Title of course	HMI(human-machine interaction)
Responsible instructor	Prof. Dr. Englmeier
Learning objectives	Knowing/Perceiving: Students learn essentials in cognitive science as the basis of human-machine communication, which, in turn, provide the theoretical basis for the successful design of user interaction. They deal in particular with the user and task analysis. Applying: The theoretical knowledge guides the students in developing user stories that serve as blueprints for the user interaction. The course emphasizes the implementation of interaction in different environments using, for example, the description language for user interfaces in mobile applications (XAML etc.). It outlines in particular the role of natural language in interaction. Analysing/Evaluating: Students develop in teams concrete user interfaces for different tasks. According to the task and user analysis they set up objectives, that are validated in the actual implementation. Synthesizing: The result of the course is manifested in a course-wide project that involves the development of an application with a high degree of user interaction. Application development is thereby broken down into smaller work packages. Each team (two or three students) assumes a work package, organizes its individual tasks, and contributes to the management of the overall project. The self-empowered organization of the project work also includes explorative learning
Course contents	1. Basics • Essentials in Cognition • Basic Information Retrieval (IR) concepts • Regular Expressions • XML 2. User Analysis • How to Define Users and Tasks • Mental Models • Development of User Stories 3. Design, Implementation • GUI controls • XAML • GUI Development in Different Environments 4. Evaluation • Usability Principles • Methods
Teaching methods	Lectures supported with multimedia courses offered by ACM. Workshops, team cooperation
Prerequisites	Solid practical programming skills
Suggested reading	▪ Carroll, J.M.:" Human-Computer Interaction in the New Millennium", ▪ ACM Press, New York, 2001. Cohn, M.: "User Stories Applied", Addison-Wesley, 2004. ▪ Online Courses of ACM addressing User Stories und User-Centred Design

Applicability	Master Applied Computer Science
Workload	Total 150 hours. Attendance: 60 hours, Self-Study: 45 hours, Exam Preparation 45 hours
ECTS credit points and weighting factor	5 CP (Emphasis of the Grade for the final Grade 5/120)
Basis of student evaluation	Project work
Time	Second Semester
Frequency	Once during the academic year (summer semester)
Duration	One semester
Course type	Elective course
Remarks	Teaching language is English.