Project instructions

Prerequisite:

1. Matlab 2017b: Image processing and Computer vision toolboxes
2. Python version 3.6
3. OpenPose
4. Matlab Engine for Python  
   Follow the instruction in the link below:  
   <https://www.mathworks.com/help/matlab/matlab_external/install-the-matlab-engine-for-python.html>

Requirements:

1. Download OpenPose repo from <https://github.com/ildoonet/tf-pose-estimation>

We used revision [8543abf](https://github.com/ildoonet/tf-pose-estimation/tree/01e8eee12dd68d6207c966422371edb204bc13eb) (16.02.2018)

1. Follow repo’s instruction (can be found in GitHub link above)
2. Go to the requirements.txt:
   1. Comment out “ast”
   2. Add git+<https://github.com/yijunyu/needles.git> #this may not be required
3. In Skeletonize.py change your images location for your own use,

Current implementation use our own images.

Also, provide the Kinect skeleton file for comparison.

Running Skeletonize:

1. Run Skeletonize python script
   1. A mat file is generated
   2. A Matlab viewer is opened
   3. A 3d skeleton model is presented on screen

Note: This run uses our images and calibration data

Calibration:

1. Use images that include a checkboard for calibration purposes  
   Please use images with the same size
2. Open your Matlab 2017b IDE
3. Go to Apps tab and choose “Stereo Camera Calibrator” app
4. Load your left and right images to the app
5. Run the calibration , choose the correct size of the checkerboard square
6. Export the calibration data to the script folder

Note:   
Additional information can be found in Matlab Official instructions:   
<https://www.mathworks.com/help/vision/ug/stereo-camera-calibrator-app.html>