Multi-Platform Application Toolkit Demonstration

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ABSTRACT

We will showcase the Multi-Platform Application Toolkit, an extensible platform for the simple creation of interactive multi-media applications for connected TVs. Developing HbbTV applications from scratch requires considerable resources and for this reason they are often simply too costly for single formats or shows to contemplate. MPAT provides WordPress plug-ins to allow content creators to create applications for connected TVs in a manner similar to the creation of WordPress based web pages.

The demo will showcase the basic MPAT system with the currently finished features and create a sample application from selecting a template and appropriate plug-ins to playout to a commercial HbbTV set-top box.

Author Keywords

MPAT; Multi-Platform; CMS; HbbTV; programme-related content; social media

ACM Classification Keywords

H.5.2. Graphical user interfaces (GUI), Screen Design, User Interface Management System (UIMS)

INTRODUCTION

The scenario assumed in the demo is that of a content creator at a TV station aiming to create an application to provide supplementary information to a TV programme. The information will be available via the 'Red Button' functionality provided by HbbTV based TV sets. This is the commonly used method for accessing an application directly related to the currently running TV programme when using HbbTV.

As HbbTV based TV sets devices are not used in the USA, the demonstration will use a DVB-S play-out system directly connected to a set-top box to emulate the broadcast chain available in wide areas of Europe.

BUILDING AND DESIGNING MULTI-PLATFORM APPLICATIONS VIA THE CMS

The MPAT uses WordPress as the editing interface. The advantage of WordPress is that it is already a popular system for creating small websites, so many content editors are already familiar with its structure and interface. It also provides support for adding templates and plug-ins, which allows us to extend the functionality and allow the provision of TV specific layouts and capabilities.

WordPress also supports different user roles, which allows the matching of the content creation workflow to the workflow favoured by the individual broadcaster.

In addition to support editing, content can be directly served from a WordPress instance, which makes it suitable as a 'one stop, stand-alone' solution for some use cases, such as this demonstration. In most real broadcast scenarios, however, the application will be exported from the WordPress as a Docker image and moved to a broadcaster specific playout system.

PUBLISH THE GENERATED APPLICATION

TV applications created with MPAT can either be served directly by the WordPress instance they were created on or exported and moved to a separate playout system. For the demonstration, we will, for portability reasons, use the same computer for the creation of the applications and the playout of the finished application.

As usual in 'Red Button' usage in HbbTV systems, we will multiplex a video stream with an AIT (Application Information Table) that contains a reference to the application server. In the demo, these will be played out locally via a DekTek DVB-S modulator. On a connected TV (in the demo scenario this will be a HbbTV capable DVB-S set-top box) the reference is resolved and the user is presented with a visual notification that additional interactive content is available. Pressing the red button on the remote control will either take the viewer directly to an application or an application overview portal, As the demonstration aims to showcase the overview module, the latter option will be shown. From the overview, the newly created application can then be selected and used.

Figure 1: Application in MPAT Editor

DEMONSTRATION

As a basic demonstration of the MPAT platform, we will create a small TV application from scratch, featuring video content and a live social media feed. This application will then be added to a 'Red Button' app portal page and published from the CMS, using the play-out system.

Depending on participant interest, available times and additional MPAT plug-ins and templates completed at time of the presentation, additional features can be added to the application to highlight the versatility of the toolkit.

ACKNOWLEDGMENTS