What Do We (not) Observe?

Rita Mátrai, Zsolt Tibor Kosztyán

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Introduction
- Searching on web pages
- Information perception
- Role of visual attention
- Previous studies
  - Position and properties of objects → efficient user interface design
  - Analysing navigation routes
  - Goal: How properties of objects influence the time need for information seeking?

Previous studies – effect of target positions

- kapas
- hűvös
- cukor
- műtő
- kupak
- hűvös
- fűszer
- porro
- patás
- súrég
- lazac
- hűvös
- pácis
- hűvös
- hűvös
- fájas
- hűvös
- súr
- bokor
- hűvös
- sizer
- meleg
- jeles
- színk
- tölk
- bewes
- fűtök
- silec
- kupa
- recső
- kutas
- becés
- jeles
- sárlós
- cipők
- kicsik
- felaj
- hűvös
- feső
- hűvös
- címer
- tucat
- kibic
- olos
- hűvös
- hűvös
- kanál
- hűvös
- zajos
- kócös

Some interesting findings
Assumptions

- Targets in the left middle area are less observable.
- Number of columns increases → solving time increases.
- Number of targets increases → solving time increases.
- If the task should be interpreted → solving time increases.
- If the task should be interpreted → sequence of selection changes.

Method

- Previously:
  - All targets had to be found.
  - Most probability clicking sequence was determined.
- Now:
  - Users did not have to find all targets.
  - Establish a sequence which is contrasting with the less clicking sequences.

Worksheets

Participants and devices

- 357 university students aged between 18–31.
- 17" LCD monitors.
- Viewing distance ~60 cm.

Results – the left middle area
Results – the left middle area

- 2- and 3-column portals
- Text boxes on the left

No such phenomenon

Results – the left middle area

Are the targets in the left middle area less observable?

YES
- If there are words in a column on the left (e.g.: menu)

NO
- If there are text boxes in a column on the left (e.g.: news portal)

Results – the effect of the size of targets

If the users are lost in the text written by smaller letters, they either do not observe text written by bigger letters or observe it later.
Results – solving times

- Solving times inform us about the perspicuity of the web pages

<table>
<thead>
<tr>
<th>Perspicuity of the web page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual hierarchy</td>
</tr>
<tr>
<td>Logical structure</td>
</tr>
<tr>
<td>The task should be interpret or not</td>
</tr>
</tbody>
</table>

Discussion – what do we (not) observe?

- targets in the left middle areas are observed harder except for on news portals where news were organized in 2 or 3 columns
- Text written by bigger letters can also avoid users’ attention IF they are lost in the text written by smaller letters
- Smallest solving times were measured on home pages where visual hierarchy was the following: menu on the left, body text in the middle and related information or advertisements in the right side
- solving time is a linear function of the number of targets
- Number of columns do not influence the solving time

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Thank you for your kind attention!

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