LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

Advanced Seminar in Media Informatics

Mohamed Khamis | Hanna Schneider | Yuanting Liu

Advanced Seminar in Media Informatics | Munich | 2018-04-10

Overview

Requirements:

Currently enrolled in LMU master program (Informatics, Media Informatics, HCI)
Knowledge of English

Research topics

Each student works independently on one topic.
Two students can be assigned to the same topic, but they would still work interpedently

Objective of the course: Understanding Scientific Research

Independent literature review
Analysis and classification of research results
Writing a scientific paper

Seminar report in English: 6-8 pages in LaTeX (LaTeX template can be found on the website)
Final presentation (15 minutes+ 5 minutes discussion)

Website: http://www.medien.ifi.lmu.de/lehre/ss18/hs/

Organization

- Scope: 2 SWS / 6 ECTS-Credits

- Examiner:
  Prof. Dr. Heinrich Hußmann

- Course organizers:
  Mohamed Khamis, mohamed.khamis@ifi.lmu.de
  Hanna Schneider, hanna.schneider@ifi.lmu.de
  Dr. Yuanting Liu, liu@fortiss.org

Organization (2)

- Meeting dates: selected weeks, Tuesday 16:00-18:00
- Different submissions based on the schedule
- Presentations at the end of the semester 30.07 [and 31.07] dates will be confirmed.
- Place: Thalkirchnerstr. 36, Raum 257

- Grading
  - Preliminary preparation / outline
  - 60 seconds presentation (including slides submission)
  - First draft
  - Peer review / comments from supervisors and fellow students
  - Final (revised) draft
  - Final presentation (after submitting a draft)

- Hint: Most of the literature is available only in English. Hence good English language skills are required for participation

Schedule

Date	Sessions (grey) and Deadlines (yellow)
10.04.18	Introduction and Topics
8.05.18	Submission deadline: 1. paper draft
11.05.18	Submission deadline: one slide for 60 seconds presentation
15.05.18 (s.t.!)	60 seconds presentation / Input: How to write good reviews
29.05.18	Submission deadline: 2. paper draft (for peer-review) **submit 2x via Uniworx**
8.06.18	Submission deadline: Reviews **(submit via Uniworx as corrector)**
12.06.18	Q & A & Feedback **(optional)**
13.07.18	Submission deadline: Final paper
17.07.18	Submission deadline: preliminary presentation slides
17-24.07.18	Mock presentations
24.07.18	Submission deadline: finale presentation slides
30-[31].07.18	Final presentations (to be confirmed)

Submission deadlines | Sessions (mantatory to attend)

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Advanced Seminar in Media Informatics

Research topics

Find the emails of the supervisors on http://mimuc.de/team/

The role of Machine Learning for UX Research

Florian Lachner

- UX Research still heavily focuses on traditional research methods such as interview, surveys or activity logging
- How can Machine Learning help researchers and designers to better understand users' experiences?
  - Identifying Emotional States using Keystroke Dynamics
  - UX Design Innovation: Challenges for Working with Machine Learning as a Design Material
  - Mouse Tracking: Measuring and Predicting Users' Experience of Web-based Content
  - What Can Self-Reports and Acoustic Data Analyses on Emotions Tell Us?

Biometrics - Applications and Use Cases beyond Authentication

Sarah Prange

- Biometrics are mainly used for authentication so far:
  - physiological methods as stand-alone authentication (e.g., fingerprint)
  - behavioural methods (e.g., keystroke, gait) as additional layer
- What else could we do using biometric data?

- Variant 1: physiological biometrics
  e.g.: identifying users by their fingerprints in a multi-touch environment
  → Fiberio
- Variant 2: behavioural biometrics
  e.g.: analyse behaviour and detect physical state / depression
  → Psycho-Informatics: big data shaping modern psychometrics

- Related Work:
  - Biometric Applications Related to Human Beings: There Is Life beyond Security (list of examples & related work, 2011)
  - Behavioural biometrics: a survey and classification (extensive list of behavioural biometrics, 2008)

Drawbacks & Challenges in (behavioural) biometrics

Lukas Mecke

- Biometric methods currently suffer from several challenges
  - e.g., for behavioural methods: lack of reliability, need for training time
- What kind of technical limitations do currently exist?

- Related Work:
  - Evaluating Behavioral Biometrics for Continuous Authentication: Challenges and Metrics (list of metrics & methodology for evaluating behavioural biometrics, 2017)
  - Continuous User Authentication on Mobile Devices: Recent Progress and Remaining Challenges (list of security & usability issues & related work, 2016)
  - Secure Biometrics: Concepts, Authentication, Architectures & Challenges (technical challenges for „secure“ biometrics, 2013)

Persuasive Design in Mobile Learning Applications

Christina Schneegass

Learning Applications (e.g., Duolingo, Babbel, Khan Academy etc.) often face a high drop-out rate after just a few weeks

This Hauptseminar-project's goal is to shed light on the following questions:

- Is persuasive system design a solution to increase users' perseverance in using the learning application?
- What are design guidelines that apply for this specific domain?

*See:

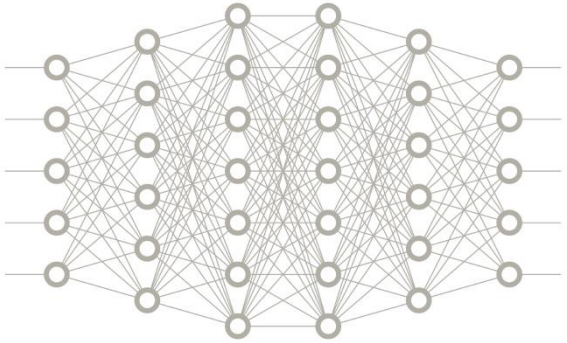
Behringer, R., & Øhrstrøm, P. (2013). Persuasive design in teaching and learning. *International Journal of Conceptual Structures and Smart Applications (IJCSSA), 1*(2), 1-5.
Fogg, B. J. (2009, April). Creating persuasive technologies: an eight-step design process. In *Proceedings of the 4th international conference on persuasive technology* (p. 44). ACM
Gram-Hansen, S. B. (2013). Persuasive design–a matter of context adaptation. *IWEPLET 2013*

Deep Learning in HCI: Trends, Applications, Challenges

Daniel Buschek and Malin Eiband

Questions:

- How is Deep Learning integrated into interactive systems?
- Which purpose and role(s) does it serve in interactions?
- What are the (envisioned) benefits for the user?
- Which challenges remain?



Some starting points:

- Deep Learning in Neural Networks: An Overview
- Smart Reply: Automated Response Suggestion for Email
- Estimating the Finger Orientation on Capacitive Touchscreens Using Convolutional Neural Networks
- DeepWriting: Making Digital Ink Editable via Deep Generative Modeling

Recommending People to People: Reciprocal Recommender Systems

Supervisor: Sarah Aragon Bartsch – sarah.aragon.bartsch@ifi.lmu.de

- Application areas, e.g. online dating, job search
- Classification of reciprocal recommenders
- Challenges and opportunities

References:

Pizzato, Luiz, et al. "RECON: a reciprocal recommender for online dating." *Proceedings of the fourth ACM conference on Recommender systems*. ACM, 2010.

Li, Lei, and Tao Li. "MEET: a generalized framework for reciprocal recommender systems." *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM, 2012.

Akehurst, Joshua, et al. "CCR-A Content-Collaborative Reciprocal Recommender for Online Dating." *IJCAI*. 2011.

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Image source: https://considertheconsumer.com/wp-content/uploads/2018/03/Bumble-Sues-Match-For-Stealing-Trade-Secrets-Consider-The-Consumer.jpg

Usable Recommender Systems

Supervisor: Sarah Aragon Bartsch – sarah.aragon.bartsch@ifi.lmu.de

- How can we design user-friendly recommender systems?
- Which interaction methods are used in recommender systems?
- How can we evaluate good recommendations?

Reference:

Bart P. Knijnenburg, Martijn C. Willemsen, Zeno Gantner, Hakan Soncu, and Chris Newell. 2012. Explaining the user experience of recommender systems. User Modeling and User-Adapted Interaction 22, 4-5 (October 2012), 441-504.

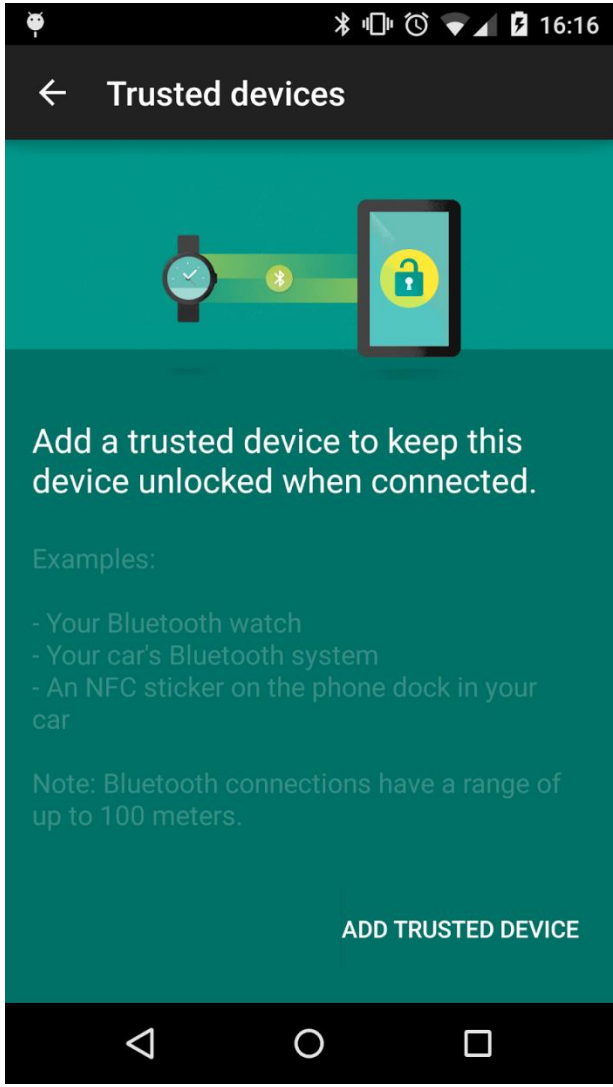
Image source: http://trouvus.com/jaldert-rombouts-and-tessa-verhoef-a-simple-hybrid-movie-recommender-system/

Mohamed Khamis

Context-dependent Privacy and Security Protection

- Questions
  - How can we leverage the user's context to improve privacy and security?
  - What are aspects of context that are relevant for security and privacy?

- Starting points
  - CASA: Context-aware Scalable Authentication. http://dx.doi.org/10.1145/2501604.2501607
  - Intuitive Security Policy Configuration in Mobile Devices Using Context Profiling http://dx.doi.org/10.1109/SocialCom-PASSAT.2012.60
  - Why aren't Users Using Protection? Investigating the Usability of Smartphone Locking https://doi.org/10.1145/2785830.2785835
  - There is more to context than location https://doi.org/10.1016/S0097-8493(99)00120-X

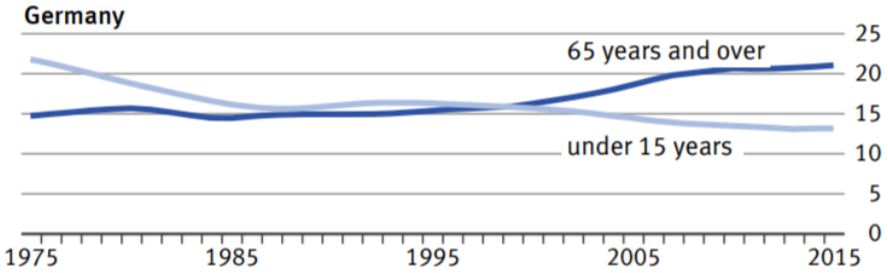


Mohamed Khamis

Usable Security and Privacy for Older Adults

Questions:

- What are the unique Privacy and Security needs of Older Adults?
- How can we design privacy and security protection systems that protect this user group?



Federal Statistical Office, Older people in Germany and the EU, 2016

Starting points:

- Navigating Relationships and Boundaries: Concerns around ICT-uptake for Elderly People (CHI 2017) https://doi.org/10.1145/3025453.3025859
- Privacy Considerations when Designing Social Network Systems to Support Successful Ageing (CHI 2017) https://doi.org/10.1145/3025453.3025861
- Investigating User Authentication in the Context of Older Adults. http://nrl.northumbria.ac.uk/11520/

RELATIONSHIPS TO DIGITAL SYSTEMS

How can we design digital assistants in a way they are accepted rather as friends than tools?

Which user features should be regarded to personalize human-machine interaction?

First Pointers:

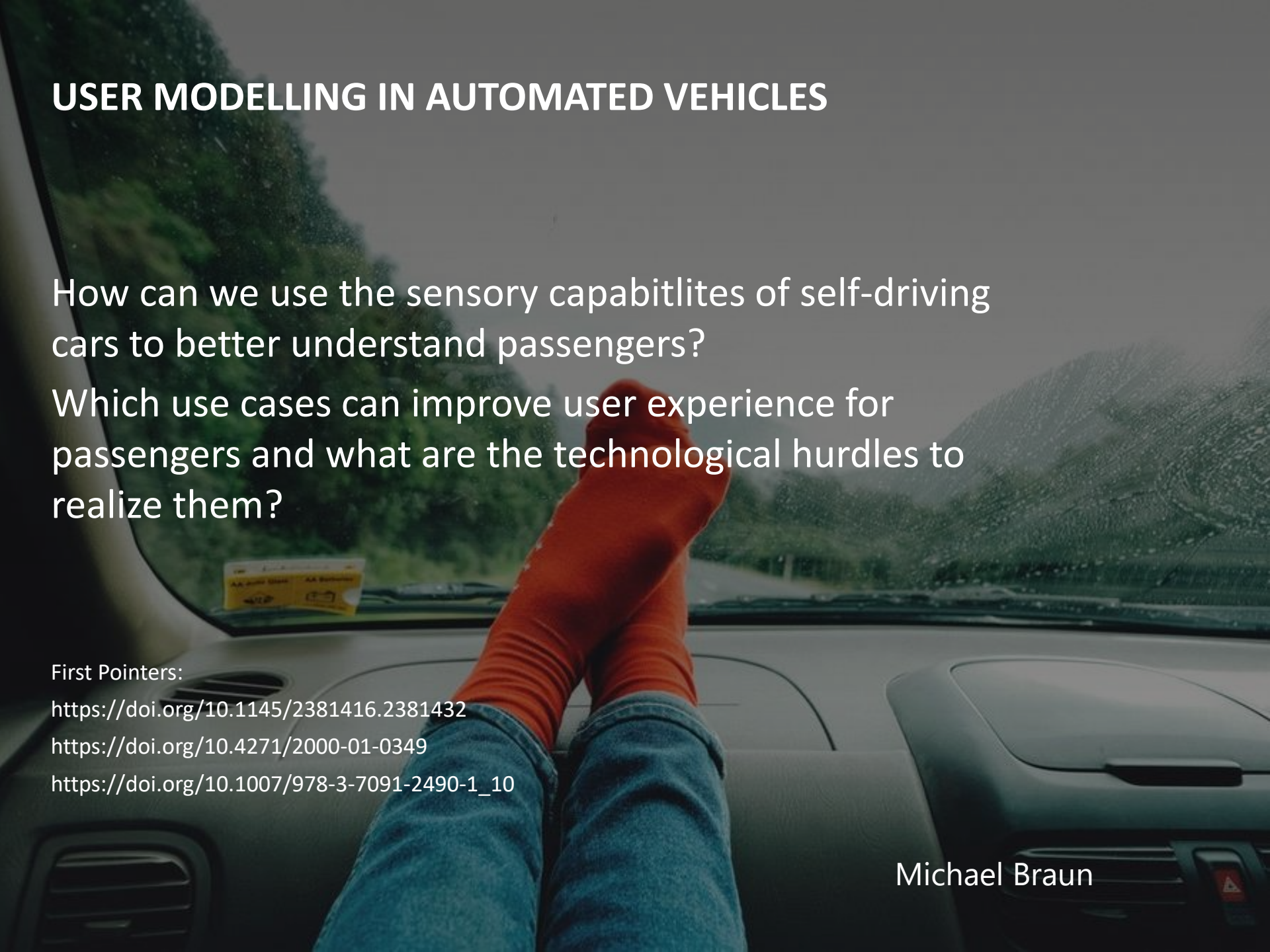
https://doi.org/10.1111/spc3.12287

https://doi.org/10.1016/S0921-8890(02)00372-X

https://en.wikipedia.org/wiki/Tamagotchi_effect

Michael Braun

USER MODELLING IN AUTOMATED VEHICLES



How can we use the sensory capabitlites of self-driving cars to better understand passengers?

Which use cases can improve user experience for passengers and what are the technological hurdles to realize them?

First Pointers:

https://doi.org/10.1145/2381416.2381432
https://doi.org/10.4271/2000-01-0349
https://doi.org/10.1007/978-3-7091-2490-1_10

Michael Braun

EYE-TRACKING IN AUTOMOTIVE RESEARCH

Kai Holländer
and Mohamed Khamis

Challenges & Opportunities:

- Improvement of safety and comfort
- Implementation of eye-tracking inside of vehicles
- What are useful applications for eye-tracking in cars?

Related Publications:

„Using Eye-Tracking to Help Design HUD-Based Safety Indicators for Lane Changes“

„Smart Mobility: Driver State Estimation and Advanced Driver-Vehicle Interfaces“

„The Effects of Situational Demands on Gaze, Speech and Gesture Input in the Vehicle“

Making use of drivers' glances onto the ¨ screen for explicit gaze-based interaction.

Sarah Völkel

The Role of Personality Traits in Human Computer Interaction

According to psychological research humans have tendencies of behavior and attitudes based on five personality traits (e.g., extraversion, conscientiousness).

Your task:

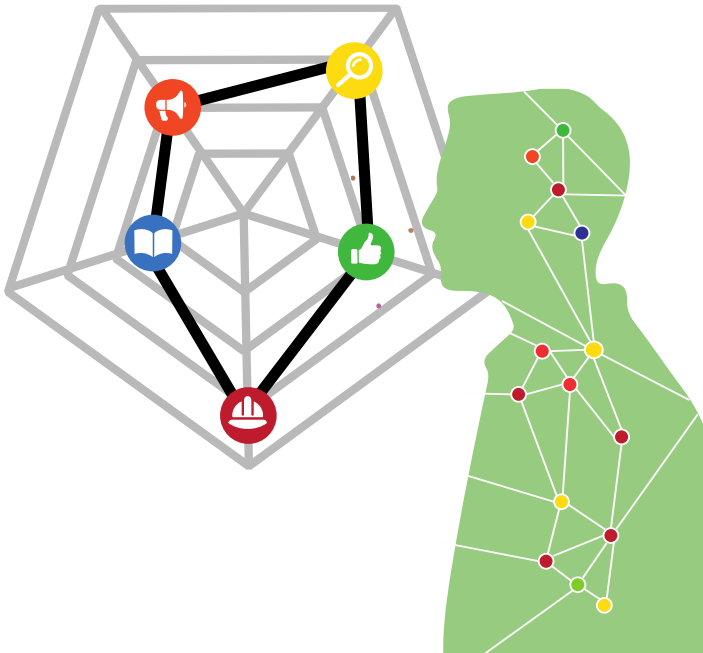
- What are relationships between personality and the interaction with technology based on research?
- What are further possibilities/ideas?

Information seeking

Trust & privacy

Feedback & visualization

Social media use



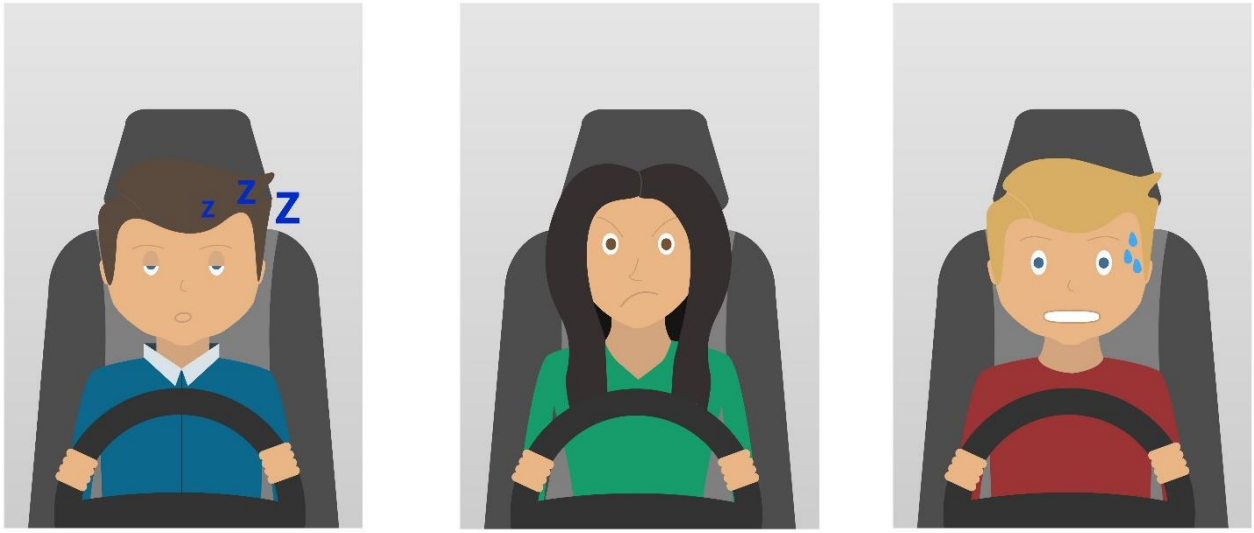
Sarah Völkel

Automotive Interfaces for Communicating Driver‘s State

The driver’s state (e.g., drowsiness, stress) is often a cause for accidents. Making the driver aware of her state can help to improve driver safety.

Your task:

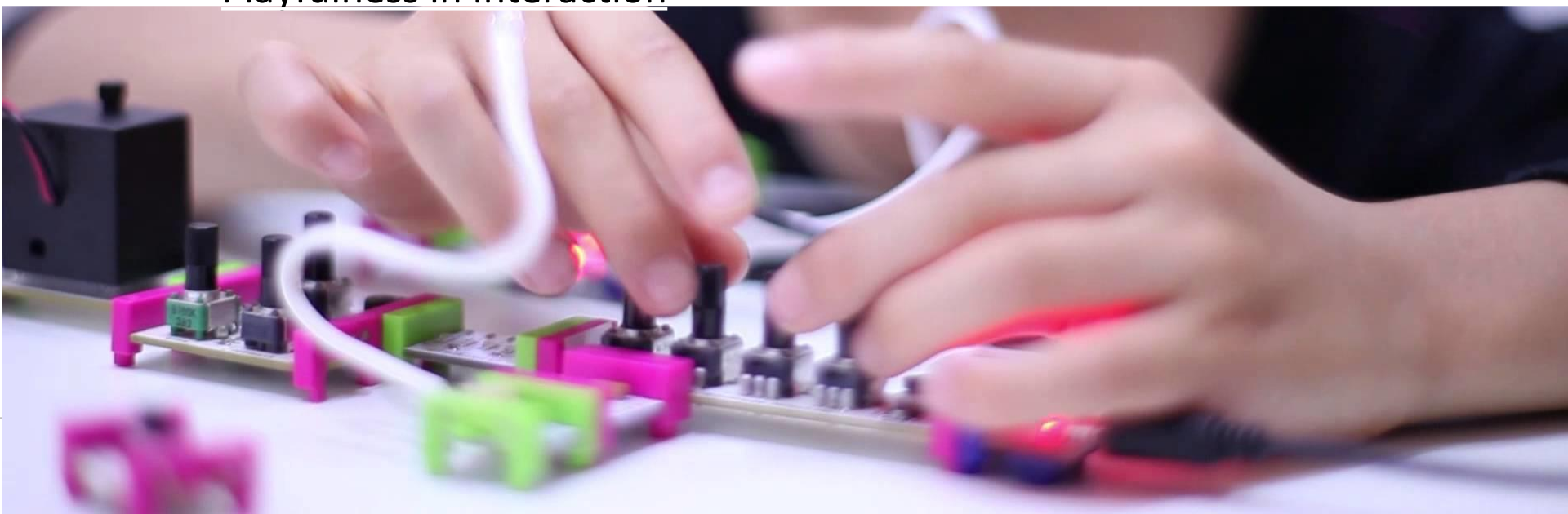
- How can driver’s states be assessed?
- What are effects of communicating the driver‘s state?
- How can the driver’s state be communicated?



Empirical studies concerned with the interaction of children and technology

- How do we design interaction for children?
- How to evaluate new concepts and ideas?
- What do we have to consider?
  - The Role of Children in the Design of New Technology
  - Educational Quality
  - Playfulness in Interaction

Beat Rossmy



INDUSTRIAL ROBOTS AS CO-WORKER IN HUMAN-CENTERED COLLABORATIVE ENVIRONMENTS

Yuanting Liu

- Human-Robot-Interaction is a field of study dedicated to understanding, designing, and evaluating robotic systems for use by or with humans. [1]
  http://humanrobotinteraction.org/1-introduction/
  - Robot-centered
  - Robot-cognition
  - Human-centered
- How is the human-centered collaboration with a industrial robot?
  - Requirements on Human Needs in an industrial environment
  - Technical requirements on a collaborative robot
  - Modelling of Human behavior
  - Use-case definition
  - Design of multimodal dialogue

Intimate data in Personal Informatics: Tracking, sharing, and personal boundaries?

- What data is perceived as intimate? In what circumstances?
- Why do people track intimate data?
- What do they do with it? Tracking, storing, sharing (with whom?) and discussing (with whom?)

- Starting literature:
  Lupton, D. (2015). Quantified sex: a critical analysis of sexual and reproductive self-tracking using apps. *Culture, health & sexuality*, *17*(4), 440-453.

- Supervisors: Hanna Schneider & Mariam Hassib

#	Topic	Supervisor	Student 1	Student 2
1	The role of Machine Learning for UX Research	Florian Lachner	Matthias Müller	Mengyi Zhang
2	Biometrics - Applications and Use Cases beyond Authentication	Sarah Prange	Fan Fan	Katharina Rupp
3	Drawbacks & Challenges in (behavioural) biometrics	Lukas Mecke	Benedikt Strodl	
4	Persuasive Design in Mobile Learning Applications	Christina Schneegass	Luca Schellenberg	
5	Deep Learning in HCI: Trends, Applications, Challenges	Malin Eiband & Daniel Buschek	Maksimilians Verbickis	TzuChien Yen
6	Recommending People to People: Reciprocal Recommender Systems	Sarah Aragon Bartsch		
7	Usable Recommender Systems	Sarah Aragon Bartsch		
8	Context-dependent Security Protection	Mohamed Khamis	Daniel Leimig	Florian Mathis
9	Usable Security and Privacy for Older Adults	Mohamed Khamis	Andrea Ngao	
10	Relationships to Digital Systems	Michael Braun	Xuesong Zhang	Katharina Rogg
11	User Modeling in Automated Vehicles	Michael Braun	Julia Vehns	Ki Tran
12	The Role of Personality Traits in Human Computer Interaction	Sarah Völkel	Julian Fazekas-Con	
13	Interfaces for Communicating Driver's State	Sarah Völkel	Jerome Pönisch	

TOPICS

#	Topic	Supervisor	Student 1	Student 2
14	Empirical studies with children	Beat Rossmy	Korbinian Riedl	
15	Industrial robots as co-workers	Yuanting Liu		
16	Eye-Tracking in Automotive Research	Kai Holländer	Kevin Edmonds	
17	Intimate Data in Personal Informatics	Hanna Schneider & Mariam Hassib	Diana Irmscher	
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Distributing (scientific) knowledge

Distributing knowledge

- Books
- Articles in journals
- Articles in conferences
- Thesis (Bachelor, Master, PhD)
- On the internet (e.g. blogs, Wikipedia)
- Talks and lectures
- Personal communication
- Patents
- …

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- …

Peer review vs no peer review

Scientific Conferences

- Before the conference
  - Topics and title are defined
  - Open call for scientific contributions (i.e., papers)
  - Papers get submitted
  - Papers get peer reviewed by experts in the field
  - Authors get notification and reviews (and possibly required changes)
  - Final versions of accepted papers are submitted
- During the conference
  - One author gives a presentation
  - Typically in addition
    - Invited keynotes
    - Discussion panels
- After the conference
  - Papers are published in conference proceedings

How to find scientific articles?

- Libraries
- ACM digital library
- IEEE digital library
- Google Scholar, Citeseer
- The author's websites
- Web search
- OPAC der Universitätsbibliothek, http://opacplus.ub.uni-muenchen.de

- ACM, IEEE, and most other sources aren't freely available
- University has subscription for the most important sources

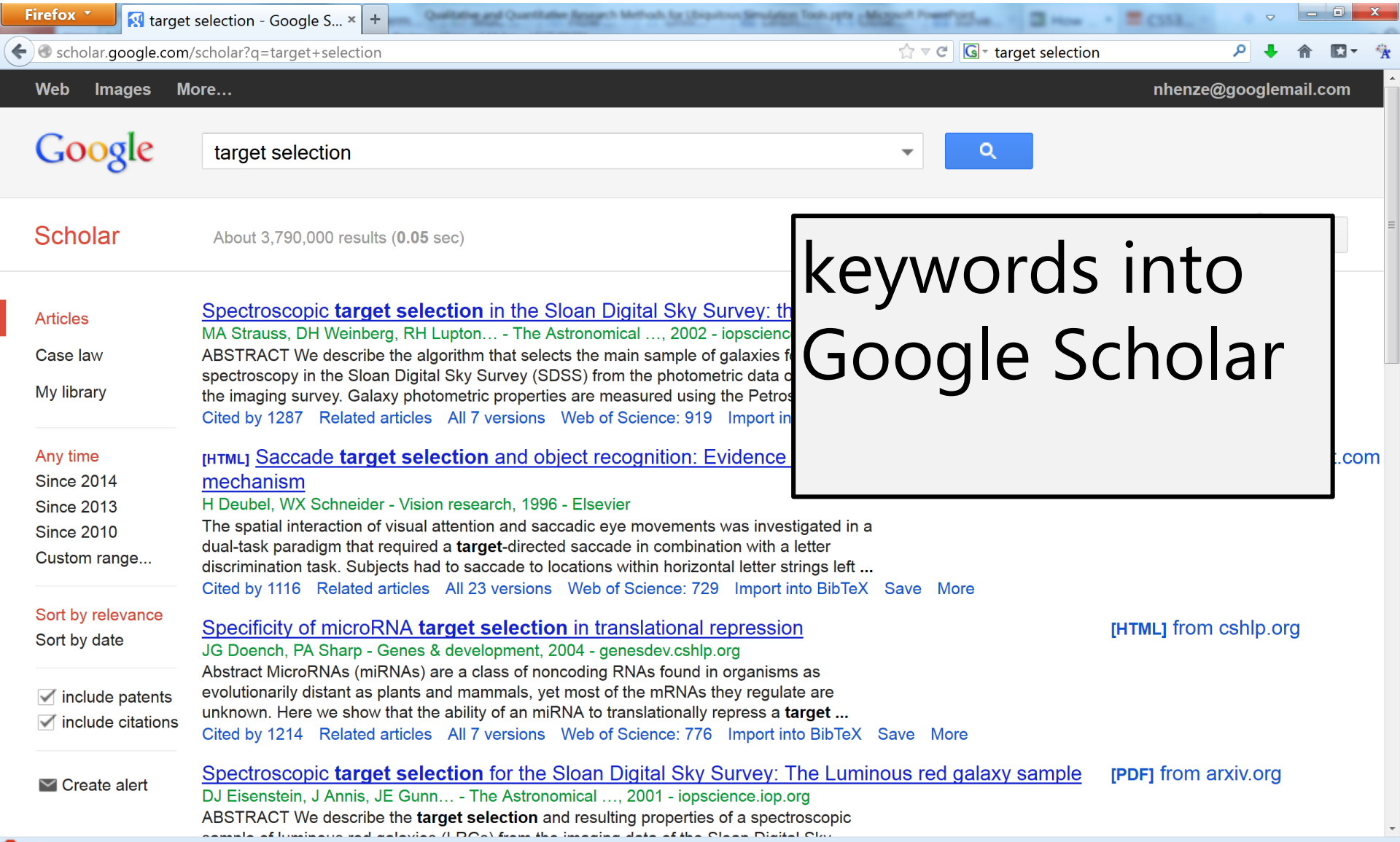
- Get a paper:
  - Try ACM, IEEE, … from the university network
  - Use Google (Scholar) to find a free source
  - Go to the authors' websites
  - Polite mail to the authors
  - Ask people from the library

How to access publications

Access databases (ACM, IEEE, EZB) through our university network (LRZ-VPN und –Proxy):
http://www.lrz-muenchen.de/services/netzdienste/proxy/browser-config/

You can simply use this script: javascript:location.href = window.location.href.replace("dl.acm.org","dl.acm.org.emedien.ub.uni-muenchen.de").replace("link.springer.com","link.springer.com.emedien.ub.uni-muenchen.de");

Hint: (Open source) software to manage references:
JabRef: http://jabref.sourceforge.net/download.php
BibDesk: http://bibdesk.sourceforge.net/
Mendeley: http://www.mendeley.com/
Zotero: http://www.zotero.org/



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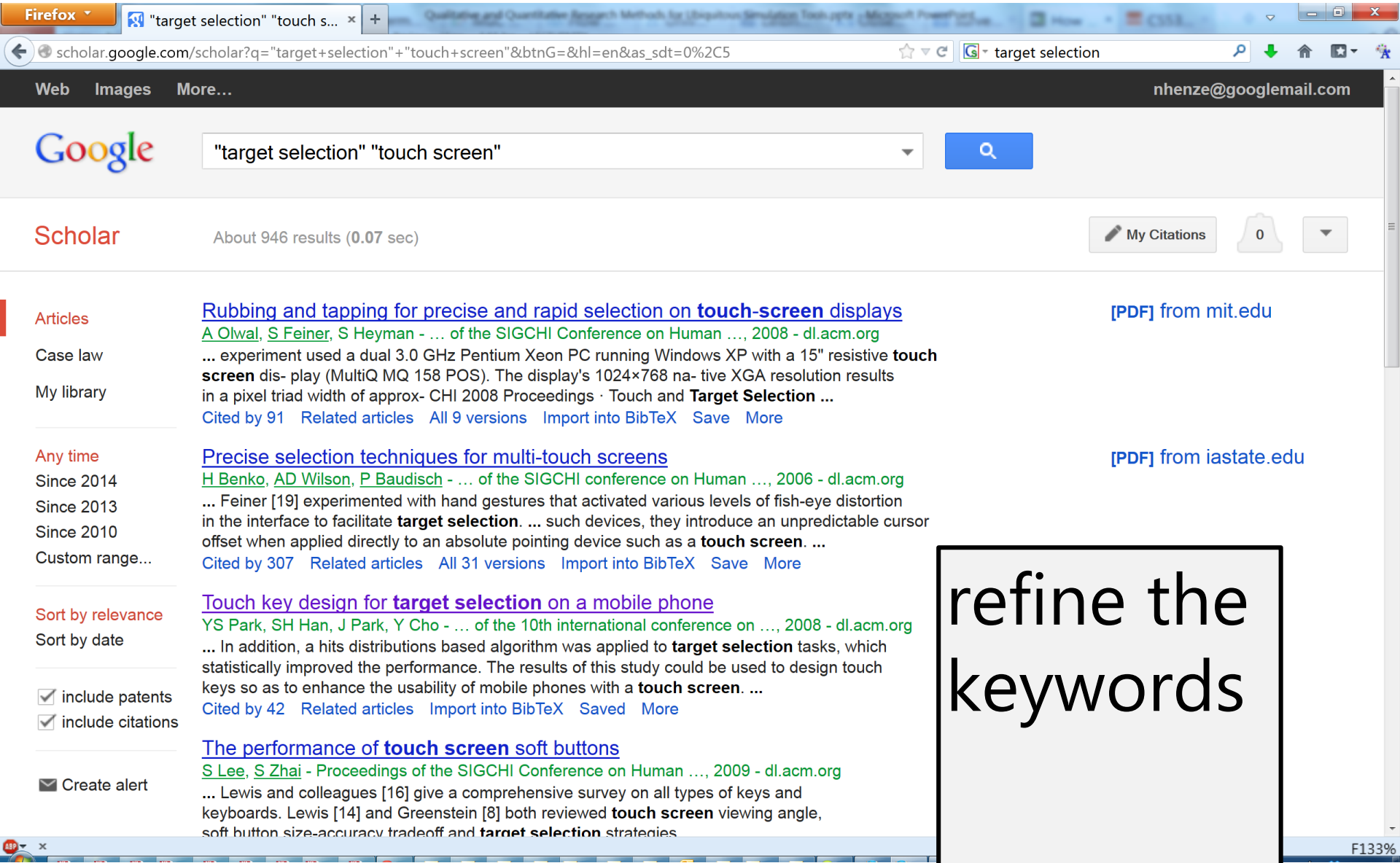

refine the keywords

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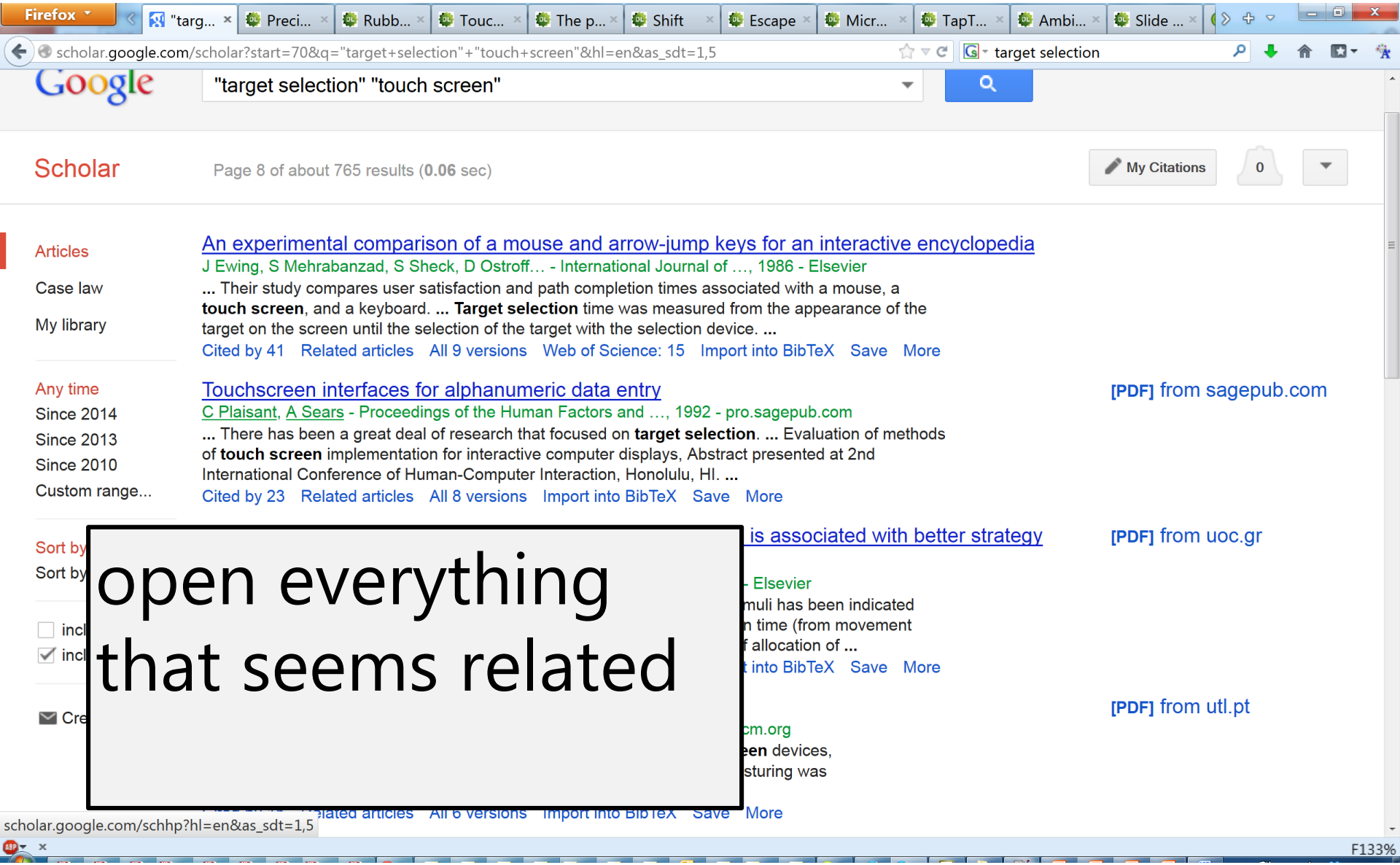

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Precise selection techniques for multi-**touch screens**

[PDF] psu.edu

H Benko, AD Wilson, P Baudisch - … of the SIGCHI conference on Human …, 2006 - dl.acm.org

… Olwal and Feiner [19] experimented with hand gestures that activated various levels of fish-eye distortion in the interface to facilitate **target selection** … Since most **touch screens** and tabletops cannot identify which of the individual user's fingers or hands is **touching** the surface …

☆ Cited by 468 Related articles All 26 versions

Touch key design for **target selection** on a mobile phone

[PDF] semanticscholar.org

YS Park, SH Han, J Park, Y Cho - … of the 10th international conference on …, 2008 - dl.acm.org

… In addition, a hits distributions based algorithm was applied to **target selection** tasks, which statistically improved the performance … On-line personalization of a **touch screen** based keyboard …

Target size study for one-handed thumb use on …

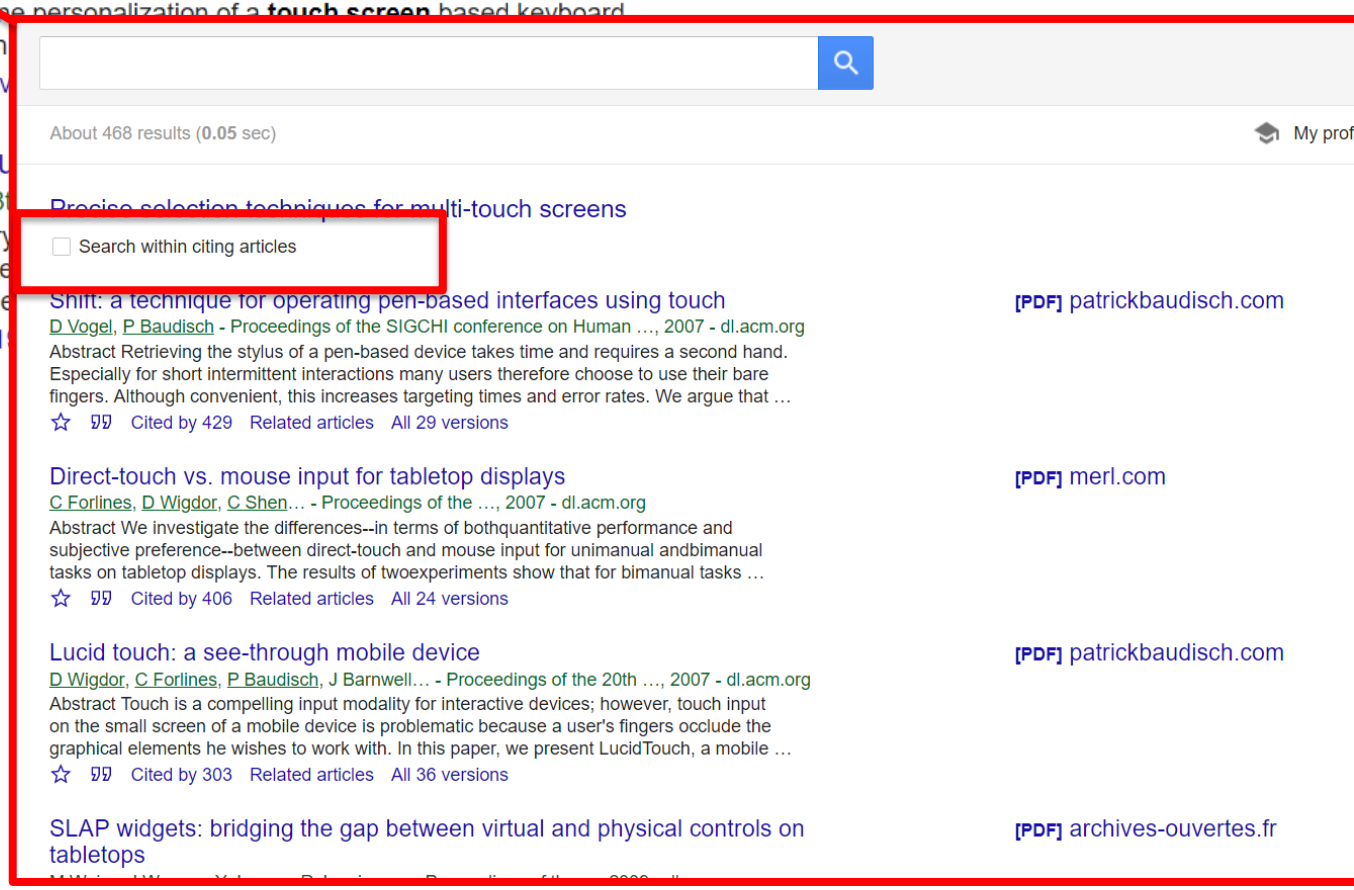
☆ Cited by 89 Related articles All 5 v…

Target size study for one-handed thu…

P Parhi, AK Karlson, BB Bederson - … of the 8…

… Participants were provided with both auditory … the green button first, enter the target sequence … and the darker the region, the more comfortable …

☆ Cited by 381 Related articles All 1…



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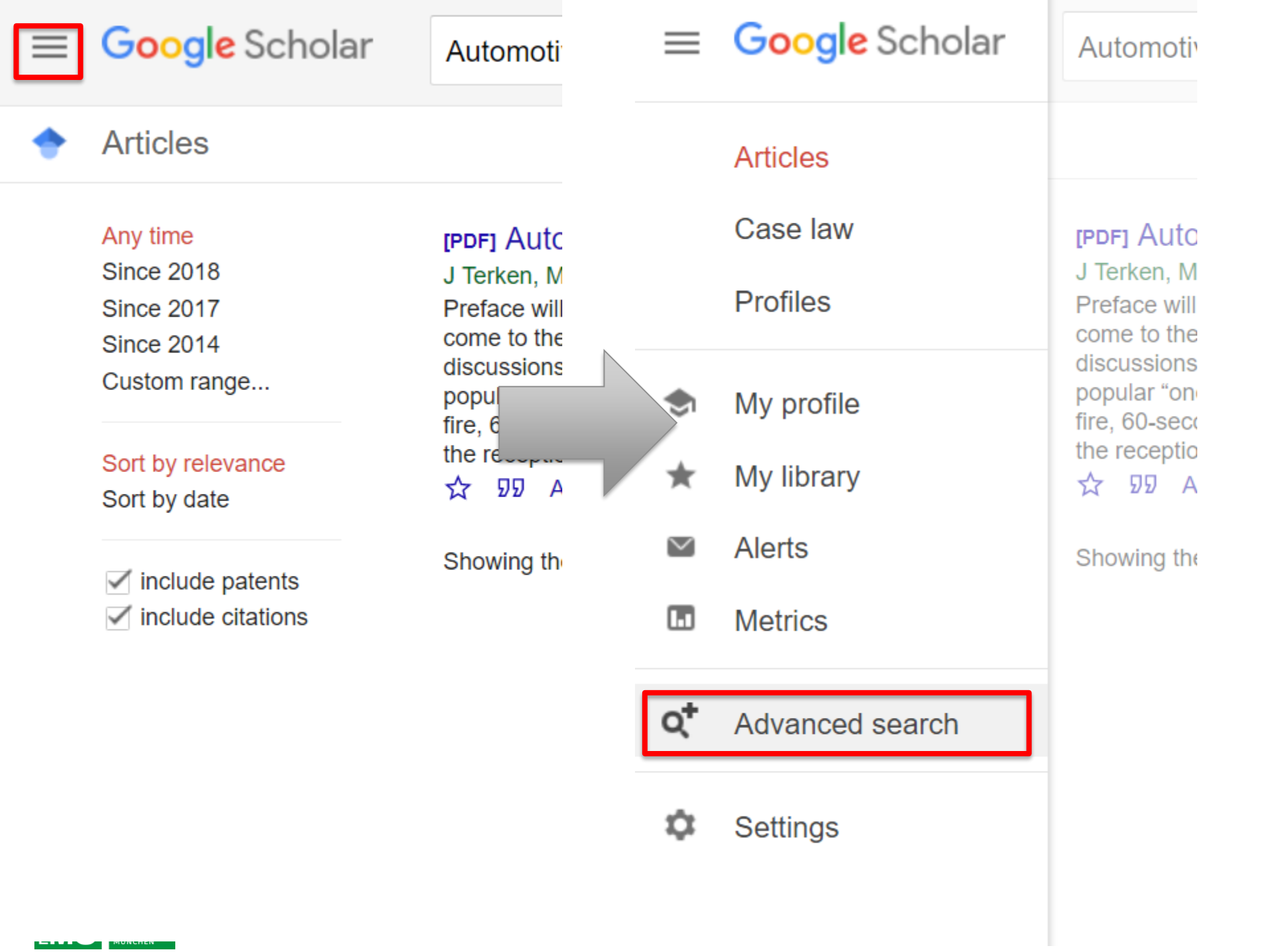
Searching within certain conferences/journals

- Top HCI conference → Conference on Human Factors in Computing Systems (CHI)
- Another top HCI conference → Symposium on User Interface Software and Technology (UIST)
- Focusing on Automotive interfaces? → Automotive User Interfaces and Interactive Vehicular Applications (AutoUI)
- Focusing on Eye Tracking? → Eye Tracking Research and Applications (ETRA)

How to limit your search to these venues?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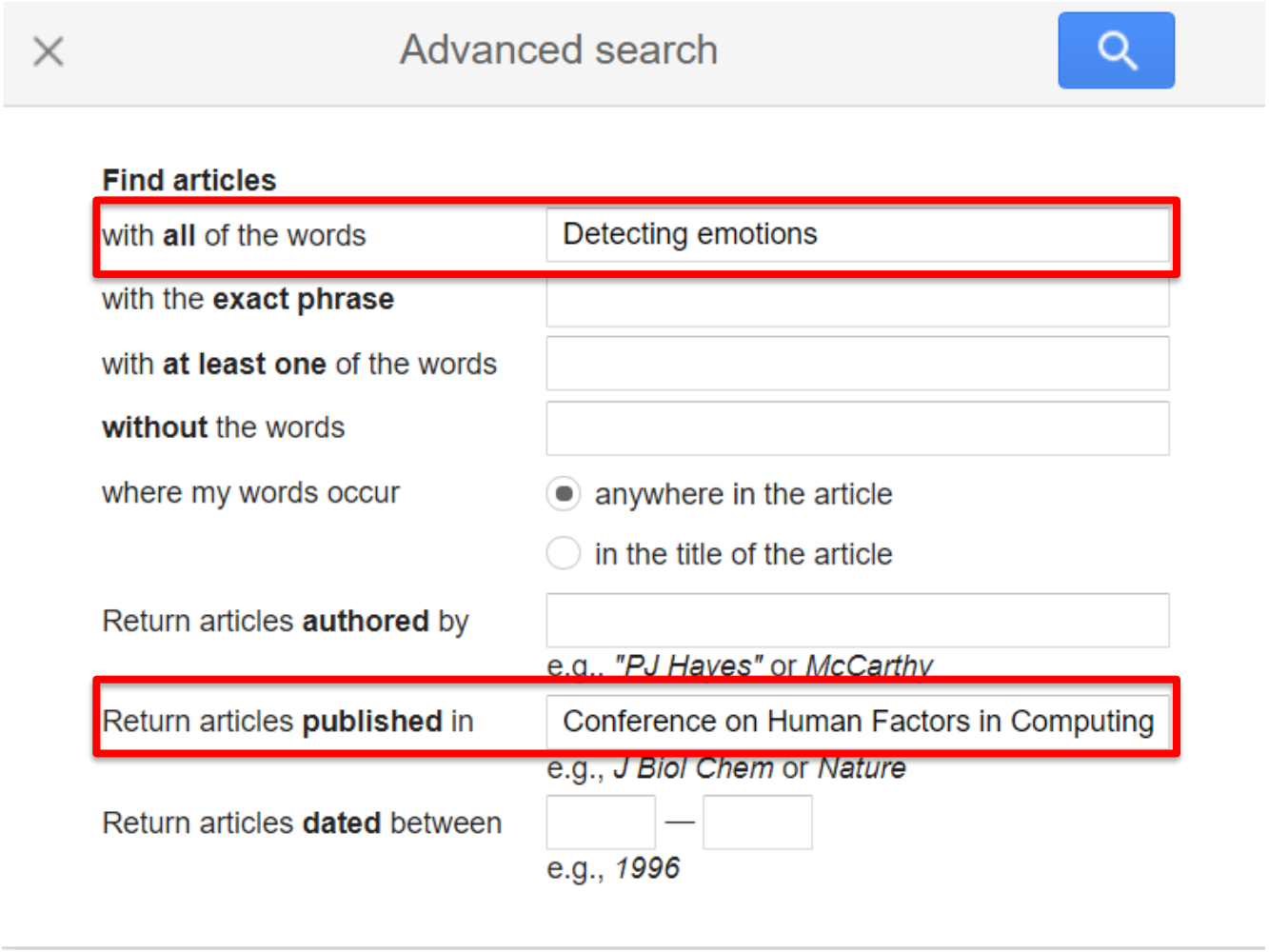
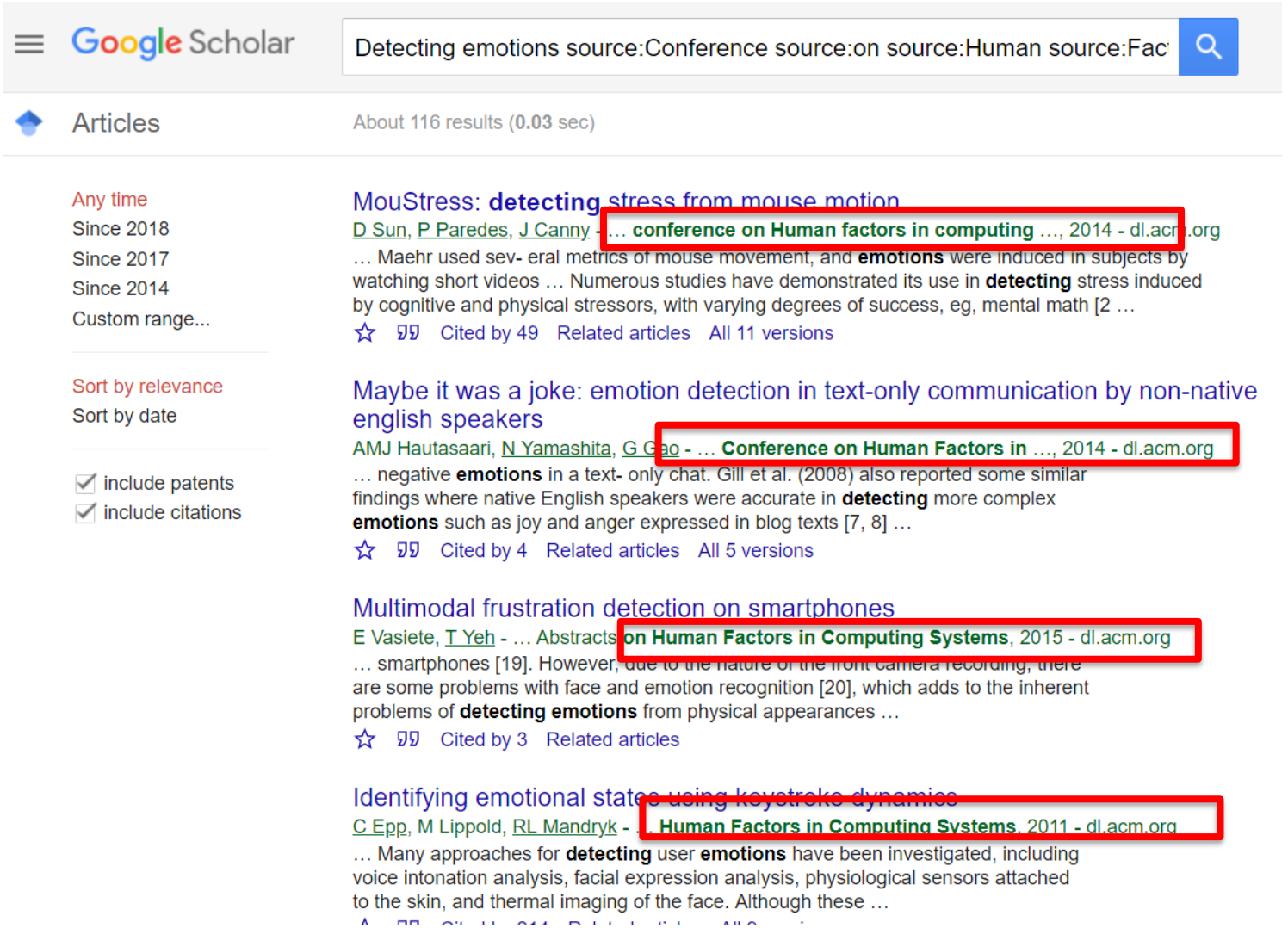

Advanced search
Find articles
with all of the words
Detecting emotions
with the exact phrase
with at least one of the words
without the words
where my words occur
anywhere in the article
in the title of the article
Return articles authored by
e.g., "PJ Hayes" or McCarthy
Return articles published in
Conference on Human Factors in Computing
e.g., J Biol Chem or Nature
Return articles dated between
—
e.g., 1996

Result



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Escape: A Target Selection Technique Using Visually-cued Gestures

Koji Yatani[1], Kurt Partridge[2], Marshall Bern[2], and Mark W. Newman[3]

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ABSTRACT

Many mobile devices have touch-sensitive screens that people interact with using fingers or thumbs. However, such interaction is difficult because targets become occluded, and because fingers and thumbs have low input resolution. Recent research has addressed occlusion through visual techniques. However, the poor resolution of finger and thumb selection still limits selection speed. In this paper, we address the selection speed problem through a new target selection technique called Escape. In Escape, targets are selected by gestures cued by icon position and appearance. A user study shows that for targets six to twelve pixels wide, Escape performs at a similar error rate and at least 30% faster than Shift, an alternative technique, on a similar task. We evaluate Escape's performance in different circumstances, including different icon sizes, icon overlap, use of color, and gesture direction. We also describe an algorithm that assigns icons to targets, thereby improving Escape's performance.

Author Keywords
Target selection, finger gesture, touch screen, mobile device

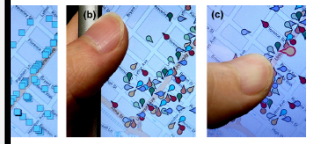
ACM Classification Keywords
H.5.2 [**Information Interfaces and Presentation**]: User Interfaces – Input devices and strategies, Interaction styles.

INTRODUCTION

A recent research study of thumb use recommended that on-screen targets be no smaller than 9.2mm wide [13]. Below this size, performance begins to degrade when the user tries to select a target with a thumb since thumb-presses are simply too large and too variable to give an accurate selection point. Although users can accurately select smaller targets by another method, such as by using a stylus, they lose the ease of thumb-based interaction. Furthermore, it is often not practical to make a target large enough for thumb-based interaction because larger targets occupy more space, leaving less room on a small display for other targets and information.

Although users cannot accurately select targets smaller than 9.2mm with direct thumb touch, techniques such as Offset Cursor [15] and the more recent Shift [17] improve selection accuracy by helping users refine their initial selection position. Originally designed for fingertip operation, these techniques overcome the general problem of digit occlusion by offsetting the cursor from the selection point (Offset Cursor), or by displaying an inset of the selection region (Shift).

While these approaches are more accurate for smaller targets, they are also slower. When selecting a 12 pixel (2.6 mm) target with a fingertip, participants using Shift made only about 20% as many errors as normal pointing, but took 70% longer [17].



It is difficult to select a target when it is other selectable objects. (b) The icons in *Escape* gestures that disambiguate the selection. (c) A llowed by a gesture (without the release of the les a user to select the target quickly and when it is small or occluded by other objects.

look at everything that still seems related

Escape: A Target Selection Technique Using Vi

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ABSTRACT

Many mobile devices have touch-sensitive s
people interact with using fingers or thumbs.
such interaction is difficult because target
occluded, and because fingers and thumbs have
resolution. Recent research has addressed occlusi
visual techniques. However, the poor resolution
and thumb selection still limits selection spe
paper, we address the selection speed problem
new target selection technique called Escape.
targets are selected by gestures cued by icon position and appearance. A user study shows that for targets six to twelve pixels wide, Escape performs at a similar error rate and at least 30% faster than Shift, an alternative technique, on a similar task. We evaluate Escape's performance in different circumstances, including different icon sizes, icon overlap, use of color, and gesture direction. We also describe an algorithm that assigns icons to targets, thereby improving Escape's performance.

Author Keywords
Target selection, finger gesture, touch screen, mobile device

ACM Classification Keywords
H.5.2 [**Information Interfaces and Presentation**]: User Interfaces – Input devices and strategies, Interaction styles.

INTRODUCTION

Everyone wants a mobile device to be small—until they start to use it. Tiny screens are hard to see, and tiny user interfaces are hard to control.

Many mobile devices have a screen that a user can control by touch. Although these devices can also be controlled by a stylus, many people prefer to use their thumbs [10].

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CHI 2008, April 5–10, 2008, Florence, Italy.
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occupy more space, leaving less room on a small display for other targets and information.

Although users cannot accurately select targets smaller than 9.2mm with direct thumb touch, techniques such as Offset Cursor [15] and the more recent Shift [17] improve selection accuracy by helping users refine their initial selection position. Originally designed for fingertip operation, these techniques overcome the general problem of digit occlusion by offsetting the cursor from the selection point (Offset Cursor), or by displaying an inset of the selection region (Shift).

While these approaches are more accurate for smaller targets, they are also slower. When selecting a 12 pixel (2.6 mm) target with a fingertip, participants using Shift made only about 20% as many errors as normal pointing, but took 70% longer [17].

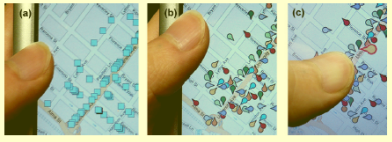

Figure 1. (a) It is difficult to select a target when it is surrounded by other selectable objects. (b) The icons in *Escape* indicate finger gestures that disambiguate the selection. (c) A thumb tap followed by a gesture (without the release of the thumb) enables a user to select the target quickly and correctly even when it is small or occluded by other objects.

read figures, abstract & graphs first

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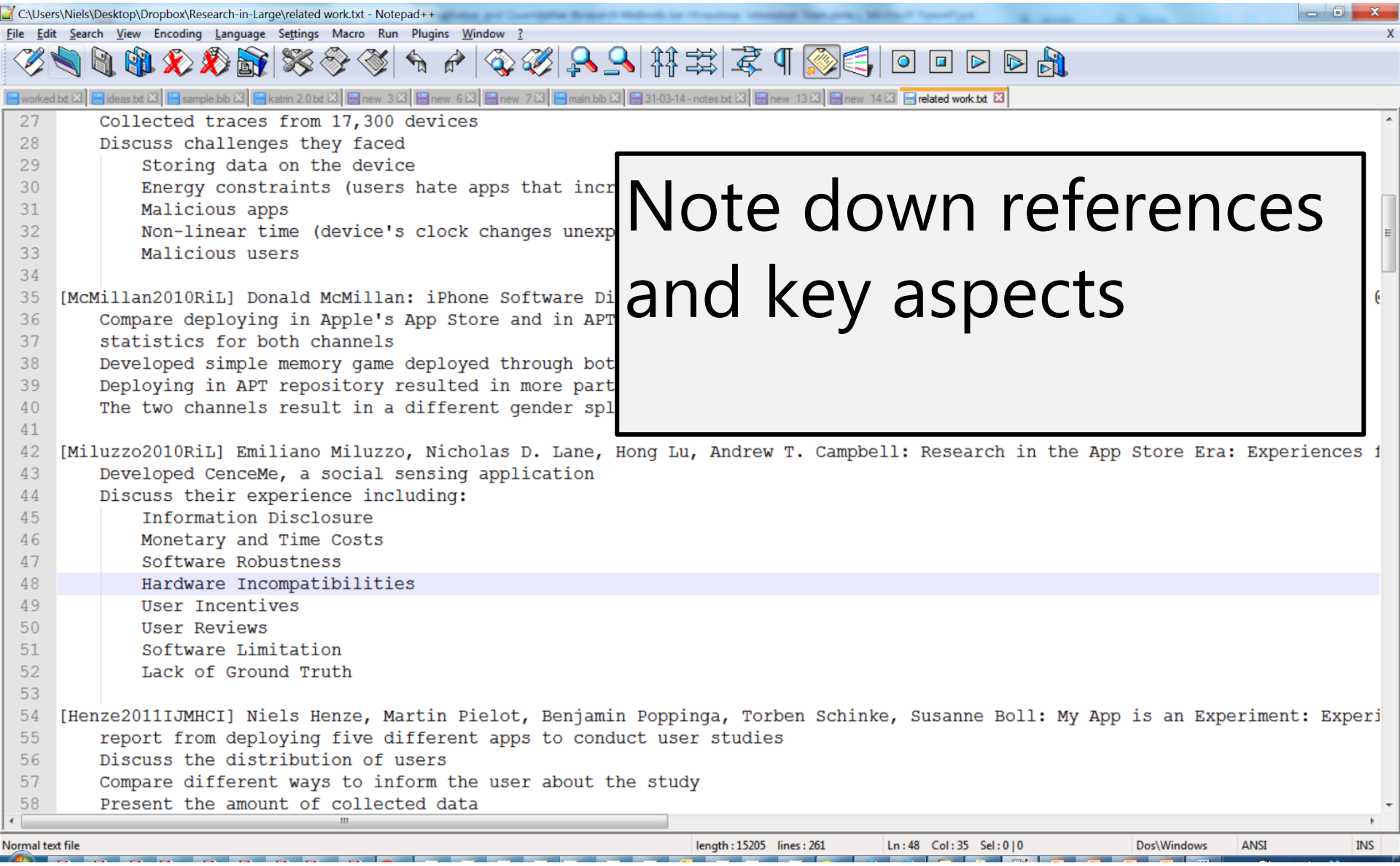

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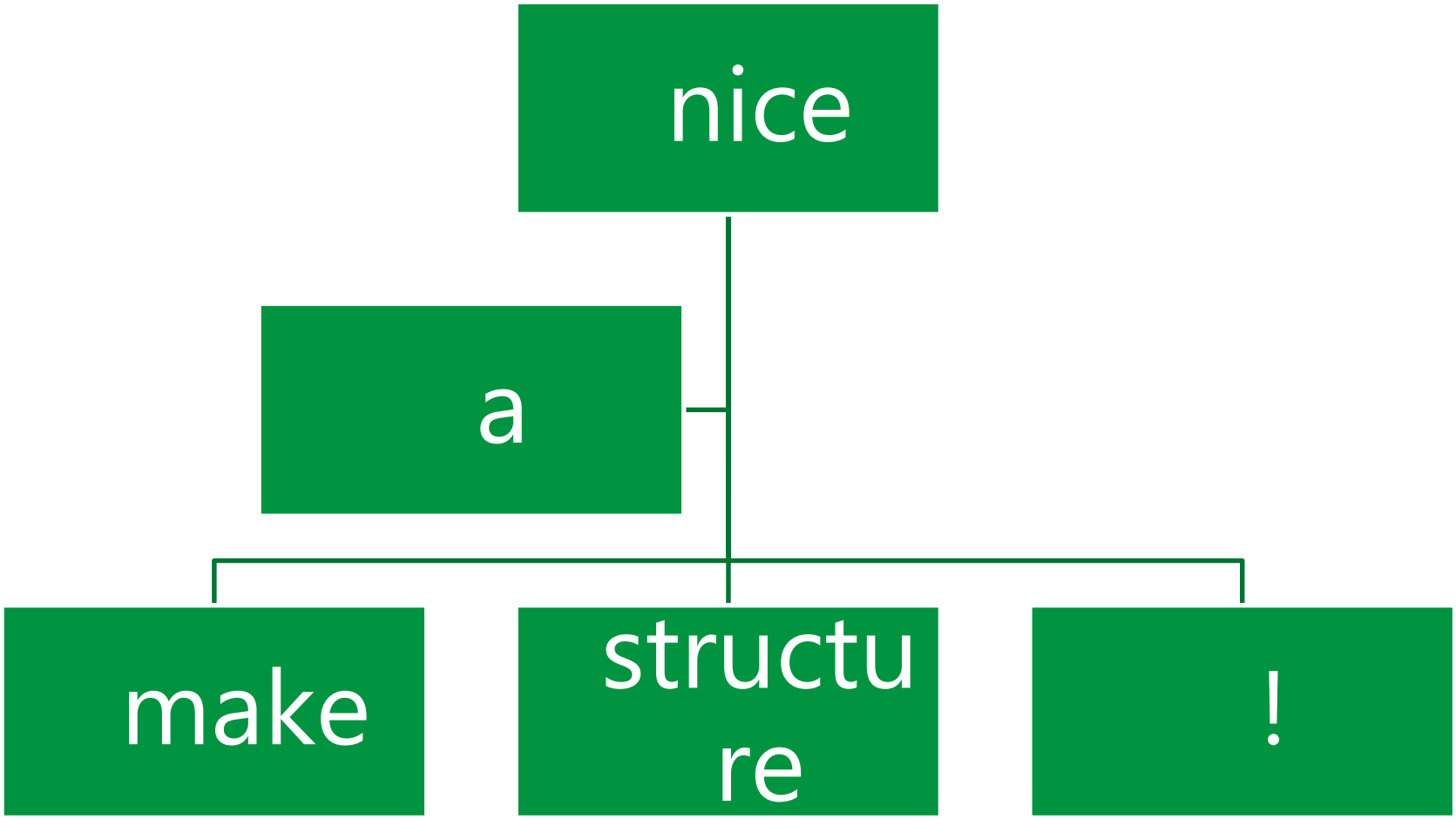
Try to find a structure and repeat the process



Example from an introduction

- Brief introduction to the context:

"Since the introduction of the iPhone, mobile phones with touchscreens began to dominate the smartphone market. Today, all major phone makers have touchscreen devices in their portfolio. In contrast to earlier devices, today's smartphones are operated by touching the screen with the fingers …"

- Describe the scope

"…our aim is to observe and manipulate the touch behaviour of a diverse sample, a large number of devices, and various contexts. To collect the required large amount of keystrokes on a virtual keyboard we developed a mobile typing game. To attract a large number of participants …"

- Provide an overview

"After discussing related work, we describe the game that we developed to collect the data. We provide an overview about the data we collected after publishing the game to the Android Market. Following this, an analysis of the…"

Citations:
Example from a related work section

"**Karlson [7] showed** that regions which are easily to reach with the thumb when considering one-handed interaction achieve the best task performance and lowest perceived difficulty. **Karlson concludes** that frequently used buttons should be placed in those regions. **Perry and Hourcade [14] showed** again that targets within easy reach of the thumb can be reached quicker but the accuracy is best when the targets are located on the left, right and top edges of the screen. **Park et al. [13] analysed** the success rate, error rate and convenience of 25 regions of a touchscreen when using one-handed thumb input. **The authors** also analysed the offset between indicated target and actual touch events. They observed location-specific offsets and discuss the idea of adjusting the location of the touch recognition area to improve the overall performance. "

From: N. Henze, E. Rukzio, and S. Boll: Observational and Experimental Investigation of Typing Behaviour using Virtual Keyboards on Mobile Devices. Proceedings of CHI, 2012.

Requirements and example structure

- Abstract
  - Topic and results/conclusions(ca. 150 words)
- Introduction
  - Context and aims in the research field
  - Structure and approach of this paper
- Main part
  - Introduce research field briefly
  - And history (if applicable)
  - Explain different approaches prevalent in the field (Trends, strengths and weaknesses, …)
- Summary / discussion
  - open questions
  - reoccurring problems, potential solutions?
  - critical reflection/conclusion
- 6 – 8 pages, 2 columns, right amount of illustrative material (not too much and not too little), no „Wall of Text“
- http://research.microsoft.com/en-us/um/people/simonpj/papers/giving-a-talk/writing-a-paper-slides.pdf
- http://www.journal.univagora.ro/download/pdf/425.pdf

Scientific writing

- Logical structure
- Clear and neutral language
- Correct grammar and spelling, no typos
- Avoid
  - Fuzzy or unclear descriptions („high“, „little“, „almost“, …)
  - Empty phrases (e.g. „Based on these and various other findings…“)
  - Filler words (e.g. „somewhat“, „indeed“, „remarkably“, …)
  - Tautologies (e.g. „LCD Display“ => LCD = Liquid Crystal Display)
  - Pseudo-arguments (e.g. „of course“, „as expected“, „without doubt“, …)
  - Unverifiable claims (e.g. “This is the best Hauptseminar ever!”)

But...

- Scientific writing does not need to be boring!
- It's a balancing act! Avoid sounding flippant.
- Most importantly:
  - Sources have to be references clearly!
  - Claims have to be validated by references or clearly marked as assumptions.

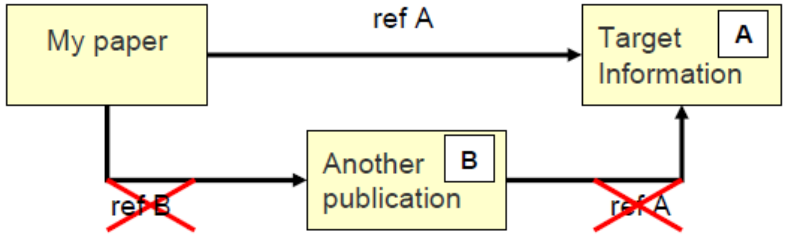
(Sand-Jensen, 2007)

Table 1. Top-10 list of recommendations for writing consistently boring publications.

- Avoid focus
- Avoid originality and personality
- Write l o n g contributions
- Remove implications and speculations
- Leave out illustrations
- Omit necessary steps of reasoning
- Use many abbreviations and terms
- Suppress humor and flowery language
- Degrade biology to statistics
- Quote numerous papers for trivial statements

Citations style

- Plagiarism
  - Any reuse of text and ideas has to be clearly marked as direct or indirect citation
  - Plagiarism counts as an attempt to deceive and will result in failure of the class
  - http://www.medien.ifi.lmu.de/lehre/Plagiate-IfI.pdf
- If you cite something always reference the primary source (not the secondary)



- If you use a LaTeX template citation style is automatically regulated
- Online sources always need to include author names and date and time of last access
- Wikipedia: good for your understanding but please do not cite it

PLAGIARISM!!!!

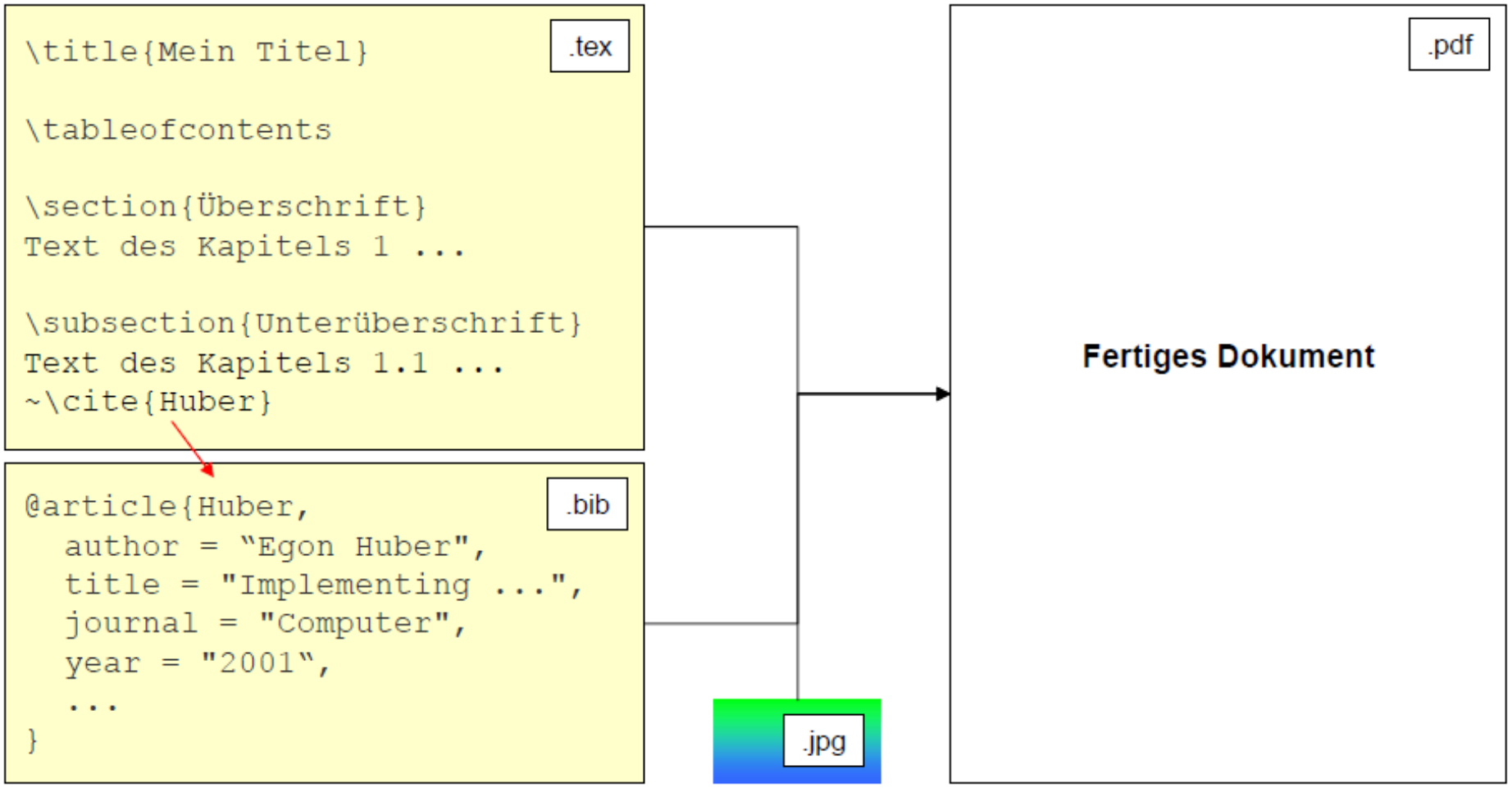
Formatierung

- Largely automated
  - with LaTeX und CLS-file
- Having a section 1.1 requires a section 1.2
- Section headings should not exceed one line
- Paragraphs
  - Are separated by a new line in the .TEX file
- Avoid footnotes
- What needs to be referenced?
  - Literature in the bibliography needs to be referenced in the text
  - Figures and tables need to be referenced in the text
- Final submission includes: LaTeX Source + pdf-Datei
  - complete LaTeX-Source (.tex, .bib, figures, …) and pdf in one zip-archiv

LaTeX

- Weiterentwicklung des Textsatzprogramms TeX, einfachere Benutzung
- Kein WYSIWYG
- Prinzip: Trennung von Inhalt und Gestaltung
  - Autor kümmert sich ausschließlich um den Inhalt
  - Gestaltung durch Einbindung von Formatierungsklassen
- Standard für wissenschaftliche Publikationen
- Vorteile
  - Automatische Generierung von Gliederung, Abbildungsverzeichnissen, Index, Bibliographien, etc.
  - Einfache Formatierung von mathematischen Formeln
  - Einfache Verwaltung / Einbindung von Literaturhinweisen
- Nachteile
  - Am Anfang gewöhnungsbedürftig
  - Positionierung von Grafiken teils umständlich

Documents in Latex



Vorgehensweise

- TeX Implementierung und LaTeX GUIs / IDE installieren:
  - Windows OS:
    - MikTeX (http://www.miktex.org) + TeXnicCenter (http://www.texniccenter.org/)
    - siehe auch Installation mit ProText (http://www.tug.org/protext)
  - Max OS:
    - MacTex (http://www.tug.org/mactex) mit TeXShop IDE (http://www.uoregon.edu/~koch/texshop/index.html)
    - TexMaker (http://www.xm1math.net/texmaker/)
  - Linux:
    - teTeX package (http://www.ctan.org) + Kile (http://kile.sourceforge.net)
    - vorinstalliert im CIP-Pool
  - Online and platform independent, doesn't require installation but you must be online all the time
    - Overleaf
    - ShareLatex
- Download Hauptseminar LaTeX-Template
  - TEX und BIB Dateien mit IDE öffnen, Source anschauen und nachvollziehen
  - LaTeX => PDF einstellen, TEX Datei zweimal kompilieren
  - PDF bewundern
  - Text mit eigener Arbeit ersetzen
  - Bei Bedarf weitere LaTeX-Tutorials konsultieren

LaTeX-Resourcen

- LaTeX Klassen und Dokumentationen
  - (Not So) Short Guide to LaTeX2e
    - http://www.ctan.org/tex-archive/info/lshort/english
  - LaTeX Symbols List
    - http://www.ctan.org/tex-archive/info/symbols/comprehensive
  - Grafiken importieren und formatieren
    - http://tug.ctan.org/tex-archive/info/epslatex/english/epslatex.pdf
- Deutschsprachige LaTeX Kurzbeschreibung
  - http://latex.tugraz.at/_media/docs/l2kurz.pdf
- Deutschsprachige FAQs
  - http://www.dante.de/faq/de-tex-faq/html/de-tex-faq.html
- BibTeX–Tool und Dateiformat zur Verwaltung und Einbindung von Bibliographien
  - Fachliteratur-Referenzen werden online vielfach im BibTeXFormat angeboten (z.B. ACM, IEEE)
  - How-To: http://www.bibtex.org/Using/de

BIBTEX

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Questions?

Schedule

Date	Sessions (grey) and Deadlines (yellow)
10.04.18	Introduction and Topics
8.05.18	Submission deadline: 1. paper draft
11.05.18	Submission deadline: one slide for 60 seconds presentation
15.05.18 (s.t.!)	60 seconds presentation / Input: How to write good reviews
29.05.18	Submission deadline: 2. paper draft (for peer-review) **submit 2x via Uniworx**
8.06.18	Submission deadline: Reviews **(submit via Uniworx as corrector)**
12.06.18	Q & A & Feedback **(optional)**
13.07.18	Submission deadline: Final paper
17.07.18	Submission deadline: preliminary presentation slides
17-24.07.18	Mock presentations
24.07.18	Submission deadline: finale presentation slides
30-[31].07.18	Final presentations (to be confirmed)

Submission deadlines | Sessions (mantatory to attend)

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60 seconds presentations