Summary

- Marker tracking using a pair of cameras is a common task, however setting up and calibrating the cameras can be challenging
- In the SoRo Adhesives project, we designed a stereo-vision setup; this setup can be adapted to different projects
- The scripts used are based on the work of Temuge Batpurev which is hosted on GitHub

Key Points

- Camera calibration relies on acquiring images of a checkerboard using two cameras (see image below)
- This file can be used to generate checkerboards for calibration
- In the camera calibration function, you must set three parameters: rows, columns and world_scaling
  - Rows and columns refer the number of “crosses” in each axis of the checkerboard
  - In the image below:

```
rows = 5
```

```
columns = 7
```

  - Note that OpenCV will throw an error if the number of rows and columns is incorrect
  - world_scaling is the physical dimension of a square on the checkerboard, it is up to you to choose the unit
- Checkerboard images are used to obtain the intrinsic matrices and distortion coefficients of each camera individually
- The camera calibration process also outputs a value related to the quality of the calibration (RMSE) which should be less than 0.30
- Note that both camera frames must have the same dimensions for stereo calibration



- It is often important to define a world frame

From:
http://wiki.cim.mcgill.ca/!macrobotics/ -

Permanent link:
http://wiki.cim.mcgill.ca/!macrobotics/doku.php?id=camera_calibration_and_stereo_vision

Last update: **2024/04/25 01:31**