

DPRG RBNV Chat Record – July 23,2024

00:01:49.114,00:01:52.114

Carl Ott: <https://www.dprg.org/dprg-monthly-meeting-swap-meet-and-gathering-july-27-2024/>

00:01:58.275,00:02:01.275

Carl Ott: queue for tonight

00:01:59.097,00:02:02.097

Carl Ott: John K

Mike W

Pat C

00:07:58.394,00:08:01.394

Mickey Dean: Mike, free stress testing!

00:08:02.562,00:08:05.562

Carl Ott: We started with pics & thoughts from Moon Day

00:11:17.722,00:11:20.722

Carl Ott: ~7:46pm - Mike W - described latest hurdle - trying to get serial port access. Running ROS and RPi 5 with dockers. Pi Serial is not available in Ubuntu 24.04. So stuck in rabbit holes... Found a couple options - including a ROS serial bridge package (connects to serial port & sends a ROS topic).

00:12:02.888,00:12:05.888

Carl Ott: Then realized - Linux - all serial ports are files - should be able to open port as a file and just read & write to it. Is experimenting on his Linux PC

00:12:47.482,00:12:50.482

Carl Ott: Worked for 22.04, but says "package not available" when try on 24.04

00:13:03.282,00:13:06.282

Pat Caron: <https://askubuntu.com/questions/1520139/pyserial-lists-incorrect-serialports-on-ubuntu-24-04>

00:13:58.087,00:14:01.087

Carl Ott: at least - docker image for 24.04 with ROS jazzy package couldn't find ROS serial.

00:15:38.896,00:15:41.896

Carl Ott: One possibility - the Docker image might not have the right repos installed.

00:17:21.488,00:17:24.488

Carl Ott: Other PIP Installs work fine.

00:17:38.179,00:17:41.179

Carl Ott: Paul noted that Docker images are often stripped down.

00:20:50.831,00:20:53.831

Carl Ott: ~7:58pm - Pat raised a mechanical problem. Has a linear shaft with a bearing - wants to drill a hole in the shaft- and has been unable to find a bit that can touch the shaft.

00:21:23.849,00:21:26.849

Carl Ott: Is a hardened shaft. Has ordered some cobalt drill bits - will file a flat spot, get a center point and try to drill...

00:22:19.643,00:22:22.643

Carl Ott: Trying to drill a 7/32 hole.

00:24:01.121,00:24:04.121

Carl Ott: Karim suggestion - Heat up to Cherry Red - let it cool as slowly as possible - let the torch linger a little. You'll anneal it in that area. Probably want to wrap the shafts in a wet cloth beyond the area to anneal...

00:25:17.365,00:25:20.365

Carl Ott: Jon - use an angle grinder - will both put a flat on and heat it up. Since often those are just 'case hardened' - so if you get past the hardened part - could be easier to drill.

00:26:18.795,00:26:21.795

Carl Ott: Whole idea is to use retaining pins for wheels for an outdoor robot.

00:28:20.702,00:28:23.702

Mickey Dean: those are great ideas to allow freewheeling

00:28:30.148,00:28:33.148

Mickey Dean: wheeling*

00:29:55.551,00:29:58.551

Ponder SomeMore: Doug was talking about these:

<https://www.amazon.com/External-Retaining-Rings-Assortment-1-5mm-15mm/dp/B0CYWYPDXQ?th=1>

00:33:37.800,00:33:40.800

Carl Ott: ~8:11pm - Ted - working on RoboMagellen also - had a flexible bumper to detect things - but vibration caused erroneous triggers. So showed a 3-d Printed bumper

00:33:39.115,00:33:42.115

Mickey Dean: nice bumper Ted

00:37:02.952,00:37:05.952

Carl Ott: Ted: another show of support for design process with OnShape and 3D printers...

00:38:16.061,00:38:19.061

Carl Ott: Also showed more of his 6-wheel platform. Now with 3D printed dust shields.

00:39:59.720,00:40:02.720

Mickey Dean: Ted, that is a very nice bumper design

00:42:09.365,00:42:12.365

Carl Ott: ~8:18pm - Jon talked about his alternate approach for 'bumper' - using a short-range time of flight to get close, then use wheel encoders to drive forward by a fixed amount plus a little extra - to touch the cone without an actual touch sensor.

00:47:08.493,00:47:11.493

Mickey Dean: I will be getting an Oak D Lite very soon myself

00:49:08.176,00:49:11.176

Carl Ott: ~8:25pm - Jon shared a little python app he wrote to run Depth AI on his Oak D Lite. He creates a node for the color camera (one in the middle), and other nodes for the mono cameras on outside - and a stereo camera node which combines the left and right outer nodes. Then creates a node for SpatialLocationCalculator - and sets up a region of interest.

00:49:58.454,00:50:01.454

Carl Ott: This version is cool -you can make arbitrary sizes and shapes for region of interests

00:52:02.101,00:52:05.101

Carl Ott: Also create a sync node - which enables ensuring that snapshots from the center (RGB color) camera to the depth sensing stereo camera - to ensure that you're looking at images from the same point in time

00:52:44.994,00:52:47.994

Carl Ott: Then you load that pipeline into the camera (it runs locally in the camera), and the Pi just sits and waits

00:55:25.618,00:55:28.618

Carl Ott: then he creates a depth map, and notes each region of interest with it's characteristics (e.g. is it 'critical' very close or 'warning' not quite as close)

01:08:56.224,01:08:59.224

Carl Ott: next in queue- Ray and then Karim

01:11:19.414,01:11:22.414

Carl Ott: ~8:48pm- Ray gave a MaxCam demo.

01:16:20.508,01:16:23.508

Carl Ott: For a lower price - seems technically on par with (maybe faster than) an OpenMV

01:18:10.650,01:18:13.650

Carl Ott: Sorry - here's the correct spelling "MaixCAM" and here's the site
<https://wiki.sipeed.com/hardware/en/maixcam/index.html>

01:20:08.338,01:20:11.338

Blue (David): <https://wiki.sipeed.com/hardware/en/maixcam/index.html>

01:20:16.692,01:20:19.692

Mickey Dean: How hard would it be to take two MaixCams installed at proper distance and angles on a 3D mount for stereo vision?

01:20:44.427,01:20:47.427

Ponder SomeMore: <https://www.amazon.com/Sipeed-MaixCAM-Development-Recognition-Baisc/dp/B0D73VMYRP?th=1>

01:25:35.080,01:25:38.080

Chris N: gotta go. good night....

01:26:21.732,01:26:24.732

Carl Ott: ~9:03pm - Ray showed several spherical reflectors to get a 360-degree view

01:30:36.825,01:30:39.825

Ray Casler: <https://www.aliexpress.us/item/3256803393725326.html>

01:41:31.170,01:41:34.170

Mickey Dean: When you say a real BB8 do you mean it could rotate and move?

01:41:45.693,01:41:48.693

Mickey Dean: cool

01:45:14.575,01:45:17.575

Paul Bouchier: <https://www.dprg.org/wp-content/uploads/2021/03/robocolumbusplus-20210313.pdf>

01:45:18.649,01:45:21.649

Carl Ott: ~9:23- Paul revisited concepts of 'bumpers' or 'non-bumpers' wrt rules for RoboColumbus

01:46:49.498,01:46:52.498

Carl Ott: Doug reminded - that the intent was to NOT use a steak for the cone position - rather to mark the circle with paint

01:49:51.646,01:49:54.646

Mickey Dean: .

01:50:01.700,01:50:04.700

Mickey Dean: oops

01:50:48.141,01:50:51.141

Ponder SomeMore: mmm. steak.

01:51:08.618,01:51:11.618

Carl Ott: maybe bacon

01:51:23.695,01:51:26.695

Ponder SomeMore: taters too

01:53:14.330,01:53:17.330

Mickey Dean: I was thinking feeler gauges for my bumper but, Ted's idea just looks so much more viable

01:53:38.048,01:53:41.048

Mickey Dean: but I am trying to mitigate tall grass and weeds from false positives

01:54:54.468,01:54:57.468

Mickey Dean: especially with a vibrating mower

01:55:29.274,01:55:32.274

Paul Bouchier: Gotta go guys

01:55:52.590,01:55:55.590

Mickey Dean: Jon, but you run on mowed grass areas I assume

01:57:22.865,01:57:25.865

Mickey Dean: Anyone that has patches of dallis grass likely would trigger an obstacle with IR or Ultrasonics

02:01:54.873,02:01:57.873

Doug Dodgen: Got to go. Have fun!

02:02:04.862,02:02:07.862

Mickey Dean: you guys should not have harder courses than gold does...quicksand is just not fair

02:02:10.550,02:02:13.550

Mickey Dean: golf

02:03:21.784,02:03:24.784

Pat Caron: See you next week