Quick Reference Guide

Inputs

- *bg* – undistorted source video;
- *cam* – camera (moving or static, with a correct focus length and aperture);
- *geo* – rigid model of the object to track;
- *mask* – mask (if some objects are lapped over the target object).

How to use

1. **Preanalyse**
   In order to track something, you should first analyse an input sequence and obtain an *analysis*-file, which contains all info for the successive rapid tracking. This file can be sent together with the Nuke comp, so you need to generate it only once and share it with the whole team. You can use the same analysis-file even if there are several objects in one scene.
   To generate analysis-file, you should specify its path in the corresponding field and press the *Analyse* button. The calculations may take some time but they are fully automated.
   If you already have the analysis-file, you can simply specify the path to it (when you transfer your project).

2. **Tracking**
   Before tracking, you should place the model. It's easy: just click on the object's surface and drag to the corresponding point on image. If your camera and model are precise, you could easily fit the model to the background by adding and dragging several points.
   Congrats! You've set up your first keyframe. Now you can start tracking forward or backward from it (arrow-buttons in the toolbar). If something goes wrong, you can stop tracking and set up another keyframe. After you place it click the *Refine* button in the toolbar.
   Note: If you press *Refine* while the playhead is between keyframes, refinement will take place in this framerange. If the playhead is placed on a keyframe, then refinement will be applied to the framerange between the closest keyframes to the left and to the right from the current one, if they exist. Well, there is nothing special here.

3. **Some useful features**
   - *2d mask* – use it to mask objects that lay over the target of tracking.
   - *3d surface mask* - use it to mask faces of tracked object that shouldn't be used in tracking (mirror surfaces for example).
   - *User tracks* - 2d tracks that can be used to improve tracking results.
   - *Back-face culling* – show/hide faces that are turned away from the camera.
   - *Center View* – place object being tracked in the center of the screen and set keyframe.
   - You can specify colors of *wireframe*, *pins, residuals, etc*.
   - *Motion Blur* – helps you correct tracking results for fast moving objects (knobs are identical to Scaline Render's ones).
   - *Focal length estimation* – set focal length mode to 'constant static' and estimate camera focal length by pintooling an object.
   - ...

4. **Results**
   Tracking results are shown in a separate tab in translate and rotate knobs (typically, you are not supposed to adjust them manually, but this's also possible). The tab also contains the scale knob which you can use to change the model's scale. Note: changing the scale doesn't bring visual changes in 2D Viewer Mode as object not only becomes bigger or smaller, but also move further or closer to the camera preserving projection to the image plane.
   To export the results as a TransformGeo node, select TransformGeo and press the *Export* button. If you are using a default camera and/or custom focal length, Camera node will be exported too.
   To export the results as a Camera moving around a static object, select tracked Camera and press the *Export* button.
   Note: use *Link Output* to link the resulting Nodes with GeoTracker.
   You can also directly use output of GeoTracker node as if GeoTracker is a TransformGeo node. Note: if you are using a default camera and/or custom focal length, you will need to import a camera by selecting Camera, pressing the *Export* button.