To reuse or to be reused. Techniques for component composition and construction

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Preface

This thesis presents results of four years of research that I performed at the CWI and the University of Amsterdam (UvA). I started this research in 1998 at the UvA with a project on pretty-printing (or happy-printing as Margreet Hovenkamp prefers to call it). The project was concerned with developing generic pretty-print technology, and with integrating it in the ASF+SDF Meta-Environment. Although I did develop the technology (which is presented in Chapter 4), happy printing is still not a feature that the ASF+SDF Meta-Environment supports. The reason is that reusing the pretty-print technology in different applications (such as the ASF+SDF Meta-Environment) turned out to be rather complicated.

Later, I realized that ever since my Master's, I have been interested in this reuse aspect of computer science. Therefore, it comes as no surprise that software reuse forms the connection between my research projects. In this thesis I present the techniques developed in these projects and I discuss how they help to improve software reuse. Now they only have to be applied, in order to integrate the pretty-print technology in the ASF+SDF Meta-Environment . . .

Many people contributed to the development of this thesis. Below I would like to thank them.

First of all, I would like to thank Paul Klint, my promotor, who has offered me a creative and inspiring research environment, both at the UvA and the CWI. We first met when I was considering to move to the UvA, halfway my study. He made this decision a very easy one. The move to Paul's group, awakened my general interest in academic research. In particular, my interest in computer science was born, which inspired me in writing this thesis.

I am also grateful to my co-promotor, Arie van Deursen, who taught me almost anything about writing good research papers. He assisted me during the writing of most of the articles on which this thesis is based. I enjoyed the pleasant discussions we had and appreciate his never-ending enthusiasm for my ideas. We also wrote an article together (see Chapter 7) and I hope to continue our cooperation in the future.

I thank the members of the reading committee: dr.ing. Krzysztof Czarnecki, prof.dr. Jan Bosch, dr. Frank van der Linden, prof.dr. Jan Bergstra, prof.dr.s. Maarten Boasson, and prof.dr. Peter Sloot, for carefully refereeing this thesis.
Joost Visser was my room mate at the CWI, as well as my travel mate during several conferences, workshops, and summer schools. It was great to discover countries, cities, and hills together. Furthermore, he was my squash mate, at all times that we needed to break out, to discuss work and to make new plans. Of course, at summer time, we preferred to enjoy the sun and played tennis. Last but not least, he was my work mate. He co-authored Chapters 2 and 3, but we also had plenty of other joint projects. I hope we will continue our cooperation in the future.

Leon Moonen was my second room mate. I will never forget our hike in Ireland. How we almost got lost in the rain and the mist, and how we had dinner in the home-restaurant of our hostess. I enjoyed all discussions about work and non-work, and I really regret that, despite of our joint interests, we never wrote an article together. But there is hope: project M335 is still alive . . .

Eelco Visser has been an inspiring colleague who has supported my ideas with much enthusiasm. He always had a solution at hand for any of my research problems. Together with Joost Visser, we initiated XT (see Chapter 3), perhaps the first bottom-up strategy for promoting the programming language Stratego. I am also proud that I was Eelco Visser's first Master's student.

Ramin Monajemi has been a close friend and colleague since we became partners as student assistants. We visited many of Amsterdam’s pubs, where we happily consumed music, beers and life. We both like cycling and I enjoyed our cycling tour from Deventer to Amsterdam. Next trip from Amsterdam to Nijmegen? During his contract at Lucent Technologies, we did a project together, which allowed me to bring academic work (in the form of the XT bundle) into practice. As a result, we wrote Chapter 5 of this thesis together.

I enjoyed working with Tobias Kuipers. We met shortly after my move to the UvA, when he, together with Leon Moonen, was a student assistant. In addition to Paul Klint, they too, rouse my passion for computer science. After my Master's we became colleagues and we did some joint projects and journeys. Our trip, together with Joost Visser, through the middle of Portugal was great fun, and the Englishman shouting: “It's a dead end”, is unforgettable. One of our joint projects became a published paper and is included as Chapter 7 in this thesis. It was co-authored with Arie van Deursen.

The rest of the group at the CWI helped to make the stimulating environment that I enjoyed so much. Here I would like to thank them. Mark van den Brand for the discussions about pretty-printing and for his enormous effort in making the ASF+SDF Meta-Environment to what it is today. Jurgen Vinju for his cheerfulness, enthusiasm, and his effort to make all our software good. Pieter Olivier and Hayco de Jong for making the ATERMS library, on which most, if not all, of the software developed in our group is based. Jan Heering, for being critical and objective. Ralf Lämmel, for his interest in my work. It is a pity that we never did something together.

My brother Joost de Jonge and my good friend Maarten Noordijk deserve special mention for their help as my ‘paranimfen’.
Preface

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