

## Online Educa Berlin 2007

# Enabling Teachers in Higher Education to Develop their Own Simulations: The Virtual City of Cyberdam

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## Welcome to Cyberdam

Welcome to Cyberdam, the Dutch virtual city with its history of 12 centuries, its old city centre, its variety of old and new neighbourhoods, its industrial area's, inland harbour and its surroundings with their interesting social and economic potentials. This city is populated with about one hundred firms, institutions, government agencies and households.

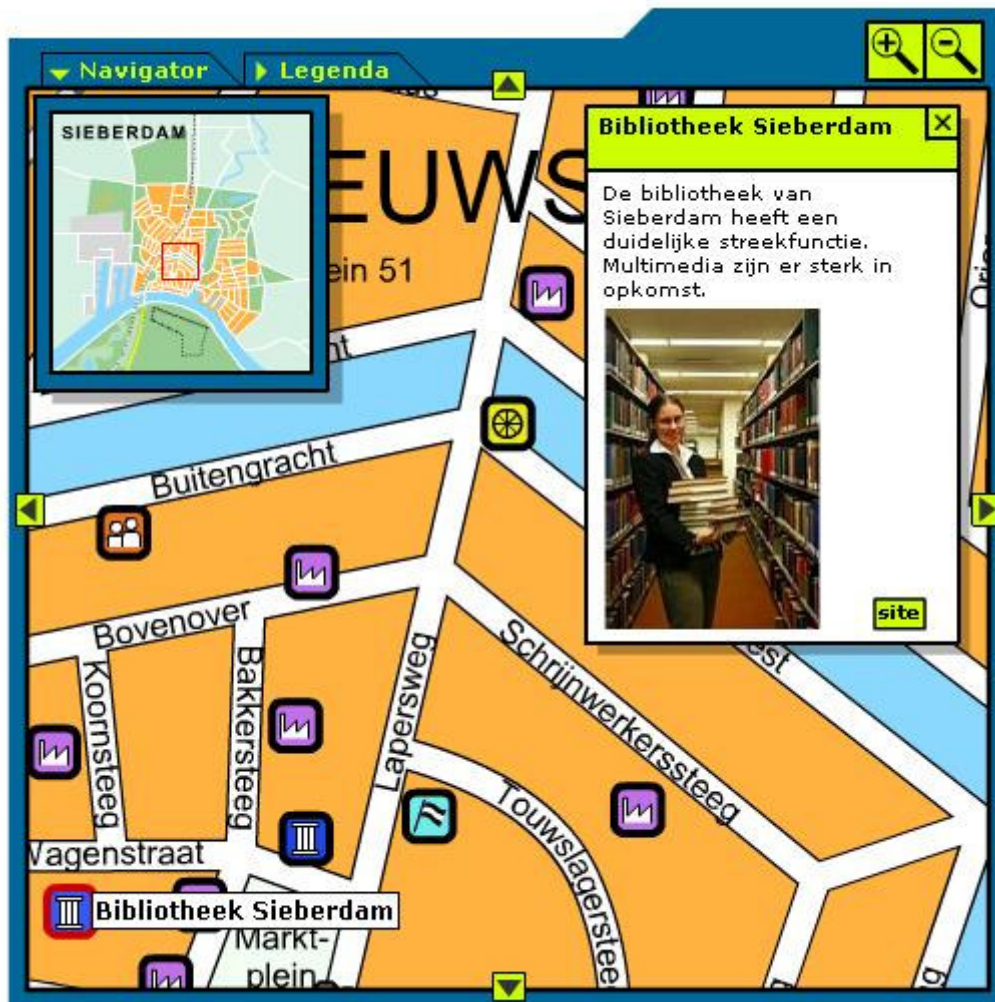


Figure-1: The interactive city map of Cyberdam.

Teachers and lecturers from different disciplines send their students to the virtual city of Cyberdam. There the roles of burgomaster, shopkeeper, nurse, lawyer, or one of the other inhabitants are allocated to them. They receive a briefing on the goal they have to reach, and then it's up to them to proceed. Via their Internet

browser they have access to their "dashboard" where they can read their instructions and send and receive messages to and from other roles. These other roles are played by their peers, maybe by their teacher or even by an external expert. As the game session proceeds, the instructions may change. The game session ends when time is up and/or the goal has been reached. Cyberdam illustrates the potential of multi-user online gaming for education and training [Van der Hijden et al., 2006].

Session: Voorbeeld  
SPAM Case — Case # 1

## Session Home

You are [Superpharma](#) (firm)

**Current State:** begin

**Your Options**

- [Session Home](#)
- [Messages \[0\]](#)
- [Tasks \[1\]](#)
- [Portfolio](#)
- [Sieberdam Map](#)
- [Yellow Pages](#)
- [Sieberdam History](#)
- [About this simulation](#)
- [Notifications](#)
- [Simple Help](#)

**Contacts**

- [Direct Contact](#) (supplier)
- [Access4EveryOne](#) (big client)
- [Mw. Klaassen](#) (small client)
- [Inspecteur voor de Gezondheidszorg](#) (authority)
- [Docent](#) (facilitator)

**Recent Messages**

From	To	Subject	Received	Attachments
No messages.				

→ [All messages...](#)

**Tasks**

Task
<a href="#">firm may send request to authority</a>

**Document Portfolio**

Document	Upload date	Mime type	File size
There are no documents.			

Right-click document name and select "Save as" (or equiv.) to download a document to your computer.

Figure-2: The Cyberdam game session home page ("dashboard").

As participants do not have to be online at the same time, a typical session with a Cyberdam-game may take a whole week, while the actual playing time for each participant may be only a couple of hours. One of the game sessions took an elapsed time period of 5-7 weeks with classroom sessions once a week. These face-to-face sessions were used for inter-role meetings and other synchronous activities like mini-critiques. During the week, the students participated online in an asynchronous way again [Van der Hijden, 2005].

The Cyberdam-system comes with an interactive 2D city map giving access to background information on each of its inhabitants, like a "Yellow Pages" directory and underlying web sites. Teachers can develop their own games by defining roles, steps-of-play and instructions. The software offers the tools to start (parallel) game sessions, to monitor them and to intervene when necessary.

## Backstage

The free and open source package Sieberdam/ROCS, now called Cyberdam, was first released in December 2004. During 2005 and 2006 it was applied in three different projects, involving about 15 educational institutes at various levels and representing a variety of disciplines. Especially the KODOS-project led to systematic

evaluations. They showed that the participants (higher education students) were not video gamers by nature, as often was expected. Their appreciation for the system was just about sufficient and many points for improvement were mentioned. Nevertheless, most of them liked the new mode of learning and they praised the improved student/teacher interaction, especially during the face-to-face sessions [Bekebrede, 2007]. A close look at the first generation of Cyberdam games revealed that the teachers who developed them only used a limited set of the available system functions while they filled a wish list with new functions. Further, the technical platform chosen turned out to be not very robust. To conclude: Cyberdam 1 was a promising concept, but a critical review and reconstruction effort was desirable.

The Cyberdam 2 project is now under way (2007-2009). It will improve the Cyberdam-software, develop 25 new ready-made Cyberdam games and establish an organisation to keep Cyberdam safe and sound in the future as well. A variety of higher education institutes, a publisher and a software house are involved in this ongoing project.

## Teachers at work

A teacher can work with a Cyberdam-game in four different modes: 1. developing a Cyberdam game (preferably as a team), 2. adapting an existing game, 3. running a Cyberdam game (starting sessions, acting as game master), and 4. playing a role in a game session.

The most complex of these modes is the first one: developing a Cyberdam game. To make this manageable we strongly advise to subdivide the development effort into four subsequent phases: a. a definition phase to analyse the objectives and define the requirements the new game has to meet, b. a design phase, to specify the game in detail, c. a realisation phase, to prepare all the materials and to enter the game into the Cyberdam-system, d. an implementation phase to transfer the game to the organisation that is going to use it.

The project is developing tools and techniques to support the teacher in each mode of operation and in each of the phases of the development process.

## Credits

Ardcalloch by Paul Maharg [Maharg, 2003] inspired the VSNU Program RechtenOnline to fund (2003-2004) three projects aimed at the development of a Dutch equivalent: 1. the Dutch virtual City of Sieberdam, 2. the e-learning suite for asynchronous workflow based group simulations ROCS, and 3. the integrated Sieberdam/ROCS [Holzhauer et al., 2004]. Rudi Holzhauer (project management, content authorship, and design), Martin de Wit (Flash programming), Willem Mieras (visual design), and Sander Gellaerts (student-assistant) developed Sieberdam. Aernout Schmidt and Jeroen Leijen (project management and design), Lokman Tsui (design), Peter van Schijndel (design), and Collaboraid ApS København (software development) developed ROCS. Pieter van der Hijden (consultant to both projects) integrated Sieberdam and ROCS into Sieberdam/ROCS and extended the system (project management and design), together with Jarkko Laine (software development) and the former Sieberdam and ROCS project teams [Van der Hijden, 2004]. The Dutch Stichting RechtenOnline (Foundation Law Online) now is the owner of the product.

During 2005 and 2006 Sieberdam/ROCS was applied in three different projects: 1. SURFfoundation sponsored the KODOS-project [Mayer et al., 2007], 2. Senter/Novem the ISOSIM-project and 3. Digitale Universiteit the Virtuele Wijk (Virtual City Quarter) project [Van Haaster, 2007].

The owner of Sieberdam/ROCS, the Dutch Stichting RechtenOnline (Foundation Law Online) successfully won a competition organised by the Dutch government program M&ICT (Social Sectors and ICT). From January 2007 - June 2009 it will execute the project called "LieVW - Leren in een Virtuele Wereld" (Learning in a virtual world). This project renamed Sieberdam/ROCS to Cyberdam. It aims at Cyberdam 2: improving the Cyberdam-software [Van der Hijden, 2007], developing 25 new Cyberdam games and establishing an organisation to keep

Cyberdam safe and sound in the future as well. Project managers are Diny Peters and Pieter van der Hijden. Project partners are: E-Merge, Hogeschool Rotterdam, Hogeschool Utrecht, Strathclyde University Glasgow, Delft University of Technology, Universiteit Leiden, Thieme Meulenhoff (publisher) and IJsfontein Interactive Media (software house).

All results will become available as free and open source software under BSD license.

## References

All information on Cyberdam and its predecessor Sieberdam/ROCS (including links to Cyberdam user manuals, both in Dutch and in English) can be found through the Cyberdam website: <http://www.cyberdam.nl>.

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