



DPRG 2024

Annual Meeting

10 Feb 2024

Officer Elections



DPRG MEETINGS

Free to Attend

All Welcome

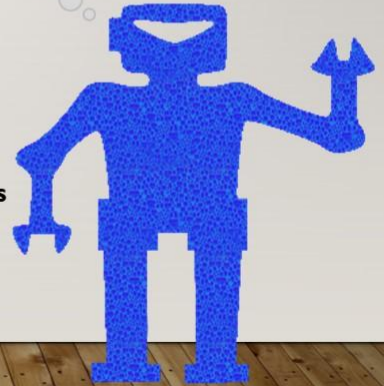
<https://www.dprg.org/category/news/>

DPRG Membership Not Required

Reminder:

Annual Membership Fees Help Cover DPRG Costs

Count
Me
In...





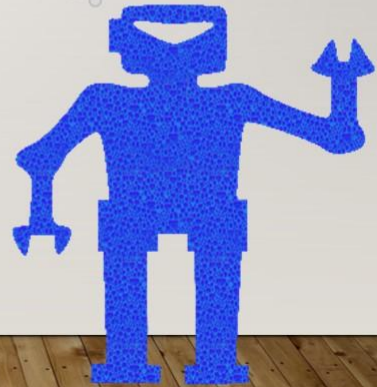
ABOUT DPRG

- Founded 1984
- IRS 501c(3)
- Meet Every Tuesday Night & 2nd Saturday of each month
- Build / Putz Around / Compete / Learn / Community Outreach

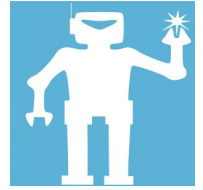
Our Quest:

- STEM for all ages
- Programming, Problem Solving & "Putting it all together"
- Sensors, Motors & Microcontrollers
- Fabrication, Cool Technologies & Building Stuff

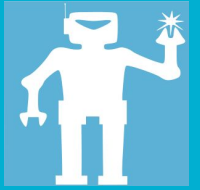
Build
More
Robots!



Agenda

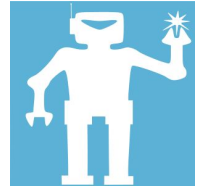


- Outgoing President's Summary 2020 - 2024
- Officer candidates for 2024
- Election of officers
- New President's address
- Brainstorm club directions/goals
- Show'n'tell



Outgoing President's Summary

Outgoing President- Carl



- Stats - 2022 & 2023
 - RBNV - Tuesday Night Meetings OnLine
 - ~ 12 to ~20 People for 2 or 3 hours
 - Dallas, Canada, Colorado, Connecticut, etc.
 - ~ 50 times per year
 - 50 ~ 100 YouTube views per RBNV
 - In Person (RoboRama, RoboColumbus)
 - 20+ People & 6~8 Robots
 - Twice per year (Let's Do More In Person!)

More Stats- YouTube.com/@dprgclips

Channel analytics

Current subscribers

3,817

+1 in last 28 days

Summary

Last 28 days

Views

936 

Watch time (hours)

125.2 

Top videos











Last 48 hours · Views

DPRG RBNV ~ Robot Builders Night Virtual ~ Feb 6, 20... 17

Plastic Fusing Tutorial 10

Kalman Filter Tutorial 2

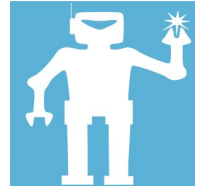
Your top content in this period

Content	Average view duration	Views
1  Plastic Fusing Tutorial Apr 11, 2010	2:46 (28.6%)	198
2  DPRG RBNV ~ Robot Builders Night Virtual ~ Jan 9, 2024 Jan 16, 2024	4:34 (3.0%)	101
3  "Smart Car" Style Robot Kit Assembly Jan 26, 2018	4:17 (10.9%)	86
4  DPRG RBNV ~ Robot Builders Night Virtual ~ Jan 23, 2024 Jan 26, 2024	15:11 (11.4%)	67
5  DPRG RBNV ~ Robot Builders Night Virtual ~ Jan 16, 2024 Jan 17, 2024	19:30 (13.4%)	66
6  DPRG RBNV ~ Robot Builders Night Virtual ~ Feb 6, 2024 Feb 7, 2024 Recent upload	20:43 (11.3%)	51
7  Kalman Filter Tutorial Jan 17, 2014	5:41 (7.2%)	42
8  David Anderson demonstrates his method for creating autonomous robots Dec 12, 2011	6:56 (4.7%)	40
9  DPRG RBNV ~ Robot Builders Night Virtual ~ Jan 30, 2024 Feb 6, 2024 Recent upload	11:27 (10.9%)	37
10  Implementing Robot Waypoint Navigation by David Anderson - DPRG Virtual Mo... Jun 14, 2021	10:42 (5.4%)	33

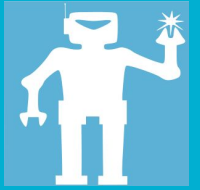


Channel
DPRGclips

Outgoing President- Carl

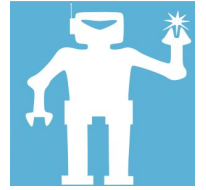


- Observations & thoughts
 - Gradual Evolution
 - **From** single embedded node platform
 - **To** some 'more distributed' architecture
 - Thrill of Competition
 - or at least a common challenge & target
 - Facilitated Online Interaction
 - We *definitely* like talking about **PID loops**
 - But seem to be branching into newer / emerging things
 - Like **Neural Nets** and **ROS...**
 - **Technical Interests** might bring us together
 - But also **Social Glue**
 - Fun Times Hanging Out

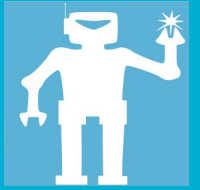


Officer Candidates

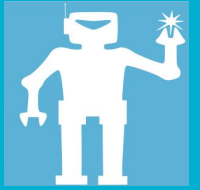
Candidates



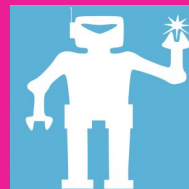
President	Paul Bouchier
Vice President	Carl Ott Jr
Secretary	Doug Paradis
Treasurer	Steve Edwards
Librarian	John Kuhlenschmidt



Hold Election



Incoming President Address



DPRG is a “club”
(as well as a 501c(3))

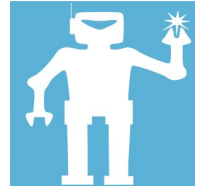
What is a “club”?

A group of individuals who have a common interest and want to share their interest with like-minded individuals

President's goal for the club:

Recover from the covid-blues.
Renew. Reinvigorate. Regenerate.
(And more Re- words)

Club Health - Role of Members



Discussion: rights & privileges of membership

- Club used to have 40-ish paid-up members. Now at 27. Should we care? Is broad engagement a better measure of club health?
 - Where's the next generation of club leaders going to come from?
- Who should get to make decisions about club matters like meeting times, content, direction? The board? Members? Anybody with an opinion?
 - Paul's opinion: Paid-up members. Club should accept input from all sources but members should decide. Any other answer devalues what members paid for. Think of this session as gathering input to put before members for decision.
- What else should members expect to receive?

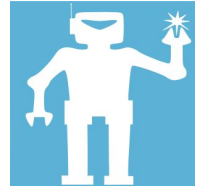
12:50 Doug noted that number of paid up members at its high was rarely above the 30's. Paul objected.

14:06 Applause for Carl & Doug for keeping the club rolling for a 4-year term

15:26 Who should make decisions? 16:35 Paul announced a direction that members should make decisions on how the club operates.

16:50 What else should members expect from the club? Pizza (laughter).

Club Health - Number of Members



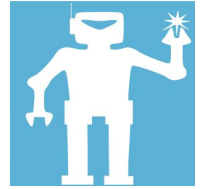
Members willing to commit some amount of time & money are the lifeblood of a club

- Rebuild membership numbers, active member numbers
 - Especially from younger folks - the next generation of roboticists

17:23 Paul asserted a goal to increase active membership, especially younger members,

17:45 Harold said “members should expect access to other members. We do have a listserv, and members should expect to be able to send something out and get something back. This is like water, it should be stated”. Paul re-iterated. Someone said for the most part we can interact, but new members don’t necessarily know how.

Delivering Value for Money & Time



Discussion: How much value? How much money?

- I pushed the increase in dues from \$20 to \$40 around 2012 to cover DMS contract. But DMS dues have been cut in half. Should dues go down? How much?
- Remote members don't get as much club value as local members - no Roboramas, attendance at in-person meetings tends to be more observing than participating. Should remote members pay less? How much?
- What is valuable about the club that costs money? Prizes? Food? DMS meeting space? Maybe use of DMS tools? (Carl?)

20:56 Paul asked if we should reduce dues. JohnK pointed out reduction in DMS contract payment was reduced because of removing access to tools.

22:06 discussion of whether dues cover DMS access. It was recognized that they more or less do.

22:38 Doug asserted that the \$40 is worth what \$20 did in 2010 and that it probably isn't an obstacle to anyone who wants to join.

22:35 Paul asked if we want to have a remote level of membership. Someone called No. Someone else said remote membership dues isn't an issue. Someone said the ability to hold in-person meetings at DMS are largely the value that the membership dues bring.

24:10 Paul asserted value to members in terms of monthly in-person meetings with presentations since before covid.

24:30 Paul announced he wasn't hearing a lot of support for the idea of reducing dues for members (local or remote)

24:45 Doug asked rhetorically "in the last year, what could a member expect for his membership?" He answered it as "RBNV, and the competition". Addressing remote members, RBNV is good for them. Also, they can compete in competitions. So he pointed out that there is value for remote members.

26:09 Carl reported that Pat C (remote member) wrote that \$40 for remote competition and to support local pizzas is ok with him).

26:48 SteveE said \$40 is not a lot of money. Also we get a certain amount of storage from DMS which we'd lose if we didn't pay DMS. Also, maybe any excess moneys could be used to buy sensors for example, or other things that help the club. Could also be used to buy membership subscriptions that members can use

20:25 John asked if we talked to the DMS board about storage

28:44 Raj asked if we have a limit of how many members we'd like to have in the club. Carl said there's a practical limit. Raj said Robotics is becoming more important over time. Knowledge of robotics will become more important to more people over time. If someone can't afford the membership perhaps they can write to the board.

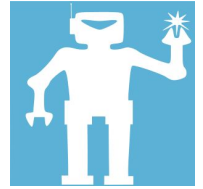
30:35 We had past club projects where we built a robot. Excess monies could be used to buy parts for participants in things like build-a-robot workshops.

31:15 Carl observed that DPRG has things like a club robot stored right here in DMS, very convenient, and they can be loaned out. Also, big-banner line-following course.

31:50 Doug: addressing Raj's "how many max members": it would depend on how active they were in the different club activities as to how many would be too many.

And really the value the club provides is the ability to ask questions and get answers from people. Also, people are exploring new things (e.g. ROS2) and that should help to bring ppl in. Doug asked if that activity resulted in any membership gain, Paul replied no. Doug talked about Tiny Wanderer, How to use Inkscape which have been helpful.

Social / Interpersonal Discussion



A club provides a forum for members to share their interest

- Base Assumption: RBNV & 2 Roboramas will stay. From there...
- In-person sharing is the strongest kind of interaction. Go somewhere and do something together with like-minded individuals. Difficult to impossible for more remote members. Something the club can offer to locals.
- Remote sharing (e.g. video-conferencing) is more accessible, but not as strong a social interaction. (Tune-out, multitasking etc)
- Email posts are weakest socially, but provide important and interesting club communication.

34:40 Paul asserted differences between in-person & remote sharing of the robot-love

1:00:15 Paul brought back discussion to new ideas for what club should do

1:00:01 Doug: proposed a snippet library. Maybe for members only. Library for e.g. non-blocking access to ultrasonic sensors - portions of your personal code that you found useful. Learn from each other on small snippets of code - e.g. like David Anderson's odometry code, or different ways to time your loop.

1:04:30 Paul expressed there's so much on the web, don't know how we could compete. RonG suggested we could link to good web articles

1:05:40 Doug: we do have Tutorial sections, and Project sections of web site. E.g. tutorial on how to safely stop RPi. It gets a lot of views. Doug volunteered to edit someone's content - e.g. doc or word file & he'd edit it for the web

1:07:00 Paul checked with group that we want to start meeting monthly in-person again - got confirmation. Someone said there should be a main topic. Carl suggested we could just hang out - no formal topic.

1:07:50 Doug said he'd love to have a presentation from a remote person like ChrisN on how to do Realtime Linux as a topic for a monthly meeting.

1:09:00 Paul talked about the creator of Linorobot who did a presentation to the Homebrew Robotics Club. An idea for a presentation

1:10:00 Carl said Harold found a link into 2 guys who came up with Xmi (maybe Xiomii??) and they presented

1:10:36 RonG Presentations need to not take an entire meeting - 3 hours. Want something else as well. Suggested 1 hour is a suitable presentation length

1:11:20 Paul asked what about informal Run-the-Robot sessions. Carl: we have the course hardware right here.

1:13:10 Paul asked if we want more competitions. Several people said 2 competitions a year is enough

1:14:07 RayC asked should we ping Seattle Robotic Society & ask what works for them in terms of communication methods?

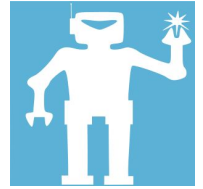
1:14:30 Paul reported SRS uses Groups.io for member communications, and HBRC also has a decent forum

1:15:57 Paul asked if we want to do anything physical meeting-wise at any of the Makerspaces. Discussion about whether to have more get-togethers. Several ppl expressed that a monthly in person & a weekly online meeting is enough

1:17:30 Paul proposed he should put out a poll to members asking what they want in the way of another meeting. Paul confirmed with meeting that there's a strong consensus that monthly in person & a weekly online meeting is enough. Decided!

1:19:13 Discussion of holding meetings at other Makerspaces. Carl noted Brady has already put the idea out to TheLab.ms and they seem open to it. So maybe if we send a poll out to members we can ask about whether they'd like to meet over there sometimes. Or another option: if we stay at DMS, should we move to earlier - 10-2. The earlier timeslot or a different week would help us get into the North Conference room, which makes it easier to let people in. Or should we move to the 3rd Saturday. Ask members. Maybe try once at another makerspace & see how it goes.

Social / Interpersonal



Forums for members to share their interest

- How much of each do you want?
 - Resume monthly in-person meetings? Bi-monthly? Alternating virtual meetings? Other ideas?
 - Physical RBNO's? Maybe alternate around Makerspaces?
 - Activities? (Talks? More contests? Pizza? Robot Power Lunches? Other ideas?
- What about virtual meetings? RBNV - is it enough? Do members want something else?

36:15: Paul returns to asking for ideas - what members want.

37:20 Doug captured 2 things: 1) Raj suggestion of a sensor library, 2) New members need a little more orientation. Maybe need a new member web page is needed.

Manybe should have a sensor show'n'tell, maybe go from SR04 through Oak-D-lite.

38:52 RonG observed we all have a huge vocabulary (IMUs, Encoders etc) - maybe need new member orientation, glossary, jargon.

39:50 PatC via Carl - wants to maintain Tuesday RBNV. Ditto from RayC. Pat expressed Saturday meetings with speaker & canned presos were very interesting & attracted him

40:30 Carl expressed that it became hard to find Saturday speakers, but highly technical presentations have shifted into RBNV Tuesday nights, e.g. Chris Netter preso on what he's doing. So RBNV is a good format - hold it in place, but bring back monthly in-person. Some ppl can meet weekday evenings but not weekends & others are the other way round.

42:00 John kind of echoed what Carl said, suggesting tech topic/focus/theme on monthly in-person meetings

42:40 SteveE: We need to take a really hard look at how we communicate with one another. He reads listserv but never participates in it. Need to consider how kids today communicate. Need to have a dynamic way to communicate, such as setting up a WhatsApp group, or a Discord server or something we have control over - doesn't want to run discord through ???? couldn't hear at 43:33. Lot of options where you can have a general channel and breakout channels.

43:45 EricC said we tried doing ??something?? before & didn't work out

43:50 Doug proposed we form a committee - suggest Harold, Steve, & anyone else

knowledgeable to review options for us & try to find a replacement for listserv. Paul asked to be added to the committee. Doug added that as long as the recommended solution isn't Discord.... <laughter>. Raj asked to be included. Doug restated:

44:50 Doug: What is the best, that would possibly attract young ppl and not be too hard to use/maintain

45:20 Paul confirmed Harold & Steve willing to participate. Paul volunteered to take lead on organizing first meeting

46:45 Paul noted we have a channel on a Discord server, & offered to publish about it to the list

47:30 Paul reported we have a Facebook page but doubts it's effective at getting engagement

48:20 Steve said we used to get the occasional like on posts

48:46 Carl: It's a content thing. Some ppl like FB, some like Discord, some ppl like it all

50:10 RonG Suggested a FB content video: making a video of a simple Arduino blink LED as be a good starter, then progress to a stepper. 3 minute video

51:00 JohnK suggested things can get too spread out.

51:37 RonG pointed out DPRG maybe has potential to take elite young ppl, but shouldn't cover the space covered by Vex etc, which have thousands of participants

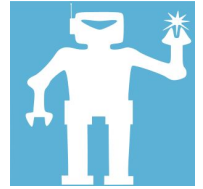
55:30 Paul addressed Shareem comment about goal to recruit new members: Goal is really to deliver value to members - to make it fun to join. With respect to school age, Paul said DPRG has long done outreach to school-age events, it does not seem to have been a source of new members, but that's not necessarily a reason to no do outreach, but we need to recognized that DPRG is primarily a club for adults. Size of school-age population is immense and there are already organizations like Vex that are serving that group. Club is not about educating students in preparation for real life.

57:47 Shareem suggested having an orientation packet for the club

59:15 DPRG has gone to a handful of events: Makerspace of Ft Worth, Frontiers of flight & others, Perot museum

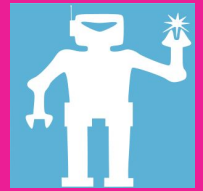
1:00:00 Flip backward one slide for continuation of discussion notes

Support Systems



Forums for members to share their interest / communicate

- Have DPRGlist. Do we like it? Is it good enough? Do we want something in addition or instead? Discord? Slack? Discourse? Groups.io or Google Groups?
- Have Facebook - I've been posting but no real engagement. Does anyone see it?
- Does anyone watch YouTube videos from DPRG?
- There's a #dprg channel on the Personal Robotics Discord server - any interest in using it?
- Other ideas for club communication channels?



Other ideas?

1:22:30 MikeW offered to look through DPRG assets stored at DMS and inventory it & see what we've got. Paul noted we're going down to look after the meeting.

1:24:08 Doug stated that the 2016 revision to the DMS contract removed the right to use tools. There's no way DPRG members will be allowed to use tools at all. The only things we have are storage and rights to meetings weekly & monthly.

1:25:43 Carl summarized the current state of the relationship between DPRG and DMS. Carl proposed getting rid of some ancient stuff. Carl relayed that DMS prefers DPRG to meet in the North Lobby room, but we're still able to use the current meeting room - procedures have changed and we have to request a room in advance, and get permission to book it before we try to book it.

1:34:50 Doug proposed going around the room suggesting topics for a monthly presentation on

1:35:10 DavidS wants a talk on introduction to AI & how to integrate into a robot. Also: Robot subsumption stack - how it works

1:35:50 RonG: Robot simulation Using Unity. He can give that talk, just not anytime soon.

1:36:14 Eric Getting AI to see a ball or a can. How do you get an AI to do recognition & segmentation. How do you find images, & how do you get them labeled.

1:37:02 Doug: how to build data and how to pick which model and how to run tensorflow & how to make the model work

1:38:17 ????: Comms channels - a review of the different ways to hook things together, from serial to CAN to ROS. How to connect ROS main board to sub boards

1:39:24 JohnK: PID loop, how to tune to get robot going in a straight line

1:40:00 SteveE: how to use cameras (Piksis, OpenMV) to recognize cans, cones.

Snippets of algorithms to do that

1:40:43 Harold: Talk title: 27 common words used in robotics and 3 you never need to use. An idea to explain what mean by the vocabulary we all toss around like Hall vs Optical encoders. Basic robot concepts and implementation things. Top 10 things you need to know to be a robot guy, and 3 you should avoid

1:42:40 ??? How to get AI to get a robot to do stuff

1:43:30 Shareen described the project she's starting with others: to help bright kids find their tribe - this summer - looking for space, looking for people who want to work with kids on whatever projects is going on: robotics, 3D printing, laser cutting - makerspace meets crunch-labs (Mark Rober). LaunchpadIncubator.org

1:48:45 BradP offered to give a class on how to go from schematic to PCB layout and get 40 boards back for \$5 dollars. Brad has content canned & ready to go. Would run 1 - 2 hours - there's a 17 minute YouTube video his presentation is based on, and you can view it in advance.

1:52:00 Discussion of presentation vs. workshop style of learning. Doug likes workshops, but they require a lot of work. Presentations / Training classes are easier to prep for. Workshop is most intensivel

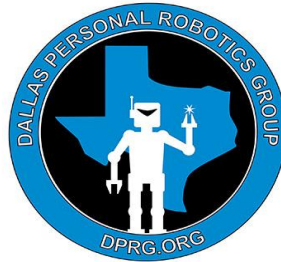
1:55:18 PatC: Wants a talk on slam without ROS. Also, another indoor competition maybe in Feb, or August, suggest the object retrieval contest that Doug was working on a couple of weeks ago.. If we announced it there would probably be some folks who would attempt it. There are objects like smurf doll, baseball, stuffed toy, & robot has to retrieve them & move them to a goal location.

1:59:40 RayC: SRS facing the same things we are: group of older men interested in perpetuating club. Contact them & ask what worked. Tools, platforms, procedures.

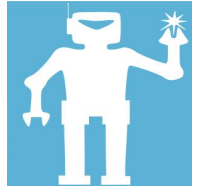
INVIGORATE

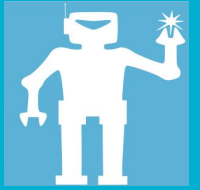
**Building Robots
For Fun**

And Bragging Rights...



**Celebrating 40 Years
1984 - 2024**





Robot Show'n'tell

2:03 Robot Show'n'tell

2:04:10 DavidS showed his robot, video starts at 2:06:17. He described how ESC requires pausing before switching direction. People told him this is expected behavior for some controllers. Need one called forward-reverse; if it's called forward-stop-reverse it will require a pause at stop. Some have a switch to control that behavior, which is intended to prevent wrecking gears.

2:13:30 RonG showed his arm. 4-link arm that puts all the motors at the base to lower inertia. Seems to have quite fine resolution based on writing it did

2:19:00 Mike W showed his robot & explained its parts. Demo'd its obstacle sensing, with 3 8x8 ToF sensors. Uses tracking follower wheels. He showed it running & approaching a can.

2:27:00 DougP showed his SunFounder PiDog. Very cute.

Thanks!

Contact us:

Dallas Personal Robotics Group
Web page “contact” link

www.dprg.org

