GARP 0317: Cookbook 19 November 2012

Overview

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1) Cool Stuff!

Universcale (by Nikon)

http://www.nikon.com/about/feelnikon/universcale/index_f.htm

Cell Size and Scale

http://learn.genetics.utah.edu/content/begin/cells/scale/
Microsoft Photosynth

http://photosynth.net/

The Photosynth site hosts two different styles of 3D experience: synths and panos.

The first style, and the one that still uniquely defines the product, is what we call a “synth”. A synth is a collection of overlapping photographs that have been automatically reconstructed into a 3D model of the space. The synthing process solves the same problem our brains are confronted by when we look at the world: the slight differences between what our left and right eyes see gives us cues about how far away different parts of the scene are. In a similar way, the differences between two photos taken from nearby positions can be analyzed to determine which parts of the scene are close, and which are further away. Amazingly, the synthing algorithm can reconstruct a scene of 200 photos in just five or ten minutes on an average laptop.

In addition to synths, Photosynth supports spherical panoramas, which we often refer to as “panos”. Unlike synths, where different camera locations are required, the idea behind a pano is to capture the view in every possible direction from exactly one location. A panorama doesn’t give you any depth information, but it makes for a seamless viewing experience because the combined imagery seems to wrap around you – just like the real world does.

Both synths and panos are viewed using the multi-resolution technology acquired when Microsoft purchased the Seadragon™ startup in 2006. This means that photos in synths can be of any resolution whatsoever, and every pixel is preserved and delivered to viewers as they zoom. Similarly, our tools allow you to make a gigapixel (1000 megapixels) panorama if you want, and it can be opened by a viewer on the Web or in a mobile app in just a couple of seconds.

More Information and Links

- Image Composite Editor
  http://research.microsoft.com/en-us/um/redmond/groups/ivm/ice/
2) Technology Survey

https://www.surveymonkey.com/s/QZQFJF2

3) Your Turn!