



Hochschule  
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# Introduction to ROS

## Foundation Course

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## 1. What is ROS?

### 1.1 What ROS is

### 1.2 What ROS is NOT

## 2. Analogy Between ROS and Operating Systems



# 1. What is ROS?

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# What ROS is

## *Robot Operating System*

- Short for: Robot Operating System.
- A collection of libraries and tools.
- It helps software developers create robot applications.

# Re-Inventing the Wheel

First, someone  
publishes...



...and they write  
code that barely  
works but lets  
them publish...



...a paper with  
a proof-of-  
concept robot.



This prompts  
another lab to  
try to build on  
this result...



But inevitably,  
time runs out...



...but they can't  
get any details  
on the software  
used to make it  
work...



...and countless  
sleepless nights  
are spent  
writing code  
from scratch.





So, a grandiose  
plan is formed  
to write a new  
software API...



...and all the  
code used by  
previous lab  
members is a mess.

# What ROS is

## *Robot Operating System*

- A way to standardize writing software for robots.
- It enhances **code reusability** .
- ROS is open-source .
- It is a meta-operating system.
- ROS can be installed on Ubuntu and Debian (so it's currently supported on Linux only).



# 1. What is ROS?

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# What ROS is NOT

## *Robot Operating System*

- It is NOT a programming language.
- It is NOT an integrated development environment (IDE).
- It is NOT a stand-alone operating system



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# Analogy Between ROS and Operating Systems



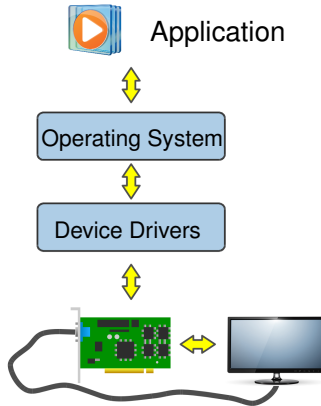
Software Applications

work on

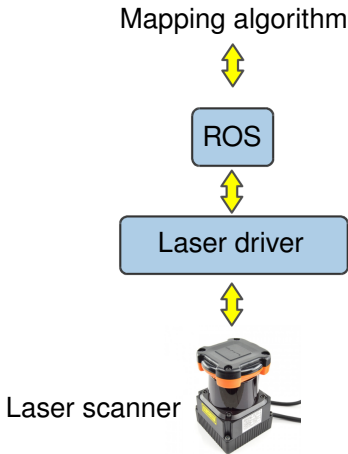
Different hardware



# Analogy Between ROS and Operating Systems



# Analogy Between ROS and Operating Systems



# Analogy Between ROS and Operating Systems

