

DPRG RBNV Chat Record – March 26, 2024

Carl Ott
7:38 PM

Queue so far.

Paul – Discord Rollout Mike W- Questions Open mic

Carl Ott

7:39 PM

~7:39pm - Paul gave an update on the DPRG Discord Channel rollout.

Paul Bouchier

7:40 PM

<https://discord.gg/fA7sXDRH>

Jim F - CalgaryAB

7:46 PM

Hello from Calgary Alberta Canada - Thanks for the warm welcome to the DPRG Discord.

Paul Bouchier

7:49 PM

<https://discord.gg/TnaeUEr6>

Carl Ott

7:51 PM

~7:49pm - Mike W described work to improve odometry by fusing IMU data in with a ROS 2 library. Couldn't find much of a difference. Maybe an issue getting IMU Yaw into the Kalman Filter?

Carl Ott

7:52 PM

ROS wants a quaternion, so Mike wonders if it might be compatible with the output from IMU...

Carl Ott

7:58 PM

lots of discussion on how to troubleshoot - convert quaternions for easier human interpretation - testing the system with and without motors enabled...

Paul Bouchier

7:59 PM

```
import tf_transformations
```

Karim Virani

8:00 PM

scraped: Having given a Quaternion q, you can calculate roll, pitch and yaw like this: $\text{var yaw} = \text{atan2}(2.0*(q.y*q.z + q.w*q.x), q.w*q.w - q.x*q.x - q.y*q.y + q.z*q.z)$; $\text{var pitch} = \text{asin}(-2.0*(q.x*q.z - q.w*q.y))$; $\text{var roll} = \text{atan2}(2.0*(q.x*q.y + q.w*q.z), q.w*q.w + q.x*q.x - q.y*q.y - q.z*q.z)$;

Paul Bouchier

8:00 PM

```
q_pose = tf_transformations.quaternion_from_euler(0, 0, msg.theta)
```

Carl Ott

8:01 PM

what - Karim - experienced roboticists don't do that math in their head?

There was a time when my EE colleagues were pretty good at doing logarithms back at TI... in their head

Jim F - CalgaryAB

8:01 PM

@ Carl Ott - Q Continuum. ;-)

Karim Virani

8:01 PM

Not sure I do anything in my head anymore.

Carl Ott

8:02 PM

I lose count after 1.

Mickey Dean

8:08 PM

Great info on this topic guys!

Carl Ott

8:10 PM

~8:08 - Jon H showed cool stuff in CAD - part of his RoboMagellan robot. Changed it because didn't want to run electronics off of the main motor battery - concerned that Pi plus Oak-D-Lite would gobble too much current - so added a 5200mAh 2S LiPo.

Aiming for 2 or 3 hours of runtime on Robot - enough for tests / tuning/ competition

Carl Ott

8:15 PM

~8:14pm - Doug P showed progress trying Jon's open-source controller project & learning about ESP-NOW

Jim F - CalgaryAB

8:16 PM

@ Carl Ott Info - <https://randomnerdtutorials.com/esp-now-esp32-arduino-ide/>

ESP Now Tutorial

Carl Ott

8:18 PM

Thanks @Jim!

Jon Hylands

8:20 PM

Case step files:

<https://jons.page/pics/WatchForm-Top.step>

<https://jons.page/pics/WatchForm-Bottom.step>

Jim F - CalgaryAB

8:28 PM

@Carl Ott - Might be the one I sent, but let's see.

Doug Paradis

8:28 PM

YouTube video, also article and GitHub: Sensor Data Sharing with ESP-NOW in MicroPython -

<https://www.youtube.com/watch?v=R0oDptTyftY>

Jim F - CalgaryAB

8:28 PM

Thanks Doug P!

Mickey Dean

8:35 PM

only at the start irrc

but no ads during

likley the non profit status

Mickey Dean

8:36 PM

I do not get the interrupting video ads which is nice given the view count.

I get ads on other channels with more views more often.

Carl Ott

8:45 PM

~8:45pm - Paul B showed the wireless / Remote Doorbell he made for DPRG at the Dallas Makerspace.

Carl Ott

8:47 PM

For lawn mowing robot people - <https://www.foxnews.com/tech/ai-robot-that-can-trim-edge-blow-your-lawn-for-you>

Mickey Dean

8:48 PM

I WANTED to suggest it but felt I was pushing my luck already lol

Mickey Dean

8:50 PM

I still need to figure out how to get encoders on my Deabolt to consider it, but the mower is top priority especially given Spring is here.

Carl Ott

8:52 PM

~8:51pm - Steve E showed his in-progress Outdoor Robot - built on a wheelchair frame...

Mickey Dean

8:52 PM

nice Steve

solid platform

Carl Ott

8:54 PM

~8:54pm - Tom C gave an update on Ottawa club Firefighting contest / attended a meeting last week or so

Karim Virani

8:57 PM

we need a #CanadianInvasion channel on the discord.

Carl Ott

9:02 PM

~9:01pm - Paul showed a video of DPRG's Robie the Robot / likely set up at a Tyler Maker Fair when DPRG held a booth.

Carl Ott

9:04 PM

~9:02pm - Doug explained club history - Robie started as a club / group project. DPRG attended lots of fairs at the time - and the club was psyched to build "a 10-foot robot"

Pat C

9:07 PM

See you all next week, hopefully I'll have a robot update.

Steve Edwards

9:07 PM

Ntd, great meeting. Night all