Evaluation of e-Readers

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Outline

• Objective
• Methodology
• Results
• Conclusion
Objective

• Evaluate from a purchasing perspective the quality and usability of e-readers purchased within a budget of up to $70.

• Based on a scenario
  – Similar to first use by a busy user
Map of common e-readers

**Pearson et al., (2010)**
- Kindle 2
- Sony PRS-600
- Sony PRS-300

**Heikkilä (2011)**
- Kindle 283
- Sony PRS-600
- BeBook Neo
- Booken Cybook Opus
- Elonex eBook
- Samsung galaxy tablet
- iPad 1G

**Nielsen (2010)**
- Kindle 2
- iPad

**ANU Experiment**
- A. Barnes & Noble Nook
- B. Kobo Touch
- C. Amazon Kindle 4G
- D. Sony PRS-600
- E. iRiver Story HD
- F. Elonex eBook
- G. Ectaco jetBook
- H. Pandigital Novel
- I. EZReader EZ601

**Richardson & Mahmood (2012)**
- Sony PRS-900
- iPad 1G
- Kobo N647
- Nook
- Kindle 3G

**Siegenthaler et al (2012)**
- Sony PRS-600
- Sony PRS-505
- iPad 1G

**Gibson & Gibb (2011)**
- Sony PRS-505
- Booken Cybook
- iRex iLiad
- Asus Eee PAc 105HA

**Siegenthaler et al (2010)**
- Sony PRS-505
- Booken Cybook Gen
- iRex iLiad
- BeBook
- Ectaco jetBook
Map of tasks

Person et al., (2010)
- bookmarking
- annotation
- page turning
- magnification (zoom)

Heikkilä (2011)
- open device
- find a particular ebook
- find a specific place within ebook
- change font size
- page orientation

ANU experiment
1. turn power on
2. navigate to 1st document
3. open document
4. increase font size
5. navigate to specific section
6. navigate to 2nd document

Richardson & Mahmood (2012)
- portability
- navigation

Siegenthaler et al., (2012)
- open ebook
- open page
- font size
- highlight sentence
- find highlighted sentence
- page orientation

Gibson & Gibb (2011)
- portability
- navigation
- screen glare
- zoom

Siegenthaler et al., (2010)
- open a ebook
- increase font size
- page orientation
- open a picture
E-Readers evaluated

Nook  Kobo  Kindle 3G  Sony PRS-600
iRiver  Elonex  jetBook  Pandigital  EZReader
### e-Reader randomisation

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<th>BA</th>
<th>IH</th>
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- Each device evaluated 8 times
  - 4 times as first of a pair, 4 times as second
e-Reader randomisation

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• Example shown for device A
• 72 participants in total
Methodology

• Complete a series of tasks
  – turn on the device
  – find a particular document
  – open the document
  – increase the font size
  – navigate within a document
  – readability

• Evaluation based on Likert scale rating
Results

Significant differences between question responses on e-readers based on Analysis of Variance (ANOVA) calculations

• Opening a document
  – $F(8,63) = 3.21, p = 0.004$
Results continued

• Increasing the font size
  – $F(8,63) = 2.25, \ p = 0.03$

• Navigating to a second document
  – $F(8,63) = 3.43, \ p = 0.002$

• The other questions were not significant
  – i.e. $p > 0.05$ for the rest of the questions
## Results, overall comparisons

<table>
<thead>
<tr>
<th>e-Reader</th>
<th>Qualitative rank</th>
<th>Quantitative rank</th>
<th>Overall rank</th>
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<tbody>
<tr>
<td>Kindle</td>
<td>=1</td>
<td>=3</td>
<td>=1</td>
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<tr>
<td>Pandigital</td>
<td>=3</td>
<td>=1</td>
<td>=1</td>
</tr>
<tr>
<td>iRiver</td>
<td>=1</td>
<td>=4</td>
<td>=3</td>
</tr>
<tr>
<td>jetBook</td>
<td>=3</td>
<td>=2</td>
<td>=3</td>
</tr>
<tr>
<td>Sony</td>
<td>=3</td>
<td>=5</td>
<td>=5</td>
</tr>
<tr>
<td>Elonex</td>
<td>=6</td>
<td>=6</td>
<td>=6</td>
</tr>
<tr>
<td>Kobo</td>
<td>=7</td>
<td>=7</td>
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</tr>
<tr>
<td>Nook</td>
<td>=8</td>
<td>=8</td>
<td>=8</td>
</tr>
<tr>
<td>EZReader</td>
<td>=8</td>
<td>=9</td>
<td>=9</td>
</tr>
</tbody>
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- Sorted by overall rank, significant questions
Conclusion

- e-Readers with button interface ranked in top 4 positions:
  = 1\textsuperscript{st} is Kindle 3G and Pandigital
  = 3\textsuperscript{rd} is iRiver and jetBook
  - Many users suggested adding touch would improve the devices
    - Yet scored the Kobo (touch only) at rank 7
  - Note: Pandigital is both button and touch