SUMMARY DCIS DISCUSSION

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Theory, Concept of Blending & Design Issues

- Notes
  - Interplay and blending of the physical and digital space
  - It will be a *complex* interplay, more than in traditional HCI
  - Coherence needed, it's a new kind of space
  - Architects & interior designers needed → multidisciplinary teams
  - Good idea to start with existing work practices, consider context

- Questions
  - Which terms are we using? Which pairs of opposite to use?
  - How to design hybrid digital/physical systems? Is it just a digital enhancement of real rooms? Or something completely new?
  - How many things do need to be digital at all? Does everything need to be digitally enhanced? Which parts plays which role?
  - How to coherently design the interplay of physical and digital space? May stories and other design practices help?

- Do not forget the data, consider it, too!

Technology

- Notes
  - Many problems with new technologies, security issues
  - Need for software frameworks → huge effort needed
  - Typical setup: large tables + N wall displays + mobile devices
  - People bring in different personal devices (mostly tablets)

- Questions
  - Are there any standard "gold" setups? What types of new technology would we need?
  - Different devices suggest different usage. Which ones are well suited for which tasks?
  - How does technology influences our workflows, style of working and creativity?
  - How can we achieve developing appropriate SW solutions? Will there ever be software (middleware) standards?
  - Which role do models and MDSD play?
  - Where are the printers in all these collaborative rooms?

Collaboration

- Notes
  - Typically co-located, but will be increasingly remote
  - Issues: sharing, access, privacy, roles (e.g. facilitator), number of users
  - There always seem to be several phases (to be supported):
    - e.g. brainstorming phase, negotiation phase, risk analysis or
    - Inspiration Gathering, Idea Generation, Idea Refinement or
    - Create - discuss - collect – expand - …

- Questions
  - How can we design a seamless transition between individual and group work (tightly & loosely coupled work)?
  - How can we support several phases of interaction?
  - How do we support remote collaboration best?
  - How do we care for different roles of users, access rights?

Application Domains

- ## Notes

  - Important to consider existing work practices!

  - Museums, Education: Learning environment

  - Police (interesting!), Medicine

  - Design, Metadesign, Creativity & Brainstorming
    (looks like the killer app of most researchers ;-)

  - Industrial applications: car industry, oil companies

  - Control rooms (obviously): energy/power plant control,
    air traffic control → safety related work

- ## Questions

  - Why don't we see more games as an application domain?

  - What are the demands of each application?
    e.g. safety, reliability, precision, inviting creativity → the
    environments & technology should not look identically!

Interaction & Usability

- Notes
  - Gestures: physical movements of several parts of the body (discussion about pointing gestures)
  - Touch/multi-touch; Pen Input [Inscription] marks, sketches, drawing, painting…
  - Tangible Interaction … and multiple inputs
  - Naturalness of gestures vs. power
  - Caring for single or multiple users?
  - Usability evaluations are limited!
  - Several layers of experience

- Questions
  - Which input modality should be favored, which combination?
  - How can we develop appropriate usability tests?
  - How can we ensure that our techniques are really serving their purpose?

Social and Privacy Aspects

- Notes
  - People are afraid of touching large (public displays)
  - Tension between private and public displays
  - Proxemic interaction, different interaction zones
  - Different roles of participants
  - Acceptance for people

- Questions
  - How can we invite people to interact?
  - How can we ease their hesitations and fears?
  - How can we cleverly design switching between public & private?
  - Can we even improve human-to-human interaction with these technologies?