

Sep 7 – **Seminar 1:** Multitouch and Surface Interaction (Morten Fjeld)

- 10—11: Lecturing, 1h: Introduction
- 11—12: Lecturing, 1h: Multitouch (2 x touch) and Tabletop interaction (tabletops history)
- 13—14: Group work: Search interaction technologies
- 14—16: Lecturing, 1h: Multitouch and Cross-Device Interaction (eyes free)

Sep 8 – **Seminar 2:** Interaction Techniques (Morten Fjeld)

- 10—12: Lecturing, 2h: Interaction Techniques: (tabletops systems, tsukuba 2, clutching)
- 13—14: Group work: to be defined
- 14—16: Student presentation and discussion

Sep 21 – **Seminar 3:** Human and Machine Intelligence (Morten Fjeld)

- 10—12: Lecturing, 1h: Human-Machine Intelligence
- 11—12: Lecturing, 1h: Human-Robot Interaction
- 13—14: Group work: to be defined
- 14—16: Student presentation and discussion

Oct 5 – **Seminar 4:** Mobile Computing: Pervasive and Mid-Air Display (Morten Fjeld); 10—16

Oct 6 – **Seminar 5:** Mobile Computing: Touch and Haptics (Morten Fjeld); 10—15

Oct 19 – **Seminar 6:** Semester assignment workshop (Frank Wisnes); 10—16

Oct 20 – **Seminar 7:** Semester assignment workshop (Frank Wisnes); 10—16

Nov 2 – **Seminar 8:** Fabrication; Affective Interaction (Tor Gjørøster); 10—16

Nov 16 – **Seminar 9:** Lecturing, 2h; Semester assignment supervision (Morten Fjeld); 10—16

Nov 17 – **Seminar 10:** Lecturing, 1h; Semester assignment supervision (Morten Fjeld); 10—15

Support with project supervision: Bjarte Johansen

Articles, Books and Topics:

Sep 7 – Seminar 1: Multitouch and Surface Interaction (MF)

- Müller-Tomfelde, C. and Fjeld, M., 2012. Tabletops: Interactive horizontal displays for ubiquitous computing. *Computer*, 45(2), pp.78-81.
- Tommaso Piazza, Morten Fjeld, Gonzalo Ramos, Asim Evren Yantac, and Shengdong Zhao. 2013. Holy smartphones and tablets, Batman!: mobile interaction's dynamic duo. In *Proceedings of the 11th Asia Pacific Conference on Computer Human Interaction* (APCHI '13). ACM, New York, NY, USA, 63-72. DOI=<http://dx.doi.org/10.1145/2525194.2525205>
- Paweł Wozniak, Nitesh Goyal, Przemysław Kucharski, Lars Lischke, Sven Mayer, and Morten Fjeld. 2016. RAMPARTS: Supporting Sensemaking with Spatially-Aware Mobile Interactions. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (CHI '16). ACM, New York, NY, USA, 2447-2460. DOI: <http://dx.doi.org/10.1145/2858036.2858491>

Supplementary literature (not lectures): Introduction to HCI: history and focus

- Simeone, A.L., Chong, M.K., Sas, C. and Gellersen, H., 2015. Select & Apply: understanding how users act upon objects across devices. *Personal and Ubiquitous Computing*, 19(5-6), pp.881-896. <http://link.springer.com/article/10.1007/s00779-015-0836-1#page-1>
- Carroll, J. M. (2011). Human Computer Interaction (HCI). In: Soegaard, M. and Dam, R. F. (eds.). "Encyclopedia of Human-Computer Interaction". Available at <http://www.interaction-design.org>
- Grudin, J. (2005). Three faces of Human-Computer Interaction. *IEEE Annals of the History of Computing*. <http://research.microsoft.com/en-us/UM/People/jgrudin/publications/history/Annals.pdf>

Sep 8 – Seminar 2: Interaction Techniques (MF)

- Paweł Woźniak, Morten Fjeld, and Shengdong Zhao. 2014. Limiting trial and error: introducing a systematic approach to designing clutching. In *Proceedings of the Second International Symposium of Chinese CHI* (Chinese CHI '14). ACM, New York, NY, USA, 35-39. DOI=<http://dx.doi.org/10.1145/2592235.2592241>
- Bo Yi, Xiang Cao, Morten Fjeld, and Shengdong Zhao. 2012. Exploring user motivations for eyes-free interaction on mobile devices. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '12). ACM, New York, NY, USA, 2789-2792. DOI=<http://dx.doi.org/10.1145/2207676.2208678>
- Wang, X., Ong, S.K. and Nee, A.Y.C., 2016. Multi-modal augmented-reality assembly guidance based on bare-hand interface. *Advanced Engineering Informatics*, 30(3), pp.406-421. URL: <http://www.sciencedirect.com/science/article/pii/S1474034616301112>

Supplementary literature (not lectures): Interaction technologies:

- Ishii, H. and Ullmer, B. (1997). Tangible bits: Towards seamless interfaces between people, bits and atoms. *Proc. CHI'97*, 234-241. <http://dl.acm.org/citation.cfm?id=258549.258715&coll=DL&dl=ACM&CFID=264705744&CFTOKEN=78764636>
- Ballendat, T., Marquardt, N., and Greenberg, S. (2010). Proxemic interaction: designing for a proximity and orientation-aware environment. *ITS '10 ACM International Conference on Interactive Tabletops and Surfaces*, 121-130. <http://dl.acm.org/citation.cfm?id=1936652.1936676&coll=DL&dl=ACM&CFID=264705744&CFTOKEN=78764636>

Sep 21 – Seminar 3: Human and Machine Intelligence (MF)

- Chen Chen, Paweł W. Woźniak, Andrzej Romanowski, Mohammad Obaid, Tomasz Jaworski, Jacek Kucharski, Krzysztof Grudzień, Shengdong Zhao, and Morten Fjeld. 2016. Using Crowdsourcing for Scientific Analysis of Industrial Tomographic Images. *ACM Trans. Intell. Syst. Technol.* 7, 4, Article 52 (July 2016), 25 pages.
DOI: <http://dx.doi.org/10.1145/2897370>
- Mohammad Obaid, Omar Mubin, Christina Anne Basedow, A. Ayça Ünlüer, Matz Johansson Bergström, and Morten Fjeld. 2015. A Drone Agent to Support a Clean Environment. In *Proceedings of the 3rd International Conference on Human-Agent Interaction (HAI '15)*. ACM, New York, NY, USA, 55-61.
DOI: <http://dx.doi.org/10.1145/2814940.2814947>
- Kunz, A., Zank, M., Fjeld, M. and Nescher, T., 2016. Real walking in virtual environments for factory planning and evaluation. *Procedia CIRP*, 44, pp.257-262.

Oct 5 – Seminar 4: Mobile Computing: Pervasive and Mid-Air Display (MF)

- Alexandru Dancu, Mickaël Fourgeaud, Mohammad Obaid, Morten Fjeld, and Niklas Elmqvist. 2015. Map Navigation Using a Wearable Mid-air Display. In *Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '15)*. ACM, New York, NY, USA, 71-76.
DOI: <http://dx.doi.org/10.1145/2785830.2785876>
- Alexandru Dancu, Velko Vechev, Adviye Ayça Ünlüer, Simon Nilson, Oscar Nygren, Simon Eliasson, Jean-Elie Barjonet, Joe Marshall, and Morten Fjeld. 2015. Gesture Bike: Examining Projection Surfaces and Turn Signal Systems for Urban Cycling. In *Proceedings of the 2015 International Conference on Interactive Tabletops & Surfaces (ITS '15)*. ACM, New York, NY, USA, 151-159.
DOI: <http://dx.doi.org/10.1145/2817721.2817748>

Oct 6 – Seminar 5: Mobile Computing: Touch and Haptics (MF)

- Jessalyn Alvina, Shengdong Zhao, Simon T. Perrault, Maryam Azh, Thijs Roumen, and Morten Fjeld. 2015. OmniVib: Towards Cross-body Spatiotemporal Vibrotactile Notifications for Mobile Phones. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15)*. ACM, New York, NY, USA, 2487-2496.
DOI: <http://dx.doi.org/10.1145/2702123.2702341>
- Marta G. Carcedo, Soon Hau Chua, Simon Perrault, Paweł Wozniak, Raj Joshi, Mohammad Obaid, Morten Fjeld, and Shengdong Zhao. 2016. HaptiColor: Interpolating Color Information as Haptic Feedback to Assist the Colorblind. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16)*. ACM, New York, NY, USA, 3572-3583.
DOI: <http://dx.doi.org/10.1145/2858036.2858220>

Supplementary literature (not lectures): Methods:

- Blandford, A., Cox, A. L. & Cairns, P. A. (2008) Controlled Experiments. Preprint. Available at: <http://www.ucl.ac.uk/annb/docs/ABexpts08preprint.pdf>
- Chamberlain A, Crabtree A, Rodden T, Jones M, Rogers Y (2012) Research in the wild: understanding 'in the wild' approaches to design and development. In *DIS 2012*, ACM Press
<http://dl.acm.org/citation.cfm?id=2317956.2318078&coll=DL&dl=ACM&CFID=724603006&CFTOKEN=97454661>
- McMillan, D., McGregor, M., & Brown, B. (2015). From in the wild to in vivo: Video Analysis of Mobile Device Use. *MobileHCI '15* (pp. 494–503). New York, New York, USA: ACM Press. doi:10.1145/2785830.2785883
<http://dl.acm.org/citation.cfm?id=2785830.2785883&coll=DL&dl=ACM&CFID=724603006&CFTOKEN=97454661>
- Brown, B., Reeves, S., & Sherwood, S. (2011). Into the Wild : Challenges and Opportunities for Field Trial Methods. In *CHI 2011* (pp. 1657–1666). Vancouver: ACM Press. doi:10.1145/1978942.1979185

Nov 2 – Seminar 8 – Making, Fabrication and Rapid prototyping (FG)

- Wiberg, M., Ishii, H., Dourish, P., Vallgård, A., Kerridge, T., Sundström, P., ... Rolston, M. (2013). Materiality matters---experience materials. *Interactions*, 20(2), 54. doi:10.1145/2427076.2427087
- Bardzell, J., Bardzell, S., & Toombs, A. (2014). "now that's definitely a proper hack": self-made tools in hackerspaces. In *Proc. CHI '14* (pp. 473–476). doi:10.1145/2556288.2557221
<http://dl.acm.org/citation.cfm?id=2557221>
- Vallgård, A. (2013). Giving form to computational things: developing a practice of interaction design. *Personal and Ubiquitous Computing*, 18(3), 577–592. doi:10.1007/s00779-013-0685-8
<http://link.springer.com/article/10.1007%2Fs00779-013-0685-8>

Nov 2 – Seminar 8 – Affective Interaction (FG)

- Kanjo, E., Al-Husain, L., & Chamberlain, A. (2015). Emotions in context: examining pervasive affective sensing systems, applications, and analyses. *PersUbiq Comput* 19(7), (1197–1212)
<https://link.springer.com/article/10.1007/s00779-015-0842-3>
- Höök, K. (2014): Affective Computing. In: Soegaard, Mads and Dam, Rikke Friis (eds.). *The Encyclopedia of Human-Computer Interaction*, 2nd Edition. Aarhus, Denmark: The Interaction Design Foundation. Available online at <http://www.interaction-design.org>
- Boehner, K., DePaula, R., Dourish, P., & Sengers, P. (2007). How emotion is made and measured. *International Journal of Human-Computer Studies*, 65(4), 275–291. doi:10.1016/j.ijhcs.2006.11.016
<http://www.sciencedirect.com/science/article/pii/S1071581906001844>
- Guribye, F., Gjørseter, T & Bjartli, C (2016) Designing for in situ intentional affective interaction. To appear in *Proc. of NordiCHI*, 2016

Books (to be bought at Akademia or another bookstore):

- Scott MacKenzie (2013): *Human-Computer Interaction: An Empirical Research Perspective*. Morgan Kaufmann. Last update: April 18, 2016
COPY: http://dspace.utalca.cl/bitstream/1950/10513/1/l.scott_mackenzie.pdf

