

Action



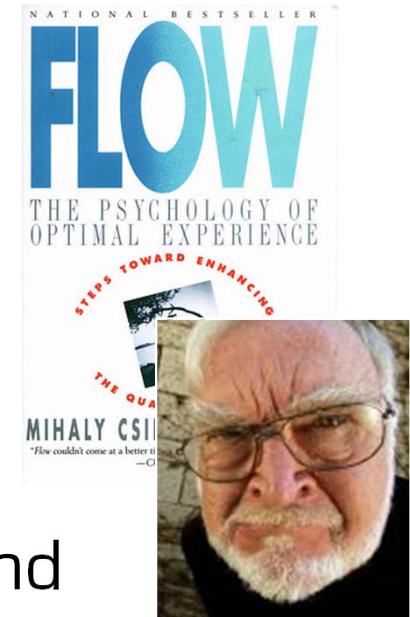
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Part I: Cooper & Reinmann

MAKING INTERFACES INVISIBLE

Flow and the Interface

- Flow (Csikszentmihalyi)
 - When people are able to concentrate wholeheartedly on an activity, they lose awareness of peripheral problems and distractions.
 - Software interaction should promote and enhance flow, rather than potentially breaking it and including flow-disturbing behavior.
 - The interface is the greatest threat!



Trouble with Interface

- An interface is
 - ...an artifact, not directly related to the goals of the user.
- The best interface is
 - ...no interface at all!
- Interfaces must be
 - ...at the service of the user, providing what is needed at every turn.

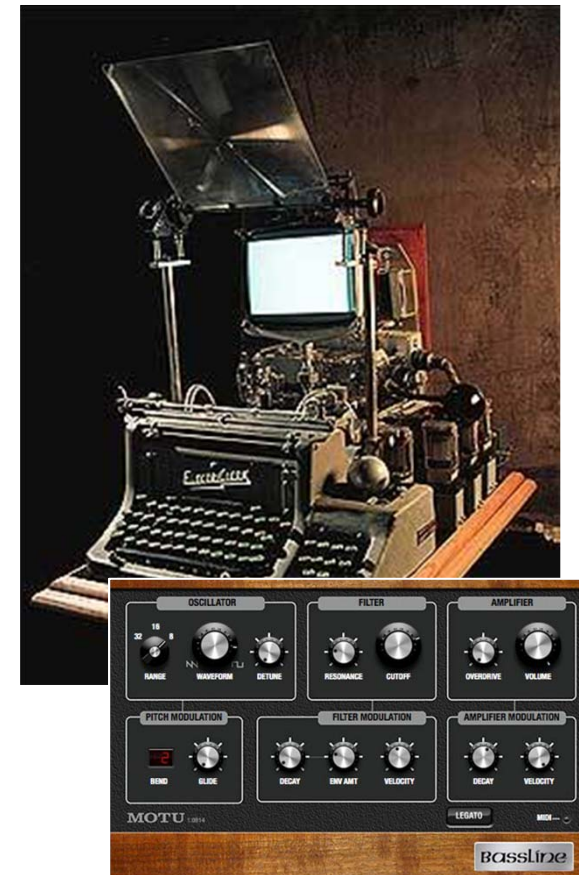


Making Interfaces Invisible

- Four important guidelines:
 1. Follow mental **models**
 2. Direct, **don't discuss**.
 3. Keep tools **close at hand**.
 4. Provide **modeless** feedback.

1. Follow mental models

- The mind looks for **a pattern of cause and effect** to understand the machine's behavior.
- Provide what is **most likely the users will look for** first, based on their background.
- Yet, don't forget to improve on “mechanical-age” representations to **move things forward**.



2. Direct, don't discuss

- The ideal interaction is not a dialog – it's more like using a tool such as a hammer.
- Direct feedback is expected from the tool and the environment – not a dialog box.
- Direct manipulation idioms provide better and more flow-inducing interfaces.



3. Keep tools close at hand

- Most programs are **too complex for one mode** of direct manipulation to cover all features.
- **Tools** (effectors, manipulators) offer different modes.
- Make tool manipulation and **switching easy** to prevent flow disturbance (provide shortcuts).
- Users should **not have to divert attention** from application to find a tool.



4. Modeless feedback

- Presented information and feedback should be **built into the main interface** and shouldn't stop the normal flow of activities.
- The **heads-up display** (HUD) is typically used for this purpose.



Tactical Pashto by Alelo Inc.

Part II: Brenda Laurel

COMPUTER AS THEATRE

Dramatic Techniques

- **Dramatic Theory**
 - Used to design interesting, engaging and satisfying human-computer activities.



From "Ívanov" in Þjóðleikhúsið, 2008

Drama vs. Narrative

- Sometimes emphasis on **narrative**, but...
- Human-Computer Activities are **more like drama** than narrative.

Narrative	Drama
Description [storytelling]	Action (Enactment)
Detail [expansion]	Intensity (Intensification)
Thematic Links [episodic]	Causal Links (Unity of action)

Drama and Time



“...I’d design games that were meant to be played in **4-5 hours**. The games would be of the same scope that I currently design, I’d just **remove the silly time-wasting puzzles** and take the player for an intense ride. The experience they would leave with would be much more entertaining and a lot **less frustrating**.” (Gilbert, “Monkey Island”, 1989)

- **Drama imposes time limits**
 - So does an interactive system.

Part III: Brenda Laurel

CONSTRAINTS

Interaction Constraints

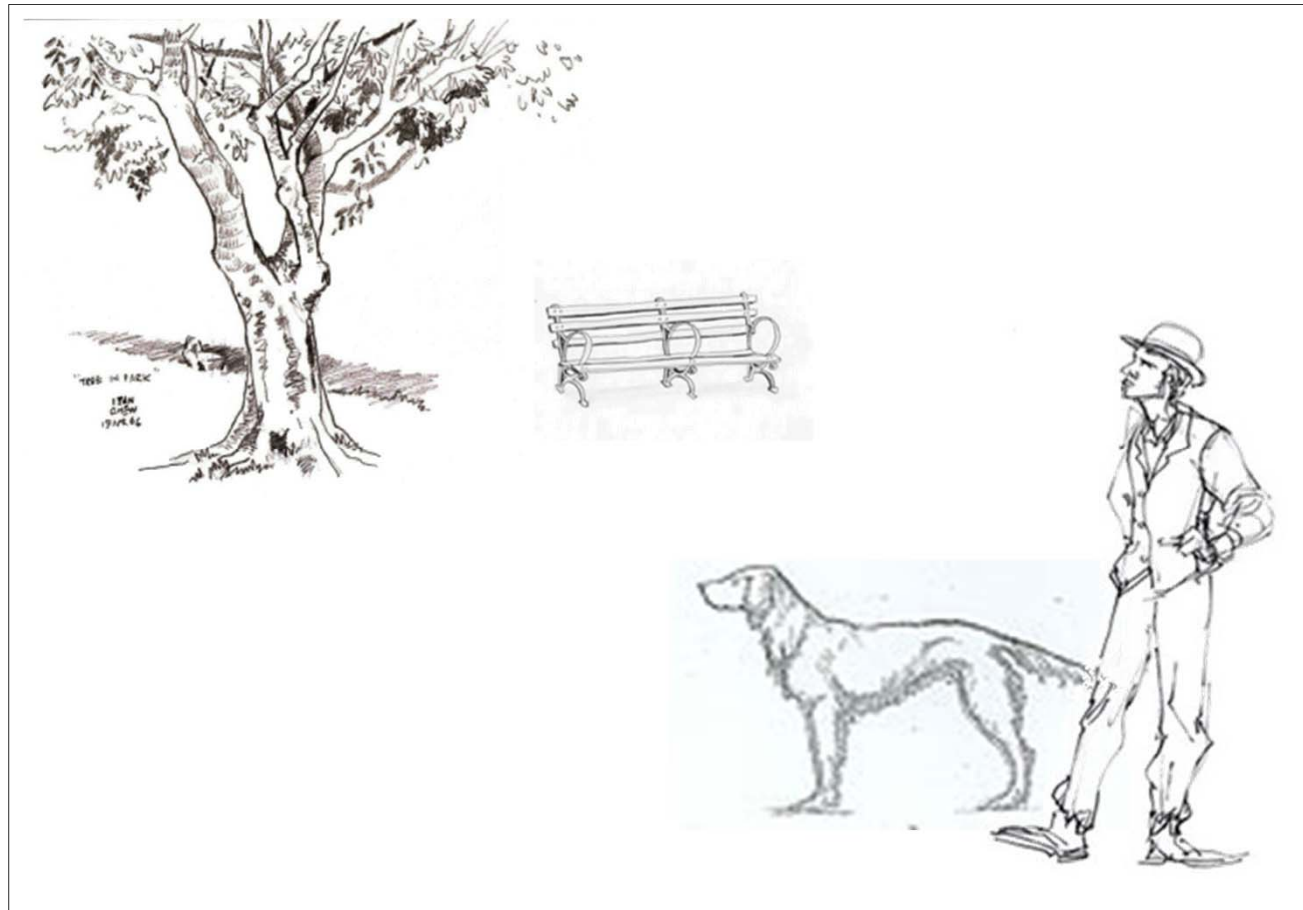
- Two kinds of imposed constraints:
 - “Real world” or hardware related.
 - “**Mimetic world**” or software related.



Create a new story...

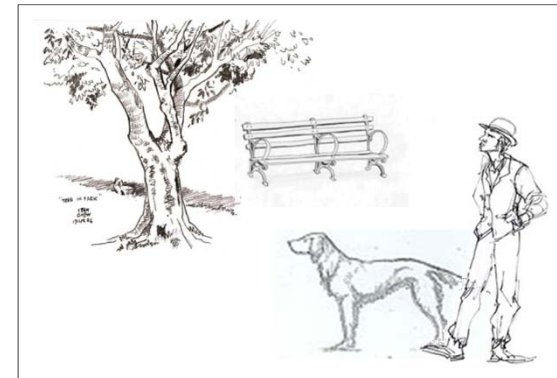
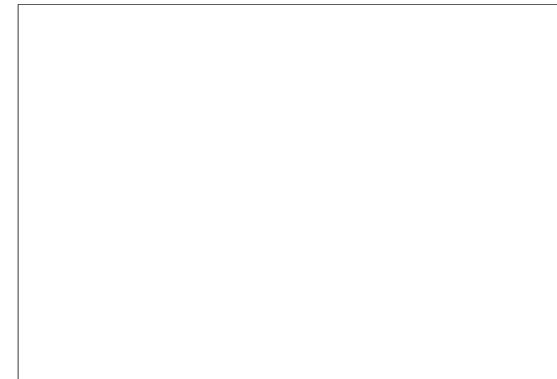
A large, empty rectangular box with a thin black border, intended for creating a new story.

Create a new story...



Creativity and Constraints

- No limits
 - Can produce a sense of powerlessness or even complete **paralysis** of imagination.
- Limitations
 - Paradoxically increase **imaginative power** by reducing open possibilities.



Creativity and Constraints

- Closed Mimetic* Worlds
 - Provide a creative security net.
 - People respect this.
 - Increased potential for **effective agency** where causal relations are clear and not left open.

* imitation / simulation



Eve-Online by CCP Games

Giving Constraints

- How should mimetic constraints be given?
- Explicitly
 - Undisguised constraint
 - Directly available (e.g. menus)
 - Can be used **before** action.
- Implicitly
 - Disguised constraint
 - Simply inferred from behavior of system (e.g. failing)
 - Can be used **during** action.

The Power of Context

- Constraints should limit...
 - ...not what we can do,
 - ...but what we are likely to think of doing.
- Context
 - Is the most effective way to do this.

The Power of Context

- **Mimetic Context**
 - Can provide a way to make constraints appear to be **within the scope of the activity**.

In-Story Tutorial in
Star-Trek Elite Forces
by Raven Software



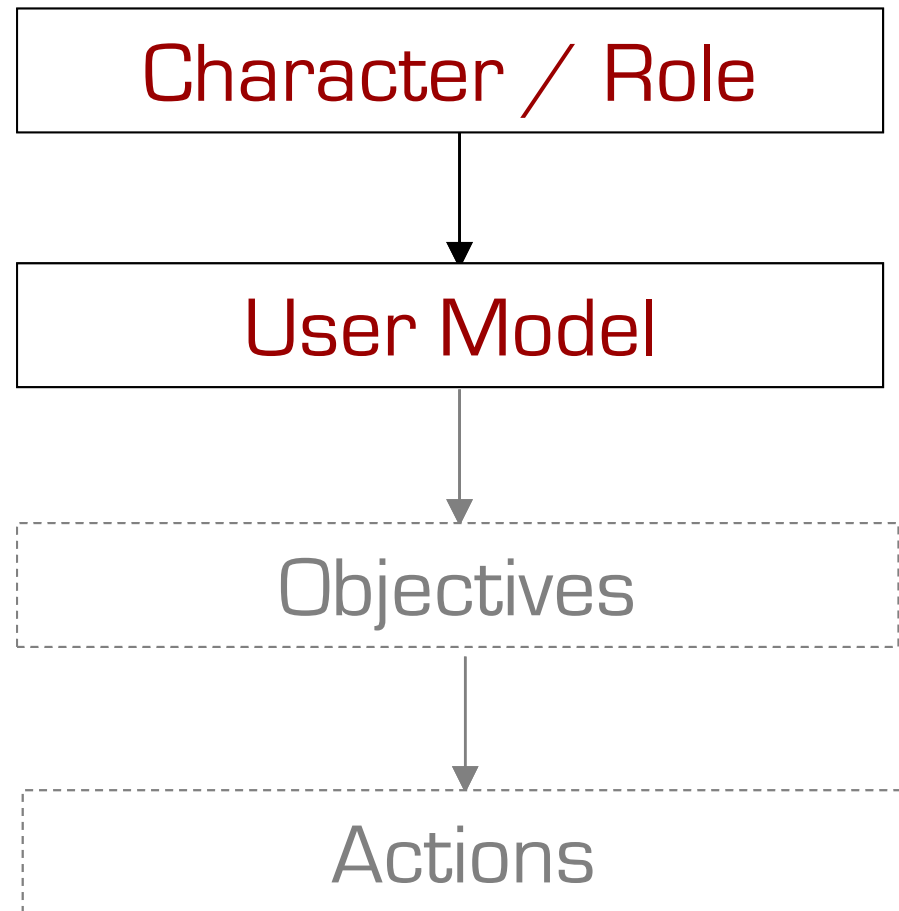
The Power of Context

- Character as Mimetic Context
 - A role template giving rise to action.
 - Implicitly constrains choices.
 - Inspires creativity in fulfilling that role.



User as Character

- Think of the user of your environment as someone taking a specific **role**.
- A **user model** maps roles to specific interaction objectives.
- **Support these objectives** with the available actions.



Using Plan Recognition



- **Discover**

- What action is being performed (observation).
- What process has started (inference).
- What objectives are being pursued (user model).

- **Intervene**

- To help user fulfil their role.
- To guide user to a different role.

References

- Cooper, A., Reimann, R., Reimann, R. M., and Dubberly, H. 2003 *About Face 2.0: the Essentials of Interaction Design*. John Wiley & Sons, Inc.
- Laurel, B. 1993 *Computers As Theatre*. 2nd. Addison-Wesley Longman Publishing Co., Inc.