1.3.3

ROS file system – Part2
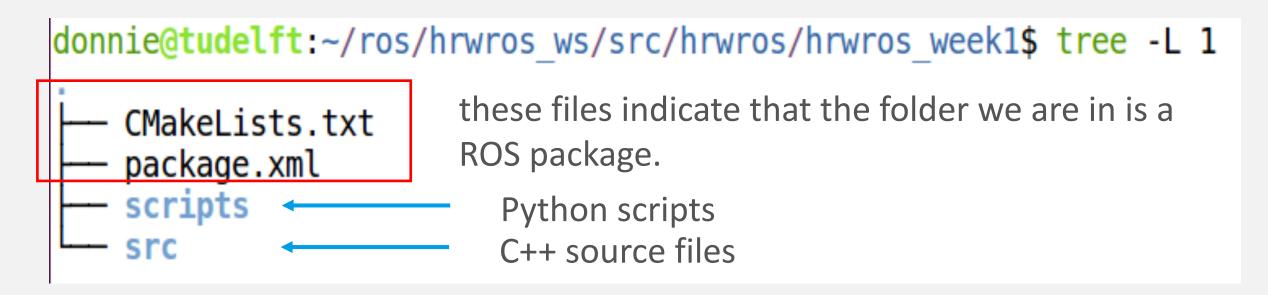
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catkin workspace – the "src" space

- ROS **packages** reside in the "src" space.

- All the code we write or those we want to use from other people are organized in ROS packages.

```
donnie@tudelft:~/ros/hrwros_ws/src$ tree -L 2 -d
.
└── hrwros
        ├── hrwros_gazebo
        ├── hrwros_msgs
        ├── hrwros_support
        ├── hrwros_utilities
        └── hrwros_week1
```

packages modified from other open source implementations.

packages developed by course instructors.

Example contents of a "src" space

catkin workspace – ROS package contents

```
donnie@tudelft:~/ros/hrwros_ws/src/hrwros/hrwros_week1$ tree -L 1
.
├── CMakeLists.txt
├── package.xml
├── scripts
└── src
```

these files indicate that the folder we are in is a ROS package.

Python scripts
C++ source files

hrwros_week1 ROS package.

catkin workspace – create new ROS package

create new ROS package in the source space.

```
$ catkin_create_pkg <new_package_name> <package_deps>
```

```
donnie@tudelft:~/ros/hrwros_ws/src/hrwros$ catkin_create_pkg hrwros_week2 std_msgs
Created file hrwros_week2/package.xml
Created file hrwros_week2/CMakeLists.txt
Successfully created files in /home/donnie/ros/hrwros_ws/src/hrwros/hrwros_week2.
```

Create new ROS package example

catkin workspace – install ROS package deps

install dependencies of a ROS package (listed in package.xml)

```
$ cd <path_to_folder_with_ROS_package(s)>
$ rosdep install <package_name>
```

install dependencies of all ROS packages in your source space

```
$ cd <path_to_ros_workspace/src>
$ rosdep install --from-paths . --ignore-src -y
```

You DON'T NEED the source files of all dependencies of your ROS package! Just install your dependencies!

catkin workspace - the "devel" space

- (binary executable) Files for testing our development.

- Files for setting up project specific ROS environment

```
donnie@tudelft:~/ros/hrwros_ws/devel$ ls
env.sh  etc  include  lib  setup.bash  setup.sh  _setup_util.py  setup.zsh  share
donnie@tudelft:~/ros/hrwros_ws/devel$
```

Example: devel space contents

source ROS environment for project in catkin workspace

```
$ source <path_to_workspace>/devel/setup.bash
```