

CTHCI Lab 1

Paper Reading and Identifying Contribution Types

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<http://hci.rwth-aachen.de/cthci>



Literature in this Class

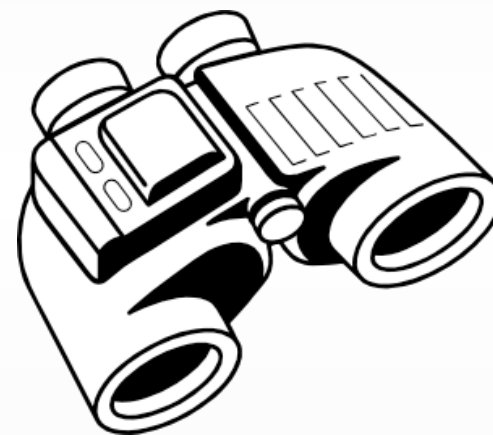
- Do I need to know what problems that GPS creates while driving?
 - No.
- **Required reading:** Examinable, must be read by everyone
- **Recommended reading:** Not examinable
- Other example papers: Not examinable
 - Examples to illustrate the concepts explained in the class.

HCI Research: Approaches and Contributions

Approaches



Test



Look



Make


Seven Research Contribution types

- Empirical
- Artifact
- Methodological
- Theoretical
- Dataset
- Survey
- Opinion

In-class exercise



Research Example: CommandMaps

- Scarr et al., Best paper CHI '12 
- Improve toolbar (specifically Microsoft's Ribbon interface)
- In-class exercise:
 - Contributions?
 - Benefits?
 - Which part uses empirical science, ethnography, and engineering/design approach?

Improving Command Selection with CommandMaps

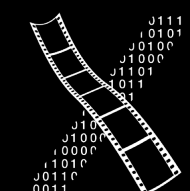
Joey Scarr[†], Andy Cockburn[†], Carl Gutwin[‡], Andrea Bunt^{*}

[†]Computer Science, University of Canterbury, New Zealand

[‡]Computer Science, University of Saskatchewan, Canada

^{*}Computer Science, University of Manitoba, Canada

[Source](#)



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CommandMaps

- Contributions & Benefits:
 - “Introduces **CommandMap** interfaces for mouse-based command invocation. Theoretically and empirically demonstrates that their defining properties — spatially stable command locations and a flat command hierarchy — **improve user performance.**”

[Scarr et al., CHI '12]

□ How?
 □ speed
 □ accuracy
 □ satisfaction task

Improving command selection with CommandMaps

Joey Scarr, Andy Cockburn, Carl Gutwin, and Andrea Bunt. CHI 2012.

Domain overview

Designers of GUI applications typically arrange commands in hierarchical structures, such as menus, due to screen space limitations. However, hierarchical organisations are known to slow down expert users. This paper proposes the use of spatial memory in combination with hierarchy flattening as a means of improving GUI performance.

We demonstrate these concepts through the design of a command selection interface, called CommandMaps, and analyse its theoretical performance characteristics. We then describe two studies evaluating CommandMaps against menus and Microsoft's Ribbon interface for both novice and experienced users. Results show that for novice users, there is no significant performance difference between CommandMaps and traditional interfaces -- but for experienced users, CommandMaps are significantly faster than both menus and the Ribbon.

□ What performance?

System name

How did the theoretical perf. derived?

Problem in the domain

proposed solution (in principle)

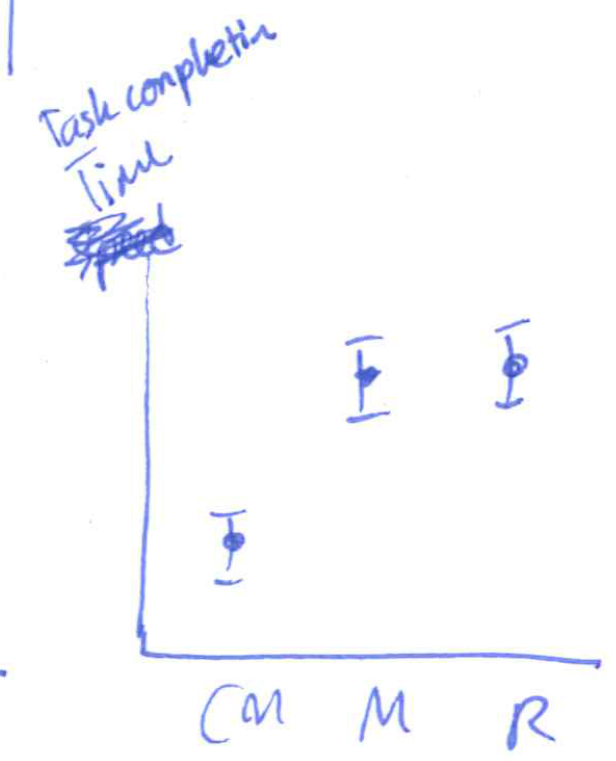
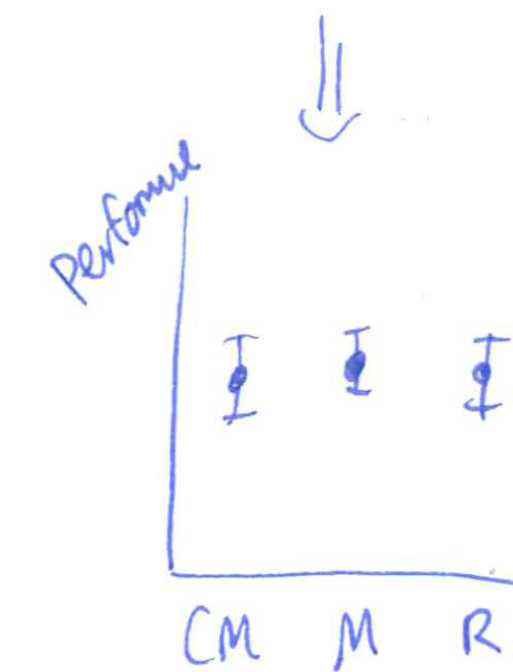
evidence to support the proposed principle

What they did.

What they found.

Comparison ⇒ experimental

	novice	experienced
Command Maps		
Menu		
Ribbon		

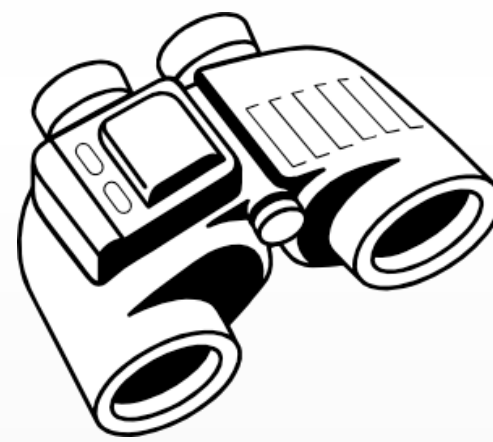


In-Class Exercise: Practice Skimming and Classifying

Approaches



Test



Look



Make

Seven Research Contribution types

- Empirical
- Artifact
- Methodological
- Theoretical
- Dataset
- Survey
- Opinion

Practice your skill!
In-class: use the handouts
At home: visit
<http://chi2016.acm.org/program/>



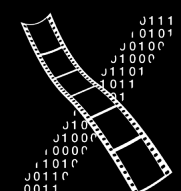
Retrieving and Searching for Papers

- Google Scholar: Entry point, alerts, citation search, finding the full version for free
- ACM Digital Library: The main archive, video materials, comprehensive search by author
 - **CHI**: <http://dl.acm.org/event.cfm?id=RE151&tab=pubs>
 - **UIST**: <http://dl.acm.org/event.cfm?id=RE172&tab=pubs>
 - **MobileHCI**: <http://dl.acm.org/event.cfm?id=RE395&tab=pubs>
- Elsevier authentication
 - **IJHCS**: <http://www.journals.elsevier.com/international-journal-of-human-computer-studies/recent-articles/>
 - Citeology: Citation visualization (1982–2010)
 - <http://www.autodeskresearch.com/projects/citeology>

Important resources for
all your assignments

CITEOLOGY

Source



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Assignment Groups

- Three assignment, in groups
 - Assignments and peer feedback process will be available on our public website
- Each group should have 6-7 students
- I will send an online form to fill in your groups (surnames)
 - Set up your groups by tomorrow (23:59:59)
- I will assign students who do not have any group
- You will receive an email from me on Friday with the emails of your team members and assigned topic for A01

Assignment Process

	Day 0	until 27.04.		until 02.05	until 04.05	until 04.05 6 AM
Phil	Hands out the assignment		Assigns peer reviews			
Group A		Works on initial submission		Peer reviews submission of Group B	Prepares final submission	Sends final submission to Phil
Group B		Works on initial submission		Peer reviews submission of Group A	Prepares final submission	Sends final submission to Phil

L01 Referenced Literature

- Joey Scarr, Andy Cockburn, Carl Gutwin, and Andrea Bunt. 2012. Improving command selection with CommandMaps. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12). ACM, New York, NY, USA, 257-266.
DOI=10.1145/2207676.2207713 <http://doi.acm.org/10.1145/2207676.2207713>