Stanford ENGR110/210

A Robotics Platform for Assistive Tech Projects

Bob Bauer & Steve Cousins

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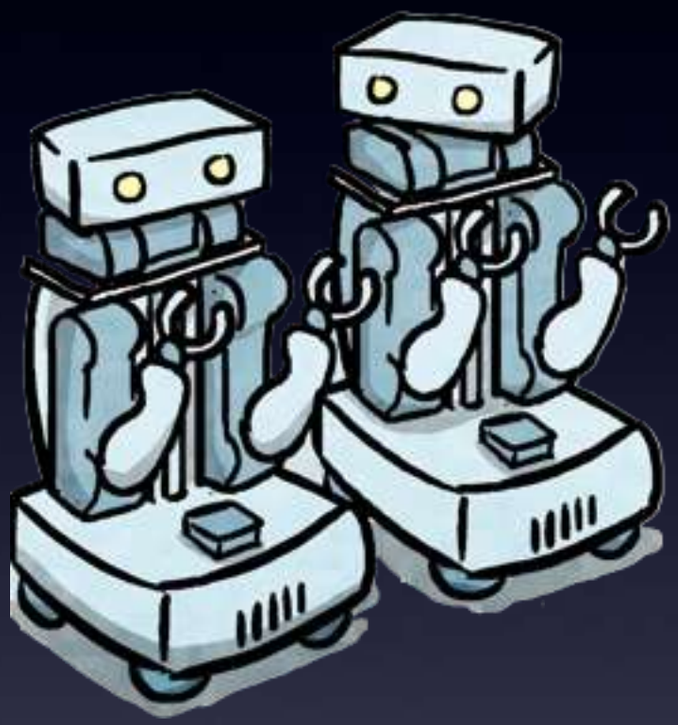
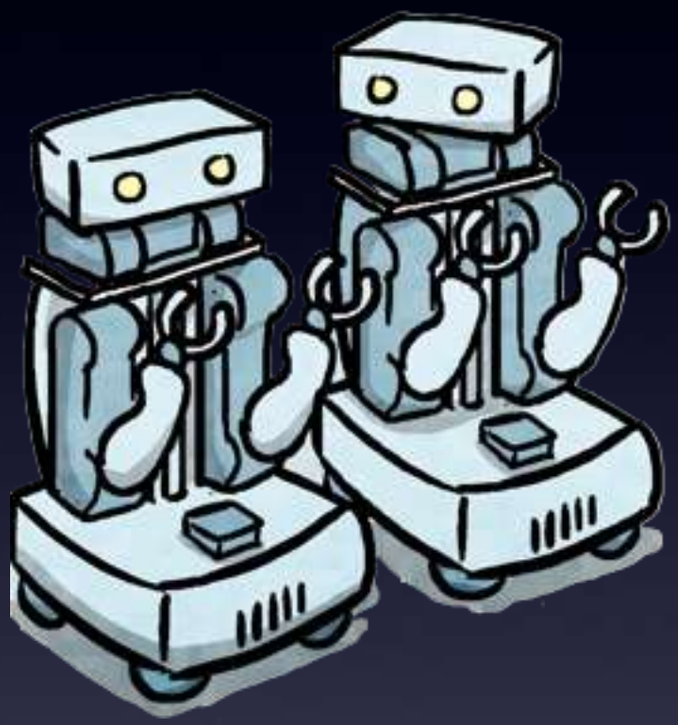
Helping People with Disabilities

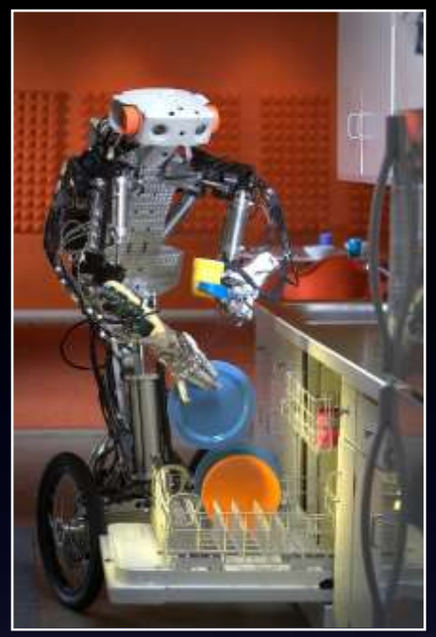


- Carry Objects
- Remember Where Things Are
- Retrieve Items
- Prepare Food
- Clean

Moving Around the house



- Dishes
- Tidy Up
- Laundry
- Clean
- Organize



ASIMO
HONDA

TWENDY-ONE

Project Start

Build Required Hardware

Write Support Software

Advancement

Time

Project Start

Advancement

Time

Applications to be explored

System Software

Hardware

Applications to be explored

ROS

PR2

Applications to be explored

ROS

PR2

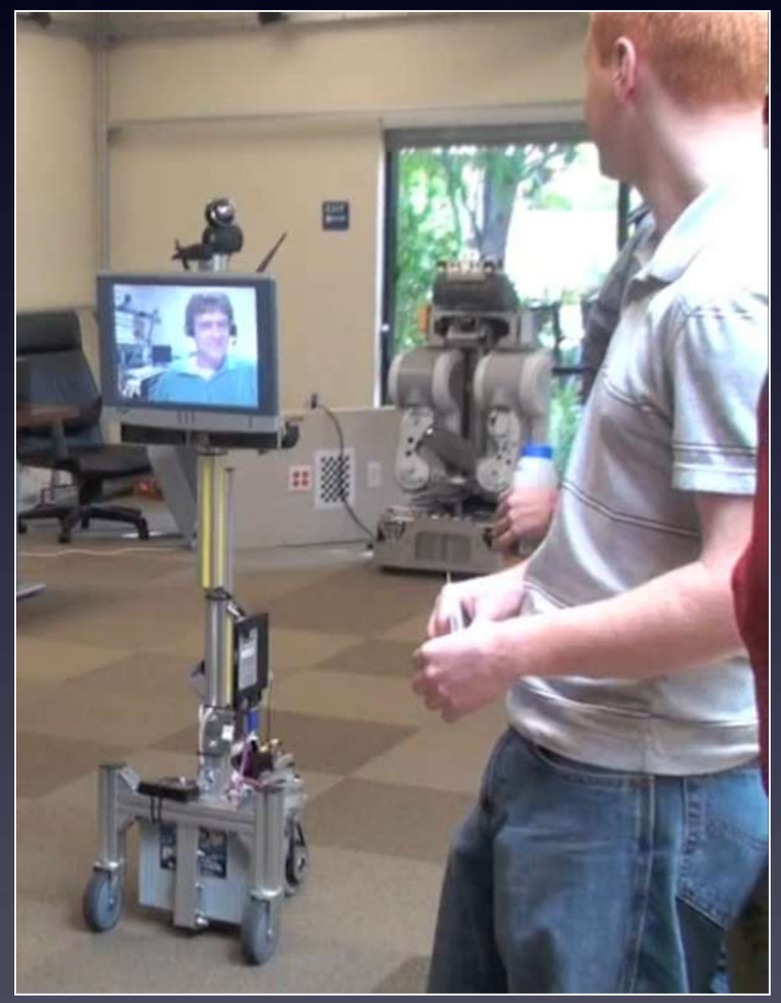
ROS + PR2

Open Source
Robot Operating System

ROS + Texas

Open Source

Robot Operating System



Visualization Tools

Navigation

Arm Path Planning

Hardware Interfaces

Simulation

2D/3D Perception

Hardware Diagnostics

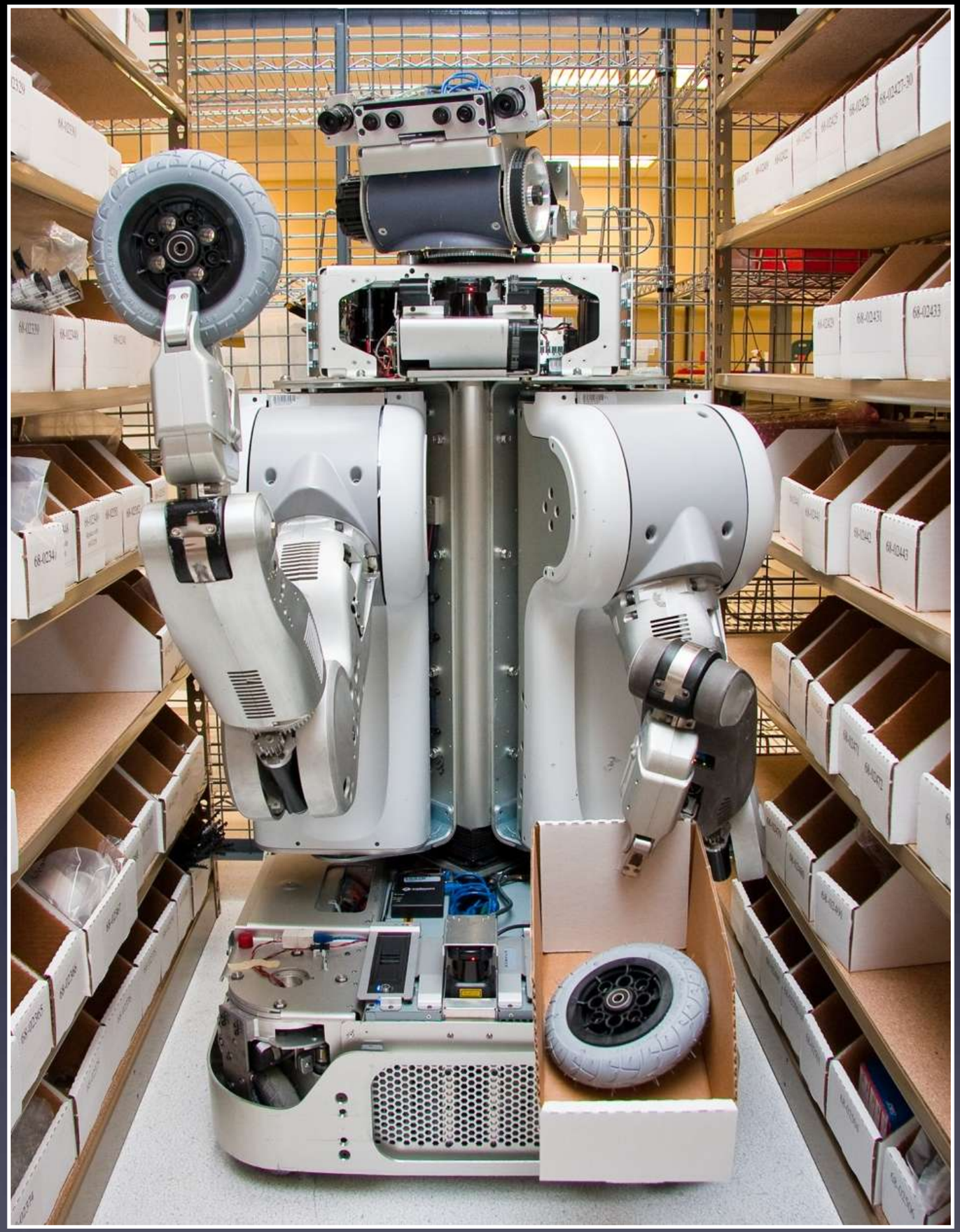
Simulation Tools

2D and 3D

Environment Models

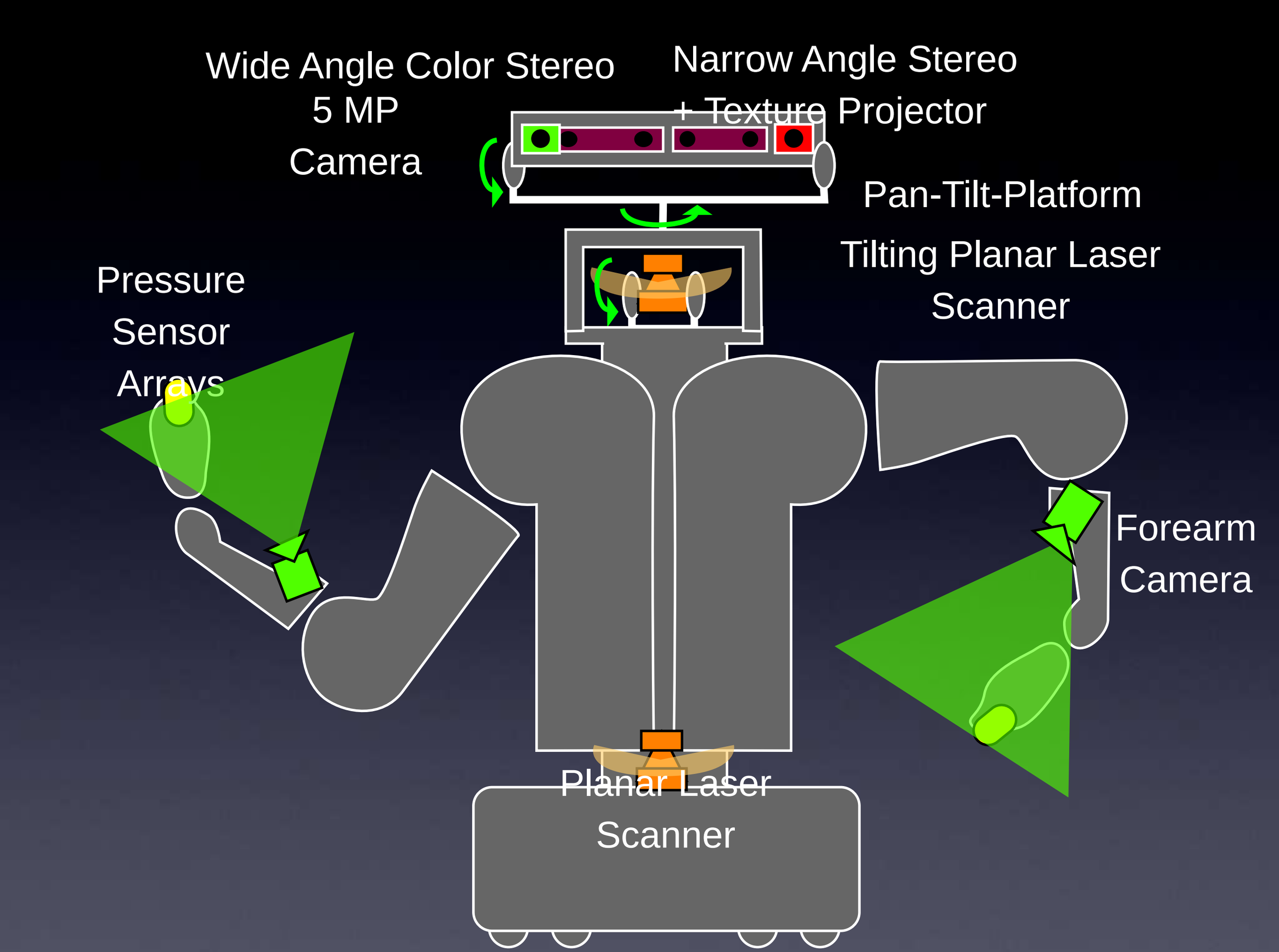
Hardware Driver Models

Sensor Models



PR2

PR2 Sensors

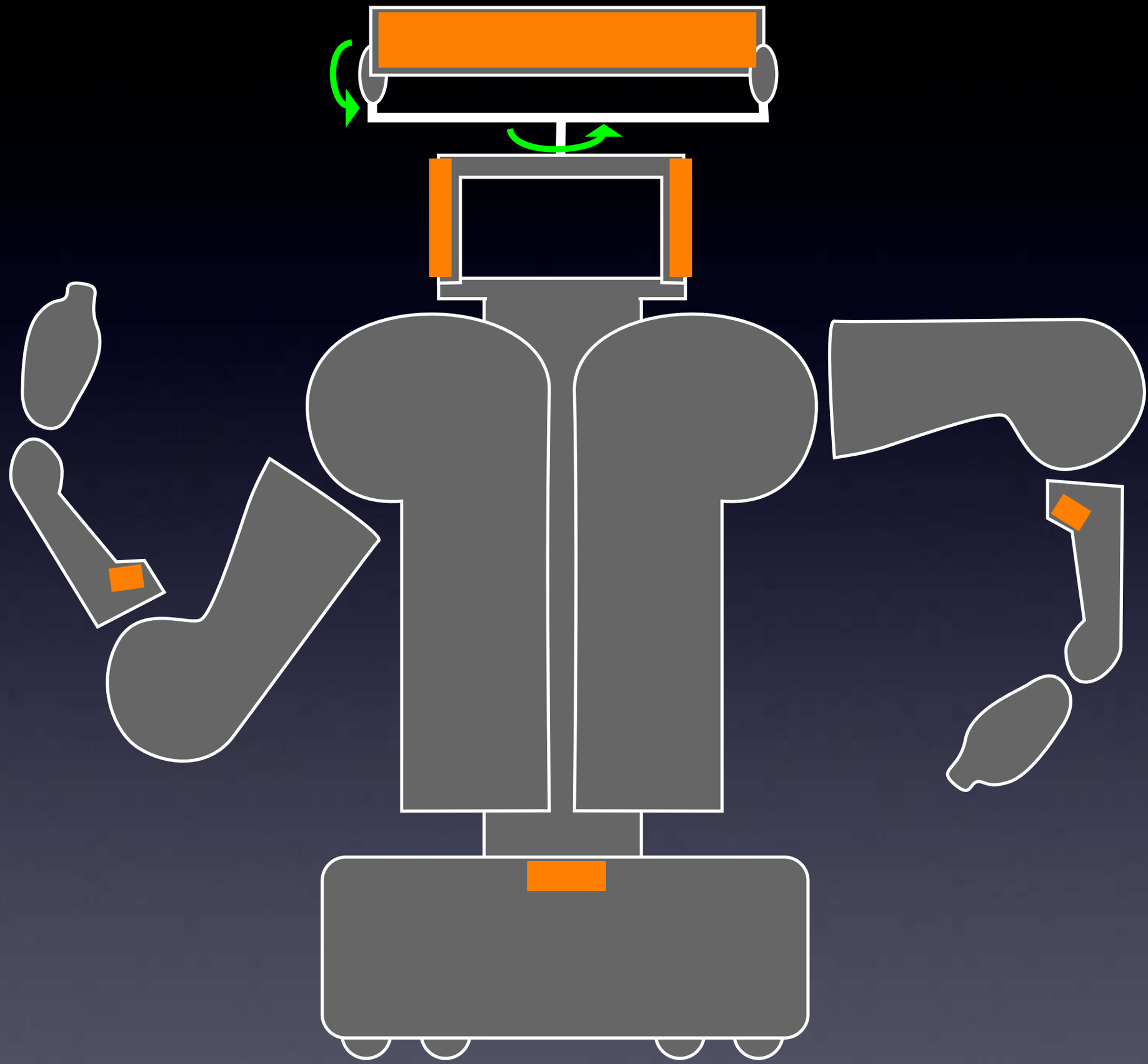

Wide Angle Color Stereo
5 MP
Camera
Narrow Angle Stereo
+ Texture Projector
Pan-Tilt-Platform
Tilting Planar Laser
Scanner
Pressure
Sensor
Arrays
Forearm
Camera
Planar Laser
Scanner

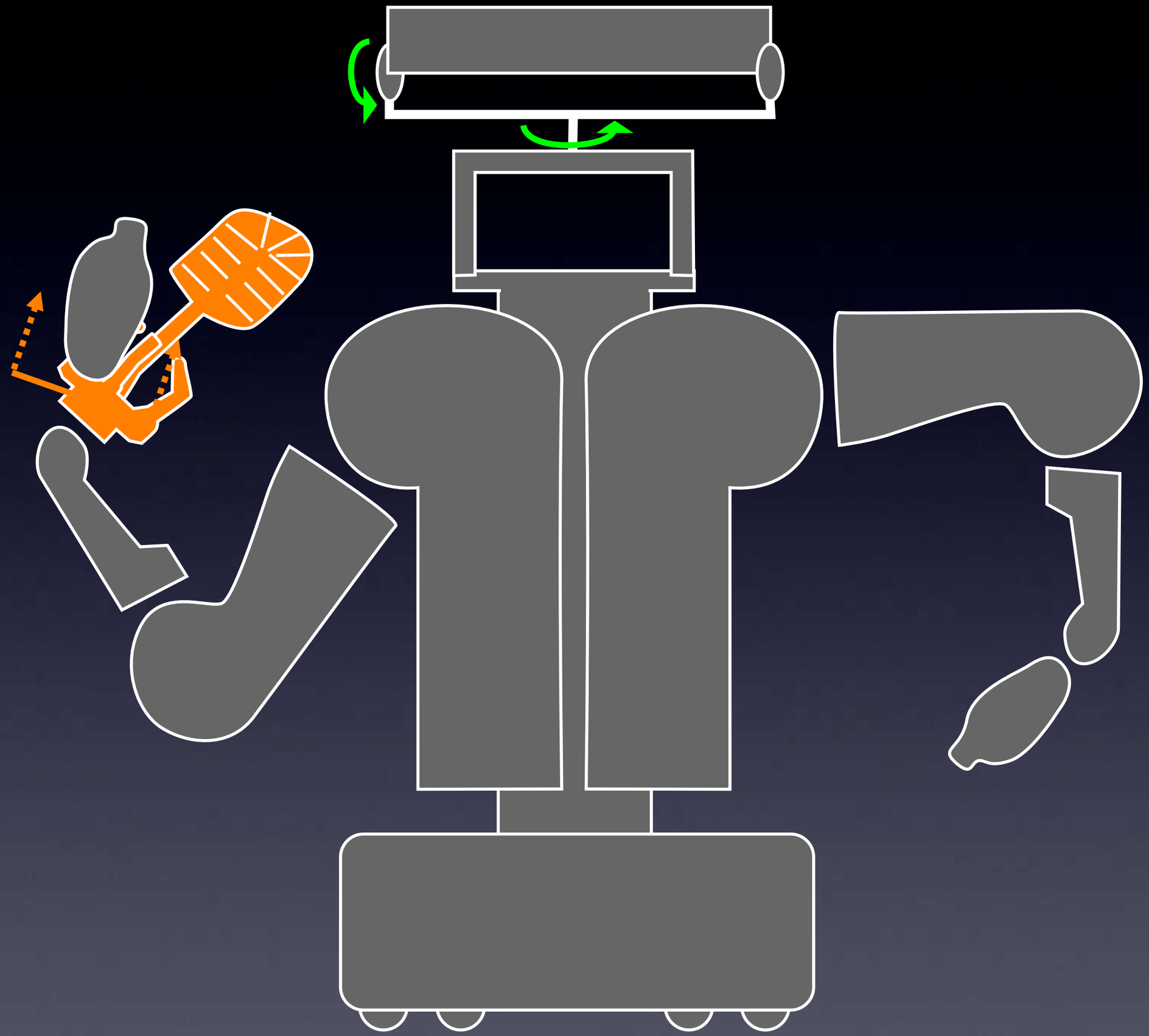
ROBOT TELEOPERATED

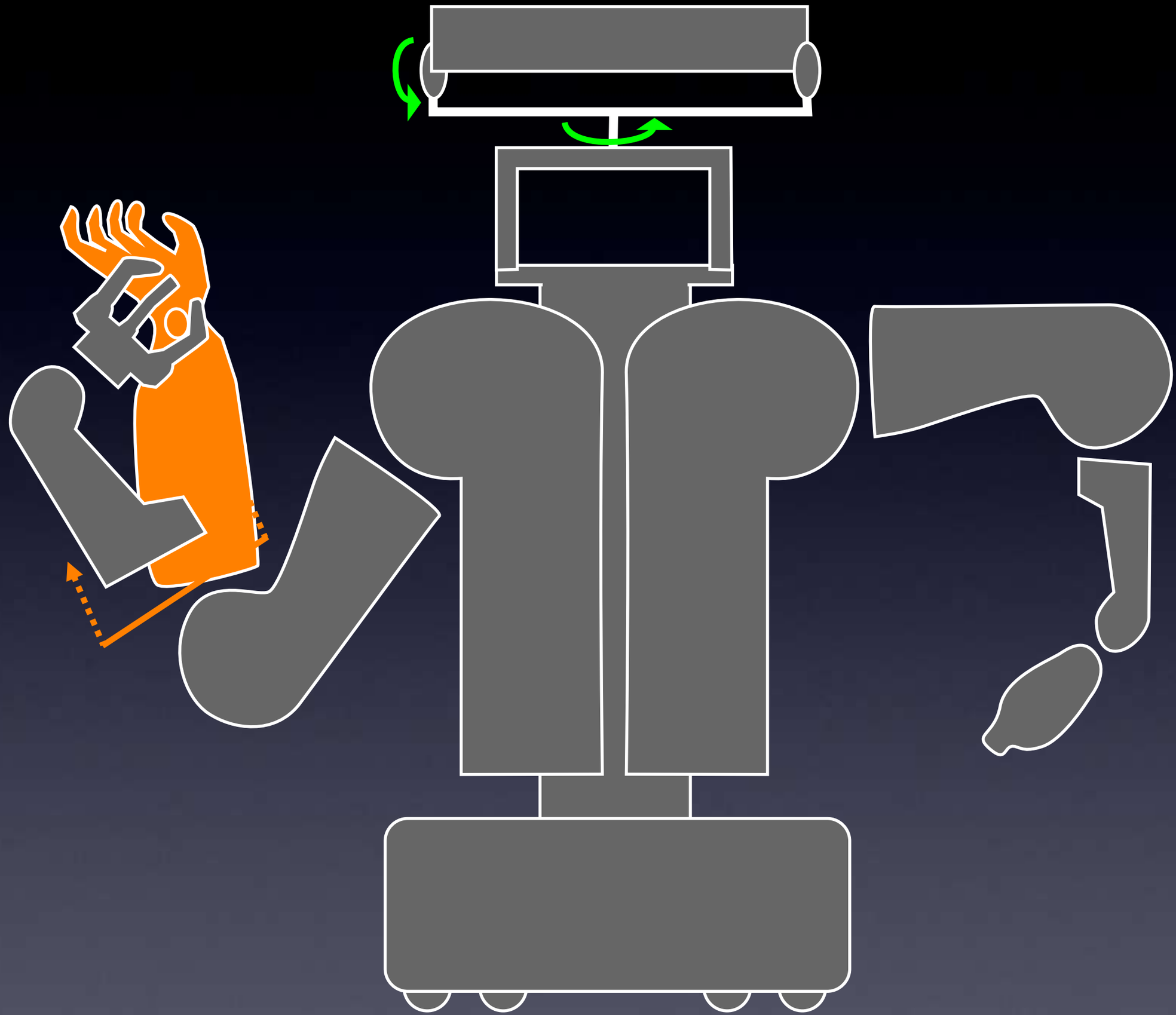
ROBOT TELEOPERATED

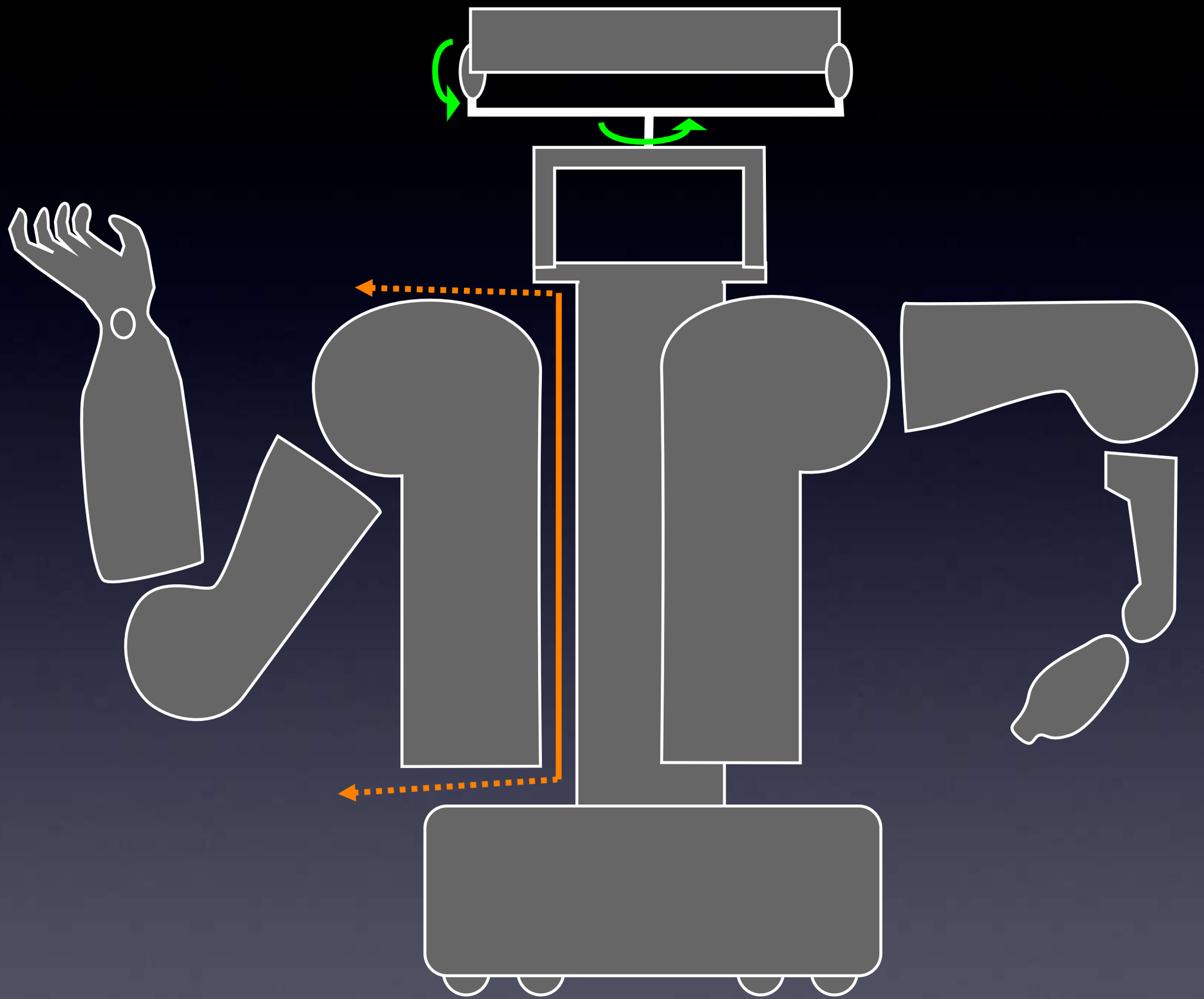
ROBOT TELEOPERATED

PR2 Modularity









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Thank You

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