DPRG RBNV Chat Record – July 2, 2024

00:00:53.829,00:00:56.829
Carl Ott: queue

00:00:54.620,00:00:57.620
Carl Ott: Paul B
John G
Mike W
Tom C
Jon H
Paul B
Carl
Karim

00:01:33.696,00:01:36.696
Carl Ott: July Meeting - Swap/ Show-n-Tell.

00:01:38.186,00:01:41.186
Carl Ott: Aug - JTAG presentation

00:01:48.010,00:01:51.010
Carl Ott: Moon Day - 20 July - details shown in video.

00:04:49.887,00:04:52.887
Carl Ott: Maybe smart to bring a camp chair in case Frontier of Flight
runs out

00:07:04.119,00:07:07.119
Carl Ott: Show up for setup ~ 9am. Be prepared to setup complete by
9:45am. Event runs until 4pm, so depart after end & wind-down. Enough
people to split coverage in case folk want e.g. 4 or 5 hours instead of
the full 7 hrs. of demo duty.

00:07:47.218,00:07:50.218
Paul Bouchier: https://flightmuseum.com/events/moonday/

00:22:11.508,00:22:14.508
Carl Ott: ~8:01pm - John G- showed a motion activated thing for his
outdoor camera.

00:22:35.362,00:22:38.362
Carl Ott: motion activated sun tracker to maximize solar cell capacity.

00:28:35.806,00:28:38.806
Carl Ott: GOLD STAR for John G -> showed his solar panel positioning
system calibrating & data running over 3 days...

00:29:09.752,00:29:12.752
Carl Ott: ~8:09pm- Mike W- 2 topics. 1. robot platform and 2. Moon Day
Demo

00:31:42.336,00:31:45.336

Carl Ott: Mikes robot platform is based on a 1/6 RC 4- wheel / Axial scx6
https://www.axialadventure.com/by-platform/scx6/

00:41:00.305,00:41:03.305
Carl Ott: ~8:20pm - Tom- follow up on his stripped-down Roomba platform /
getting it ready to handle encoders - shared progress

00:42:49.225,00:42:52.225
Carl Ott: using a built-in state machine / with an interesting development
environment.

00:44:24.339,00:44:27.339
Carl Ott: RPi 2040 - only 9 instructions in this state machine...

00:45:56.253,00:45:59.253
Carl Ott: ~8:25pm - found a handful of debuggers for it - ways to execute
the state machine in single step mode / but still hard to figure out
internal workings

00:46:55.800,00:46:58.800
Carl Ott: used an emulator at this github.com/GitJer ->   a PICO SM
Emulator

00:48:20.755,00:48:23.755
Carl Ott: https://github.com/GitJer/Some RPI-
Pico stuff/tree/main/state machine emulator

00:49:14.439,00:49:17.439
Mike Williamson: Carl, I can try moon day demo again.

00:49:29.733,00:49:32.733
Carl Ott: Mike - sure we'll put you next.

00:50:28.740,00:50:31.740
Carl Ott: Nice handful of RPI-Pico items
https://github.com/GitJer/Some RPI-Pico stuff

01:11:28.142,01:11:31.142
Tom C - Hamilton, ON: Link to the Emulator I used:
https://github.com/GitJer/Some RPI-
Pico stuff/blob/main/state machine emulator/README.md

01:11:59.153,01:12:02.153
Carl Ott: ~8:48pm- Mike showed demos for Moon Day - first one with an Oak
camera and body / pose detection.

01:12:02.317,01:12:05.317
Tom C - Hamilton, ON: Link to the WOKWI PioAsm tool:
https://wokwi.com/tools/pioasm

01:13:49.135,01:13:52.135
Carl Ott: ~8:53pm - Mike showed a demo with OpenMV camera and Time of
Flight camera.

01:19:06.408,01:19:09.408
Carl Ott: ~8;48pm - shows views from both sensors side by side (OpenMV with blob detection and Time of Flight)

01:19:17.652,01:19:20.652
Carl Ott: sorry, that was 8:58pm

01:23:44.467,01:23:47.467
Carl Ott: ~9:03pm - John H - showed progress on his balancing robot / still not balancing but progress - made custom PCBs.

01:30:41.796,01:30:44.796
Jon Hylands: https://scolton-www.s3.amazonaws.com/docs/filter.pdf

01:31:50.864,01:31:53.864
Carl Ott: Thanks Jon - looks like a good presentation "The Balance Filter A Simple Solution for Integrating Accelerometer and Gyroscope Measurements for a Balancing Platform "

01:32:00.417,01:32:03.417
Jon Hylands: https://openmv.io/products/arduino-nicla-vision

01:37:13.074,01:37:16.074
Carl Ott: ~9:16pm - Jon showed his jig for testing 9 channel IMU.

01:41:01.468,01:41:04.468
Ted Meyers: I really like OnShape!

01:41:16.301,01:41:19.301
Carl Ott: ~9:20pm - Paul - decided to learn OnShape - the great tool Jon uses for 3D modelling...

01:42:07.725,01:42:10.725
Carl Ott: Paul showed samples of his output/ from going through the learning program.

01:42:22.211,01:42:25.211
Carl Ott: suggesting - start with intro to sketching, then after that try intro to CAD

01:43:32.957,01:43:35.957
Carl Ott: OnShape - about 9 years in filed after prior execs from Solidworks left and built. Have a very nice set of training on various topics.

01:44:04.175,01:44:07.175
Carl Ott: Start with a sketch, then extrude solids.

01:45:12.402,01:45:15.402
Carl Ott: https://www.onshape.com/en/pricing

01:49:24.233,01:49:27.233
Carl Ott: ~ 9:21 pm- Carl Shared an ongoing Kickstarter by pyimagesearch "YOLO Learning Packages to Master Real-Time Object Detection"

\   Project open until Mon, July 15 2024 5:39 AM CDT. https://www.kickstarter.com/projects/adrianrosebrock/yolo-learning-packages-to-master-real-time-object-detection

01:53:18.563,01:53:21.563
Carl Ott: ~9:32pm - Karim showed a demo /

01:54:43.363,01:54:46.363
Carl Ott: Demo'd via TurtleSIM. Started with a node graph from ROS.

02:04:31.975,02:04:34.975
Carl Ott: based on a ROS concept of action clients and action servers - where actions can take some time to execute.

02:07:25.726,02:07:28.726
Carl Ott: Cool project collaboration / Karim and Paul / nice ROS 2 architecture.

02:09:33.607,02:09:36.607
Carl Ott: ~9:49pm - Pat asked / how to make an inner diameter for a gear larger

02:10:37.906,02:10:40.906
Carl Ott: 1 vote for lathe, 1 vote for quick-n-dirty drill press and a step-drill.

02:15:06.050,02:15:09.050
Carl Ott: ~9:54pm - Pat showed what he's working on / a shaft drive in AutoCAD.

02:20:16.661,02:20:19.661
Carl Ott: ~9:59pm - John G showed a brief video / his skeleton with skull and eyes & jaw.

02:21:38.061,02:21:41.061
Carl Ott: ~10:01pm - Mike W / described a theater that has need for robot projects..

02:22:46.358,02:22:49.358
Carl Ott: self-steering bowling ball

02:22:46.920,02:22:49.920
Carl Ott: https://www.hackster.io/news/this-is-how-mark-rober-and-james-bruton-built-that-crazy-steerable-bowling-ball-6091134e0224

02:25:37.332,02:25:40.332
Jon Hylands: James Bruton

02:26:19.257,02:26:22.257
Blue Steel: https://youtu.be/wM5NHC97JBw?si=lS8h2oEcm2CaTep9