



Programme of Course "Progettazione di Sistemi Interattivi"

- Code: I0664
- Type of course unit: Compulsory (Laurea Magistrale in Ingegneria Informatica e Automatica curriculum Informatica)
- Level of course unit: Postgraduate Degrees
- Semester: 1

Number of ects credits: (Laurea Magistrale in Ingegneria Informatica e Automatica) 9 (workload 225 hours)

Teachers: Laura Tarantino

1	Course objectives	The course aims to provide the knowledge necessary to design usable interactive applications, with a strong methodological approach. To this aim the course provides an introduction to and overview of the field of human-computer interaction (HCI). Course readings span current theory and practice in interactive environment specification, design and evaluation mainly through individual and team projects carried out under the continuous supervision of the teacher. A variety of projects with different goals and different target users, regularly discussed in plenary in-class presentations, allow students to be confronted with the diverse problems/issues that a designer has to face. The central focus of the course is a semester-long team project, in which students conceive and design an interactive application. Teams are incrementally led through the phases of field study and requirements analysis, conceptual design, scenario-based design, paper prototyping, mockup prototyping, and usability analysis and evaluation. A second component of the course involves the introduction to Responsive Web Design, which complements the notions gained in the Web Programming course; in this case students are assigned individual projects aimed at designing and implementing a real web site.
2	Course content and learning outcomes (dublin descriptors)	<p>Topics of the module include:</p> <ul style="list-style-type: none"> • INTRODUCTION. Introduction to Human-Computer Interaction (HCI) and its historical evolution. Design frameworks and processes. HCI models. • MANAGING THE DESIGN PROCESS. The User-Centered Design Methodology (UCDM). Data gathering techniques and requirements specification. The conceptual design. Personas and scenarios. Use cases and tasks analysis. Prototyping: low fidelity and high fidelity prototypes; paper sketches; wireframe prototypes; mockups. Usability evaluation: expert-bases and user-based methods. • DESIGNING THE GRAPHICAL USER INTERFACE. Elements of visual design: visual variables; scale, contrast and proportions; organization and visual structures; module and program. Design principles and guidelines. Dialogue design. Multiple-window strategies. Presentation styles. Main design patterns. • DESIGNING FOR THE WEB. A quality model for web sites. A road-map for designing small and medium size web sites. Usability for the web. Responsive web design: fluid grids, breakpoints, mediaqueries, HTML5 and css.
3	Course prerequisites	Though not strictly necessary, basic notions in database design and web programming may help.
4	Teaching methods and language	<p>Lectures and teacher-assisted design activities</p> <p>Language: Italian</p> <p>Reference textbooks</p> <ul style="list-style-type: none"> • Laura Tarantino, <i>Elementi di progettazione di sistemi interattivi</i>. Slides disponibili sul sito del corso (sulla piattaforma di e-learning di Ateneo). • J.Preece, Y. Rogers, H. Sharo., <i>Interaction Design</i>. Apogeo.
5	Assessment methods	Students are assigned a team project (the design of an interactive application) and an individual project (the design of a responsive web site). Team projects are preferably carried on during the course under the continuous supervision of the teacher. Individual projects are carried on after the course is finished. The exam is a 15-20 minute presentation aimed at critically analyzing the work done.

