

gazebo2nix

ROSConFr 2025

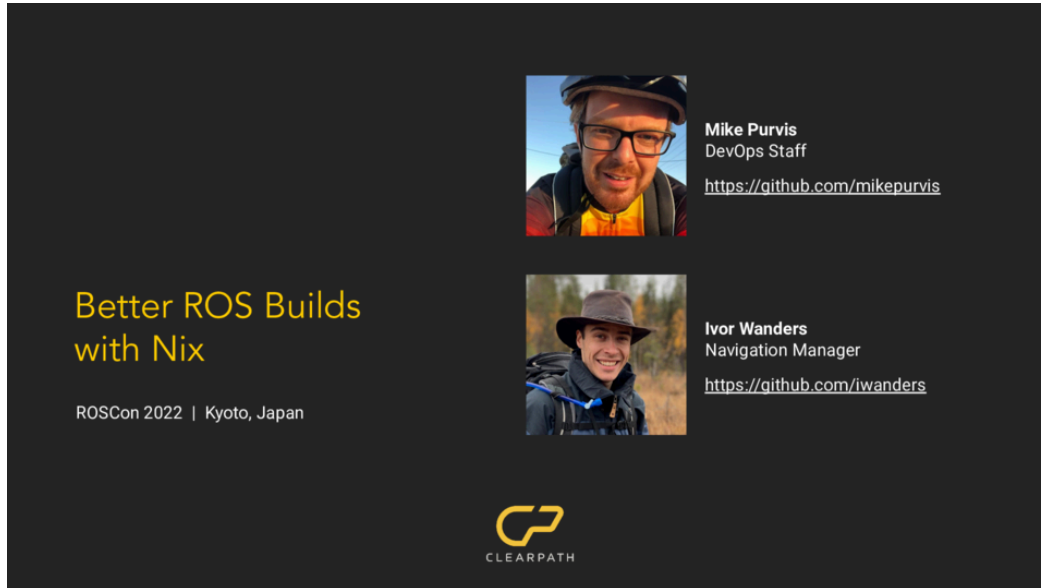
Guilhem Saurel

2025-11-20




IR en robotique humanoïde


PRIOR WORK




Better ROS Builds with Nix

ROSCon 2022 | Kyoto, Japan

 Mike Purvis
DevOps Staff
<https://github.com/mikepurvis>

 Ivor Wanders
Navigation Manager
<https://github.com/iwanders>

 CLEARPATH

Better ROS Builds with Nix

« cheaper, faster, smaller, more accurate, and more declarative builds of our large autonomy and fleet management codebase »

- Mike Purvis & Ivor Wanders, Clearpath Robotics

- > <https://github.com/lopsided98/nix-ros-overlay>
- > Thanks Ben Wolsieffer (@lopsided98)

NIX

- > Nix: JSON + fonctions
- > NixOS: Linux / systemd / bootloader / etc.
- > nixpkgs: Github repo
 - ~120 000 packets
 - ~10 000 contributors
 - ~50 000 PR/mois
 - linux/macOS x86/arm, countless others
- > declarative
- > reproducible
- > atomic changes / upgrades
- > packages / OS / containers / devShells / homeConfiguration / ...

STATE OF THE ART

- > RIP Clearpath Nix
- > nix-ros-overlay
 - Ben Wolsieffer lost interest in ROS
 - Michal Sojka (@wentasah)
 - set up hydra at CTU
 - got commit access
 - open sourced tooling, like:
 - ros2nix
 - ros-direnv
 - added kilted, dropped noetic (ros1-25.05 branch)

- > <https://github.com/muellerbernd/gazebo-sim-overlay>
- > Des tentatives de PR dans nixpkgs:
 - @pandapip1 #355629
 - @ShamrockLee #394757
 - @Guelakais 10 PRs
- > f*ck freeimage

GAZEBROS2NIX

- > generate `.nix` packages for git repos with `package.xml`
- > generate `.nix` packages for everything in `https://github.com/gazebo-tooling/gazebodistro`
- > maintain overrides
- > reproduce ROS Workspaces

PoC Achieved #5

Merged nim65s merged 16 commits into Gepetto:main from nim65s:ok on Sep 2

Conversation 0

Commits 16

Checks 2

Files changed 61



nim65s commented on Sep 2

Member ...

All of this is OK:

```
nix shell .#gz-fortress --command ign gazebo --render-engine ogre tests/fortress.sdf
nix shell .#gz-harmonic --command gz sim tests/harmonic.sdf
nix shell .#gz-ionic --command gz sim tests/ionic.sdf
```



- > Maintain stuff
- > CMake 4 / py3.14 / Qt6
- > Noetic -> Kilted
- > Fortress -> Jetty
- > replace colcon
- > take over the world
- > ???
- > profit

COMMUNITY

- > Discourse ROS ?
- > Discourse Nix ?
- > Matrix ?
- > Discord ?
- > GitHub ?

QUESTIONS

About this presentation

Available at

<https://homepages.laas.fr/gsaurel/>

<https://nim65s.github.io/>

Under license



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BONUS

- > <https://docs.docker.com/reference/cli/docker/debug/>
- > Get a shell into any container or image. An alternative to debugging with `docker exec`.
- > `install [tool1] [tool2]`: Add Nix packages from <https://search.nixos.org/packages>

> <https://github.com/Mic92/sops-nix>

> <https://github.com/nim65s/nixos-deploiements/>