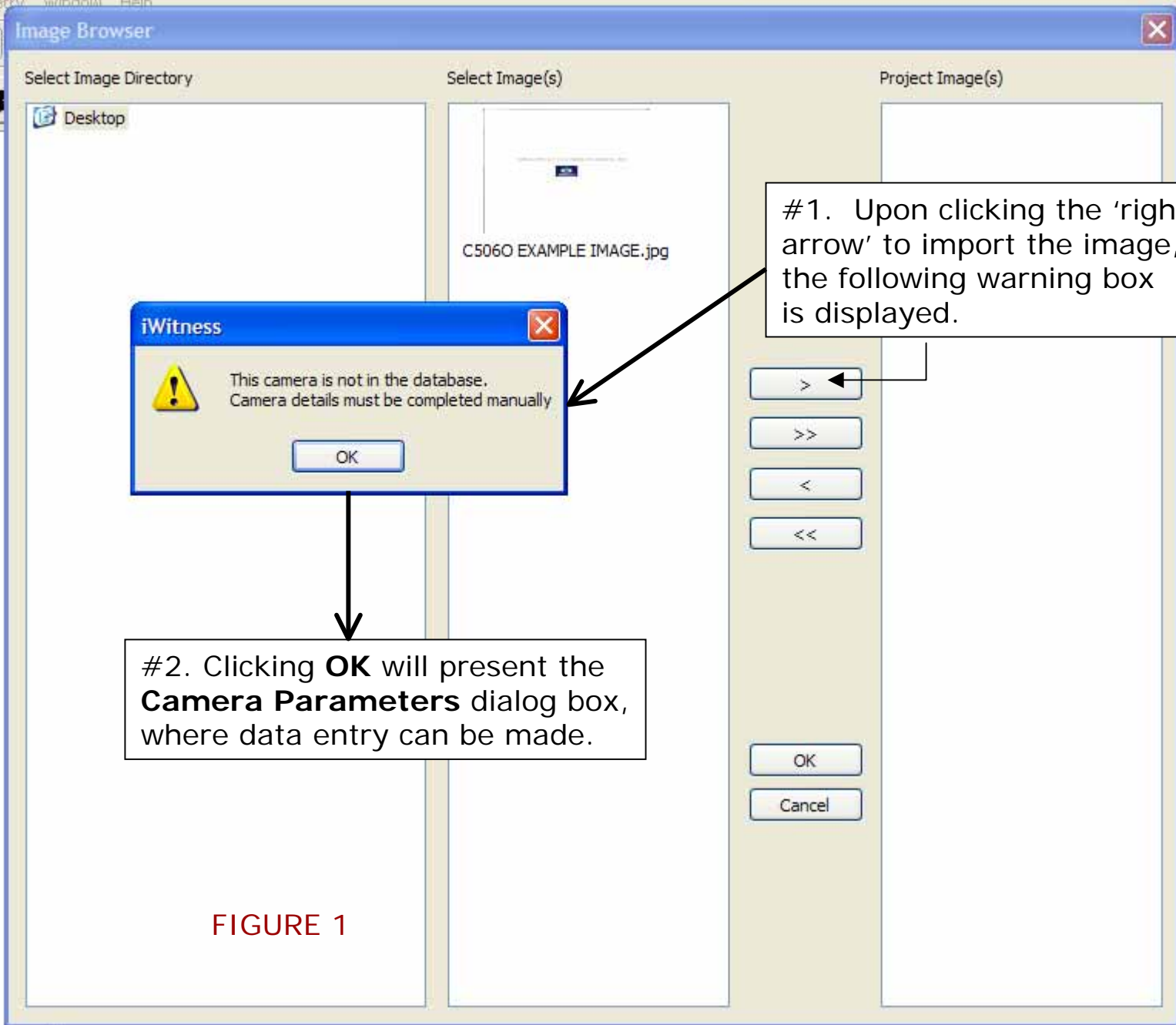


The situation being, the Camera is not in the Camera Database, but the images are 'EXIF' format

In this example we have an Olympus C-5060 camera, we have taken the images, imported them into iWitness and found that the camera is in neither the Local nor Global camera database.

We need to ensure that the focal length is correct and, optionally and preferably, that the pixel size has been correctly determined, this being achieved by **dividing** the **sensor size** (row/column dimensions) **by** the **resolution** (number of pixels forming the row/column).

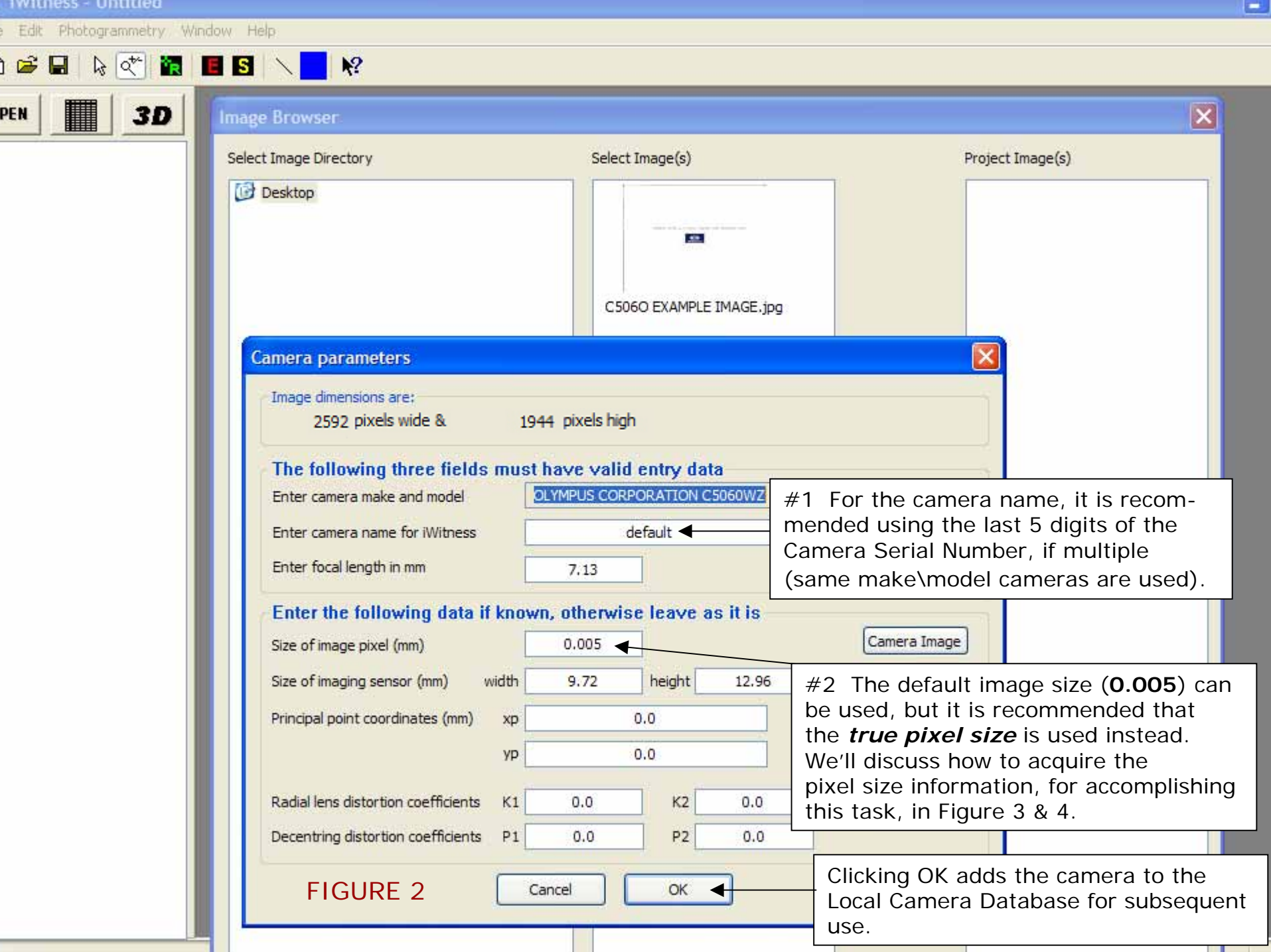
Note: We're only displaying (1) one image, for our example purpose. There would be two or more images in a real-world project.



#1. Upon clicking the 'right arrow' to import the image, the following warning box is displayed.

#2. Clicking **OK** will present the **Camera Parameters** dialog box, where data entry can be made.

FIGURE 1



Camera parameters

Image dimensions are:
2592 pixels wide & 1944 pixels high

The following three fields must have valid entry data

Enter camera make and model: OLYMPUS CORPORATION C5060WZ
Enter camera name for iWitness: default
Enter focal length in mm: 7.13

#1 For the camera name, it is recommended using the last 5 digits of the Camera Serial Number, if multiple (same make\model cameras are used).

Enter the following data if known, otherwise leave as it is

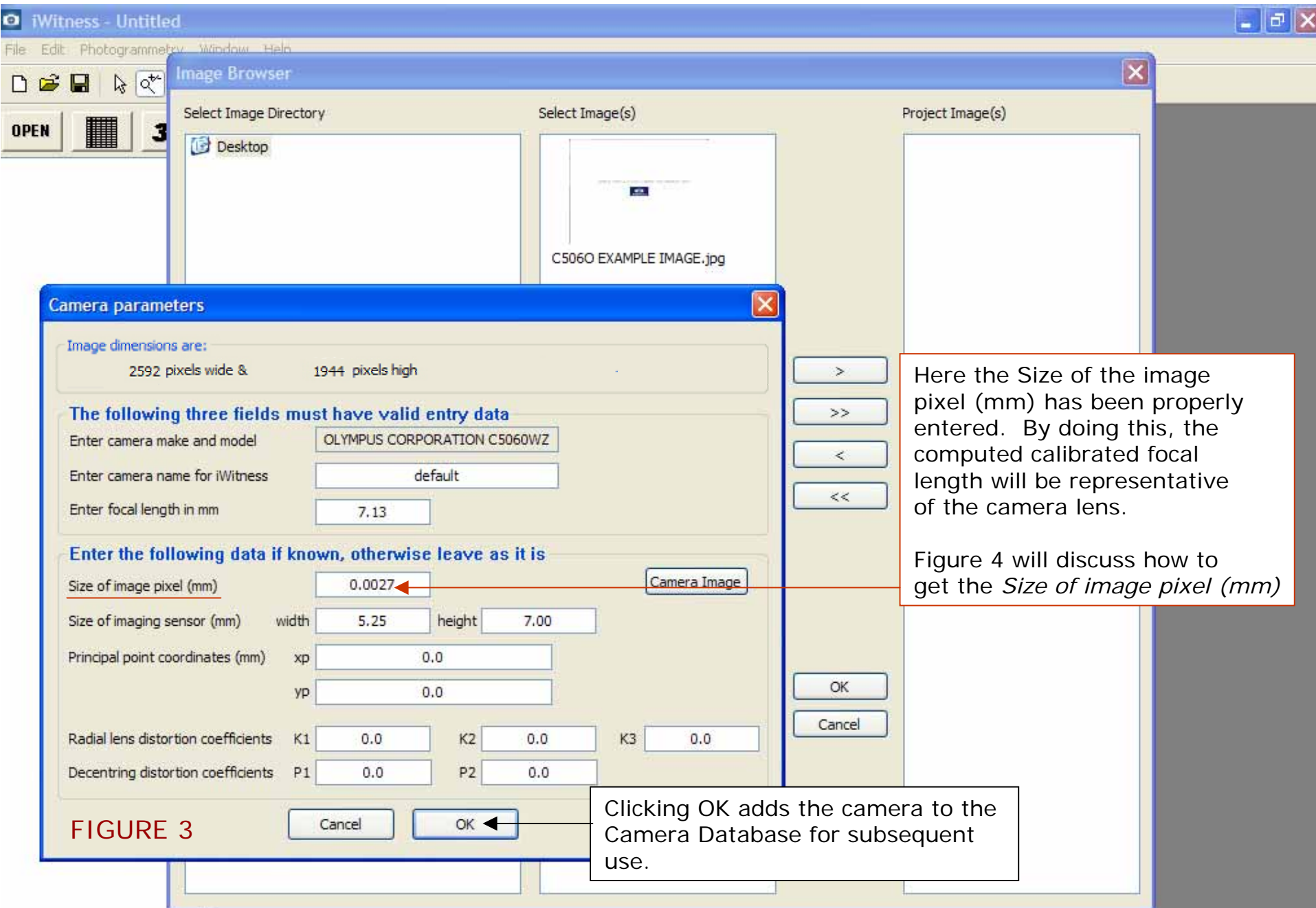
Size of image pixel (mm): 0.005
Size of imaging sensor (mm) width: 9.72 height: 12.96
Principal point coordinates (mm) xp: 0.0 yp: 0.0
Radial lens distortion coefficients K1: 0.0 K2: 0.0
Decentering distortion coefficients P1: 0.0 P2: 0.0

#2 The default image size (0.005) can be used, but it is recommended that the **true pixel size** is used instead. We'll discuss how to acquire the pixel size information, for accomplishing this task, in Figure 3 & 4.

FIGURE 2

Cancel OK

Clicking OK adds the camera to the Local Camera Database for subsequent use.




Here the Size of the image pixel (mm) has been properly entered. By doing this, the computed calibrated focal length will be representative of the camera lens.

Figure 4 will discuss how to get the *Size of image pixel (mm)*

Clicking OK adds the camera to the Camera Database for subsequent use.

FIGURE 3

Use the web (e.g. www.dpreview.com and acquire the below specs)


Address  http://www.dpreview.com/reviews/specs/Olympus/oly_c5060z.asp

Divide the Sensor size by the Maximum Resolution (number of pixels in each row/column)

Example:

$$7.18 / 2592 = .0027 \quad \text{OR...} \quad 5.32 / 1944 = .0027$$

Therefore the pixel size is **.0027**. Enter this value as noted in Figure 3, click OK, and the Camera Database is updated.

 Sensor size 1/1.8" (the dimensions are: **7.18 x 5.32** mm)

 Max resolution **2592 x 1944** pixels

FIGURE 4

OPEN  3DCamera: OLYMPUS
CORPORATION C5060...

C5060 EXAMPLE IMAGE.jpg

It is acceptable to have the 'cartoon camera' displayed. This is just an icon, and the iWitness project work is accomplished just as well if the cartoon camera, or the actual camera model is displayed.

At this time, the camera database is updated. This is evident by the image thumbnail having a 'Red Tick mark'. The Red Tick Mark indicates the Project Image(s) are ready for use.

Nothing to undo

Camera database...

OPEN





Camera: OLYMPUS CORPORATION C5060...



C5060 EXAMPLE IMAGE.jpg

Camera Database

| Camera Make and Model | uniqueID | Focal Length | Image Width | Image Height |
|---|----------|--------------|-------------|--------------|
|  OLYMPUS OPTICAL CO.,LTD C4100Z,C4000Z | unknown | 6.774mm | 2288 pixels | 1712 |
|  <u>OLYMPUS CORPORATION C5060WZ</u> | default | 7.130mm | 2592 pixels | 1944 |

OK

Delete

Optionally, the **Edit|Camera database...** can be selected. One can see the camera has been added to the database. The camera in the 'Local database' can be selected, and deleted if desired.

The camera calibration process can now be accomplished for the noted camera, displayed in the *Camera Database*.