Thoughts along developing myHelper

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Abstract

I'm going to write this library for my own use but with a long term plan such that the generality level is no less than one of a shared library. Until 2017-02-05, the rough skeleton is thought to be a CUDA-C/C++ dynamic library compilable on both unix and windows and on windows using Excel as the interactive GUI.

Part I
Top-Down

This part starts with Excel programming, moving downwards the center of an XLL that stores CUDA-C programs.

1 Excel UI

2 Excel's C API and XLL Building

Tools: Excel SDK page on MSDN: `https://msdn.microsoft.com/en-us/library/office/bb687883.aspx` Find the files (dropbox/xl):

1. XLCALL.H(1481), XLCALL.CPP(120);
2. FRAMEWRK.H(71), FRAMEWRK.C(2090)
   (a) If made copies of those include files to the project directory, the angle bracktes should be changed to quotes.
3. MemoryManager.h(58), MemoryManager.cpp(207);
4. MemoryPool.h(34), MemoryPool.cpp(80);
5. Generic.sln(with GENERIC.C, GENERIC.H, GENERIC.DEF, RESOURCE.H).

Create dllmain.cpp

1. Defines the XLL function table Bovey et al. [2009]
2. Holds DLLMain, the api entry.
3.

Part II

Bottom-Up

This part starts with CUDA programming, moving upwards the center of a DLL that can be called by Excel's C API.

3   GPU Hardware

4   CUDA Programming

References

Bovey, Wallentin, Bullen, and Green. *Professional Excel Development - The Definitive Guide to Developing Applications using Microsoft Excel, VBA, and .NET*. 2009.