**Creating HTML 360 degree views of subjects from movies using Matlab**

This document describes how to create an interactive html 360 degree view from a movie of a rotating subject using Matlab. It uses the *VideoTo360montage.mlx* Matlab script and the *view360Montage.js* file both of which are provided with this document.

**Setup**

* Open Matlab and select the folder containing the *VideoTo360montage.mlx* file in the *Current Folder* panel on the left side.
* Open the *VideoTo360montage.mlx* file. You can do this by double clicking the file in the *Current Folder* panel. The Live Editor window will open and show the script.
* In the Paths and filenames section:
  + Enter the path to the folder containing the video
  + Enter the video file name and extension (separately)
  + Enter the path to an output folder

**Enter parameters**

* Enter the first and last frame numbers for a full 360 degree rotation of the subject.
* Decide how many frames you require in the html view. More frames will result in smoother motion but will result in a larger file. Somewhere in the region of 30 frames is fine.
* The 360 image is saved as a bitmap montage of video frames. Enter the montage width and height. For example, a width of 4 and a height of 8 for an html view consisting of 32 frames.
* Enter cropping values as a percentage of the frame width and height. Set these to zero if cropping is not required.
* Enter the scale. A value of 1 means that each individual frame in the montage will have the same number of pixels as the cropped area from the movie. If you have a high definition movie (recommended) then this will result in a very large montage file. Use a value of less than one to reduce the size of the file. A scale value which results in a 30 Megapixel montage seems to work fine.
* Enter a rotation value if you need to rotate the image. 0 = no frame rotation, 1 = 90 anticlockwise, 2 = 180, 3 = 90 clockwise
* If the 360 html view rotates the wrong way then you can fix this by setting reverse to true
* Set the jpg quality to a lower value if you need to reduce the file size. You may want to do this when…
  + …increasing the number of frames to get a smoother rotation.
  + …increasing the scale to get higher resolution
* Set colour balance to true if you need to change it and enter the RGB value of an area in the movie which should render as grey.

**Run the script**

* Click *Run* in Matlab and the HTML viewer files will be generated in a folder having the same name as the movie file. This folder will be in the output path you specified earlier.
* You should be able to preview the file in your browser by opening the html file.
* An extra .params.txt file is also generated. This file is not used by the viewer and may be deleted. You may wish to keep it because it is a useful record of the parameters used to generate the montage image from the video file.