Applied Dexterity Contact and Links:

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Hi everyone,

Greetings from the land down under! I'm currently at Queensland University of Technology finishing the installation for our newest RAVEN community member - hot off the heels of our other 2018 inductee - the University of Virginia. Please join me in welcoming the talented researchers at both institutions to our collective!

To coincide with ICRA 2018, the University of Washington BioRobotics Lab and Applied Dexterity are excited to officially release the latest and greatest and most stablest software updates from the work that we've been doing since our last release in October 2016. The major features of our RAVEN II 18.05 release include:

-- Catkin make - Thanks to a major pull request from a community member, Kim Lindberg Schwaner @ Southern Denmark University, the RAVEN code now builds using catkin\_make.  You must switch to catkin if you want to use the 18.05 release.

-- Joint encoders - The latest RAVENs at QUT and UVA are the first to come with integrated joint encoders for higher accuracy. The 18.05 release includes software for a third USB board for reading these new encoders. Joint encoder mounts for older RAVEN II systems will be designed over the coming months. (Please let me know if you'd be interested in purchasing a joint encoder kit so I can properly motivate our engineers.)

-- DAC offsets and testing mode - The motor control hardware doesn't output exactly zero current at zero commanded value. Offsets can now be calculated and included in the control code. The offsets are fairly small (+/- 75 mA), but may be significant for high-fidelity modeling. Let me know if you'd like to calculate these offsets for your system.

-- Contributor's guide - instructions on contributing features and requests to the raven\_2 package can be found on the github repo wiki.

Additional tools for using the RAVEN have also been uploaded to the [UW-biorobotics github](https://github.com/uw-biorobotics):

-- Dynamic simulator - Professor Homa Alemzadeh of UVA has shared the hardware-free simulation software that she and her colleagues at UIUC have been using for several years to conduct software safety research. More documentation and examples for this software will be available in the coming months.

-- Gazebo simulator - Simple Gazebo files are available for your ROS simulation needs.

-- Encoder bumping - An oldie but a goodie, this simple tool has been updated for the latest USB driver and provides and example for reading encoders from the USB and outputting current from the motor controllers. Its primary function is to send a small current to each motor and check to see that each encoder changes values.

-- RAVEN listener node - A simple example of a C++ ROS program that listens to the main RAVEN output message.  Use this to build your data collection and analysis tools. This is a stripped down version of the RAVEN AutoCircle\_generater, which is a great starting point for building your own C++ RAVEN autonomous motion generator.

If you're at ICRA and want to catch up, send me an email or a txt/whatsapp at [+1 978 877 8439](tel:(978)%20877-8439). I'll be around until Wednesday morning and Blake will be floating around through Friday's workshop. I hope to see a bunch of you there! We're looking for requests and contributions for our planned 18.10 release, so let me know if you have any ideas!

Yours in robots,

Andrew

PS - Here's a quick list of some of the latest resources for using your RAVEN:

-- [RAVEN II 18.05 release](https://github.com/uw-biorobotics/raven2/releases/tag/18.05) on github

-- [RAVEN User's guide](https://docs.google.com/document/d/1_21dWhSnXXl0f1e8hjI8vc1neqhOySVY7MGV3GLBImw/edit?usp=sharing) - a work-in-progress document collecting startup and troubleshooting tips

-- [YouTube tutorial playlist](https://www.youtube.com/playlist?list=PLxMsr-mRZng81BdDTaUX0sueXWeVOX0qd) - Videos for everything from starting your RAVEN to recabling to teleoperation tasks.

-- [QUT Training Presentation](https://www.youtube.com/playlist?list=PLxMsr-mRZng81BdDTaUX0sueXWeVOX0qd) - Recap of RAVEN history, system details, and community research. (Let me know if you have some materials you'd like me to include in presentations like this!)

PPS - Please let me know if there's someone else at your institution that should be added to this list.

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You received this message because you are subscribed to the Google Groups "RAVEN-users" group.  
To unsubscribe from this group and stop receiving emails from it, send an email to [raven-users+unsubscribe@googlegroups.com](mailto:raven-users+unsubscribe@googlegroups.com).  
To post to this group, send email to [raven-users@googlegroups.com](mailto:raven-users@googlegroups.com).  
To view this discussion on the web visit [https://groups.google.com/d/msgid/raven-users/CAEKwU1JMY9FPfX0xphe91dG%3DOno%2BXwLQGzLGsEQqRRvSGgZG0w%40mail.gmail.com](https://groups.google.com/d/msgid/raven-users/CAEKwU1JMY9FPfX0xphe91dG%3DOno%2BXwLQGzLGsEQqRRvSGgZG0w%40mail.gmail.com?utm_medium=email&utm_source=footer).  
For more options, visit <https://groups.google.com/d/optout>.

Here are the open source files we have for the RAVEN tools.

<https://www.dropbox.com/s/qwd2y3qussykker/Adapter%20Plate%20and%20Tool%20Head.zip?dl=0&file_subpath=%2FAdapter+Plate+and+Tool+Head>

Here are the files for the custom endoscope adapter at QUT:

<https://www.dropbox.com/s/qwd2y3qussykker/Adapter%20Plate%20and%20Tool%20Head.zip?dl=0>

Hope these still help! Let me know if there's anything else I can help with. Excited to see what you're working on!

Best,

Andy