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| Image and Video Processing Lab, The Chinese University of Hong Kong   1. **Introduction**   As illustrated in the figure below, the screen-camera calibration algorithm aims to find the 3D locations of the four screen corners in the camera coordinates. The calibration results can be used in many applications, such as holographic-like displaying; using the screen as a controllable planar light source for shape recovery; enabling the user’s interaction with a specific region of the screen, etc.  **D:\Homepage\snli\screen-camera calibration\fig1.png**  Figure 1. The screen-camera calibration aims to find the 3D locations of the four screen corners in the camera coordinates.   1. **MATLAB code**   We proposed a screen-camera calibration algorithm in:  *[1] Songnan Li, King Ngi Ngan, Lu Sheng, ``Screen-camera calibration using a thread``, submitted to ICIP 2014.* [PDF]  Rather than using an external camera or a portable mirror like in previous studies, we use a more accessible and cheaper calibration objection, i.e., a thread. For technical details, please check our paper. The MATLAB implementation of [1] can be downloaded here. Below is a video demonstrating its usage:  VIDEO TO BE UPLOADED   1. **Applications**   The calibration results were used together with our 3D head tracking algorithm to develop a holographic-like displaying system. Here is a demo video: |
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