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I must have done something wrong that makes *Elena Zudilova* always stop at the door porch and look apologizing before entering my room to ask me something. Whatever it was, I suppose one of the reasons must be that she now has to put up with my

software that invariably misinterprets her voice commands. I swear I didn't put that in there intentionally!

Zhiming, our HLA guru, was instrumental for doing the measurements on HLA's performance and setting me straight on things I thought I knew about HLA, but didn't.

During the last months of my work I shared my office with *Simon*, a talented guy who radiates enthusiasm toward his research. Are you still serious about letting students solve the traveling salesman problem between distant moving stars in a star cluster?

All you other boys and girl at the SCS; astro girl *Alessia*, party animal *Alfredo*, Nova Zemblabour *David*, resource manager *Judhi*, MPI wizard *Kamil*, GRAPE *Piero*, best teacher award winner *Walter*: I wish you all the best with your work.

The work on simulated vascular reconstruction was sparked by an inspiring presentation given by *Charles Taylor*, Stanford University, at the *Medicine Meets Virtual Reality* conference in San Francisco, 1999. This resulted in a visit by *Sean Spicer*, a student at Taylor's research group, to the University of Amsterdam. Sean developed the software that allowed us to use OpenGL|Volumizer in CAVE applications and he implemented the first Virtual Reality version of a surgical planning system. Sean's work was influential in our VRE environment and later in the virtual operating theatre for simulated vascular reconstruction.

The VRE project was a collaboration between the University of Amsterdam, Leiden University Medical Center, LKEB, IBM, Medis B.V., SARA and Arcobel. I am greatly indebted to all the people who have invested their time in showing me around their departments, discussing their work and criticizing the intentions of VRE. In particular, I would like to thank *Hans Reiber* for organizing my visit to the radiology department of the Leiden University Medical Center (LUMC) and *Bart ter Haar Romeny* for organizing my visit to the radiology department of the University Medical Center Utrecht (UMC). Also many thanks to all at the LUMC and LKEB for their help, insights and ideas; *Jorrit Schaap*, *Rob van der Geest*, *Patrick Koning*, *Kees Verlooi*, *Aart Spilt* and *Mark van Buchem*.

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I have been in the fortunate position to have had talented students who have con-

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Daniel Fontijne (formerly Dijkman) did most of the programming, as a student project, for GEOPROVE. On the side, he implemented a Windows version of the CAVE library, just because he wanted to do his software development on his PC at home instead of on an SGI O2 in our lab. This software almost got him into legal trouble when he wanted to give his code away for free. It took VRCO another four years to release their first Windows version. I rest my case.

Don Hannema took my rudimentary version of an interaction library to use Vtk in the CAVE and transformed it into SCAVI. This code is the foundation of the virtual operating theatre for simulated vascular reconstruction.

Hans Ragas implemented the flow visualization code used for this same environment. This was by no means an easy task, but he succeeded nevertheless. I wonder when he will commit the bug fix into the CVS repository that repairs the colour table bug that is still in there.

I would also like to thank *Harro Mantel*, *Frank Lakeman*, *Hongjing Wu*, *Bart van der Schans*, *Anton Hendriks* and *David Vismans* for their valuable contributions.

At times, I must have driven the people at SARA stark raving mad with all my questions, phone calls and (sometimes not too friendly) emails to “hic” (or is it “hec”?) regarding the O2 in our lab, DCE/DFS, the IBM SP2, HiPPI, the cluster, Teras and countless CAVE reservations and other questions.

Anton Koning always proved extremely helpful in providing solutions to problems that boggled my mind. There have been cases in which his help took nothing more than the magical touch of just one button... literally. He generously allowed us to use his code in our software, such as the menu system and transfer table editor used in VRE, and SARAnav, which I think is now *the* most often used piece of software by anyone who has access to a CAVE. But Anton; don't you think it's about time you stopped putting thousands of lines of code in a single source file?

Bram Stolk generously gave us his implementation of a speech recognition system which we extended to support context sensitivity and speech synthesis. Bram was helpful with many issues concerning VR and can truly be called an “expert”. His latest work on the exploration of Human Genome data has recently been published in Science; see [20]. Together with *Raymond de Vries* we experimented with the PC/Linux based VR systems and wrote a paper on it. So guys; when do you think we can build an XBox/Linux based VR system?

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Words cannot express what *Eva* means to me, so I won’t try. But, after having made the final changes to this thesis, I suppose there is just one last thing that I must do, and that is to live up to my promise to her: to quit smoking when my thesis is finished.

Well; it’s done.

I quit.

Robert Belleman,
Amsterdam, February 2003.

