

„physik multimedial“

Teaching and study modules for physics as a minor subject

East Lansing, June 2002

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The talks

- Overview : Julika Mimkes
- LiLi: Saskia Tautz and Ulrike Neemann
- Maths: Isabell Schaffer
- Metadata: Christian Schöne
- Evaluations: Frank Kühn (Potsdam)

Overview

- General information about the project
- Oldenburg's functions
- The ISN (Institute for Science Networking)
- Conclusion

General Conditions

- One of about 100 projects of the program „Neue Medien in der Bildung“ of the German Ministry of Education and Research (bmb+f)
- 5 locations in northern Germany: Oldenburg, Bremen, Hamburg, Rostock and Greifswald
- Budget: ~ 2 million US \$
- timeframe: 4/1/2001 – 12/31/2003



- ▶ Startseite
- Projekt
- Aktivitäten
- Beteiligte
- Publikationen
- Tagungen
- Links
- LiLi
- Stellenangebote
- Aktuelles



physik multimedial - Lehr- und Lernmodule für das Studium der Physik als Nebenfach

Ziel des Vorhabens ist der Aufbau eines strukturierten Angebots von Multimedia-Modulen, die didaktisch und methodisch auf die Lehre und das Studium der Physik als Nebenfach abgestimmt sind (Physik für Studierende der Chemie, der Biologie, der Elektrotechnik usw.). Die Module - multimediale Skriptbausteine, Visualisierungen, tutorielle Selbstlerneinheiten, virtuelle Labore - können von den DozentInnen flexibel in unterschiedliche Veranstaltungskonzeptionen eingepasst werden und stehen gleichzeitig den Studierenden zum Selbststudium zur Verfügung.

The Purpose of the Project

- What?
The development of the structured proposition of multimedia modules
- How?
Lecture components for instructors
Self – study units for students
Exercises
- For whom?
Students with physics as a minor subject

Coordination and Evaluation

- Coordination: Horst Schecker of the Institut für Didaktik der Physik der Universität Bremen
- Evaluations :

Jürgen Petri of the Institut für Didaktik der Physik der Universität Bremen

Helga Knopf from Didaktik der Physik der Universität Rostock

(e.g. internet-competence and physics-knowledge of students)

Modules (1): self-learning units

- self-contained formulation of the subject matter
- as a preparation for experimental laboratories
- thematically defined

„Oscillations and Waves“ (group of Mr Ryder, University of Bremen) ([online](#))

„Theory of errors“ (group of Mr Wilke, University of Greifswald) ([online](#))

Modules (2): Exercises

- Database for the registration and distribution of exercises
- individual parameter are produced for quantitative exercises
- individual feedback und support for the student

Development: Group of Mr Schick, University of Rostock

([Online](#))

Modules (3): Lecture components

- Database with information for lecturers about multimedia components
- descriptions and evaluations
- didactical details

Group of Mr Rackwitz, University of Hamburg

Partners:

- Fachhochschule Gelsenkirchen:
Counselling
- Universität Potsdam, Institut für Physik: Evaluation
- Technische Universität Berlin, Institut für Fachdidaktik und Medien: „[Interaktive Bildschirmexperimente](#)“
- Universität Düsseldorf, Physikalische Grundpraktika:
Evaluation
- San Diego State University:
Projekt „Constructing Physics Understanding“

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Sub-project in Oldenburg

Institute for Science Networking Oldenburg GmbH

an der Carl von Ossietzky Universität Oldenburg

Prof. i.R. Dr. Eberhard Hilf

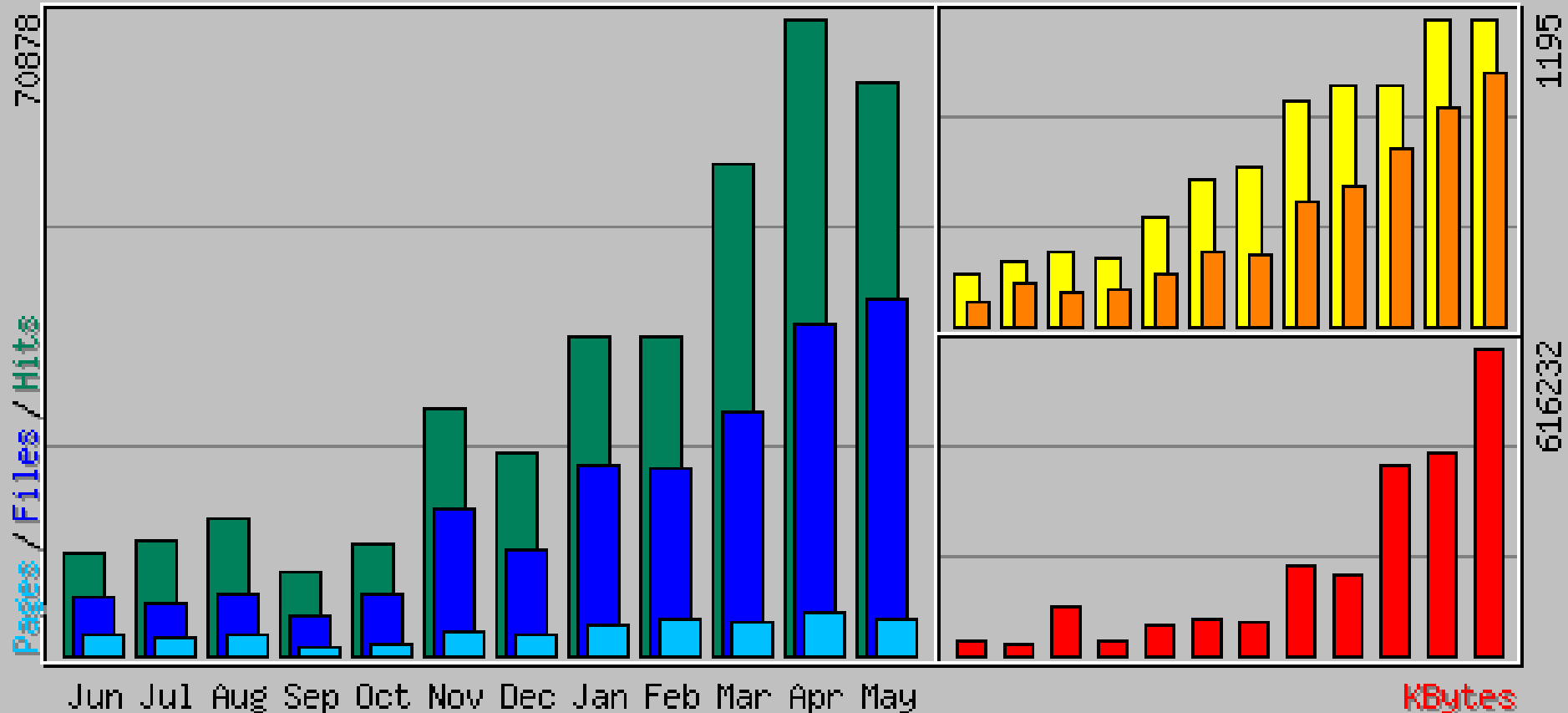
- scientific staff: Julika Mimkes
- design: Andreas Piehl
- assistants: Ulrike Neemann, Isabell Schaffer, Christian Schöne, Saskia Tautz

Oldenburg's functions

Development of a server

- for the representation of the project
- as a communication platform for the project
- as a portal to the modules and to the course management

Usage summary for www.physik-multimedial.de



More functions:

- The physics` link-list database LiLi \Rightarrow talk of Saskia and Ulrike
- The self-study unit „trigonometrie“ \Rightarrow talk of Isabell
- The project`s metadata \Rightarrow talk of Christian
- Do certain female students have special needs?
- Monitoring
- Distribution of the results of the project

The portal

- from here, the different modules will be assessible
- is providing
 - teachers with tools to create virtual supplements for their lessons
 - students with information and material about their course
- is under construction
- we have started with the structure and the layout



Name der Veranstaltung: **Herstellen von Lehr- und Lernmaterialien**



Startseite

Kurse

Medien

Module

Aufgaben

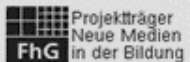
Didaktik

Service

Abmelden

▲ Seitenanfang

Startseite | Kurse | Medien | Module | Aufgaben | Didaktik | Service | Abmelden
Forum | Technik | Profil | Projekt | Kontakt | Suchen



Sie sind als **Dozent** angemeldet.

gefördert durch das

The platform

- After a long search and an expertise we decided to use „Campus Virtuell“ which was developed by students of the University of Oldenburg and established in several departments
- People from CV are installing and adjusting this platform for us
- the platform is based on PERL and MySQL and running under Linux / BSD

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The Institute for Science Networking Oldenburg GmbH

- Direction: Prof. Dr. Hilf
- most members are
physicists

main projects are:

- [PhysNet](#) (EPS),
- [MareNet](#),
- Open Archives: OAD



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Conclusion

- „physik multimedial“ is creating modules for the education of physics as a minor subject
- Details of Oldenburg`s tasks are going to be presented to you by Saskia, Ulrike, Isabell and Christian
- Visit our homepage:

<http://www.physik-multimedia.de>