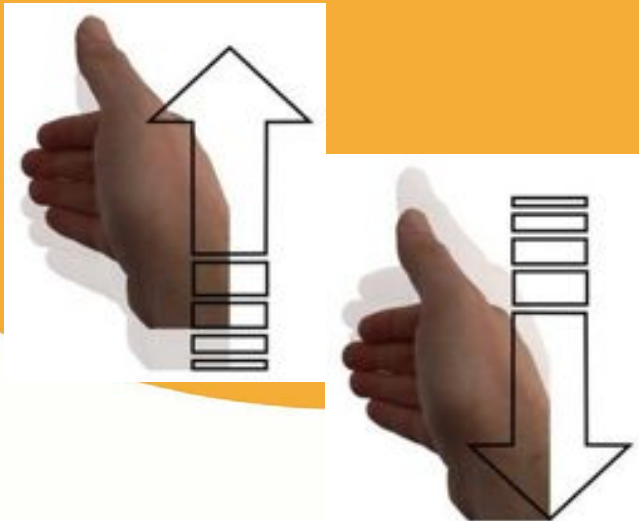


WEARIT@WORK: Mastering User Interfaces for Wearable Computers



Today...

WIMP (Windows, Icons, Menus, and Pointing) UIs are ubiquitous on desktop computers. Although the use of WIMP on mobile devices is often a burden, it is frequently reused from desktops without modification. As a result, usability of UIs decreases when users are preoccupied with two tasks, one taking place in the real and one in the virtual world. Spending almost all attention onto the wearable computer and its UI is therefore impossible.

The Challenge...

Wearable computing requires new UIs that regard their user's unique challenge of being involved in a mobile, dual-task situation where the computer provides assistance for a primary real world task.

Desktop application design can rely on a great amount of UI widget libraries, known and tested UI designs, and usability guidelines. Unfortunately, these cannot be applied to wearable UI design. So far, design knowledge on wearable UIs is rare. Since there are no common tools or frameworks available yet, wearable applications can currently only be implemented from scratch, which make clear design principles and guidelines difficult to emerge. With the so-called **WUI-Toolkit** a solution for this problem was developed within wearIT@work.

wearIT@work was set up by the European Commission as an Integrated Project to investigate "Wearable Computing" as a technology dealing with computer systems integrated in clothing.

The project has 42 partners with a project volume of about 23.7 million € and a funding of about 14.6 million €

It is the largest project world-wide in wearable computing.

<http://www.wearitatwork.com>

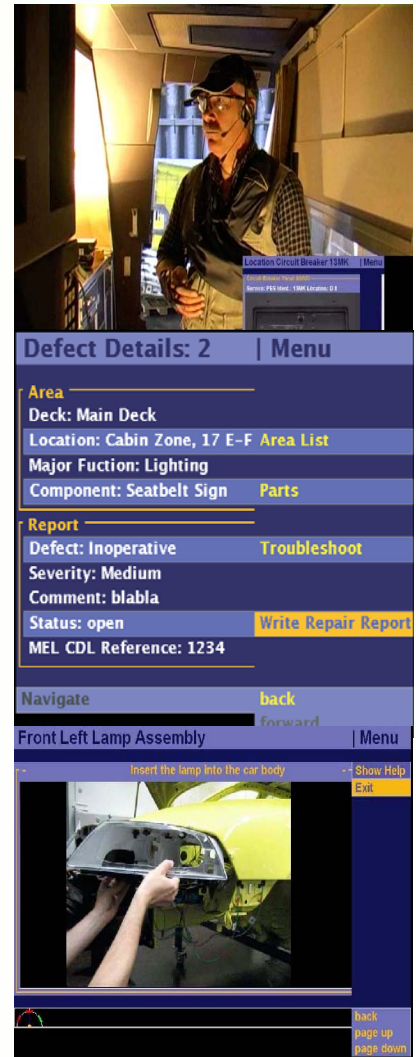
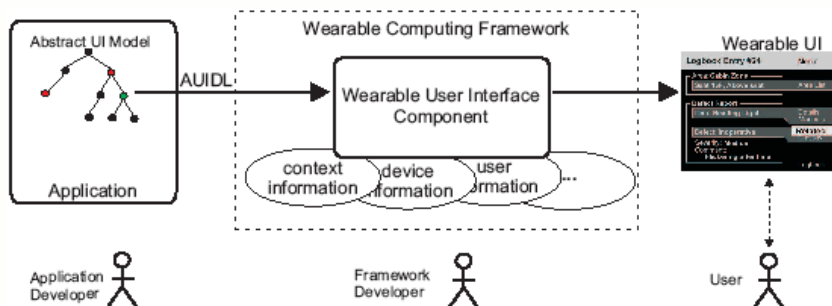


WUI-Toolkit

The Approach...

Since developers are often not aware of basic UI design rules beyond the desktop metaphor, the Wearable User Interface Toolkit (WUI-Toolkit) was developed as a central knowledge base on UIs for wearable computers. It is available as one of the central components of the Open Wearable Computing Framework (OWCF).

The WUI-Toolkit can be easily integrated in any application development process. Its separation of concerns approach offers a separation between the *use* of the toolkit (UI design) and the actual *development* (UI implementation) of a user interface.



The Benefits...

The overall benefit of the WUI-Toolkit is an easier WUI development, but there are more specific benefits:

- Abstract UI specification as a clear interface
- Build-in support for context-aware UIs and adaptation
- Reusable interface components and add-on modules
- Optimized UI rendering for head-mounted displays (HMDs)



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This project is funded by the European Commission – IST Programme – VI Framework Programme

