Chapter 10
Advanced Topics

By now, we have introduced most of the basic features of EquationBuilder. In this chapter, we will finish off the Tutorial by discussing some of the more advanced features of EquationBuilder.

Fine Positioning

If, for some reason, you wish to tweak the positioning of an element or group of elements, it is possible to do this using the Element Inspector:

ElementInspector.tiff ¬

Simply select the element or group of elements you wish to fine position, and press the arrow button corresponding to the direction you want to go. Note that these buttons auto-repeat if you continue to hold the mouse button down. The center button will return the element to its default position. Similarly, you can also use **Shift-<Arrow>** to fine position the selection, where <Arrow> is the arrow key in the direction you wish to offset the selected element.

Alternatively, you can just type an exact offset into the text fields above the arrow buttons if you know exactly where you want the selection to go.

· **Note**

It is best to limit fine positioning changes to be as small as possible. When elements are moved far from their default position, selection and cursor positioning can become extremely difficult and confusing.

Also, fine positioning cannot be translated into TeX™ (see below).

TeX generation

For those of you who prefer to use the TeX typesetting language by Donald E. Knuth, EquationBuilder can also translate its equations into TeX form. Generally, the TeX generated by EqB is bug free and reproduces your equation quite faithfully within your TeX documents.

- **Note**

    If you are unfamiliar with the TeX language and want to learn more, we recommend *The TeXbook* by Donald E. Knuth, copyright © 1986 by the American Mathematical Society, and published jointly by the American Mathematical Society and the Addison Wesley Publishing Company.

To use the TeX generation feature, select the part of your equation you want to translate to TeX, and pick **Edit ±> Copy As ±> TeX** (or equivalently, **Command-T**). You can then use **Edit ±> Paste** in other applications to paste what you have copied into your TeX document.

When you paste your equation, or whatever portion you copied, into your TeX document, you should see something similar to the following:

```
% EquationBuilder(TM) Expression
% +.\Jr(=:/*V[StRFQAYmdjEEA;1nuN+[co.OZ7L#cq3iKN?!fYXJ@:d#6;^G;Td47dud<A3@
 .
 .
 .
% 5$3G880iT5',[`l_$W)sT)_/6<Kk+W%;'#gOU,b^O8^J%R)ek7.ScWo/.7@WUJ.bBQoEdit&
% 3un4-kM^Vcq4k>!5OFUL&_2Rx
% EndExpression N 478 1de E 79 S bfcb R 80f56c6f
$$
E=mc^2
$$
```

The lines beginning with ª‰º are actually TeX comments and are ignored by TeX. The actual TeX equation is between the ª$$ºs (or just ª$ºs if you had typeset your expression as an in-line equation).

The lines beginning with ª‰º are actually the binary representation of your equation within EquationBuilder. If later on you wish to re-edit your TeX equation, select all the lines beginning with ª‰º and paste them back into EquationBuilder in an equation window. Your equation will then re-appear.

Alternatively, you can select these lines and pick **Services ±> Edit Equation** (see below). Because EquationBuilder registers itself as a service provider, choosing **Services ±> Edit Equation** has the added benefit of launching EquationBuilder if a session is not already running. Again, your equation will appear in a new equation window.

If you know that you will not want to later re-edit your TeX equation, you can of course deleted the TeX comment (ª‰º) lines without affecting your TeX document. If you prefer to not have the binary form of the equation included when you paste TeX, you can turn off this feature via the Preferences panel (see Chapter 11).

Services

EquationBuilder is a service provider for the equations it generates, in both Encapsulated PostScript™ and TeX form. To take advantage of this, select your equation (or the encoded equation, if it's in a TeX document) in another application that supports services, and then pick **Services ±> Edit Equation** to bring up that equation in EquationBuilder.

If you do not wish to have this option cluttering your Services menu, you can remove it via the Preferences panel (see Chapter 11).

· **Note**

In order for services to appear, you must install EquationBuilder in either /LocalApps or ~/Apps. The next time you log in, the new service should be enabled.

Keyword equivalents

Once you become accustomed to working with EquationBuilder, you may find yourself getting frustrated by continually having to use the mouse to create new elements from the palettes. To help you work more efficiently, EquationBuilder supports keyword equivalents for nearly every item on the Element Creator palettes.

To use this feature, first refer to Appendix C for a listing of all the keywords that are currently

supported. For the convenience of those who have experience using the TeX typesetting language, we have used TeX keywords whenever possible.

Either the Esc key or the ª\º key will activate the keyword text field at the bottom of the window. After typing in the equivalent word (e.g., alpha for a, beta for b, etc.), press return. If the string you have entered is not recognized, it will be inserted into the equation as a literal String element.

Gallery

If you want look at some other examples, bring up the EquationBuilder Gallery by picking **Equation ±> Gallery....** This will open a directory in the Workspace Manager containing sample equations that illustrate various features of EqB.

Included in the Gallery directory is a `ReadMe` file describing each different example and why it might be interesting to you.

If you get stumped on how build a particular equation, chances are there is an example in the Gallery that does something similar to what you need. By studying the examples, you should be able to gain some insight on how to build your equation. If not, let us know, and we'll add another example for the next release!