status: proposal, in preparation

Advanced Multimedia Technologies

lecturer: dr. A. Eliëns

credits: 6 etcs / 4 stp

content: The course aims at providing detailed knowledge of the technologies available for high performance multimedia applications. We will look at requirements for high performance multimedia applications, including multimodal interfaces, digital archives for cultural heritage, gaming and edutainment, and multimedia applications for mobile devices. In general, such application require 2D and 3D graphics, streaming media (audio and video), possibly speech input and output, and precise synchronisation between these media types, There are a number of technologies that may be used for the development of such applications, including MPEG-4, DirectX SDK 9.0, the Java Media Framework. Open Scene Graph, and OpenML, the me.ia extension for OpenGL. For speech synthesis and recognition we have Microsoft Speech SDK 5.1, and for augmented reality applications the AR Toolkit. In addition, there is a wide variety of tools for the production of multimedia applications, some of which allow for customization with user-created plugins or SDKs. Examples of such tools are Maya, for animations and games, and EON Studio, for industrial applications.

In the course we will study a selected number of these technologies in more detail, to acquire sufficient knowledge of available tools and APIs for future practical projects. Active participation of students is required, both in the selection and presentation of material.

method: caput college, with presentations from students

examination: presentation, technical paper and contribution to common assignment

target audience IN4,5, MMC4 (optional), interested students

url(s)

- MPEG4 – www.m4if.org
- DirectX 9 – www.microsoft.com/windows/directx
- Java Media – java.sun.com/products/java-media
- Open Scene Graph – www.openscenegraph.org
- OpenML – www.khronos.org/openml
- Maya – www.alias.com
- EON – www.eonreality.com