
DECO1005
History and Theory of
Computing, Multimedia and
Animation

LECTURE 3
MULTIMEDIA

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Introduction

MULTIMEDIA:

“Multi” – Many

“media” – materials used for expressions

Using multiple forms of information content and information processing to inform or entertain the user/ audience. (Wikipedia)

What comprises multimedia?



Text



Audio



Stills



Animation



Video



Integration
Interactivity
Hypermedia
Immersion
Narrativity

Information content
examples

PLUS

Information
processing
frameworks

Effects of Science

- The classical versus the quantum picture of the world
- Classical view:
 - deterministic
 - objective
 - relationship between observer and observed distinct and clear
- Quantum view:
 - probabilistic
 - subjective
 - relationship between observer and observed not so distinct and intermingled

THIS AFFECTED THE WAY PEOPLE THOUGHT ABOUT TECHNOLOGY.

Effects of Philosophy

- The modern versus the post-modern picture of the world
- Modern view:
 - rational, straight, utility based
 - objective
 - machines, industrial revolution
- Post-modern view:
 - fluid, non-hierarchical, flowing, complex, contradiction based, ambiguous, diverse, interconnected, decentralized...
 - subjective, "everything that modern is not"
 - post-post-post modernism...

THIS AFFECTED THE WAY PEOPLE THOUGHT ABOUT TECHNOLOGY, ARTS, LITERATURE, CULTURE...

What characterizes multimedia?

- The social context

- A post-post-post...modern world

- Open

- Democratic

- Non-hierarchical

- Fluid

- Varied

- Inclusive

(Multimedia: From Wagner to Virtual Reality)

Frameworks for analysis: experiential

(Multimedia: From Wagner to Virtual Reality)

- INTEGRATION

The combining of artistic forms and technology into a hybrid expression

- INTERACTIVITY

The ability of the user to directly manipulate and effect the experience of media

- HYPERMEDIA

The linking of separate media elements to one another to create a trail of personal association

- IMMERSION

The experience of entering into the simulation or suggestion of a 3D environment

- NARRATIVITY

Aesthetic and formal strategies that result from the above concepts, leading to non-linear expressive forms

Example demo

- PINK FLOYD'S "TIME" FROM PULSE

Structural elements:

- Video, Audio, Light architecture, Live performance, Projections inside projections inside projections...

Conceptual elements in projections:

- The machine age
- The human as "machine"
- Salvador Dali's paintings on time, memory etc.

Analysis

- Integration

Not just projection of a live performance, but projections inside projections inside projections...leading to hybrid forms using many artistic forms and technologies

- Interactivity

Different experiences and interactivity for those who attended the live concert, vis-à-vis those who see it, for example on YouTube, vis-à-vis those who use the same track for say giving a lecture on multimedia, vis-à-vis an artist who uses this work to inspire his/her own

- Hypermedia

Separate trails (Dali, Machine age, human experiences,...) + Musical forms (using musical instruments to produce clock chimes) + poetry + story telling + ... to create personal trails of association

Analysis

- Immersion

Experience of entering into simulation and feeling 3D for live audience, for video audience

- Narrativity

Aesthetic and formal strategies (visuals, movement, transformations from one art expression to the other, lyrics, audio poetry) lead to non-linear expressive forms – the experience in this track may be sequentially linear, but the overall user experience is non-linear.

Narrativity focuses not only on “structural” non-linearity, but also “experiential” non-linearity, though both these are related.

History: People, ideas, creations

- Pre-history

The idea of playing with and mixing ideas, material, representation...recurring themes

- 1849, Richard Wagner

"Fusion of the arts" and the idea of "Total artwork" – light and sound effects in theatre, real "virtual" immersion

-1945, Vannevar Bush

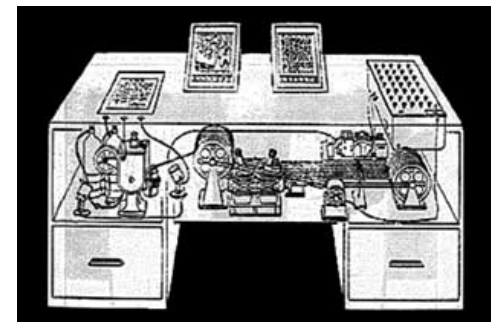
1930, Differential Analyzer, to idea of Memex, the hypermedia machine, *As we may think*

-1948, Norbert Wiener

Cybernetics, man-machine-machine communication, interactivity

-1960, Kluver, Cage...

Collaboration between the artist and the engineer



History: People, ideas, creations

- 1960, JCR Licklider

Computers and creativity, symbiosis between man and machine, computer as an intelligent partner

- 1962, Morton Heilig

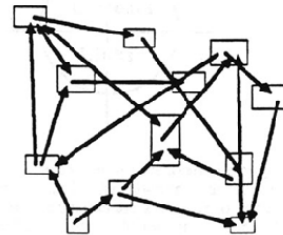
Sensorama, immersing all the senses into the experience, first person illusion



-1963, Ted Nelson

Hypertext and Hypermedia

"ORDINARY" HYPERTEXT



-1965, John Cage

Indeterminacy, the role of chance in artistic performances

-1968, Douglas Englebart

Augmentation of the intellect through interaction with the computer



History: People, ideas, creations

- 1970, Ivan Sutherland

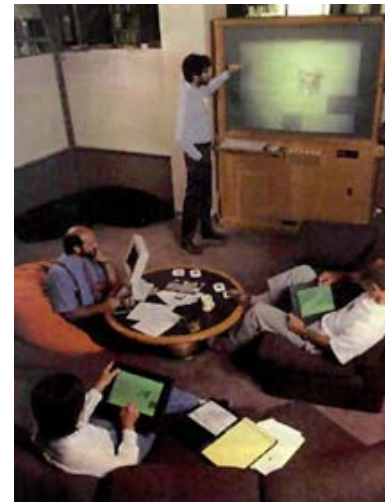
The Ultimate Display, head mounted immersion into a 3D world

- 1972, Alan Kay

The birth of the GUI

-1989, Tim Berners Lee

The birth of the World Wide Web



- ... To Now: Virtual Reality, Augmented Reality



Virtual and Augmented Reality

- Virtual Reality

A “Real” environment simulated by a computer to produce a virtual one
Demonstration

- Augmented Reality

Combinations of real world and computer generated data
Demonstration

- Mixed Reality

Combinations of virtual and augmented reality, physical and digital objects interacting in real time

References:

- <http://en.wikipedia.org/wiki/Multimedia>
- <http://www.artmuseum.net/w2vr/contents.html>
- <http://www.theatlantic.com/doc/194507/bush>
- <http://www.youtube.com/>
- <http://people.arch.usyd.edu.au/~john/DECO1005.htm>

Assignment 2 and Presentation 2:

Presentation 2 Date: 18 September, 2007

Assignment 2 OUT: 28 August, 2007

Assignment 2 IN: 11 September, 2007, no later than 5:00 pm.