

利用CMake在Windows環境下快速建立OpenCV專案

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在windows下開新的OpenCV專案每次都要手動設定dll、lib等等相關路徑，懶人如我，設定兩次後就不耐煩了，到底有沒有更快的方式，快速建立專案？而解方就是使用CMake

環境

- Microsoft Windows 10
- Visual studio 2015
- OpenCV 3.2
 - 安裝路徑：c:\opencv
- Cmake 3.7.1

步驟

1. 建立專案資料夾example
2. 在example資料夾中建立OpenCV程式碼文件
DisplayImage.cpp

```
#include <stdio.h>
#include <opencv2/opencv.hpp>

using namespace cv;

int main(int argc, char** argv )
{
    if ( argc != 2 )
    {
        printf("usage: DisplayImage.out <Image_Path>\n");
        return -1;
    }

    Mat image;
    image = imread( argv[1], 1 );
```

```

if ( !image.data )
{
    printf("No image data \n");
    return -1;
}
namedWindow("Display Image", WINDOW_AUTOSIZE );
imshow("Display Image", image);

waitKey(0);

return 0;
}

```

3. 在example資料夾中建立CMakeLists.txt

```

cmake_minimum_required(VERSION 2.8)

project(OpenImage)
MACRO(MY_DEFINE_EXAMPLE name srcs)
    add_executable(${name} ${srcs})

    # 設定 include path
    include_directories("."
        "C:\\opencv\\build\\include"
        "C:\\opencv\\build\\include\\opencv"
        "C:\\opencv\\build\\include\\opencv2")

    # 設定 library path (自己編譯出來的 OpenCV library 位置)
    set(MYLIBPATH "C:\\opencv\\build\\x64\\vc14\\lib\\")
    target_link_libraries(${name} ${MYLIBPATH}opencv_world320d.lib)

    # 使用 Unicode
    add_definitions(-DUNICODE -D_UNICODE)
ENDMACRO(MY_DEFINE_EXAMPLE)

MY_DEFINE_EXAMPLE(DisplayImage    DisplayImage.cpp)

```

4. 在Command-line中cd至example資料夾下 (安裝cmake時需將cmake加到path中)

```

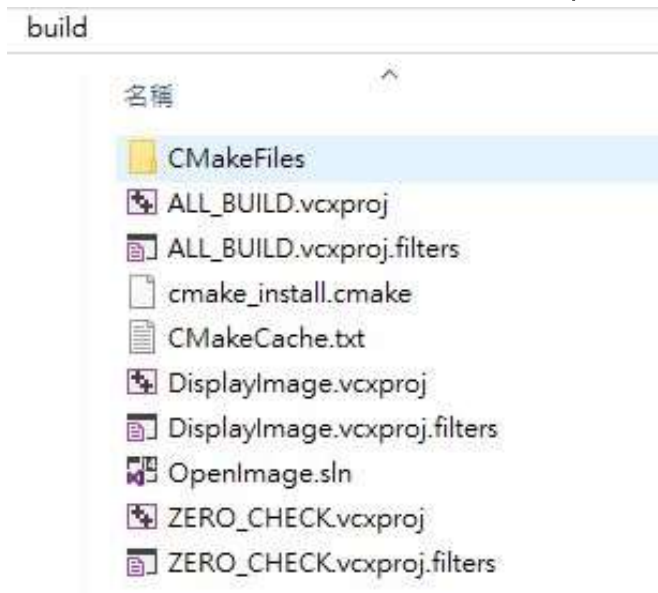
cd example
mkdir build
cd build
cmake.exe -G "Visual Studio 14 2015 Win64" ..

```

成功完成Cmake

```
MINGW64:/c:/Users/jjkka/Desktop/example/build
$ cmake ..
-- Building for: Visual Studio 14 2015
-- The C compiler identification is MSVC 19.0.24215.1
-- The CXX compiler identification is MSVC 19.0.24215.1
-- Check for working C compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/cl.exe
-- Check for working C compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/cl.exe -- works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working CXX compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/cl.exe
-- Check for working CXX compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/cl.exe -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- Configuring done
-- Generating done
-- Build files have been written to: C:/Users/jjkka/Desktop/example/build
jjkka132@MODERN MINGW64 ~/Desktop/example/build
$ |
```

5. 在build資料夾中應出現以下檔案，開啟OpenImage.sln並對"DisplayImage"按下右鍵編譯



6. 編譯成功後在 example/build/Debug 中會出現 DisplayImage.exe
7. 複製 opencv_world320d.dll 與 lena.jpg 至同資料夾中
8. 用以下指令執行 DisplayImage.exe

```
./DisplayImage.exe lena.jpg
```

9. 執行結果如下

