Emotional Challenges for the Future of Interactive Experience

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Interaction Paradigms in Computing



Cooperative Computing: mediated



e.g. interactive experiences, etc

D. Bernard (1979) Management Issues in Cooperative Computing

Living Memory Project (LiMe: 1997-2000)





Steven Kyffin

ADA Experience at Expo-2002 in Switzerland



uni | eth | zürich

http://www.ada-exhibition.ch/



Question: Why was Aristotle a thread for the church? **Answer**: the 2nd book of poetics was dedicated to comedy



Umberto Eco: Il Nome della Rosa (1980)

Enjoyment is grounded in **Play Play:** Work: not paid paid enjoyable exhausting

process oriented product oriented externalized alienating empowering

"A monk should not laugh. Only the fool lifts up his voice in laughter" (Monk Jorge in the movie 'The Name of the Rose')



internalized



Question: Is this picture of Jesus blasphemy?

Question:

What does that mean, or what can we do with this for entertainment computing?



Warning:

Attacking a dogma can be dangerous! Advice: Be careful!

Two Types of Dogmas

Explicit Dogma:

An explicit dogma is part of the common sense knowledge and accepted by almost everyone. Although insufficiently justified it is 'obvious' to everyone that the content of this dogma must be true. A special protection of this kind of dogmas is not necessary.

How to identify an explicit dogma?

Pick an interesting topic and ask other people why they think this topic is correct; and continue asking why, why, why until no answer can be provided. If you are still unsatisfied, then this is a possible candidate for an explicit dogma.

Implicit Dogma:

An implicit dogma is part of the common sense knowledge but unconscious to almost everyone. Although insufficiently justified it is hidden to almost everyone based on a protection via taboos.

How to identify an implicit dogma?

This is very difficult because you have to overcome the protection zone of taboos. Try an interesting topic via introspection which makes you nervous or even afraid. Try to go beyond your own boundaries! Be careful!

Implicit Dogmas are protected by Taboos



First Dogma Attack: discovery of the hidden part of mind



(1856-1939)

In 1932 the discoveries of **Sigmund Freud**

about the unconscious in particular were revolutionary.

His treatment of neuroses allowed inspection of a "hidden" part of the mind. Freud divided the mind into two parts: the preconscious (ideas and memories capable of becoming conscious), and the unconscious (desires, impulses, and wishes of a mostly sexual and sometimes destructive nature). All human thought is partly a conflict between the preconscious and unconscious, and partly a compromise to pursue pleasure whilst avoiding danger and dealing with the realities of life.



Second Dogma Attack: humans' free will probably does not exists



Most notably, the experiments of **Benjamin Libet**

in 1979 reveal a substantial delay--the "mind time"--before any awareness affects how we view our mental activities.

If all conscious awarenesses are preceded by unconscious processes, as Libet observes, we are forced to conclude that unconscious processes initiate our conscious experiences. Freely voluntary acts are found to be initiated unconsciously before an awareness of wanting to act--a discovery with profound ramifications for our understanding of free will.

(1916--)







Reference:

Libet, B., Wright, E. W., Feinstein, B. & Pearl, D. K. (1979). Brain 102, 193

Unconscious: the 'iceberg' metaphor for mind and body



Our brain

We could not work without our brain. It is responsible for everything we do - waking in the morning, remembering who I am and where I live and feelings of love, happiness or sadness.

Using emotions

We use our emotions to help manage and plan our life. This part of decision-making is called a 'gut instinct' or 'intuition'. People with damage to the front of the brain sometimes lose both their **powers of reasoning** and their **emotions** - showing that the two are closely linked.



Emotions are the messages from the supra-rational unconscious to the limited rational conscious!



How voluntary action are initiated:

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Reaction and duration time for the different modalities



Kansei Mediation for Entertainment Systems



Emotions

Everyone feels happiness, surprise, fear, sadness, disgust and anger at some time.

These are the six basic emotions. There are over 600 words in English to describe them and we use 42 muscles in our faces to express them.



Losing emotions

What happens to people who lose their emotions?

A famous case is that of Phineas Gage, a railroad worker. In 1848, an explosion blew a thin iron rod straight through the front of his head, and landed about over 20 meters behind him. Amazingly, he survived, and was able to talk and even walk immediately afterwards.

But he changed overnight, from a responsible, sociable, capable man into an impatient, impulsive, unreliable one who had **difficulty making decisions**.

Extreme emotions

We need to be able to feel and recognize a range of emotions, but extremes of emotion can cause problems.

Sadness can become depression,

anger can become unprovoked aggression, and

pleasure can lead to addiction.

Feeling afraid in a dangerous situation is natural and useful. But being too fearful can cause unhelpful anxiety, phobias and panic attacks.

Recognizing Emotions

We look at people's faces to see if they are familiar, to judge their gender and age, and also to see what mood they are in. We are usually very definite about what someone is feeling. Look at the pictures, showing a range of expressions from happy to angry. Most people can instantly recognize each face as reflecting happiness, surprise, fear, sadness, disgust or anger rather than a mixture of two or more.



Universal Expressions

All people frown when they're angry and smile when they're happy. But is this just learnt as we grow up, surrounded by pictures, photographs and television? Apparently not: even people who live in isolated parts of the world use these same expressions.

Everyone in the world uses the same facial expressions to communicate their emotions.

Physical Presence and Mental Presence



Ryohei Nakatsu



hear sound, see image, utter speech move body, exercise

Physical Presence

Integrated Presence

Mental Presence

use language, read a book listen to music, watch picture KARAOKE, theatrical play, musical performance, sculpture, professional sport

A Framework for Entertainment Computing



Maslow's Hierarchy related to Design of Entertainment Artifacts



Question: But what is really important in life?

Answer: Love

Power

Death



Sigmund Freud (1856-1939)



Alfred Adler (1870-1937)



Carl Gustav Jung (1875-1961)

The Oedipus Trilogy:

Childhood [Oedipus becomes King]

Love



King Polybus rescuide Oedipus

Adulthood [Oedipus at Colonus] **Power**



Oedipus Rex

Retirement [Antigone] **Death**



Ismene, Oedipus, and Antigone

Relations between Love, Power and Death



This is what we have...

This is what we want to have...

Love and Power Entertainment: e.g. MMORPG





Love and Death Pets: Empathic toys



Furby from Hasbro



Tamagotchi from BANDAI



Micro-Pets from TOMY

For each of these toys the owner is required to "nurture" them, play with them and attend to their needs. In essence you need to care for them.

The fundamental emotions involved are:

happiness, sadness and to a lesser extent anger.

Love and Death for Robots



In "AI" David the child robot is seeking maternal *love*.

While in "The Bicentennial Man", Andrew Martin the robot seeks to *die* to become human.



Continued Death: The Dear-Loved Pet Zombie







© D. Klarenbeek

Transcending Death: The Mandala



Yamantaka Mandala (The 'Overcoming Death Mandala') A **mandala** is a representation of the Buddhist universe. These cosmograms represent in symbolic color, line, and geometric forms, all realms of existence and are used in Tantric meditation and initiation rites. The creation of a mandala, considered a consecrated area, is believed to benefit all beings.

This is the Yamantaka mandala, a cosmic blueprint of the celestial palace of the deity Yamantaka, Conqueror of Death, who is represented at the center by the blue vajra, or thunderbolt. It consists of a series of concentric bands, the outermost representing eight burial grounds with a recognizable landscape and animals symbolizing our earthly plane of existence. Moving inward are a circle of flames, a circle of vajras, and a circle of lotus petals. These bands circumscribe a quadrangle with gates at the four compass points, suggesting the realm of form without desire. The innermost square is divided into triangular quadrants, and an inner circle is subdivided into nine units containing symbols representing various deities. This is the realm of absolute formlessness and perfect bliss. In the four outside corners are the attributes of the five senses (smell, sight, sound, taste, and touch), reminders of the illusory nature of our perceived reality.

All mandalas represent an invitation to enter the Buddha's awakened mind. Tibetan Buddhists believe there is a seed of enlightenment in each person's mind; this is uncovered by visualizing and contemplating a mandala.

What is Culture?

Culture is the integration pattern of human behavior that includes

- attitudes,
- norms,
- values,
- beliefs,
- actions,
- communications and
- institutions of a race, ethnic, religious and/or social group.

The word culture comes from the Latin root *colere* (to inhabit, to cultivate, or to honor). In general, it refers to human *activity*; different definitions of culture reflect different theories for understanding, or criteria for valuing, human activity. Anthropologists use the term to refer to the universal human capacity to classify experiences, and to encode and communicate them symbolically. They regard this capacity as a defining feature of the genus Homo.

Cultural Computing: Kansei mediation



Nakatsu R., Rauterberg M., Salem B. (2005). Forms and theories of communication: from multimedia to Kansei mediation. Multimedia Systems [PDF]

Culture: the East



Lao-Tse c.604 - c.521 BC



Siddharta Gautama 563 – c.480 BC



Enlightenment





Bodhidharma 470-543 AC

ZENetic computer (2003) [PDF]









link to video clip



Naoko Tosa



松岡正剛 Seigo Matsuoka

Culture: the West





René Descartes 1596-1650

res cogitans - mind

res extensa - body, matter, etc



Immanuel Kant 1724-1804

synthetic *a priori* knowledge:

- time
- space

both *pure forms of intuition* and *pure intuitions*. [PDF]

Culture in the East and West

Cross-cultural psychologist's juxtapose Eastern *holistic* and Western *analytic* reasoning.

Eastern reasoning embraces contradictions among objects in a yin–yang field of constant change.

Western reasoning tends to focus on objects and categories, and is driven by *formal logic*.

Nisbett RE., Peng K., Choi I. & Norenzayan A. (2001). Culture and Systems of Thought: Holistic versus Analytic Cognition. *Psychological Review*, 108(2), 291-310 . [PDF]

What would be a Western equivalence to ZENetic Computer?

Possible Answer:

- an interactive experience based on the story of Alice in Wonderland



Charles Lutwidge Dodgson 1832-1898 [PDF]



Microsoft

Stage-1: Down the Rabbit Hole

link to video clip

link to video clip









Flow stair lift



Microsoft

Stage-2: Drink me – Eat me



Microsoft

Stage-3: The Cheshire Cat









Cultural Computing: the collective unconscious





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How to connect to the collective unconscious?

Maybe we are already connected...

Thank you for your attention.