Teamcenter Engineering and Product Lifecycle Management Basics

A Learning Manual for Teamcenter Engineering with Notes Regarding Implementation

By:
Stephen M. Samuel
Eric D. Weeks
Mark A. Kelley
Dedication

We dedicate this book to teachers everywhere, our unsung heroes.
You struggle everyday to bring us light.
Acknowledgements

Special thanks to Randy, Anu, Rick, Julie and Charlene for their tireless efforts. Your contributions are much appreciated.
What readers have to say about our previous books:

Bryan McDonald, Product Design Manager at Apple Computers
“Bottom line: this is an excellent book. If anyone wants to learn how to use Unigraphics quickly, efficiently and practically, this is the way to do it.”

Fred Dyen, Director of St. Louis University’s Aviation Maintenance Institute (AMI)
“Practical Unigraphics NX2 Modeling for Engineers was extremely effective and much better than [other] textbooks. I would highly recommend this book to other professors and students alike.”

Dr. Pat Spicer, Professor at Western Illinois University
“The UG NX2 textbook is well organized. Its tutorial style of learning is easy for students to utilize. The practice exercises are essential. From my experience in teaching students to use UG software, I have found that this is the best textbook currently on the market for teaching UG NX2.”
Preface

Dear reader,

Thank you for purchasing our Basic Teamcenter Engineering text book. We are proud to bring you this first edition of a book whose need has been apparent to us for quite some time. The complex nature of this powerful tool has inspired us to provide a practical guide to the most commonly used functionality of Teamcenter Engineering. Design Visionaries is an engineering consulting firm that performs many projects, great and small, in the areas of industrial design, product development, product lifecycle management and training. Our customers entrust us with the design of medical devices, aerospace components, heavy machinery, consumer products and much more. The experience that we have gained over the years has brought us the ability to help companies acquire and implement Teamcenter Engineering. The methods outlined in this book go beyond an academic use of Teamcenter Engineering. Like all of our other publications and courseware, we have brought you the experience data of countless hours of actual software use acquired while designing some of the most complex products in the world. In addition, Design Visionaries offers world class on-site training which enables us to develop and evolve our training material so that they provide the maximum benefit. Please enjoy this text, and we invite you to log-on to our website – www.designviz.com where you can find additional free materials, other advanced materials, products, and goodies.

Thank you,

Stephen Samuel

Sept 9th, 2006
Table of Contents

COPYRIGHT © 2006 BY DESIGN VISIONARIES, INC.................................................................i
Dedication.......................................................................................................................... ii
Acknowledgements........................................................................................................... iv
What readers have to say about our previous books:...................................................... vi
Preface ................................................................................................................................ viii

1. Introduction.................................................................................................................... 1
   1.1 What’s this book about?............................................................................................. 1
   1.2 Who is this book written for?.................................................................................... 1
   1.3 Who are the authors?............................................................................................... 1
   1.4 The format................................................................................................................ 2
   1.5 Using this book ...................................................................................................... 2
   1.6 Additional information ......................................................................................... 2

2. What is PLM? ................................................................................................................. 3
   2.1 A High Level Overview............................................................................................ 3
   2.2 What is PLM Good For? ......................................................................................... 3
   2.3 Collaborative Engineering ..................................................................................... 3
   2.4 Global Collaboration ............................................................................................... 4
   2.5 Check-Out and Check-In ....................................................................................... 4
   2.6 Part Numbering Scheme ....................................................................................... 4
   2.7 Revisions ................................................................................................................ 5
   2.8 Search ...................................................................................................................... 5
   2.9 Never Lose a File .................................................................................................... 5
   2.10 Relate Files of Different Types ............................................................................. 6
   2.11 Re-use of Legacy Parts ......................................................................................... 6
   2.12 Product Structure ................................................................................................ 6
   2.13 Workflows ............................................................................................................ 6
   2.14 How does PLM work? ......................................................................................... 7
   2.15 An Overview of PLM Implementation ................................................................ 7
   2.16 Important TcEng Definitions .............................................................................. 8
   2.17 Example (A Chair is Designed) .......................................................................... 9
   2.18 How does it fit in with other systems?................................................................... 10

3. Basic Skills .................................................................................................................. 11
   3.1 Getting Started in TcEng....................................................................................... 11
   3.2 Creating Folders .................................................................................................... 13
   3.3 Running NX with TcEng ....................................................................................... 15
   3.4 Creating a New Part File (Top case) ..................................................................... 17
   3.5 Creating another Component Part File (bottom case) ....................................... 22
   3.6 Create the Final Component (rubber foot) ......................................................... 25
   3.7 The Navigator Refresh Command ....................................................................... 27
   3.8 Creating an Assembly ........................................................................................... 28
   3.9 Creating Part Revisions ....................................................................................... 31
   3.10 Searching for Items.............................................................................................. 34
   3.11 Displaying TcEng Attributes in the NX Assembly Navigator .......................... 42
   3.12 Check-Out & Check-In Operations...................................................................... 45
   3.13 Importing Vendor Data ....................................................................................... 48
   3.14 Importing Miscellaneous Documents ............................................................... 53
   3.15 Creating TcEng Specifications (2D Drawings) .................................................. 56