

Computer Science and Media at Hochschule der Medien, Stuttgart

This is an overview of computer science and media at Hochschule der Medien, Stuttgart. Please visit the official homepage as well. The goal of this short presentation is to outline ways for cooperating with the industry.

Overview of CS&M

1. **Faculty**
2. **Ranking**
3. **Philosophy**
4. **Research focus and Projects**
5. **Easy Ways to Cooperate with Industry Partners**

Faculty

CS&M has been founded in 1998. It currently includes 10 permanent professors, 7 lab engineers and assistants and a number of specialists for research projects.

Responsible for the curriculum etc. are Prof.Dr. Ihler and Prof.Dr. Hinkelmann.

CS&M has close relations to a number of universities like FHTE Esslingen and TU Karlsruhe and participates in joint research projects.

Students currently study either for a diplom or - beginning in 2004 - for a bachelor or master of science degree in computer science and media. Both bachelor and master have been fully accredited.

The faculty owns a number of computer labs and special equipment for computer animation etc. Electronic lab, TV and audio studios and other multi-media equipment is also available to students.

Associated with CS&M is a Steinbeis Transfer Center "Mobile Communication and Embedded Systems" headed by Prof.Dr. Schmitz.

Top level industry specialists give additional lectures and workshops at CS&M. (Mainframe engineering and Open Source Technologies, Karl Klink (IBM), Architecture and Methodology, Bernard Clark (IBM GBS), Project Management and Consulting, Dr. Markus Iwanowski (bluecarat), Model-Driven-Testing and System Concepts, Claus Gittinger (eXept AG) and others.

Ranking

CS&M has been ranked by Zeit/CHE in 2006. Together with FHTE Esslingen and FH Wedel we are in the top position in the category "technical computer science". Read more on the largest ranking in the german-speaking countries by CHE/Zeit [http://www.hdm-stuttgart.de/view_news?ident=news20060516120207]

Philosophy

About 40 students begin their studies each term at CS&M. Students can later specialize in either system or software technology but the distinctions are kept small on purpose. We want students to get a broad education in computer science.

At the core of CS&M are two beliefs:

The first one states that our students are our most important capital. They need to be encouraged to take risks and develop their abilities to the fullest. An atmosphere based on trust is an absolute requirement for success. The second belief is that CS&M needs to be based on a regular computer science curriculum. Students need to be able to work as software engineers, network specialists etc. later on and that is in fact what many of them do. Of course if a student wants she can specialize on media technologies as well. Those include both technical and content oriented topics.

We think that our basic beliefs contribute a lot to our 100% employment rate of our alumni.

Another important part of our philosophy is to be open with respect to other faculties. We have development strong and good relations with colleagues in the areas of usability, project management and economics. Our students can write their thesis in any of those areas as well. We have seen a number of excellent works e.g. in the area of usability and HIC design. Here our students combine their technical know-how in computer science with concepts from social sciences.

Research Focus and Projects

- Mobile Technology** Bluetooth, WIFI etc. are parts of our research in the area of mobile systems. Prof.Dr. Maucher heads a research project "ambient intelligence" - a cooperation with TU Karlsruhe and partners from the industry.
- Security** Network and Software security are a core topic. CS&M owns an internet security lab where students can learn about war driving, VPNs etc. Jochen Bauer - a well known security specialist runs this class.
- Model-driven development** A strong focus on modeling (e.g. with UML2.0) and advanced generative and interpretative technologies. requent workshps on the topics of MDD, Testing and Quality etc.
- E-learning** Advanced knowledege-management technologies are a research focus at HDM and CS&M

Note

Please get in touch with us if you want to be a partner in research and development projects.

Easy Ways to Cooperate

1. **Software-Technique Projects**
2. **Thesis Work**
3. **Internships**
4. **Workshops, talks and open lectures**

The basics on Software-Technique Projects

1. Regular class during one term. A professor is available for mentoring.
2. Companies can provide topics for research and/or development at no charge. They can present their ideas at the beginning of a term.
3. Groups of students pick a topic and start research/development - in close cooperation with a company
4. At the end of the term all projects are evaluated and presented.

The results of those SWT projects are usually very good because the students have a strong background in software development techniques and networking. Examples of projects include: Bluetooth hacking, development of a complete data collection application for mobile users, robotics, wireless door systems, car data collection and transmission via GSM, computer animations and re-engineering projects of large scale applications with respect to usability and ergonomics.

Note

All it really takes for a company to participate here is to come up with a project idea and to get in touch with us (e.g. via the homepage of Prof. Kriha [<http://www.kriha.org>])

The Basics on Thesis Work in the Industry

1. **Students can do their Thesis work together with industry partners.**
2. **For a diplom thesis a student usually makes a 6 month contract.**
3. **Currently many companies use thesis work for prototyping and research/development work.**
4. **Out partners include Daimler, Daimler-Fleetboard, Bosch, IBM R&D lab, Alcatel, Softlab, UBS and many others**
5. **In many cases we enter into a long-term partnership with companies. Thesis work is then planned to work continuously toward a larger goal of both the industry partner and CS&M**
6. **Examples: Building generators for J2EE application development, semantic protocol definition for home device configuration, intrusion detection systems, modeling of buildings for cave use etc.**

The Basics on Internships

- 1. Students need to do an internship of at least six month length in the industry**
- 2. Students are encouraged to to an internship in a foreign country. (Australia, Singapore, Scotland etc.)**

The Basics on Workshops, Talks and Open Lectures

- 1. Every Term CS&M runs a couple of workshops on different topics, e.g. Model-Driven Development, Quality and Testing, mainframe technology, IBM Hochschultag. The workshops are usually free of charge or for a nominal fee. Watch the HDM homepage [<http://www.hdm-stuttgart.de>] for announcements or get yourself registered with a mail to Walter Kriha (mail address at www.kriha.de)**
- 2. Every term CS&M runs a weekly talk on current topics in IT and computer science. This is a perfect opportunity to present the work done at your company to students. Lots of thesis and internship contracts result from those talks as well. The talks are open to the public and free of charge.**
- 3. Many lectures/classes (e.g. on generative and interpretative technologies) are open to interested partners in the industry. Contact the Prof. in charge of the lecture.**

The Media Night at HDM

At the end of every term HDM presents the so called Media-Night: An opportunity to see all projects which have been developed during this term. It is a perfect chance to meet staff and get an overview of not only computer science projects. Movies, theater, computer animation, print media and other media related projects are on display.