

Design Brainstorming Case Studies

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Experiment 1

- “Redesign the I3d 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.

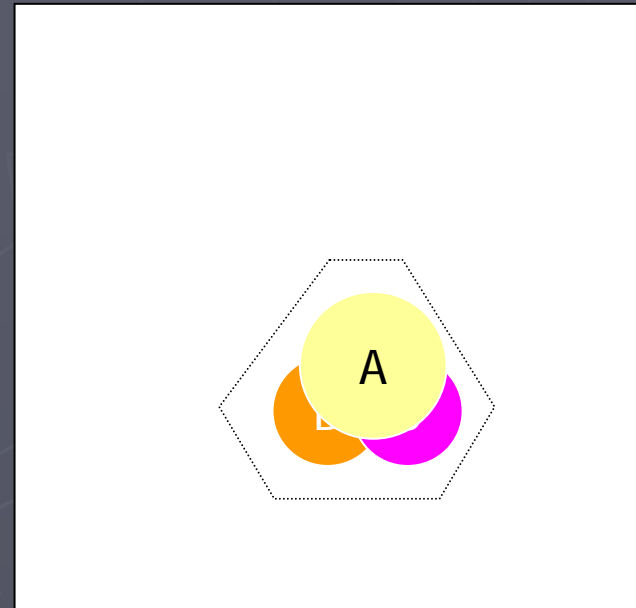
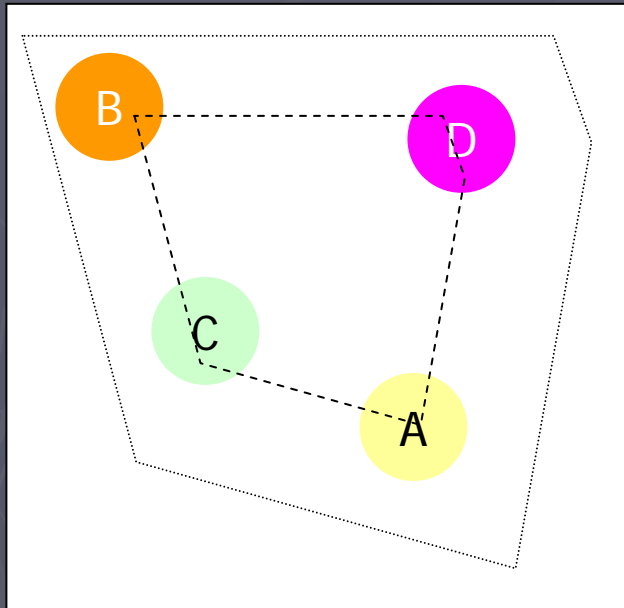
Experiment 2

- “Redesign the keyboard”, 15 minutes.
- 3 individuals (X,Y,Z) sitting around one round table.
- Each person has four 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.

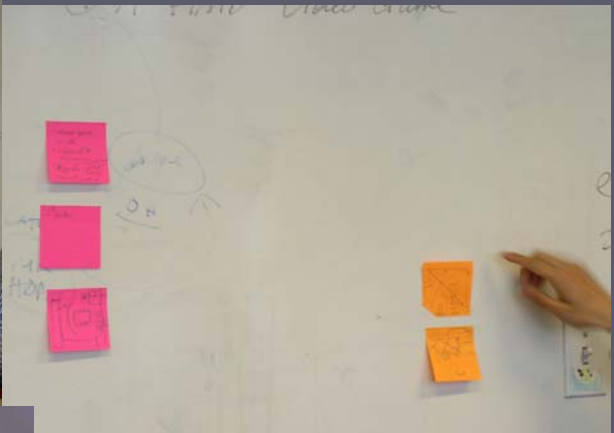
Experiment 1 vs. Experiment 2



“Global optima” vs “Local optima”?

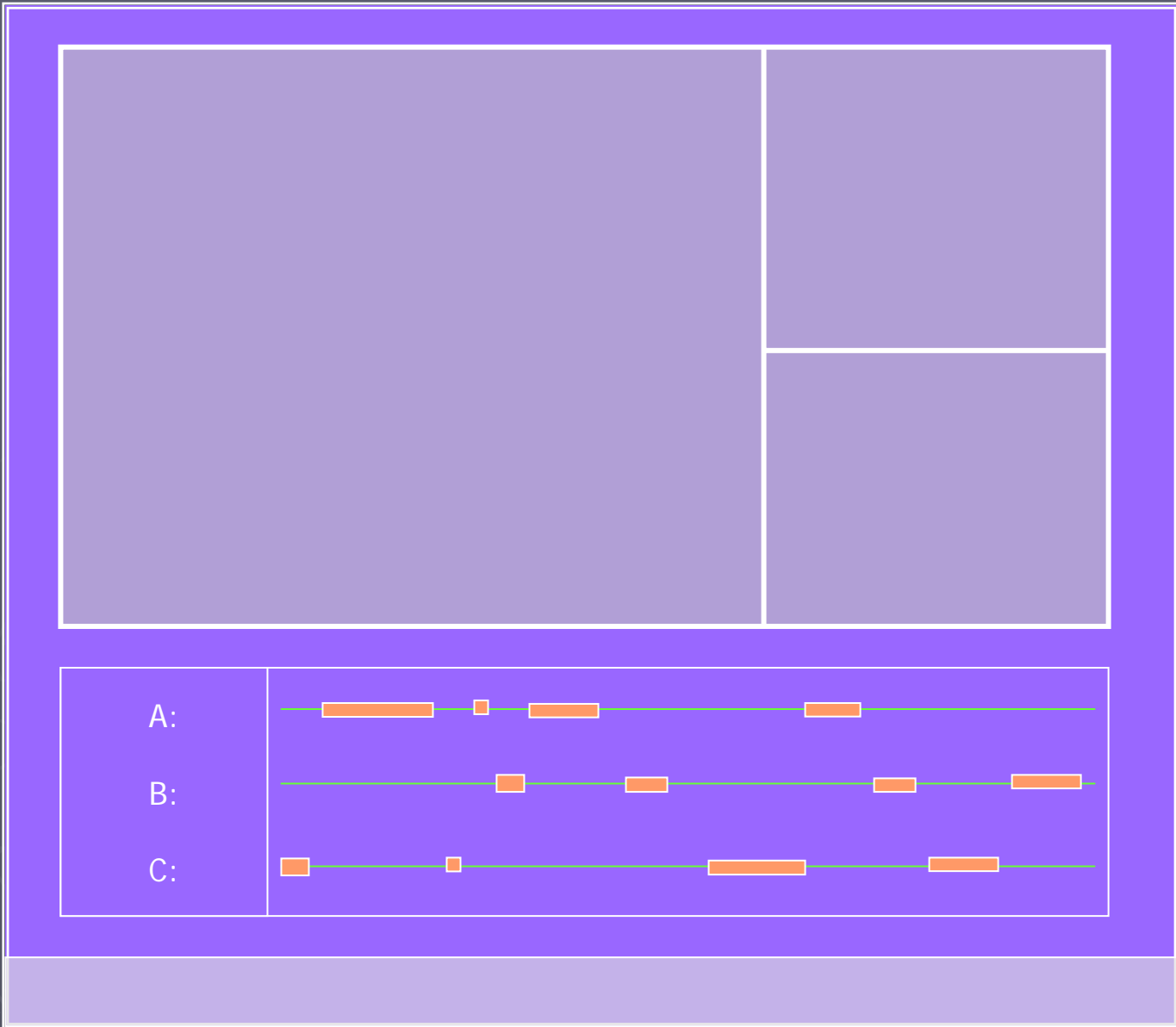
Preliminary Analysis

- 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.



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.