

# NetSec seminar fall 06

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# Perceived risks in home networking from a user's point of view

- In home environment
  - What kind of data needs to be protected?
  - How and with whom do users want to share their data/devices?
  - What are user-perceived risks of security?
  - What users understand about security?
  - How would users want to get information about security?
  - What kind of security needs do the home users have?
- What to do: Literature review or own user study
- References:
  - Dourish, P et al. 2004. Security in the wild: user strategies for managing security as an everyday, practical problem. *Personal Ubiquitous Comput.* 8, 6 (Nov. 2004), 391-401
  - C. Ellison, "Home Network Security". *Intel Technology Journal, interoperable Home Infrastructure*, Volume 6, Issue 4, November 15, 2002, pp. 36-48. Available:  
<http://developer.intel.com/technology/itj/index.htm>

# State-of-the-Art in Mobile Healthcare/Healthcare portals

- A) How will mobile communications change healthcare in the future?
  - Also life enhancing technologies (wristbands etc.)
- B) You may also concentrate on 'traditional' Healthcare portals only
- What type of solutions exist?
  - ePrescribing, remote access to health portals, management of own health information, life-enhancing technologies, e-consultation, online healthcare communities etc.
- Focusing especially on their
  - security
  - privacy aspects of the current solutions
  - Current technologies used and their security aspects
- What to do: Literature review on
  - A) privacy aspects mobile healthcare systems from selected point-of-view
  - B) privacy aspects of healthcare portals
- References:
  - Johannsen, N. and Kensing, F. 2005. Empowerment reconsidered. In *Proceedings of the 4th Decennial Conference on Critical Computing: between Sense and Sensibility* (Aarhus, Denmark, August 20 - 24, 2005). O. W. Bertelsen, N. O. Bouvin, P. G. Krogh, and M. Kyng, Eds. CC '05. ACM Press, New York, NY, 203-206
  - Bhavnani, S. K., et al 2003. Exploring the distribution of online healthcare information. In *CHI '03 Extended Abstracts on Human Factors in Computing Systems* (Ft. Lauderdale, Florida, USA, April 05 - 10, 2003). CHI '03. ACM Press, New York, NY, 816-817
  - Luo, W., Najdawi, M. (2004): Trust-building measures: a review of consumer health portals, in *Communications of the ACM*, Vol 47, No 1 (2004) pp. 108-113

# Using, organizing and analysing security-related contextual information

- A) Mobile user setting – context changes happen. OR
- B) home environment: what kind of contextual information is there and how it should be organized?
- What kind of contextual information exists and which of it is relevant to show to the user, and how?
- how people construct personal and group spaces?
- Gather, categorize and visualize context information for the user, focusing on *security-related* information
  - Current level of security: how visualized, what user needs/want to see; what kind of user controls are available
  - Shared or private; connexion to other users; other privacy issues/preferences
  - What information is used as basis on decision-making about what is secure and what is not?
- What to do: Literature review on current work on the topic
- References:
  - Tamminen, S et al. 2004. Understanding mobile contexts. *Personal Ubiquitous Comput.* 8, 2 (May. 2004), 135-143
  - Mainwaring, S. et al. 2005. What's in your wallet?: implications for global e-wallet design. In *CHI '05 Extended Abstracts on Human Factors in Computing Systems* (Portland, OR, USA, April 02 - 07, 2005). CHI '05. ACM Press, New York, NY, 1613-1616.
  - IP City <http://ipcity.oulu.fi/diss/>
  - Ha, S., Jung, H., and Oh, Y. 2006. Method to analyze user behavior in home environment. *Personal Ubiquitous Comput.* 10, 2 (Jan. 2006), 110-121.

# User-friendly passmethods for home users

- Novel types of passmethods
  - Graphical password puzzles
  - CAPTCHAs (<http://www.captcha.net/>)
  - Or other
- Suitable for all members of the family
  - Children
  - Grandparents
  - Parents
- What to do:
  - usability analysis of selected methods OR
  - state-of-the-art type report OR
  - conducting usability tests with selected method
- References:
  - Von Ahn et al: Telling Humans and Computers Apart Automatically February 2004/Vol. 47, No. 2 COMMUNICATIONS OF THE ACM
  - Wiedenbeck et al: Authentication using graphical passwords: effects of tolerance and image choice. In *Proceedings of the 2005 Symposium on Usable Privacy and Security* (Pittsburgh, Pennsylvania, July 06 - 08, 2005). SOUPS '05, vol. 93. ACM Press, New York, NY, 1-12.
  - Tari, F. et al 2006. A comparison of perceived and real shoulder-surfing risks between alphanumeric and graphical passwords. In *Proceedings of the Second Symposium on Usable Privacy and Security* (Pittsburgh, Pennsylvania, July 12 - 14, 2006). SOUPS '06, vol. 149. ACM Press, New York, NY, 56-6
  - Dourish, P et al. 2004. Security in the wild: user strategies for managing security as an everyday, practical problem. *Personal Ubiquitous Comput.* 8, 6 (Nov. 2004), 391-401