

Project Ends in 2003

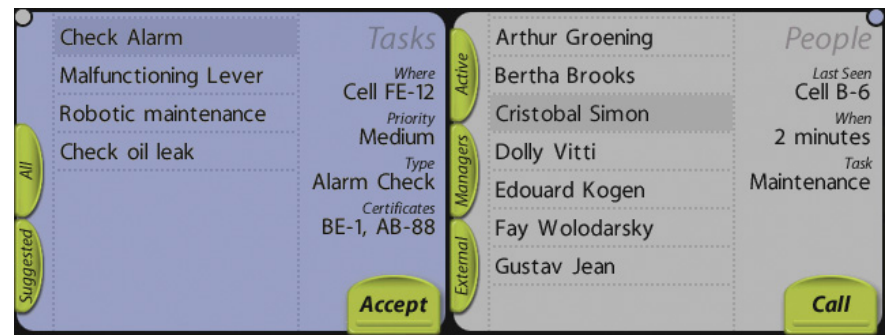
The ABB Mobile Service Technician

Based on fieldwork findings at two vehicle manufacturing companies, we have designed and implemented mobile support system for service technicians. Our system is arm-worn as opposed to handheld, and it allows the user to interact directly with the physical environment by pointing at objects as well as it allows one-hand navigation of the graphical user interface by tilt.

Prototype Design This project developed a functional prototype of an arm-worn, wearable mobile computing support system, designed to allow service technicians access to particular information and services in order to respond to breakdowns and sudden stops that occur in the production line. In order to understand the user group's work practice, we conducted an fieldwork study using ethnographic techniques at two industrial manufacturing sites during 2001 and 2002; *Volvo Trucks* in Umeå and *Volvo Cars* in Gothenburg.

Theory While the design is based on empirical findings, incentives have also come from theory. Primarily, we have been inspired by the phenomenological notion of embodiment, and why and how a service technician may benefit from a shift from today's largely disembodied interaction to *embodiment interaction*.

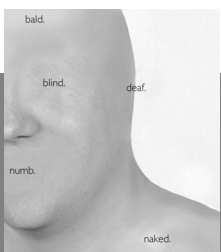
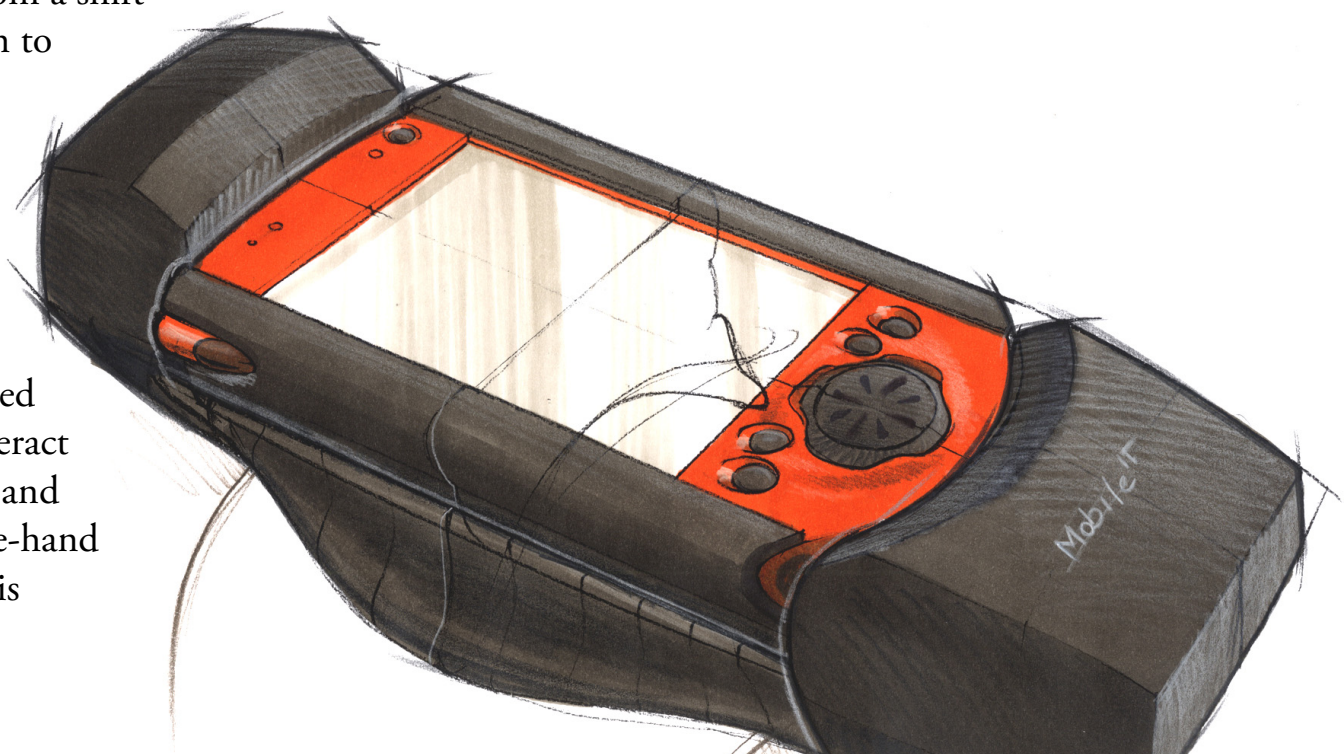
Interaction The prototype shows three styles of interaction not generally found in traditional mobile HCI: *first*, the system itself is embodied in a literal sense on the user, as it is arm worn as opposed to handheld; *second*, it allows the user to interact with the physical environment by pointing; and *third*, it allows by tilting the device itself one-hand navigation of a graphical user interface that is substantially larger than the screen.



Graphical User Interface Consists of horizontally aligned screens, where the user's location in the world is the primary determinant of the number of available screens at any given time



Embodied Interaction Pointing at objects in the physical world, rather than browsing a virtual mirror world



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Sponsors/partners: ABB



Interaction Design Lab

