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When Users Move Faster Than IT: the study of mobile technology in a work related setting

Whom

We want to study field technicians in the Telecom business area of Eltel Networks in Norway. They typically work on Telenor cables, antennas and equipment which are making up the Norwegian telecom and Internet infrastructure. Usually they visit many different sites in a day - working on demand from a company dispatcher. Their jobs usually consist of different kind of installation, maintenance or disconnection of various technologies like fiber, copper cable and mobile antennas.

What

The user group have specialized applications and equipment for working and reporting in the field. This system, and way of operating, has been developed over a long time, and builds on a web based interface. Accordingly, it's designed for PC and has limited support for mobile use. Due to this fact, the system isn't easy to use and interact with in the field, considering the fact that users constantly are on the move from one job to the next. Despite usability issues inherent in the system, it's the users who have taken the initiative to transport it directly into a mobile setting. In this case; we want to find out:

- Why is there user-initiated adaption from Laptop PC to mobile devices?
- How do the users use smartphones and PC in combination, and do they use other media in addition?
- What is cumbersome or ineffective in this scenario?
- How could the work process be more efficient with better mobile system support?

Why

Use of mobile technology is gaining momentum. We see that more and more people are employing mobile technologies in work related settings, especially people who are on the go in different field services. With the advancement of the smartphone technology, field workers can in theory carry their whole office in their pockets, enabling them to effectuate every side of the work process outside in the field, even processes that before was referred to as "paper work". This increases efficiency

tremendously. In this respect, it's important for designers to garner insights into user needs and usage contexts, in order to design user friendly solutions for this large group. We expect there to be common demands, but also specific needs that makes the problem more complex to handle.

How
Observation:
in the first round, we intend to study the field technicians at work through passive observation. In the second round, we expect to interact more with the users, ask them why they choose to do things in certain ways, i.e. using participatory observation.

Interviews:
After having done sufficient observation, we expect to have garnered enough insight into what kind of issues users encounters when using legacy systems on mobile devices in the field. Through interviewing, we want to acquire a rich description of the user context, potential user problems and user behavior.

literature review:
We want to establish our study vis-a-vis previous research being conducted in this area. The hindrances users stumble upon when adopting legacy systems and an installed base in a user context is relevant for us. We also want to investigate what happens when user walk away from desktop computers and into mobile settings. Studies done on this topic, are highly relevant? The crux of the matter lies in the nexus of mobility - context - ubiquity. Below we have listed relevant literature from the syllabus that we think can be relevant as a first hand introduction to the themes we want to study.

Relevant papers from the Syllabus:

Ling, R, From ubicomp to ubiex(pectations), Telematics and Informatics, Volume 31 Issue 2, May, 2014, Pages 173-183.

Bellotti V and Bly S: *Walking Away from the Desktop Computer: Distributed Collaboration and Mobility in a Product Design Team*, 1996. ACM.

Sommerville, I, Calinescu, RC, Cliff, D, Kelly, T, Keen, J, Kwiatkowska, MZ, McDermid, JA & Paige, RF 2012, 'Large-scale Complex IT Systems' *Communications of the ACM*, vol 55, no. 7, pp. 71-77.

Kjeldskov, J. and Paay, J. (2012) A longitudinal review of Mobile HCI research Methods. Proceedings of Mobile HCI 2012, September 21-24, San Francisco, USA. ACM Press.