DaVismo = Data Visualization and Student Mobility
Master's Project for summer term 2009 and winter term 2009/2010

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"Data Visualization and Student Mobility" will be a collaborative effort by the University of Bremen and the University of the Arts Bremen. Applicants for our joint Digital Media Program with an interest and academic background in Media Design will be enrolled at the University of the Arts and will be awarded the degree Master of Arts (M.A.); applicants for our joint Digital Media Program with an interest and academic background in Media Informatics will be enrolled at the University Bremen and will be awarded the degree of Master of Science (M.Sc.) upon successful completion of the program. The intention is to bring together both media informatics and design in a challenging, interdisciplinary project. We hope that you, our future students, will contribute your own specific or typical experiences with issues of student mobility and apply your wide variations of skills and backgrounds for an exciting learning experience and innovative results of "Data Visualization and Student Mobility".

Abstract

This project combines the design and the software development for complex data visualization in specific application contexts. Data or information visualization is an interdisciplinary field. It requires knowledge from user-centered design and innovative interface design as well as from software development, database systems and statistics. The more data becomes available, the more effort will be put into their visualization and into appropriate interfaces in order to gain new insights. The intention to generate and support knowledge in this context must be based on critical reflection. Issues of privacy and surveillance, benefit and misuse will be addressed. But the ultimate goal is to support analytical processes. This has become an art itself.

In order to keep a focus, we suggest a specific application domain in which the project team members can play with data: international student mobility. Since the introduction of the EU Erasmus Program, 10,000 of European students took the opportunity to study away from their home university. Additionally, German universities are as attractive to international students as international (non-European) universities to German students. The exchange programs are usually managed by International Offices who have collected a significant set of data. We know the number of incoming and outgoing students broken down by
* Institution (home / away),
* Country
* Faculty and subject
* Language
* Gender etc. etc.

Taking this data, we will develop a web-based data visualization tool that allows interactive data analysis.
The research topics can develop from the following core questions:
* How can interactive data visualization be developed in a user-oriented way and
* How can we evaluate complex data visualization interfaces?

Some of the more specific questions within the context of our focus are:
* What are exchange student's needs, problems, challenges?
* What are administrator's needs, problems, challenges?
* How can relevant data be generated?
* How can the knowledge be made accessible?
* How can issues of benefit and misuse be dealt with?
* ...

For students at the University of the Arts Bremen the focus will be on user requirements analysis, design and evaluation of innovative user interfaces.
For students at the University of Bremen the focus will be on system requirements analysis, specification, development and evaluation of a prototype or simulation.
Both project groups will frequently meet in joint sessions as well as work independently.

Learning Objectives
* Learning about requirements engineering for digital media systems
* Learning about design standards and methods for creating innovative user interfaces
* Learning about data visualization and appropriate tools (such as the open source software "Processing" (http://www.processing.org))
* Learning about evaluation methods
* Working in interdisciplinary, multi-cultural software development teams, learning about project management,
cooperative work and participatory design