Collaborative Model-based Analysis for Uncertainty Reduction and Quality-based Refactoring

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GSSI is an international PhD school and a research center for advanced studies in Computer Science, Mathematics, Physics, and Social Sciences, see more details here: http://www.gssi.it

My main research interests:

- model-based performance analysis
- probabilistic model checking
Available Model-Based Analysis Tools

- **PADprof** detects software performance antipatterns in Java applications by analysing load testing and profiling data - [http://tiny.cc/so96fz](http://tiny.cc/so96fz)

- **PERFmpc** controls the system performance runtime evolution and set proper values to QN adaptation knobs - [http://tiny.cc/5p96fz](http://tiny.cc/5p96fz)

- **SoEfTraceAnalyzer** builds traceability links between software architectural models and extra-functional analysis results - [http://tiny.cc/8q96fz](http://tiny.cc/8q96fz)

...what's next?!??!
Challenges for composing new tools

- **Collaborative model-based analysis**
  - Investigate the combined use of different QoS models for a collaborative analysis

- **Uncertainty reduction**
  - Look for strategies on how to acquire further knowledge on system uncertainties

- **Quality-based refactoring**
  - Improve the quality-based characteristics by devising effective model-based changes
Takeaway message:

«Collaborative model-based analysis may reduce system uncertainties and trigger quality-based refactoring»

Questions

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Coming Soon!

Postdoc position at GSSI on MIUR-funded project, possibly starting in *April 2020*