Thanks, Google: Camera system reveals rich details for art viewing

May 19 2016, by Nancy Owano

Credit: Google

(Tech Xplore)—Art appreciation can mean many things. For the

museum goer who passes by a canvas without a guide, taped audio and textbook knowledge, the person's preferred mode of appreciation relies on instant impact of seeing what the artist did to a blank canvas. It's either Like, Hate, or Yawn.

For those who want to know more about skill and technique, one afternoon may be easily consumed viewing two or three works of art, exploring details: How did the artist work?

Google has the second group covered with its Meet the Art camera—and its efforts to capture art will attract a lot of people from the first group too. There may be another middle group, the "instant" viewers, the self-educating viewers who can visualize details they may never have known, becoming all the more curious about artists and their works.

Google has a Meet the Art Camera by the Google Cultural Institute. A video was posted on Tuesday showing the camera at work.

The setting for the video is Museum Boijmans Van Beuningen, a museum which has been among the first to use the Art Camera to digitize a series of art works, including the Portrait of Armand Roulin by Van Gogh.

The video shows how the view provides a look at the artist's brushstrokes and dabs of oil paint, inch by inch, unveiling details of this 1888 portrait of Armand Roulin.

Ben St. John, engineer, Google Cultural Institute, on Tuesday wrote in the official blog at Google with this to say:

"The Art Camera is a robotic camera, custom-built to create gigapixel images faster and more easily. A robotic system steers the camera automatically from detail to detail, taking hundreds of high resolution

close-ups of the painting. To make sure the focus is right on each brush stroke, it's equipped with a laser and a sonar that—much like a bat—uses high frequency sound to measure the distance of the artwork. Once each detail is captured, our software takes the thousands of close-up shots and, like a jigsaw, stitches the pieces together into one single image."

DP Review also offered a description for how it works:

The Art Camera, "after being calibrated to the edges of a painting or document by its operator, automatically takes close-up photos of paintings one section at a time, using a laser and sonar to precisely adjust the focus. This process results in hundreds of images that are then sent to Google, where they're stitched together to produce a single gigapixel-resolution photo."

The camera is capable of ultra-high-resolution gigapixel images, said the video notes. What does that actually mean? The blog: A gigapixel image is made of over one billion pixels, and can bring out details invisible to the naked eye. "So creating digital images in such high resolution is a complex technical challenge. You need time, highly specialized and expensive equipment, and only a few people in the world can do the job."

Enter Google Cultural Institute. "In the first five years of the Google Cultural Institute, we've been able to share about 200 gigapixel images. But we want to do much more. That's why we developed the Art Camera." According to the blog, they are sending a fleet of these cameras from museum to museum around the world—for free.

Brittany Hillen *DPReview* contributor, said on Wednesday that what we are actually looking at with this Google Cultural Institute is "an online virtual museum with high-quality digitizations of artifacts from across the globe," and she called the Art Camera a robotic camera system that

Google has developed which has "made it possible for the organization to add digitizations faster than ever before."

Ubergizmo's Tyler Lee: "According to Marzia Niccolai, technical program manager at the Cultural Institute, "The capture time has been reduced drastically. Previously it could take almost a day to capture an image. To give you an idea, now if you have a one meter by one meter painting, it would take 30 minutes."

Google uses its art camera system with a number of museums.

Ben St. John wrote that "As we prepare to celebrate International Museum Day and welcome more than 25 new museums on the Google Cultural Institute, we want to thank everyone who worked with us to test the new camera in the recent months. Thanks to their work, today you can start zooming and explore more art in the details than ever before!"

More information: googleblog.blogspot.com/2016/0 … tural-institute.html

www.google.com/culturalinstitu … e/project/art-camera

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