1ST WORKSHOP ON THE ROLE OF REAL-WORLD OBJECTS IN BUSINESS PROCESS MANAGEMENT SYSTEMS (RW-BPMS 2015)
in conjunction with CAiSE 2015

Program

8th of June 2015, Stockholm, Sweden
DSV - NOD BUILDING
KTH, Borgarfjordsgatan 15, 164 40 Kista, Sweden

http://ai.wu.ac.at/rw-bpms2015/

Room S1

9:00 – 10:30	**Welcome** **Keynote – When Processes Rule Event Streams** *Avigdor Gal, Technion - Israel Institute of Technology, Israel* **The Things of the Internet of Things in BPMN** *Sonja Meyer, Andreas Ruppen and Lorenz Hilty*
10:30 – 11:00	Break
11:00 – 12:30	**Applying Process Mining to Smart Spaces: Perspectives and Research Challenges** *Francesco Leotta, Massimo Mecella and Jan Mendling* **Factors affecting ocean-going cargo ship speed and arrival time** *Erwin Filtz, Emanuel Sanchez de La Cerda, Mathias Weber and David Zirkovits* **Monitoring Batch Regions in Business Processes** *Tsun Yin Wong, Susanne Bülow and Mathias Weske* Closing
12:30 – 14:00	Lunch

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WHEN PROCESSES RULE EVENT STREAMS
Keynote by Avigdor Gal

Big Data brings with it new and exciting challenges to complex event processing. Large volumes of simple events that stream in high velocity to our processing stations from a variety of sources call for rethinking traditional methods of processing complex events. In this talk we shall explore the interesting phenomenon of event streams that are produced by processes, e.g., bus data that is governed by bus routes or real time positioning system tracking patients in an outpatient clinic. The talk shall answer some of the related interesting questions: how do we discover the rules that govern event creation? how do we use such rules to optimize complex event processing? and suggest directions for future research. The talk will be accompanied by examples of urban transportation in Dublin (the INSIGHT European project) and patient visits to Dana-Farber Cancer Institute (DFCI), a large outpatient cancer in the US.

The Things of the Internet of Things in BPMN
Sonja Meyer, Andreas Ruppen and Lorenz Hilty

The component "thing" of the Internet of Things does not yet exist in current business process modeling standards. The "thing" is the essential and central concept of the Internet of Things, and without its consideration we will not be able to model the business processes of the future, which will be able to measure or change states of objects in our real-world environment. The presented approach focuses on integrating the concept of the Internet of Things into the meta-model of the process modeling standard BPMN 2.0 as standard-conform as possible. By a terminological and conceptual delimitation, three components of the standard are examined and compared towards a possible expansion. By implementing the most appropriate solution, the new thing concept becomes usable for modelers, both as a graphical and machine-readable element.

Applying Process Mining to Smart Spaces: Perspectives and Research Challenges
Francesco Leotta, Massimo Mecella and Jan Mendling

A software system managing a smart space takes, among its inputs, models of human behavior; such models are usually difficult to obtain and to validate. The employment of techniques from business process modeling and mining may represent a solution to both the problems, but a set of challenges need to be faced in order to cope with major differences between human activities and business processes. In this work we provide insights about these challenges, and propose further research activities to tackle them.

Factors affecting ocean-going cargo ship speed and arrival time
Erwin Filtz, Emanuel Sanchez de La Cerda, Mathias Weber and David Zirkovits

Due to the high density of ocean traffic and the influence of marine weather on the route planning of vessels, as well as berth allocation in harbors, it is important to be able to predict arrival times as precise as possible. This paper shows the influence of marine weather on ship speed by analyzing publicly available ship traffic and weather data from different sources. A linear regression model is created to explain recorded ship speed in terms of certain ship properties and marine weather. The model has an adjusted R^2 value of 83.98% with a significant correlation of many weather related data such as wind direction (0.211), significant wave height (0.195), peak wave period (0.133), as well as ship-related data including ship type, dead weight tonnage, and gross register tonnage. Given the variables in the model the speed of the ship could be estimated fairly well. These variables along with other factors are tested regarding their usefulness for the prediction of arrival times.

Monitoring Batch Regions in Business Processes
Tsun Yin Wong, Susanne Bülow and Mathias Weske

Recently, batch activities have been introduced to improve the execution of business processes by collectively performing batch activities that belong to different process instances. Using traditional techniques to monitor processes with batch activities leads to inadequate representation of process instances, since monitoring is unaware of batch activities. This paper introduces an approach to monitor batch activities, which also takes into account exceptions in batch clusters at different levels of abstraction. The concepts and techniques introduced are evaluated by a prototypical implementation using real-world event data from the logistics domain.

WORKSHOP CHAIRS
Claudio Di Ciccio (Vienna University of Economics and Business, Austria)
Anne Baumgraß (Hasso Plattner Institute at the University of Potsdam, Germany)
Remco Dijkman (Eindhoven University of Technology, The Netherlands)

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