ROS

Akka Ecole Technology

Overview

Today's Goals

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- Using built-in ROS tools

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- Writing custom ROS nodes

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- 17:00 Checking who Survived :P

Introduction to ROS

Building a Robot

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  - It provides tools for visualisation, simulation and analysis

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- The primary motivation behind ROS was the recognition that researchers were constantly reinventing the wheel as there were no reusable components for robotics projects to start from.

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- Since 2013 the Open Source Robotics Foundation is maintaining and developing ROS.
- The primary motivation behind ROS was the recognition that researchers were constantly reinventing the wheel as there were no reusable components for robotics projects to start from.
- In addition, it was hard for researchers to exchange and validate code from other researchers.

High Level Robot Tasks

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Perception

High Level Robot Tasks

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Decision Making

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Actuation

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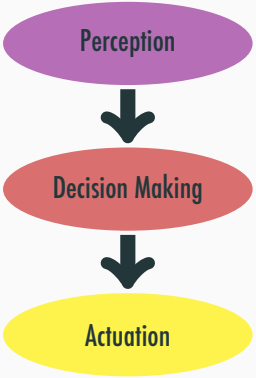

Literally every robot is performing these high level tasks.

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ROS splits these high level tasks in low level ones and spawns a unix thread for each of them.

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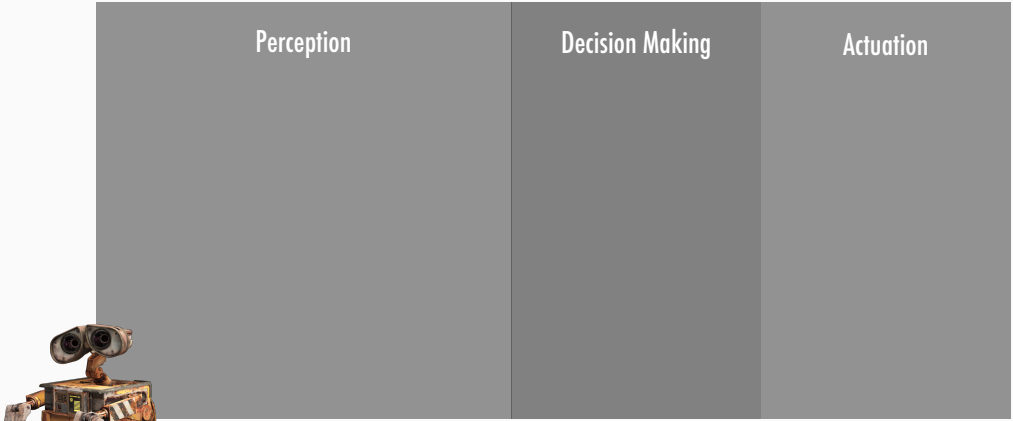

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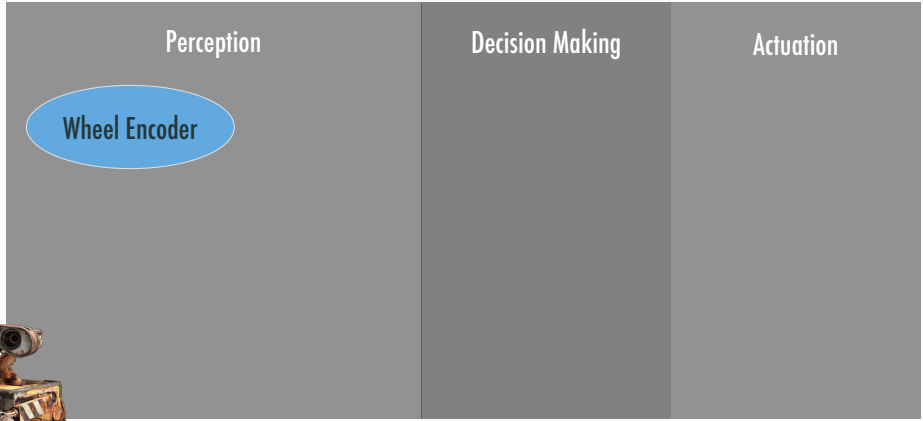

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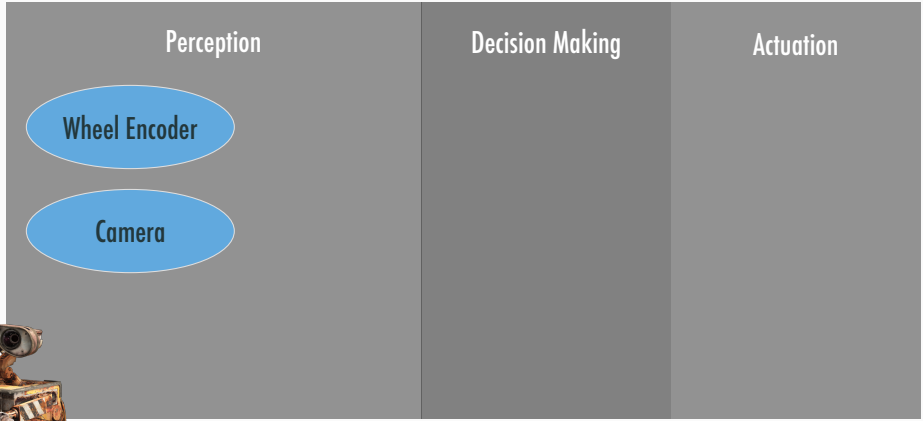

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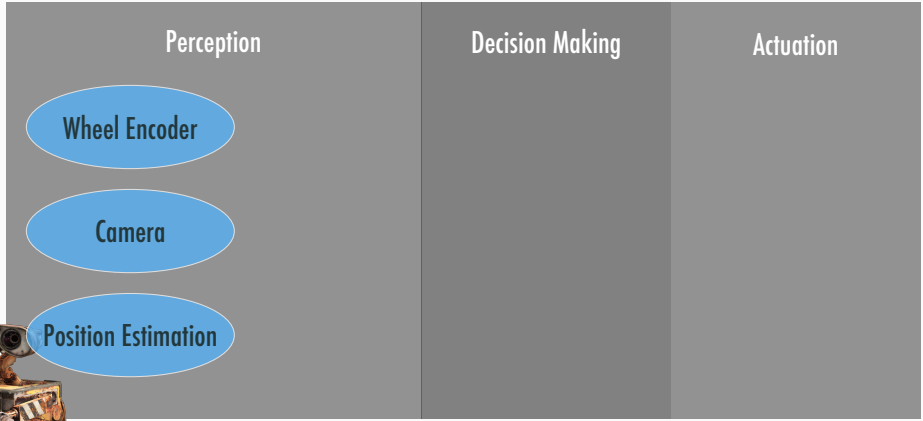

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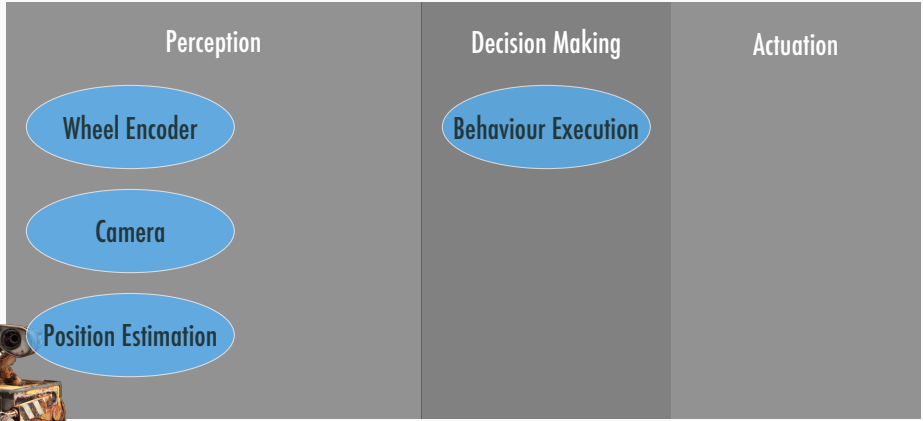

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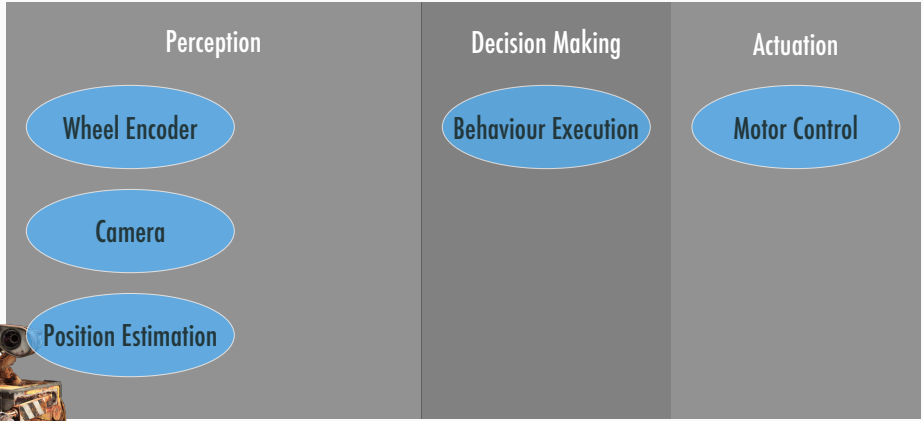

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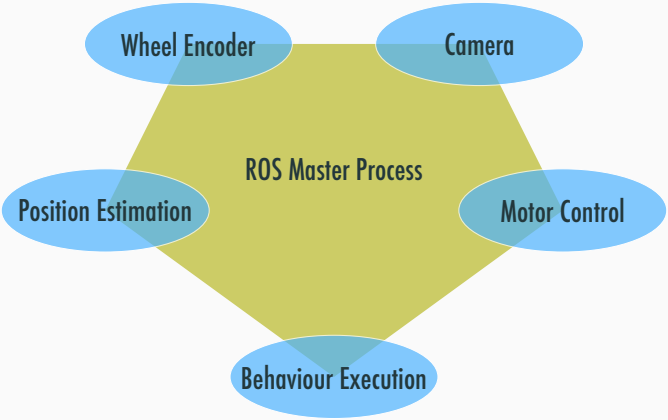

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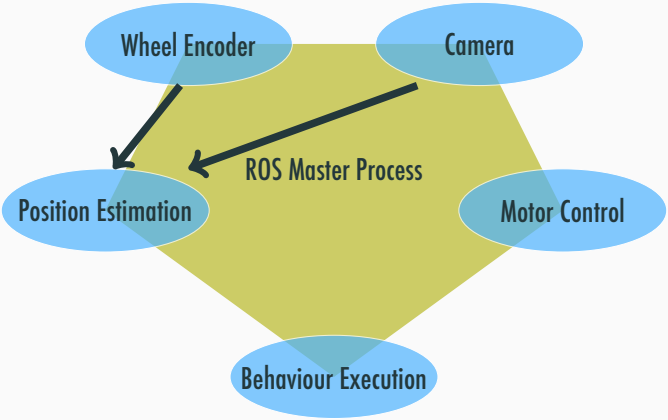

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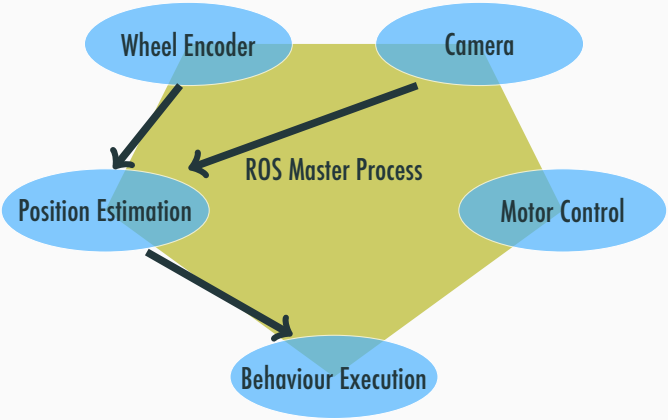

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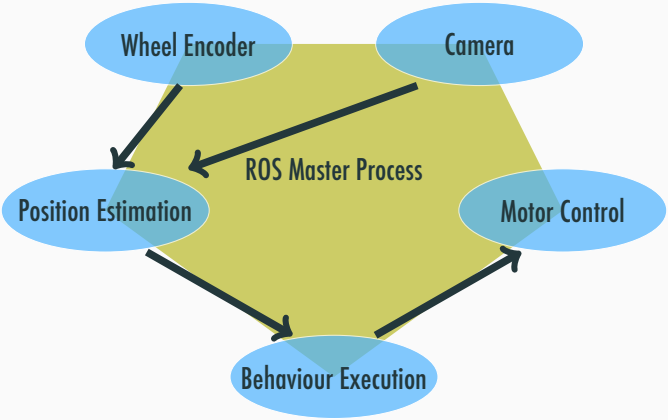

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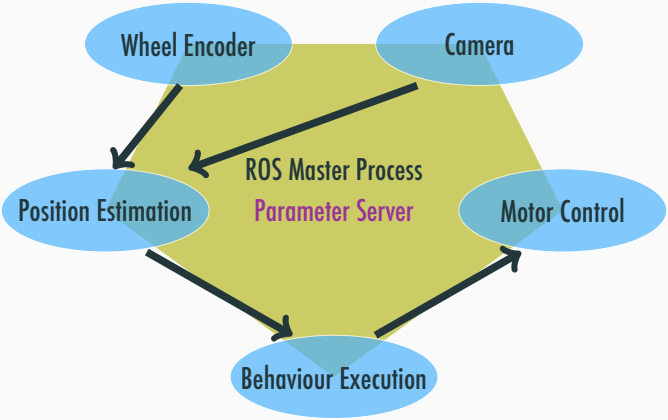

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- There are over 200 different message types, but there is still the possibility to define custom ones

ROS Tutorials

Let’s get our hands dirty and our fingers on the keyboard.
ROS Tutorial

Racecar hacking

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