1. Open MATLAB
2. Find folder in left window with DLTdv5, add to path
3. Run DLTdv5 program
4. "initialize" desired video
5. "display in color"
6. Resize window so you can see everything
7. Digitize one point at a time (i.e. heel marker through the whole video, then toe, etc.)
8. Click "save data" to save digitized points (do periodically and once finished)

Marker Order:

| Half Body Digitizing Template | Full Body Digitizing Template |
| :--- | :--- |
| 1. Toe | 1. RTOE |
| 2. Heel | 2. RHEEL |
| 3. Ankle | 3. RANKLE |
| 4. Knee | 4. RKNEE |
| 5. Hip | 5. RHIP |
| 6. Shoulder | 6. LTOE |
| 7. Elbow | 7. LHEEL |
| 8. Wrist | 8. LANKLE |
| 9. Finger | 9. LKNEE |
| 10. C7 | 10. LHIP |
| 11. Vertex | 11. RSHOULDER |
|  | 12. RELBOW |
|  | 13. RWRIST |
|  | 14. RFINGER |
|  | 15. LSHOULDER |
|  | 16. LELBOW |
|  | 17. LWRIST |
|  | 18. LFINGER |
|  | 19. C7 |
|  | 20. VERTEX |

Tips

1. Left click to digitize point
2. Right click to remove point
3. Click "add a point" to create a new point (i.e. point1 point2)
4. Make sure to write down which point is which joint/position
5. Press ' $f$ ' to move forward 1 frame
6. Press ' $b$ ' to move back 1 frame
7. Press " + " to zoom in. Picture will zoom in where cursor is
8. Press"-" to zoom out
9. Press " $r$ " to restore to original image zoom
10. DON’T PRESS, CLICK, OR ADVANCE FRAMES TOO FAST !!!!! program will crash

Data that is Saved

1. 4 files will be saved for each digitized trial, we care about "NAME.xypts.csv"
a. Open in excel
2. Each point (point 1,2,3....) has an $X$ and $Y$ column in pixel units
3. Each row represents a different frame ( row $2=$ frame1, row3 = frame 2 )
4. Copy each column and paste into TBCM template in correct location. ( Do NOT include the HEADERS)
5. Coordinates are already RIGHT HORIZONTAL

Putting Data into TBCM Template

1. Open template (they have been uploaded to blackboard)
2. Paste correct coordinate data into first tab ('applet data') Starting at row \#5 in the template, ignore columns A,B,C
That means paste in Cell D5
3. Ignore the $2^{\text {nd }}$ tab ('aspect ratio')
4. $3^{\text {rd }}$ tab ('scale factor') $\rightarrow$ type in calibration pixel number next to image length ('pixels')
5. Make sure to extend rows to desired frame length in all tabs

Calibration Side View (looking at net/black background) 1m=230 pixels
Calibration Front View (looking at both plates side by side/blue background) $1 \mathrm{~m}=221.67$ pixels

