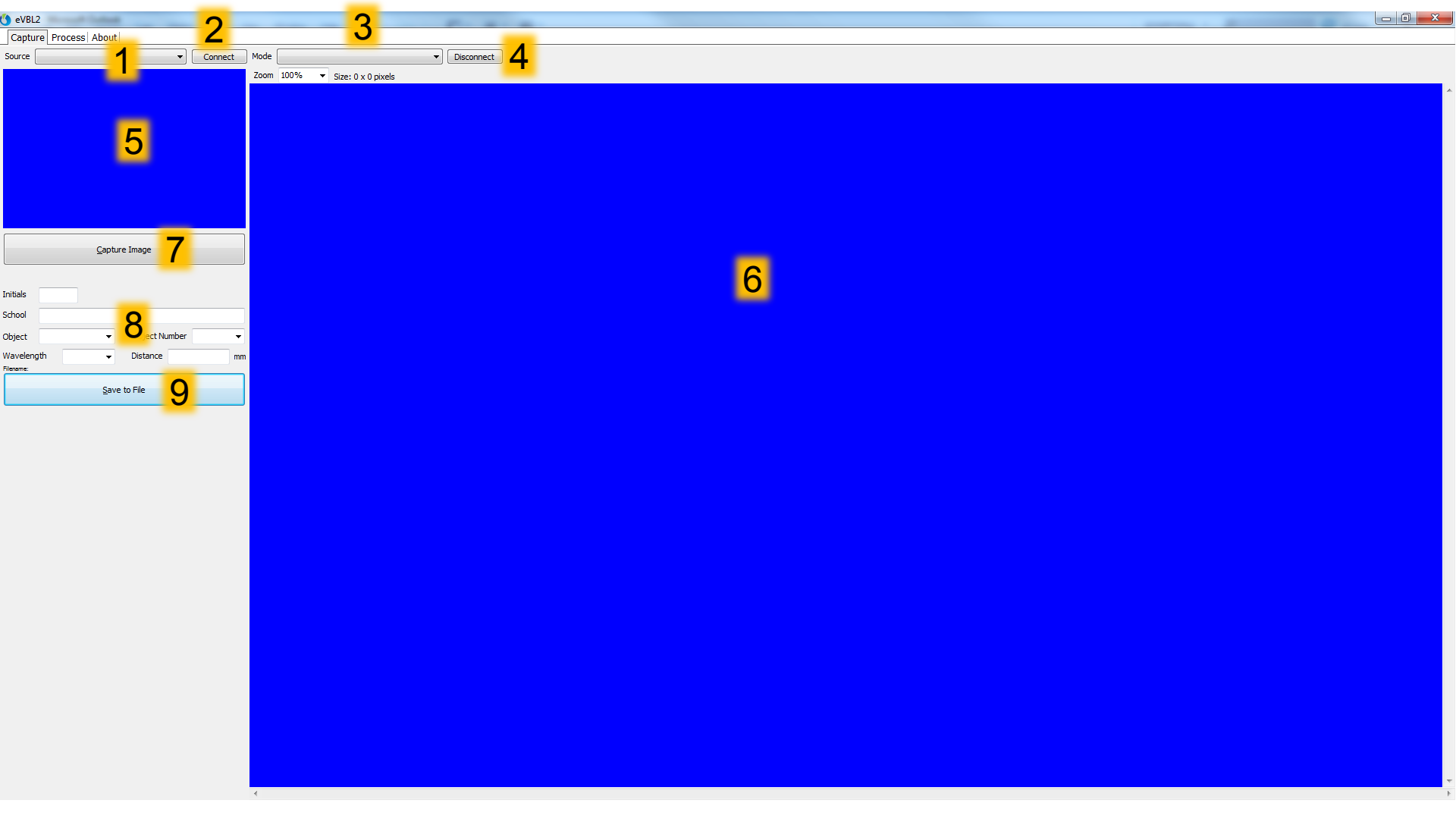
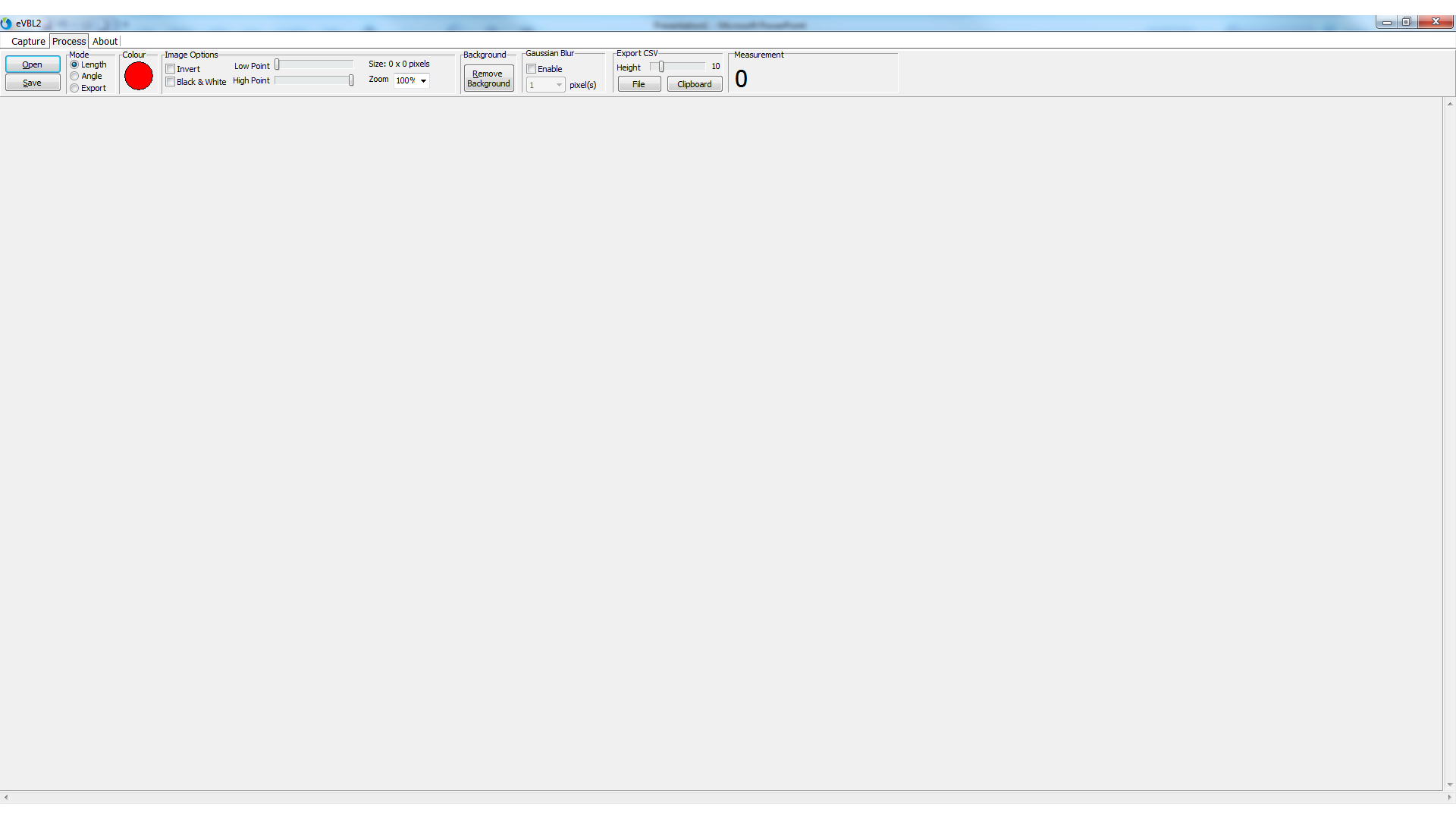
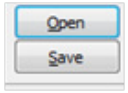

eVBL2
Capture
Process
About
Source
Connect
Mode
Disconnect
Zoom
100%
Size: 0 x 0 pixels
Capture Image
Initials
School
Object
Wavelength
Distance
mm
Filename:
Save to File
1
2
3
4
5
6
7
8
9

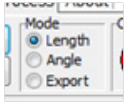
Capture tab

1. Displays all available cameras. We ask that it says ‘detector’ when the box is connected, rather than Logitech C910
2. Once camera is selected from (1) this connects the camera to the software for streaming
3. Displays the setting – resolution to capture/stream at and the image mode
4. Disconnects the detector – we have never used it, and I’m not sure I see a need to keep it
5. Low res live feed (something like 10 fps, but whatever you think it easiest)
6. Display for captured image at full res (or chosen zoom)
7. Button to capture - obvious
8. Details on the parameters of the object/wavelength etc. this generates a file name describing the all info on the image contents
9. Saves the last captured image to the (my) documents folder via a dialogue box. The default file name is set by (8)

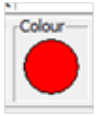

eVBL2
Capture
Process
About
Open
Save
Mode
Length
Angle
Export
Colour
Image Options
Invert
Black & White
Low Point
High Point
Size: 0 x 0 pixels
Zoom
100%
Background
Remove Background
Gaussian Blur
Enable
1
pixel(s)
Export CSV
Height
10
File
Clipboard
Measurement
0



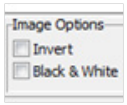
Loads image, saves any changes (if desired)



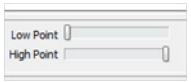
What is being measured and draws lines to show
Length = click point-to-point on image
Angle = 3 point click
Export = draws horizontal box of n pixels high where mouse clicked. height is set in ‘Export CSV’



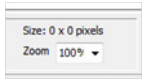
Changes colour of any lines drawn.
Useful for not drawing red line on red diff pattern.



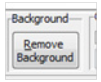
Obvious



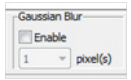
Used for improving visibility for manual measurements
Low point forces pixels below setting to 0 (I think?)
Can’t figure out, exactly, what high point does to each pixel



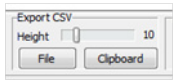
Obvious. Zoom should not affect data output in any way (a previous test version accidentally did)



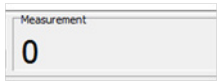
Students will have captured a ‘nothing’ image and saved it as ‘background’. They can then subtract this by clicking this button.



Enable turns on Gaussian blur, pixels sets how many near by pixels to include in the calculation.



If export is selected, this becomes available.
File saves the data as a CSV, clipboard copies the pixel values to the clipboard for immediate paste into excel.



Displays any numerical manual measurement (length or angel), including the units.

MUST HAVES – PROCESSING

- Same functions/capabilities as current
- Crop to 1024x1024 where student clicks, then confirms to crop with a button. Clear identification of placement of centre for cropping.
- Export function to allow for rotation. Does NOT need to be a box, a line will suffice. The line should ALWAYS be 1024 pixels long and can be rotated in 1^{o} increments using up/down buttons and/or a text box.
- Perhaps a cleaner (more intuitive) layout for copying the pixel data to the clipboard for excel.

LIKE TO HAVES – CAPTURE

- RAW (Bayer) data from camera. I believe this is 10bit for this camera from what I've seen
- Auto centre image please! Currently, the default is to display the top left-hand corner of the first image, then use the scroll bars to locate the centre. Admittedly, not all boxes will be identical, but for our purposes they will be.
- Force the adjustable focus. Currently it requires manual setting at the beginning of each day (done by me). Occasionally, it reverts of its own accord to autofocus again and blurs out because it can't focus in the dark.
- Exposure and gain settings in the GUI. Not essential, but it might be nice to modify these for images suited to manual measurements (to be saturated for easy viewing) and low gain/exposure for CDI software requirements (can't be saturated).
- Multi shot averaging – take 10 images in quick succession, average them and display the final averages version. This option can be turned on and off, as I assume it will take quite a bit of time to process on the fly.