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The OO-Method Group: current research lines

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The OO-Method Group
Members (30)

- Oscar Pastor (Group Leader), PhD.
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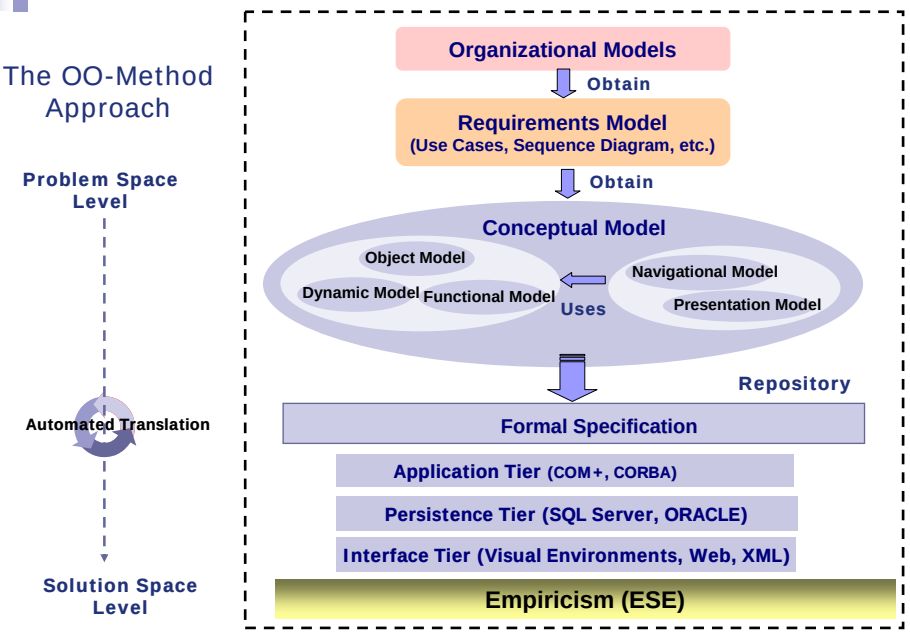
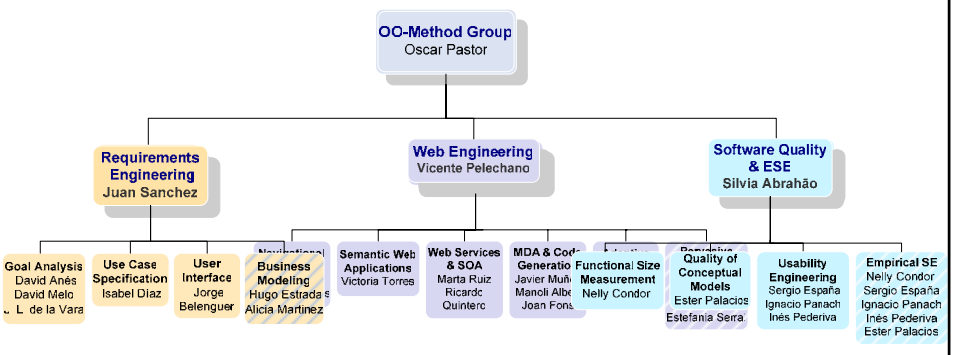
  - Juan Sánchez, PhD.
  - Silvia Abrahão, PhD.
  - Joan Fons
  - Manoli Albert
  - Jorge Belenguer
  - Pedro Valderas
  - Jaume Devesa, Eugenio Rodriguez
- **Visiting Lecturers:**
  - Hugo Estrada, Alicia Martinez
  - Isabel Diaz, Gonzalo Rojas
  - Ricardo Quintero, Marilyn Rueda
- **Research Fellows:**
  - Marta Ruiz
  - Victoria Torres
  - Nelly Condori
  - Javier Muñoz
  - Paco Valverde
  - Ignacio Panach
  - Sergio España
  - Inés Pederiva
  - Carlos Cetina
  - Estefania Serral
  - David Melo
  - David Anés
  - J. L. de la Vara
  - José Iborra

The OO-Method Approach



OO-Method Group Structure & Research Lines



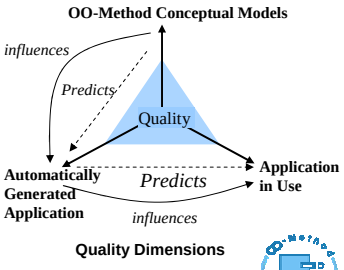
Business Modeling & Requirements Engineering

- **User interface**
  - Scenario integration and user interface prototyping generation from message sequence charts .
  - Device Independent User Interface Description Languages (XML based).
- **Organizational Goal Analysis**
  - Enterprise Modeling: Business Goal Modeling, Business Goal Operationalization and Business Process Modeling**.**
  - Traceability models from business goal models to use case models**.**
- **Use Case Specification**
  - Use case linguistic pattern analysis and automatic interaction pattern generation**.**

Software Quality

CARE TECHNOLOGIES

- **Functional Size Measurement**
  - A Functional Size Measurement (FSM) method to size Object-Oriented Systems from OO-Method Conceptual Schemas (OOmFP proposal), research contract with *CARE Technologies.*
  - The Extension of OOmFP to size Web applications (OOmFPWeb).
  - A FSM procedure to size Object-Oriented Systems from Requirements Specifications.
- **Quality of Conceptual Models**
  - Definition of a framework for evaluating the quality of OO-Method Conceptual Models (research contract with *CARE Tech.*).
  - Definition of metrics for Navigational Models.



Empirical Software Engineering

- **Empirical Theory**
  - Adapting Theoretical Models used in Social Sciences to the Software Engineering field .
- **Experimentation with Functional Size Measurement methods**
  - Investigate which FSM method proposed in the literature has the **highest efficacy** and/or **likely adoption in practice** for sizing object-oriented systems.
  - Investigate the efficacy and likely adoption in practice of our FSM method (OOmFPWeb) for sizing Web applications.
- **Experimentation with Early Metrics for Web Applications**
  - Investigate size and structural complexity metrics for Navigational Models in the context of students in Computer Science at the Valencia University of Technology.

Web Engineering
The OOWS approach

- **SOA & Web Services**
  - **Extend** the expresiveness of **modelling abstractions** to give support to the ***types of interaction*** of web services.
  - **Define transformation rules** that allow the implementation of OOWS conceptual models in a SOA.
- **Semantic Web Applications**
  - Provide a **navigational ontology** based on the navigational primitives.
- **Business Process Support**
  - A methodological guide that helps to guarantee that a navigational model gives support to the execution of a business process.
- **Business Process Interaction**
  - Provide mechanisms to Web modelling methods to give support to the development of POA (Process Oriented Architectures).

Web Engineering

The OOWS approach

- **Adaptive Web**
  - A proposal of Adaptivity which supports OOWS
- **Content Aggregation**
  - New abstractions including reuse mechanisms that can reduce development time and effort.
- **Advanced UI Design**
  - A framework that provides tools and methodological guidelines to achieve professional web applications reducing development time and effort.
- **Web requirements elicitation**
  - A method to capture web requirements using well known notations that can be systematically transformed into an OOWS Navigational Model.
- **Model Driven Development (MDA)**
  - We developed PIM (PSM) models and define Model Transformations to automate the Web applications development.

Pervasive Systems

- **Goal:** Increase the abstraction used in the development of pervasive systems through the use of conceptual modeling and automatic code generation techniques