

## Exclusive Web Feature

### Practical Unigraphics NX Modeling For Engineers

by Mike Hudspeth

*Editor's note: In this exclusive article for NX Digital Digest, Editorial Advisor Mike Hudspeth reviews Practical Unigraphics NX Modeling For Engineers, written by Design Visionaries staff members Stephen Samuel, Paul Rymarz, Anuranjini Pragada and Mark Kelly. The book now is available through <http://www.designviz.com/>.*

*Author's note: One of the difficulties in writing a software instructional book is the aggressive revision schedule of the software; it can be hard for authors to stay relevant. It would be much easier if UG were on board with the authors. (I don't want to imply anything about the nice folks at UG, but it seems they view these types of books as competitive with their \$1000, weeklong classes. A live teacher always is better, but a book such as this can be of great benefit-and cheaper too.) I must admit that I had difficulty keeping in mind that I was reviewing a tutorial book and not the actual software. So, when I lapse into a complaint about UG, please forgive me. The writers of the book no doubt can empathize.*

Right off the bat, I noticed that this manual does not embrace the Master Model concept. This may be because it is a book about basic Unigraphics NX, but from UG's point of view, Master Model is fairly basic. This isn't a huge oversight because many companies do not use it, but it would have been nice to include a chapter on it. (Editor's note: If anyone would like more information on Master Model, please send a note [here](#), and we'll get an article written about it.)

The authors' definition of *parametric* is interesting. Though not necessarily sketch-based, parametric objects can be changed by editing numbers and/or constraints. This being said, the authors' statement that curves are not parametric makes little sense from a theoretical point of view. Every curve has at least one parameter that can be changed. A line has its length, a circle has its diameter and arc length, and so forth. These are values that are stored within the object and can be changed. Curves generally do not have constraints, though, and that is how they acquired their "dumb" reputation. The authors indicate that their definition of *parametric* has more to do with something you can change easily from inside the expressions dialog.

The authors use *non-parametric* to indicate unparameterized or explicit models. (Unigraphics uses the term *unparameterized*. It might have been more consistent if the authors had used the same nomenclature.)

The most common non-parametric models are those imported from other systems. Virtually anything you do to a dumb solid will make it at least partially parametric (e.g., adding a hole). Changes can be made to non-parametric models without adding parameters (such as when you change a hole diameter or boss height), but this

process quickly becomes tedious. The user must edit faces individually, which is not fun and not always easy. Notice, I didn't say the authors' definition of *parametric* was wrong. Actually, I think the writers take a fairly practical approach. The corporate UG line may be different, but seldom are users concerned with using UG as it was intended. Instead, most users just want to get their jobs done quickly, in the most flexible way possible. That is why you tend to see a lot of hybrid models. The thing to remember about this argument is that *how* a model is made affects how it can be changed.

The book contains plenty of illustrations, both shaded and wireframe. The shaded illustrations are grayscale, ostensibly for better copying. However, because the book is copyrighted, any copy the user made technically would be illegal. I think the book would be of greater benefit if the illustrations were in color. Color makes subtle distinctions stand out and clarity should be the ultimate goal of any tutorial. All that being said, I think the authors have done a great job with the graphics.

There are handy "notes" that help users with practical information. For instance, the tip about sketch entities typically being cyan is great. I have helped many new users (as well as a few embarrassed experienced users) figure out why they couldn't select entities for sketch operations application. Invariably, it was because the entities had not been created in the sketch. The giveaway is that the entities are some other color than cyan.

There are a few grammatical errors and typos, (although these already may have been corrected; I received an advance copy to review). The typos do not change the overall meaning of the text, but some tend to distract the reader.

When you get to the "project" portions of the book, you definitely will want to follow directions and save your work. The projects are re-used later in the book to help build upon each lesson. I have seen many tutorial manuals that include a CD with sample files. Perhaps this might be an option for inclusion with a future edition. Without sample files, you are left to follow the book in the order in which it is laid out. This hinders the ability to skip ahead to cover the material that interests you most. I can see advantages in structuring the tutorial in both of these ways. On the one hand, a book that includes sample files can be used as a help file and allow you to look up how to do something that you have forgotten. On the other hand, a book structured like the one reviewed here provides a solid foundation when you proceed in the order of the lessons. Also, building one lesson upon another is a good way of reinforcing what you already have been taught.

The lessons are easy to understand. Of course, I say that with the benefit of years of UG experience, but they seem appropriately simple to me. The authors describe what you are going to do and then launch into a pick-by-pick explanation of the steps involved. They even show you which icons to choose and locate the menus where you will find these icons. Short of animations, which are notoriously hard to do on a printed page, I cannot think of a better way to implement a tutorial.

I think *Practical Unigraphics NX Modeling For Engineers* is a valuable educational resource for new Unigraphics users and can be a handy refresher manual for more experienced users as well. It does not cover everything there is to know about using UG NX, but neither does UG's classroom training. It certainly is less expensive (US\$69) than a class and requires fewer commitment hours. I think this book makes a great starting point for UG education. I can envision more books in the future that take up where this one left off. (Personally, I'd like to see something dedicated to UGPhoto-*there*, the gauntlet is thrown. Design Visionaries authors have proven they are up to the task.) I think Design Visionaries has a winner with *Practical Unigraphics NX Modeling For Engineers*, and I believe those who buy

this book will agree. Good work all!

You can contact Design Visionaries for further information about how to purchase *Practical Unigraphics NX Modeling for Engineers* at <http://www.designviz.com/> or by phone at (800) 892-6655.

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