



Figure 15-2 Virtualization tools such as VirtualBox let you run Windows programs, including GemCAD, under other operating systems. Look carefully at the screenshot – yes, that is indeed GemCAD running on a Windows XP virtual computer which is, in turn, running “inside” a Mac.

## 15.3 Gem Design and Optimization Software

If access to information and contact with fellow hobbyists on the Web have not convinced you to join the computer revolution, then the various gem design and optimization programs should. In a word, such software has revolutionized the world of gem creation, allowing even rank amateurs to try their hand at design, or at least to optimize their cutting angles for top performance. The following paragraphs provide an overview of the software available to help you create and optimize gemstone cuts. Chapters 16-18 contain more ideas on how to get started with gem design, and you can satisfy your interest in the history of gem design and optimization software by reading Chapter 9 of Broadfoot and Collins *Cutting Gemstones*. Chapter 9.1 of this book will help you track it down.

### 15.3.1 GemCAD Family

GemCAD is the flagship of a suite of programs produced by Robert Strickland. These include the GemRay ray tracing program, as well as smaller utilities for making animations of a moving gemstone.

You can think of GemCAD as a virtual faceting machine on your computer. As in the real world, you execute a sequence of facets by specifying cutting angles, index wheel settings, and target meet points. Unlike in the real world, however, the virtual faceter within GemCAD cuts angles with essentially infinite accuracy and precision, and most importantly, allows multiple levels of Undo. Wouldn't that be nice to have on your Ultra Tec?