SERLAB
Research Group Meeting

Presentation

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About me

Software Engineering Research

PhD Student at the XXXIII Cycle
Programme in Computer Science and Mathematics
at UNIBA
Tutor: Dra. Maria Teresa Baldassarre
Co-Tutor Prof. Mario Piattini

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Short CV (I/II)

⇨ EDUCATION & TRAINING
- ❑ BcS in Computer Science (July 2015) at UCLM
- ❑ MsC in Computer Science Engineering (October 2016) at UCLM

⇨ WORK EXPERIENCE
- ❑ Research assistant in Alarcos Research Group (from 2015 to 2017)
- ❑ Co-founder Cirebits JE
- ❑ Co-founder DQTeam S.L. Spin-off UCLM

⇨ OTHERS
- ❑ Standarization committees participation
  - ▪ ISO/IEC 20547 - JTC 1/WG9 for Big Data. 7-9 July 2015. Ciudad Real (Spain). Attendee
  - ▪ ISO 8000 - TC184/SC4/WG13. 17-19 February 2015. Ciudad Real (Spain). Attendee.
- ❑ International academic conference organization committees participation
  - ▪ 10th IEEE International Conference on Global Software Engineering (ICGSE). 13-16 July 2015. Ciudad Real (Spain). Organization committee staff.
  - ▪ 21st International Conference on Information Quality (ICIQ). 21-23 July 2016. Ciudad Real (Spain). Organization committee staff.

Short CV(II/II)

⇨ PUBLICATIONS

- ❏ I8K|DQ-BigData: I8K Architecture Extension for Data Quality in Big Data in the MoBiD workshop of the 34th International Conference on Conceptual Modelling (ER2015).

- ❏ JCR Q1- Future Generation Computer Systems Journal. "A Data Quality in Use model for Big Data".

- ❏ JCR Q2– Computer Software & Interfaces. "Towards a service architecture for master data exchange based on ISO 8000 with support to process large datasets".

- ❏ Infrastructure-Aware Functional Testing of MapReduce Programs. FiCloud Workshops 2016: 171-176

- ❏ I8K|DQ-BigData: Extensión Arquitectura I8K para Calidad de Datos en Big Data. JISBD 2015 Conference, Santander (Spain)

- ❏ No JCR - Advances in Science, Technology and Engineering Systems Journal. 2 - 1, pp. 90 - 96. ASTESJ. "Configuration/Infrastructure-aware testing of MapReduce programs", 15/01/2017. ISSN 2415-6698

Subject of the Thesis

⇨ **Provisional Title**
- ❑ A framework for the evaluation and improvement of Data Quality from an ISO/IEC 25000 perspective

⇨ **Data Quality**
- ❑ Fitness for use
- ❑ ISO/IEC 25012
  - ▪ A General data quality model for data
- ❑ ISO/IEC 25024
  - ▪ Defines data quality measures
- ❑ ISO 8000-8
  - ▪ Fundamental concepts of information and data quality

⇨ **Big Data**
- ❑ Volume
- ❑ Velocity
- ❑ Variety

Software Engineering Research

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Objectives

⇨ To know the state of the art in the area of data quality, data management and ISO/IEC 25000 family.

⇨ To develop a "Measurement Framework for Data Quality", in which are defined how volume, velocity and variety should to be measure and how affects to the data.

⇨ To develop a data quality metamodel for store the data quality measurement results in a data quality repository.

⇨ To apply the "Measurement and Evaluation Framework for Data Quality" in different organizations at national and international level, in order to validate and refine through case studies the proposed framework.

Temporary Plan

⇨ **First cycle (year 2018):**
- ❑ Knowing the state of the art in the area in question, using the technique of Systematic Mapping Study (SMS).
- ❑ The required courses of the XXXIII Cycle will be complete.

⇨ **Second cycle (year 2019):**
- ❑ The "A framework for the evaluation and improvement of Data Quality from an ISO/IEC 25000 perspective"
- ❑ This first version of the framework will cover the dimension of volume of data and will be validated and refined through several case studies at the University of Bari (UNIBA) and University of Castilla-La Mancha (UCLM)

⇨ **Third cycle (year 2020):**
- ❑ it is intended to make a 9-month stay at the University of Castilla-La Mancha (UCLM), which aims to develop a case study with the UCLM spin-off DQteam SL.
- ❑ Also, another stay at the University of Alicante with Lucentia Research Gropup will be carried out for the validation and final version of the framework.

Mobility Plan

⇨ Alarcos Research Group/DQTeam SL – Ciudad Real (Spain)

❑ Year 2018/2019

❑ 9 months

⇨ Lucentia Research Group – Alicante (Spain)

❑ Year 2019/2020

❑ 6 months

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