

Technical Disclosure Commons

Defensive Publications Series

January 2020

NOTOEBOOK EDGE-SENSING FEATURE FOR USER EXPERIENCE ENHANCED

HP INC

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation

INC, HP, "NOTOEBOOK EDGE-SENSING FEATURE FOR USER EXPERIENCE ENHANCED", Technical Disclosure Commons, (January 30, 2020)
https://www.tdcommons.org/dpubs_series/2917



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

NOTEBOOK EDGE-SENSING FEATURE FOR USER EXPERIENCE ENHANCED

Disclosures Of Edge Sensing Idea

This disclosure relates to the field of user experience enhanced and additional value of product

1. Abstract

Idea Thinking:

- To enhance the experience of NB user interface & product value adding.
- Lower cost but increase the operating experience a lot.
- Add a capacitance sensor on the right side edge with easy finger swipe and operate gestures: Fig. 1
 - Scroll up/down
 - Zoom in/out
 - Next/Previous ...etc

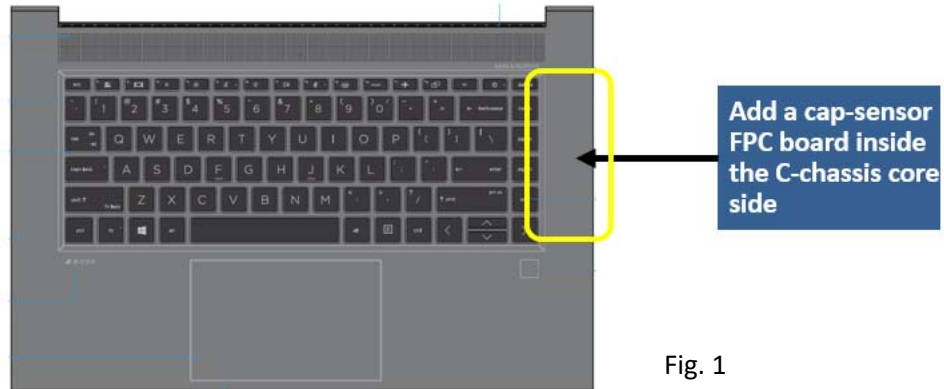


Fig. 1

2. Problems Solved

- In previous NB products, we can see the user lift up his arm and swipe on the touch screen, doing the web surf. It won't be seconds arm hanging. Perhaps minutes & hours in generic case.
- Why use the expensive touch screen solution to offer user the basic gestures operate experience in clamshell NB?
- Touch(Click) Pad two finger scroll up/down isn't good to me. This gesture not relevant to Ergonomics. It always let my wrist feel uncomfortable. (2 finger length different but tip on the same flat)
- Why not offer the comfortable gesture(to user) and not expensive(to company), replace touch screen solution on our product? Yes, we have the answer. The Edge-sensing

3. Prior Art

- Currently NB touch screen had high cost and not friendly operate with limit function. Edge sensing can free your arm hanging and easy to browsing.

- Touch Screen support direct experience to user but user's arm need to lift up and hang for a while. thhat's not easy if arm hang minutes for browsing. Fig. 2
- Compare to Edge-Sensing User's forearm lie on the desk. Just finger motion can cover the most functions of Touch Screen.



Fig. 2 Arm might hurt in long term usage of Touch Screen

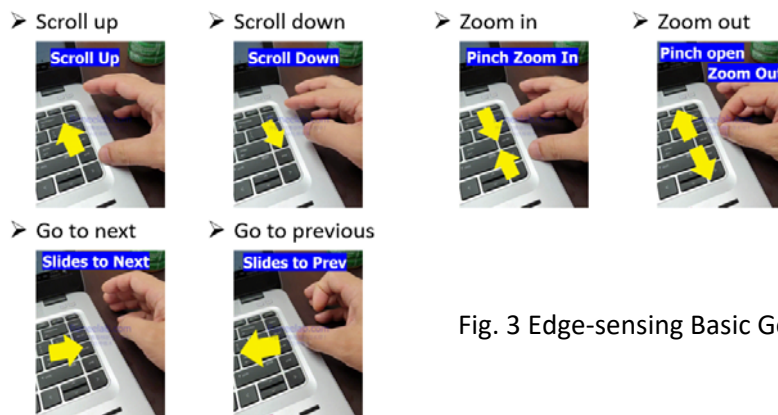


Fig. 3 Edge-sensing Basic Gestures Demonstrate

4. Product Drawing

- Use the capacitor sensor IC mount on the FPC board to achieve finger motion detect. Fig. 4

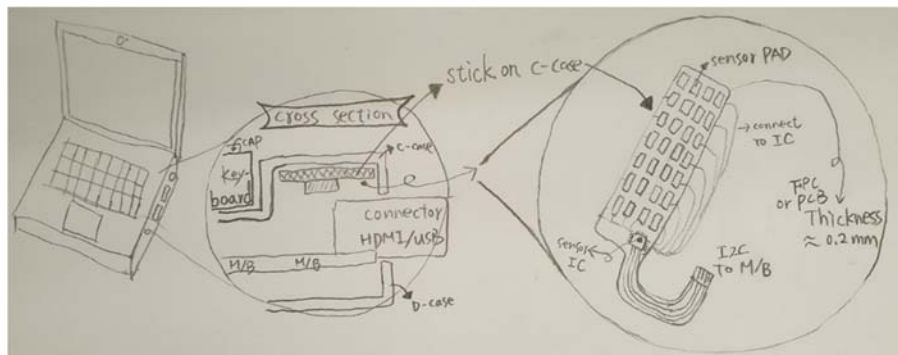


Fig. 4 Drawing of idea

- Utilize the space under C-case which is useless usually. That room can fit ~0.2mm FPC board and stick it on the C-case core side.

5. Advantages

- Feature Comparison between devices:
 - Touch screen features:
 - Web browsing/Writing/Reading scroll up & down. (one finger)
 - Zoom in & out the photo/text file by pinch or double tap
 - Swipe to left & right
 - Select object, double click, Drag & Drop, finger tap on the APP icon directly
 - Touch(click) Pad features:
 - Web browsing/Writing/Reading two fingers scroll up & down. (two finger)
 - Zoom in & out the photo/text file by pinch or double tap
 - Swipe to left & right
 - Select object, double click, Drag and Drop
 - Edge-Sensing features:
 - Web browsing/Writing/Reading scroll up & down. (one finger)
 - Zoom in & out the photo/text file by pinch or double tap
 - Swipe to left & right
 - Arm hanging free
- After compared, we can see the features are overlap between Touch Screen & Touch Pad. (The different portion will be highlight in color)
- Most features of touch screen can be replaced by Edge-sensing. Only one feature can't replace is "Select Object, Double Click, Drag and Drop". But it can be covered by touch(click) pad.
- Co-existing of touch(click) pad & Edge-sensing can offer the full touch screen experience & complement each other. It is enhanced/additional NB value in non-touch screen SKU. Table. 1
- Edge-sensing is low cost solution contains a FPC board & sense IC only

Table. 1

Features	Edge-Sensing	Touch PAD
Arm hanging free	X	
Select Object, Double Click, Drag and Drop		X
Web Browsing/Writing/Reading Scroll Up & Down (ONE FINGER)	X	
Zoom IN & OUT the photo/text file by Pinch or Double Tap	X	X
Swipe to Left & Right	X	X
Slides to Next & Prev directly	X	

Appendix

Disclosed by Dustin Pan, Marshall li, Jim Wang and Enzo Liu, HP Inc.