Subject: 3D-printed Spherical Camera ball
Posted by aeron203 on Sat, 15 Oct 2011 02:49:05 GMT
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Anyone browsing the forums here back in June might remember a fellow named John Ladd stopping in and making a long list of claims about a new scanning technology he developed, and a concept he had for a little pod of imaging devices arranged into a sphere.

Well, I just came across an article discussing a spherical camera ball technology developed by... Jonas Pfeil of the Technical university of Berlin. Mr. Ladd recieved some pretty harsh judgement here for his ideas because of the sheer number of unrelated things he was trying to accomplish at once (and his brash attitude in presenting them). This device as only one-sided sensors, so it does not image items inside, and you can't take shots out of it, and you don't bump spheres to make social media connections. It does have a spherical sensor arrangement and stitches the images together into a seamless panorama. Apparently it senses when the ball stops in the air and snaps an image then. With a fast enough exposure and electronics to take video from all sensors, I believe you could create a photogrammetry reconstruction using one of these. So there you have a scanning ball. The complex casing is not based on dodecahedral symmetry, but it was 3D-printed.

ExtremeTech: Throwable 36-camera ball takes perfect panorama photos

Jonas Pfeil's Ball Camera Website

I would urge John, Jonas, and people like them to continue their work, but consider how Jonas' approah differed from John's. Jonas has released it after developing and documenting his prototype, after sending his application, but before a patent was granted. If he fails to receive the patent (and it is not already patented) others may copy his work, but they cannot patent his idea and stop him from working on or selling his invention because he has shown prior art that would invalidate any future patent claims. If Jonas had discussed it here with us and someone made a website claiming, whether qualified or not, that they were going to develop the idea, he would have a lot of trouble patenting it.

John is also no stranger to patents, but instead of patenting an application, he typically patents an implementation of a circuit or some other engineering concept (since he is an engineer). Jonas's Ball Camera uses off-the-shelf tech, but he has found a solid application that is innovative enough that he will very likely be granted protection for it. That won't stop the Chinese camera balls from rolling in a few years down the road, but this whole development is an interesting case study in innovation that anyone with potentially valuable ideas should consider.

Subject: Re: 3D-printed Spherical Camera ball
Posted by mctrivia on Tue, 18 Oct 2011 03:19:43 GMT
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I had this idea years ago(though in my dreams I had 64,000 cameras - dream big). Cool to see someone making it a reality. All he needs to do is make sure all cameras use the same aperture, and shutter speed, and increase the cmos sensors to 14+MP and he is golden.

I like the slow manotinous method because with my 600mm lens and a 10MP camera I can get 10,000MP picture but that takes hours to shoot. This would be great for taking quick snap shots.

Subject: Re: 3D-printed Spherical Camera ball
Posted by jwladd on Sun, 01 Apr 2012 05:34:21 GMT
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Our Team was happy to see the Berlin Ball demo'd recently and it is quite a camera. Currently I am working on the next generation of small pixel cameras (1.25 micron, 18 Megapixel) for DSC customers.

Regarding Roman Systems Engineering, our startup, we are filing now based on the provisional patents we recieved from last year. We believe 3d printing is going to rise fast when it hits that price point and we will be ready to supply scans and STL files to support multiporous density prints (such as food printing) etc.