Subject: Modelling underwater caves from video
Posted by Liz_Rogers on Sun, 11 Nov 2012 20:56:54 GMT
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Hi all,

I'm a cave diver (yes, scuba diving in caves that are full of water) interested in 3D modelling. At the moment mapping underwater caves is done using a bit of string with knots in it, a depth gauge and a compass. We've had some success with creating 3D models of individual underwater chambers using overlapping photographs. The restriction is the number of photos required and the size of the cave (8km/5mi of interconnecting underwater tunnels).

So....is there anyone who can help me out with developing a dual video to 3D map technology? We have invested in a dual Contour camera set up and have taken a bunch of paired video footage from the caves. I've seen people creating models from dual video output on land, but only prototypes and nothing commercially available as yet.

Alternatively, is there a way to create each section of cave from photos, and then stitch the sections together?

For those who are interested, you can check out my underwater cave photography to get an idea of the environment we're trying to model.

Thanks in advance for any and all leads or assistance!

Liz Rogers
http://lizrogersphotography.com

Subject: Re: Modelling underwater caves from video
Posted by stonysmith on Sun, 11 Nov 2012 21:39:10 GMT
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Have you tried 123dcatch
This sounds like a cool project.

Subject: Re: Modelling underwater caves from video
Posted by Liz_Rogers on Mon, 12 Nov 2012 01:41:43 GMT
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I think it's cool. It will revolutionise underwater mapping if we can get it up and working reliably. And I hate counting knots in string.

Yes, the success so far has been with 123catch. See here for more details: http://lizrogersphotography.com/2012/10/3d-mapping-the-pilla r-in-tank-cave/  The link to the model generated is halfway down the page.

I'm not sure that it would work so well if I tried to insert 5,000 photos covering 5 miles of cave, however!

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Subject: Re: Modelling underwater caves from video
Posted by stonysmith on Mon, 12 Nov 2012 04:02:38 GMT
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Option #2.. did you try Microsoft Photosynth? http://photosynth.net
It may be capable of handling those 5000 photos.
At one time there was an option to get a point cloud out of it.. but I'm not sure if the option is still there or not.

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