
ROSIN QUALITY ASSURANCE INITIATIVES FOR ROS

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rosin-project.eu



ROS Quality Assurance Working Group



ROSIN Quality Assurance Initiatives

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ROSIN Quality Assurance Initiatives

Problem/Opportunity Statement	Initiatives				
	Name	Description	The change impact magnitude	Expected Community Impact	
				QA Feature/Capability	Community Impact
Lack of centralized source for community quality assurance practices, knowledge and collaboration.	Quality Hub website	A single source of truth for ROS QA knowledge, practices, tools and methods.	Minor	QA knowledge sharing.	<ul style="list-style-type: none"> Inspire people to share knowledge and experience. Foster knowledge sharing behavior.
	Quality Discourse	QA Forum	Minor	QA Collaboration platform.	Inspire people to collaborate on QA themes and issues.
Absence of ownership for QA practices.	QA ownership	Appoint ownerships for QA practices, tools and infrastructure.	Medium	Ownership	Motivate and encourage ownership behavior.
Inconsistent practice of code review	Energize the code review process	Code review is an existing process; unfortunately, it is loosely implemented and practiced. The aim of this initiative is to bring this practice back to ROS QA core quality practices. Review the current process. Update the current process to reflect the SE practices. Implement it in ROS and ROS-I.	High	Code review process	<ul style="list-style-type: none"> Higher software quality Knowledge sharing Early detection of defects
Deviation from software engineering and industry practices.	Code scanning	Implement a code scanning method and tool.	High	Code scanning tool and process	New software engineering practice in the community
	Energize Continuous Integration	This initiative is to review and enhance the current implementation of the current Continuous Integration (CI) services.	High	Continuous Integration Service.	New software engineering practice in the community

ROSIN Quality Assurance Initiatives

- Make ROS packages quality visible.

- Description of the initiative:

- Create a process/tool where packages quality can be measured, assigned and displayed.

- Intent:

- Make ROS packages quality visible

- Status:

- Phase I: The CI badge is implemented.
 - Phase II: The quality dashboard is work in progress.

- To do(s):

- Integrate the GUI of the quality dashboard to Haros.
 - Implement user rating

ROSIN Quality Assurance Initiatives

- Make ROS packages quality visible.



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Package Summary

✓ Released

✓ Continuous Integration: 88 / 88

✓ Documented

amcl is a probabilistic localization system for a robot moving in 2D. It implements the adaptive (or KLD-sampling) Monte Carlo localization approach (as described by Dieter Fox), which uses a particle filter to track the pose of a robot against a known map.

This node is derived, with thanks, from Andrew Howard's excellent 'amcl' Player driver.

- Maintainer status: maintained
- Maintainer: David V. Lu!! <davidvlu AT gmail DOT com>, Michael Ferguson <mfergs7 AT gmail DOT com>, Aaron Hoy <ahoy AT fetchrobotics DOT com>
- Author: Brian P. Gerkey, contradict@gmail.com
- License: LGPL
- Source: git <https://github.com/ros-planning/navigation.git> (branch: melodic-devel)

Package Links

- [Code API](#)
- [Tutorials](#)
- [FAQ](#)
- [Changelog](#)
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Dependencies (13)

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ROSIN Quality Assurance Initiatives

- Make ROS packages quality visible.



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Package Summary

✓ Released ✓ Continuous Integration: 88 / 88 ✓ Documented

amcl is a probabilistic robot localization package for ROS. It implements the adaptive (or KLD) particle filter localization algorithm (as described by Dieter Fox), which uses a particle filter to estimate the robot's position in a 2D environment. This node is designed to be used with the 'move_base' Player driver.

Build history (last 4 of 23 builds):

✓ #23	31-Jul-2018 13:15	88 / 88
✓ #22	29-Jul-2018 01:15	88 / 88
✓ #21	25-Jul-2018 15:15	88 / 88
✓ #20	24-Jul-2018 15:15	88 / 88

- Maintainer: David V. Lu!! <davidvlu AT gmail DOT com>, Michael Ferguson <mfergs7 AT gmail DOT com>, Aaron Hoy <ahoy AT fetchrobotics DOT com>
- Author: Brian P. Gerkey, contradict@gmail.com
- License: LGPL
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ROSIN Quality Assurance Initiatives

- Make ROS packages quality visible.

The screenshot shows the 'actionlib' package page on ROS-Industrial.org. The page is for the 'indigo' version and includes a 'Documentation Status' link. The main heading is 'Package Summary'. Below this, there are three status indicators: 'Released' (green checkmark), 'Continuous Integration: 51 / 52' (red X), and 'Documented' (green checkmark). A dropdown menu for the CI status shows the 'Build history (last 5 of 14 builds):' with a table of build results. The table lists builds #14 through #10, with their dates, times, and status (51/52 or 52/52). Below the build history, there is a list of links for maintaining the package, including a bug/feature tracker and source code repository. The ROSIN logo is visible in the bottom right corner.

actionlib

indigo Documentation Status

Package Summary

✓ Released ✗ Continuous Integration: 51 / 52 ✓ Documented

The actionlib package provides a framework for creating and managing action servers and clients. It is used for tasks that require a long-running process, such as moving a robot arm to a target location, performing a laser scan and returning the results, or interfacing with preemptable target location, performing a laser scan and returning the handle of a door, etc.

Build history (last 5 of 14 builds):


Build	Date	Time	Status
✗ #14	28-Apr-2018	05:16	51 / 52
✓ #13	27-Apr-2018	18:10	52 / 52
✓ #12	17-Apr-2018	15:10	52 / 52
✓ #11	14-Mar-2018	19:10	52 / 52
✓ #10	09-Feb-2018	22:06	52 / 52

- Maintainer: [Name]
- Maintainer email: [Email]
- Author: [Name]
- License: [License]
- Bug / feature tracker: <https://github.com/ros/actionlib/issues>
- Source: git <https://github.com/ros/actionlib.git> (branch: indigo-devel)

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ROSIN Quality Assurance Initiatives

- Make ROS packages quality visible.

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Package Summary

✓ Released

✗ Continuous Integration: 198 / 201

✓ Documented

Controller for
Build history (last 5 of 13 builds):
• Maintai
• Maintai
Lüdtke
<enriqu
• Author:
• License
• External website: https://github.com/ros-controls/ros_controllers/wiki
• Bug / feature tracker: https://github.com/ros-controls/ros_controllers/issues
• Source: git https://github.com/ros-controls/ros_controllers.git (branch: melodic-devel)

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Package Summary

✓ Released ✓ Continuous Integration ✓ Documented ✓ QA Analysis

ROS nodelet for Kobuki: ROS wrapper for the Kobuki driver.

- Maintainer status: maintained
- Maintainer: Daniel Stonier <stonier AT yujinrobot DOT com>
- Author: Daniel Stonier, Younghun Ju, Jorge Santos Simon
- License: BSD
- Bug / feature tracker: <https://github.com/yujinrobot/kobuki/issues>
- Source: git <https://github.com/yujinrobot/kobuki.git> (branch: kinetic)

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Package Summary

✓ Released

✓ Continuous Integration

✓ Documented

✓ QA Analysis

Summary

Overall Score

☆☆☆☆☆

User Rating

☆☆☆☆☆

⚠ Warnings for important defects (e.g. missing README).

Metrics

Metric	Value	Min.	Max.
Lines of Code	1733	0	-
Comment/Code Ratio	33.3%	20%	-
Cyclomatic Complexity (avg.)	3	1	15
Coding Style Violations	615	0	-
Maintainability Index	-	1	100
Class Coupling (avg.)	-	0	5
Depth of Inheritance (avg.)	-	0	5

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ROSIN Quality Assurance Initiatives

■ Appoint Ownership.

■ Description of the initiative:

- Appoint ownerships for QA practices, tools and infrastructure.

■ Intent:

- Establishing ownership of QA practices to ensure continuity.

■ Status:

- Implemented. A decision has been made by the ROS Quality Working Group to ask the individual(s) who work on the implementation of the initiative to be the default owners.

ROSIN Quality Assurance Initiatives

- Energize the code review process.

- Description of the initiative:

- Reinstitute the code review practice.

- Intent:

- Code Review is a prominent QA practice in open source

- Status:

- In progress. A decision has been made to use within same repository/organization review. This to ensure the right expertise of reviewers.

- To do(s):

- Code Review Guideline
 - Commence the pilots in two repositories (MoveIt and rviz)

ROSIN Quality Assurance Initiatives

- Implement a code scanning method and tool.
 - Description of the initiative:
 - Haros will be able to build a representation of ROS software code that include Python and not only C++.
 - Improve this representation with reliable name resolution.
 - Status:
 - The build work has commenced.

ROSIN Quality Assurance Initiatives

■ Quality Hub website.

■ Description of the initiative:

- A central “go-to” place for QA (like Mozilla) knowledge sharing (documentation of QA practices)

■ Intent:

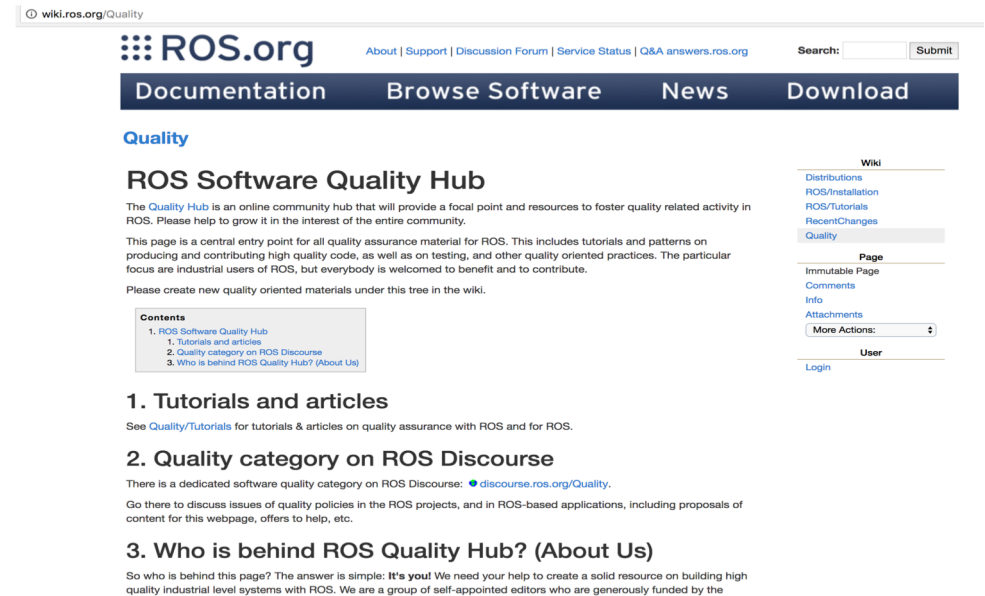
- Create a source of knowledge for quality assurance

■ Status:

- Implemented
- <http://wiki.ros.org/Quality>

■ To do(s):

- Contributions to the hub.



The screenshot shows the ROS Software Quality Hub page. At the top is the ROS.org logo and navigation links: About, Support, Discussion Forum, Service Status, and Q&A answers.ros.org. Below this is a search bar and a navigation menu with links to Documentation, Browse Software, News, and Download. The main heading is "ROS Software Quality Hub". The text describes the hub as an online community hub for quality assurance, providing a focal point for resources and fostering quality-related activity. It mentions that the page is a central entry point for all quality assurance material for ROS, including tutorials and patterns on producing and contributing high quality code, as well as on testing and other quality-oriented practices. A "Contents" box lists three items: 1. ROS Software Quality Hub, 2. Quality category on ROS Discourse, and 3. Who is behind ROS Quality Hub? (About Us). The page also features a "Wiki" sidebar with links to Distributions, ROS/Installation, ROS/Tutorials, Recent Changes, and Quality. At the bottom, there are sections for "1. Tutorials and articles", "2. Quality category on ROS Discourse", and "3. Who is behind ROS Quality Hub? (About Us)".

ROSIN Quality Assurance Initiatives

■ Quality Forum.

- Description of the initiative:
 - Quality Assurance Forum (follows the mozilla model).
- Intent:
 - A dedicated forum to discuss quality.
- Status:
 - Implemented
 - <https://discourse.ros.org/c/quality>












Secure | <https://discourse.ros.org/c/quality>

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ROS Discourse

Quality Assurance ▾ Latest Top

+ New Topic

Topic	Users	Replies	Views	Activity
ROS Quality Assurance Working Group September 2018 Meeting Notes		2	90	9d
Static: A static analysis framework		3	140	14d
ROS Quality Assurance Working Group - Sept. 2018 Meeting		2	78	23d
ROS Quality Assurance Working Group August 2018 Meeting Notes		0	51	28d
ROS tests with robot description		6	156	Aug 28
On (git) branching strategies		7	353	Aug 10
ROS Quality Assurance Working Group - August 2018 Meeting		0	60	Aug 10
Pytest support for ROS / rostest		8	403	Aug 9
ROS Quality Assurance Working Group July 2018 Meeting Notes		0	112	Jul 22
ROS Quality Assurance Working Group July 2018 Meeting		2	133	Jul 10
Revising the gtest tutorial		5	253	Jun 14

ROSIN Quality Assurance Initiatives

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Questions

