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Low-code development platforms allow non-programmers to build full applications by interacting through dynamic graphical user interfaces, visual diagrams and declarative languages.

Lowcomote is an international project aiming at training 15 PhD students, with the potential to become the leaders of tomorrow engineering of low-code development platforms.

1. Scalable Development of Low-Code artefacts workshop

Lowcomote project is organizing a public workshop on "Scalable Development of Low-Code artefacts" on December 10th, 2020. The event will be streamed on YouTube to offer to the Lowcomote PhDs and participants a place to exchange point of view and experiences on Model-Driven Engineering, Cloud computing and ML with a high-level group of panellists. Agenda can be found on the Lowcomote project website.

2. Lowcode workshop at MODELS 2020

A workshop was held successfully in MODELS conference, focusing on modelling in Low-Code Development Platforms on October 19, 2020 virtually. Over **100** participants attended the Low-Code workshop sessions. The Keynote was presented by Johan den Haan titled "The Future of Low-code". The papers presented are included in the MODELS joint workshop proceedings in the ACM Digital Library. The joint proceedings include an opening message from the organizers and the workshop program committee. Proceedings of the workshop can be found <u>here</u>.





4. Publications

- 1. Model Checking as a Service, Towards Pragmatic Hidden Formal Methods Benedek Horváth, Bence Graics, Ákos Hajdu, Zoltán Micskei, Vince Molnár, István Ráth, Luigi Andolfato, Ivan Gomes, Robert Karban, (OpenMBEE 2020)
- 2. Towards a low-code solution for monitoring machine learning model performance. Panagiotis Kourouklidis, Dimitris Kolovos, Nicholas Matragkas, Joost Noppen, (MODELS 2020)
- 3. Towards automating the construction of recommender systems for low-code development platforms Lissette Almonte Garcia, Iván Cantador, Esther Guerra, Juan de Lara, (MODELS 2020)
- 4. DevOpsML, Towards Modeling DevOps Processes and Platforms. Alessandro Colantoni, Luca Berardinelli, Manuel Wimmer, (MODELS 2020)
- 5. Intelligent Run-Time Partitioning of Low-Code System Models. Sorour Jahanbin, Dimitris Kolovos, Simos Gerasimou, (Virtual Conference) (MODELS 2020)
- 6. Efficiently Querying Large-Scale Heterogeneous Models. Qurat ul ain Ali, Dimitris Kolovos, Konstantinos Barmpis, (MODELS 2020)
- 7. Understanding the role of Model Transformation Compositions in Low-Code Development Platforms. Apurvanand Sahay, Davide Di Ruscio, Alfonso Pierantonio, (MODELS 2020)
- 8. Challenges & Opportunities in Low-Code Testing. Faezeh Khorram, Jean-Marie Mottu, Gerson Sunyé, (MODELS 2020)

3.1 Lowcomote 3rd Network Event

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Lowcomote's 3rd Network Event was planned in Budapest, Hungary but due to COVID-19's travel restrictions its now being held virtual. First training on "Scientific Paper Writing" was held on 8th of June and was conducted by Professor Juan de Lara. Recording of this online session can be found <u>here.</u>



3.2 Lowcomote Mid-Term Check

Mid-term check for the project has been conducted by Project Officer Nina Poumpalova from European Commission. ESR's presented their work to the project officer and supervisors.



- 9. Towards the Next Generation of Reactive Model Transformations on Low-Code Platforms, Three Research Lines. Benedek Horváth, Ákos Horváth, Manuel Wimmer, (MODELS 2020)
- **10.** Automated Migration of EuGENia Graphical Editors to the Web. Fatima Rani, Pablo Diez, Enrique Chavarriaga, Esther Guerra, Juan de Lara, (MODELS 2020)
- **11.** Lowcode Engineering for Internet of things, A state of research. Jean Felicien Ihirwe, Davide Di Ruscio, Silvia Mazzini, Pierluigi Pierlini, Alfonso Pierantonio, (MODELS 2020)
- **12. Towards access control for collaborative modelling apps.** Léa Brunschwig, Esther Guerra, Juan de Lara, (MODELS 2020)
- 13. Towards Transparent Combination of Model Management Execution Strategies for Low-Code Development Platforms. Jolan Philippe, Massimo Tisi, Helene Coullon, Gerson Sunye, (MODELS 2020)
- 14. Supporting the understanding and comparison of low-code development platforms. Apurvanand Sahay, Arsene Indamutsa, Davide Di Ruscio, Alfonso Pierantonio, Software Engineering and Advanced Applications (SE2A 2020)
- **15.** Lowcomote, Training the Next Generation of Experts in Scalable Low-Code Engineering Platforms. Massimo Tisi, Jean-Marie Mottu, Dimitrios Kolovos, Juan De Lara, Esther Guerra, Davide Di Ruscio, Alfonso Pierantonio, Manuel Wimmer, (STAF 2019)

3.3 Lowcomote 2nd Network Event

Lowcomote's 2nd Network Event was held in Madrid, Spain at Universidad Autónoma de Madrid in Spain. The following trainings were conducted during this network event:

- "Cloud Computing and Virtualization" by Helene Coullon and Johnathon Pastor
- "AWS Technical Essentials" by Wilson Santana
- "Running Container-Enabled Microservices on AWS" by Wilson Santana
- "Practical Training on Terraform" by Pedro J. Molina.

Recordings of these trainings can be found here



3.4 Lowcomote 1st Network Event

Lowcomote's 1st Network Event was held in Nantes, France at IMT Atlantique in France. It started with the presentation from Professor Massimo Tisi. ESRs introduced themselves and presented a brief introduction of their topics. The following trainings were conducted during this network event. Recordings can be found <u>here</u>

- "Quid" by Pedro J. Molina from MetaDev
- "ZappDev" by Katya from CLMS
- "MDE Foundation and Tools" by Dimitris Kolovos
- Training on "Oral Presentations".

