Design Brainstorming
Case Studies

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Experiment 1

• “Redesign the 3D lab space”, (7+15) minutes.

• 4 individuals (A,B,C,D) sitting around one round table.

• Each person has one specific color and design of Post-Its. Plus one shared design of Post-Its.

• Individual brainstorming first, then individual presentation, then group brainstorming, then group idea reduction.

• Post the group-reduced ideas on the whiteboard and relate individual sketches to the reduced ideas.
**Observations 1**

- Individual A tore up his post-it to make different shapes. He used a variety of post-its for a larger version of his sketch.

- Individual B redrew a bigger version of his sketch after seeing that Individual A was using multiple post-its.

- All four individuals had different primary motivations.

- All four individuals drafted multiple iterations of sketches.

- Group brainstorming brought up ideas previously not considered in individual brainstorming.

- Group brainstorming allowed individuals to relate others’ ideas to their own.

- Individual D took notes during group brainstorming.

- Individuals shared what they liked about other’s ideas.

- Idea reduction yielded non-prioritized ideas that were agreeable, even though some of them had inherent tension.
Experiment 2

- “Redesign the keyboard”, 15 minutes.
- 3 individuals (X,Y,Z) sitting around one round table.
- Each person has fours colors of Post-Its.
- Group brainstorming first.
- Free-flowing, guided conversation.
Observations 2

• Individual A started out by asking to specify the brainstorm idea – no time for individual reflection.

• Individual A took the role of mediating conversation and suggesting ideas. Other individuals related to these ideas.

• Conversation got off-topic almost immediately. Individual B had to pull the conversation back on-topic.

• Conversation “moved to the keyboard” after individuals did not have anything to say about the mouse.

• Conversation moved from topic to topic with positive feedback (“ok”, “sure”) and occasional suggestions.

• A lot of ideas were generated but little effort was made to reduce to key ideas. Individuals “settled” on a solution.

• The whiteboard was not used. A few sketches were completed on the table. Color selection was non-directed.
Experiment 1 vs. Experiment 2

“Global optima” vs “Local optima”? 
Preliminary Analysis

• Start with individual brainstorming, then presentations, then group brainstorming, then group idea reduction.

• Support different kinds of representation media (text, various sizes post-its).

• Support rapid iterative drafting.

• Support observation of other individuals during individual brainstorming.

• Support constant feedback loops.

• Support audiovisual communication, especially during group brainstorming.

• Support note taking distinct from sketches.

• Support a public workspace (whiteboard) in addition to private workspaces (desk).

• Color support is not an important issue.
## Related Works

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Main Scenario

► Perform individual brainstorming using text and sketches
► Group brainstorming using text/sketches and audio/video
► The process can be saved and accessed by person, timeline and topics
► Collaboration pattern can be recorded
The Remote Meeting system supports dynamic multidimensional interactions.