

Legal Challenges to Ubicommerce

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Tech – Biz/Soc – Legal

- There are no legal issues as such – they are always related to the societal context
- Technology enables new kind of business and societal models
- Although legal structures in general are intended to e.g. facilitate business (diminish risks, encourage trust formation, and enable business methods), the new models may include legal challenges, risks, constraints, or even obstacles – legal structures may harm business
- To study legal challenges, one must first understand technology and the business and societal models that it will enable

UbiCommerce Technologies

- Some technical issues that will be essential to ubicommerce and that will affect mostly on legal challenges:
 - increasingly pervasive, connected computing devices in the environment - wireless Internet
 - devices will be very small: ubicomp will be hidden and it spreads stealthily
 - always available – cannot be turned off like current mobile devices

Context-awareness

- Adaptation to different computing environments,
- Applications are used in numerous circumstances,
- New business-models based on context
- Technical necessity that a ubicommerce system collects personal info and probably transfers it to others.

Information processing

- Information will be an essential merchandise (incl. facts and news, music and arts, programs and so on), and services that add value to information are significant
 - technologies for the creation, transfer, modification, fetching, collection and storage of information evermore important
- Necessary to manipulate information based on e.g. device features, user profiles, context information, and content's own characteristics as well as service properties.
 - characteristics of the wireless link should be taken into account in content adaptation

Legal Challenges: Privacy

- Large part of the information managed in ubicommerce is private
 - people do not want to see information on e.g. their location, behavior, habits, transactions, finance, social situations, and health spreading around
- Many companies and public agencies would be interested in accessing or even have a justified reason to get those data
- Some people may be willing to sell their private info
- Ubicommerce systems must support balance between privacy and other interests

Legal Challenges: IPR

- Intellectual property rights (copyright, patent, database protection, ...) form the legal basis of business models that are build on selling information or providing information-based services
- Especially, copyright issues at large are important to those who want to get return from information
 - Other actors, like device manufacturers and service providers, can find business opportunities by enabling copyright protection
- Yet, IPR do not protect all the information. The legal rules are often old. In ubicommerce, it might be quite different, what needs to be protected than it used to be

Legal Challenges: Contracts

- Each commercial transaction is typically a contract
- Laws (e.g. copyright law) are often outdated – legal problems must be solved in contracts
 - transaction costs increase rapidly
- Also, many rules in contract law are outdated
 - it is difficult to construe concepts like *offer*, *acceptance*, and *consideration* when software agents in tiny computers negotiate with each other through a network. Or even if the human beings are bargaining in ubicommerce, contract law may need revision: e.g., it can be difficult to find out who are the other parties in a certain transaction

Other Legal Challenges

- Significant challenges in other legal areas too. For example:
 - International law in general will be important, because of globalization and moving users.
 - Labor law will face challenges because of changing work.
 - Tax laws meet challenges because of new kinds of transactions, resources, and incomes as well as moving users, globalization, and changing work.
- Nevertheless, those other areas do not seem to bring forth as crucial challenges as the first three.

Conclusions

- In relation to ubicommerce, privacy will be extremely important area
- Intellectual property rights, particularly copyright, will also be a legal area where a number of challenges come up
 - Esp. issues related to content adaptation will be significantly more challenging than ever before
- There will be major challenges related to contracts
- Other legal areas include important issues also, but do not seem to bring forth as crucial challenges as the first three