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Back To The BASIC(s)

Three Apps For Programmers

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If you've ever wanted to program but found traditional languages such as C/C++ or Java too intimidating, consider BASIC. Although originally designed to teach novices how to program, BASIC has evolved into a full-fledged, modern language capable of doing everything C/C++ or Java can do. We tested three BASIC compilers, looking at how much power they offer while still retaining BASIC's traditional ease of use.



DarkBasic Pro

\$99.95

Interactive

www.interactive.com

CPUs: 2

■ Interactive DarkBasic Pro

DarkBasic is designed to do nothing but create games, but it does this very well. In the old days, writing a video game meant using assembly language or C/C++ to control the video graphics card. To make **programming** Windows' games easier, Microsoft developed DirectX, allowing anyone to create video games using any language. So DarkBasic simply wraps the BASIC language around the DirectX graphics library to give you the power to create video games with BASIC.

DarkBasic provides a variety of BASIC commands for doing everything associated with a video game, including tracking the motion of a joystick, detecting collisions between objects, and even creating the appearance of particles, such as snow, smoke, or fragments of buildings blowing up.

Whatever you need to create any type of a video game—from FPSs to arcade games to board games—chances are DarkBasic offers a command to create it.

Because DarkBasic's commands encapsulate multiple graphics commands, its programs can be remarkably small. To demonstrate DarkBasic's power and simplicity, you can create a rotating 3D cube in just four lines:

```
Make object cube 1,100
```

```
Do
```

```
YRotate object 1, object angle y(1)+0.1
```

```
Loop
```

DarkBasic comes packed with plenty of demo programs to show how to create outer space backgrounds, medieval dungeons, and drifting fog. Amazingly, most of these demos offer plenty

of graphical detail, sound, and joystick support in less than 200 lines of code.

Unfortunately, DarkBasic's biggest flaw lies with its graphics compatibilities. Running DarkBasic on a clone computer using Windows XP and an NVIDIA GeForce 256 graphics card kept giving an error message that stopped any demo from working. On a Sony VAIO notebook with WinXP, some demos ran, but others simply displayed a blank screen. Only on an older Dell running Windows 2000 did all the demos run without problem.

DarkBasic's technical support tried to help but couldn't pinpoint if the problem was with WinXP, DarkBasic, or the graphics card in each computer. If you buy DarkBasic, be aware that it may have problems on your particular system, which is a shame because the app really does live up to its goal of letting you create video games using the much simpler BASIC. The program runs on Windows 98/Me/2000/XP.



**Visual Basic .NET 2003
Standard Edition**

\$109

Microsoft

www.microsoft.com

CPUs: 3.5

■ Microsoft Visual Basic .NET 2003 Standard Edition

Microsoft created Visual Basic .NET to combine C/C++'s power and flexibility with BASIC's ease to learn. Like C++, Visual Basic .NET offers a fully object-oriented language that includes inheritance, which encourages programmers to reuse existing code.

Without inheritance, reusing code means copying and pasting it in multiple locations throughout a program. If you modify each copy of the code, you could wind up with numerous versions of the same code scattered throughout your program. Not only does this repeat the same code (making your program larger), but if you need to rewrite the code, you have to find and change each copy everywhere in your program; otherwise your program may not work correctly.

Inheritance solves this by storing multiple copies of code in memory instead of in your program. As a result, your program can be smaller and easier to maintain. (The drawback is gobbling up more memory to run it.) If you want to modify code later, you modify it in one place instead of multiple places.

Besides its object-oriented features, Visual Basic .NET also gives BASIC programmers access to previously restricted areas, such as the Windows Registry, which tracks all the programs on your computer. When you type a Visual Basic keyword into the editor, a window pops up to display both the valid parameters and a short explanation with tips for using that particular keyword in your program. To simplify scrolling through large programs, the editor can collapse and expand code buried within subprograms. That way you can selectively choose which part of your program to view.

Programs you create in Visual Basic .NET won't run unless you include the freely distributable .NET Framework. While forcing Visual Basic .NET apps to run with the .NET Framework doesn't make Visual Basic .NET programs run any differently than ordinary executable files, the lack of the .NET Framework means your programs won't run at all.

Visual Basic .NET may be nearly as powerful as C/C++, but development is limited to Win2000/XP. If you're familiar with BASIC, you'll find Visual Basic .NET a revolutionary improvement, but if you're just learning to program, Visual Basic .NET may prove nearly as complicated to learn as C/C++ but without the job marketability that C/C++ programmers enjoy. You can't go wrong learning Visual Basic .NET, but then again, you might be better off just learning C/C++ instead.

■ Real Software Realbasic 5.2.4 Standard



Realbasic combines Visual Basic's ease of use with the



Realbasic 5.2.4 Standard
\$99
Real Software
www.realbasic.com
CPUs: 4

cross-platform capability to create programs for Windows and Mac OS Classic/X. While creating programs for multiple platforms is appealing, the process isn't as simple as it sounds. Each OS behaves differently, so you may need to write additional code just to make your program runs under each OS' quirks.

Despite the visual differences among OSes, Realbasic takes care of making your program look like a native application. When running a Realbasic program under WinXP, the Minimize, Maximize, and Close icons appear in the upper-right corner of a window, while under Mac OS X, they appear in the upper-left corner.

Like a true compiler, Realbasic can turn your apps into a single executable file. If you wrote a similar program in a language like Java, you'd have to give someone a copy of your app and a copy of additional files needed to make your Java program work. Because Realbasic compiles your program into a single executable file, you don't need to do this.

To design a UI, you can just click an object you want to display, such as a radio button or checkbox, and drag it to its location in a window. Realbasic even displays vertical and horizontal guides to help you align objects so your UI appears neat.

As you type BASIC commands, Realbasic's editor displays text in different colors so you can see which commands are reserved words (words that make up the BASIC language) and which commands are unique to your program. This helps you focus on just the commands unique to your program, which is where you're apt to find problems that keep it from working.

Ultimately, Realbasic offers enough power for professional programmers but retains the simplicity that makes BASIC accessible to novices. If you buy the Macintosh and Windows version (or the \$399 Professional Edition version), you can create programs for both OSes. The program runs on Windows 98/Me/NT/2000/XP and Mac OS Classic 8.1+/OS X. ■

by Wallace Wang

Programming Add-ons

Before you release your finished BASIC program, you may also need four additional programming **tools**, including an installer, help authoring tool, license protector, and executable compressor.

An installer copies all the files your program needs to a hard disk. Because many programs contain examples and tutorials, an installer makes it easy for users to get your program running while ensuring they won't miss copying a crucial file. A couple apps include InstallShield Express (\$349; www.installshield.com) and Wise for Windows Installer (\$449; www.wise.com).

You should include a help system for your program, but creating help files can be tedious. Thus, many programmers use special help authoring tools that make writing, organizing, and displaying files fast, easy, and professional looking. One tool is HelpScribble (\$99; www.helpscribble.com).

Commercial and shareware programs have to worry about piracy, so many programs require users to type in a registration code before they can install the program. With a license protector as part of your app, you can release a crippled or time-limited version. When users type in a proper registration code (after paying for your program), your program allows access to all its features. Consider AntiCrack Protector (\$149; www.siskinsoft.com) and MPCSoftWeb Registration Code Creator (\$20; www.mpcsoftweb.co.uk).

Finally, many programmers use an executable compressor, which squeezes the size of your program file to half its original size while simultaneously making it more difficult for people to crack your software and bypass the registration process. Two applications include Registration Creator (\$129.95; www.dlcomputing.com) and EasyLicenser (\$15; <http://www.agilis-sw.com/ezlm>).

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