



## Tutorial Announcement: Distributed Systems Development using Info Cases (T11)

Tuesday, August 25, 2015 (Half-day - Afternoon)

This interactive tutorial is addressed to undergraduate and graduate students, as well as researchers and industry practitioners. It is devoted to illustrating how distributed software systems can be developed from their first principles using info cases. Distributed systems are harder to develop than software in other domains, not only due to the hostile environments in which they normally appear, but also due to their additional functional requirements, such as location dependency, concurrency and non-determinism. Despite this complexity, distributed system behaviours depend on rich patterns of information flow, suggesting that info cases are perfectly fitted to support their development. Info cases can be regarded as a specialization of use cases, based on the elicitation of information flows between the system and its external actors, from which domain models can be derived using a structured method based on semi-formal rules. Empirical studies suggest that info cases guide requirements elicitation activities to happen in a more systematic way, while reducing inconsistencies between derived domain models. The tutorial will present all the steps and tools adopted in the development of a complete distributed information system example devoted to automating retail networks, comprising both physical and virtual shops, starting from the construction of an info case model, proceeding with the development of database and user interface functionality and culminating with the system implementation in Java using the Eclipse software development environment. It is expected that, after the tutorial, attendees will be able to replicate the adopted development path in other situations and contexts.

### Presenters:



**Carlos Henrique Cabral Duarte**  
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**Carlos Henrique Cabral Duarte** is a Member of Technical Staff at the National Bank of Social and Economic Development (BNDES, 1992-), Rio de Janeiro, Brazil, where he is currently responsible for the accreditation of machines and equipment of healthcare and other sectors (2012-). Previously, he was a financing operations manager and deputy head of department (2002-12), having financed more than 60 ICT companies, two of which now listed in the Bovespa Stock Market as a result of his work. He was the BNDES representative in the National IT Committee and deputy board member of the National Society for the Advancement of Software Quality (2003-12). In 2007, his biography was included in the publication Marquis Who is Who in the World for contributions to the Brazilian software industry. Carlos has also had an academic career. He worked as a Lecturer in Brazilian Universities (1999-2009) and was a research fellow (CNPq 2C, 2001-3). He has written and reviewed papers for scientific journals and conferences, recently becoming a panelist (in the issues of the RST technology transfer panels during RE'2013 and ICSE'2014), workshop organizer (CESI'2015, held in conjunction with ICSE'2015) and an industry track program committee member (RE'2014-5). Carlos holds PhD (Imperial College, London, 1999), MSc (PUC-Rio, 1994) and BMath (UFJF, 1992) degrees in computing. He is a senior member of the IEEE, Computer Society (S1990, M1998, SM2012).



**Michel Heluey Fortuna**  
Federal University of  
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**Michel Heluey Fortuna** is an Associate Professor at the Computer Science Department of the Federal University of Juiz de Fora, Brazil (1984-). He was a key person leading the creation of the BSc course on Computing in that university (2000). Since then, he wrote a book about systems modeling and has taught, conducted research projects and supervised students therein, as well as occupied management positions in university and course administration. Previously, Michel was a System Analyst at Rede Ferroviária Federal S.A. (1983-1996). He holds PhD (COPPE/UF RJ, 2008) and MSc (IME, 1982) degrees in computing and a BEng (UFJF, 1979) degree. He has been a member of ACM and IEEE, Computer Society.