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J.UCS Special Issue on Requirements Engineering
The Light Control Case Study

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In 1998, Egon Börger (Università di Pisa, Italy), Dave Parnas (McMaster University, Canada), Bärbel Hörger (Daimler-Chrysler Research, Germany) and Dieter Rombach (Universität Kaiserslautern, Germany) planned a Dagstuhl seminar on "Requirements Capture/Documentation/Validation" with the goal to bring together software engineering researchers from academia and software engineers from industry to critically compare the practice and research for capturing, documenting and validating software requirements. The seminar took place from June 14-18 in 1999, and was focused on the industrial strength of the used methods and on their relevance for the production of large software. It was guided by a case study from building automation[1], which had been proposed to the participants for an illustration of their contribution to the seminar [2].

The Dagstuhl seminar was a success. It highlighted the strengths and shortcomings of major requirements engineering approaches that are used in practice, and it did this in rather concrete terms, related to the numerous elaborations of the case study. This motivated us to make this work available in revised and reviewed form. During the summer of 1999, the case study problem description was repeatedly revised to take the questions and comments of the Dagstuhl participants into account. The revisions were made in cooperation with Rolf Merz and Jürgen Schäfer from the Electrical Engineering Department of the University of Kaiserslautern, who were acting as customers.

In the fall of 1999, the resulting, still informal, problem description of a Light Control system, which is included in this volume, has been sent out with an international call for papers, soliciting the application of requirements engineering methods, techniques, and tools to this case study. Until the deadline, all authors had the opportunity to clarify open questions on the informal problem descrip-

[1] This case study has been extracted by the Fraunhofer Institute for Experimental Software Engineering from a larger case study that has been developed by the Sonderforschungsbereich 501 "Development of Large Systems with Generic Methods" at the University of Kaiserslautern [1].

tion electronically with the customer. The questions together with the answers were collected into a glossary, and made available to all authors through the Web. In January 2000, we started a review process of the 13 submitted papers. In accordance with the J.UCS rules, each paper was reviewed by at least three reviewers, one of them chosen from submitting authors to take advantage of their detailed knowledge of the Light Control Case Study.

In the spring of 2000, the authors of the accepted papers were asked to thoroughly revise once more their original submissions, following the criticism formulated in the reviews. The final outcome of this work appears in this Special Issue, together with an evaluation of a questionnaire that the authors were asked to fill in as basis for a synopsis of the different solutions. The papers in this issue present the main features of the solutions and refer, for a complete documentation, to the respective websites, which the reader is invited to consult.

We hope that this J.UCS Special Issue will help the reader to evaluate by himself the strengths and shortcomings of the methods for capturing, documenting and validating informal requirements included in this Volume.

References

[1] R. L. Feldmann, J. Münch, S. Queins, S. Vorwieger, G. Zimmermann: *Baselining a Domain-Specific Software Development Process*, Technical Report SFB501 TR-02/99, University of Kaiserslautern, 1999

[2] E. Börger, B. Hörger, D. L. Parnas, D. Rombach (Editors): *Requirements Capture, Documentation, and Validation*, Dagstuhl-Seminar-Report 242 (99241), 1999