

## DPRG RBNV Chat Record – July 30, 2024

00:03:45.862,00:03:48.862

Mickey Dean: should we maybe to the 2.5-hour robot build FIRST though?

00:04:00.004,00:04:03.004

Mickey Dean: then we can follow up with PID and LIDAR later?

00:04:47.298,00:04:50.298

Mickey Dean: nominated and seconded lol

00:04:53.128,00:04:56.128

Mickey Dean: and

00:05:29.933,00:05:32.933

Mark R: <https://www.ottodiy.com/>

00:06:00.706,00:06:03.706

Blue Steel: [https://youtu.be/h3jog4-qTQY?si=Dc\\_ysd\\_SDfLwHsWU&t=21](https://youtu.be/h3jog4-qTQY?si=Dc_ysd_SDfLwHsWU&t=21)

00:07:46.531,00:07:49.531

Pat Caron: Doug P. - Saturday meeting review. The group decided they would like to see meetings better organized when being presented. He mentioned the Jon had a good presentation. The group would also like to have a robot build lasting 2-1/2 hours to help draw people in. He also mentioned several topics such as PID, SLAM, ROS, teleop robot. David Steel would like to see a robot built limited to 6 or 10 people. This could possibly be opened to other robotic groups. The swapmeet on Saturday went well.

00:08:59.675,00:09:02.675

Pat Caron: Doug P also presented the RoboColumbus mug for 2024.

00:09:59.231,00:10:02.231

Mickey Dean: cool, that is fair

00:10:14.840,00:10:17.840

Mickey Dean: lol Ted

00:11:00.201,00:11:03.201

Pat Caron: Doug P mentioned adding a new point for a total of 11 points if the robot does not use GPS

00:11:15.299,00:11:18.299

Carl Ott: Sounds like Ted wants more challenges - no GPS - no waypoints for RoboColumbus. I say - > let's see what Ted can do for that!

00:11:31.887,00:11:34.887

Mickey Dean: lol Carl

00:11:46.887,00:11:49.887

Mickey Dean: I bet Ted Can do it

00:11:57.166,00:12:00.166

Mickey Dean: and he SHOULD get extra points

00:15:31.716,00:15:34.716

Mickey Dean: i think it is a good idea to reward no GPS maneuvering

00:17:46.703,00:17:49.703

Mickey Dean: I miss seeing Mr. Anderson

00:18:39.830,00:18:42.830

Mickey Dean: nice Ted

00:19:42.793,00:19:45.793

Carl Ott: 7:59pm - Ted proposed rule change for RoboColumbus - "cone moving threshold"  
-> put a tennis ball on top of the cone - so long as the ball stays on the cone -> cone not moved.

00:22:01.237,00:22:04.237

Mickey Dean: Paul, All for it

00:23:11.051,00:23:14.051

Pat Caron: Paul - mentioned that he is looking for presents for the August meeting. He suggested a 3D printing topic from designing using some software to printing the design.

00:24:29.763,00:24:32.763

Mickey Dean: lol

00:27:01.802,00:27:04.802

Mark R: I might be mis-recalling, but I think Mike W said he was planning to teach some basic ROS at one of the meetings, possibly August.

00:30:02.679,00:30:05.679

Mickey Dean: yeah, I would be happy learning how to get an image into CAD

00:30:33.228,00:30:36.228

Mickey Dean: i cannot

00:31:09.974,00:31:12.974

Mickey Dean: I think it would be a useful class

00:32:08.232,00:32:11.232

Mickey Dean: is Design Spark free?

00:33:16.409,00:33:19.409

Michael Ivison: FreeCAD

00:34:26.759,00:34:29.759

Mickey Dean: right Ray, we expect so trial and error even

00:34:35.893,00:34:38.893

Mickey Dean: I just need to learn how to USE it

00:37:08.828,00:37:11.828

Mickey Dean: it would be a useful class

00:40:05.896,00:40:08.896

Mickey Dean: cool

00:40:19.645,00:40:22.645

Mickey Dean: I might prefer DesignSpark over Onshape

00:40:28.500,00:40:31.500

Mickey Dean: but I do kinda want free to start.

00:41:53.952,00:41:56.952

Mickey Dean: I am not sure why we would not include the switch components as well

00:42:05.534,00:42:08.534

Carl Ott: Mickey I just want time to try it all. I had occasion where current CAD skills could have come in handy last weekend. I tried to fudge it in RS DesignSpark and OnShape - but didn't have enough time to boost skills enough. So, I defaulted to "Graph Paper" via Inkscape - and made a paper doll...

00:42:12.570,00:42:15.570

Mickey Dean: it is kinda important to be able to know how to add real components too

00:42:20.287,00:42:23.287

Pat Caron: Doug P. mentioned possibly he, Jon & Paul could present using onShape and Design Spark Mechanical to create a bumper for Paul's Mowbot

00:42:29.279,00:42:32.279

Mark R: Last I checked, Fusion360 still has a free version, it's just hard to find on the Autodesk website

00:42:36.201,00:42:39.201

Ted Meyers: Yeah, probably want a mounting point for the switch, at least

00:43:23.046,00:43:26.046

Harold Pulcher: <https://www.youtube.com/watch?v=vGiJLhZ6glY>

00:43:29.094,00:43:32.094

Mickey Dean: carl, I know just how tech savvy you are compared to me, so it makes me feel a little better you also have issues on things like that, but I am totally lost

00:43:38.552,00:43:41.552

Mickey Dean: for one I cannot draw to save my life

00:43:42.798,00:43:45.798

Pat Caron: Paul, have you considered building a wooden bumper?

00:44:03.711,00:44:06.711

Ted Meyers: Just use a log for a bumper!

00:44:59.301,00:45:02.301

Ray Casler: Or a stick!

00:45:28.717,00:45:31.717

Mark R: forget the bumper, just have bigger wheels so you can drive over everything

00:45:59.959,00:46:02.959

doug paradis: @mark ---> spikes

00:46:27.911,00:46:30.911

Mark R: <https://hackaday.com/2024/05/02/3d-printed-wheels-passively-transform-to-climb-obstacles/>

00:46:42.303,00:46:45.303

Carl Ott: Mickey - you should feel just fine. For as easy as these tools make things today - they're still so capable and powerful - it's a tough learning curve. The funny part in my case, is that I designed and built a relatively complicated scaled object in RS DesignSpark only 6 or 7 years ago. Yet - I couldn't figure out how the heck to do that with the latest version of the program...

00:48:12.252,00:48:15.252

Mickey Dean: 150 dollars?

00:48:20.022,00:48:23.022

Mickey Dean: wow

00:48:27.906,00:48:30.906

Mickey Dean: I expected 1500

00:49:13.126,00:49:16.126

Mark R: <https://www.microcenter.com/product/623606/creality-ender-3-v2-3d-printer>

Currently \$130

00:49:48.277,00:49:51.277

Mickey Dean: cool Harold

00:50:27.636,00:50:30.636

Mark R: Bambu X1Carbon, or Bambu A1 (not the mini)

00:50:29.471,00:50:32.471

Carl Ott: Yeah - you can find one for 150. OR - you could send your prints to the Lewisville Public Library - the attendant (who maintains the library printer) will baby sit your item while it prints, then you just have to swing by the library to pick up your printed item for the cost of material... For somebody like me who prints in phases - once in a blue moon - it's great cause I don't have to maintain nor babysit nor store a printer ...

00:50:56.895,00:50:59.895

Mickey Dean: I have a local maker shop I can print at for 15 bucks a day

00:51:00.712,00:51:03.712

Mickey Dean: that was my plan

00:51:06.580,00:51:09.580

Mark R: Good plan Mickey

00:51:58.170,00:52:01.170

Carl Ott: For sure - I'd say start with somebody else's machine until you're sure about what you want & how & how much you'd use it



00:52:30.030,00:52:33.030

Mark R: If anyone is curious, I'd be happy to spend time with you at the makerspace, going over printers and slicing

00:54:18.109,00:54:21.109

Carl Ott: Mark thanks for the offer. I've used the Dallas Makerspace Polyprinters for all my prints to date. But these days - I'm so limited in time (and feeling lazy) - I'm tempted to send the next one out to somebody who'll babysit the print for me ;-)

00:55:03.092,00:55:06.092

Mark R: I can do that Carl, just send me the STL etc

00:55:12.891,00:55:15.891

Carl Ott: Another option - find a 13 or 14 year old cousin or nephew who wants to start a 3D printer print-making business. That's another option.

00:55:20.235,00:55:23.235

Mark R: lol yep

00:55:30.834,00:55:33.834

Mickey Dean: awesome Doug!

00:55:30.970,00:55:33.970

Carl Ott: Wow - Mark - thanks for the offer! Where's my TARDIS - I need more time.

00:56:15.489,00:56:18.489

Ponder SomeMore: there are also test prints that various people have designed - things you can print to verify and measure the printing characteristics for various printers/materials

00:56:37.166,00:56:40.166

Ponder SomeMore: speed up the rate at which you learn the specifics of your printer

00:56:37.283,00:56:40.283

Mark R: Yep, the XYZ cube is invaluable

00:58:04.152,00:58:07.152

Mickey Dean: Jon, what was the cost?

00:58:51.641,00:58:54.641

Mickey Dean: wow

01:01:11.424,01:01:14.424

Harold Pulcher: Yo, @Carl.... I don't baby sit nothin' these days. :) My last print started at 10:30 am in my garage, and I sent it in from my desk at the Improving offices.... :)

01:02:16.497,01:02:19.497

Jon Hylands: <https://www.waveshare.com/esp32-s3-geek.htm>

01:02:22.550,01:02:25.550

Mickey Dean: Jon, but you are still using USB for the dongle, tight?

01:02:28.676,01:02:31.676

Mickey Dean: or am I missing something

01:02:40.528,01:02:43.528

Mickey Dean: right?

01:03:12.262,01:03:15.262

Pat Caron: Jon - displayed his esp32-S3 Geek dongle from AliExpress that has a display & USB port built in. It has 3 ports on the side. He is running micro python on it and also running espNow to send/receive data and possibly OTA updates.

01:03:17.301,01:03:20.301

Carl Ott: @Harold - - sweet! And your process is reliable enough that prints complete most/all of the time?

01:03:25.120,01:03:28.120

Mickey Dean: i get it is easier but you are still using USB technically to update it but it is just easier, right?

01:06:17.937,01:06:20.937

Ted Meyers: Mickey, I think that he is using it to do wireless updates

01:08:35.018,01:08:38.018

Mark R: [https://github.com/arduino-libraries/Arduino\\_ESP32\\_OTA](https://github.com/arduino-libraries/Arduino_ESP32_OTA)

01:09:39.930,01:09:42.930

Paul Bouchier: <https://github.com/JAndrassy/ArduinoOTA>

01:12:44.408,01:12:47.408

Pat Caron: Ted - showed an update on his bumper design.

01:16:41.831,01:16:44.831

Carl Ott: ~8:57pm - Pat gave an update on "Bob" -> his "Big Outdoor Bot" -> has huge tires, lots of pounds and shaft gear drive

01:17:17.789,01:17:20.789

Carl Ott: Weighs 57 lbs - even while it's mostly an empty box with wheels on shafts

01:24:01.147,01:24:04.147

Carl Ott: Pat explained that he was able to drill retaining holes in the wheel shafts by using MAPP gas to heat the shaft to be cherry red on last 1.5" - the next day used angle grinder to make a flat space, then took 7/32" cobalt bit and lots of cutting fluid - vuola...

01:25:19.558,01:25:22.558

Harold Pulcher: @Carl, the new plate and the nano covering, I have not had a problem. Before the nano covering, I did get a little lifting on the very edge of the plate. I was also trying to use a "fancy" plate. :)

01:25:37.648,01:25:40.648

Harold Pulcher: the stand plate (flex magnetic PEI) works great!

01:26:40.535,01:26:43.535

Ponder SomeMore: Pat, you could up your game. I wanna see a robot chassis made of clinker-built steam-bent cherry planks

01:27:54.073,01:27:57.073

Ponder SomeMore: Hop to it

01:28:05.668,01:28:08.668

Paul Bouchier: LOL!

01:33:04.094,01:33:07.094

Ponder SomeMore: speaking of masts, we should pitch in to get Paul a pole to get his starlink antenna up above the trees.

01:33:16.064,01:33:19.064

Ponder SomeMore: maybe a hot air balloon

01:33:38.840,01:33:41.840

Pat Caron: There is a setting to keep it aimed straight up

01:37:46.541,01:37:49.541

Paul Bouchier: LOL Karim!

01:38:23.389,01:38:26.389

Pat Caron: Mike W - gave an update on his RoboColumbus robot. He is using cardboard and masking tape to place his electronics and sensors on the robot.

01:44:12.351,01:44:15.351

Jon Hylands: <https://pykalman.github.io/>

01:48:05.521,01:48:08.521

Carl Ott: Jon - thanks for the shout out to "unscented Kalman filter"

02:00:23.005,02:00:26.005

Jon Hylands: <https://hackaday.com/2019/05/14/the-kalman-filter-exposed/>

02:00:42.385,02:00:45.385

Jon Hylands: <https://www.bzarg.com/p/how-a-kalman-filter-works-in-pictures/>

02:06:43.274,02:06:46.274

Jon Hylands: <https://github.com/pykalman/pykalman>

02:10:11.100,02:10:14.100

Paul Bouchier: Thanks for the links, Jon!