Quintic Software

Tutorial 4

Synchronisation

Contents Page

1. Viewing Modes

Open the video file **'Batting Front view'** from the **'Cricket'** folder.

Click on the **'System'** tab. These buttons change the shape and size of the window in which the video clips are displayed.
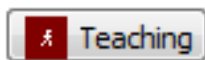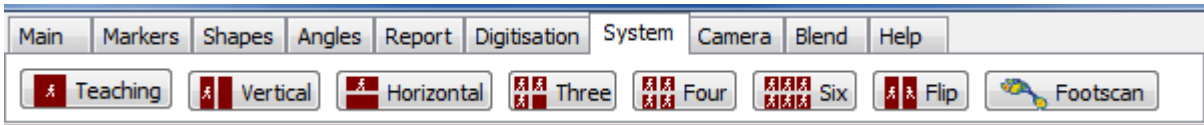
 - Sets the screen in the Teaching mode which fills the computer screen so you can see the whole image.
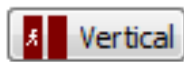
 - Sets the screen in the Vertical mode which suits images that are longer than they are wide.
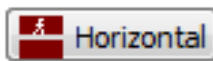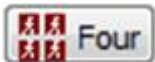
 - Sets the screen in the Horizontal mode which suits images that are wider than they are long.

 - Opens a second window alongside the main window. This window is known as the best window.

 - Opens a total of 3 windows (Coaching & Biomechanics).

 - Opens a total of 4 windows (Coaching & Biomechanics).

 - Opens a total of 6 windows (Biomechanics only).

 - This will show a mirror image of the action in an adjacent window (e.g. a right-handed action from a left-handers point of view).

 - This is used to activate the SST controller. Please refer to the Tutorial 10 (Coaching and Biomechanics).

It is, of course, always possible to resize the window to suit your needs by dragging it from the corners but these buttons automatically set the window at the correct size for a number of functions in the Quintic software.

a. Dual, Three, Four and Six Windows

Open the video **'Batting – Off drive – FV'** from the **'Cricket'** folder.

Now click the [**Dual**] button to open up another window by its side. Select the **'Vertical'** mode to display the video.
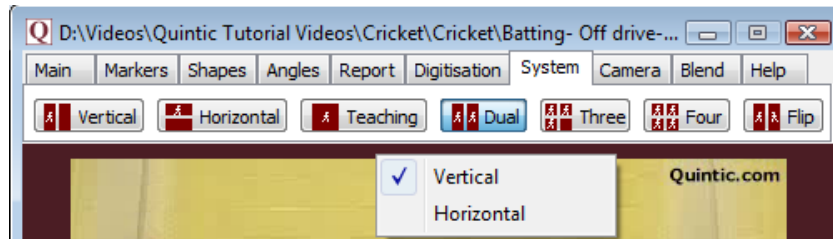
Open the video **'Batting – On drive - FV'** from the **'Cricket'** folder in the best window.

Now click the [**Three**] button to open up a third window.

Open the video **'Batting Back Foot Drive SV'** from the **'Cricket'** folder in the third window.

Now click the [**Four**] button to open up a fourth window.

Open the video **'Batting Front View'** from the **'Cricket'** folder in the fourth window.
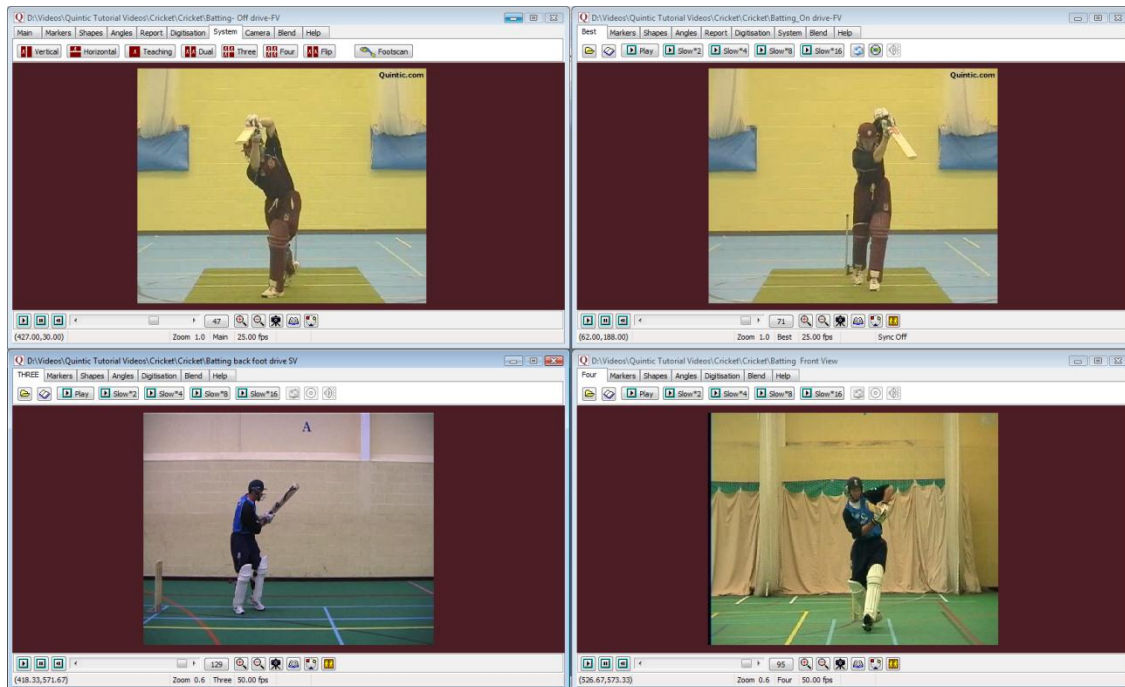
You can also click the [**Six**] button to open up fifth and sixth windows if required.

N.B. The best, third, fourth, fifth and sixth windows have most of the same functions as the main window. You can open fi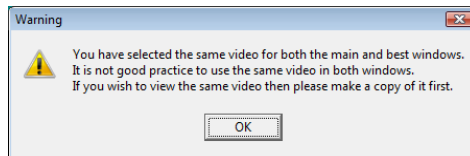les, draw shapes and angles, set markers etc. all using the same tabs and buttons as you have done previously in the main window, as well as loading an existing trace.

N.B. You cannot open the same video file in more than one window. The following error message will appear if you try. If you need to, create a duplicate copy of the video to open in another window.

2. Video Synchronisation

a. Manual Synchronisation

Open the video **'CMJ-AS1'** from the **'6 Jumps'** folder in the main window.

Open the video **'CMJ-AS2'** from the **'6 Jumps'** folder in the best window.

Use the play and pause buttons along with the video scroll bar to forward both clips to the point where the athlete first moves his arms upwards. (A synchronisation point can be any point that both athletes perform i.e. foot contact, ball strike, top of the backswing.) When both clips are at this position, press the **'Synchronisation'** button.
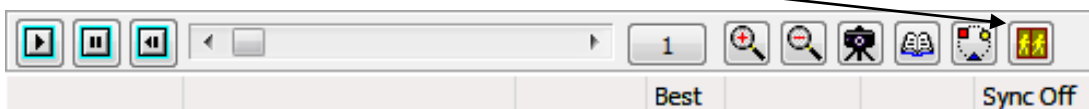
The two clips are now synchronised and can be played at any speed using the controls in the main window. Once the videos are synchronised the scroll bar in the best window will disappear, and 'Sync On' will be displayed underneath the synchronisation button.
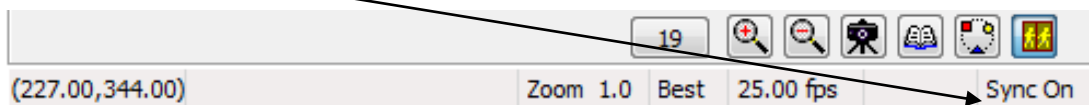
To cancel the video synchronisation, press the button again. The scroll bar in the best window will reappear and 'Sync off' will be displayed underneath the **'Synchronisation'** button.
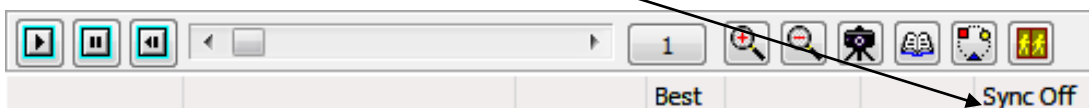
Now open the video **'CMJ-AS3'** from the **'6 Jumps'** folder in the third window and **'CMJ-AS4'** from the **'6 Jumps'** folder in the fourth window.

The third and fourth windows can be synchronised to the main window using the same process as outlined above. This process can also be completed in the fifth and sixth windows if required.

N.B. Synchronisation must be turned off before a window can be closed or a new video can be opened.
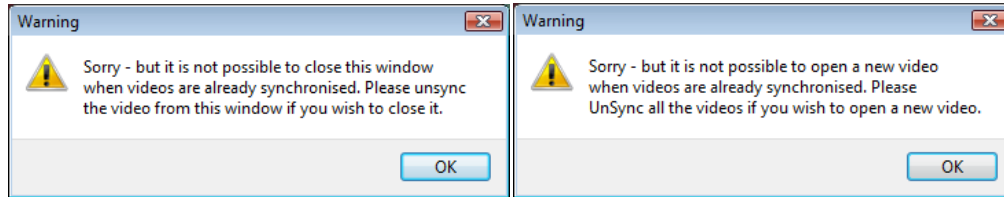
b. Automatic Synchronisation

This can only be used to open videos:

- Recorded in synchronisation using the Quintic Multi Capture software.
  Video files must be located within the same folder and be named with the suffix #1.avi/#2.avi/#3.avi/#4.avi.
- Recorded in synchronisation using the Quintic Multi High-Speed Capture software.
  Video files must be located within the same folder and be named with the suffix Cam1.avi/Cam2.avi/Cam3.avi/Cam4.avi/ Cam5.avi/ Cam6.avi

Go to the **'System'** tab and open the required number of windows (i.e. dual, three or four).

In the main window open the file **'run adidas neutral + D3DCam1.avi'** from the **'Running'** folder. The following message will appear.
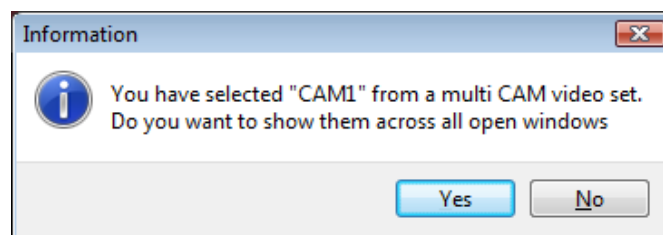
Select **'Yes'** to open all related videos. The videos are automatically synchronised and controlled using the main window. The playback controls in the best, third and fourth windows are greyed out.

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Now, in the main window open the file **'putt2_#1.avi'** from the **'Golf'** folder. The following message will appear.
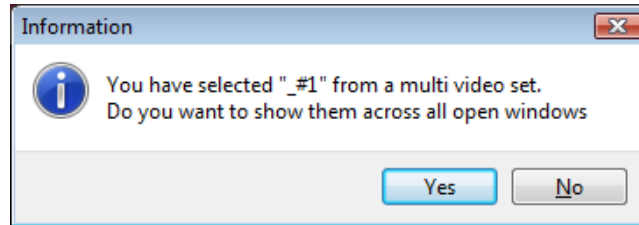
Select **'Yes'** to open all related videos. The videos are automatically synchronised and controlled using the main window. The playback controls in the best, third and fourth windows are greyed out.

N.B. For this feature to be available the 'Cam1.avi' or '#1.avi' file must be opened in the main window.

N.B. Opening a new video file, in any of the four windows, will cause you to lose the synchronisation. It is then possible to manually synchronise the new video at the same key event (heel strike etc).

3. Blend

The blend function allows the user to breakdown a movement by taking several still jpegs throughout the video and saving them as background images. The saved background images can be seen faintly on screen while the rest of the video plays through. Allowing the coach/athlete to see differences in body position throughout the technique.

Open **'Bowling Back View'** from the **'Cricket'** folder in the main window.

Click on the **'Blend'** tab.
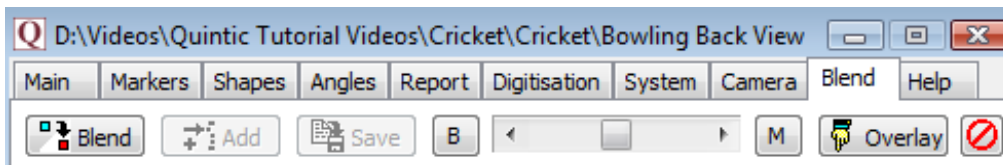
Pause the video at frame 1 and now click on the **'Blend'** button, this will show the following text box. Click on **'Create New Background'**
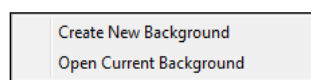
An information box will now load stating instructions on how to use this function.
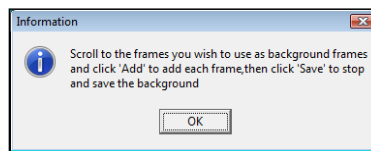
Scroll to the first frame that you wish to save as a background and click on the **'Add'** button. Once that frame has been saved as a background advance the video to the next frame you wish to set as a background and click the **'Add'** button. You can repeat these steps to add as many background frames as required. Once you have added all the background images you require click on the **'Save'** button.

The illustration below shows background frames saved at 34, 40, 45 and 50.

Once the backgrounds have been saved, the scroll bar can be used to change the dominance of the background frames. Scroll the scroll bar nearer the **'B'** to make the background jpegs more dominant or scroll it towards the **'M'** to make the current video frame more dominant.

Experiment with this function.
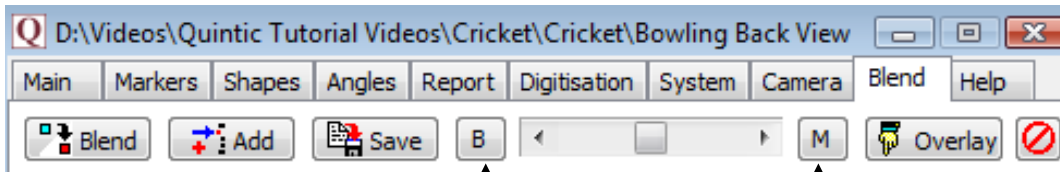
Scroll the bar towards the 'B' to show more of the background images

Scroll the bar towards the 'M' to show more of the current video.
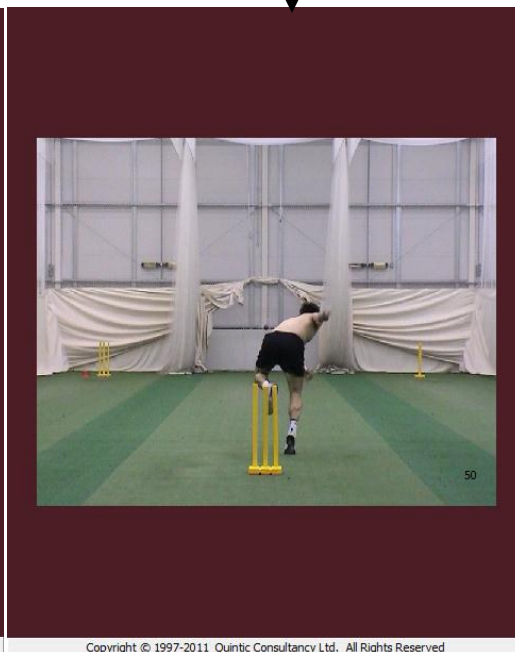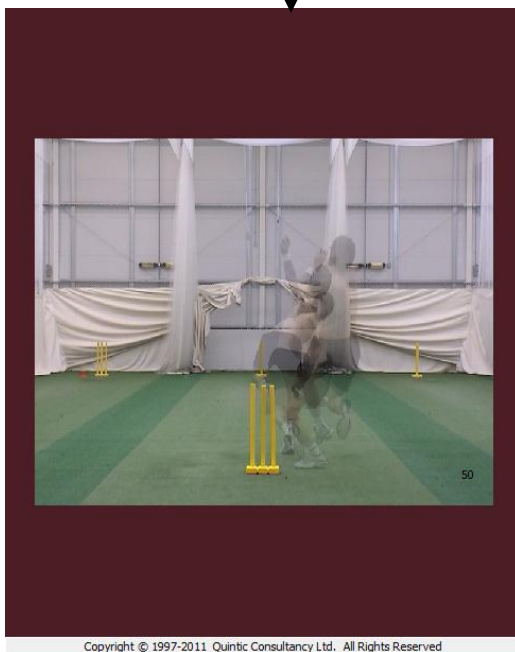
If the scroll bar is positioned in the middle the background frames will appear faintly on the screen whilst the video plays through.

4. Overlay

The blend function allows the performer to compare themselves at different stages of their movement where as the Overlay function allows you to directly compare two different performers at the same stage of their movement.

Open **'Javelin Steve Backley – Front View'** in the main window and **'Javelin – Nick Nieland - Front View'** in the best window.

Scroll to the point of right foot landing in both videos (frame 141 in the main window and frame 118 in the best window). Click on the synchronise button to synchronise the videos at this point.

Now select the **'Blend'** tab and click on **'Overlay'** the best window has now disappeared and both videos will be overlaid on top of each other on one screen.

When you play the video now using the controls at the bottom of the window you will be able to see both video clips on top of each other. The image from the best window will be the 'background' clip and the image from the main window will be the 'overlay' clip. In the same way as with the blend function you can adjust the heaviness of each image with the scroll bar and the **'B'** and **'M'** buttons.

You must ensure that both athletes are in the same part of their respective windows before you press the **'Set Overlay'** button.

E.g. as Steve Backley is on the right hand side of the image when he releases the javelin, you must scroll the image sideways in the best window to also put Nick Nieland on the right so that they overlap.

To exit this screen you must first click **'Reset'**. This will release you from the overlay function and allow you to use other functions.

Reset

GO TO QUESTION 8 AND 9 ON THE QUESTION SHEET (PAGE 16 - 18)

Question Sheet

RECAP

Open **'IG-Side'** from the **'Golf'** folder

1) (i) Scroll to the frame just before the golfer starts his back swing.

    (ii) Measure the angle between the golfer's arms.

    (iii) Create a 6 frame multiple screen capture sequence of this skill with the angle visibly drawn in each frame.

    (iv) Save this as a JPEG.

    (v) Open this multiple screen capture sequence in Microsoft Word and type at the top of the page an appropriate title.

    (vi) Below this picture, type a short description of the technique that this golfer uses. Focus particularly on the angle of the arms throughout the shot. Ask your teacher if you may print this.

QUESTIONS

1) Open the following videos. For each one state whether the vertical mode or horizontal mode are more appropriate for viewing them or whether they are viewed equally as well in both. (*Hint: Watch the whole clip through in both modes before deciding on your answer*)

Video	Best in Vertical	Best in Horizontal	Both
Sprint Start – Side-on			
Rugby Drop Punt			
Boxing UC Shot			
Cricket – Bowling SV			
Trampoline 2.5 twist			

(5)

Think of 6 other sports actions that could be seen completely in the Vertical and Horizontal Mode.

Vertical   *Horizontal*

1)…………………………....... ………………………………

2)…………………………....... ………………………………

3)…………………………....... ………………………………

(6)

Open the video clip **'Drop-punt right'** from the **'Rugby'** Folder.

2) You are a PE teacher; describe this skill to a beginner. They are right handed.

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3) Now, imagine you are teaching this skill to a left-handed person. Write down how you would describe the movement to them.

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(5)

4) In the video clip **'Drop-punt right'** from the **'Rugby'** folder use the flip function on the video.

(i) Use this mirror-image to write a description of the skill to the left-hander you are teaching.

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(4)

(ii) Was it easier to write this description than your answer to question 4? Explain your answer.

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5)
(ii) Open the video **'Boxing UC shot'** from the **'Boxing'** folder in the main window.
(iii) Open the video **'Boxing arm shot'** from the **'Boxing'** folder in the best window.
(iv) First look at the video in the main window. Match up the frames with the correct description of the action you can see in them. The first one has been done for you.

Frame 23	Contact
Frame 28	Shoulder angle to vertical = 9°
Frame 30	Glove is at the highest point
Frame 37	Glove is at the lowest point
Frame 27	Hip, shoulder and elbow are inline
Frame 0	Hips furthest forward

(3)

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6) Now look at the video in the best window. Match up the frames with the correct description of the action you can see in them. The first one has been done for you.

Frame 15   Contact

Frame 16   elbow angle reaches 93 degrees

Frame 20   Glove is at the highest point

Frame 13   Glove is at the lowest point

Frame 11   Hip, shoulder and elbow are inline

Frame 18   Hips furthest forward

(3)

7)

(i) Pause both videos at the point of impact (use the video scroll bar to get the exact frame).

(ii) Synchronise the videos.

(iii) Describe any differences you see in:

Path of arm during the movement?

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Angle of the elbow at impact?

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Height of shoulder throughout the movement?

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Angle of the shoulder at impact?

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Path of the hand in the follow-through?

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…………………………………………………………………..   (10)

<p style="text-align:center">BACK TO TUTORIAL SHEET (PAGE 6)</p>

<u>Blend</u>

8)

(i) Open the video **'Discus Female'** from the **'Athletics'** folder in the main window.

(ii) Set the background frame at 1.

(iii) Describe the differences you can see in the player's movement between the background and:

Frame 11?

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Frame 20?

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Frame 34?

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Frame 44?

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Frame 54?

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…………………………………………………………………………..   (10)

<u>Overlay</u>

9)

(i) Open the video **'Batting - Off-drive - FV'** from the **'Cricket'** folder in the main window.

(ii) Open the video **'Batting - On-drive - FV'** from the **'Cricket'** folder in the best window.

(iii) Synchronise the two videos at ball impact.

(iv) Name 3 differences and 3 similarities you can see between the two shots.

Differences	Similarities
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(6)

(/ 60)