Community Meeting Agenda

- What’s been going on with ROS-I
- Technical ROS-I Happenings
- Intel RealSense – Updates and New Items
- ConnTact – The why and the latest
- MoveIt & MoveIt Studio!
- Discussion/Q&A
- Adjourn
Continue to foster collaboration

• In person conferences, training events, meetups

• Write ups and additional broader reach collaborative initiatives beyond the ROS community
  • Founders’ Society of Americas
  • American Welding Society
  • Coaters’ Association
  • Remanufacturing Industries Council
Continuous Improvement - Training

- Pilot of Hybrid Training
  - How to make this impactful
  - Engagement with online students
- ROS 2
  - Piloted ROS 2 Labs
  - Back on Hardware
    - For in person
  - Bridge and Porting Exercises
  - New Advanced Topic
    - Motion Planning Pipeline

Training Moving Forward

• Return of member site-hosted training
  • Analog Devices in Boston!
  • Include welcome dinner & hands on lab
• Additional Advanced Topics
  • Motion Planning Pipeline – Targeting Training event Feb 2023
• Separate Virtual Training
Teaching Application

https://github.com/ros-industrial-consortium/scan_n_plan_workshop
Developers’ Meeting Overview: https://youtu.be/GgTxvlaekjE
Supporting the community

• ROS 2 Technical Steering Committee (TSC)
  • Represent industry/consortium for core ROS 2 topics/roadmap etc
  • Garner support for working groups that are important to industry

• (Hardware) Interfaces Working Group
  • Working group to identify interfaces that include the semantics
  • Identify industrial standards that have good references
  • Open to everyone: [https://discourse.ros.org/t/hardware-interfaces-working-group-recurring-meeting/24847/1](https://discourse.ros.org/t/hardware-interfaces-working-group-recurring-meeting/24847/1)

• World ROS-I Day 2022
  • Focused on ROS 2 Documentation! Submitted 15 PRs to ros2_documentation.
Events on the horizon

• Training
  • October 2022 - ROS2/Advanced Topic – Analog Devices, Boston!
  • February 2023 - ROS2/Advanced Topic – In Person, San Antonio, TX

• Quarterly Community Meetings – Dec 2022

• ROSCon – October 19-21, Kyoto Japan
  • ROS-I Exhibiting!

• ROS-I AP Workshop – November 9-10, Singapore

• ROS-I EU Conference – December 15-16, Stuttgart

• 2023 Annual Meeting – targeting co-located with Automate, Detroit
Shaping a Roadmap - Feedback

- Workshops over last handful of years providing feedback
- Long list of challenges
  - Developers
  - Decision Makers
  - Mfg Engineers
  - Tech Stewards
- Feedback on various areas
- Affinitize and update roadmap
  - Capture ROS 2/Version/Interoperability
  - Reference back to roles in robot ecosystem

Training for Management/Biz Dev
Workforce Dev/Student Content
More advanced topics
“Snackable” Content
Long form Learning
Topical Blog Series
Deployment Resources/Training

Video Tutorials/References
Improved CAD to ROS
Better/Auto Dependency Mgt
Documentation
Auto Create Tests from Launch
Higher fidelity Hardware Sim
DDS Optimization
Data Capture/Data Timing Viz

Training/Resources

ROS Versioning
User Interface Tools Lacking
Hardware/Non-ROS Interfaces
Licensing
Brittle/Fragile
Security
QoS/DDS/RMW Understanding
Decision maker understanding

Ease of Use

Roadblocks to Adoption

Training/Resources
Defining Collaboration Opportunities

• Robotic Blending – Champion by SFSA – targeting low lot, no tooling surface finishing

• Open Framework for Additive Manufacturing – Champion – Pending – Flexible agile framework to support more capable applications

• ROS Workbench – Now called “SWORD” to enable manufacturing engineers to set up systems, interact with tool path planning and visualize certain classes of motion plans.

Algorithms to adapt path plans to perceived environments/contours

Aligned with External Voice

PDIR – ROS Workbench

Starting Beta Testing with ROS-I Members
Open Additive Framework

• Open Flexible Additive Framework
• Merging of computational physics-bases analysis with planning

https://youtu.be/rxkLyYaazII
Thank You!

- Provide feedback
- Seek out ways to collaborate
- Engage your supplier/partners on ROS use
- Reach out if you need help
ROS-Industrial Technical Updates

• Michael Ripperger – ROS-I Americas Technical Lead
  • Reach - https://github.com/ros-industrial/reach
    • What is Reach
    • Recent Updates and Upcoming
Updates on the Reach Repository - The REACH repository is a tool that allows users to visualize and quantitatively evaluate the reach capability of a robot system for a given workpiece. See the ROSCon 2019 presentation and video for a more detailed explanation of the reach study concept and approach.

Heat map for reachability – coming!

Heat map scoring of waypoints on a mesh – pose quality – new metrics! – available now!

https://github.com/ros-industrial/reach
Resources for the Community

• ROS-Industrial
  • Home: rosindustrial.org
  • Documentation: wiki.ros.org/industrial
  • Code: https://github.com/ros-industrial; https://github.com/ros-industrial-consortium
  • Training: http://ros-industrial.github.io/industrial_training/
  • ROSin: http://rosin-project.eu/
• Upcoming Events (https://rosindustrial.org/events-summary/)