Mixing Video, Audio and Still Photography for Topics in E-Learning Design, Demonstrated on a Real Project

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Abstract — The paper is dealing with the method putting audio, video, still photography together to get the best effect for an E-learning community for transporting actual problems mainly in visual form without putting to much effort into text. Multimedia is so effective because it is a chance for interdisciplinary and discipline combining cooperation. Therefore science and teaching has to be interdisciplinary in multimedia projects for E-learning. The technology of modern media has produced new possibilities of interaction. Recognizing the increasing significance of media in E-learning environments we have to try new ways of design especially with pictures and video images mean two different, but intimately related things. We have images when we use our sense of vision. We see physical objects but we speak of images more in a universal sense.

Index Terms — Multimedia, sense of vision, recognition of media.

I. INTRODUCTION

If we analyze E-learning environments, our thoughts, inventions, and fantasies are sensory images not produced by the presence of physical objects. Furthermore images may be immobile like rocks or “coming and going”. Physical objects suffer from the fragility of matter. In a more active media of communication there is a difference in the degree to which the audience communicates. The technique of modern media has produced new possibilities of interaction. The awareness and understanding of our experiences depends on the interaction of stable lasting images and the coming and going of happenings in time. The stationary images allow us to explore the world in its being, while the transitory ones let us follow what takes place in sequence. Perception is obvious.

II. PHENOMENA OF DIFFERENT MEDIA

The main emphasis has to be put at least to images, the spoken word and also reading in form of text is not anymore the best way of mixing different media. For several years, the dramatically changed functions of images wrought by the new media have been a subject of cultural and learning studies research. Immersion is undoubtedly the key to any understanding of the development of the media, even though the concept appears somewhat opaque and contradictory. The majority of virtual realities that are experienced almost wholly visually seal off the observer hermetically from external visual impression appeal to him or her with plastic objects, expand perspective of real space into illusion space observe scale and color correspondence, and, like the panorama, use indirect light effects to make the image appear as the source of real. The intention is to install an artificial world and renders the image space as a totality or at least fills the learner entire field of vision. Image media can be described in terms of their intervention in perception, in terms of how the organize and structure perception and cognition. Audio and text are still old forms of media presentation and should be used extensively, only to strengthen the recognition of the learning person.

III. BRAIN SCIENCE

The brain scientist Manfred Faßler is postulating a connection between seeing and knowledge and is talking about “The thinking of images” to make a clear differentiation to “read or see/look”. Images are not trivial interfaces. They are not only outside, separated of us, as all medial abstractions, they are acting back, are environments, imaginations and fictions, reality promises and transcend procedures. Fleck and Faßler show very clearly, that the future of visual communication is based on its transdisciplinarity. May be in future we can clear how images come in our brain and how the affecting our learning abilities.

IV. INTEGRATION OF HARDWARE AND SOFTWARE

The classical environment for E-learning was a computer hooked to any form of projection in most cases LCD–projectors. In the last two years a lot of mobile devices have penetrated the market and smart phones with all kind of apps are nowadays new devices for E-learning environments, which include all forms of mixing like video, audio and are able to use all the new networks like Youtube, Facebook, Xing, and Flickr. The old software programs like Power Point and all kinds of CD and DVD programs are for new design applications outdated. The newest approach is the I-Pad from Apple with a big handicap for video integration.

V. VISUAL PERCEPTION

Together with the interpretative brain our eyes comprise our most important sense organ. About 70 percent of the information from the environment, which flows into our inner image of that environment, is visual. About 50 percent of the brain is involved in the process of seeing.
The significance of visual perception is obvious. Texture and form recognition do not compete with each other. Actually these two forms of recognition complement each other. Brightness and darkness are other very important relative phenomena and depend on the amount and the energy content of the radiation impinging on the eye. Our visual system controls and processes the brightness of individual image elements as well as whole object groups on different levels of the neuronal image processing.

Furthermore color perception is one of the most mysterious of our mental masterstrokes. There are no colors in the real world. They are ideas, sensations, and constructs of our consciousness. The perception of colors correspond to the cognitive process which is correlated with memory and one part of designing new E-learning devices is a new approach to the use of colors, which is in most cases not real professional till now.

Our visual system checks and corrects the sizes of all figures, before they are finally installed in our perception. Therefore the right size of an object is also a main design problem, which was not really considered in the most E-learning programs till now.

The main thing of perception is also that our head and our eyes are constantly moving, even when we are looking at a static image. It should not come as a surprise that our motion detector is occasionally irritated and creates therefore illusory movements in static images.

V.1 The interaction of time, space and form sensibility

Our central nervous system is capable of registering and judging velocities. But how and where are they calculated? Among other things our visual systems knows the positions of the individual points in successive images. The differentiation procedure is an elementary operation in every neurological circuit. Where does the inner clock in our body tick?

V.2 Depth perception

This problem is now arising very rapidly with the new developments in three-dimensional perception. TV, movies and last not least learning aids will be very soon three-dimensional. It is the higher development of the visual organ. The perception of depth, under this term also known as “stereoscopic vision”, one comprehends a three-dimensional perception of the visual space with two eyes aligned in parallel at a distance from each other. At least there is a big added value in using stereo images.

VI. CONCLUSION

E-Learning design is a very complicated matter. Designers have to take care of all mentioned perception problems to optimize the recognition of the user. The most important part is the content of the E-Learning materials, but in my opinion the best content can be spoiled by bad design. I think 50 percent of the success of good E-Learning media is related to good design. Therefore maximum perception and recognition have to be guaranteed for the user to get better learning effects as a result.

REFERENCES-


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