Does interaction designers use more multi-touch gestures than other people?

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1 Introduction

Purpose *Is there is a considerable difference between how interaction designers and non designers interact with Macbook trackpads?*

Rationale/Motivation If there is no difference between designers and non-designers the number of user tests of new products can be reduced, and the designer can test the products on their colleagues and therefore save time.

Contents A conclusion drawn from a field study conducted at Umeå University.

Resources Related articles and scientific papers listed in the bibliography section. Camera equipment, questionnaire and test subjects with Apple Macbook pro or Macbook air computers.

2 Method

To test the hypothesis I will give test subjects different tasks to complete on their own Macbook. Tasks consists of navigating the operating system and web browser. To collect data a camera will record a video capturing the trackpad, keyboard and screen of the computer. I will also observe the user by ocular inspection. To gather extra information I will hand out a survey to the users, a few interesting aspects for the survey would be years of using Macbooks (and other Apple products), years of studies, age and gender. The test subjects will consist of about 50 percent interaction designers from the master programme Interaktion and Design at Umeå University and the other 50 percent of random students not studying Interaktion and Design. The Apple Macbook magic trackpad recognizes the following multi-touch user inputs:

- Two-finger scroll (scroll documents etc.)
- Two-finger swipe (back and forward in browser)
- Tap to zoom (Two-finger tap to magnify web page or pdf)
- Pinch to zoom (Zoom in and out with two fingers)
- Three-finger swipe sideways (move between fullscreen apps)
- Three-finger swipe up (view Mission control)
- Three-finger swipe down (view App Exposé)
- Pinch to open Launchpad (Three fingers)

- Thumb and three finger pinch in (View Launchpad)
- Thumb and three finger pinch out (Show desktop)
  These are the gestures to be measured. The reason I have chosen the Apple products is to eliminate hardware dependent differences.

3 Result

4 Discussion

4.1 Limitations

I will only test macbooks without the force touch trackpad, due to lack of computers with force touch at Umeå university. I will only test on a small number of persons due to time limitations.

4.2 Future work

It would be great to include the newer feature of force-touch introduced in the Apple Macbook and later versions of some Macbook pro's. Also test other hardware than Apple products.

5 Conclusion

Hopefully this study will result in a conclusion, it doesn't matter if the hypotheses is true or false. The result is meaningful in any case.

6 Annotated Bibliography

References

[1] Shahedul Huq Khandkar, SM Sohan, Jonathan Sillito, and Frank Maurer. Tool support for testing complex multi-touch gestures. In *ACM International Conference on Interactive Tabletops and Surfaces*, pages 59–68. ACM, 2010.

[2] Tim Schürmann, Christina Binder, Gesche Janzarik, and Joachim Vogt. Movement transformation on multi-touch devices: Intuition or instructional preparation? *Applied ergonomics*, 50:251–255, 2015.

This is the paper that helped form my thesis. Their conclusion is that people dont understand how to use multi-touch gestures without beeing learned or instructed.

[3] Wendy Yee. Potential limitations of multi-touch gesture vocabulary: Differentiation, adoption, fatigue. In *Human-Computer Interaction. Novel Interaction Methods and Techniques*, pages 291–300. Springer, 2009.

Solid background research with lots of references to good articles and papers.