

Professional Issues in Computing

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Privacy and Information

- The more we know about people the better a service we might be able to give
 - Demographics
 - Religious Beliefs
 - Financial
 - Health
 - Political Beliefs
 - Sexual Orientation
 - etc.

Issues

- But this information may be abused or misused
 - Shared with third parties for profit
 - Used for discriminatory purposes
 - Used to intimidate/blackmail
 - etc.

Role of Computing

- Computers, and the Internet, make it easier to find relationships between isolated, and seemingly innocuous, pieces of information
 - I own a Ferrari (Vehicle Licensing Dept.)
 - I own a villa with pool in Madliena (Land Registry)
 - I declare an income of €7,000 p.a. ... (Inland Revenue)
 - Separately, not (too!) unusual, but together they may suggest significant tax avoidance issues!

The value of information

- Information has value
 - Inland Revenue might collect more taxes
 - Companies might maximise sales
 - A tender bidder might be able to undercut the competition
 - Party in government might call an election when support for the party is at a maximum
 - The police might solve more crimes

Information in Context

- The value of information depends on its context
 - If I simply say “4 big ones”, it has limited value
 - If I say “the answer to question 2 in the exam is 4 big ones”, then its value increases
 - And the more enterprising of you can sell the information to exam sitters not present at the moment!
 - If I am the custodian of tender bids, and I nod and wink while saying “4 big ones” to someone who is still putting the bid together, then that might be interpreted as the lowest bid so far...

Scenarios: I

- While visiting the blood bank...
 - You happily talk to the nurse about how you're applying for a huge loan to buy a boat
 - Your blood is screened for diseases, and it turns out you have an incurable disease that will not be apparent for another 3 years, when you'll have to give up work
 - At a party, the nurse talks about this sad case... and is overheard by your bank manager... who puts 2 and 2 together and denies you the loan

Scenarios: 2

- At the blood bank again:
 - This time, the blood bank clerk who filed the info about your blood test has a part-time job...
 - ... in your bank branch, where the same person filed your loan application!
 - The clerk debates whether to inform the branch manager...

Scenarios: 3

- Banking facilities:
 - You've banked with ABC Bank for a long time, and you're a 'good' customer
 - The Quick Buck Bank has a special offer: borrow up to €100,000 to spend on anything - you decide *after* you've been granted the loan! with no security, which you decide to apply for
 - QBB asks for a letter of recommendation from your priest, doctor, lawyer: that you are responsible enough to operate a chequebook!
 - You wish that QBB could have access to your credit history to help them decide...

Scenarios: 4

- More banking facilities:
 - Wahay! Now there are credit history agencies, and QBB simply checks your credit rating against your loan application...
 - ... and refuses you the loan!
 - You're gob-smacked, but unknown to you, your credit history has been mixed up with someone else's who had defaulted on a huge loan

Scenarios: 5

- Unsolicited phone calls:
 - OK. You've got your loan, and you're contemplating what to spend all that money on...
 - You receive phone calls and visits from an investment company who have been informed that you've just come into a pot of money...

Scenarios: 6

- The 'helpful' third-party contacts:
 - You see an ad in the paper for cheap, new sports gear
 - You phone up to ask about a squash racquet
 - They don't have it
 - Unknown to you, they used caller id to obtain your phone number and Go's on-line directory to reverse search the phone number to add your name and address to their database
 - They also sell your details to another sports shop that carries the racquet you wanted, which phones you

Information in Context

- In each case, information is obtained in one context
- The info may have value to the entity that initially obtained the information
- That info is shared (intentionally or not) with third-parties for use in a different context, where it may have added value (possibly for both the sharer and the third-party)
- You may be advantaged or disadvantaged by the disclosure...

Consent

- If you had known in advance that the information was going to be disclosed to third-parties, then maybe you wouldn't have shared it in the first place!
- That's what data protection is all about
 - *“To make provision for the protection of individuals against the violation of their privacy by the processing of personal data and for matters connected therewith or ancillary thereto.” Data Protection Act, Chapter 440, The Laws of Malta*

Personal Data

- “Personal data” means any information relating to an identified or identifiable natural person;
- an identifiable person is one who can be identified directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his (her) physical, physiological, mental, economic, cultural or social identity

Sensitive Personal Data

- “Sensitive personal data” means personal data that reveals race or ethnic origin, political opinions, religious or philosophical beliefs, membership of a trade union, health or sex life.

Collecting Information

- Think about an average day of yours... in how many ways is information about you being collected?

Technological Advances

- The need for data protection is precipitated by record keeping and exacerbated by technological advances:
 1. "it has made a *new scale* of information gathering possible;
 2. it has made *new kinds* of information gathering possible, especially transaction generated information;
 3. it has made a *new scale of information distribution and exchange* possible;
 4. the *effect* of erroneous information can be magnified; and
 5. information about events in one's life may *endure* much longer than ever before." (Johnson, 2001, Chapter 5, pg. 117)

Data Inversion

- We've discussed issues of information collected in one context, which may have significant repercussions for the individual if used in a different context
- Data can also be 'inverted' to make unwanted connections between information that exists
- Take Scenario 6, company was able to reverse search a telephone directory

Data Inversion

- Availability of information in electronic form enables 'data mining' or simpler techniques to extract information (e.g, extracting e-mail addresses from Web pages to include in mass mailing lists) and use it for purposes other than the original purpose.

Information and Trust

- Normally, when information is given, it is assumed that the info will be used for a specific, known, purpose...
- ... and that the information will be kept secret, i.e., it won't be shared without your consent
- However, there are situations, e.g., scenarios 3 and 6, when information may be shared to benefit you - dilemma of information and privacy

Information and Trust

- When trust is abused, we feel wronged
 - If a so-called friend 'shares' confidential information without your permission, they are unlikely to remain a friend
 - Organisations need to gain your trust to do business with you (difficult to stay completely anonymous in a financial transaction)
 - Data protection is there to give the individual a framework within which to seek redress, and also to inform collectors of personal information of their duties and responsibilities

Debate

- On the day of the general elections, you receive a phone call 'reminding' you to go and vote...
- Invasion of privacy or not?