

Development of a synchronal mobile netTV media center for iPad and web-based video player

Case Study



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1 Executive Summary

Development of a synchronal mobile netTV media center for iPad and web-based video player.

Using broadband technology, the main objective is the preparation and development of an interface for synchronal distribution of content. The assets are stored in an open source asset management platform called „medianac“. This will be accomplished in cooperation with nacamar GmbH.

The technical base of the prototype is the new web standard HTML5. As a web application, the media center is and the included video player is optimized for iPad, but can easily be customized for other mobile or desktop devices.

The gateway allows synchronal video management for different devices and platforms and also a collective distribution workflow.

Media content will be offered fast and easy over the internet. Users of mobile or fixed devices take advantage of a high-modern distribution concept and have media content access anytime and everywhere they like.

2 Problem Statement

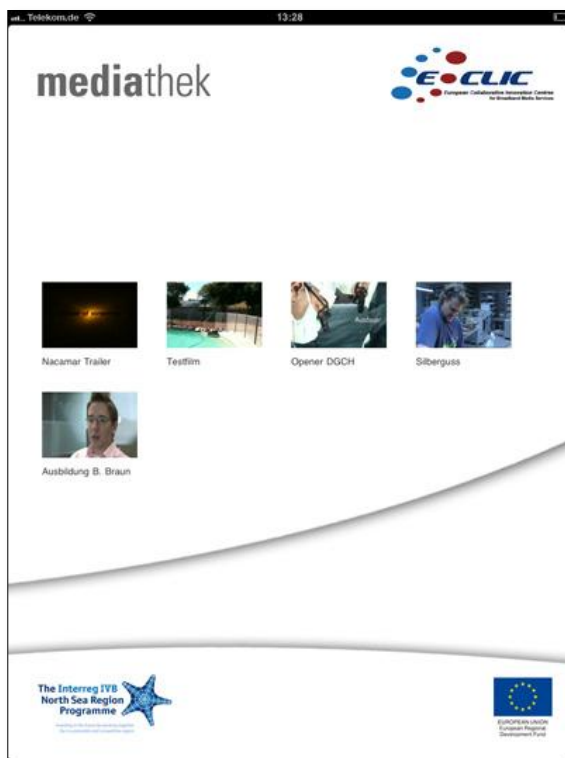
Unlike native applications for iOS devices, it should be possible to use the content on various platforms and on different stationary or mobile devices. The implementation of the prototype is a so-called “WebApp”. It has the potential of cross-platform distribution and easy adaptation for several objectives.

The adaptation of proprietary solutions to the corporate design of companies requires a high financial and technical effort. This is often a huge problem for many small and mid-sized companies.

For the implementation the following steps were realized as a prototype:

- Setup of an asset-management-system called “medianac” supported by Nacamar GmbH
- Development of an interface using XML- and Feed data
- Development of a HTML5-Template and a JavaScript-Framework
- Connection for reading feed data
- Designing an user interface

The design adapts with Cascading style sheets (CSS). To support the orientation of a mobile device, like Apple iPad, two different CSS-files can be addressed to ensure the exact layout for each orientation – portrait and landscape.



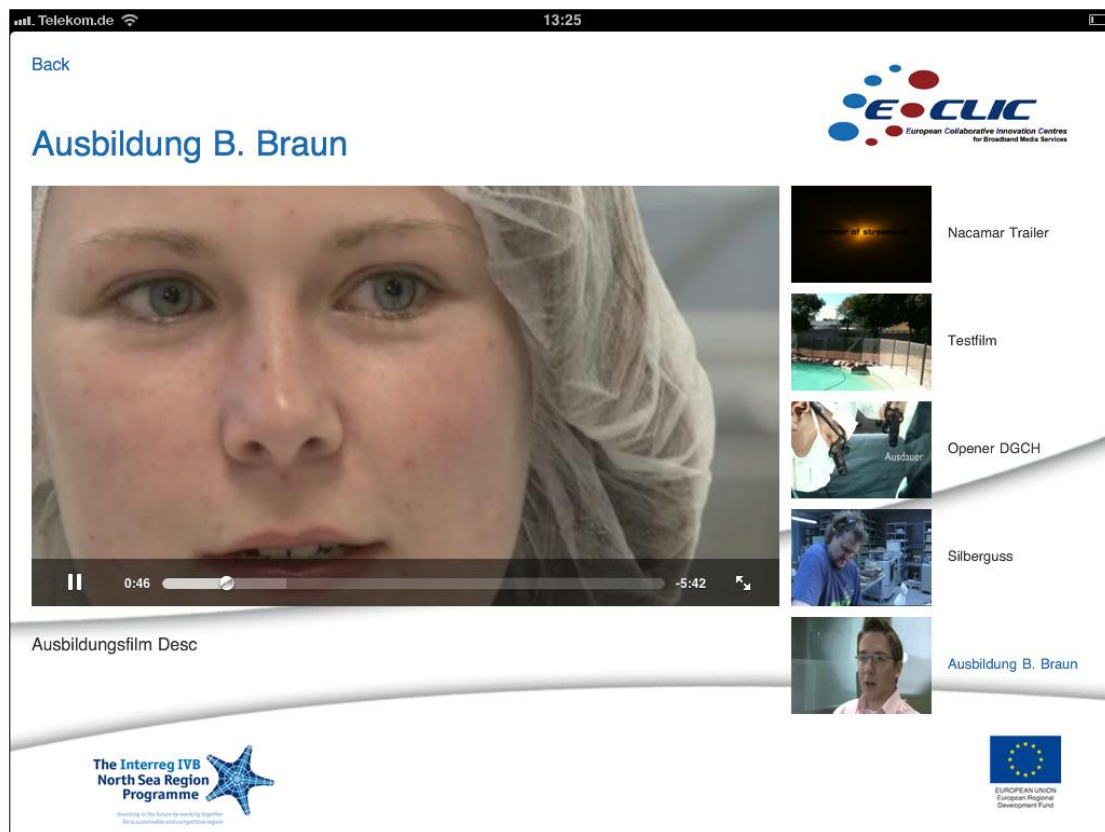
The prototyp uses two CSS-Files to support different Orientation of the iPad

3 Alternatives

An alternative to the WebApp technology are “native” apps. Native application are programmed for the concerning operating systems like iOS or Android. Because it’s a parallel development for different systems and devices, the implementation is a larger effort.

On the other hand, specific functions of operating system and hardware can only be used trough the native programming. So, the performance of WebApps can be lower than their native counterparts. This is dependent on the deposited JavaScript and the CSS files.

WebApps are written based on the new web standards HTML5, CSS 3 and JavaScript, and needs to perform only a compatible browser. The basic "look and feel" of a common iPad usage, may be implemented in a WebApp as well. WebApps are thus less dependent on hardware. More and more browsers and devices support these web standards, but the development is still in its infancy.



Contained within the embedded controls, the video can displayed in full frame mode.

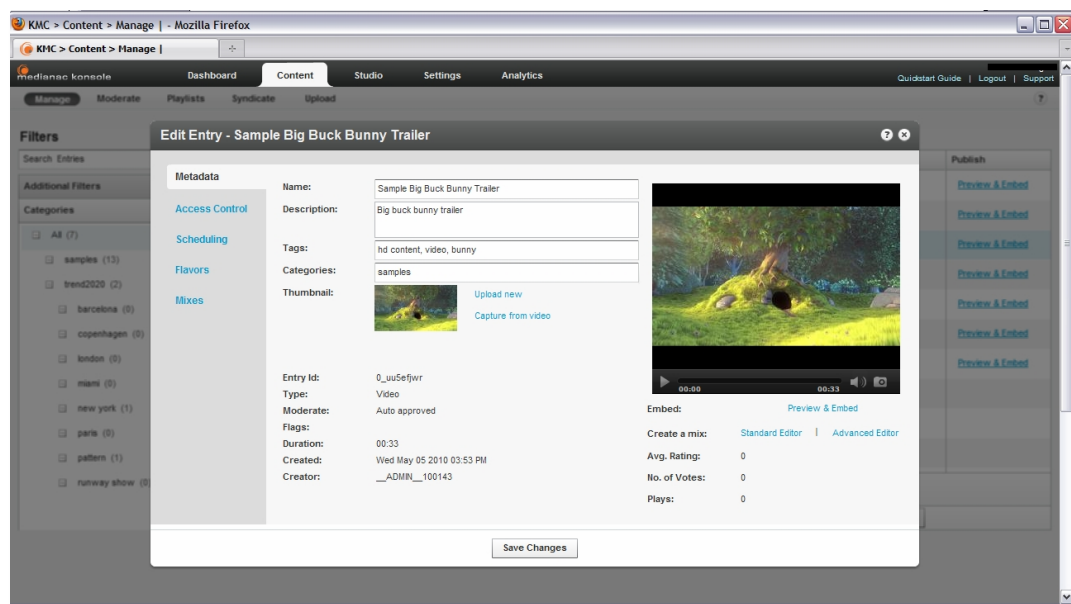
4 Conclusion

Advantage is that the media center in HTML5 can be represented on the specific adaptation to the PC, smartphone or TabletPC.

Important is implementation of different video formats and codecs used by the various HTML5-compliant browsers. The two main formats at this time are OGG and MPEG-4. The provision and encoding of videos for the WebApp media center must be handled through the asset-management-system „medianac“. Quintessential is implemented to provide for the Safari browser for iPad and desktop PC. Of course it can expand for Mozilla Firefox and other common browsers as well.

The update of the media files based on a feed from the „medianac“ – the asset-management console by nacamar. It is OpenSource and can easily customized for several projects.

To match this feed in real time, there must be a cross-origin header, that refer to the domain, that hosts the library. Alternatively, the files of the media center are on the same server as the relevant „medianac“ system.



The medianac console is completely open source. It gives the opportunity to upload, store and organize a large media center. Medianac can handle the encoding and has the ability for categorization and keywording of media content.

The connection to the internet is essential for WebApps. A question for a further development is, how do they deal with the contents of the media center, when there is no or limited connection to the world wide web? For example, can the user stores some favorites.

The prototyp can be installed on iPad via the following link and easily added to the HomeScreen (www.aronjungermann.com/videoplayer). Also, the application runs in the Safari Browser on a desktop PC.

5 Implementation

Application areas are in corporate communications, in the scientific and business communication and also in interactive television (IPTV, WebTV). The development of the new web standards offers great opportunities for cross-platform distribution of media content. In this case it is also an alternative to the Adobe Flash based media centers as a proprietary software solution. The combination of an Open source asset-management-system and a HTML5-Template, there is a quicker solutions for building customized media centers for several requests in business communication