POST-DESKTOP USER INTERFACES

Seminar at the Media Computing Group
SS 2013

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Christian Corsten, M.Sc.

CONTENTS

- Introduction

- Seminar logistics

- Presentation and distribution of topics

- Research and presentation tips

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PDUI 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.
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- **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)
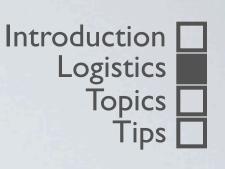
  ➡ Media Computing Group at RWTH

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

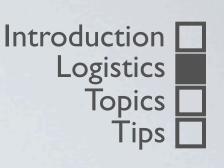- Talk and written report are graded separately

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

2
1
3
1
1
2

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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*
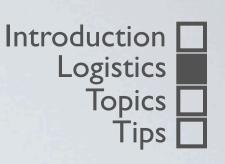
Do NOT cite Wikipedia!

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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

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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

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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)

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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
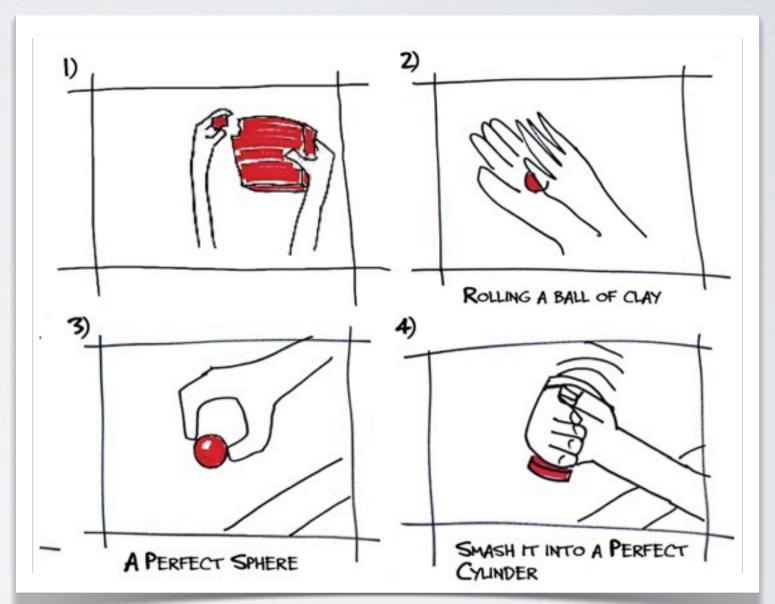
  - Derive Design Patterns

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

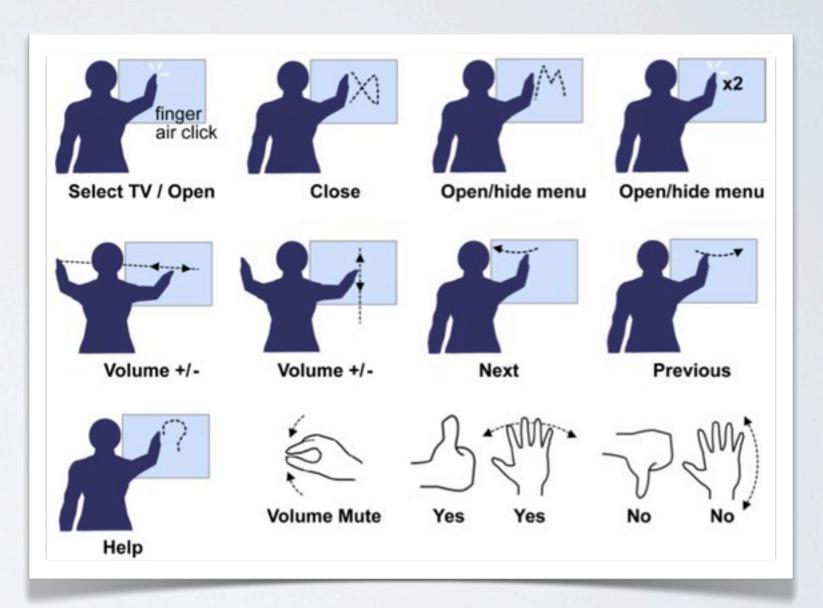RWTH AACHEN UNIVERSITY

2. Digital Clay: Toward Malleable User Interfaces

- So far: rigid materials and interfaces

- Now: Smart atoms for composing arbitrary surfaces/objects

- New interaction design?

Ishii, H. et al.: Radical Atoms: Beyond Tangible Bits, Toward Transformable Materials, ACM interactions
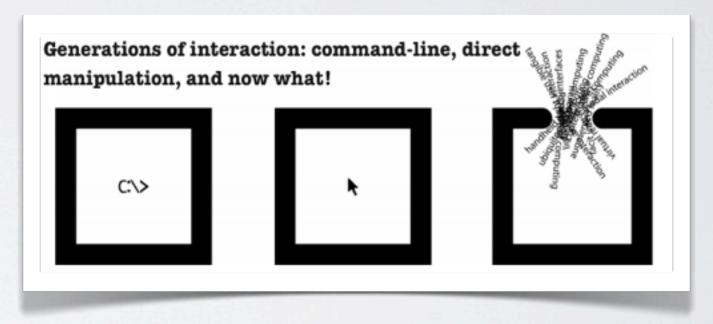
3. Interactive TV User Interfaces

- 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

Vataru, R.-D.: User-Defined Gestures for Free-Hand TV Control, Euro iTV'12

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 ≠ mobile

- Instead: games use location as input (rather than being portable)

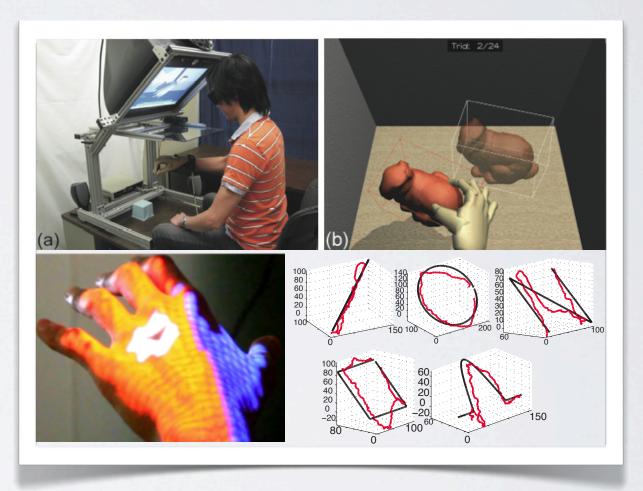- Tie movement & physical environment into games on a large scale

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

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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)