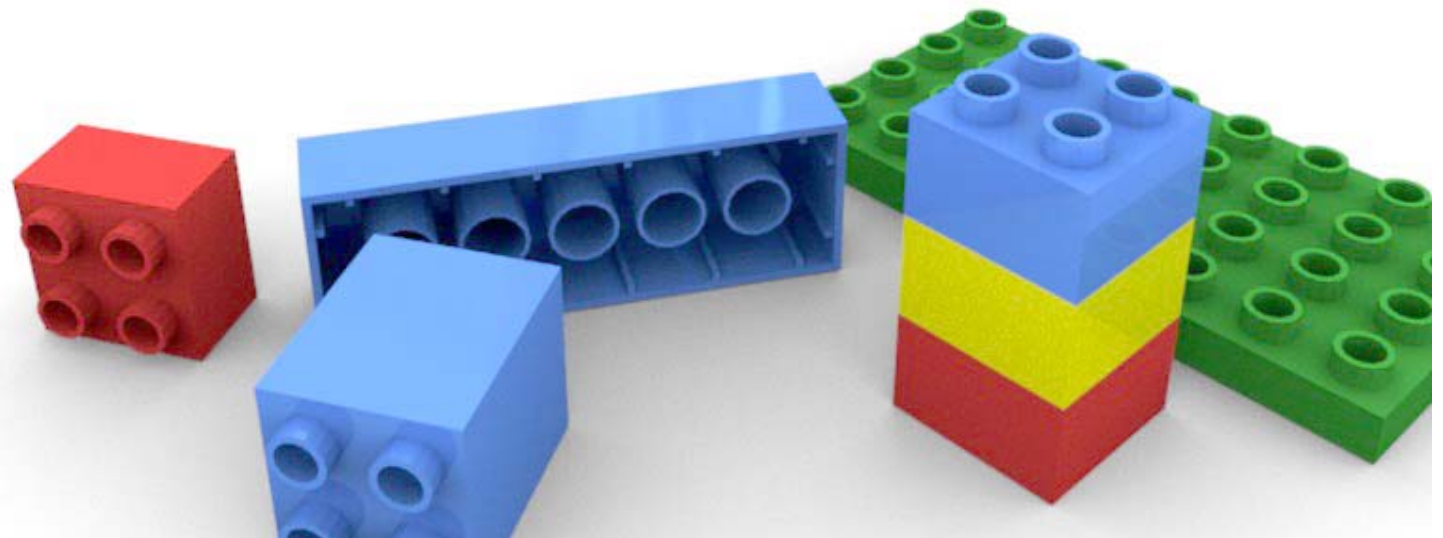


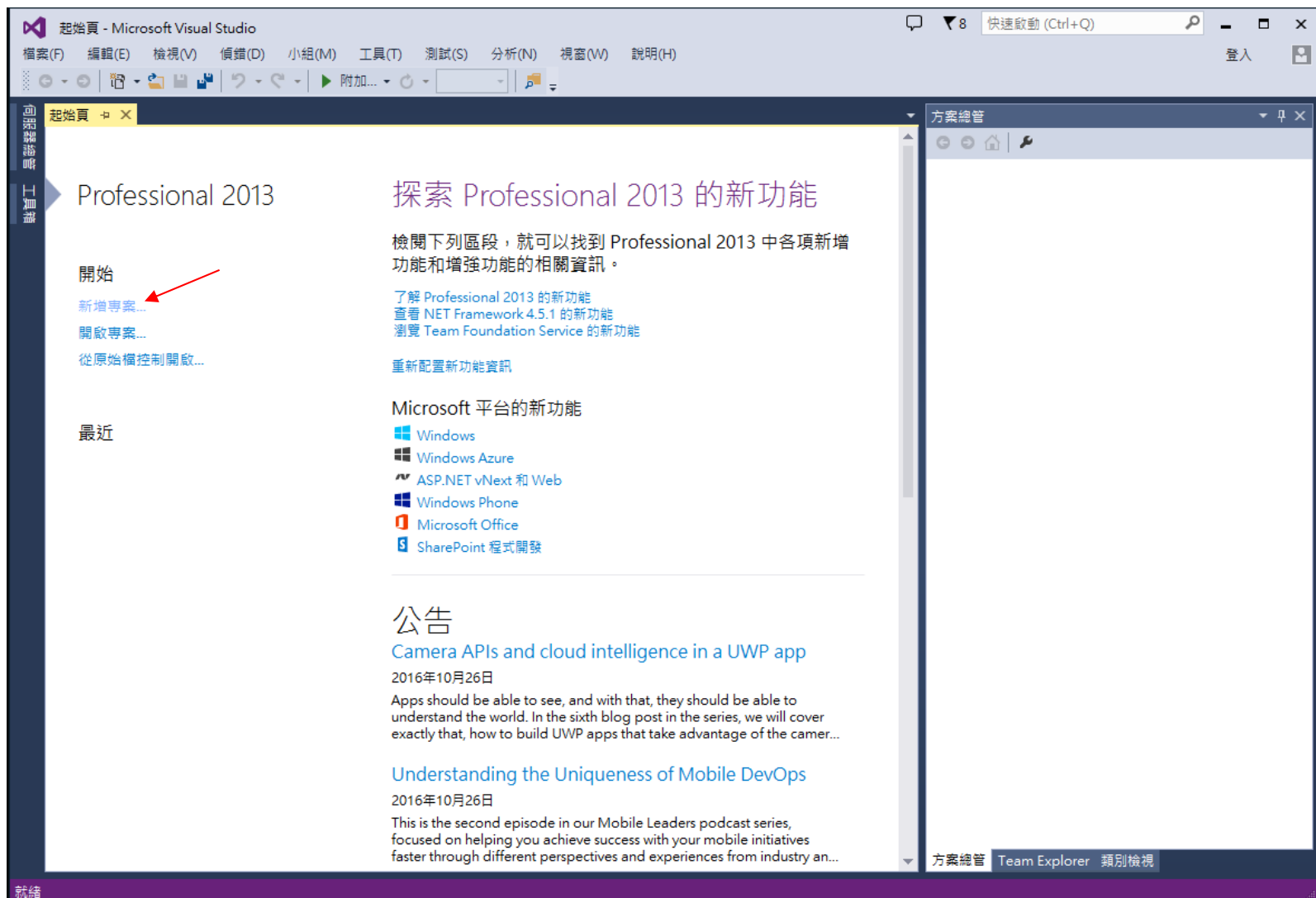
C++程式講解

影像處理

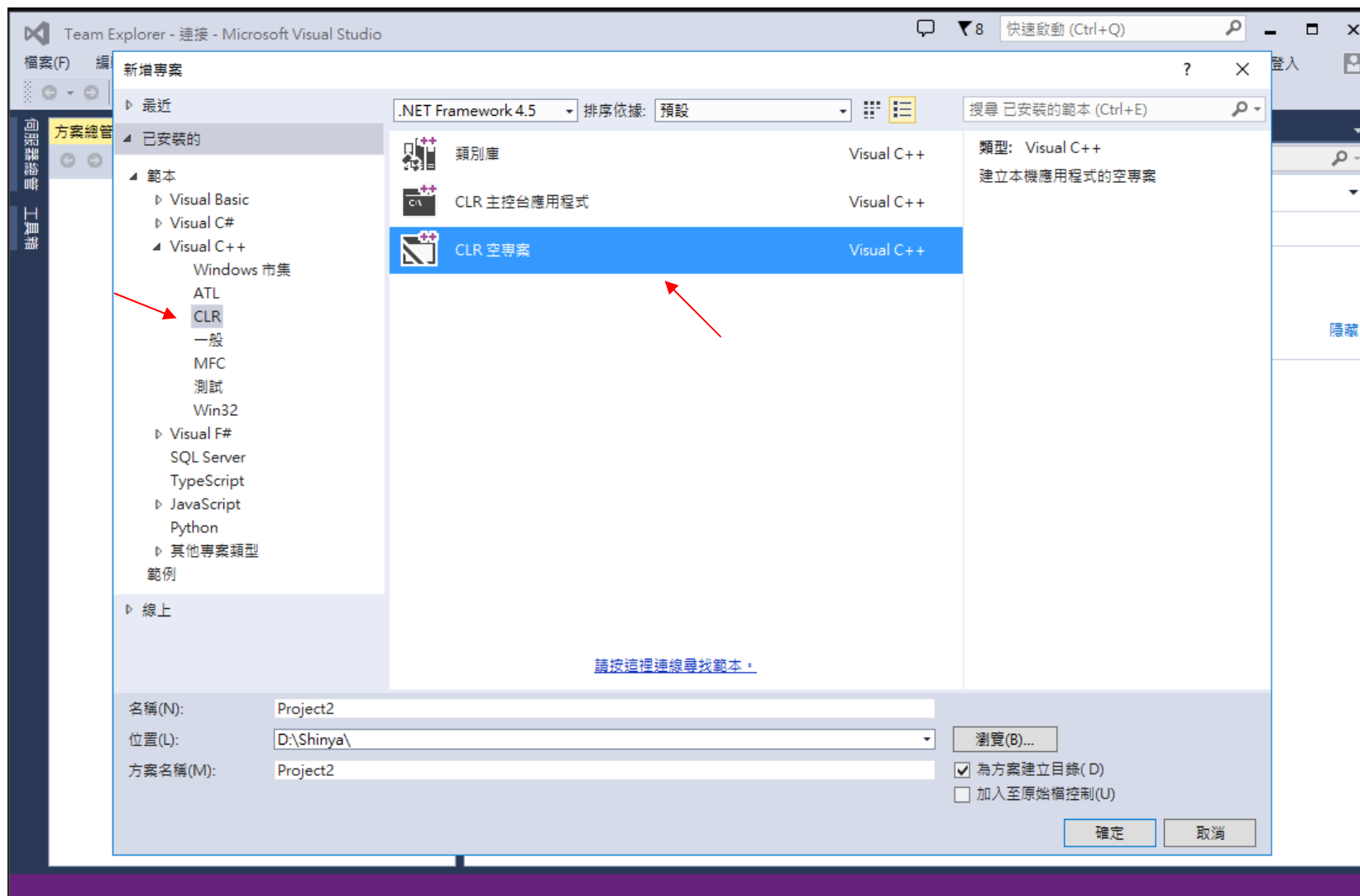
2021.10.07



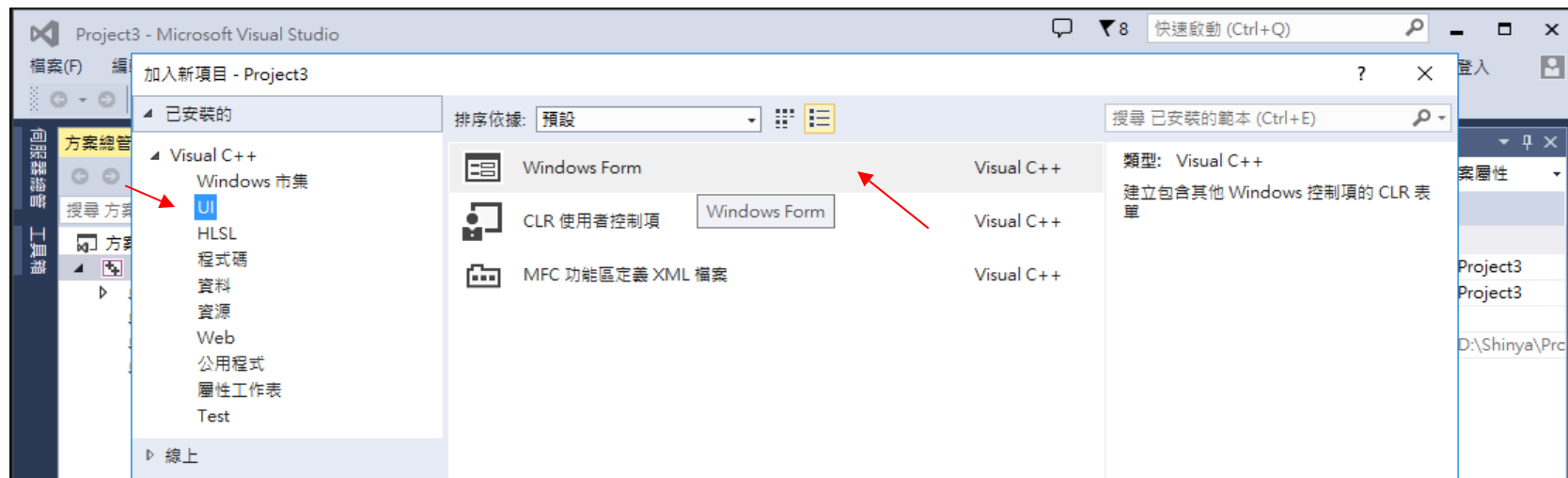
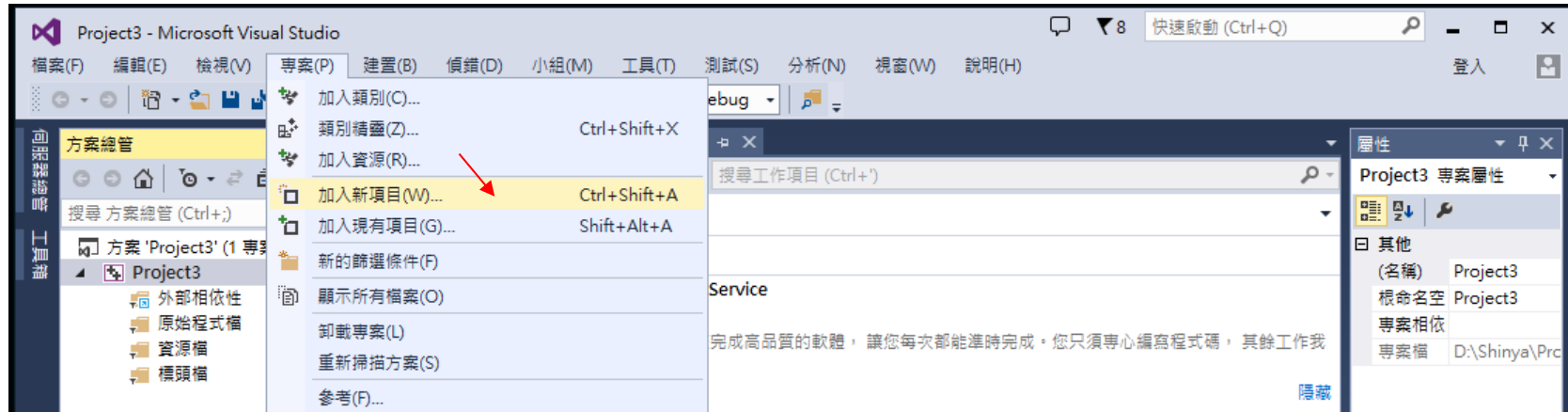
起始畫面



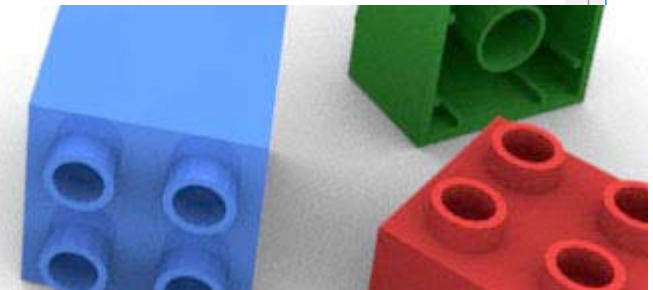
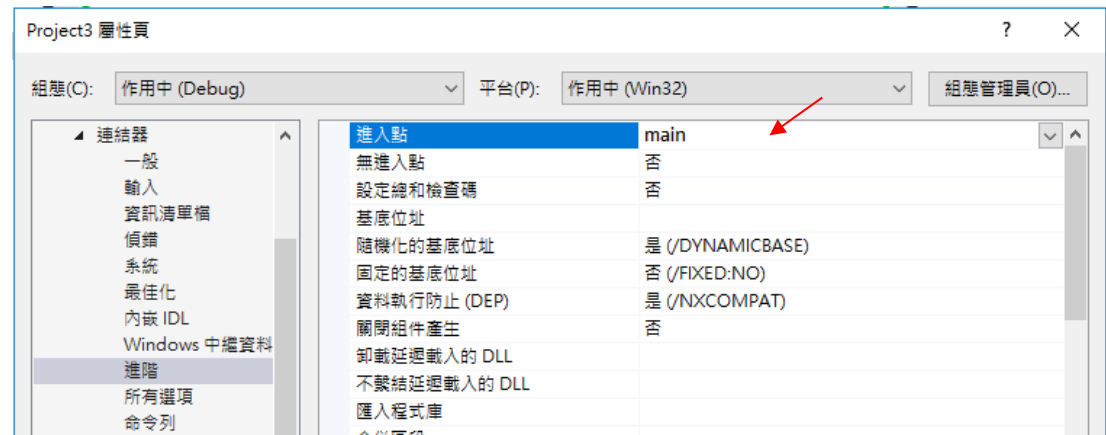
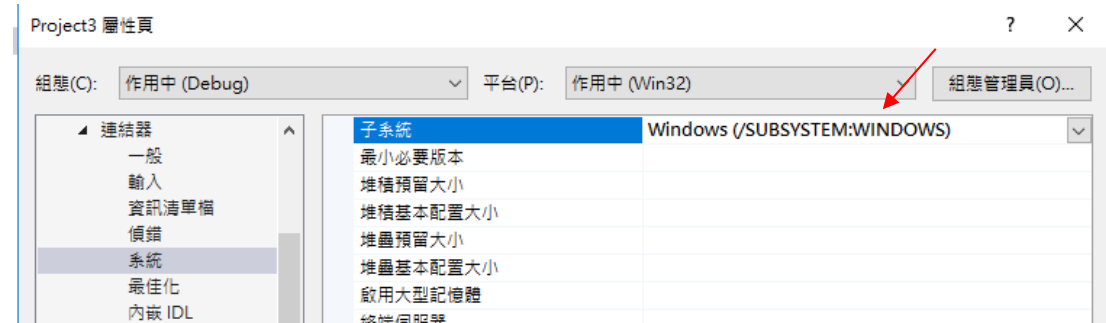
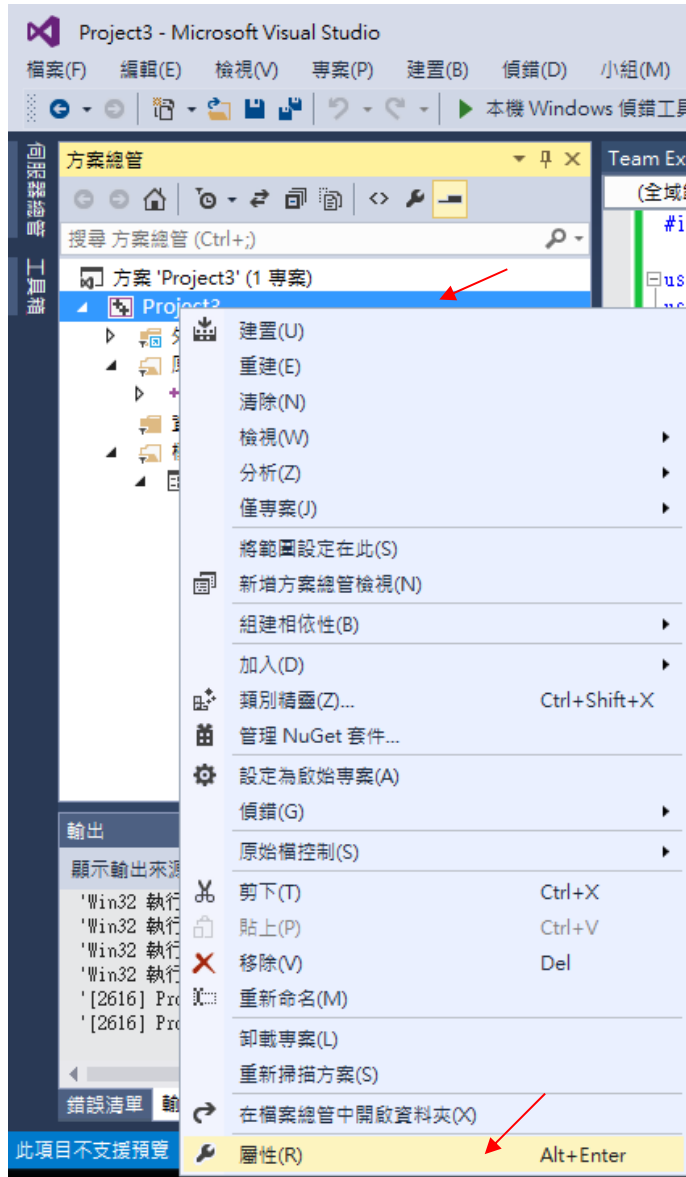
新增專案



新增專案(2)

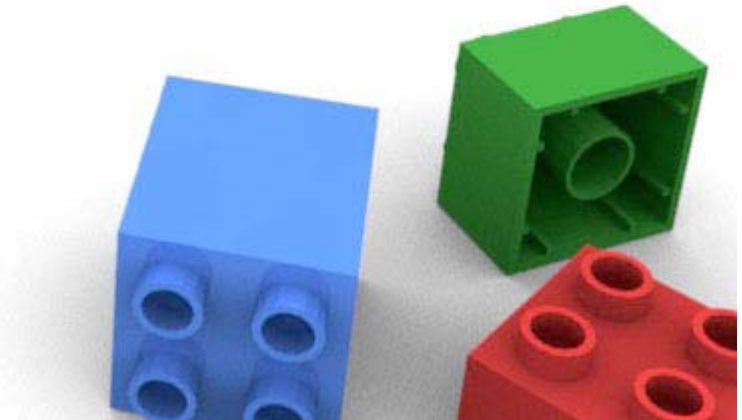


新增專案(3)

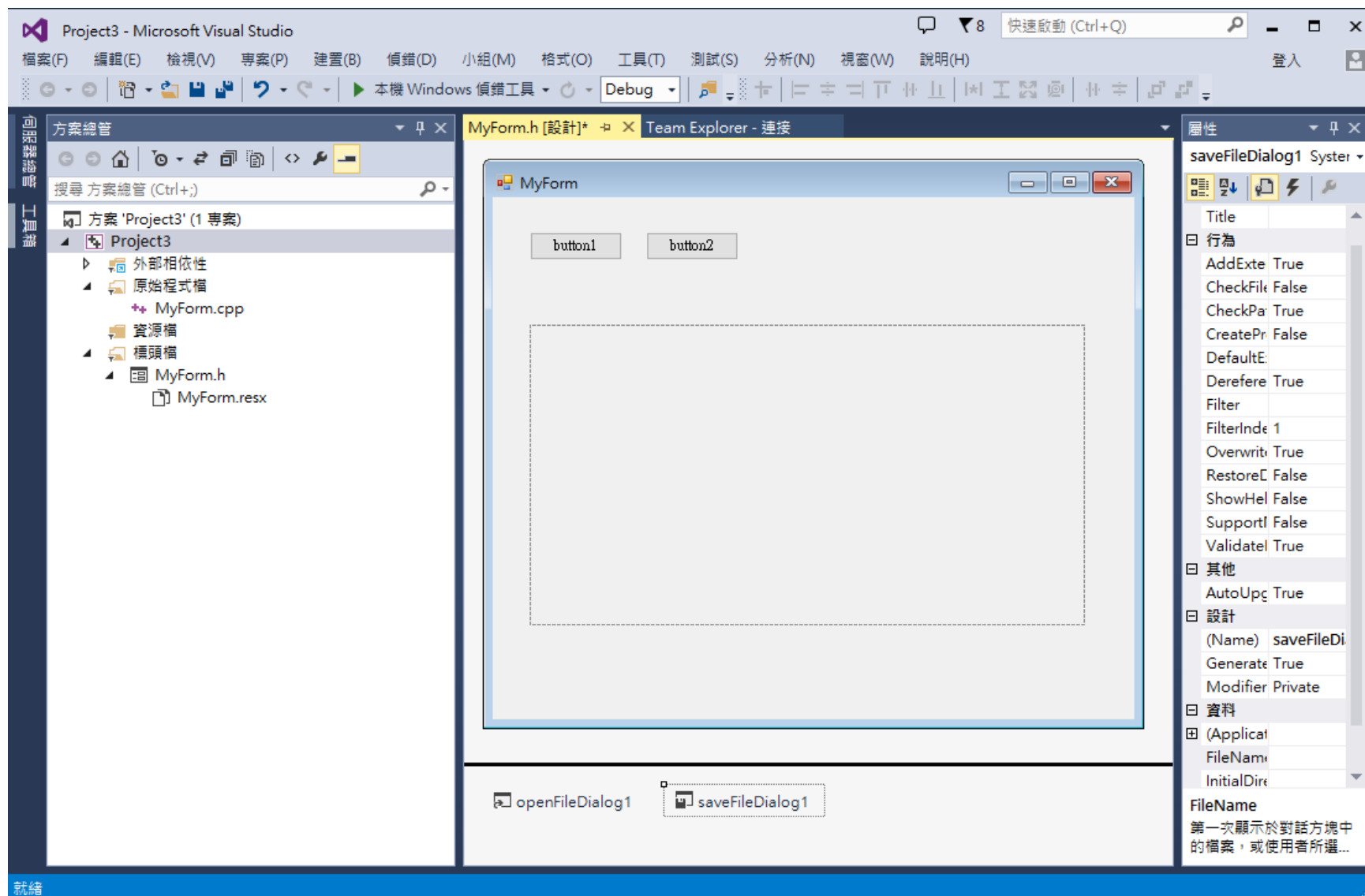


Add Items

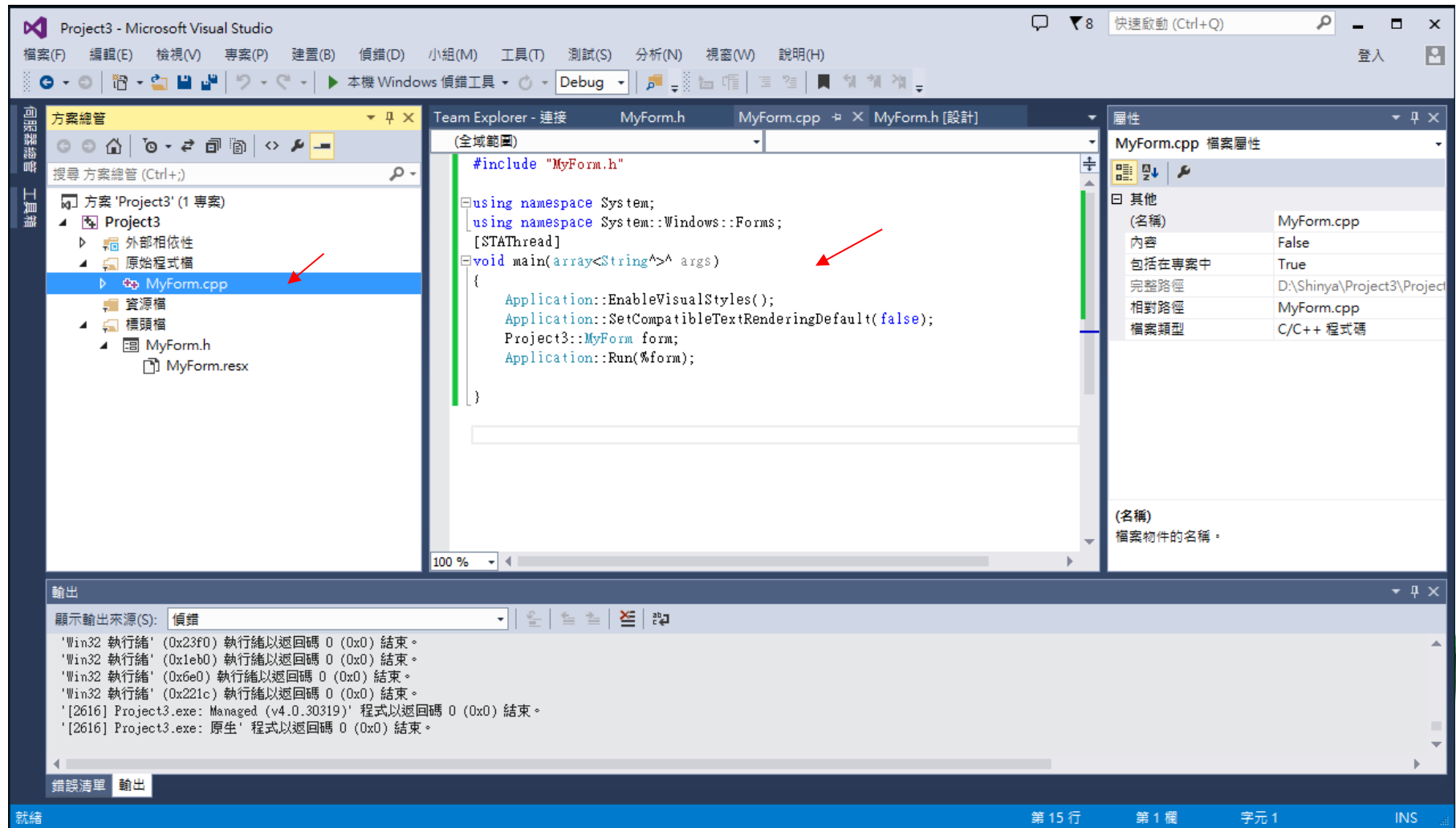
- 加入一個 Button 、 pictureBox 、 openFileDialog
、 saveFileDialog
 - Button: 執行 button 內部的程式碼
 - pictureBox: 展示圖片
 - openFileDialog: 開檔需要的執行元件
 - saveFileDialog: 存檔需要的執行元件



編輯界面



Coding

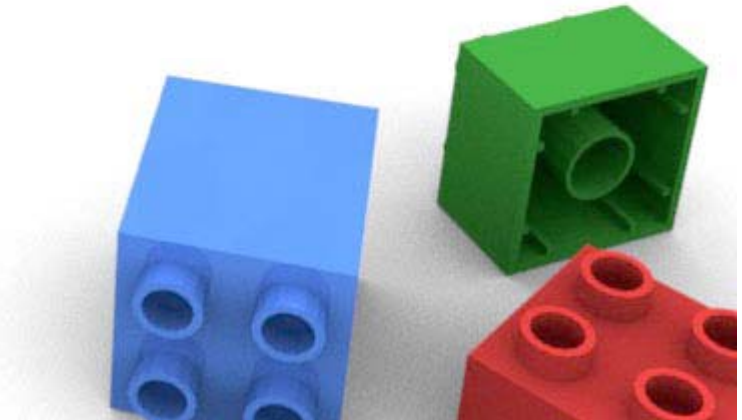


(可參考範例程式)

Code for read image, inverse and display

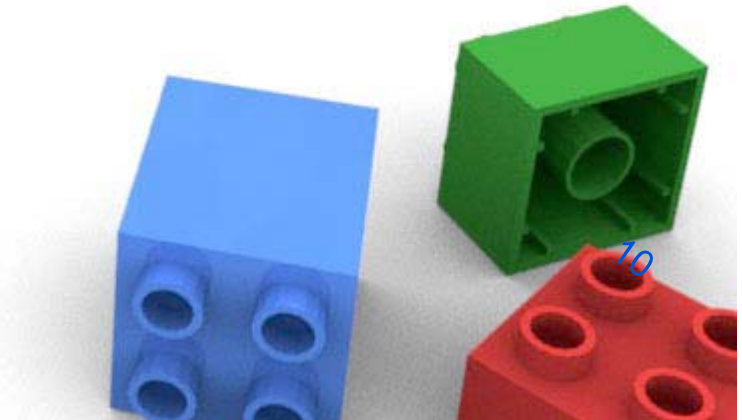
```
if( openFileDialog1->ShowDialog() == System::Windows::Forms::DialogResult::OK)
    // 如果成功開檔
{
    Bitmap^ openImg=gcnew Bitmap(openFileDialog1->FileName);
    Bitmap^ temp = gcnew Bitmap(openImg ->Width,openImg->Height);
    //宣告暫存的 Bitmap
    pictureBox1->Image = openImg;
    for(int i = 0; i < temp->Height ; i++)
        for(int j = 0; j <temp->Width ; j++)
        {
            Color RGB = openImg->GetPixel(j,i);
            //讀取影像平面上 (j,i) 的 RGB 資訊
            //這邊要注意因為縱軸座標是 i 橫軸座標是 j 所以要寫成 (j,i) ;
            int invR = Convert::ToInt32(255-RGB.R);
            int invG = Convert::ToInt32(255-RGB.G);
            int invB = Convert::ToInt32(255-RGB.B);
            //RGB 是VS內建的class 可以直接讀取影像的色彩資訊 R = Red G = Green B =Blue

            temp->SetPixel( j, i, Color::FromArgb(invR, invG, invB ) );
        }
    pictureBox2->Image = temp;
}
```



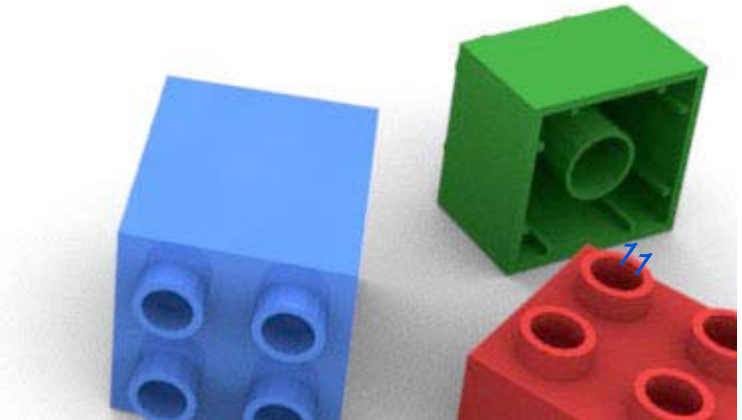
Code for save image

```
SaveFileDialog ^ saveFileDialog1 = gcnew SaveFileDialog();  
saveFileDialog1->Filter = "JPeg Image|.jpg|Bitmap Image|.bmp|Gif Image|.gif";  
saveFileDialog1->Title = "Save an Image File";  
  
if (saveFileDialog1->ShowDialog() == System::Windows::Forms::DialogResult::OK) {  
    String^ sfd = saveFileDialog1->FileName;  
  
    pictureBox2->Image->Save(sfd, System::Drawing::Imaging::ImageFormat::Jpeg);  
  
} //button
```

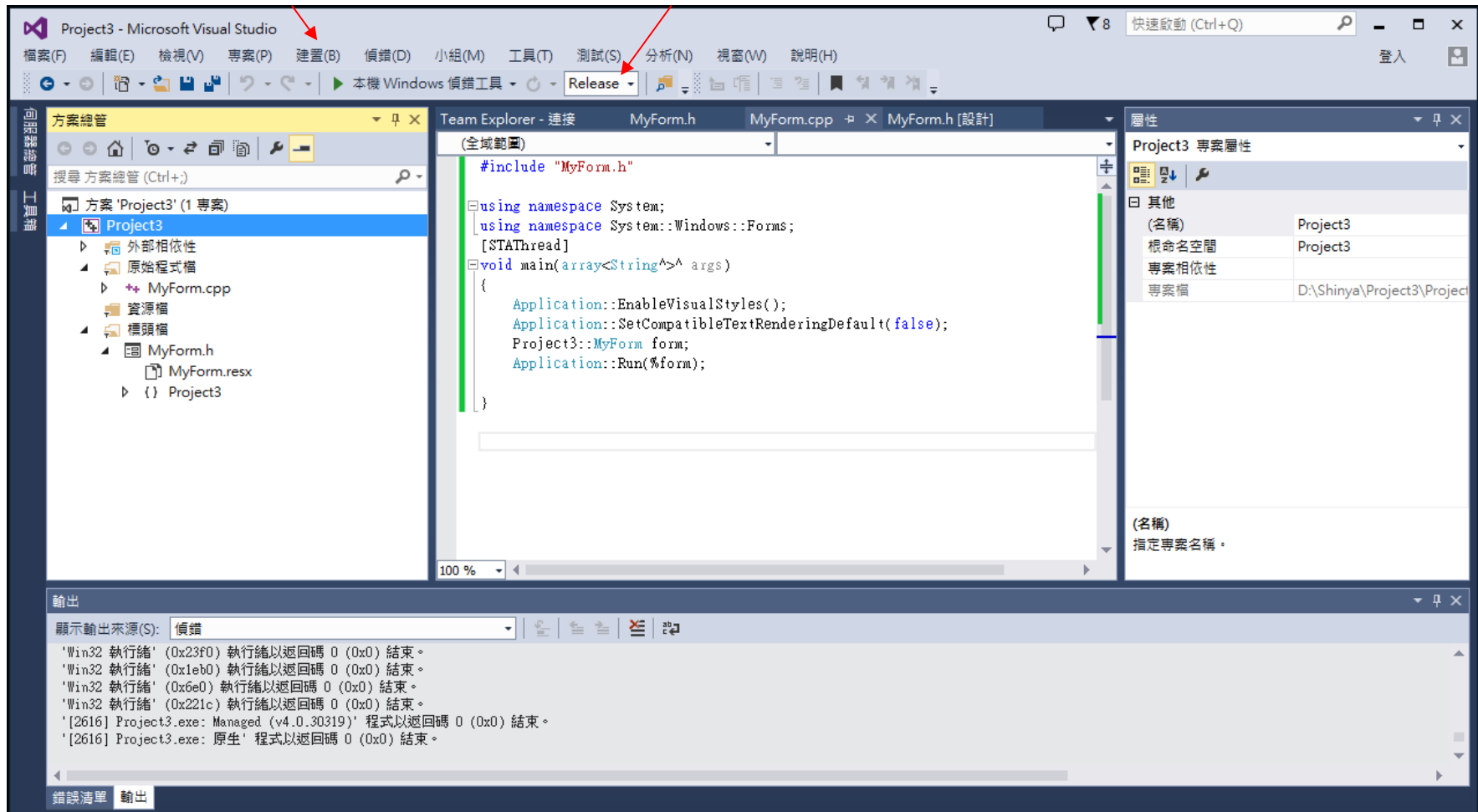


References

- MS API
 - <http://msdn.microsoft.com/zh-tw/library/ms123401.aspx>
- .NET Framework 類別庫
 - <http://msdn.microsoft.com/zh-tw/library/gg145045.aspx>
- **GOOGLE** 是大家的好朋友!
 - <http://www.google.com.tw>
- 範例程式



執行檔上傳版本請更改為Release



Thanks for attention.

