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An Investigation into Various Human-Computer Interfaces which may Enhance Communication for Students with Motor Impairments

Presented by Amy E Lewington

Supervisor: Dr. Steve Woodhead
Overview

- Brief introduction
- Literature findings
- Technologies
- Results and conclusions
- References
- Further work
Introduction

• Background
  » Aim
  » Why?

• Technology aiding communication

• Ethics involved

• Current research explored

• Methodology

• Represent results
Literature

- Sources of information
- Current findings
- Engineering Rehabilitation
- Organisations
- Information on various technologies
Mouse Technology

- Head mice
- Three types explored:
  1. Standard mouse
  2. SmartNav
  3. QualiEye
Results

A bar graph showing the mean time and percentage number of targets hit out of 30

15/06/2009
Department of Computer and Communications Engineering
Keyboard Technology

- Text entry
- Three types:
  1. Standard keyboard
  2. Penfriend word predictor
  3. Penfriend with on-screen keyboard
Results

Text Entry Trials

Show the number of words users typed correctly using each text entry technology.

15/06/2009 Department of Computer and Communications Engineering
Speech Technology

- Speech recognition
- Training is required
- Any success rates?
- Valid Results?
Conclusions

- Opinions of participants
- Technology a valuable tool
- Disadvantages/Problems faced
- Some trials unsuccessful
- Time limited
REFERENCES


• [www.ninds, 2006]
Further Work

• Undertake tests with new devices
  - regular periods
• Questionnaires for participants, support workers.
• Include "real work" examples
• Use a "control group"
• Design rigorous recruitment process
Thank you for listening

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