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Antonio Cerone · Markus Roggenbach (Eds.)

Formal Methods – Fun for Everybody

First International Workshop, FMFun 2019
Bergen, Norway, December 2–3, 2019
Revised Selected Papers

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Preface

The largest transformations that universities make to industrial practices is through releasing legions of graduates every year. These graduates challenge established processes and pave ways for new approaches. The standard computer science or software engineering graduate leaves university with either no knowledge of Formal Methods or a hatred for Formal Methods. Unless this situation is changed, Formal Methods will never be accepted in industry.

The First International Workshop “Formal Methods – Fun for Everybody” (FMFun 2019) explored ways to utilize this pathway to transformation for spreading Formal Methods. In current practice, Formal Methods is often taught by theoreticians, who (ab) use their Formal Methods courses to teach theoretical concepts rather than putting Formal Methods in a software engineering context. The vision of this workshop series is that Formal Methods ought to be taught in such a way that every student can have fun with it.

The 2019 two-day workshop included participants from Formal Methods as well as from Education who exchanged their views and perspectives. The innovative format of the workshop consisted of two keynote talks by Peter Csaba Ölveczky and Magne Haveraaen, 11 contributed presentations and a number of open discussion sessions. These sessions were characterised by an open atmosphere in which participants listened to each other’s views, provided feedback and were inspired to develop ideas further. The workshop also featured a living lab on teaching Formal Methods with Fun, which was split in two parts: on the first day participants made available and presented their teaching materials and discussed them in small groups; on the second day the living lab session merged with the open discussion sessions and contributed to the formulation of the white paper published in these proceedings. This joint paper, which is co-authored by most of the workshop participants and some of the workshop authors who could not participate in the physical event, collects the outcomes of discussion and activities at the workshop, further revised via email in an intense collaborative effort that extended over several months. This paper provides examples of good practice in Formal Methods teaching as well as general recommendations on curriculum development which we intend to circulate to appropriate educational bodies.

The workshop received 15 full paper submissions and two presentation paper submissions. Each full paper submission was reviewed for quality, correctness, originality and relevance by at least three Program Committee members. A final discussion among the Program Committee members was carried out using EasyChair. Ten full paper contributions and one presentation paper contribution were accepted for presentation at the workshop. This volume contains the white paper, two papers by the workshop keynote speakers and revised versions of the nine full paper contributions that were accepted for publication. The published contributed papers were further reviewed after the workshop.

We would like to thank all the Program Committee members for their valuable and timely efforts. We are also grateful to the General Chair, Volker Stolz, and the Workshops Chairs, Violet Ka I Pun and Martin Leucker. Finally, we would like to thank all the workshop attendees for their active participation in discussions and for the feedback they provided to the authors.

October 2020

Antonio Cerone
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Contents

Rooting Formal Methods Within Higher Education Curricula for Computer Science and Software Engineering — A White Paper —	1
<i>Antonio Cerone, Markus Roggenbach, James Davenport, Casey Denner, Marie Farrell, Magne Haveraaen, Faron Moller, Philipp Körner, Sebastian Krings, Peter Csaba Ölveczky, Bernd-Holger Schlingloff, Nikolay Shilov, and Rustam Zhumagambetov</i>	
Axiom Based Testing for Fun and Pedagogy	27
<i>Magne Haveraaen</i>	
Teaching Formal Methods for Fun Using Maude	58
<i>Peter Csaba Ölveczky</i>	
Fun with Formal Methods for Better Education.	92
<i>Nikolay V. Shilov, Evgeniy Muravev, and Svetlana Shilova</i>	
Adapting to Different Types of Target Audience in Teaching Formal Methods	106
<i>Antonio Cerone and Karl Reiner Lerner</i>	
Prototyping Games Using Formal Methods.	124
<i>Sebastian Krings and Philipp Körner</i>	
Teaching Model Checking via Games and Puzzles	143
<i>Bernd-Holger Schlingloff</i>	
Cybersecurity Education and Formal Methods	159
<i>James H. Davenport and Tom Crick</i>	
Teaching Them Early: Formal Methods in School.	173
<i>Faron Moller, Liam O'Reilly, Stewart Powell, and Casey Denner</i>	
From Stories to Concurrency: How Children Can Play with Formal Methods	191
<i>Antonio Cerone</i>	
When the Student Becomes the Teacher.	208
<i>Marie Farrell and Hao Wu</i>	
Teaching Formal Methods in Academia: A Systematic Literature Review.	218
<i>Rustam Zhumagambetov</i>	
Author Index	227