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15h00  
UT3 Paul Sabatier, IRIT, Auditorium J. Herbrand  

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Engineering Interactive Systems across application domains  

**Jury:**  
L. Nigay – Professeur, Université Joseph Fourier, Grenoble 1 (Rapporteur)  
P. Palanque – Professeur, Université Paul Sabatier (Président du Jury)  
O. Pastor – Professeur, Universidad Politécnica de Valencia (Rapporteur)  
F. Paternò – Directeur de Recherche, C.N.R.-ISTI (Examinateur)  
G. Rossi – Professeur, Universidad National de la Plata (Examinateur)  
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**Abstract:** The development of interactive systems is complex: on one hand we have to consider the users and their needs, and on the other hand we have to deal with the practical aspects of the software development. Users occupy a central place in the development of interactive systems because their interaction with the systems is required to make the system work; if we remove the users (or if we don't take into account their skills, motivations and needs) it will become impossible to operate the systems and thus determine whether (or not) it fulfill the requirements. Thus, the focus on users is a keystone for the research on Human-Computer Interaction (HCI). However, we must acknowledge that members of the development team are also users of interactive tools that are used to build other interactive systems. For that, it is sensible to say that, in addition to the diversity of users and users' needs, approaches for developing interactive systems must also take into account the developer's needs for dealing with the idiosyncrasies of technology and application domains; otherwise, if developers don't have appropriate tool support they will not be able to achieve their job successfully.  

In some extension, the research on the engineering of interactive systems is in the crossroad between disciplines such Human-Computer Interaction (HCI), Software Engineering, and more generally Computer Sciences. Currently, a reasonable amount of research work is motivated by arguments based on idiosyncrasies of particular types of interactive systems. But yet, many questions of non-exclusive practical and theoretical significance can be evenly applied regardless the type of interactive system at concern. The development of reliable, usable and effective interactive systems, their systematically analysis and treatment require appropriate methods, models, tools and approaches. On one hand it is tempting to focus on specialized solutions aimed for a particular type of interactive systems which are defined by unique features (such as system characteristics and users' requirements, etc.). But on the other hand, it might have many convergent points among diverse types of interactive systems for which solutions exist and just require a few adaptations. Interactive systems can assume many forms and quickly become complex. I have been fascinated by the development of Web applications since I was an undergraduate student in countryside Brazil. At that time, some argued that the technology for building such applications pre-existed the Web (which is somewhat true) and there
was nothing really new about it... and yet, I thought there was something worthy being investigated. Hence two main questions haunted me: “How to provide an accurate description of features and idiosyncrasies of Web applications I was developing?” and “How to determine whether (or not) that Web applications really fulfilled the needs of the target users?” These questions lead me first to pursue a master degree in Computer Sciences (1997-1999) and then a PhD thesis (2000-2004). I have found in the field of Human-Computer Interaction (HCI) the theoretical background necessary for supporting my reflections about models for specifying the behavior of interactive applications and methods for assessing the usability. In a short run, my research was focused on the field of Human-Computer Interaction while it was also contributing to the emerging field of Web Engineering (WE). Nonetheless, in the meantime I have observed several connections between more diverse types of interactive systems including e-government applications, e-voting systems, ground-segment systems, incident reporting systems, information visualization techniques, mobile interactive applications, multimodal applications, personal information management systems. For that, I have found that the work I was developing could contribute to more than a particular application domain and, in some extensions, generalized and reused......