

## DPRG RBNV Chat Record – June 7, 2022

Carl Ott

7:45 PM

18 June 2022- DPRG RoboRama 2022 <https://www.dprg.org/roborama-2022/> Dallas Makerspace / Interactive Classroom (Club Pizza)

Carl Ott

7:48 PM

~7:47pm John G - update on his license plate reader - and the challenge to maintain focus for both visible light and infrared light in the same camera a motorized arrangement that can toggle between day and night.

Scott Gibson

7:49 PM

just found it on the web site RoboColumbus is scheduled for Oct 15.

Carl Ott

7:50 PM

Thanks Scott - can you post the link from the web?

Scott Gibson

7:50 PM

<https://www.dprg.org/robocolumbus-2022/>

Carl Ott

7:50 PM

John G uses optical limit switches to calibrate lens movement. Also showed sample images showing resulting focus values

John Gauthier

7:55 PM

<https://www.youtube.com/shorts/KomD7HFkPW!>

<https://www.youtube.com/shorts/3Z2U3KtmBfo>

Carl Ott

7:56 PM

~7:55pm - Michael - a question - feedback on an idea for entering the 4 corners competition coming up on 18 June - wondering if it made sense given the starting point that he has

Carl Ott

8:01 PM

Here are the rules for Four Corners [https://www.dprg.org/wp-content/uploads/2018/09/four\\_corners-201804303.pdf](https://www.dprg.org/wp-content/uploads/2018/09/four_corners-201804303.pdf)

Carl Ott

8:12 PM

RoboRama competition - Group Discussion Agreed: Remote participants at the start at 1:00pm - and if possible, we'll open the bridge early at 11 for remote participants to observe weigh in...

Carl Ott

8:16 PM

~8:15pm - John K -showed his robot - using Rev parts - believe the encoders have lots of ticks, versus Michaels optical encoders (20 ticks / revolution)

Carl Ott

8:17 PM

John K's robot driving a straight line AKA a "Full Half Quick Trip"

Carl Ott

8:21 PM

~8:19pm - Karim explained his standard guidance to his students - to first get the robot to follow a straight line

Then that becomes ground truth for measuring encoders. Very useful for recalibrating the robot, especially after changing mechanics or other parts

Carl Ott

8:22 PM

~8:20pm David A showed how he mounts a laser pointer on his robot - which he calibrates to the robot, and then can use to 'mark the floor with light' to make initial alignment

Carl Ott

8:23 PM

Especially handy to use laser pointers that project lines - e.g. for tooling...

Carl Ott

8:25 PM

~8:24pm- John K showed another interesting robot on instructible - "3D Printed Robot Dog" This one unique in its servo mounting - which keeps the servos in the body and uses linkages for the forearms - allowing the leg mass to stay low... <https://www.instructables.com/3D-Printed-Robot-Dog/>

Carl Ott

8:34 PM

~8:30pm - David and Karim drug us into the rabbit hole of wheeled robots versus legged robots. So, it seems that DPRG have a new zealot debate...

Carl Ott

8:39 PM

~8:34pm - David shared thoughts on the 'pivot point on robot' moves along a straight line while robot spins about that point... David shared some simple math that describes this...

Carl Ott

9:00 PM

leading up to 8:55pm - Carl showed a basic Makeblock MBot as an alternative platform for situations like Michael helping his granddaughter into robotics. Note that Carl showed the base platform <https://smile.amazon.com/gp/product/B00SK5RUQY> with an optional LiPo battery (which has built-in charging via USB support from the MBot) <https://smile.amazon.com/gp/product/B07KPVH8H3>

Carl Ott

9:01 PM

~8:56pm - Ray showed pretty high-resolution optical encoders - very similar to the high res encoders found on David's "Tanners special" Pittman motors...

Carl Ott

9:08 PM

FWIW - This is the mecanum wheel robot by Makeblock which I mentioned. Although it does use a Mega AT2560, looking closer it may not have encoders on each wheel after all. But it could make a decent platform to start with for just \$119 (or currently \$109 on Amazon) <https://store.makeblock.com/products/makeblock-mbot-mega-robot-kit>

Carl Ott

9:09 PM

Reminder - Gold Stars Awarded:

John K - Robot moving in half of a quick trip

Carl Ott

9:11 PM

John G - working / demonstrated Mechanism to toggle focus between day / visual light and night / IR focal lengths... and resulting pictures

Carl Ott

9:21 PM

~9:20pm - Karim - noted unable to do the locator challenge this time... several unfortunate factors...

ed mart

9:23 PM

Gold star ?

Carl Ott

9:24 PM

One of which - showed experiments to control a 4 ton excavator via standard robot parts - connected via cable ties --- >> Gold Star!

Carl Ott

9:26 PM

Hence - the largest - heaviest robot demonstrated at DPRG

Carl Ott

9:29 PM

Actually -as the largest / heaviest robot - TWO Gold Stars!!!

Carl Ott

9:32 PM

~9:28pm - Doug P - talking about motivation for the object identification & retrieval contest -> e.g., as an incentive & motivation to get more members involved in whole workflow for neural nets & practical applications

John Gauthier

9:36 PM

Neural Network Projects with Python (published by Packt), available on Amazon.

Carl Ott

9:42 PM

~9:40pm - on the topic of wheels versus legs - JohnK showed a self-balancing bike from Thingiverse <https://www.thingiverse.com/thing:5403283>

Carl Ott

9:46 PM

and a ping pong ball balancing robot - catching the ball with a flat plate <https://www.youtube.com/watch?v=2w4oLIARdsA>

Ponder SomeMore

9:47 PM

[https://www.youtube.com/watch?v=xHWXZyfhQas&ab\\_channel=StuffMadeHere](https://www.youtube.com/watch?v=xHWXZyfhQas&ab_channel=StuffMadeHere)

Carl Ott

9:47 PM

and here's a robot bouncing two ping pong balls at once on a single paddle <https://www.youtube.com/watch?v=omGHeVmv6NI>

Carl Ott

9:51 PM

Karim - thanks for showing the "100MPH flying basketball hoop" - where a backboard is maneuvered by 6 separate cables - to place a backboard and hoop in the right place well before the thrown ball arrives... <https://www.youtube.com/watch?v=xHWXZyfhQas>

video indicates that his multiple cameras can create a solution within a microsecond...