What's in this package

- An executable 'MFG_qt.exe', the core program of our algorithm.
- A bunch of '.dll' files (from Qt, OpenCV, and g2o) needed to run the executable.
- A configuration file 'mfgSettings.txt' in the following format:
  - The first 3 lines contain the 3x3 intrinsic camera matrix (using space/tab as delimiter).
  - The 4th line contains exactly 4 camera distortion coefficients (i.e. k1 k2 p1 p2). Refer to OpenCV for the meanings of these parameters.
  - The 5th line points to the image data, and the rest lines are omitted.
- This file 'README.pdf'.
- A subfolder 'src' containing the source code for your reference (no building instructions though).
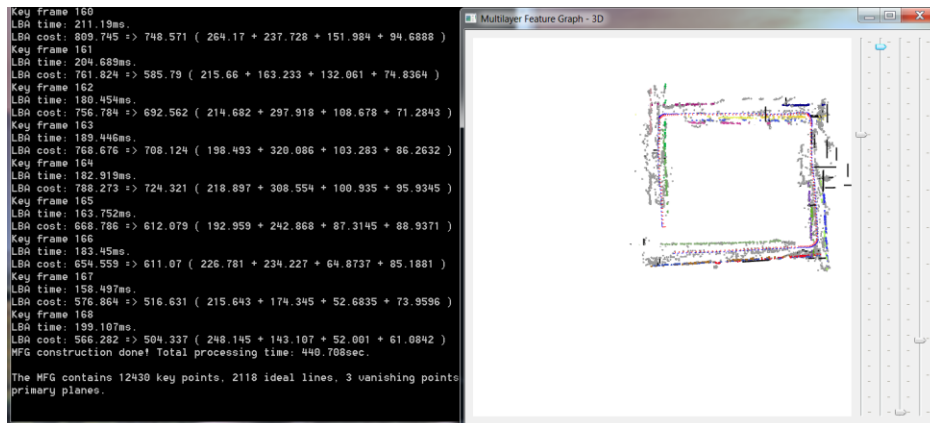
Run the demo

This executable is provided only for demonstration purpose under Windows 7 - 32/64 bit. (Windows 8 seems to work, too.) To run the demo, please follow the steps below.

1. Download the HRBB4 dataset from http://telerobot.cs.tamu.edu/MFG/data/hrbb4
2. Extract the images to a local directory.
3. Change the 5th line of 'mfgSettings.txt' so that it points to the 1st image (i.e. image00000.png).
4. Run MFG_qt.exe. Two windows should show up: one console showing the progress, one simple GUI showing the camera poses and landmarks in 3D.
   Known issue: It could cause crash to keep changing perspectives in the GUI when the program is running. We suggest minimal perspective changes before the demo is fully finished.
5. Upon completion, you should be able to see something similar to the figure below. Meanwhile, two text files should be generated: 'camPose.txt' containing the estimated camera poses, and 'mfgNode.txt' containing the MFG nodes (parsing rules not provided though).

Distribution

Please do not spread the executable or source code for now as they are not fully ready for distribution.

Open source code will be released soon via the webpage: http://telerobot.cs.tamu.edu/MFG

Contact: Yan Lu (ylu@cs.tamu.edu), Dezhen Song (dzsong@cs.tamu.edu).