

Singapore Management University

Institutional Knowledge at Singapore Management University

Research Collection School Of Computing and
Information Systems

School of Computing and Information Systems

9-2012

The fat thumb: Using the thumb's contact size for single-handed mobile interaction

Sebastian BORING

David LEDO

Xiang 'Anthony' CHEN

Anthony TANG

Singapore Management University, tonyt@smu.edu.sg

Anthony TANG

See next page for additional authors

Follow this and additional works at: https://ink.library.smu.edu.sg/sis_research



Part of the [Graphics and Human Computer Interfaces Commons](#)

Citation

BORING, Sebastian; LEDO, David; CHEN, Xiang 'Anthony'; TANG, Anthony; TANG, Anthony; and GREENBERG, Saul. The fat thumb: Using the thumb's contact size for single-handed mobile interaction. (2012). *MobileHCI '12: Proceedings of the 14th international conference on Human-computer interaction with mobile devices and services companion*.

Available at: https://ink.library.smu.edu.sg/sis_research/8084

This Conference Paper is brought to you for free and open access by the School of Computing and Information Systems at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Research Collection School Of Computing and Information Systems by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email cherylids@smu.edu.sg.

Author

Sebastian BORING, David LEDO, Xiang 'Anthony' CHEN, Anthony TANG, Anthony TANG, and Saul GREENBERG



The Fat Thumb: Using the Thumb's Contact Size for Single-Handed Mobile Interaction

Sebastian Boring

University of Calgary
2500 University Dr. NW
Calgary, AB, T2N 1N4, Canada
sebastian.boring@ucalgary.ca

David Ledo

University of Calgary
2500 University Dr. NW
Calgary, AB, T2N 1N4, Canada
dledomai@ucalgary.ca

Xiang 'Anthony' Chen

University of Calgary
2500 University Dr. NW
Calgary, AB, T2N 1N4, Canada
anthony.xiangchen@ucalgary.ca

Nicolai Marquardt

University of Calgary
2500 University Dr. NW
Calgary, AB, T2N 1N4, Canada
nicolai.marquardt@ucalgary.ca

Anthony Tang

University of Calgary
2500 University Dr. NW
Calgary, AB, T2N 1N4, Canada
tonyt@ucalgary.ca

Saul Greenberg

University of Calgary
2500 University Dr. NW
Calgary, AB, T2N 1N4, Canada
saul.greenberg@ucalgary.ca

Abstract

Modern mobile devices allow a rich set of multi-finger interactions that combine modes into a single fluid act. Such gestures may require the use of both hands: one holding the device while the other is interacting. While on the go, however, only one hand may be available to both hold the device and interact with it. In this demo, we present the Fat Thumb interaction technique, which uses the thumb's contact size as a form of simulated pressure. We present how this can be used, for example, to integrate panning and zooming into a single interaction. Contact size determines the mode (i.e., panning with a small size, zooming with a large one), while thumb movement performs the selected mode.

Author Keywords

Mobile device; touch-screen; single-handed interaction

ACM Classification Keywords

H.5.2: User Interfaces: Input Devices and Strategies.

Accompanying Paper

Boring, S., Ledo, D., Chen, X., Marquardt, N., Tang, A., Greenberg, S. The Fat Thumb: Using the Thumb's Contact Size for Single-Handed Mobile Interaction. *In Proc. MobileHCI*, ACM Press (2012).

Copyright is held by the author/owner(s).

MobileHCI'12, September 21–24, 2012, San Francisco, CA, USA.

ACM 978-1-4503-1443-5/12/09.