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HANDWRITING RECOGNITION RATE AND PREFERENCE OF WRITING

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Abstract. In this paper efforts have been made to determine the preference works of handwriting recognition on tablet PC, Paper and pen and Keyboard for writing by children. Results demonstrate that recognition rates vary according to the metrics used, and to discuss its preference.
Key Words: Handwriting, Wacom, Tablet PC, ASCII, CobWeb.

1. Introduction

Handwritten character recognition is the ability of a computer to recognize the characters correctly. Writing is only branch of language that requires the use the tool. Children used freely many writing recognition technology for their development of writing. User reception is related to user experience best on technology, the competition for this technology came from the pen and paper and the keyboard. From investigating how it matched against these two technologies, the main aim is to compare it with the other competing writing methods of keyboard and paper and pencil.

2. The Empirical Study

To work in handwriting recognition-based technology for the writing application, the children used the pen that was supplied with the tablet to construct their writing. The CobWeb experimental interface was built using Visual Basic® with the Calligrapher® SDK embedded in the application. This was presented to the children on a laptop and Wacom® graphics tablet.. The font size was preset to 14 and the spell checking and grammar checking was disabled so that it was comparable to the pen and paper interface and the handwriting interface. Twenty children of aged 9 and 10 of same class with English as first subject were recruited to the study that took part in school.

2.1 Analysis and Result

The plan was within area under discussions single factor with three conditions: Writing using paper, Writing at the keyboard and Writing with the tablet A Latin Square size of 3X3 was used to determine the order in which children did the three activities. The founded results are presented below:

2.1.1 Quality, Quantity and Preference of the Writing

When writing at the keyboard, children spent a lot of time looking for the right key to press. It was interesting to note that children using the keyboard asked for spellings whilst those using pen and paper and the tablet did not. The quantity of writing, measured in words, is shown in Table 1. In terms of quality, the best writing was from the pencil and paper. A model of the work which is taken that was produced is given here: When the children wrote on paper and on the keyboard, all their work was visible in the same place, whereas with the handwriting interface, their work appeared both to the right of the writing surface (as ASCII text and with errors) and on the writing surface. The scores for the expected and the actual are shown in Table 1. To this study taken a string is "***Majuli of Assam is smallest island of the World"*** and results are discussion below:

Written Medium	**Mean**		**Standard Deviation**		**Preferences of Children**	
	Quality	**Quantity**	**Quality**	**Quantity**	**Expected**	**Actual**
Paper	3.6	72.6	1.2	38.1	4.1	4.3
Tablet	3.1	58.8	1.0	25.5	4.2	4.3
Keyboard	2.9	44.0	1.2	24.7	4.1	4.3

Table 1 – Quality, Quantity and Preference of Writing

The children wrote more at the tablet than they did on the keyboard. Given that these were the same children, it may be that the keyboard creates more anxiety or more uncertainty about spellings. The tablet and the pen and paper both supported word based construction.

2.1.2 Character Recognition Speed

Children were composing on the tablet, the writing, including spelling errors, onto a notepad in order to create a corpus of presented text. The three phrases of the copied text were equally analysed. The results are shown in Table 2.

Phrase	Mean	Standard Deviation
Training phrase-1	48.4	23.0
Training phrase-2	32.8	22.2
Training phrase-3	38.2	19.4
Composed text	26.8	14.7

Table 2 - Error Rates of Children

The above results reveal that error rates fell significantly between the first and second training text and, it is interesting to note that the error rates for the composed text were so much lower than for the copied text.

3. Conclusion

Various interrelationships of findings in respect of recognition in fit between the technology and user. The technology of writing process and its three phases are all supported by the use of tablet technology. The results from Survey after all three events are - Tablet is hardest to use, Paper is easiest to use, Keyboard is most fun to use, Paper is least fun to use. The expectation had been that the children would prefer the pen and tablet to the keyboard, as it was novel to them.

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