RE’14 Poster and Demo Lightning Round

• 11 Exhibitors
• 1-Minute per Presenter
• Forced Slide Transition 😊
• Check out the posters and demos tomorrow at 15:30 in J1610
  • use the poster/demo # to vote for your favorite!
The 22nd IEEE International Requirements Engineering Conference (RE’14) continues the effort of the RE series of holding a **posters & demos session** to promote interaction and discussion among conference participants.

**Poster/Demo Lightening Round**: Wednesday, August 27th, 16:00 - 16:30

- Great opportunity to see the presenters and get an overview of their research!

**Poster/Demo Session**: Thursday, August 28th, 15:30 – 17:00

- Mingle and discuss work in more detail

**Awards**: We will give out 1st, 2nd, and 3rd place certificates for the best overall poster/demos. The first-place student poster/demo author (the first ranked student among the winning posters/demos) will receive the student best poster/demo award, a Sony Xperia Z tablet!

Please vote for 1st, 2nd, and 3rd place using the ballot below. Each poster/demo will have an identifying number on the top corner. Please enter the numbers below, and then find the Poster/Demo ballot box. We encourage everyone to vote!

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**1st PLACE**: Poster/Demo # __________

**2nd PLACE**: Poster/Demo # __________

**3rd PLACE**: Poster/Demo # __________
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<th>PD01</th>
<th>Nòmos 3: Reasoning about Regulatory Compliance of Requirements</th>
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<td>Silvia Ingolfo, Alberto Siena, and John Mylopoulos (University of Trento, Italy)</td>
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<th>PD02</th>
<th>GUITAR: An Ontology-based Automated Requirements Analysis Tool</th>
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<td>Tuong Huan Nguyen, John Grundy, and Mohamed Almorsy (Swinburne University of Technology, Australia)</td>
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<th>PD03</th>
<th>Simulation-Based Requirements Discovery for Smart Driver Assistive Technologies</th>
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<td>Andreas Gregoriades, Maria Pampaka, and Alistair Sutcliffe (European University Cyprus, Cyprus; University of Manchester, UK)</td>
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<th>EAM: Ecosystemability Assessment Method</th>
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<th>Combined Goal and Feature Model Reasoning with the User Requirements Notation and jUCMNav</th>
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<th>Decisively: Application of Quantitative Analysis and Decision Science in Agile Requirements Engineering</th>
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<td>Sanjaya Kumar Saxena and Rachna Chakraborty (GrayPE Systems, India)</td>
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<th>PD07</th>
<th>VARED: Verification and Analysis of Requirements and Early Designs</th>
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<td>Julia Badger, David Throop, and Charles Claunch (NASA, USA; Boeing, USA)</td>
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<td>Xiuna Zhu, Dongyue Mou, and Daniel Ratiu (TU München, Germany; fortiss, Germany)</td>
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<td>Ralf Laue, Frank Hogrebe, Boris Böttcher, and Markus Nüttgens (University of Applied Sciences Zwickau, Germany; Hessische Hochschule für Polizei und Verwaltung Wiesbaden, Germany; University of Hamburg, Germany)</td>
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<th>Symbolic Verification of Requirements in VRS System</th>
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<td>Oleksandr Letychevskyi and Thomas Weigert (Glushkov Institute of Cybernetics, Ukraine; Uniquesoft LLC, USA)</td>
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<th>PD11</th>
<th>Business Application Modeler: A Process Model Validation and Verification Tool</th>
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<td>Sören Witt, Sven Feja, Andreas Speck, and Christian Hadler (Kiel University, Germany)</td>
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Nòmos 3: Reasoning about Regulatory Compliance of Requirements

Silvia Ingolfo, Alberto Siena, John Mylopoulos

- Regulatory compliance is pervasive
  - On-line shopping
  - Bank application for smartphone
  - Hospital application for tablet
  - ... (Illustrations of applications)

- Regulatory compliance is expensive
  - HIPAA: ~$17.6 billion
  - Dodd-Frank: ~$8 billion

Challenge for software engineers: understand the different ways to meet user needs (requirements) while complying with applicable laws

Nòmos 3: Modeling language for reasoning about compliance of requirements with laws
GUITAR: An Ontology-based Automated Requirements Analysis Tool

GUITAR provides automated analysis support to detect and resolve:

- Inconsistency
- Incompleteness
- Incorrectness

In Natural Language Goal and Use Case Specifications

Tuong Huan Nguyen, John Grundy and Mohamed Almorsy
Simulation-based requirements discovery for smart driver assistive technologies

Gregoriades A, Pampaka M, Sutcliffe A

European University Cyprus - CY
University of Manchester - UK
Ecosystem

ability Assessment Method

- **Software Ecosystem** a set of businesses operating on a shared market of software and services and their relationships, based on a common technological platform.

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Ecosystemability Assessment Method

- **Software Ecosystem** a set of businesses operating on a shared market of software and services and their relationships, based on a common technological platform.

- **Ecosystemability** Degree to which a software system and its development environment support the vision of ecosystem.

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Ecosystemability Assessment Method

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Imed Hammouda
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Combined evaluation of features and goals based on shared analysis infrastructure.

Apply goal reasoning techniques to features.

Consider Feature Models as Goal Models.

Y. Liu, Y. Su, X. Yin, G. Mussbacher
McGill University

Least Secure
Voice Recognition

Most Secure
Password

Most Secure
Retinal Scan

Most Secure
Overall

and more:

- Interactive feature selection
- Integration with scenario models
- …

Feature Modeling
Goal Modeling

Combined Goal and Feature Model Reasoning with the User Requirements Notation and jUCMNav.
Whether it is the intuitive workspace or its magical output that is easy to interpret, Decisively is designed to deliver simplicity at every step. A simplicity that masks all complexities of Quantitative Analysis and Decision Science (QUADS) from the end-user.

**Capabilities**

- **Requirement Discovery**
  - Brainstorm user stories
  - Mine roles and corresponding goals from user stories
  - Extract key patterns from documents

- **User Stories Prioritization**
  - Detect inconsistency of thoughts in real time
  - Identify different school of thoughts
  - Resolve conflicts via consensus

- **Story Points Estimation**

- **Velocity Prediction for Next Iteration**

**Infographics**

Presented along with inferences in simple language, infographics enable non-specialists to apply QUADS techniques like AHP, SPAN, Text mining and Variation Analysis with great ease.

**Collaboration**

Asynchronous and real-time participation during brainstorming, prioritization and estimation of stories makes Decisively the ideal platform for teams to work together.

**Tools**

1. **AHP Driven**
   - Prioritization
   - Story point estimation

2. **Text Mining Based**
   - Brainstorming
   - Pattern extraction

1. **Leverages Variation Analysis**
   - Velocity estimation

1. **Deploys SPAN**
   - Consensus
   - ... and many more
VARED - Verification and Analysis of Requirements and Early Design

Julia M. Badger, NASA- Johnson Space Center

- Design tool for requirement engineers
- Incorporates formal methods in many stages (Logical Consistency Checker, InVeriant)
  - Adds formal testing and analysis to the requirement engineer’s tool suite
- Includes a state-based design philosophy for translating requirements specifications into a system model
  - Built-in traceability and testing between requirements and early design
- Natural language processing and other automatic interfaces help make the tool accessible to non-experts.
Structured Multi-View Modeling by Tabular Notation

Xiuna Zhu, Dongyue Mou, Daniel Ratiu

- For specifying **complex** software systems with **high degree** of dependencies
- Provides various table patterns to support **State, Mode, and Function** View.
- Provides **composition, projection and decomposition** for tabular models
- Provides **formal analyses, simulations and model-based testing**
Efficient Visual Notations for Efficient Stakeholder Communication

comparing "traditional" i* with alternative "Physics of Notations" variant by means of an eye-tracker
SYMBOLIC VERIFICATION OF REQUIREMENTS IN VRS SYSTEM

Thomas Weigert, Uniquesoft LLC, Palatine, USA
Oleksandr Letychevskyi, Glushkov Institute of cybernetics, Kiev, Ukraine

INPUT LANGUAGE OF SYSTEM:
Use Case Maps notation composed with Basic Protocols Logic Language

VRS (Verification of Requirements Specifications) system:
- creation of formal requirements;
- detection of incompleteness, inconsistency, safety and security violations;
- reachability of liveness and domain specific properties;
- detection of deadlocks, livelocks, non-determinisms;
- generation of traces for test suite
Business Application Modeler (BAM): A Process Model Validation and Verification Tool

Sören Witt, Sven Feja, Andreas Speck and Christian Hadler – Kiel University, Germany

Integration of process modeling, formal requirement specification and automated checking.

- Graphical Validation Rules for Specification of reusable, formal requirements close to the BPMs.
- Automated checking of process models with the graphical rules.
- Techniques for the visualization of results in the model, e.g.:
  - Going step by step through the erroneous paths.
  - Highlighting elements of the process, affected by the violated rule.
  - ...
RE’14 Poster and Demo Session

• **Tomorrow (Thursday) at 15:30 in J1610 (here)**
  • use the poster/demo # to vote for your favorite!
• Posters/demos can also be found between sessions in J1360