

Enter the Mediaspace: New Potentials in the Converged Media Environment

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Setting

- Introduction
- Visions
- Digital dimension and Mediaspace
- People
- Ideas for future RD&D

Introduction

- Media Lab UIAH / ARKI
- digitalization and convergence
- Digital Dimension
- Mediaspace

Media Lab UIAH

- Department of digital design and new media

ARKI

One of the research groups, involved in

- sensemaking design research,
- developing insight of the future of digital technology,
- of its potentials for everyday life, and
- of the related interests and needs of people.

Envisioning the future

Future can't be predicted – but should be envisioned.

Intentional development activities are significant – they shape society and represent massive use of society's human, material and financial resources

All development is based on visions and assumptions of the future – mostly personal, implicit and unarticulated.

Quality of the vision matters

- Bad or contradicting visions and false assumptions are more likely to lead to failure and waste.
- An insightful vision and set of concepts shared by stakeholders can contribute to success.
- Even a weak vision is probably better than uncertainty and confusion because it provides language for negotiation.

Examples of influential envisioning

Memex (Vannevar Bush)
Dynabook (Alan Kay)
Man-Computer Symbiosis (J.C.R Licklider)
Xanadu (Ted Nelson)

Examples of recent attempts

Knowledge Navigator (Apple)
Ambient Intelligence (EU IST HLEG)
Ubiquitous Computing (Mark Weiser/Xerox PARC)
Wireless World Research Forum

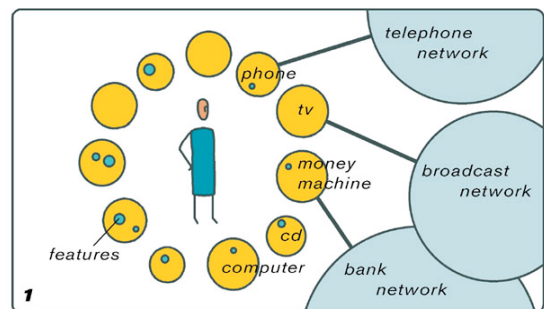
Search for useful concepts

- Digital Dimension (digdim)
- Mediaspace

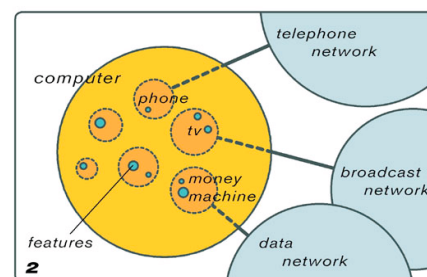
Digitalization

- convergence creates a digital dimension
- touches all areas of life
- supports further convergence of activities and media

Evolution of the digital dimension



Metamedium



- computer is special – the first metamedium (Alan Kay and Adele Goldberg)
- it can be programmed to function like any of the other electronic devices.

Digitalization dominates

Digitalization dominates in the hardware evolution, because as it becomes feasible to realize any electronic device with digital components, it becomes also increasingly cost effective to do so. Little by little, all devices tend to turn into digital computers.

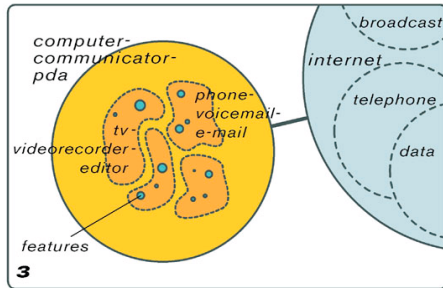
From specialized...

In the first generations, many are very specialized and their computer nature is not really visible on their surface or in interactions with them. Their operating systems are unknown to us, their programming happens in the factory, and the programs are often permanently burnt onto their memory chips.

...to generic

In the other end of the spectrum of digital devices, we have those which attempt to be as versatile tools as possible, and try to exploit the computerness to the maximum.

Identity crisis



These devices may be called personal computers, personal digital assistants, mobile phones, communicators, organizers. Increasingly, we can expect to load new features into them in the form of new software.

Flexibility increases speed of change

The digitalization of devices increases their flexibility, and the speed of change, because changes can be made without touching the hardware.

Software evolution

Software evolution runs inside the devices, as the feature sets that were inherited from old devices can be transformed by new possibilities and needs which converge in the same device. The functionality is freed from the constraints of the design decisions which in the older incarnations of the tool were frozen into the hardware.

Multiple functions

The future computer-communicator-pda does not have to settle for simple phone software, it can run phone-voicemail-email combination software instead. We are at this stage now.

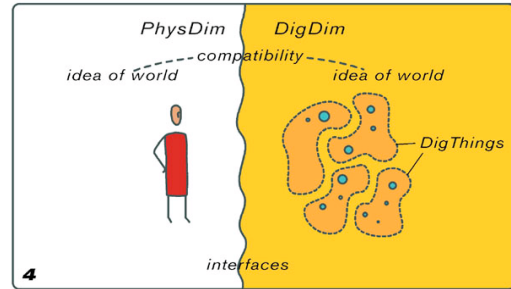
Network feeds the devices

As the digital devices run on information, their competitiveness depends on their communicative abilities. Digitalization pervades also the logistic channel, and all electronic communications move towards a seamless unified network.

Convergence produces seamless structure

It will continue to carry different kinds of information and utilize different kinds of delivery technologies, but will seem seamless from the point of view of software and users. Gradually, the networks converge, and each device will be able to connect to any other device through one kind of software interface.

Digital Dimension



The digital hardware and the network behind it will form a platform for a seamless digital dimension. The various devices form the interface to the objects of our interest, the digital environment formed by software and information content, which can appear to us through any of our devices.

Driven by pursuit of efficiency

Digital technology brings dramatic increases in efficiency. Most systems and structures in society will eventually take advantage of this. It becomes expensive and solitary to be left out.

Pervasive development

The convergence of all kinds of activities and applications in the same equipment, and the special characteristics of software make this development fast and pervasive – in all areas of life.

Digital technology has great impact and potential

Digitalization influences all people and all areas of life; also those who want to choose not to get involved. Strong dependencies are created; opportunities and competitiveness are at stake. The social and political dimensions are crucial.

Impact of digitalization on users

Everyday life will become very digital

If technology wants to become more pervasive and intimate, it will need to respect users' needs to manage, configure, customize and control it within a compatible, coherent ecosystem.

Making a living is a basic priority

As everything becomes digital, also making a living becomes more and more digital. Those who can take advantage of digital means and be creative with them, will have a significant advantage over the others.

Products are not the final stage of the design process

The designed offering from the industry is taken up and domesticated by people and incorporated in their daily life in another stage of the design process. In fact, if this does not happen, products do not succeed in the market.

Mediaspace

A concept for describing the direction of development of the media environment.

Mediaspace

Digital convergence creates a new media environment which we call the Mediaspace.

The Mediaspace presents several new characteristics and potentials.

Key characteristics of the Mediaspace

hard boundaries -> soft boundaries

one-to-many -> many-to-many

consumer/receiver -> creator/distributor

mass media -> diverse media

Mediaspace potentials

Unbounded

Media is freed from its "containers" and "packaging". Customers and audiences can't easily be confined to the boundaries publishers want to maintain; they will have the option to connect any media to any other media, and will likely exercise that freedom. Nobody can own and control the delivery channels the way they do today.

Open

The mediaspace is open for all actors, and all actors can practice media creation to the extent they have need, interest and skill for.

Software

In media, meaning is encoded in human language, audio and images, meant to be processed by humans. In software systems meaning is encoded in a programming language, meant to be processed by the software.

Media will acquire more and more characteristics of software systems and vice versa.

Diverse

Any type of activity and application may utilize any type of media. The potential for existence and availability of any kind of media of any kind of topic increases.

New interesting hybrid applications and tools that enable them begin to emerge, driven by the social innovation of all kinds of people.

Appropriate

As media converges, any media format can be used for communication, depending what is the most appropriate format for each situation and communication need.

This will increase audio and video use in new application areas, as well as the need to prepare any product with multiple media

Navigable

Media is not restricted to linear format - it can be designed as a space within which one can navigate according to various more or less convenient mechanisms.

It becomes a necessity for all media to enable navigation to an appropriate extent.

Organizable

Media can be better organized, so that it becomes realistic to gather media and make interesting collections and compilations for personal or sharing purposes; also including professional archives and personal archives and working "papers"; meeting notes, messages, reports, diary, notebook, etc.

Structured

Audiovisual and audio media are now difficult to manage because their structures are poorly defined. This continues to be a strategic area for development. When all media formats have more useful structures, they are easier to manage with digital processing.

Semantic

Media can have well developed metadata, or semantic encoding, which describes the content in a way that helps both people and machines to process and organize the content in a useful way.

Interconnected

Any program, any media fragment, can be connected in unlimited ways and using multiple strategies to any other media. Some of the connections are designed by the author, some by readers/viewers, some by competitors, some by agents, some are random, and so on.

Structures and tools will need to facilitate connections.

Available

Media will not disappear from our reach, if we can recall any indicator of its identity. If we have a way to identify it, we will have a way of retrieving it.

The cost of retrieval will become much more reasonable than it is today, because of the vast diversity of possible strategies how this can be realized.

Changing

Programs can change and evolve. It becomes important for authors to be able to design for change. Tools must include mechanisms for managing the evolution. Authors may continue to build on their earlier work. Several versions may exist in time and space.

Individual

As the digitalization and technological convergence of the media platforms dissolves the material, logistic and temporal boundaries between different media, people will get the freedom to organize their use of media as they please. Every person can have a very individual view of the mediaspace – a Personal Mediascape.

Shareable

Media can be shared with anyone who is connected to the mediaspace. Social recommendations become a common mechanism for selecting media. Shared media is essential glue that keeps any community together. Sharing will be organized in a variety of ways, and this organization must be designable

Reconfigurable

Media can be reconfigured by anyone at any time. The author does not have control over the content which would prevent reconfiguration. Many authors might try to prevent it, but others will make their products easy and attractive for reconfiguration and possibly redistribution.

Redistributable

Media can be redistributed. It should be possible to implement any kind of licensing strategy - including one which makes it easy for me to re-edit things and redistribute them, while the compensations for the material I have used will be automatically taken care of, without any additional negotiations.

Significance of the Mediaspace evolution

Media is where society thinks

The **society negotiates its beliefs and designs** in the various media that its members share; therefore its design has a **central influence** on society.

Media is software and software is media

Media in the mediaspace needs to be software and must be understood also as software – and vice versa.

Media creation requires or benefits from software understanding and vice versa.

Lack of Mediaspace R&D

Problems in the R&D activities:

- 1) the systemic nature of convergence has not been taken sufficiently into account
- 2) old formats still define the ideas of the future
- 3) content creators and users or their interests are not sufficiently included/considered in the development
- 4) the development does not really even see the user's point of view
- 5) a hard political agenda is almost solely set by gigantic content owners – other needs of society are all but ignored

Media is seen through old structures

Beliefs of the future uses of media are constrained by ideas of media that rely on the old structures that will be replaced or transformed: newspaper, television channel, radio etc.

Failures overlook social and cultural aspects

The social and cultural evolution of media has been neglected and ignored even if it is the critical prerequisite for actual success.

People have needs that are not met

People do have needs for media that are not met, while they have been remarkably little interested in many of the past and current new product offerings.

User point of view

- Users are first of all people – ‘user’ or ‘consumer’ is a role that describes the reality of people inadequately.
- People are in practice system integrators that end up with the responsibility of adapting the products to their environment.
- The products become alive when used – the users perform the final design – in communities of practice – through a process of social innovation.

How to study users' needs?

- Focus on applications and uses instead of products
- We do not worry about the business opportunity – if there is a need someone will find a way to make a business out of it
- Ecosystemic reality – we are interested in all kinds of applications

Examples of fairly overlooked areas of media needs

- Manage and organize the complex personal mediascape
- Useful informative media for specific purposes
- Create and share media with others
- Media to support collaboration and social processes

Manage and organize the personal mediascape

People have increasing amounts of media to manage, and the only tools for that are tapes, CDs and shelves.

Millions of empty tapes are bought yearly. Where do they all disappear?

Useful informative media for specific needs

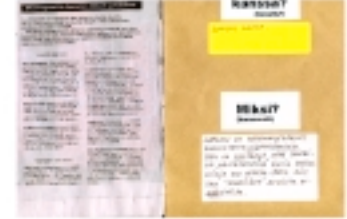
If I want to learn about something, it is useless to expect that a program about that would come from the broadcast tonight. TV and radio do not serve specific needs. Books, libraries and the internet do. Future audiovisual media can as well.

Sharing media

examples sharing media



The items that we have about gene technology



With whom? My brother is law

Why?

My brother in law is research professor in the national health laboratory. He has asked me to follow on discussions about gene manipulation in family papers. He wants to get a 'system' to support on it.

Support social processes



Digital potential is in enabling design and creation

The shrink-wrap formula is overemphasized and its potential exhausted.

More and more people can't afford being consumers of fancy new products.

They need to focus more on how to make a living – increasingly within a digital context.

Focus on ecosystemic contribution

Products depend on becoming components in social systems. Instead of focusing on standalone products (tools or media) producers should focus on their contribution to the creative processes in society.

Some Mediaspace-related RD&D issues

- new culturally and socially viable media formats
- dynamic, software powered media to support social processes
- speed up the adoption of key transformative technologies and policies with new kinds of media that demonstrate the benefits
- redesign IPR for fair social use and compensation

Mediaspaces initiative at the Media Lab

Aims to build a design vision of the future Mediaspace and create a diversity of experimental productions and pilots that focus on creating new media formats that demonstrate the practical possibilities of delivering new value for people in a converged media environment.