

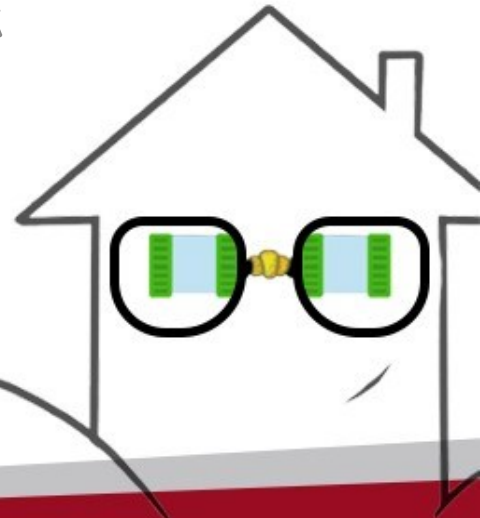


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Hands-on Process Mining for Smart Environments

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Tutorial Outline



About Us



- Massimo Mecella
 - Associate Professor at Sapienza Università di Roma
 - Main research in SOA, SOC, BPM, Pervasive Computing
 - Coordinating several EU and national research and industrial projects
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- Francesco Leotta
 - Assistant Professor at Sapienza Università di Roma
 - Main research in Ambient Intelligence, HCI and SOA
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Tutorial Outline

- Current approaches and techniques in ambient intelligence (approx. 50 mins)
- Introduction to Business Process Management and Process Mining (approx. 30 mins)
- Challenges in applying process mining to Smart Environments (approx. 10 mins)
- Hand-on Visual Process Maps (approx. 30 mins)

Useful Material

- Access the USB pen drive distributed to attendees during the tutorial

OR

- Download these slides at
 - <http://www.dis.uniroma1.it/~leotta/demos/vpm.html>
- Download the tool and data at
 - <https://www.dropbox.com/s/17k5igmbzsnx651/VPMv1.0.zip?dl=0>

References (1)

- [1] Leotta F., Mecella M., Mendling J. "Applying process mining to smart spaces: Perspectives and research challenges." In RW-BPMS, CAISE Workshop, 2015
 - **Challenges in applying process mining to smart spaces**
- [2] Dimaggio M., Leotta F., Mecella M., Sora D. "Process-based habit mining: Experiments and techniques." in Ubiquitous Intelligence & Computing (UIC), 2016
 - **Process mining applied to raw sensor logs**
- [3] Leotta F. Mecella M., Sora D., Spinelli G. "Pipelining user trajectory analysis and visual process maps for habit mining." 2017 IEEE Ubiquitous Intelligence & Computing (UIC), 2017.
 - **Process mining applied to event logs extracted from sensor logs**

References (2)

- [4] Leotta F., Mecella M., Sora D. "Visual analysis of sensor logs in smart spaces: Activities vs. situations." 2018 IEEE Fourth International Conference on Big Data Computing Service and Applications (BigDataService). IEEE, 2018.
 - **Comparison of VPM against SITUVIS as a graphical inspection tool**
- [5] Leotta F., Mecella M., Sora D. "Visual Process Maps: A Visualization Tool for Discovering Habits in Smart Homes." Journal of Ambient Intelligence and Humanized Computing, 2019.
 - **Extended journal version covering [3] and [4]**
- [6] Leotta F., Mecella M., Sora D., Catarci T. "Surveying Human Habit Modeling and Mining Techniques in Smart Spaces." MDPI - Future Internet, 2019.
 - **A survey of modeling techniques in Smart Spaces**