

Study Project (equiv. "Studienarbeit (SA)")



Title	Study Project in Multimedia Database Systems
Subject	Real-Time Audio Conversion and Format Independence for Multimedia Database Servers
Background	<p>Multimedia databases are designed to store and to handle large MOs. AV stream is a typical representative, but it can have many formats. In order to provide data independence between stored format and client-side desired format the conversion process has to be done in the real-time with the quality-of-service taken into consideration. It is desirable to support as many possible conversions as many different formats can be found, but it is also understandable that at the beginning not all formats can be implemented.</p> <p>DROPS is a real-time operating system designed at the TU Dresden in order to support real-time application with quality-of-service requirements, especially continuous-media applications.</p> <p>This work supports RETAVIC project (http://www6.informatik.uni-erlangen.de/retavic/).</p>
Task	<p>At first someone should analyse and understand the audio standards - the most important are newest compression and decompression algorithms (MP3, AAC, AAZ, ALS, etc.). Secondly, the RETAVIC architecture should be recognized and the audio part, analogically to video, shall be evaluated and extended if required. The DROPS architecture and its streaming interface (DSI) should be clearly intelligible. Then considering properties of the DSI/CSI specification the audio lossless and layered format should be implemented/proposed with the respect to real-time and quality-of-service support (extensions by meta data set supporting RT processing).</p> <p>If possible, the open source implementations could be used as our base source code. Otherwise, proprietary format may be employed as an input for RT implementation, however then scientific free-licence should be requested for our Database chair.</p>
Requirements	<p>good knowledge of English interest in multimedia area, especially in audio coding/conversion very good knowledge in "C"</p>
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