

Course and curriculum development for Creative Technology	
Title: NM4: Virtual Environments Date: 25/4/08	Author: A. Eliëns Version: 0.8
Course name	NM4: Virtual Environments
Study load	6
Semester	1
Contents	<p><i>The course introduces virtual environments, more in particular 3D virtual environments, such as deployed for online games and communities, as well as for scientific data visualisation. The course will focus on open standards for web 3D, that is X3D and VRML, and also discuss extensions to flex / as3 for developing 3D immersive applications, such as Papervision3D. .</i></p> <p><i>Recommended literature: X3D: Extensible 3D Graphics for Web Authors by Don Brutzman, Leonard Daly, The Morgan Kaufmann Series in Interactive 3D Technology, 2007</i></p> <p><i>Online reference(s):</i></p> <ul style="list-style-type: none"> - http://www.x3dbook.com/slidesets - http://www.web3d.org - http://blog.papervision3d.org <p><i>Remark: It will be investigated whether and under what conditions it is possible to use the Utwente VR facility, the T-XChange-Cell for the course:</i></p> <ul style="list-style-type: none"> - http://www.txchange.nl
Prerequisites	MA1, CS1, CS2, NM1, NM2
Goals and attainment targets	<p><i>The course aims at providing</i></p> <ul style="list-style-type: none"> - <i>awareness of technologies for networked 3D virtual environment</i> - <i>familiarity with 3D display technology, shaders and visual effects</i> - <i>fluency with scripting dynamic behavior in 3D virtual worlds</i> - <i>full literacy with building interactive X3D/VRML applications</i> <p><i>Students are expected to have a sufficient degree of craftsmanship, and will be stimulated to create visually appealing</i></p>

	<i>environments, with intriguing narratives.</i>
Course and curriculum development for Creative Technology (continued)	
Course name	NM4: Virtual Environments
Place in curriculum	<i>NM4 is an introductory course in virtual environments for NM students. It builds on NM2, where animation was introduced in a 2D context. It must be regarded as a prerequisite for NM5, in which game development is the topic, and as the technical background for CA3: Hybrid World(s).</i>
Application area, motivating examples	<i>Online Virtual Communities have a long history, and recently became popular by online role playing games such as World of War Craft and Second Life. Also (web) 3D has gained a respected place in online product demos and infotainment.</i>
Teaching methods	<i>The course will be organised around lectures, which will introduce basic examples and which will provide an in-depth explanation of the technologies. The assignments will consist of a series of basic exercises and a final exercise in which the students are required to develop a moderately complex interactive 3D application. Regular feedback will be given in classroom sessions where students present their work as well as via online comments or email. Grading will be based on basic assignments, the final assignment project with documentation, as well as an essay in which a topic of choice, either technical or in relation to graphics programming and visual effects, is discussed in more depth.</i>
Nr of participants	
Special facilities	computer lab & presentation facilities

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