

## **The NiCE Discussion Room: Integrating Paper and Digital Media to Support Co-Located Group Meetings. Haller, et al. CHI 2010.**

### **What are the core research questions addressed by the work?**

- How to integrate digital and paper tools into a cohesive system with an intuitive pen-based interface?

### **What motivates the work?**

- Both technological solutions and paper-based tools have limitations in supporting group discussion meetings (e.g. the requirement of transcribing physical notes to digital tools after the fact is tedious)

### **How does the work understand the usage, capabilities, and limitations of paper?**

- Paper-based tools, in the context of group discussion meetings, provide flexibility in supporting a wide range of working styles and task activities that may occur in a given meeting
- Limitations of paper-based content: Difficult to modify or replicate, not sharable, not persistent
- Paper is often preferred for the task of drawing in a group meeting

### **What is the target application domain of the work?**

- Office spaces requiring collaboration

### **What are some proposed extensions to paper proposed by the work?**

- Enable integration into a ubiquitous discussion room that contains shared wall displays, personal laptops, etc.
- A component of a greater system, but a key component: NiCE Paper
  - Direct interaction with the digital system
  - Enables sort of a private versus public workspace, and mechanisms for transferring data between the two

### **How are the proposed extensions implemented?**

- Anoto digital pen for input digitalization
- Input then shared with devices in the room

### **What findings have been obtained from either the implementation process or an evaluation of the proposed system?**

- System described by participants as easy to use and flexible
- Space should be highly adaptable with multiple external devices that work with traditional devices as well as a large, shared interactive whiteboard
  - Enable dynamic reconfiguration of workspace using adjustable tables and chairs
- Provides means to create and manipulate shared content collectively
  - Users can sketch their ideas directly on a personal piece of paper, which can later be shared with the group via a large whiteboard

