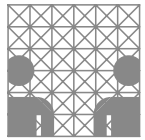

Introduction to Turtlebot

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Technical Aspects of Multimodal Systems

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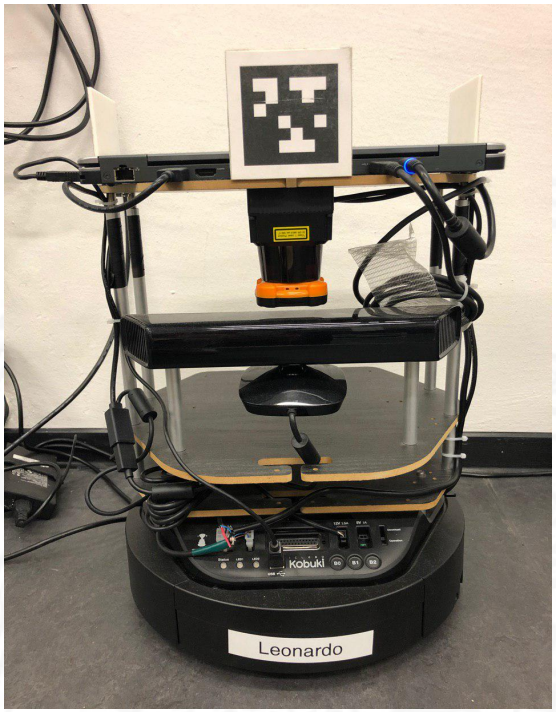
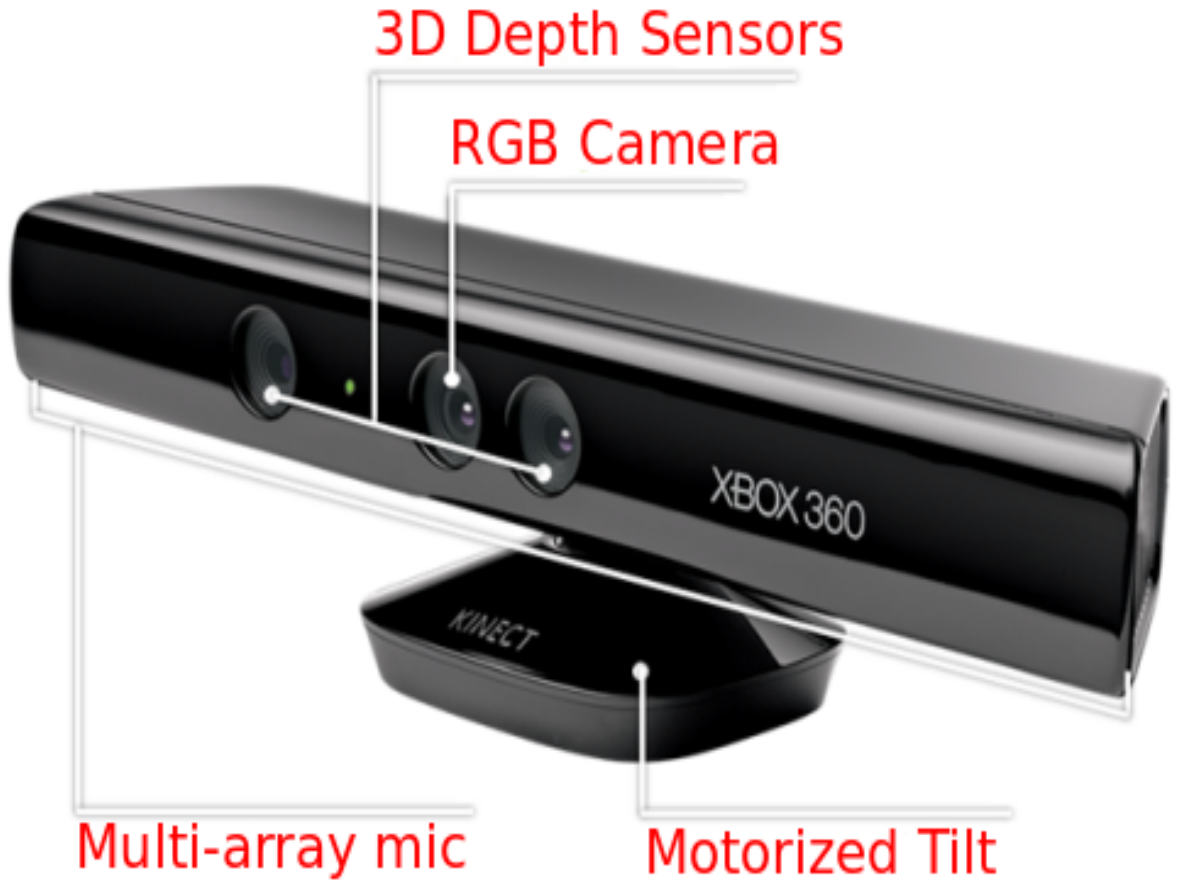
Contents

What's Turtlebot

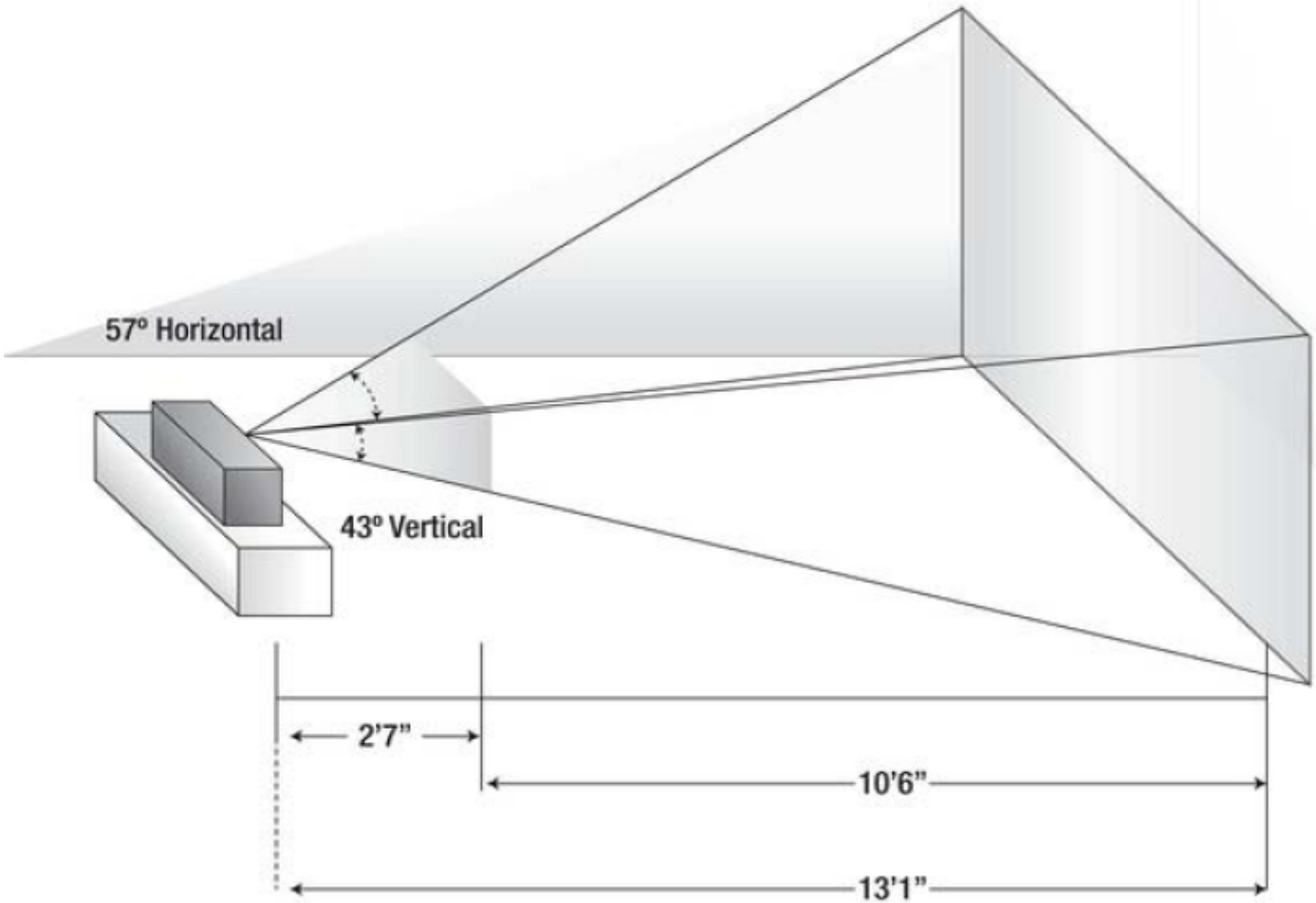
- **Hardware Configuration**
  - **Mobile Base**: a pair of differential wheels and two passive caster wheels for balance
  - **Kinect Sensor**: two depth sensors and a RGB camera
  - **Laser scanner**: the hokuyo 04lx and the hokuyo 30lx
  - **TurtleBot's Netbook**: less than 21 cm wide
  - **Docking Station**: charge for turtlebot
  - **The Workstation**: sufficient resources to handle some requirements



Xbox 360 Kinect Sensor



Xbox 360 Kinect Sensor— field of view



Visualization tool RViz

- Image: depth image, RGB image
- Laserscan: /kinect_scan, /laserscan, /scan
- Point Cloud2

Start the turtlebot

- **SSH**: ssh Username@<IP_OF_REMOTEHOST>

```
ssh prac2019@remotehosts
```

- **bringup**: To bring up the turtlebot including the mobile base, the kobuki auto docking and the sensors:

```
roslaunch tams_turtlebot_bringup
tams_turtlebot.launch
```

More details:
https://github.com/TAMS-Group/tams_turtlebot

Network configuration

- **deploy.sh**: copy your scripts from local package into the laptop and catkin_make the workspace.
  - `./deploy.sh`
  - enter password twice
- **rsync**: remote (and local) file-copying tool
- **Remote PC Setup**
  - ROS_MASTER_URI
    - export ROS_MASTER_URI=http://remotehost:11311
  - ROS_PACKAGE_PATH
  - echo $ROS_PACKAGE_PATH

Your First Try

Never leave the robot unattended!