

POST-DESKTOP USER INTERFACES

Seminar at the Media Computing Group
SS 2013

Prof. Dr. Jan Borchers
Christian Corsten, M.Sc.

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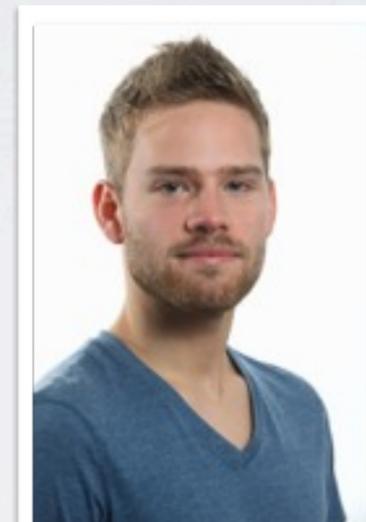
- Introduction
- Seminar logistics
- Presentation and distribution of topics
- Research and presentation tips

PDUIT TEAM



Prof. Dr. Jan Borchers

- **B.Sc. & M.Sc. CS** U Karlsruhe & U London
- **Ph.D. CS** U Linz, U Ulm & TU Darmstadt
- **Assistant Prof.** Stanford & ETH Zurich
- **Full Prof. of CS** RWTH Aachen University
- **Research area:**
Interaction Design for New Media



Christian Corsten, M.Sc.
corsten@cs.rwth-aachen.de

- **B.Sc. & M.Sc. CS** RWTH Aachen University
- **Research Assistant** Media Computing Group
- **Research area:**
Instant User Interfaces

POST-DESKTOP USER INTERFACES?

- Desktop metaphor: office-based
- What about non-office tasks?
- Task-specific user interfaces?
- Research field: Human-Computer Interaction (HCI)
 - ➔ Media Computing Group at RWTH

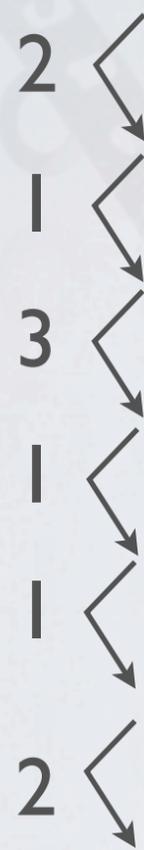
FORMAT

- Language: **English**
- **Groups of 2**, no separation of responsibility
- Each person should know the content and be able to present/answer questions
- Questions may be directed at a particular person during Q&A session
- Attending all talks is **mandatory**, only exception: medical certificate
- Talk and written report are graded separately

SCHEDULE

Deadlines are mandatory!

Δ weeks



Weeks before final presentation	Milestone
8	Kick-off (today)
6	Literature Review
5	Outline of Report
2	First Submission of Report
1	Camera-Ready Presentation Slides
0	Presentation
-2	Final Report Submission

MILESTONE I: LITERATURE REVIEW

- When: **6 weeks** before final talk
- How: e-mail submission (until 10am) and meeting with supervisor
- Deliverable:
 - List of at least 7 relevant related papers
 - For each paper: 30 word statement of **benefits and contribution**
 - visit *http://sigchi.org/chi2003/papers_guide.html#contribution*

Do NOT cite Wikipedia!

E-MAIL SUBMISSION

- All submissions
 - To corsten@cs.rwth-aachen.de
 - Subject starts with **PDUI Submission**
Example: “PDUI Submission – Final Talk”
- Everything else (different subject)
 - To corsten@cs.rwth-aachen.de

MILESTONE II: OUTLINE OF REPORT

- When: **5 weeks** before final talk
- How: e-mail submission (until 10am) and meeting with supervisor
- Deliverable:
 - Clear **structure** of final paper submission

MILESTONE III: FIRST SUBMISSION OF REPORT

- When: **2 weeks** before final talk
- How: e-mail submission (until 10am), after correction: feedback (by appointment)
- Deliverable:
 - First **complete version** of paper
 - Proof-read, **no typos, no layout issues**

MILESTONE IV: CAMERA-READY PRESENTATION SLIDES

- When: **1 week** before final talk
- How: e-mail submission (until 10am) and meeting with supervisor
- Deliverable:
 - **Complete, polished** version of presentation slides
 - Format: Keynote, PowerPoint, Prezi, or PDF



MILESTONE V: PRESENTATION

- When: **Thursdays, 3:45pm – 5:15pm**
(see topics list for exact dates)
 - Where: seminar room at i10 (**2222**)
 - Presentation will be video-captured
 - **50%** of final grade
- Format:
 - **40 minutes** of presenting
 - Question and answer
 - Review of presentation style
 - **Feedback** by the audience

PRESENTATION DATES

Thursdays, 3.45–5.15pm, Room 2222

April						
Mo.	Di.	Mi.	Do.	Fr.	Sa.	So.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5
6	7	8	9	10	11	12

May						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

June						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7

July						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

July 18th: tentative

MILESTONE VI: FINAL REPORT SUBMISSION

- When: **2 weeks after** final talk
- How: deliver a bound, **color-printed** version at room 2205 & e-mail submission (10am)
- Deliverable:
 - **Final version** of your paper
 - **50%** of final grade

EXTRA CREDIT

- **Active participation** in talk discussions
- Eases the decision if student's performance is between two grades

WRITTEN REPORT

- We focus on teaching the basics of writing a conference paper.
- Must follow **CHI conference paper format** guidelines (HCI Archive Format)
- **LaTeX** and Word template for papers at:
<http://chi2013.acm.org/authors/format/#archiveformat>
- Max. **10 pages** (learn to be concise)

SIGCHI Conference Proceedings Format

1st Author Name	2nd Author Name	3rd Author Name
Affiliation	Affiliation	Affiliation
Address	Address	Address
e-mail address	e-mail address	e-mail address
Optional phone number	Optional phone number	Optional phone number

ABSTRACT
 In this sample paper, Sheridan Printing Co., Inc. describes the formatting requirements for SIGCHI Conference Proceedings, and this sample file offers recommendations on writing for the worldwide SIGCHI readership. Please review this document even if you have submitted to SIGCHI conferences before, some format details have changed relative to previous years.

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 Guides, instructions; author's kit; conference publication; keywords should be separated by a semi-colon.
Mandatory section to be included in your final version.

ACM Classification Keywords
 H.5.m. Information interfaces and presentation (e.g., HCI); Miscellaneous.
 See: <http://www.acm.org/about/class/1998/> for more information and the full list of ACM classifiers and descriptors. **Mandatory Section: On the submission page only the classifiers' letter-number combination will need to be entered.**

General Terms
 Human Factors; Design; Measurement.
 If you choose more than one ACM General Term, separate the terms with a semi-colon. See list of ACM terms at: <http://www.sheridanprinting.com/sigchi/generalterms.htm>.
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On each page your material should fit within a rectangle of 18 x 23.5 cm (7 x 9.25 in.), centered on a US letter page (8.5x11 inches), beginning 1.9 cm (.75 in.) from the top of the page, with a .85 cm (.33 in.) space between two 8.4 cm (3.3 in.) columns. Right margins should be justified, not ragged (except for the references section). Beware, especially when using this template on a Macintosh, Word can change these dimensions in unexpected ways. Please be sure your word document and PDF are US letter and not A4. If your PDF or paper are formatted for A4, the submission will be returned to you to fix within 2 days.

TYPESET TEXT
 Prepare your submissions using Microsoft Word on a PC or Mac. Please note that page layout may change slightly depending upon the printer you have specified.

Title and Authors
 Your paper's title, authors and affiliations should run across the full width of the page in a single column 17.8 cm (7 in.) wide. The title should be in Helvetica 18-point bold; use Arial if Helvetica is not available. Authors' names should be in Times Roman 12-point bold, and affiliations in Times Roman 12-point (not bold, nor italic).

For more than three authors, you may have to place some address information in a footnote, or in a named section at the end of your paper. Please use full international addresses and telephone dialing prefixes. Leave one 10-pt line of white space below the last line of affiliations.

Adding & Removing Authors in Microsoft Word
 To position author names and addresses, use a single-row table with invisible borders, as in this document. To add an author with a different affiliation, click a cell, go to the Table tab or menu, select "Insert," then "Column to the Right" OR "Column to the Left." Then highlight the whole table, right click, go to "Table Properties" and within the Table Tab, click the tab box for "Preferred Width" and enter 7.0 inches. Choose center alignment, then click OK.

If you need remove an author block, click in the unwanted cell, right click, drag down to "Delete Cell," then click "Delete entire column," then click OK. Repeat if necessary.

Alternatively, if only one address is needed, use a centered tab stop to center all name and address text on the page; for two addresses, use two centered tab stops, and so on.

- 1 -

FURTHER REQUIREMENTS

- Be on time! (we **start** at 3.45pm)
- Be impartial and critical
- Attend one **user test** at our lab
 - Deadline: end of the semester
- **Ethical Guidelines** for the Authoring of Academic Work (see course website)
- **Literature review** (Literaturrecherche für Informatiker)

TOPICS

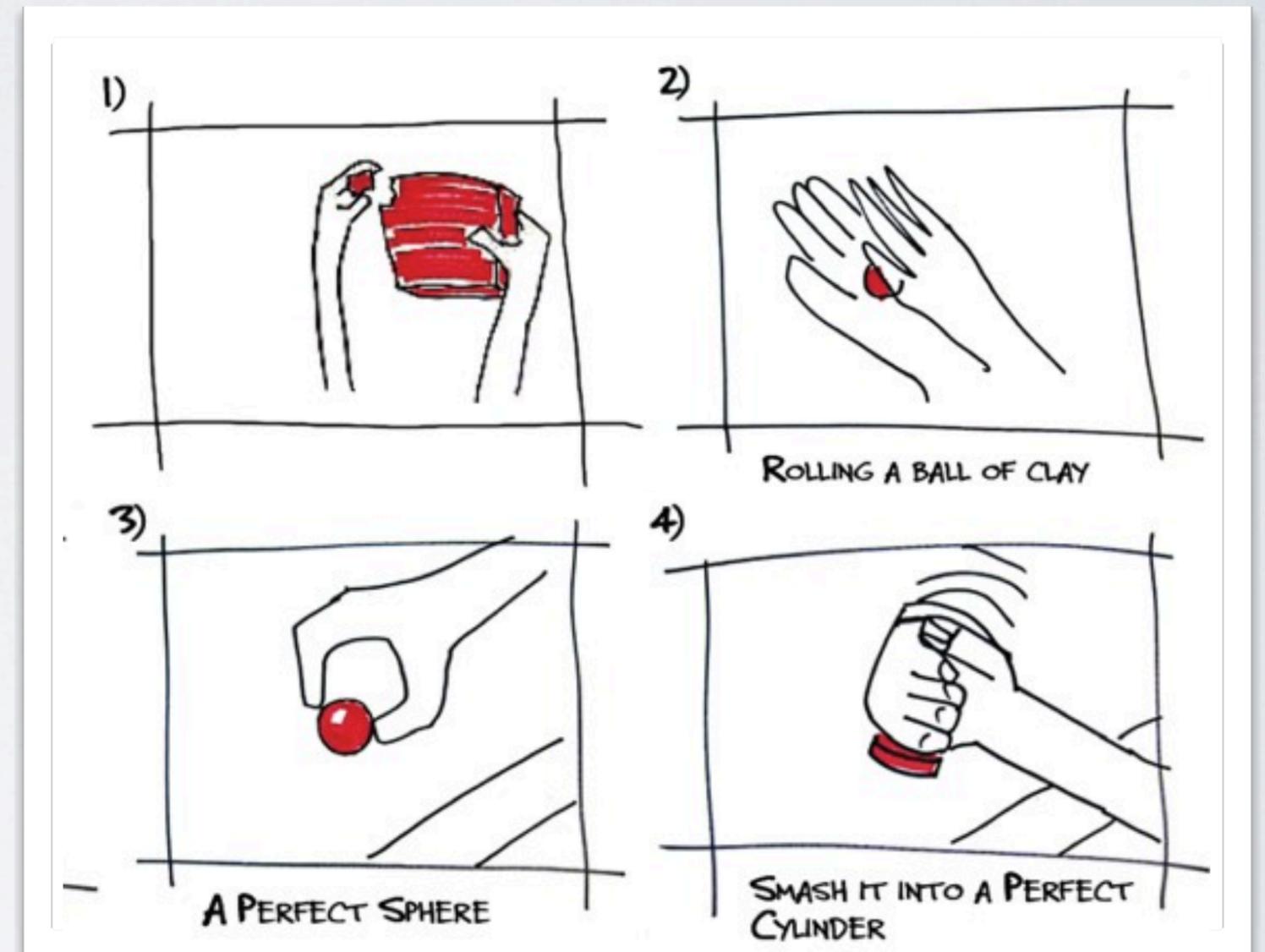
- Topics were chosen by us because we want to learn more about them
- **You are responsible** for informing us
- Need more than just a summary
- Demonstrate **higher level of understanding**:
 - Taxonomy / Ontology / Design Space
 - Derive Design Patterns

TOPICS

#	Topic	Supervisor
1	Interactive Digital Fabrication	Rene Bohne
2	Digital Clay: Toward Malleable User Interfaces	Christian Corsten
3	Interactive TV User Interfaces	Christian Corsten
4	Post-WIMP User Interfaces	Nur Al-huda Hamdan
5	Audio-Augmented Reality	Florian Heller
6	Location-Based Mobile Games	Gero Herkenrath
7	Supporting Opportunistic Programming	Jan-Peter Krämer
8	Authoring with Sketching	Leonhard Lichtschlag
9	Manipulating 3D Objects on Touch Screens	Simon Völker
10	Mid-Air Direct Manipulation and Gestural Input	Chat Wacharamanotham
11	Visualizing Software Evolution	Moritz Wittenhagen

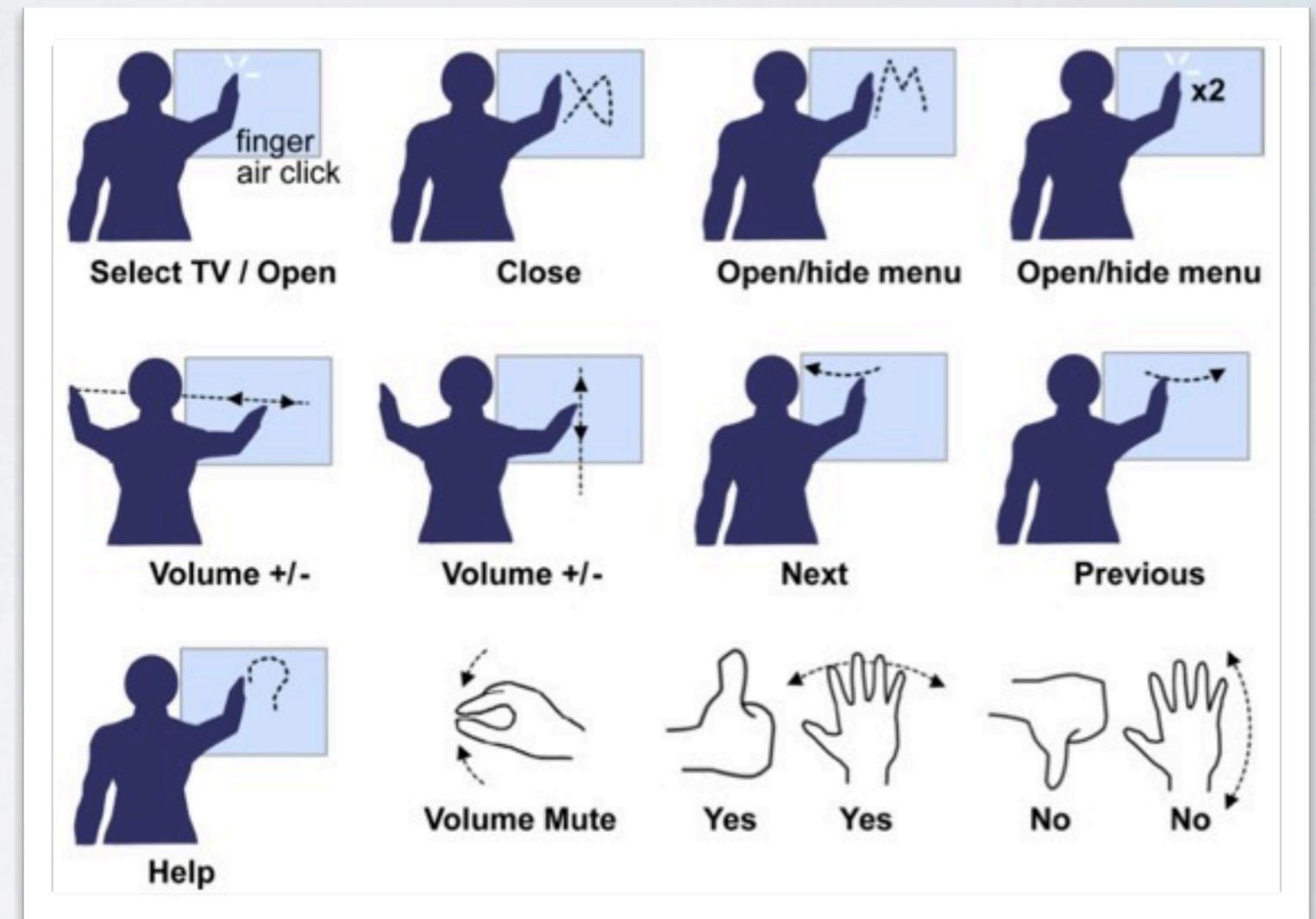
2. Digital Clay: Toward Malleable User Interfaces

- So far: rigid materials and interfaces
- Now: Smart atoms for composing arbitrary surfaces/objects
- New interaction design?



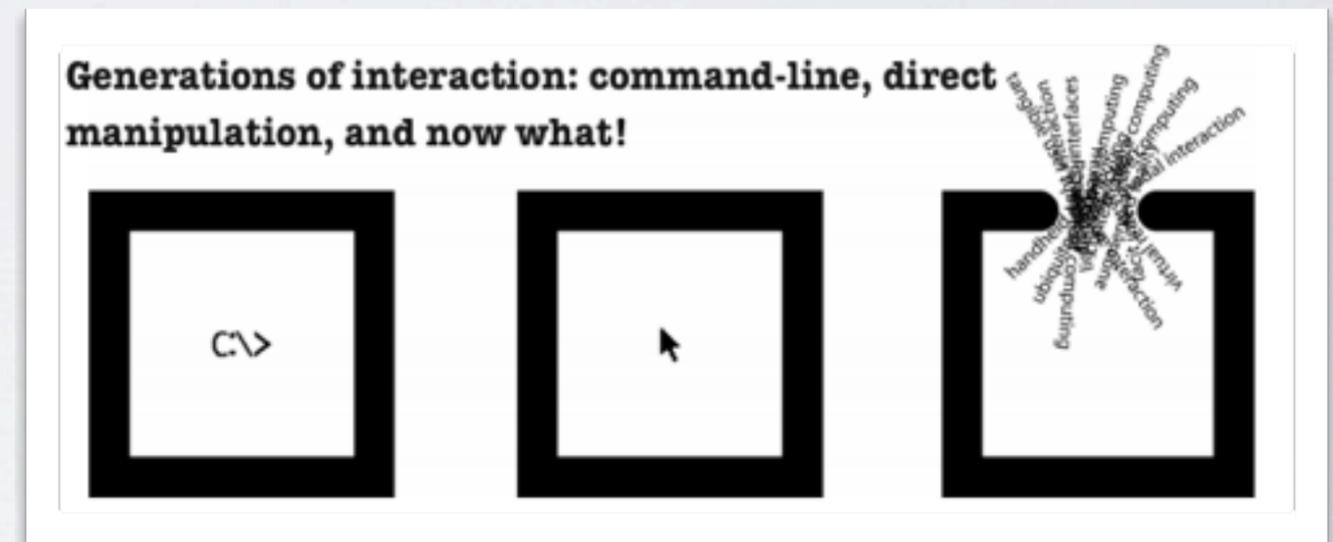
3. Interactive TV User Interfaces

- TVs are no longer passive devices
- Can a classic TV remote and UI still handle modern TVs in a usable way?
- Second screen & social watching



4. Post-WIMP User Interfaces

- **W**indows, **I**cons, **M**enus, **P**ointing device
- Post-WIMP interfaces can increase the "realism" of interface objects, is this good?
- Post-WIMP rely on naive physics and awareness of the surrounding environment. Do we have the infrastructure required to for these interfaces?



Jacob, R.J.K. et al.: Reality-Based Interaction: Unifying the New Generation of Interaction Styles, CHI '07

6. Location-Based Mobile Games

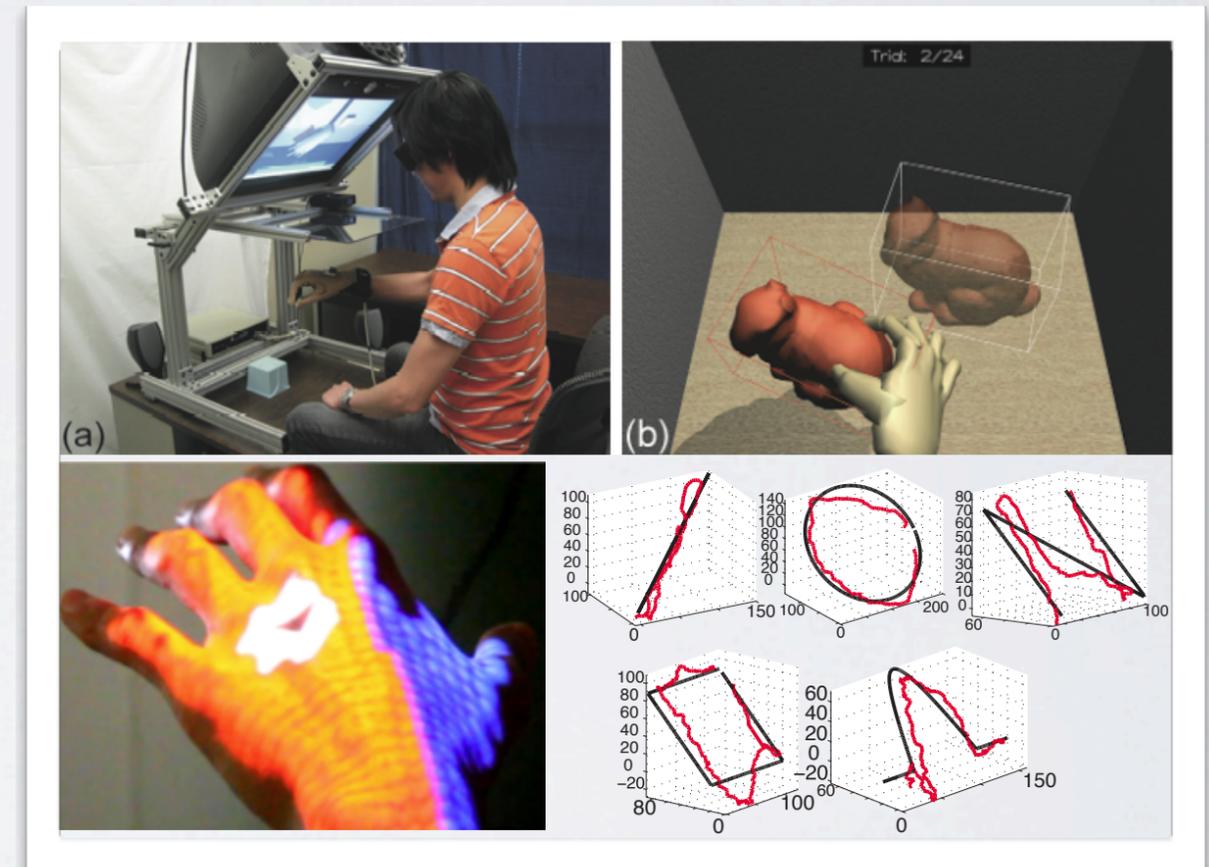
- Location-awareness \neq mobile
- Instead: games use location as input (rather than being portable)
- Tie movement & physical environment into games on a large scale



Carrigy T. et. al.: Design and Evaluation of Player Experience of a Location-Based Mobile Game, NordiCHI '10

10. Mid-Air Direct Manipulation and Gestural Input

- 3D input in midair
- How to design the interactions?
- How to evaluate the interaction designs qualitatively and quantitatively?



Prachyabrued, M. et al.: Visual Interpenetration Tradeoffs in Whole-Hand Virtual Grasping, 3DUI '12
Sodhi, R. et al.: LightGuide: Projected Visualizations for Hand Movement Guidance, CHI '12

SEMINAR TIPS

- Some pointers on
 - Topic research
 - Paper writing
 - Slide preparation
 - Presenting

TYPES OF PUBLICATION

- **Book** – (~ 20 years)
- **Journal Paper** – (~5–10 years)
- **Conference Paper** – (~3–5 years)
- Stick to **reputable conferences** (e.g., ACM, IEEE)
- **Workshop Paper** – (~1 year)
- **Technical Report** – (caution: not peer-reviewed)

TYPICAL REVIEW TEMPLATE

- Rating of Expertise
- Statement of Contribution to HCI
- Areas of Improvement
- The Review:
 - **Relevance** of previous work
 - **Significance** of contribution
 - **Validity** of work
 - **Originality** of Work

MORE TIPS HERE...

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

(see Additional Information)