bogJS – A JavaScript framework for object-based rendering in browsers

Michael Weitnauer
Institut für Rundfunktechnik GmbH
Floriansmühlstr. 60
D-80939 München
weitnauer@irt.de

Michael Meier
Institut für Rundfunktechnik GmbH
Floriansmühlstr. 60
D-80939 München
meier@irt.de

ABSTRACT

With the introduction of HTML5 and the Web Audio API, an important prerequisite was made for native rendering of object-based audio in modern browsers. Object-based audio is a revolutionary approach for creating and deploying interactive, personalized, scalable and immersive content, by representing it as a set of individual assets together with metadata describing their relationships and associations. This allows media objects to be assembled in ground-breaking ways to create new user experiences.

This talk will introduce the open-source framework bogJS, developed by IRT (Institut für Rundfunktechnik) within the scope of the EU funded project ORPHEUS, which utilizes native nodes of the Web Audio API to realize such experiences. One aim of the development was to provide a flexible API that can be easily extended with different types of user interfaces and various representations of object metadata.

Another key aim of the framework is to offer different possibilities to access audio signals for the rendering by taking into account current drawbacks and limitations of browser such as the supported number of tracks in a media element, the ordering of decoded multi-channel tracks or synchronized playback issues.

Interoperability and implementation of current and upcoming standards, such as the ITU-R BS.2076 recommendation for a metadata definition model, will be taken into account and are currently under development.

Furthermore, first projects and demonstrations using the framework will be presented.

WEB LINKS

GitHub repository of bogJS: https://github.com/IRT-Open-Source/bogJS

ORPHEUS webpage: http://orpheus-audio.eu/