Re to CFP: **Exploring Design Criteria for Intuitive Use**, September 2009, Berlin

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Preface

The term „intuitive use" covers strategies that are needed for the attainment of objectives or sub-objectives. Within this context „intuitive" means those strategies that are not present to consciousness.

Until now especially in context with the HCI intuition were mainly thought from the kick-off point of interaction. This reflects the users practical problem who often does not know what to do within a computerized reality and at the same time it shows the hope to compensate this lack of knowledge somehow.

However we do not believe that the preparation of a hammer, a nail and a picture frame are enough, to put suchlike on the wall.

Of course we also know situations confronting the player with a new kind of (unknown) technology. And because there is now chance to transcend the existing status through the declaration of an own goal within these cases it is impossible for the player to reactivate the „arsenal" of strategies for the development and solution of this special constellation. For an intuitive „use" these situations are inappropriate. But at the same time we recognise too that new technology can be handled not just via „instructions" but through „intuity" as a way to open up activity schemes. To describe the function of intuition within a subjective and objective undefined exploration of unknown technology we suggest next to the concept of „intuitiv use" the development of a concept called „intuitive exploring".

Intuitive use

Intuitive use is an interaction context within its strategies for the attainment of declared objectives are no a matter of conscious modelling. The term „intuition" is used as well for a category of the initial state as for the category of the process itself.

Therefore we call the selection process of strategies, leading on a unconscious level to a defined objective, intuition in terms of an initial state. At the same time our definition of intuition has also to be considered for the process of reaching an objective. It is crucial for the usage that technical systems are defined as instruments helping to reach these objectives. Therefore we claim that activities and within these interactions are activated by initial constellations as well as by objectives. Objectives like this are forcing unknown elements during its initial situation into a structure of solutions. This means in terms of intuition that a structure like this is not a question of conscious acting.

Given a banana on a tree a stick becomes the element to reach for it. Therefore the „intuitiv" part is the strategy to extend arms and legs using sticks. Basically we consider those strategies as metaphorical because all activities at a human level are instinct reduced and based on learned activity knowledge. This knowledge is transferred (metà phèrein) from one situation in the past into the new one (PETRUSCHAT 2008). Each application of a strategy leads to a somatic marker (DAMASIO 1995) that works like an emotional index (PETRUSCHAT 2005).

If analogue constellations come up (objectives within a situation) strategies according to them (indicated) are brought in - generally in an unconsciously manner. We now assume that next to the initial status especially objectives can help coming up with strategies (and the instruments) to reach a goal. That is a clear turn against tests separating goals and instruments for the pragmatics of an interaction. We do not deny that a differentiation like this in a theoretical context could or is making sense. But we also state that these both levels interdigitate in a pragmatic sense. Especially the clarification of problems can help a player having problems with an interaction to overcome the problems of understanding. Offering an interaction tool in front of a defined „horizon" enhances the willingness to use present tools intuitively to reach the objective.

Intuitive Exploring

For the exploration of computer based arrangements and their possibilities we follow the old differentiation of appetite behavior and consummetory action (CRAIG 1918) as it is base of all concepts dealing with learning and curiosity.

Key of all behavior in connection with curiosity (HOLZCAMP-OSTERKAMP 1977) on an organismic level is the use of a typal stock of ritualised exploration techniques. The stock is used by the organism to test the value of unknown stimulus configurations. By means of it is tested if a stimulus configuration „triggers" special modules in behavior.

We assume the implementation of such a repertoire of exploration procedures on a human level too. Curiosity can help the player to shape out and as a consequence to reach „intuitivly" general objectives. Even if there is no suitable „knowledge" inside the player's body except the regulated(ritualized) characters of behavior. The behavior of curiosity is a previous knowledge too but in another form as meant by MOHS et.al (2006).

Example: intuitive
Lamp lib. 1.08 (Design Matthias Pinkert, 2008, student at Gestural Interaction Group Dresden)
The lamp designed for the work space lib. 1.08 (light in motion, Design Matthias Pinkert) uses LED stripes divided into "light zones" by four metal rings. Moving the rings moves the light which enables the user to create his individual situation of light. The lamp fixed on thin sticks on top of
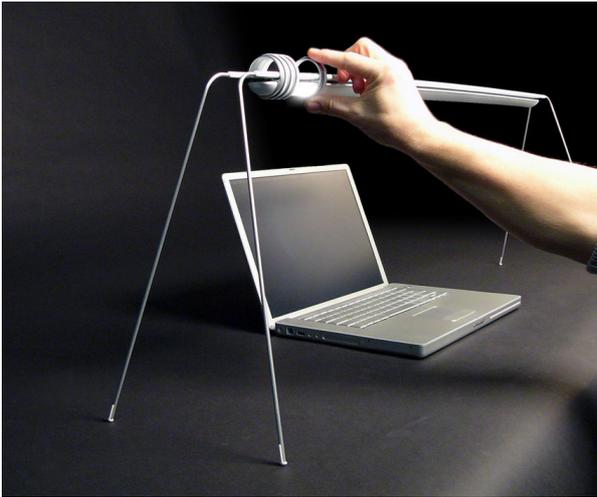
the desktop is playing with the metaphor of a classic neon tube. As a result the object has a clear semantic recognition. The "flow" of the rings alongside the tube puts two metaphors referring to the motor activity of human hands in redundancy. On one hand the opening of a curtain and on the other the sliding of bullets on an old adding machine.

The area of light is immediately opened up by the hands leading the ring. Every ring can be radial rotated to controlling the incidence, the colour, the warmth and the intensity of light.
(Alternativ but not exemplified: Jabberstamp / 2006-07 / MIT Tangible Media Group)

Example "non-intuitive"
Remote control für lib 1.08 (designed by electronic engineers at UAS Dresden 2009)
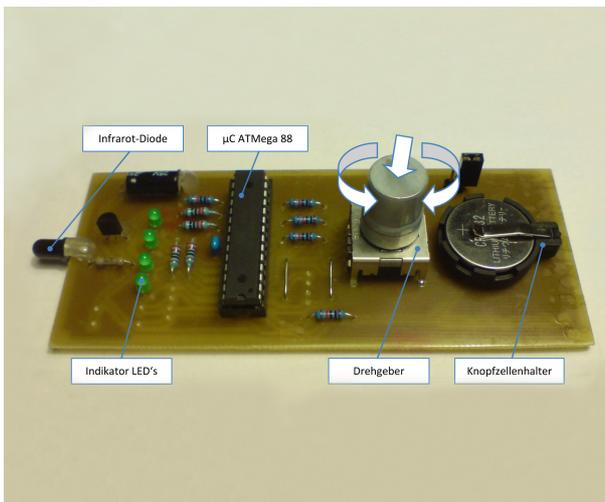
Engineering students designed a wireless remote control for the lamp lib. 1.08. Therefore the rings were replaced by a remote control with just one button. Rotating this button you can limit or open up the field of light. The rings are represented in form of four LED lights. This version of the lamp has no rings along the tube.
The differentiation now is just be done in between LED's that are on or off. Pushing the button you are able to choose one of the four light

sections. Each section can be transformed by rotating the button. Doing this a linear motion is transformed into a circular a metaphor one mainly known for measuring quantities (high/low, bright/dark). The relocation of light in space is unconsidered in this draft.
The metaphor of the curtain is not used for the design of the remote control. There are no evident connections between the motor activity driven demands of the remote and a possible orientation at general electrical navigation sets (turning LED-stripes on /off) on the lamp.
(Alternativ but not exemplified: Music Cube / Bruns Alonso, M., Keyson, D.V. (2005), Music Cube: making digital music tangible, In Proceedings of CHI´05, Portland, USA, S.1176-1179)

Design Guidelines Intuitive Use
(Relevant factors and aspects)
• Buildup of a semantic continuum (a scenario) that supports the integration of the player's objectives. Therefore identification, evaluation and implementation of conventions as well as taking on previous pattern in behavior.
 • Emphasising activity relevant zones in differentiation to areas of feedback or monitoring supporting sequences of activity to design sub-objectives.
• Bypassing rival usage experiences through feedback supported decision making
• Generation of, in the sense of an orientation at the objectives, clear interaction steps
• Generation of a clear and activity conform feedback supporting the sequencing whilst allowing the constant comparison with overall objectives.
• Prevention of negative complexity
• Declared objectives support an unconscious classification
• Low complexity is a condition for intuitive use
• The clearer the design of an interaction the higher the match with the objective

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