Calling C And C++ From IDL Using Microsoft Visual C++ And Call_external: Demystifying Creating And Debugging An IDL DLL

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Synopsis

In this book, we will explain the use of Microsoft Visual C++ Express to interface C and C++ code to IDL. Visual C++ Express is available for free to download from Microsoft website. Additionally, we will explain the use of Microsoft Visual C++ Professional to interface C and C++ code with IDL. There are a number of advantages of using Microsoft Visual C++ environment such as 1.You can use C and C++ code. 2.Your code may exist on multiple files.3.Setting Microsoft compiler options is simple. For example, optimizing the code for speed.4.You can interface to other libraries such as STL and OpenCV.5. You can Debug the DLL.In this book, we will use examples to explain calling C and C++ functions from IDL. This book will give you a working knowledge within few minutes and will make understanding this topic much easier.There are some circumstances that you may need IDL to call code written in other programming languages such as C, C++ or FORTRAN. Examples of such circumstances are1.You need to interface some type of hardware, such as a camera or a stepper motor, to IDL. The driver of this hardware may be written in other programming languages such as C. 2.You have an existing code written in C, C++ or other programming language and you need to call this code from IDL.3.You have an analysis routine in IDL that is just too slow and you would like to write this routine in anther programming language to improve its performance.4.You would like to use a library that is callable from another programming language such as STL, ITK and OpenCV. There are a number of methods to interface code written in other programming languages to IDL. For example, you can use SPAWN, call_external or DLMs. There are advantages and disadvantages of each method. In this book, we will discuss the call_external method only. The biggest advantage of the call_external method is its simplicity. Also, the call_external method is much faster than the DLMs method. In other words, calling a C++ function from IDL using call_external executes much faster than calling the same function using DLM method. There are a number of examples in IDL that explain how to use the call_external method. These examples use make_dll IDL function. There are a number of disadvantages of using the make_dll function to build a library callable from IDL. Examples of these drawbacks are1.The make_dll function can be used for C code only. It is not capable of using C++ code.2.The code compiled using the make_dll function must be in one file. There are some cases in which your code exists in a number of files.3.Setting a compiler options using make_dll method is not easy.

Book Information

File Size: 2695 KB

Print Length: 118 pages

Publication Date: July 31, 2012

Sold by: Digital Services LLC

Language: English

ASIN: B008RMYAHM

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Enabled

Enhanced Typesetting: Enabled

Best Sellers Rank: #1,341,480 Paid in Kindle Store (See Top 100 Paid in Kindle Store)   #108 in Books > Computers & Technology > Programming > Languages & Tools > Debugging   #1745 in Books > Computers & Technology > Programming > Microsoft Programming > C & C++ Windows Programming   #1829 in Books > Computers & Technology > Databases & Big Data > Data Processing

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