E-CLIC
European Collaborative Innovation Centres for Broadband Media Service

Fachhochschule Hannover
University of Applied Sciences and Arts

Technical planning and setup
E-CLIC LivingLab Hannover

Case Study

EUROPEAN UNION
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Investing in the future by working together for a sustainable and competitive region

The Interreg IVB North Sea Region Programme

Summary

1 Executive Summary

The E-CLIC LivingLab “Planet MID“ is an incubator in media, information, and design, and a platform that brings together science, public relations, media companies, and freelancers. The technical equipment of the LivingLab “Planet MID“ can be divided in different sections: building services (ventilation, heating, security), telephony and network technology and especially the media technology. A special focus was placed on the planning and implementation of media technology, because the E-CLIC Living Lab will be a competence center for media, information and design for regional, but also national transnational collaborations.

2 Problem Statement

The technical difficulty was the multi-functionality. Main objective regarding the implementation of the technical enviroment is the specific focus on media solution for the future. This regards the role in education and in the consulting and support of companies. The LivingLab offers technical facilities of a multifunctional utilization for project-oriented education, discussion panels, video conferences, and the production and distribution of IPTV. The implementation of innovative media technology includes the following main parts and features:

1. Highly modern fiber optic network and serveral server services
2. Multi-functional media theater
3. Facilities for video conferencing and WebTV broadcasting (in planning)
4. Workstations for editing and post-production
5. Speaker room for audio dubbing
6. State of the art system for media-asset-management
7. Innovative eye-tracking laboratory for usability research

1. Highly modern fiber optic network and serveral server

The highly modern fiber optic network is implemented to conduct lectures, seminars, talks, keynotes or video conferences, and to broadcast these events via WebTV.
A special attention is attached bandwith of the network in the technical equipment of the “Planet MID“.Therefore fiber optic and CAT7 cables are laid troghout the building. At least eight network lines and two fiber optic lines end in each room. In the media theater there are 30 network lines installed.

The TCP/IP-network is managed over a 1Gb/s switch connected to a mutimode fiber optic bable. The system is protected by a firewall. From this firewall, there is a “scientific network“ with a bandwith of 100 Mb/s goes to different rooms in the building. Regarding different tasks, there are three seperate broadband networks. A first network for fast data tranfer and a second for all tasks regarding media technology (e.g.presentations, lectures). The third network is installed for “normal“ network services, e.g. web browsing.

In addition to the fiber optic network, there are a wlan network as well. The bandwith of the wlan offers fast internet access width 300 Mb/s.

Different server services for serval tasks are possible. Most important are the File- and FTP-Server services for project cooperations. Beside these services, there are Web-, DNS-, DHCP-Server services installed as well.

2. Multi-functional media theater

First of all it was and is a movie theater with circa 200 seats and a large cavas (8,80 x 5,0 meters). Different kinds of presentations (e.g. lectures, keynotes, or discussion panels) and screenings can be made in High Definition technology and over a Dolby Digital 6.1 soundsystem.
The media theater is designed for different tasks and events. Live mixing of image and sound is easily possible. An event can also be recorded by serval cameras. The signal can send to one of the workstations

Beside the media theater there are rooms of different sizes offering space for lectures and smaller workgroups. This rooms are usually equipped with a whiteboard and two 55'' inch LCD panels for presentations. The advantage of this solution is that LCD panels are much quieter and efficient.

3. Facilities for video conferencing and WebTV broadcasting

The facilities for video conferencing and WebTV are in planning.

4. Workstations for editing and post-production.

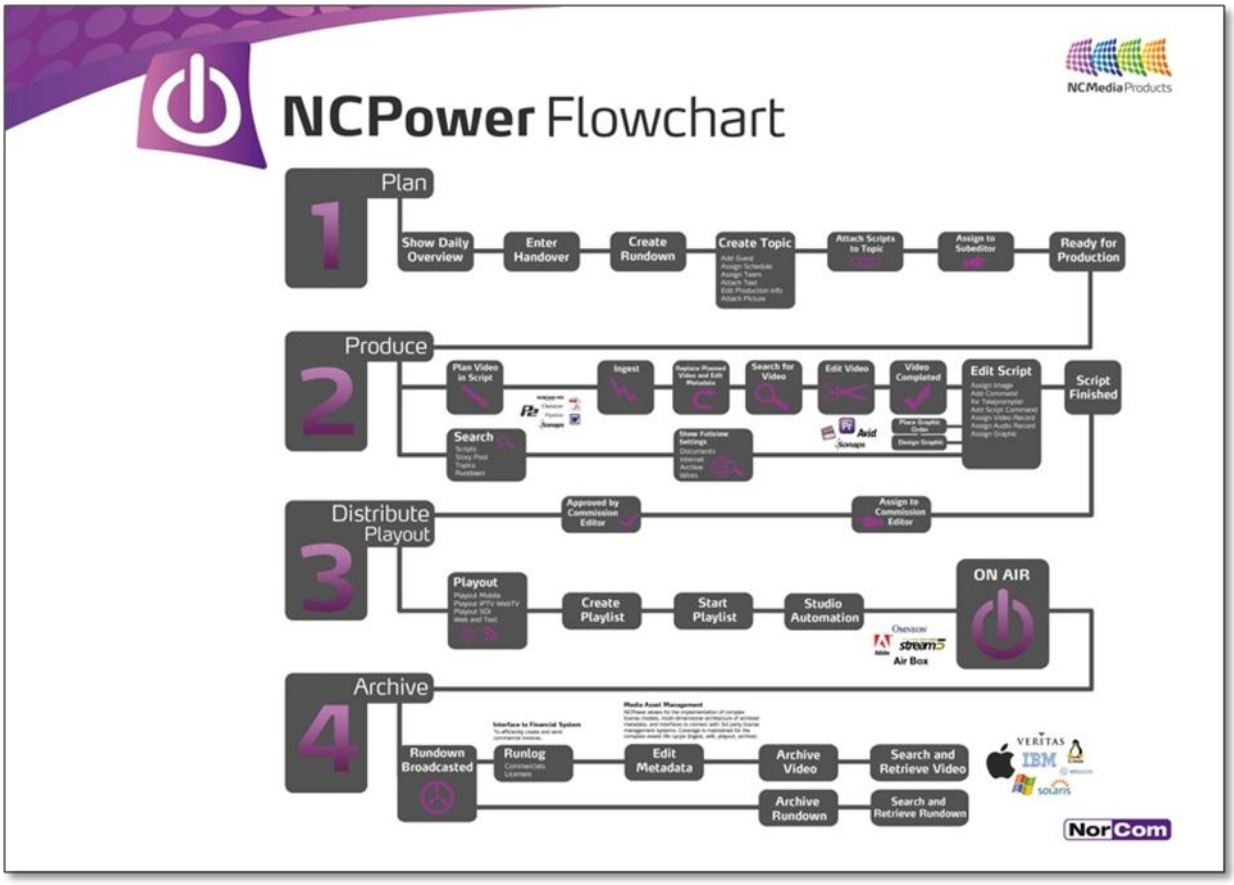
Workstations offer a project-oriented education to small student groups. There are different workstation depending on the type of the individual project. A high-powered MacPro offers all options from video editing in HD quality (Apple Final Cut Pro), Motion Graphics and compositing (Apple Motion and Adobe After Effects) or 3D animation (Maya). For smaller projects, all-in-one iMac systems are installed in separated production rooms.

5. Speaker room for audio dubbing

In addition to the workstations for editing, there is a speaker room for audio dubbing and production of audio material.

6. State of the art system for media-asset-management

Network based media-asset-management (MAM) is a key feature for all business areas in which a large amount of media files. To implementation a professional solution a IBM File-Server is installed server and a state of the art media-asset-management is setup. This system based on the the software solution NCPower by NORCom. This solution supports the entire broadcast process, starting with the search for video footage from a large variety of sources, the planning of the broadcasting of a channel. NCPower is basic software solution for TV channels like RTL, VOX, NTV, and N24.



In the LivingLab the MAM offers students professional work conditions (editorial office, newsroom, production and postproduction studios, and large broadcast stations). The complete professional workflow is covered: efficient digitalization and data transfer, archive for reliable storing of essences and metadata, modern workflow-based media production, and modern playout and distribution, e.g. broadcast, on-demand, pay-per-view, streaming, and podcast.

A highly automated transmission operation is possible because a number of programs and devices are linked together. Complex processes are easy to use and effective operation is possible.

7. Innovative eye-tracking laboratory for usability research

In the eyetracling lab is one stationary eyetracker and one mobile eyetracker, integrated in a baseball cap. With this technology by SMI a wide range of usability studies can be made. The eyetracking lab has two rooms, separated by a window. The first room is for the operator and a assistant. In the second room the proband is seated in front of the eyetracker. The separation is necessary for the quality of the results. The communication is via walkie talkie to exclude any influence of the proband. For further information there are specific case studies about usability studies in the fields of ehealth and journalism (Prof. Dr. Uwe Sander / Prof. Stefan Heijnk).

3 Conclusion and Implementation

The key feature of the technical environment of the LivingLab is not a specific one, it is the combination of all features and the possibility of the multifunctional usage. All technical features are located in one place, the E-CLIC LivingLab. The campus network over fiber optic network and fast wlan offers great opportunities for students, conference participants and collaborating business partners.