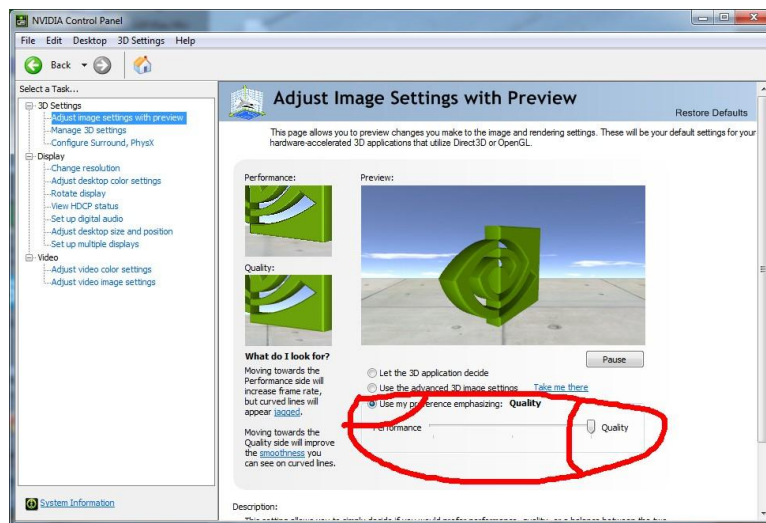# Quality-driven Poisson-guided Autoscanning

This software is a demo for the following paper
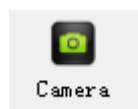
http://vcc.siat.ac.cn/index/getInfo?title_id=453&id=624&to_path=project(**SIGGGRAPH ASIA 2014**)

How to get a nice display:

You need to open the optimize quality in the graphics card's option, for example:


Icons:

 : algorithm and data see our paper.

 : randomly down-sample original points into sample points.

How to use it.

1. If you want just to use the software, you can download the release version: (https://github.com/sunwaylive/quality-driven-poisson-guided-autoscanning/tree/master/Release).

2. In the folder, simply run "Quality-Driven-Poisson-Guided-Autoscanning.exe".

3. Default you will get the following UI. Left click the "Camera" in the menu, a panel will appear at the right of the UI.
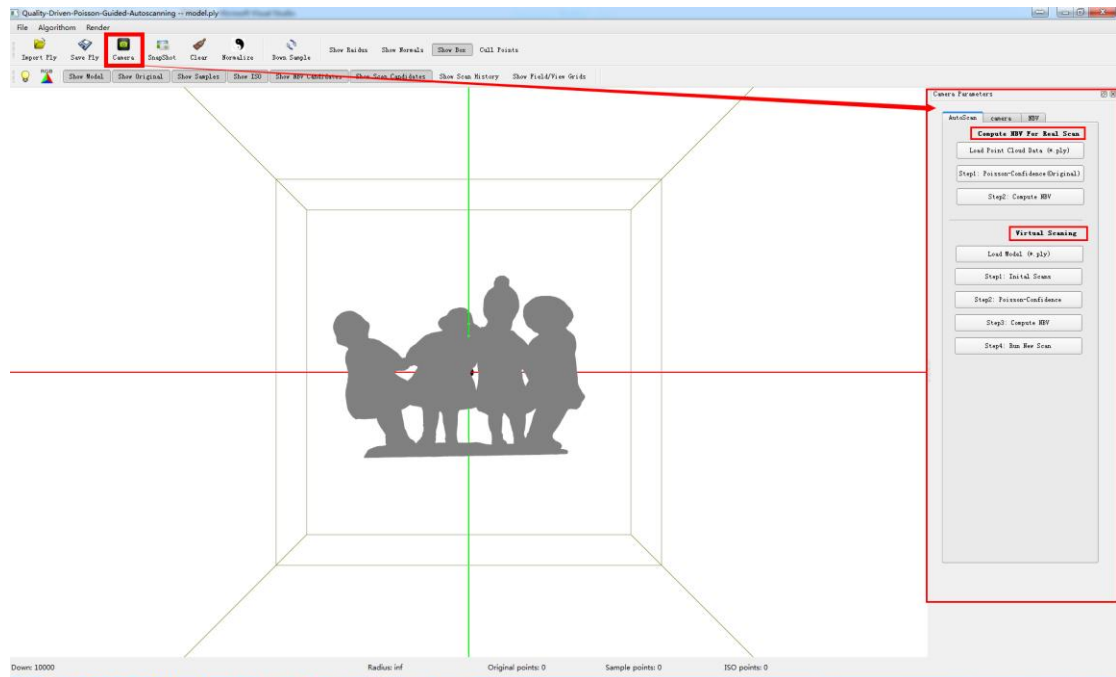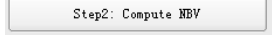

4. As you can see, We provide two ways:

Way 1: (for real scan)

Step 1. Click the button   `Load Point Cloud Data (*.ply)`   to load scanned points, based on which NBV will be computed. Test data is located in folder "./data"
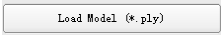
Step 2. Click the button   `Step1: Poisson-Confidence(Original)`   to do the Poisson reconstruction and extract iso points with confidence.

Step 3. Click the button   `Step2: Compute NBV`   to compute the NBVs
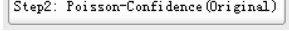
Step 4. Click the button, save NBV as *.ply
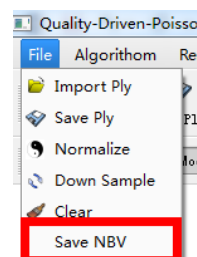
Way 2: (for virtual scan)

Step 1. Click the button   to   [Load Model (*.ply)]   the model you want to scan.

Step 2. Click the button   [Step1: Inital Scans]   to do initial scans.

Step 3. Click the button   [Step2: Poisson-Confidence(Original)]   to do the Poisson reconstruction and extract iso points with confidence.

Step 4. Click the button   to   [Step3: Compute NBV]   compute the NBVs.

Step 5. Click the button to   [Step4: Run New Scan]   run virtual scans using the NBVs.

If you're interested in our source code, you can visit:
https://github.com/sunwaylive/quality-driven-poisson-guided-autoscanning

Configuration for the source code:

This code is complied well on Win7(64bit) + Qt4(64bit) + VS2010.
If you are also working in this environment, you just need to make sure your Qt works well.

If you want to use 32bit QT, just make sure your path of QT is correct and use the right dlls(ANN.dll, glut32.dll that we have provided in the "dlls" floder),very simple.

Any questions or bugs send email to sunwayliving@gmail.com please.

Hope you have fun.

(version 1.0 2014-10-10)