Preface

Since the first launch of RTSX (Robotic Tools for Scilab/Xcos) in 2011, I have received emails asking for help with this software from around the world. Some could not even get started with loading functions to Scilab environment. It is obvious to me then, to be useful as an educational tool as I hope for, RTSX needs a readable document other than that provided on the website. Hence this e-book. It is also used as a supplement text for International Undergraduate Program (IUP) students who enroll in my 01211433 Robotics course at Kasetsart University.

With my tight schedule (and the fact that English is my second language), it is difficult for me to write a comprehensive textbook on robotics that is rich in theory and mathematics. So in this book we'd rather focus on examples that show Scilab/Xcos and RTSX usage, while providing only basic principles essential to understand the topic at hand. I assume you have some good robotic text(s) handy to consult when in doubt. I particularly recommend Robotics, Vision and Control by Prof. Peter Corke (Springer ISBN 978-3-642-20143-1) as a companion text to fill in the underlying theory that might be left out. In fact, I intentionally use same data in certain examples to verify that RTSX matches the computation performed by rvctools* on MATLAB. Another book I normally use as main text for my course is Robot Modeling and Control by Spong, Hutchinson and Vidyasagar (Wiley ISBN 978-0-471-64990-8)

I would like to thank all open-source software developers worldwide who create all sort of magnificent work, especially the Scilab package, for us to use free of charge. Students in rural areas of developing countries like Thailand could barely afford a textbook, let alone purchasing an expensive commercial software for their homework assignments. I am also grateful to my mentors at UMASS Amherst for teaching me valuable control systems knowledge that proves useful throughout my academic career.

Well, as we control engineers know how important feedback is, I appreciate your suggestions, comments, etc. to help make RTSX evolves. You can send email or participate on RTSX facebook page at www.facebook.com/rtsxnews

Varodom Toochinda

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* rvctools refers to Robotics Toolbox for MATLAB www.petercorke.com/RVC