

DPRG RBNV Chat Record – December 12, 2023

Carl Ott

7:38 PM

Tonight's queue:

Mike W, Cooper, Ray, Pat, Tom, Open mic

Carl Ott

7:39 PM

~7:38pm - Mike W gave an update on his indoor robot - added GoBuilda pods. Nice Clean Layout

Carl Ott

7:41 PM

Dave - your mic was causing noise, so I muted you - please unmute if you want to jump in

Mike uses a hefty pro camera battery. between that and the GoBuilda pods the robot weights in around 4 pounds

Carl Ott

7:57 PM

Cooper, Ray, Pat, Tom, Open mic

Carl Ott

8:00 PM

~7:57pm - Cooper - going for Gold Star. Follow up from last week / with a universal controller/receiver pair that he could use on any robot. Also gave an overview of his current robot - work in progress.

It's a Roomba chassis.

Carl Ott

8:02 PM

GOLD STAR for COOPER!

Showed a wireless controller using ESP-Now,

Carl Ott

8:06 PM

Cooper described a nice approach that allows any of his separate modules to power up in whatever order - and then the system figures it out and just works together.

Brendon Holt

8:12 PM

Secure Travel Wi-Fi Router:

https://www.amazon.com/dp/B09N72FMH5/?coliid=I21PPSC86OBIWY&colid=3CKB9IL6WQ402&psc=1&ref_=list_c_wl_lv_ov_lig_dp_it

Tom C - Hamilton, ON

8:17 PM

ESP32 with ext.

antenna: https://www.aliexpress.com/item/1005005727605631.html?spm=a2g0o.productlist.main.59.2c4c7152I4qM7E&algo_pvid=b48b6bc9-1487-41a3-8505-4912c8cb2f4a&algo_exp_id=b48b6bc9-1487-41a3-8505-4912c8cb2f4a-29&pdp_npi=4%40dis%21CAD%217.76%214.35%21%21%215.59%21%21%402103246617024337275781521e0644%2112000034136487618%21sea%21CA%214334825211%21&curPageLogUid=teDeyHOqnl2s

Carl Ott

8:18 PM

This is the one that I've used with good success - TP-Link TL-MR3020 https://www.amazon.com/TP-Link-Wireless-Portable-Router-TL-MR3020/dp/B00634PLTW/ref=sr_1_3?crid=3K8KDI7DWUUSM&keywords=TL-MR3020&qid=1702433846&sprefix=tl-mr302%2Caps%2C145&sr=8-3

ed mart

8:19 PM

TP-LINK TL-MR3020 IS VERY POPULAR TO MAKE A PIRATEBOX

Brendon Holt

8:21 PM

<https://www.sparkfun.com/products/17746>

Cooper Clem

8:21 PM

https://www.digikey.com/en/products/detail/seeed-technology-co_-ltd/113991054/16652880?utm_adgroup=&utm_source=google&utm_medium=cpc&utm_campaign=PMax%20Shopping_Product_Low%20ROAS%20Categories&utm_term=&utm_content=&utm_id=go_cmp-20243063506_adg-ad_dev-c_ext-prd-16652880_sig-CjwKCAiApuCrBhAuEiwA8VJ6JmRXsEJQIEZuvlcEYXOrgL3snoR7_AnfyNILGQ-

[bf0lbdVKgYIVDihoC_rcQAvD_BwE&gad_source=1&gclid=CjwKCAiApuCrBhAuEiwA8VJ6JmRXsEJOIEZuvlcEYXOrgL3snoR7_AnfyNILGQ-bf0lbdVKgYIVDihoC_rcQAvD_BwE](https://www.facebook.com/CarlOtt/posts/1015984503721sea%21US%21932773296%21&curPageLogUId=SOSNO8FNY0GY)

Carl Ott

8:25 PM

next queue:

Ray, Pat, Tom, Open mic

Carl Ott

8:27 PM

~8:25pm - Ray gave an update - his week has been all things mechanical. First - a GoBuilda base with ginormous wheels for an outdoor rover.

Carl Ott

8:28 PM

then a new indoor differential drive with 3 phase brushless motors on a MakeBlock frame.

ed mart

8:38 PM

Looks like a yard spreader wheel.

Ray

8:43 PM

Source for wheels:

<https://www.surpluscenter.com/Wheels/Wheels-Tires/Semi-Pneumatic-Wheels/10-X-2-25-Black-Plastic-Geared-Wheel-1-5327.axd>

ed mart

8:44 PM

Flat Free | Wheels & Tires | Wheels | www.surpluscenter.com <https://www.surpluscenter.com/Wheels/Wheels-Tires/Flat-Free/>

Carl Ott

8:59 PM

~8:58pm - Pat showed his CanBot - working on it again... Has an issue with motor driver PWM - coming off of pins 10,11 from HiLetgo L298P. Having trouble mapping commands to reach 20 KHz on those pins.

Looking for a way to get same PWM to each motor,

Ray

9:01 PM

https://www.aliexpress.us/item/3256801551898326.html?spm=a2g0o.productlist.main.1.2c69a0b2zt1a1a&algo_pid=0a146564-2ece-43fa-a581-ce046aaba1fe&algo_exp_id=0a146564-2ece-43fa-a581-ce046aaba1fe-0&pdp_npi=4%40dis%21USD%2112.24%217.59%21%21%2112.24%21%21%402101f49917024364142106759e998c%2112000021496845037%21sea%21US%21932773296%21&curPageLogUId=SOSNO8FNY0GY 3 phase brushless

motor driver

Carl Ott

9:03 PM

~9:01pm - lots of discussion around good frequency to run motor PWM - ie. whether to run at higher speeds like 20 KHz, or much lower frequencies.

Tom C - Hamilton, ON

9:10 PM

Low Speed Performance article: <https://learn.adafruit.com/improve-low-speed-performance-of-brushed-dc-motors>

Tom C - Hamilton, ON

9:11 PM

Additional testing on small motor performance: <https://learn.adafruit.com/improve-brushed-dc-motor-performance>

Doug Paradis

9:12 PM

Motor Driver Mode: <https://www.dprg.org/l298n-motor-driver-board-drive-modes/>

Carl Ott

9:17 PM

~9:15pm - Doug mentioned that all RoboColumbus 2023 runs are now loaded to YouTube and [dprg.org](https://www.dprg.org). Good video to observe and learn...

Carl Ott

9:19 PM

~9:17pm Tom gave an update on a compass module test bed he and a friend are working on - for a submarine application.

Carl Ott

9:32 PM

~9:31pm - Mike W looking at different 9DOF - looking at a BNO-985 / same Memos and processor but different firmware...

Brad Garton

9:33 PM

<https://github.com/BPS-space/bps-space.github.io/blob/master/electronics/imu-selection.md>

Tom C - Hamilton, ON

9:39 PM

Another tilt compensating compass (6DOF): GY-511 LSM303DLHC Module

Cooper Clem

9:44 PM

Have to head out- Thank y

*y'all so much and see y'all next time

Doug Paradis

9:45 PM

WITmotion WT901C with case: https://www.amazon.com/%E3%80%90WT901C-TTL-Inclinometer%E3%80%91High-Performance-Acceleration-Sensor%E3%80%90Kalman-Filtering%E3%80%91/dp/B01N03WKDV/ref=sr_1_2?crd=LA6U1XGXJZDV&keywords=wt901c-232+9-axis+vibration+inclinometer&qid=1702439024&sprefix=wt901%2Caps%2C214&sr=8-2

Doug Paradis

9:47 PM

WITmotion WT901C without case: https://www.amazon.com/Accelerometer-Acceleration-Gyroscope-Electronic-Magnetometer/dp/B07GBRTB5K/ref=sr_1_19?crd=LA6U1XGXJZDV&keywords=wt901c-232+9-axis+vibration+inclinometer&qid=1702439182&sprefix=wt901%2Caps%2C214&sr=8-19

Carl Ott

9:49 PM

~9:49pm - getting started with ROS - asked for favorite IDE...

Pat C

9:52 PM

Great topics this week! See you on Tuesday.

Ponder SomeMore

9:56 PM

<https://www.youtube.com/watch?v=8CXReb7f0Eo>

this might be dprg's highest viewed video.

Doug Paradis

10:05 PM

David Anderson Slide deck Link: chrome-

extension://efaidnbmnnnibpajpcglclefindmkaj/<http://www.geology.smu.edu/~dpa-www/robo/dprg-12jun2021/dprg-talk.pdf>

Carl Ott

10:08 PM

~10:06pm - Brad G gave a status update.

Carl Ott

10:11 PM

Tom mentioned Seattle Robotics Society - upcoming presentation on 16 Dec - reference:

<https://seattlerobotics.org/calendar/>

The meeting will be ONLINE at 10:00am PT using ZOOM. Join Zoom Meeting HERE. -- Meeting ID: 859 6958 8697 -- Meeting Passcode: 1982 Bob Cook will discuss his SRS Robo-Magellan robot project, sharing about the machine learning model he developed for detecting the cones with a camera, and the telemetry system he created to help tune overall robot performance. He will also talk about the robot architecture for context.

ed mart

10:15 PM

Laptop password = HORSEAPPLE

Tom C - Hamilton, ON

10:20 PM

need to sign off now, folks. Great meeting!

Doug Paradis

10:29 PM

Good one Ed ... I wonder if it's Ray"s....

