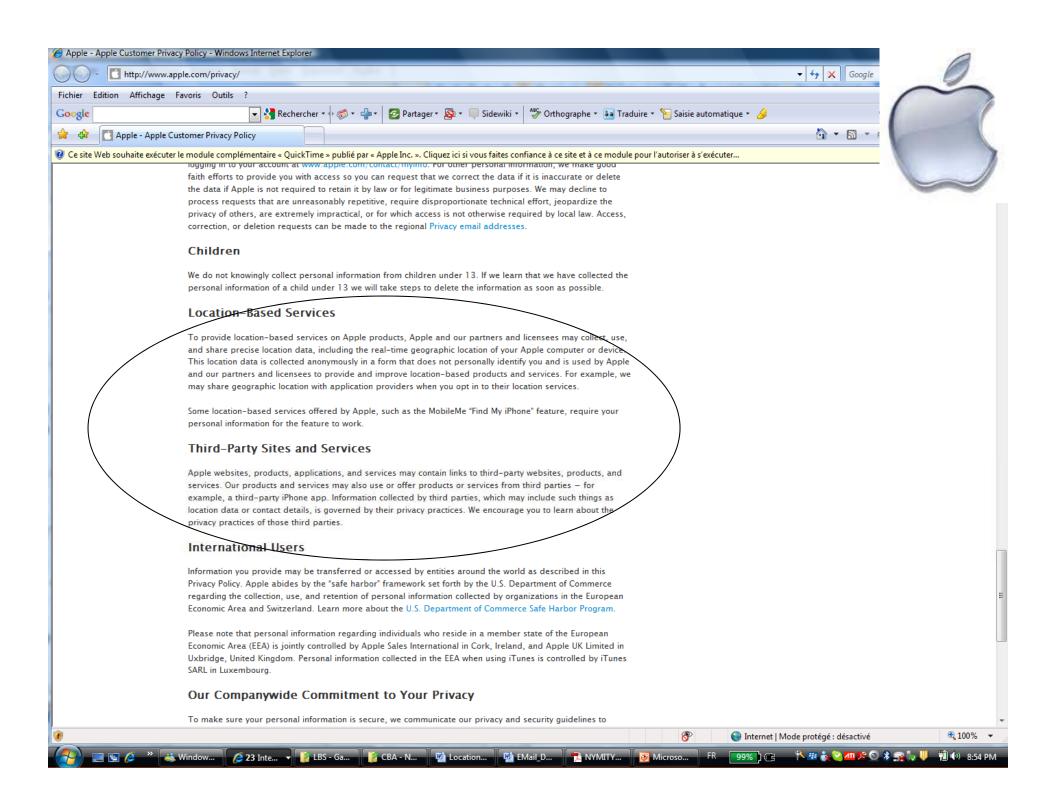


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Broad consent is obtained, various applications collect location without it being necessary

« A number of the applications considered in this study requested access to the on-board GPS receiver. Several such applications – games, for example -- had no obvious need for this information. In several cases, applications which transmitted UDIDs were observed to transmit the iPhone's latitude and longitude as well. Even though the iPhone API requires that users give explicit permission to an application when it requests access to the phone's GPS receiver, users have already consented to this behavior. Apple's 159-page, single spaced terms of service states:

By using any location-based services on your iPhone, you agree and consent to Apple's and its partners' and licensees' transmission, collection, maintenance, processing, and use of your location data to provide such products and services.»





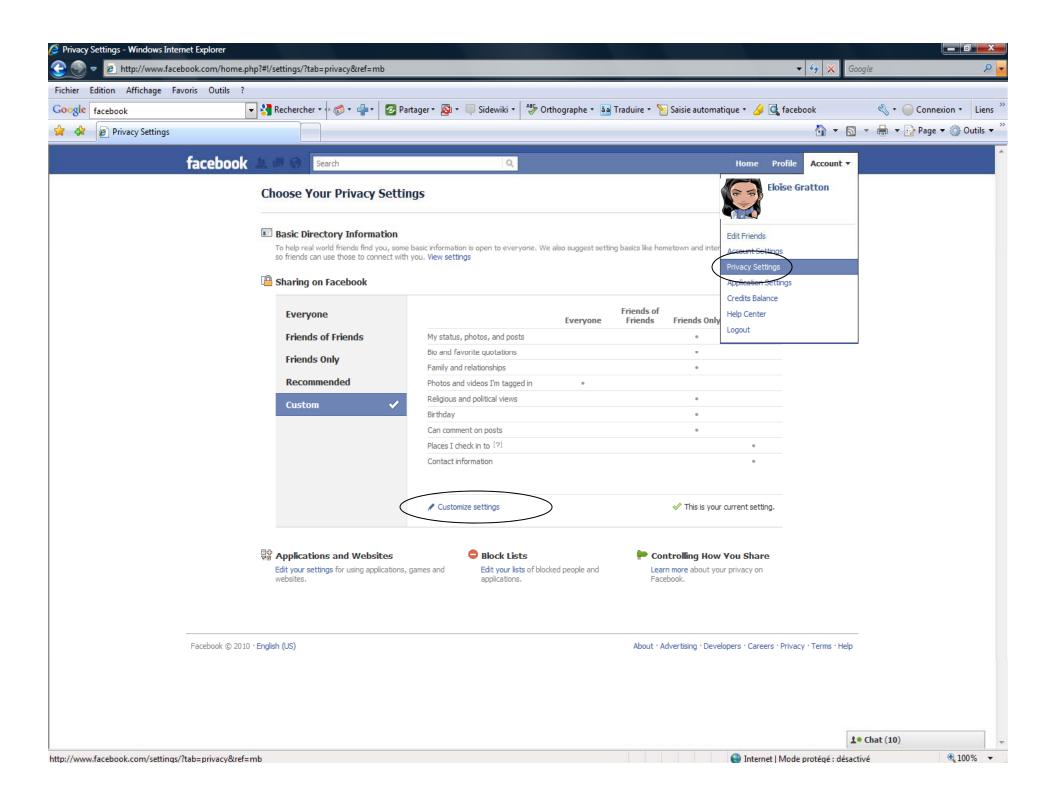
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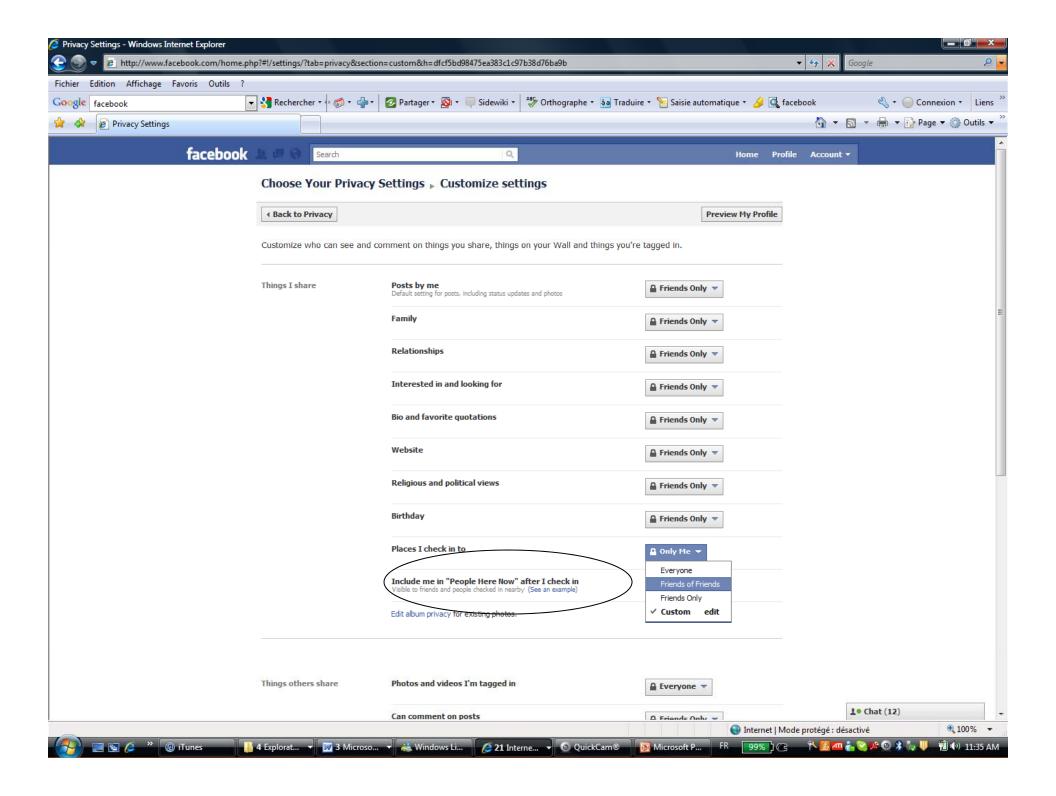
- Transferring location to advertisers (sponsored services)

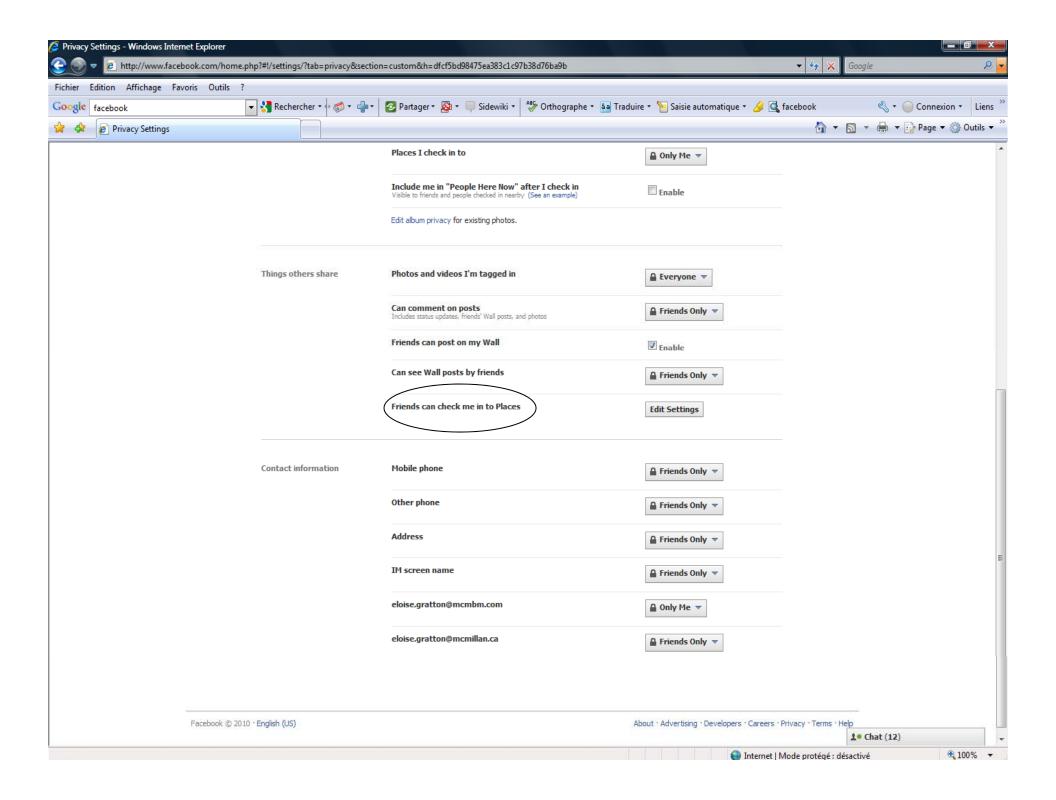
« Since our study focused on applications which are available free of charge, it was not surprising to find that a large portion of the UDID leakage we observed was directly tied to advertisements and advertising networks. Several patterns emerged from our data which suggest that a handful of companies are in control of the in-app advertising market on the iPhone platform. »

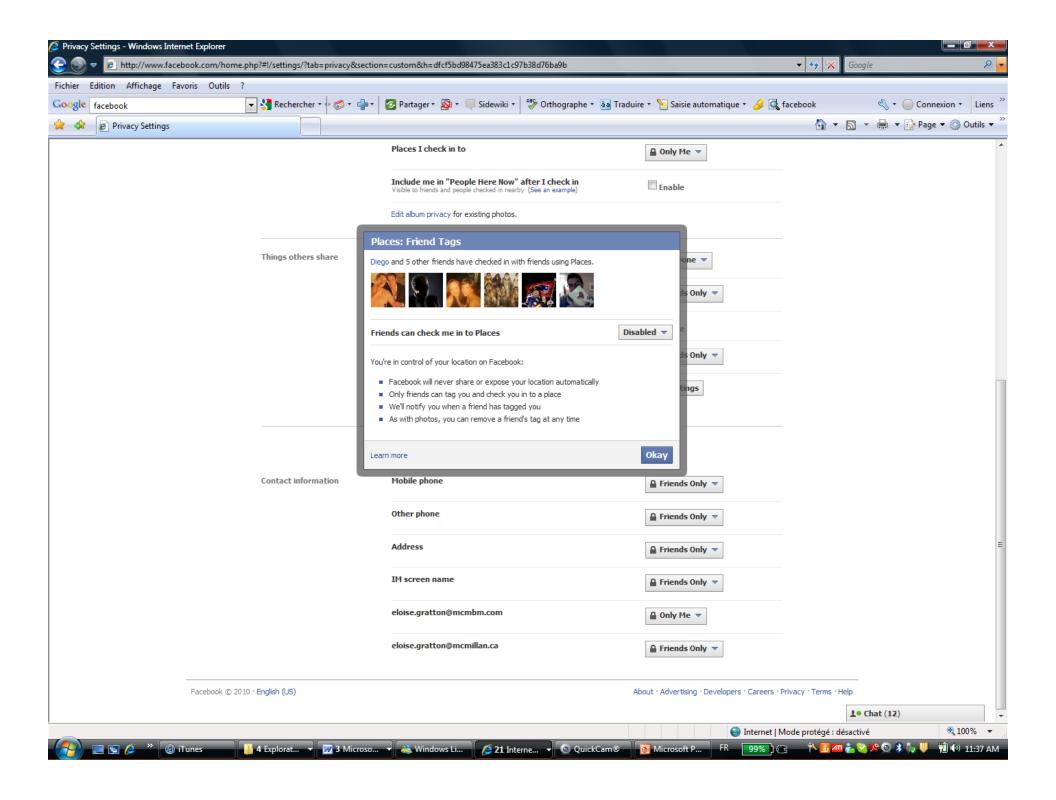












Consent

 Article 29 Data Protection Working Party, Opinion on the use of location data with a view to providing value-added services, November 2005, 2130/05/EN:

«Where a service requires ongoing processing of location data, the Working Party takes the view that the service provider should regularly remind the individual concerned that his or her terminal equipment has been, will be or can be located. This will allow that person to exercise the right to withdraw under Article 9 of Directive 2002/58/EC, should he or she wish to do so.»





2) Other privacy legal framework and special considerations





Privacy and Tracking

Civil Code of Quebec

- 3. Every person is the holder of personality rights, such as the right to life, the right to the inviolability and integrity of his person, and the right to the respect of his name, reputation and privacy. (...)
- 35. Every person has a right to the respect of his reputation and privacy. No one may invade the privacy of a person without the consent of the person unless authorized by law.
- 36. The following acts, in particular, may be considered as invasions of the privacy of a person: (...) (4) keeping his private life under observation by any means; (...)





Privacy and Tracking

Act to establish a Legal framework for information technology (Quebec)

« **43**. A person may not be required to submit, for identification purposes, to a process or device that affects the person's physical integrity. Unless otherwise expressly provided by law for health protection or public security reasons, a person may not be required to be connected to a device that allows the person's whereabouts to be known.»





Special considerations: Employees



Quebec

- Art. 46 Quebec Charter of Human Rights and Freedoms:
 «Every person who works has a right, in accordance with the law, to fair and reasonable conditions of employment which have proper regard for his health, safety and physical well-being.»
- Art. 2087 C.c.Q.: an employer is bound to take any measures consistent with the nature of the work to protect the health, safety and dignity of the employee.
- Syndicat des employées et employés de métiers d'Hydro-Québec, section locale 1500 – SCFP (FTQ) et Hydro-Québec, D.T.E. 2009T-273
 - Employer had reasonable grounds to track his employee's whereabouts with a GPS. Evidence is maintained.





Special considerations: Employees



Canada

- PIPEDA Case Summary #2006-351, Use of personal information collected by Global Positioning System considered
- Complaint: Employees of a telecommunications company complained that their employer was installing GPS in their work vehicles, to track their daily movements while on the job, without their consent. The company indicated that in order for it remain competitive, it had to install GPS in vehicles used by field employees to manage workforce productivity, ensure safety and development, and protect and manage assets.
- Finding: The company's purposes for collecting and using personal information gathered by GPS was accepted and implied consent was present for these purposes. The company agreed to develop and communicate a policy on the utilization of such data. The Assistant Commissioner considered the complaints resolved.





Special considerations: Employees



Europe

- Working Party: must correspond to a specific need on the part of the organisation which is connected to its activity. Ok if:
 - as part of monitoring the transport of people or goods or improving the distribution of resources for services in scattered locations (e.g. planning operations in **real time**)
 - where a security objective is being pursued in relation to the employee himself or to the goods or vehicles in his charge.
- Equipment should equipped with a system allowing employees to switch off the location function.
- Employees should provide their prior consent to the tracking.
 (dividing line between work and private life)
- Retention period should be reasonable, no longer than two months.







Special considerations: Kids

- Ex: Family watch services which enable parents, using their cell phone or connecting to a website, to obtain the location of their children to whom they have given a mobile telephone.
- Marketed as a « safety » service.
 - Ex. « Kid Find » by Telus
- International Convention on the Rights of the Child:
 - Art. 3: « In all actions concerning children (...) the best interests of the child shall be a primary consideration.»
 - Art. 16: « No child shall be subjected to arbitrary or unlawful interference with his or her privacy, family, home or correspondence, nor to unlawful attacks on his or her honour and reputation.»





Special considerations: Kids



Privacy, social and ethical issues:

- May possibly upset the normal relations of mutual trust between parents and their children
- Might cause some parents to abandon their responsibility while maintaining the illusion of controlling their children's activities
- Accustom individuals from a very young age to monitoring
- Risk that parents may confuse knowing where their child's mobile telephone is with knowing what the child is actually doing
- Safety of children: Service providers should introduce procedures for identifying people who register as parents and for limiting access to the service to those people alone.





Questions?

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