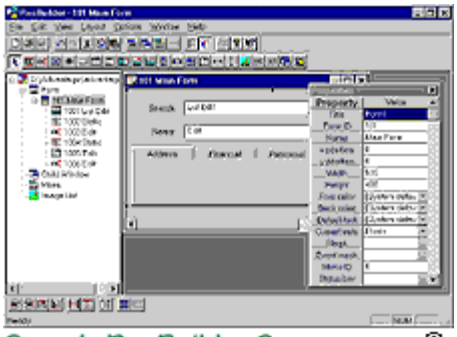
ResBuilder™: The User Interface Dictionary Builder

By Kurt Williams

Just a quick glance through today's software magazines can give the impression that three-tier application architecture is the latest, greatest software development idea. But the three-tier concept isn't really new. As early as the 1970s, Business Basic developers were creating loosely multitiered applications using dictionaries to define data and forms libraries to define character interfaces. As a result of this tiered structure, these developers were able to easily modify character-based interfaces without digging deeply into program logic or rewriting code. If a customer needed to change the placement of fields on a form, a developer could just run a text-based forms editor and instantly change the location of the field.



Sample ResBuilder Screen

Over the years, more Business Basic developers have embraced the three-tier application model and BASIS International has introduced tools that work with each tier. BASIS' DDBuilder™ provides GUI tools for building and maintaining a data dictionary. Visual PRO/5™ offers a solid interpreter for the middle tier of a three-tier program. And now, with Visual PRO/5 v2.0, BASIS is offering Business Basic developers ResBuilder, a new GUI tool that creates a dictionary of user interface objects for the top tier of the three-tier architecture. Using ResBuilder, existing objects can be rapidly retrieved, modified, saved, and then placed into production without changing a single line of code.

Visual Builder

ResBuilder's graphical work environment allows developers to build top-level forms, child windows, and menus. Forms are built by placing and sizing controls within the form's boundaries. ResBuilder supports all the standard controls available in Visual PRO/5 1.0 such as text edits, list boxes, list buttons, list edits, custom edits, static text, check boxes, radio buttons, and scroll bars. In addition, all the new Visual PRO/5 v2.0 controls, including tabs, grids, INPUTE and INPUTN, can be drawn and manipulated. Editing the properties of any object in the project is easy via the property sheet that floats on top of work when needed. Child windows and menus are defined as independent objects that can be referenced by any top-level form in the resource file for inclusion on that form.

Once a project is complete, it is saved to a binary resource file (.brc). Visual PRO/5 v2.0 then retrieves the resource library with the RESOPEN() and RESGET() functions and creates the resource on the screen for use by the program with the 'RESOURCE' mnemonic.

In an application, ResBuilder can maintain a .brc file for each program that interacts with the user in the GUI interface. In a general ledger application, there might be a .brc file for the journal entry function, one for the account inquiry function, one for the month end close function, and so on. In order to provide consistency, a developer might design the system so that each of these functions shares a common tool bar. Rather than create the tool bar in each function's .brc file, a programmer could place it in its own .brc. This saves time by requiring the definition of the tool bar once, and future changes to the tool bar would require editing only one file.

Rapid Prototype Designer

Ultimately, users pay the tab in any development project and, as a result, they like to get an idea of how the end product will look before the bill is presented. They are able to give a general idea of what they would like to see, but once presented with their original vision they often change their minds. With ResBuilder, developers can build prototype forms without writing code. Forms and dialogs can be drawn, reviewed with the user, and then modified quickly. By using a design, review, edit, review, edit, and review process of user interface design, user approval can be secured before serious coding begins. ResBuilder also preserves a great degree of flexibility well beyond the development and implementation cycles, saving everyone time, money, and frustration.

Effortless Maintenance Tool

User requests for changes never end with implementation. By using ResBuilder to maintain the user interface dictionary, changes to the user interface on production systems can be made almost effortlessly. Many modifications can be done by simply editing the .brc files in ResBuilder. Others may require code changes, but the impact is kept to a minimum by the separation of presentation from process.

Multiple installations can also present problems because users at different locations rarely request identical changes to the user interface. But because each installation will be using its own user interface dictionary, maintaining custom libraries is a snap.

Tools In The Box

Separating the maintenance of the user interface and the file structures from the application allows the developer to focus on the

heart of the system, the process. The data can be structured flawlessly and the user interface can have the perfect look, but it is the middle business-rules-processing tier that holds everything together. If the process is done correctly, the system will succeed. Anything that allows the developer to invest more time directly in building the business-rules- processing layer is a benefit.

Well-defined, rapidly developed, and easily maintained applications mean more competitive products and greater success for a software company. When combined, DDBuilder, Visual PRO/5, and ResBuilder provide developers a three-tier development toolbox that saves effort in every phase of the product life cycle by trimming customer approval times, cutting development schedules, and simplifying application maintenance.