

New Tools For The GUI World

By William Baker

Now a Senior Software Test Engineer in Quality Assurance, William formerly led the GUIBuilder development team.

Visual PRO/5® 2.0 and later releases include a graphical programming environment that offers major productivity enhancements on several fronts. The traditional BBx® console interface remains available in version 2.0, but it should be used only for debugging, not for development. Three integrated tools provide a drastically more modern and productive development environment. These three tools are DDBuilder®, ResBuilder™, and GUIBuilder™. Each of these tools has been discussed in previous issues of the Advantage; here we explore how they all work together.

DDBuilder: Editing Data Dictionaries



DDBuilder is not new to Visual PRO/5® 2.0. This is a Windows-based tool for creating and editing the data dictionaries that describe the contents and internal structure of your data files. Data dictionaries are essential for accessing BBx data through the BASIS ODBC Driver® and are extremely useful for programming in any BASIS product on any operating system.

ResBuilder: Developing Screen Designs



The new forms design tool, ResBuilder, is dramatically improved from its equivalent in Visual PRO/5 1.0. Using ResBuilder, screen designs can be laid out quickly and easily with no programming. In fact, any computer user can design screens using ResBuilder. You can enlist end users to design screens the way they want them, or you can get graphic artists to design screens to your specifications and add artistic touches. Imagine the savings in time and hassle you can achieve if clients sign off on screen layouts before coding begins.

GUIBuilder: Putting It All Together



GUIBuilder is a programming workbench with a graphical user interface that includes easy access to DDBuilder and ResBuilder. From this workbench, programmers can also write and test GUI programs written in Visual PRO/5. By gathering these programming tools in one place, GUIBuilder makes development more pleasant and more productive.

Look beyond GUIBuilder's interface to the functionality it provides and you'll see more features that take Business Basic programming to a new level. The move from character-based to graphical user interfaces involves more than pretty fonts and beveled buttons; graphical interfaces are popular both because of their aesthetics and because they give operators more control and better efficiency. The basic design of interfaces has changed, and with it the programming that lies behind the design.

This difference is summed up in the phrase "event-driven programming." For example, one old character-based tradition was to require operators to tab through the first 10 items on a

screen to edit the item 11. In the GUI world, operators select item 11 with a mouse click, which generates an "event" that is intercepted and acted on by the underlying application. In event-driven programs, all the things an application's user does to interact with a graphical user interface, from entering text data to resizing a window, are passed along to the program as events. Fortunately, thanks to GUIBuilder, you as an application developer don't have to worry about all the behind-the-scenes details of generating and intercepting events. GUIBuilder sets all that up for you and lets you focus on the part your customer sees, namely event responses that are intuitive and helpful to the user.

Although event-driven programming requires rethinking interfaces, the basic business processes of aging, tracking inventory, pricing and such haven't changed, so existing programs don't have to be junked in a move to GUI, they just need new interfaces. GUIBuilder helps make the transition by providing a second window in which an existing program can be displayed. The programmer can toggle between new and existing programs, cutting and pasting existing code into the new version. For example, the routine that writes validated records to files after they are edited probably isn't going to change in a GUI program, so that routine can be quickly pasted into a GUIBuilder program.

By combining the power of BBx and the ease of use of ResBuilder, DDBuilder and GUIBuilder, Visual PRO/5 2.0 and later releases offer the best Business Basic development package on the market.

