

Multimodal Interaction with Mobile Phones

Conventional input devices such as mouse and keyboard restrict users' mobility by requiring a stable surface on which to operate and thus impede fluid interaction. Mobile phones are technology-rich devices that people carry almost everywhere almost all the time. From storing personal data to playing games and surfing web, mobile phones help their users to get quickly what they need. The rich capabilities of mobile phones with their smart integrated sensors make them promising input devices in ubiquitous computing environments.



Cloud Browsing



Bernd Lintermann, Torsten Belschner, Mahsa Jenabi, Werner A. König: "CloudBrowsing" (2008-09)
(c) ZKM | Karlsruhe

Multimodal interaction using mobile phone is used in context of a museum exhibition, at ZKM center for art and media, in Karlsruhe. An iPhone is used as an input device for interacting with a 360° PanoramaScreen. Additional orientation sensor enables the user to have a bodily interaction.

The user can control the panorama display by using touch interaction and a position-sensor integrated within the iPhone. Additional information is displayed on the small device's screen to enhance the museum experience.

Besides visual feedback on panorama and iPhone interface, an interactive sound system gives the user a clearer feel and awareness of the result of his actions. This work is done in cooperation with ZKM museum and the exhibition is open for visitors from May till October 2009.

Finteraction Concept

Finteraction (**finger interaction**) is a new interaction concept which maps the finger gestures of the user to primitive interaction tasks, such as zooming, scrolling, pointing, etc. It uses the camera integrated in mobile phones. Moving the index finger in front of the camera at the backside of the mobile phone, the user can interact with the large public display even on the move. This eye-free interaction method solves the problem with display occlusion that exists with touch displays. Finteraction as a one-handed interaction technique enable the users to have another hand free for doing parallel tasks.

Publication

Jenabi, Mahsa, Reiterer, Harald: Finteraction - Finger Interaction with Mobile Phone, NordiCHI'08: Future Mobile Experiences (a Workshop at NordiCHI), Lund, Sweden, NordiCHI 2008, Oct 2008.



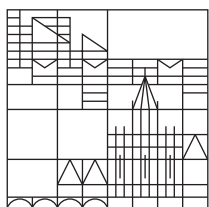
Demonstration of finteraction method in our Media Room.



Zooming gesture



Scrolling gesture



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