

Calc4Web

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Write computer programs without debugging or testing

Have you ever written a program that worked on the first try? Neither have we. As any programmer knows, most of the time spent writing code is not writing the algorithm, it's debugging, and testing. And debugging again. And testing again...

Calc4Web breaks this cycle once and for all, giving you the ability to write working C++ programs instantly, the first time. What's the secret? Calc4Web lets you use Excel to code in C++. Simply design your algorithm in an Excel spreadsheet, push a button, and Calc4Web will instantly convert your spreadsheet into a C++ subroutine that's immediately usable. No more debugging. No more testing. No more screaming at the computer. Since Calc4Web's C++ code is generated by the computer itself, there's no room for human error: perfect working code gets written every time.

Calc4Web transforms the spreadsheet into a true visual programming environment. Even veteran programmers will significantly cut project development time.

Calc4Web makes even veteran C++ programmers more productive. Not just because they won't have to debug and test, but because Excel becomes a real visual programming language, unlike C++ (or Visual Basic, for that matter). Think about how code gets written in a procedural language: A has to come before B which has to come before C. Everything must be specified, step by step. Excel, on the other hand, is like a free-form tool: lay out your logic anywhere, and the inherent relationships among the variables is automatically, and naturally, defined. Excel is the ultimate environment, since you get to see the formulas, as well as the results of the formulas, all along the way. Errors are found and fixed much faster. Projects shrink from weeks to days, and hours to minutes. Calc4Web lets you go from prototype to production at the push of a button.

"With Calc4Web, I'm able to write sophisticated C++ programs in minutes using only an Excel spreadsheet. Doing it directly in C++ would take several days."

Jerome Montpetit Risk Manager, Canadian Financial Institution

Write structured programs with Excel

Once Calc4Web converts the spreadsheet, it compiles the generated C++ code into both DLLs and Excel addins. And since Calc4Web also converts spreadsheets that themselves contain addin functions, it's simple to implement structured coding techniques in Excel. For example, write a simple spreadsheet to compute the present value of a dollar. Then, use the newly created function in another spreadsheet to sum up the present value of a stream of \$100 annual interest payments for the next ten years, and turn this into another function. Then, use the newly created cashflow function to price a portfolio of 30 streams of interest payments. And on and on.

Granted, there are some things that aren't easy to do in a spreadsheet. Looping, for example. But Calc4Web has you covered there, too: write the loop in VBA, calling into a Calc4Web generated function. And then have Calc4Web convert the VBA to C++ code. Virtually any calculation engine that can be written in C++ (or any other language) can be created with Excel and Calc4Web. Only faster. There are plenty of visual tools out there that remove the drudgery of programming user interfaces. Now, there's finally a visual tool for programming calculation logic: Calc4Web.

Migrate spreadsheets to other systems up to 500 times faster

Calc4Web lets you port your spreadsheets to front-, middle-, and back-office systems in record time: Weeks of work can now be done in minutes, resulting in spreadsheet integrations that are up to 500 times faster.

This incredible speedup is achieved by eliminating the bulk of the work normally involved with porting spreadsheets to other systems. Programmers no longer need to spend time learning and understanding spreadsheet logic and recoding it. This not only saves IT time and resources, but perhaps more importantly also saves the Excel user's time. And, because the spreadsheet has now been reprogrammed by a machine, instead of a person, it doesn't need to undergo the extensive testing and bug fixing that's normally involved in a conversion. Which means Calc4Web lets you jump-start the migration process. Spreadsheet migrations now take minutes, not weeks or months.

Port spreadsheet logic anywhere it's needed, including the Web

Calc4Web lets you develop an application once, and then use it everywhere without lots of recoding. That's because Calc4Web generates its output in several formats, providing maximum flexibility in deploying applications: DLL subroutines callable from high-level languages on Windows, Excel addin functions, .so subroutines callable from high-level languages on Unix/Linux, functions directly callable from ASP Web pages and functions which are callable from anywhere as Web services.

Calc4Web doesn't force you to keep the look and feel of a spreadsheet in your Web pages. Instead, you're free to design them any way you like, and then simply call into the calculation logic embedded in the generated DLL. Better yet, Web services are an exciting development that allows algorithms converted by Calc4Web to reside on one computer on the Internet, callable from within virtually any application (Web-based or not) elsewhere on the Internet. So a trading system in Tokyo can use a pricing model hosted in New York, developed by a researcher in London who built it in Excel.

Secure spreadsheets and algorithms

Calc4Web does more than write C++ code for you: it compiles it, as well. This step converts it from C++ to a series of 0's and 1's that the computer knows how to read, but people don't. This provides two great benefits: (1) you can distribute the binary code, instead of the spreadsheet, to other users, without worrying about anyone tampering with the spreadsheet, and (2) the 0's and 1's become a form of encryption, so proprietary algorithms can be kept from prying eyes, allowing for safer and wider distribution of intellectual property.

Accelerate spreadsheets up to 300 times

By creating compiled code, Calc4Web has the potential to make your spreadsheets run much faster. That's because the conversion to 0's and 1's takes place once, at compile time, instead of every time Excel is asked to recalculate the spreadsheet. The difference can be dramatic: some spreadsheets run 300 times faster after Calc4Web works its magic. And if you've been calling into Excel as a COM server, you'll feel like you've just upgraded from a Yugo to a Lamborghini.

	A	B	C
1		Einstein's Theory of Relativity	
2			
3	m	500	
4	c	186,816	
5			
6	e	17,450,108,928,000	
7			
8		17,450,108,928,000	=RELATIVITY(500)

Einstein's Theory of Relativity ($e=mc^2$) is converted from Excel into working C++ code, complete with full error handling, and then used as an addin function in cell B8.

```
extern "C" {
    typedef double relativity(double xls2c_SHEET1_B4)
    {
        bool reterror = false;
        if (!initxls2c()) { return 0;}
        try {
            freesall();
            u_na.which = which_error: u_na.uu.e = 42;
            SHEET1_B5=186816;
            SHEET1_B4=xls2c_SHEET1_B4;
            try { SHEET1_B7=SHEET1_B4*POWER(tonumber(SHEET1_B5),tonumber(2)); } catch (xl2cerror x) { SHEET1_B7 = x;}
            xls2cinternal_retval = tonumber(SHEET1_B7); } catch (xl2cerror ) { reterror = true; }
            if (reterror) return 0;
            return xls2cinternal_retval;
        }
    }
}
```

Please visit www.Calc4Web.com for a free trial to find out how much you can benefit from Calc4Web.