1. Make sure you can open NAS4. If not, open the Run program and type in ***\\172.20.138.143\RecordingsLeventhal04\***. You may have to login with your NAS login info (check your email).
2. Open MATLAB and navigate to where you placed the Skilled Reaching repository in GitHub. Make sure the folder labelled ***Manual\_Paw\_Joints\_Marking*** is added to the path (*right click folder in Current Folder tab 🡪 Add to path 🡪 Selected folders and subfolders*).
3. Type ***createManualPawData\_2015\_06\_19*** in command window of MATLAB and hit enter. This will initiate the paw point marking programs. Though all variables created will be saved along the way, **all the important data** (e.g. the manually determined start or trigger frame, the coordinates for each marker for all the frames of a video, images of the marker placements in every frame marked) **is being saved to the RatData structure, see full details in the table below:**

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Figure 1 Data Contained in RatData Structure

1. Follow the prompts that appear:
   1. Select the rat’s raw data folder (RatID – rawdata) from NAS4. MATLAB will load the file paths to all the session folders into the RatData structure and display its progress in the command window as it does so.
   2. Select the session (a.k.a. the date) you would like to analyze. MATLAB will load all the videos, one for each trial, into VideoReader format (the format it needs to load videos later) and display its progress as it does so.
   3. Open the video file that appears and determine the start frame.
      1. Most video files have already had their start frames determined, thanks to Maya ☺. If you navigate to the session folder in the rat’s processed data folder in NAS4 (ex. For rat R0027’s data from 05/13/2014, this would be at *\\172.20.138.143\RecordingsLeventhal04\SkilledReaching\R0027\R0027-processed\R0027\_20140513a*), you’ll see a .csv file that starts with ‘*Quant Scoring’*. You can open this file in Excel and find a column labeled ‘*Start of Reach’*, usually in the first sheet, which has all the start frames listed for all videos for that day. If you can find the start frame this way, skip the next numbered item below (ii, go to iii).
      2. Alternatively, if you cannot find the start frame this way, simply copy and paste the file path displayed into Windows Explorer to open the video file in Quicktime and determine the start frame (see Figure 2 below). You’ll have *to right click* on the timer in the bottom left corner and change it to *Frame Number*, then use the indicator that indicates where in the video you are to slide to the start frame. This is the first frame in which all of the rat’s paw (i.e. all the green marked area) can be seen to breach the slit. It’s easiest to see this in one of the side mirrors: left if the rat’s dominant paw (the one marked in green) is right, and vice versa. If the rat isn’t using his dominant paw, estimate the start frame to the best of your ability.

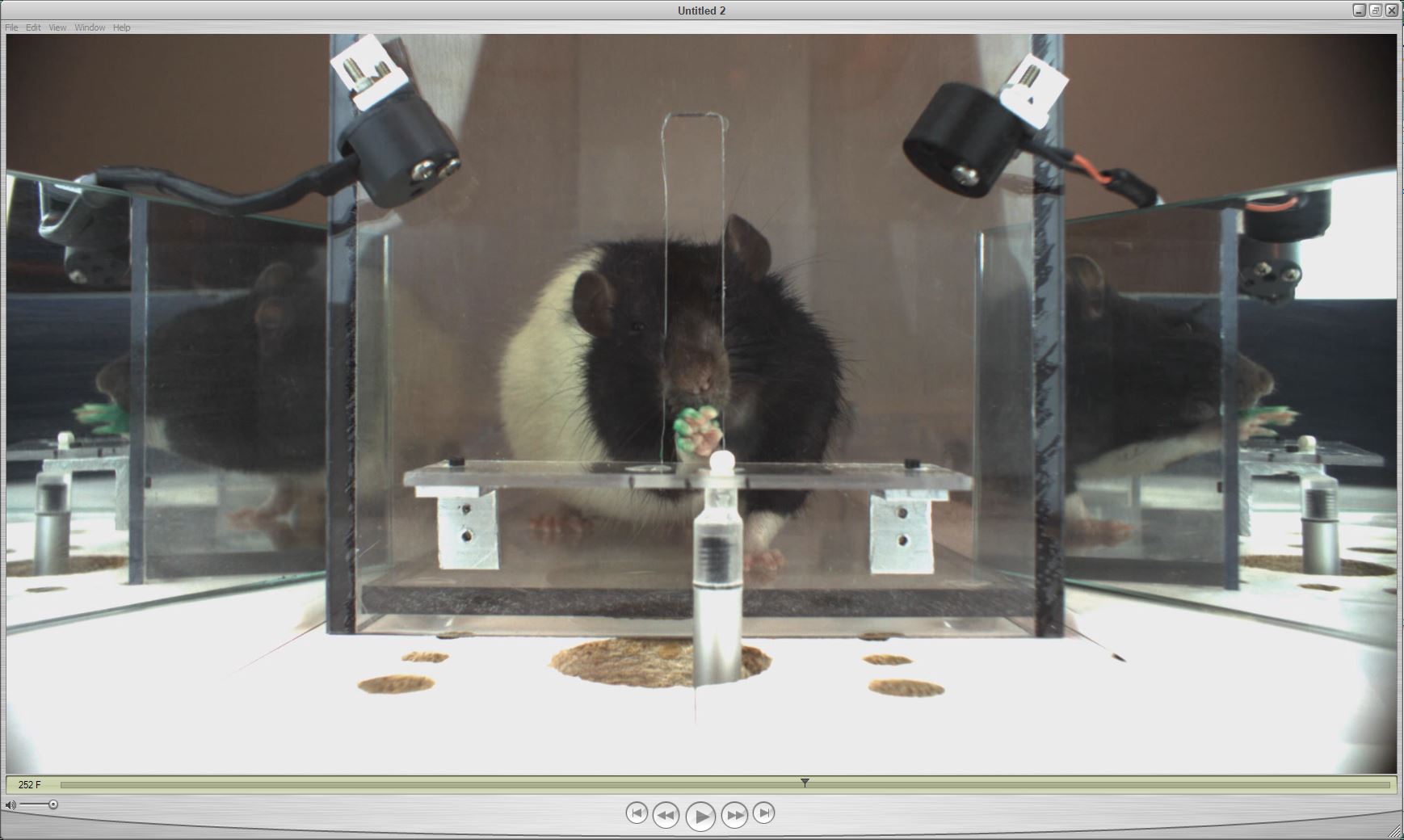


Figure 2 Start Frame for R0027 05/13/14

* + 1. Once you’ve determined the start frame, type it into the dialog window that appeared previously and hit **Done**. If, for some reason, a start frame cannot be determined, hit **No Start Frame** (be warned that this will lead to error later on though, and you will not be to get paw point data).

1. The program for obtaining paw point data will appear in a window on the right side of the screen. It will tell you which marker to mark when