Idea Playground

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Talkstructure

- Introduction of Idea Playground
- Design Background
- Related Work
- Design Recommendations
- Feedback
How to be creative?

How to be creative?
How to support Creativity?
Design is choice, and there are two places where there is room for creativity:

1. the creativity [...] to get meaningfully distinct options from which to choose
2. the creativity that you bring to defining the criteria, or heuristics, according to which you makes your choices.

Buxton, W.  
**Sketching user experiences: Getting the design right and the right design.**  
Brainstorming = Idea Generation
The Creative Process

??? → Generation → ???
The Creative Process

Gathering

Generation

Refinement
Framing the “Creative Process”

- **Creativity** is an ambiguous term
- The Creative **Process** is fairly fuzzy

Sanders, E. B.-N., Stappers, P.J.:
*Co-creation and the new landscapes of design.*
Things to consider

- **Supporting Creativity** is about more than Supporting Idea Generation
  - Support all stages of the creative process

- Creative process is **fuzzy** per nature
  - Ensure flexibility
  - Enable non-linear working
RELATED WORK
Fluid Interaction with High-Resolution Wall-Size Displays

- Focus on Fast and Fluid Interaction
- Fast import of external content
- Not multi-user capable
- Expert system

Designing for collaborative creative problem solving

- Hybrid System
  - Tabletop for creation
  - Wall-display for structuring
- Separation between phases
- No integration of external content

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- Supporting Creativity is about more than Supporting Idea Generation
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- Creative process is *fuzzy* per nature
  - Ensure flexibility
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- Fast and Fluid **Overarching Interaction**
  - Avoid interruptions of the creative activity
  - Not “expert only”
SUPPORTING THE CREATIVE PROCESS
INSPIRATION
GATHERING
Inspiration Gathering

- **Ubiquitous Ways of Input**
  - Support *diverse types of input* (text, photos, sketching, web-content...)
  - Enable high availability

- **Observable Storage**
  - **Browse** content contributed by others
  - Enable **selection** for further usage

- **Synchronous and Asynchronous Operations**
  - Enable **Co-located** and **distributed** scenarios
Inspiration Gathering
Integration of paper

- Simple Interaction Process
  - No / little feedback during interaction

- Synchronous and asynchronous usage
3rd party Cloud-Service (Evernote®)

- Web-service to capture and organize ideas
- Clients for multiple devices and browser
IDEA GENERATION
Idea Generation

- **Flexible usage**
  - Support various creativity techniques
  - Multi-user support

- **Fuzzy structuring**
  - No imposed structures on the content
Creativity vs. Sketching Application

- High-level interaction
- Fast and fluid interaction
  - Focus on the creative activity
Implicit Clustering

- When writing on empty space, a new sticky note is created
- Enables high-level interaction
IDEA REFINEMENT

Gathering → Generation → Refinement
Idea Refinement

- Content Manipulation
- (Explicit) Clustering
- Adjustment of Size
- Grouping
- Linking
- Coloring
- Consolidation
- Instancing (System Snapshot)
Idea Refinement

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Idea Refinement

- **(Explicit) Clustering**
  - “Grouping by Proximity”
  - Enabled through high-level interaction

- **Adjustment of Size**
  - People write larger on a vertical surface than on a horizontal surface
  - Automatic downsizing saves space

SUPPORTING FUZZINESS

design criteria
ideas
concept
prototype
product

fuzzy front end
co-designing
Supporting fuzziness

**Goal:** Enable non-linear workflow

- Stateless application
  - No structures on the process
- No imposed structures on the content
- Dynamic collaboration
  - Multi-user
Overarching Interaction

**Goal:** No interruption of creative activity

- Modeless interaction
  - No tool change required
  - No menu

- Object-oriented UI*
  - Syntax of Commands is “Object-action”

*Collins, D. *Designing Object-Oriented User Interfaces*  
Modeless interaction
Overarching interaction

- Fast, fluid and simple interaction
- Multi-user scenarios

- Scope of features not (little) scalable

Tradeoff between Simplicity and Power
Feedback

- Frequent informal use within and outside the lab
  - Ensures high practice relevancy

- Use-Case Observation of 3 versatile groups
  - Entire cycle of creative problem solving
  - Insight into collaboration patterns
Observation

- **Participants**
  - 3 groups (7 participants in total)
  - No prior knowledge about the system
  - Work on own projects / problems

- **Method**
  - Direct Observation
  - Video-Analyses
  - Structured Interviews
Observation

- 3 completely different creative Tasks
  - Creating a talk structure
  - Working on design synthesis
  - Project brainstorming

- Very different working and collaboration styles
  - Collaborative and independent activity (sometimes changing frequently)
  - Dynamic role switching within the group
  - Linear and non-linear working styles
Findings

+ Simple Interaction (productive usage without training)
+ Synchronous input (multi-user)
+ Freeform interaction

- Limitations regarding the import of external content
- Advanced features for grouping

Balance between Simplicity and Power
To support creativity...

- Support **all stages** of the creative process
- Support a **fuzzy** (non-linear) **workflow**
- Provide **fast** and **fluid** interaction
- Be aware of a **tradeoff between Simplicity** and **Power**
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