

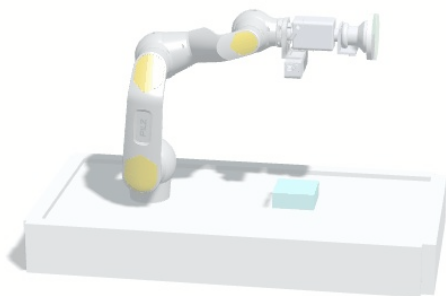
---

# Robot Recorder

Jonathan Hechtbauer – Fraunhofer IPA

---

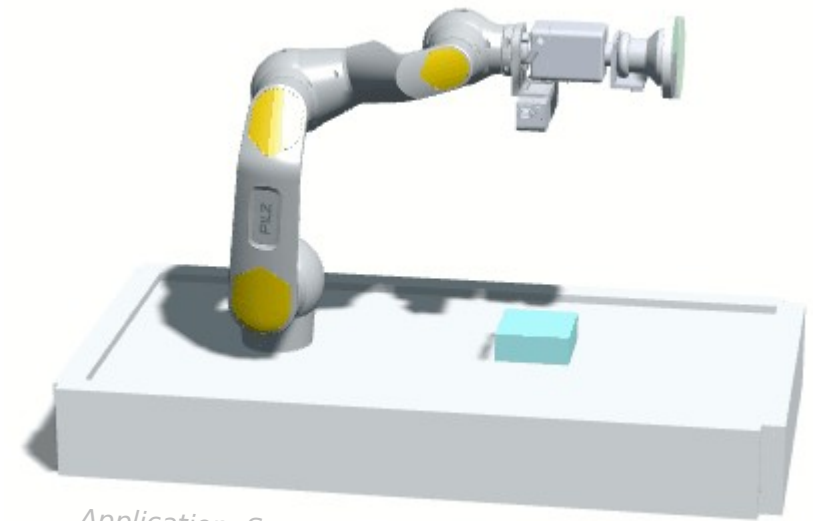
“An animation is worth a thousand lines of Markdown.”



# Robot Recorder – Why?

GOAL: **Record** ROS application and visualize the **3D-animation** in a **web-browser!**

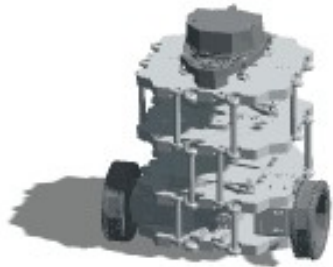
- Eye-catcher for your application
- Inspect failed CI test
- Visual benchmarking



*Application: Scan and Plan; Robot: PSIR*

# Robot Recorder - Record what?

- External motion  
from `/tf`



*Robot: Turtlebot3*

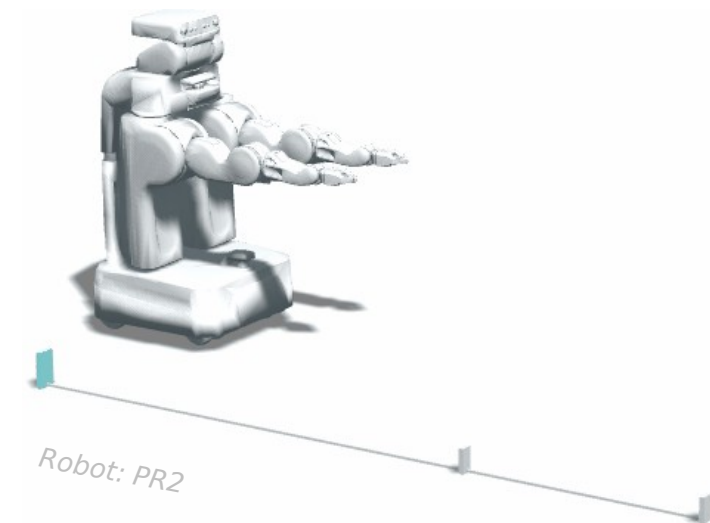
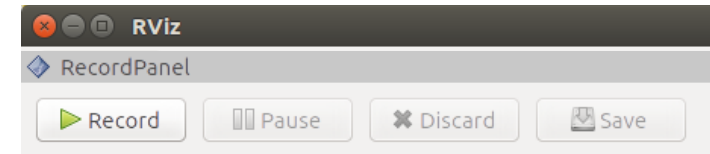
- Internal motion  
from `/joint_states`



*Robot: UR5*

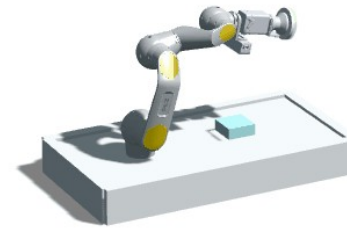
# Robot Recorder <sup>ROS</sup> - How? Easy!

- Record via ROS services
  - Can be automated
  - Simple RViz interface
- Data reduction through key-frames
- Exported as *.json* file

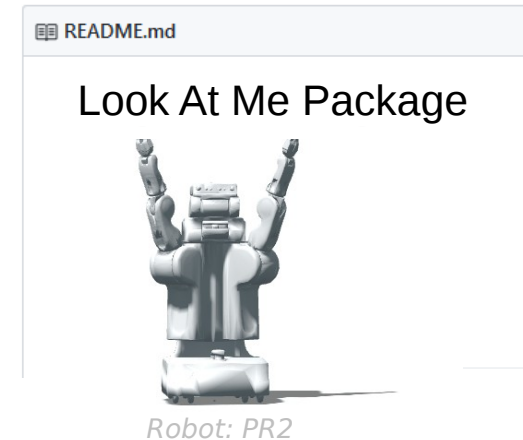


# Robot Recorder – Animation-Viewer

- Generate web 3D-animation
  - Wrapper for *urdf-loader* (by gkjohnson)
  - E.g. host on Github Pages
  - Cross-load meshes from other repos

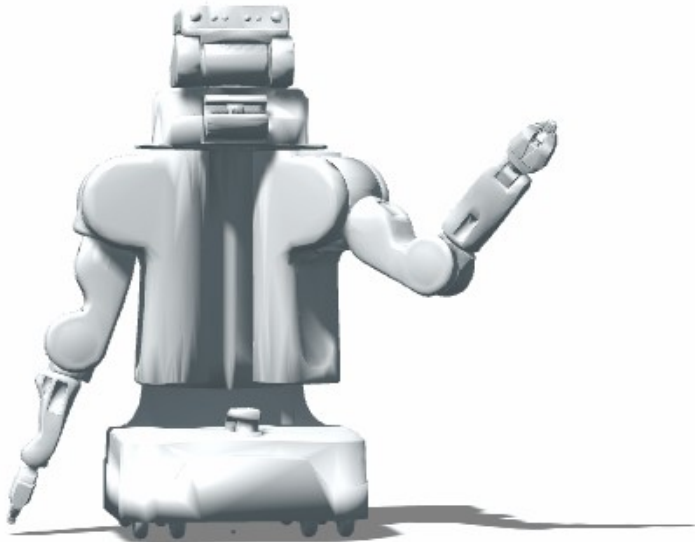


- Convert to GIF with one click
  - E.g. for README



# Robot Recorder

Thank you for your time!



*Robot: PR2*

- Tool available on GitHub:
  - **ipa-jfh/robot\_recorder**  
@ <https://git.io/fA7yr>
- Viewer uses other great tools:
  - **gkjohnson/urdf-loaders**
  - **mrdoob/three.js**
  - **jnordberg/gif.js**
  - **dataarts/dat.gui**