

Creating and developing interface ideas

Where do ideas come from?

Are there any methods that will help me create new ideas?

Saul Greenberg

Methods for creating and developing interface ideas*

Where do ideas come from?

- imagination
- observations of current work practice
- observations of current systems

Borrowing from other fields

- insights and techniques from other fields and media that deal with creativity:
 - animation
 - theater
 - architecture
 - information visualization and graphical design (already done...)
 - ...

**This talk is mostly based on a paper by Joy Mountford, Apple*

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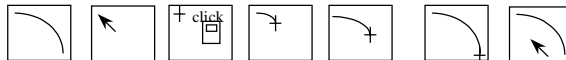
Borrowing from Animation

Animation

- special animation effects give visual continuity and realism
- e.g. anticipation by exaggerating the way bodies move forward by pulling backwards beforehand



- a few current examples:
 - “open” animation on the Mac (zooming out window)
 - continuous rather than discrete movement of objects on display...
 - animated icons for help...



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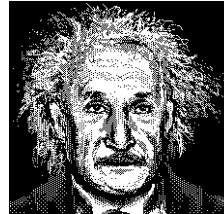
Borrowing ideas and approaches from other fields

Theater

- drama used to engage audience members
- now have interactive plays and novels
- theater techniques can be used to increase audience involvement
- e.g. GUIDES on the Macintosh
 - characters that present an information database from different points of view



Religious perspective



Science perspective

The idea of “self aware” computers should be immediately abandoned, because it is essentially tied up with the idea of a computer having a soul.

Self-awareness is something that every person knows they have, but is impossible to prove. If I programmed a computer to behave as if it were self aware, does that mean it is? How do I measure it?

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Borrowing ideas and approaches from other fields

architecture

- creates livable, workable, attractive environments
- gave the principle “form follows function”
- architectural principles can be applied to interfaces
- e.g. ROOMS, from Xerox



A simple rooms-style system,
by Dashboard

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Generating new ideas

Techniques for generating new ideas

- new ideas usually recombinations of old ones in novel ways
 - “lateral thinking” to bring together unusual associations

1. New uses for the object

- What is a computer form be used for?
 - conventional: form-filling for data base entry
 - unconventional:
 - email exchange
 - procedures associated with form that triggered events, control communication, etc

2. Adapt the object to be like something else

- change the office desktop metaphor to be a kitchen counter metaphor

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Generating new ideas

3. Modify the object for a new purpose

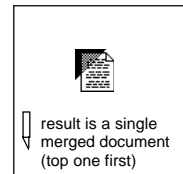
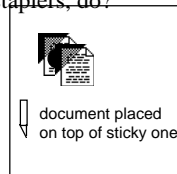
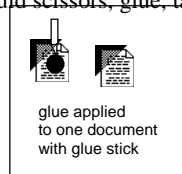
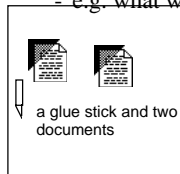
- connect our desktop to the outside world via sound
 - hear outside events that may be important to us, e.g. meeting begins



letter dropping through slot
rustle of people coming into meeting
lunch bell...

4. Magnify—add to the object

- add features to the computer desktop to extend its functionality
 - e.g. what would scissors, glue, tape, staplers, do?



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Generating new ideas

5. Minimize—subtract from the object

- bring interface down to its bare essentials
 - e.g. Wang Freestyle:
 - how far can we push the paper/pencil desktop?



6. Substitute something similar

- for different users, a similar object may be more appropriate
 - e.g. delivery service instead of desktop
 - trucks, routes, ordering systems, dumpsters instead of files, folders, trashcans



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Generating new ideas

7. Rearrange aspects of the object

- reorganize the basic layout
- e.g menu bars on bottom, pop-up scrollbars...

8. Change the point of view

- imagine seeing/presenting the information from a different perspective
- e.g. view desktop from high above-> overviews!

9. Combine the data into an ensemble

- what larger metaphor might the object be part of?
- e.g. desktop -> room -> building->city
 - different rooms for different tasks
 - communications metaphors between rooms and buildings...

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You know now

Ideas can be developed by borrowing approaches from other fields

Many new ideas can be developed by recombining of old ones in novel ways

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