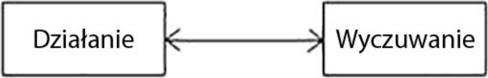
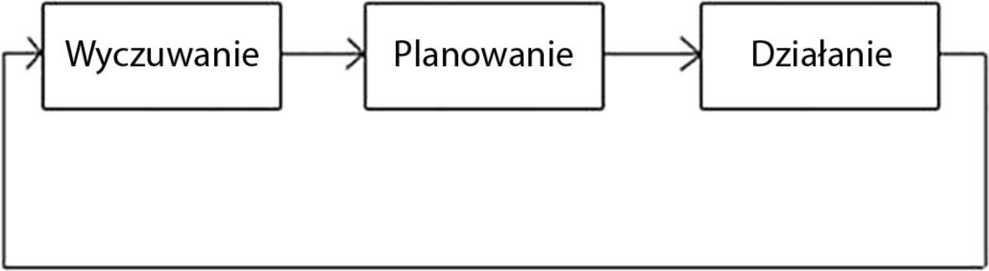
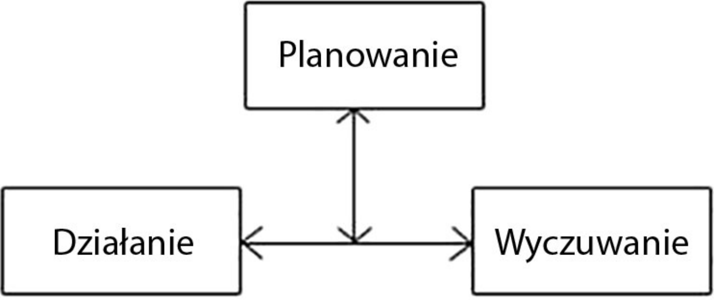
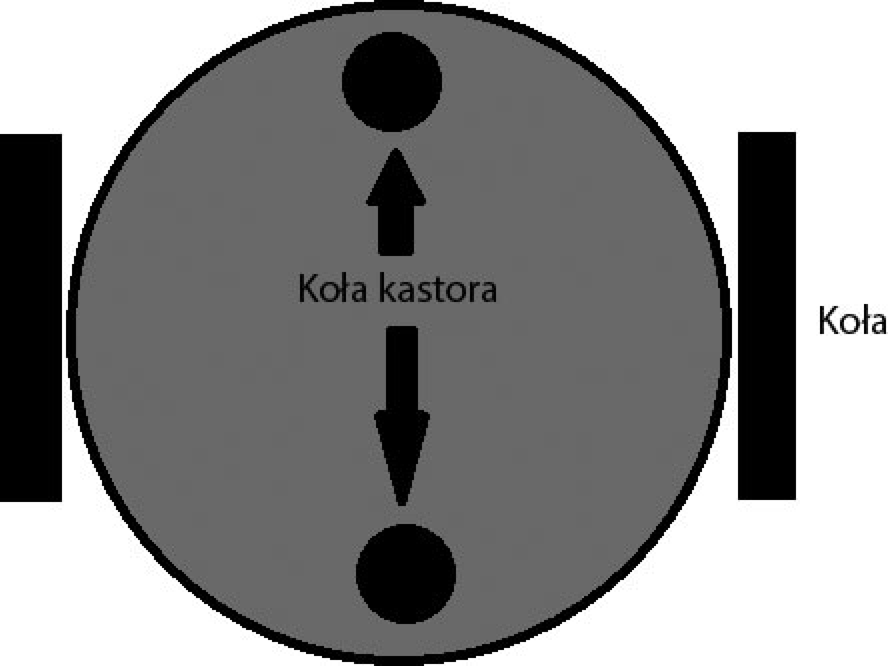

FEDERAL
USA
WPA
THEATRE
MARIONETTE THEATRE
PRESENTS
RUR
REMO BUFANO DIRECTOR

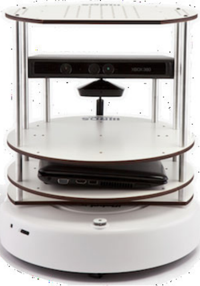

Działanie
Wyczuwanie

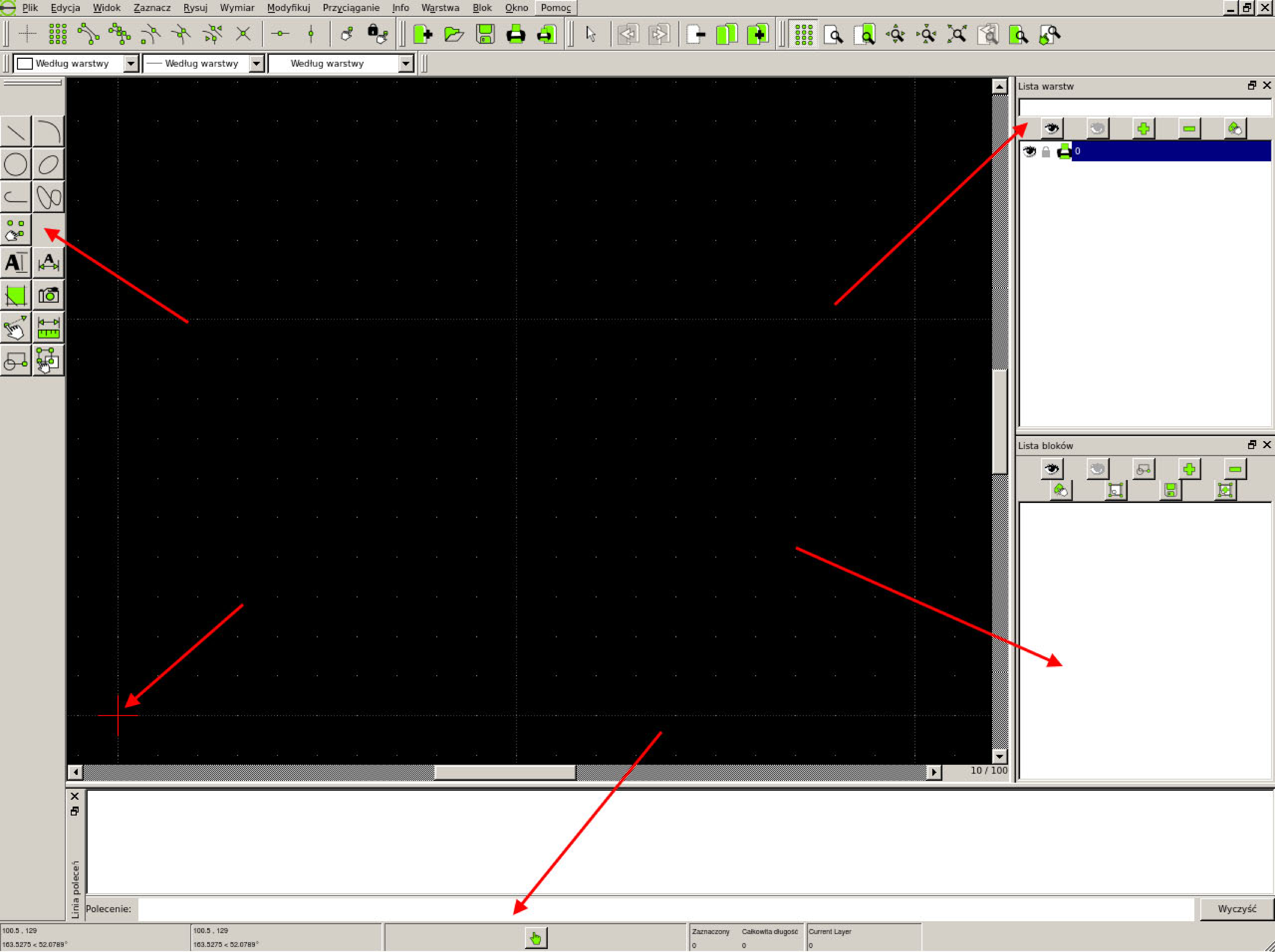

Wyczuwanie
Planowanie
Działanie

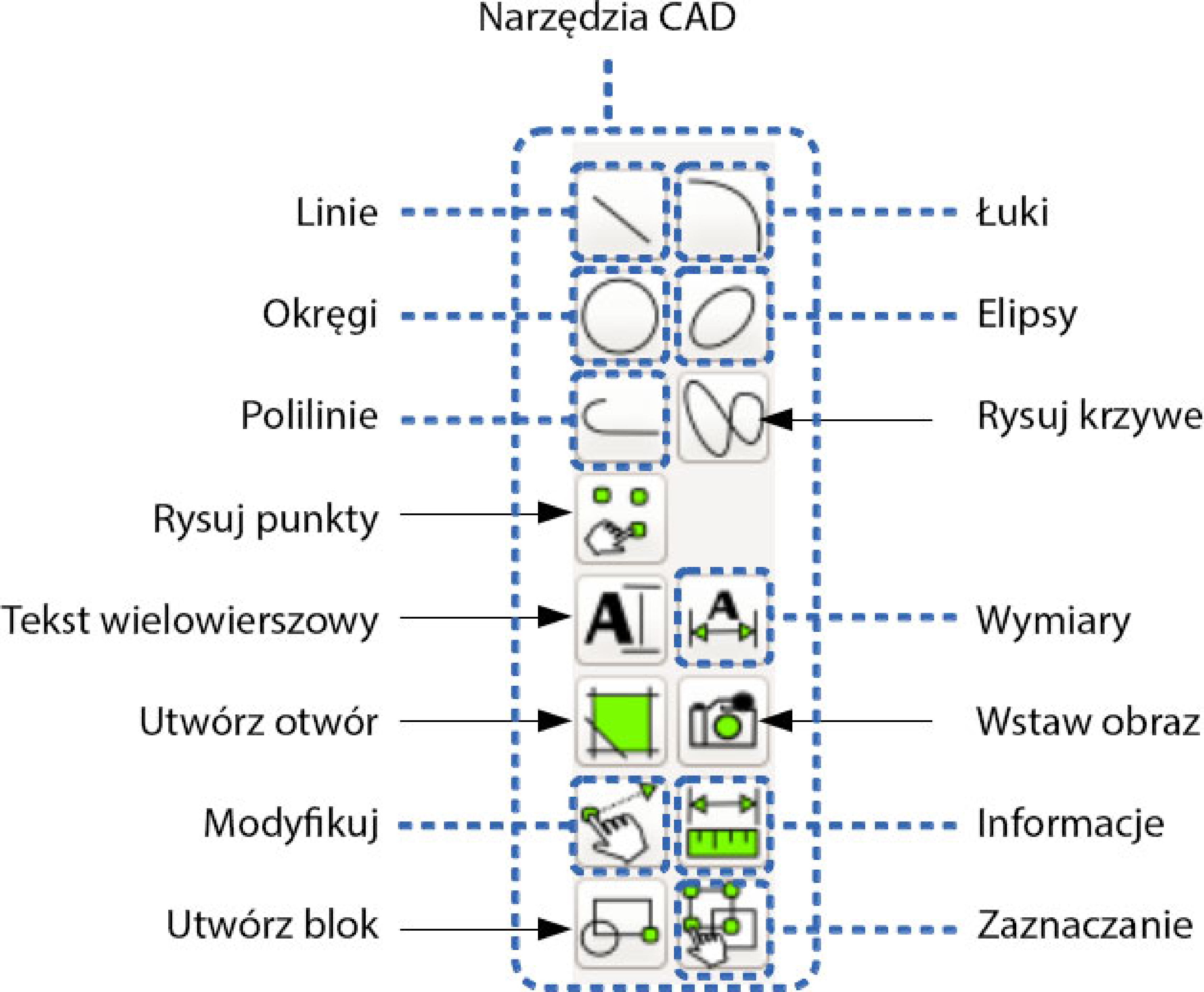

Planowanie
Działanie
Wyczuwanie

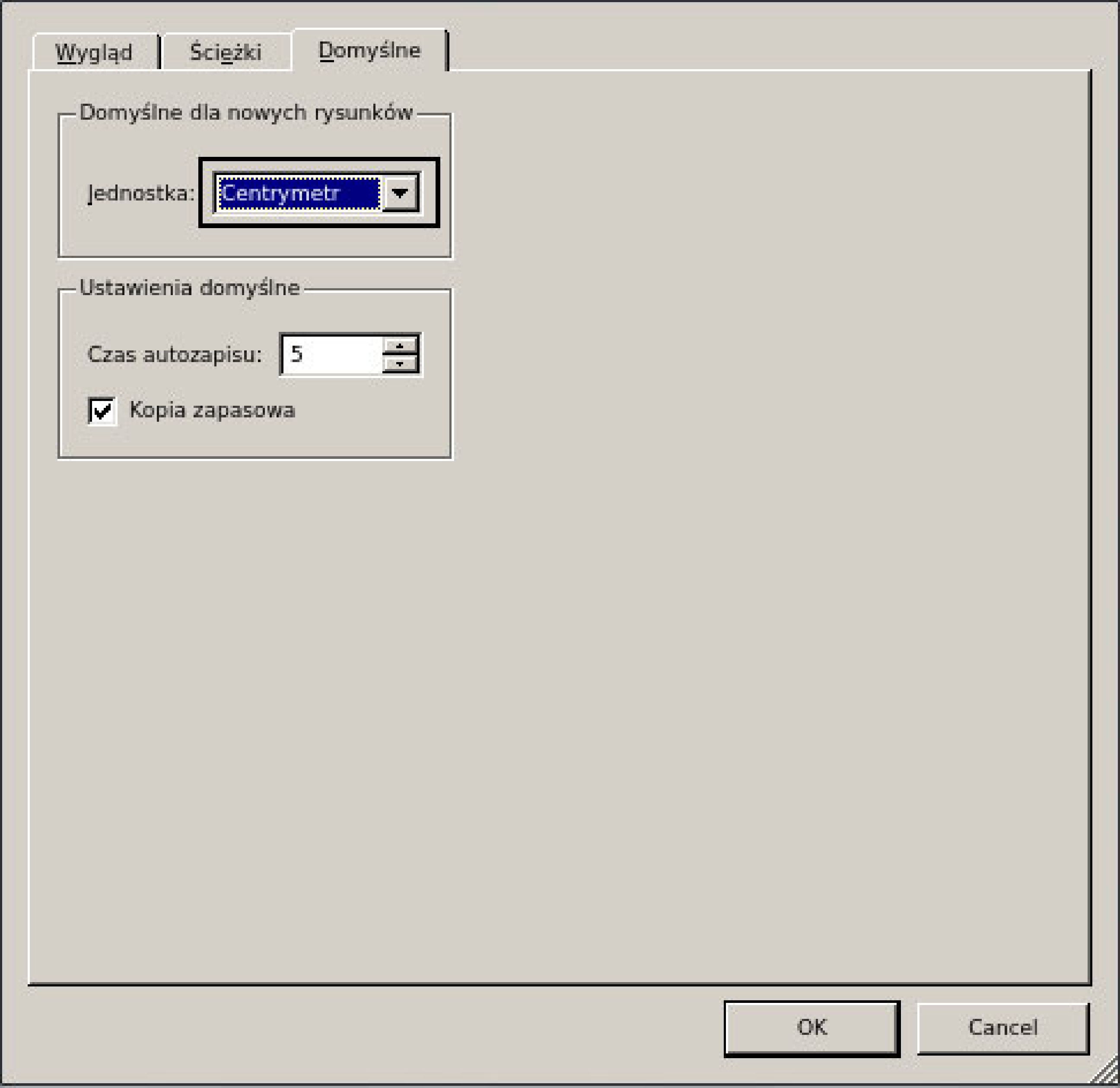


Koła kastora
Koła

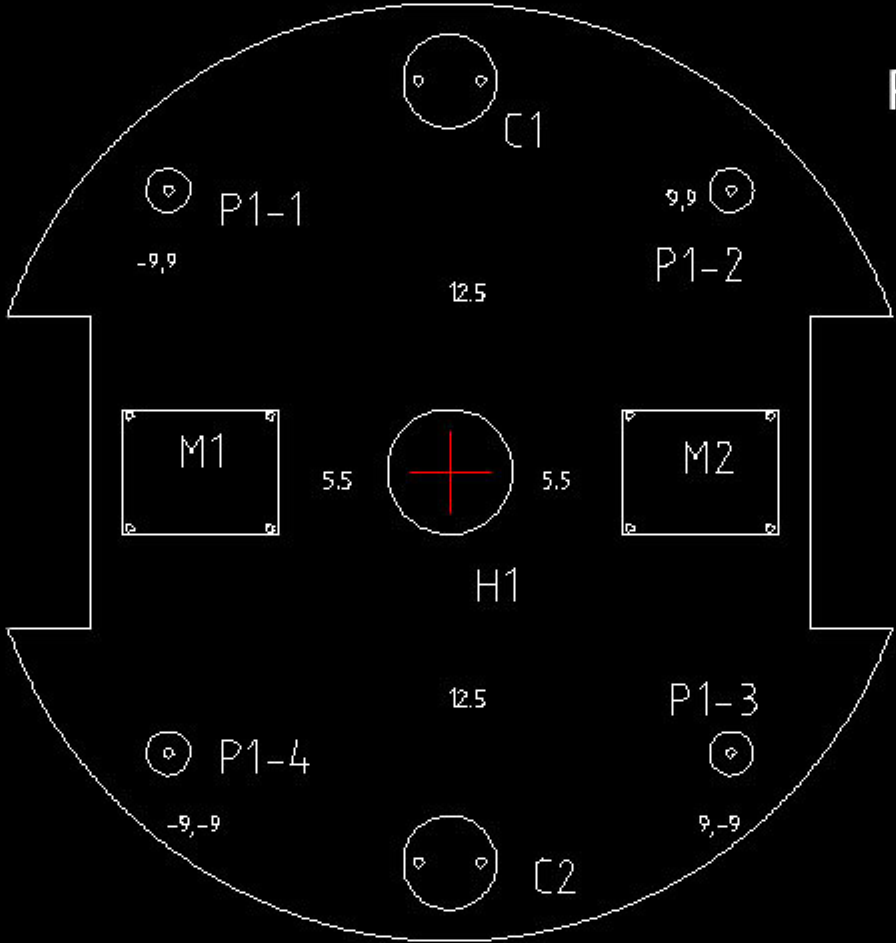

XBOX 360

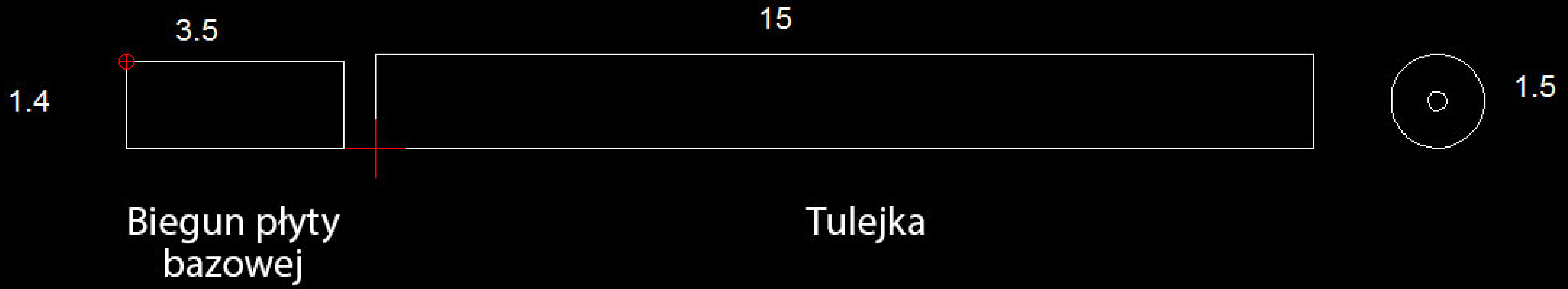

Plik Edycja Widok Zaznacz Rysuj Wymiar Modyfikuj Przyciąganie Info Warstwa Blok Okno Pomoc
Według warstwy
Według warstwy
Według warstwy
Lista warstw
0
Lista bloków
10 / 100
Linia poleceń
Polecenie:
Wyczyść
100.5 , 129
163.5275 < 52.0789°
100.5 , 129
163.5275 < 52.0789°
Zaznaczony
0
Całkowita długość
0
Current Layer
0

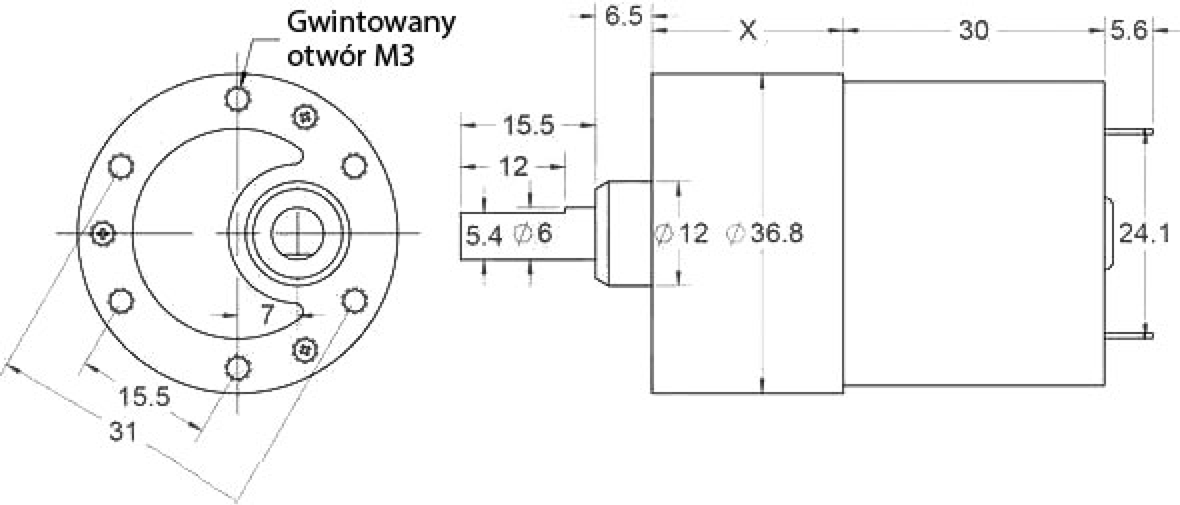

Narzędzia CAD
Linie
Łuki
Okręgi
Elipsy
Polilinie
Rysuj krzywe
Rysuj punkty
Tekst wielowierszowy
Wymiary
Utwórz otwór
Wstaw obraz
Modyfikuj
Informacje
Utwórz blok
Zaznaczanie

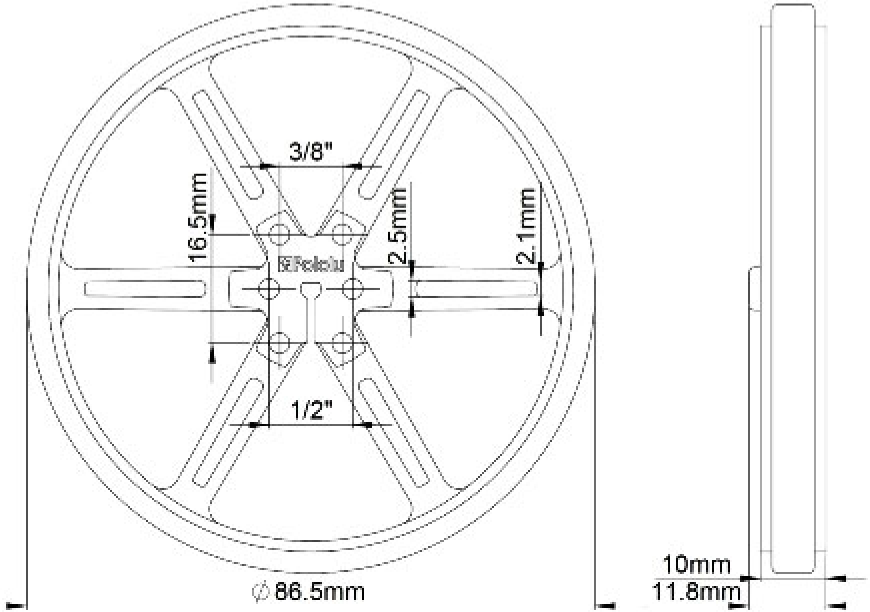

Wygląd
Ścieżki
Domyślne
Domyślne dla nowych rysunków
Jednostka:
Centrymetr
Ustawienia domyślne
Czas autozapisu:
5
Kopia zapasowa
OK
Cancel

Płyta bazowa

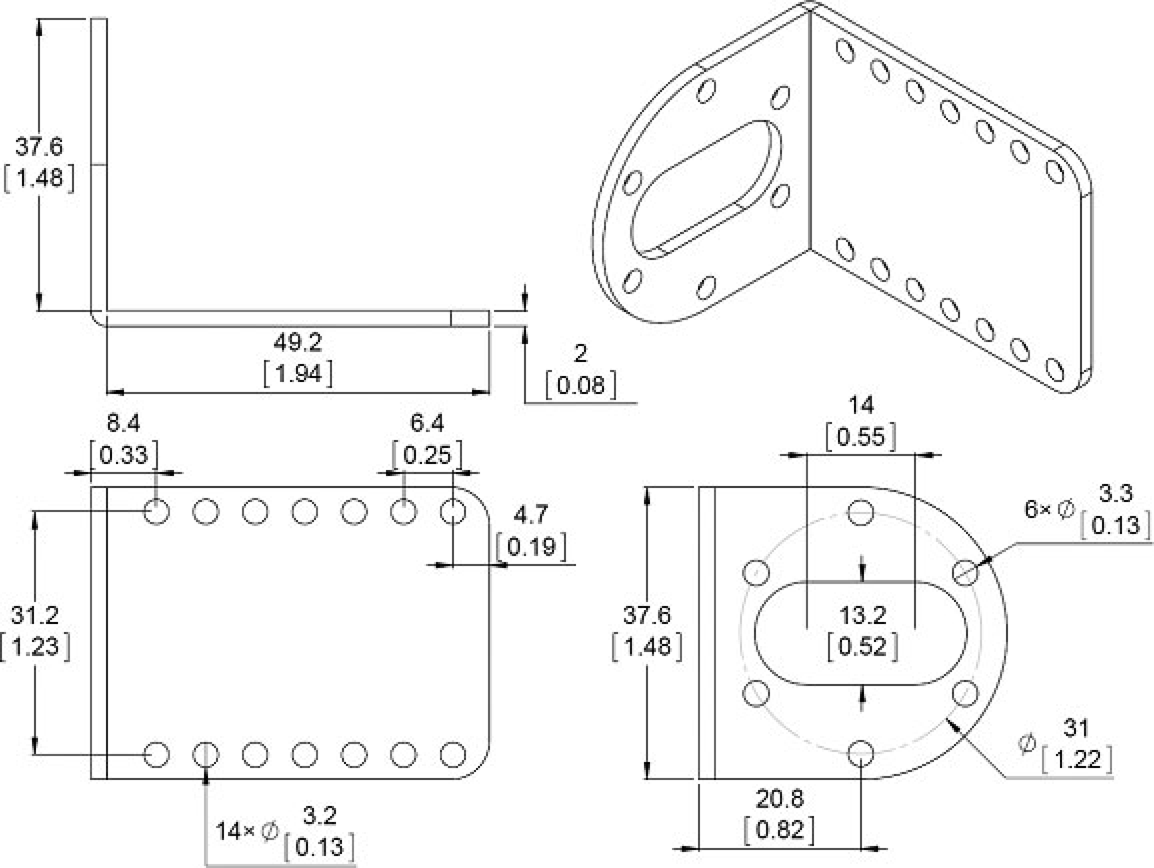


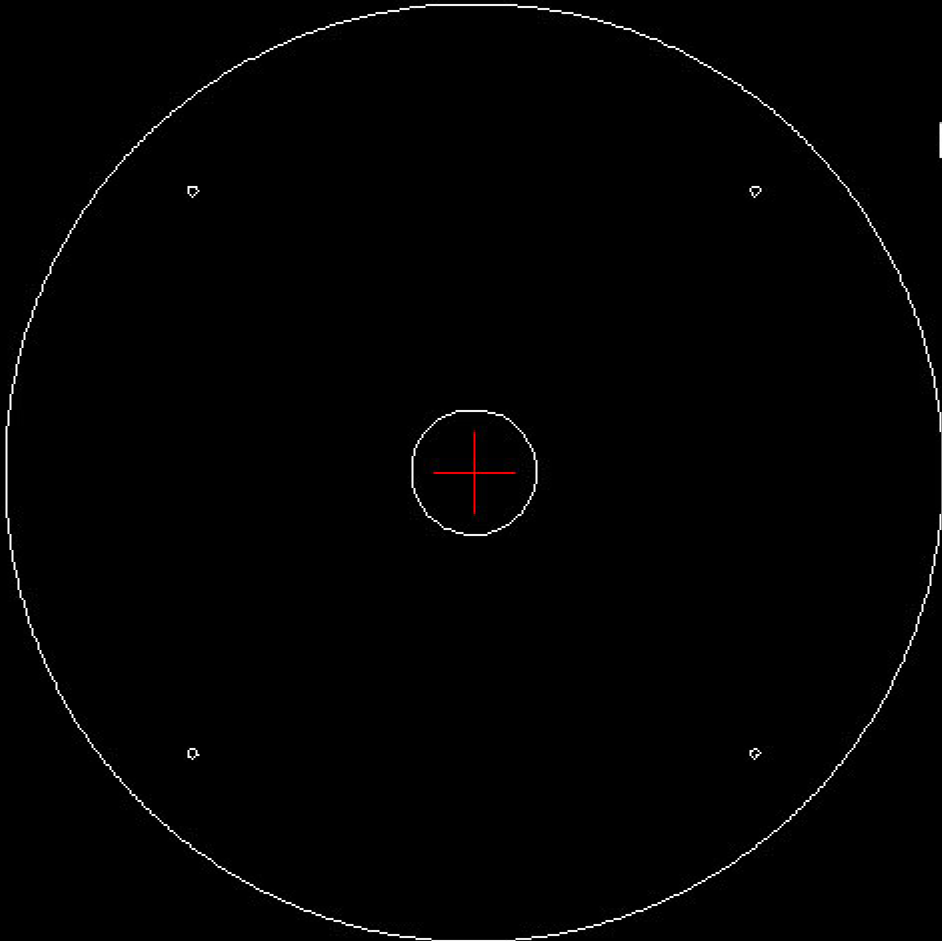

3.5
1.4
15
1.5
Biegun płyty bazowej
Tulejka


Gwintowany
otwór M3
7
15.5
31
6.5
X
30
5.6
15.5
12
5.4
Ø6
Ø12
Ø36.8
24.1

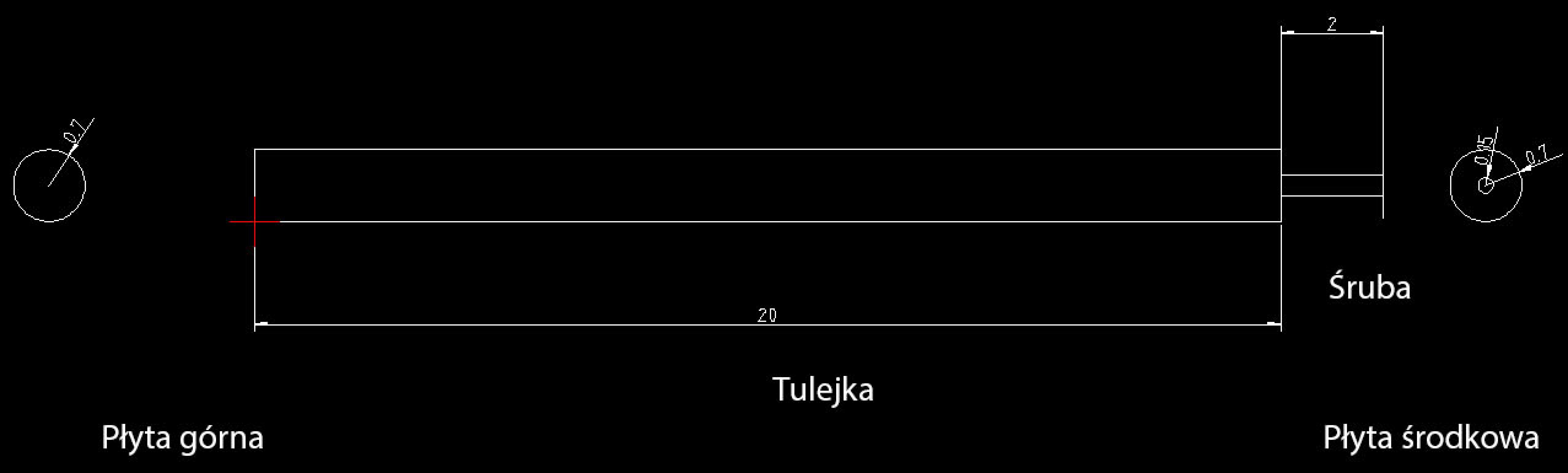


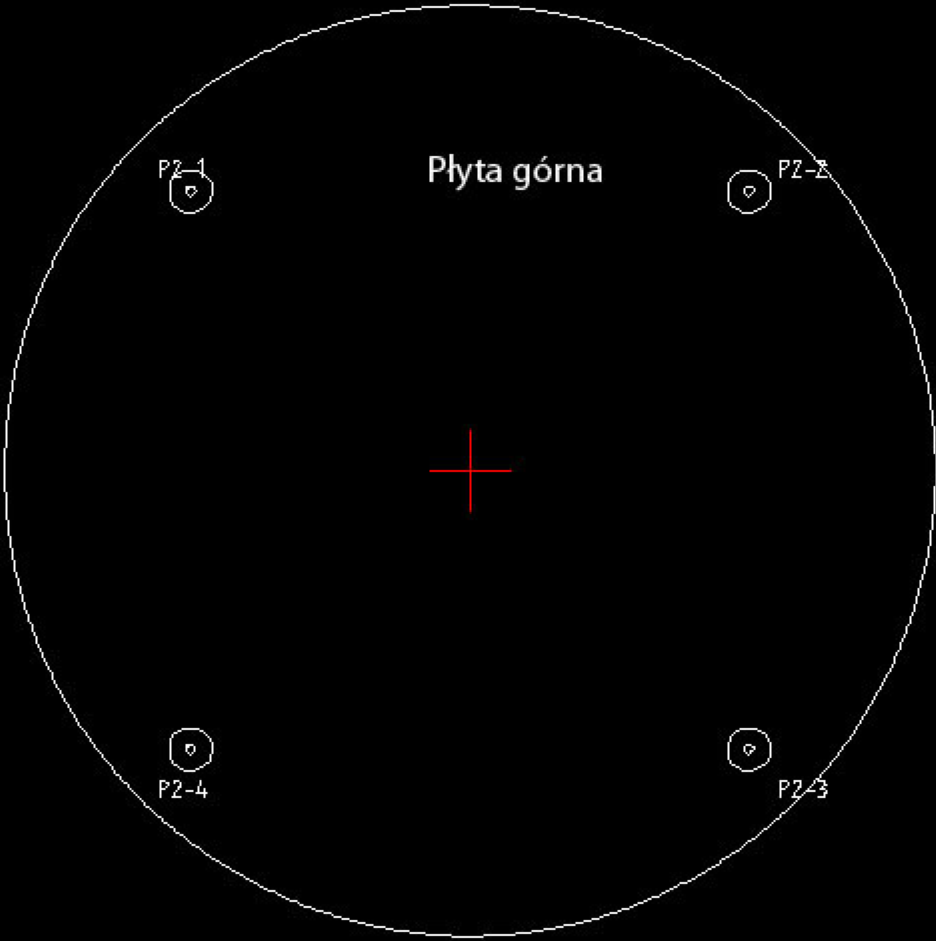
3/8"
16.5mm
2.5mm
2.1mm
1/2"
10mm
11.8mm
ϕ 86.5mm

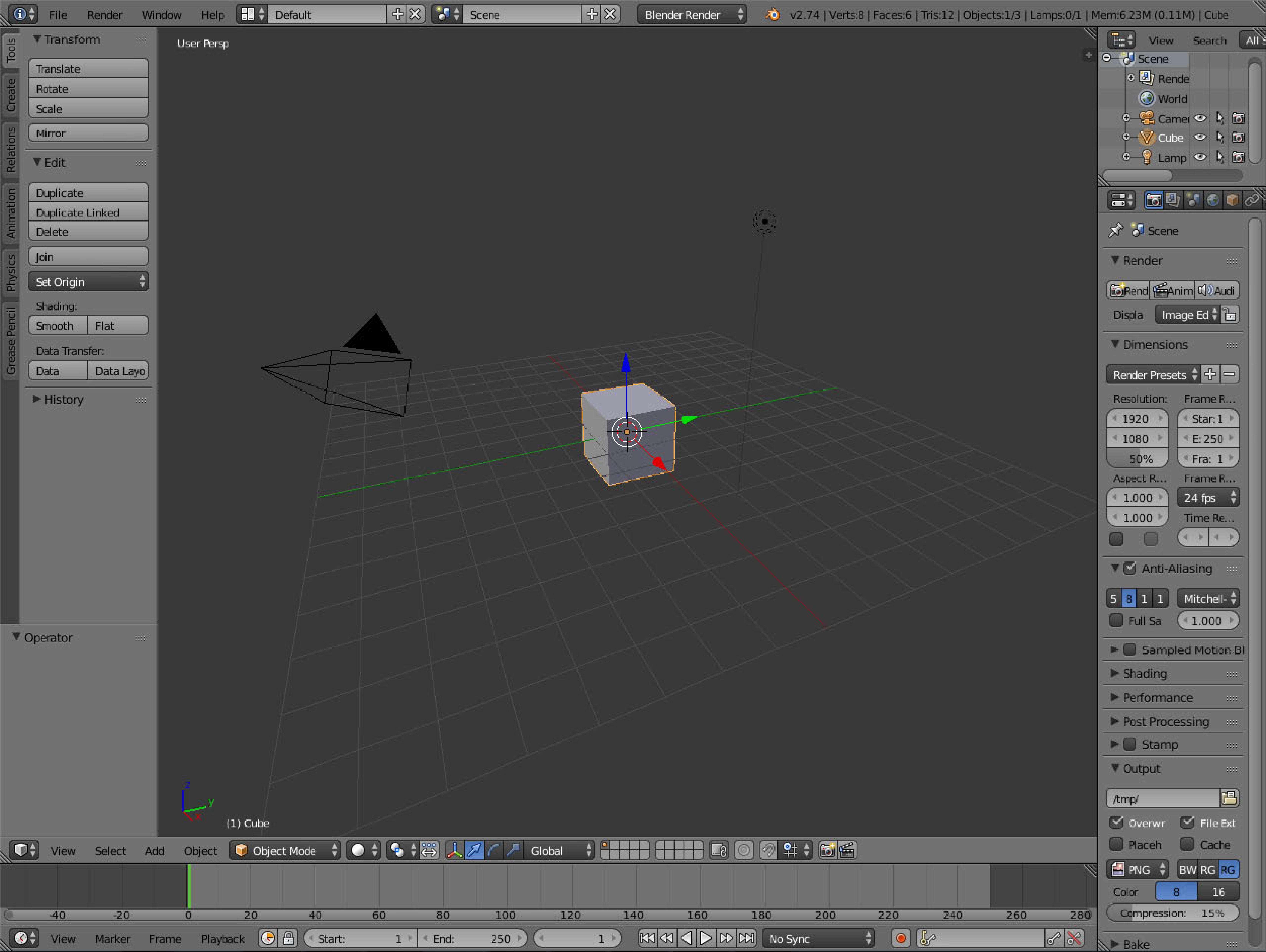

37.6
[1.48]
49.2
[1.94]
2
[0.08]
8.4
[0.33]
6.4
[0.25]
4.7
[0.19]
31.2
[1.23]
14× ∅ 3.2
[0.13]
14
[0.55]
6× ∅ 3.3
[0.13]
37.6
[1.48]
13.2
[0.52]
∅ 31
[1.22]
20.8
[0.82]

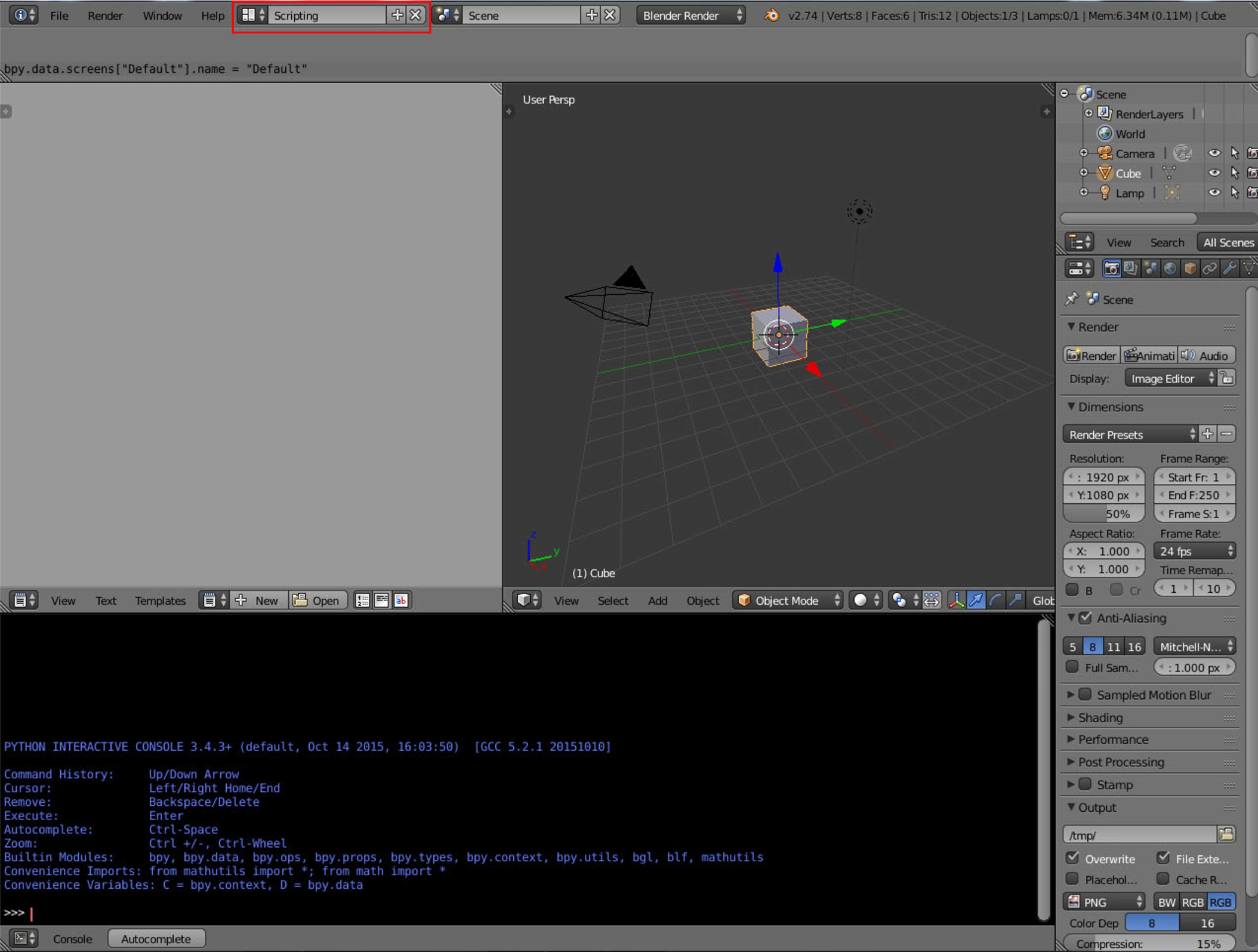


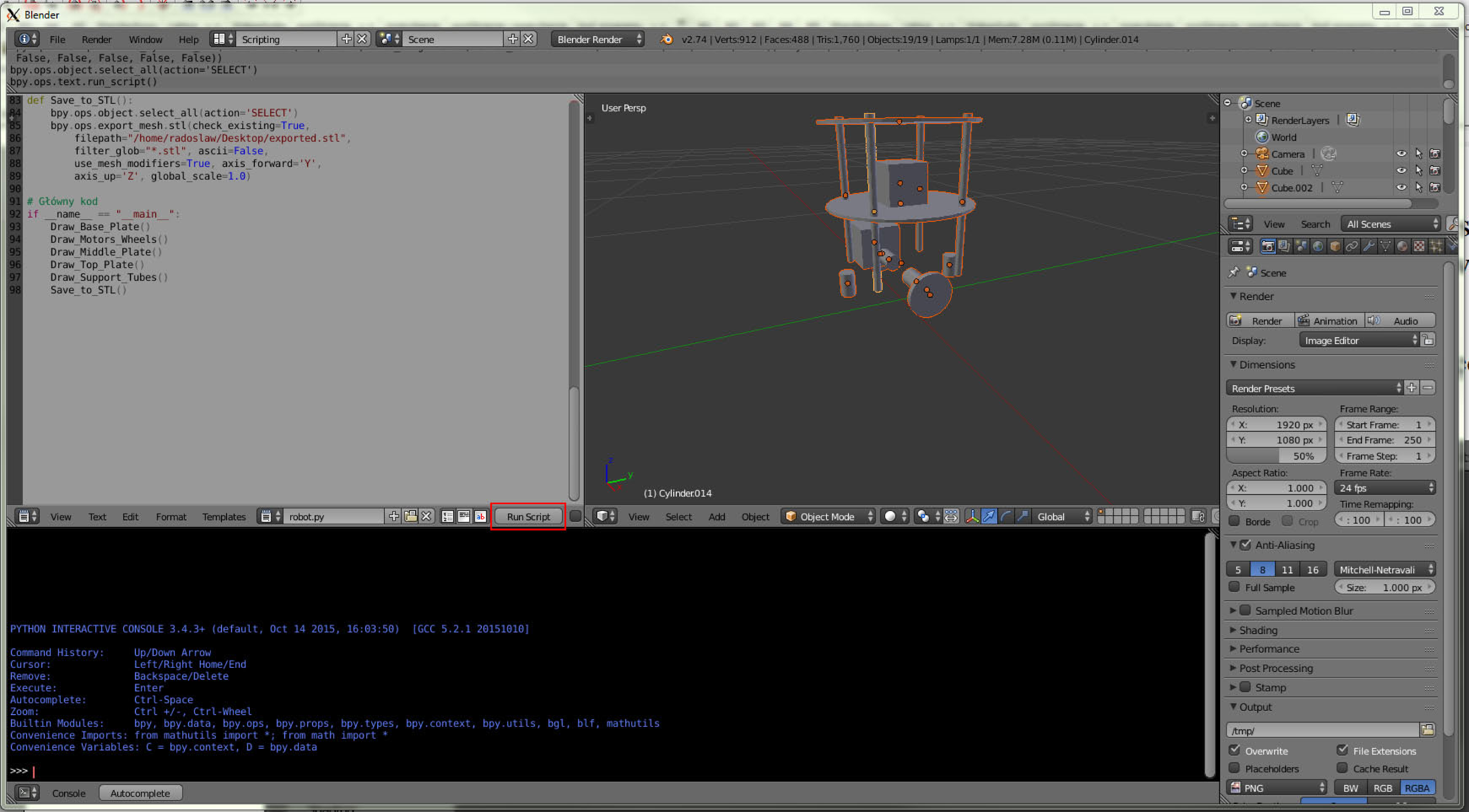
Płyta środkowa

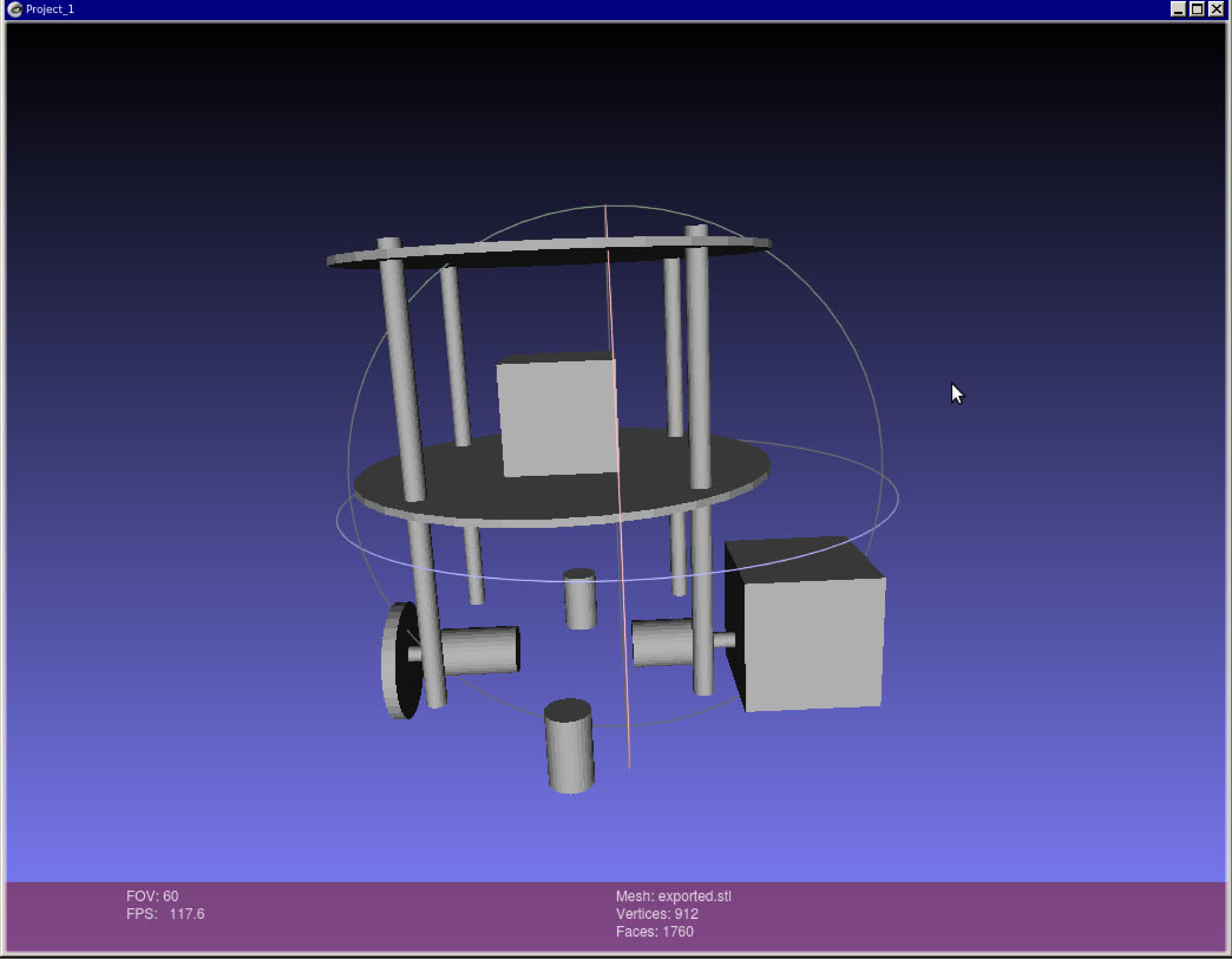

0.7
2
0.05
0.7
Śruba
20
Tulejka
Płyta górna
Płyta środkowa

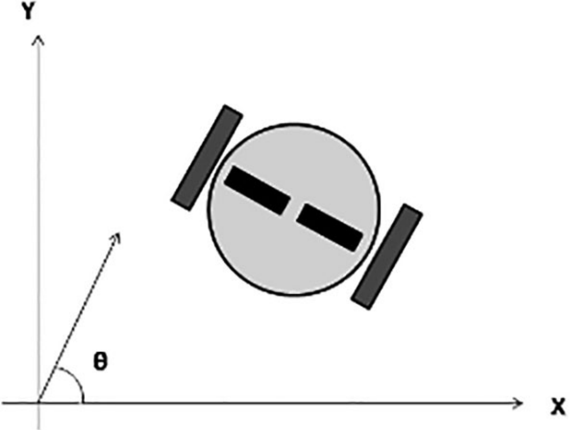

Płyta górna
PZ-1
PZ-2
PZ-4
PZ-3


File Render Window Help
Default
Scene
Blender Render
v2.74 | Verts:8 | Faces:6 | Tris:12 | Objects:1/3 | Lamps:0/1 | Mem:6.23M (0.11M) | Cube
Tools
Create
Relations
Animation
Physics
Grease Pencil
Transform
Translate
Rotate
Scale
Mirror
Edit
Duplicate
Duplicate Linked
Delete
Join
Set Origin
Shading:
Smooth
Flat
Data Transfer:
Data
Data Layo
History
Operator
User Persp
(1) Cube
View
Search
All
Scene
Rende
World
Camer
Cube
Lamp
Scene
Render
Rend
Anim
Audi
Displa
Image Ed
Dimensions
Render Presets
Resolution:
Frame R...
1920
1080
50%
Star: 1
E: 250
Fra: 1
Aspect R...
Frame R...
1.000
1.000
24 fps
Time Re...
Anti-Aliasing
5 8 11 16
Mitchell-
Full Sa
1.000
Sampled Motion Bl
Shading
Performance
Post Processing
Stamp
Output
/tmp/
Overwr
File Ext
Placeh
Cache
PNG
BW
RG
RG
Color
8
16
Compression: 15%
Bake
View
Select
Add
Object
Object Mode
Global
-40 -20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280
View
Marker
Frame
Playback
Start: 1
End: 250
1
No Sync

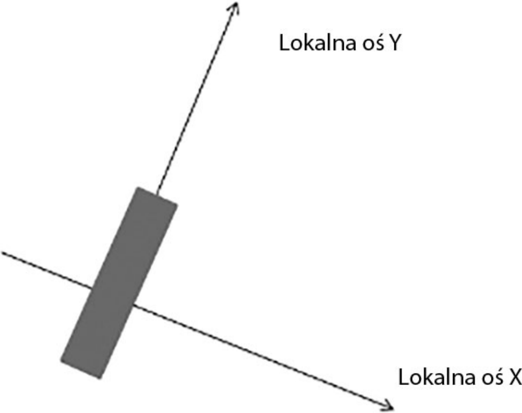

File
Render
Window
Help
Scripting
Scene
Blender Render
v2.74 | Verts:8 | Faces:6 | Tris:12 | Objects:1/3 | Lamps:0/1 | Mem:6.34M (0.11M) | Cube
bpy.data.screens["Default"].name = "Default"
User Persp
(1) Cube
View
Text
Templates
New
Open
View
Select
Add
Object
Object Mode
Scene
RenderLayers
World
Camera
Cube
Lamp
View
Search
All Scenes
Scene
Render
Render
Animati
Audio
Display:
Image Editor
Dimensions
Render Presets
Resolution:
Frame Range:
: 1920 px
Start Fr: 1
Y:1080 px
End F:250
50%
Frame S:1
Aspect Ratio:
Frame Rate:
X: 1.000
24 fps
Y: 1.000
Time Remap...
B
Cr
1
10
Anti-Aliasing
5
8
11
16
Mitchell-N...
Full Sam...
: 1.000 px
Sampled Motion Blur
Shading
Performance
Post Processing
Stamp
Output
/tmp/
Overwrite
File Exte...
Placehol...
Cache R...
PNG
BW
RGB
RGB
Color Dep
8
16
Compression:
15%
PYTHON INTERACTIVE CONSOLE 3.4.3+ (default, Oct 14 2015, 16:03:50) [GCC 5.2.1 20151010]
Command History: Up/Down Arrow
Cursor: Left/Right Home/End
Remove: Backspace/Delete
Execute: Enter
Autocomplete: Ctrl-Space
Zoom: Ctrl +/-, Ctrl-Wheel
Builtin Modules: bpy, bpy.data, bpy.ops, bpy.props, bpy.types, bpy.context, bpy.utils, bgl, blf, mathutils
Convenience Imports: from mathutils import *; from math import *
Convenience Variables: C = bpy.context, D = bpy.data
>>>
Console
Autocomplete

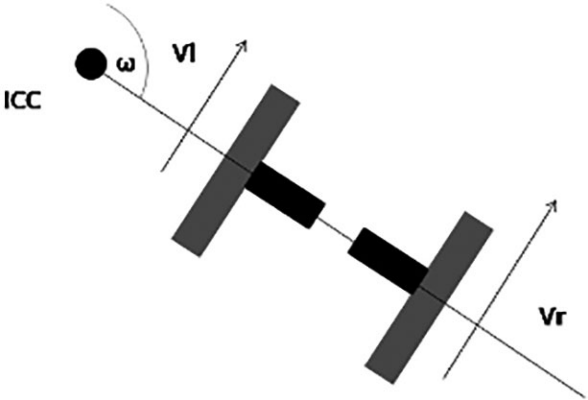

Blender
File Render Window Help Scripting Scene Blender Render
v2.74 | Verts:912 | Faces:488 | Tris:1,760 | Objects:19/19 | Lamps:1/1 | Mem:7.28M (0.11M) | Cylinder.014
False, False, False, False, False))
bpy.ops.object.select_all(action='SELECT')
bpy.ops.text.run_script()
def Save_to_STL():
    bpy.ops.object.select_all(action='SELECT')
    bpy.ops.export_mesh.stl(check_existing=True,
        filepath="/home/radoslaw/Desktop/exported.stl",
        filter_glob="*.stl", ascii=False,
        use_mesh_modifiers=True, axis_forward='Y',
        axis_up='Z', global_scale=1.0)
# Główny kod
if __name__ == "__main__":
    Draw_Base_Plate()
    Draw_Motors_Wheels()
    Draw_Middle_Plate()
    Draw_Top_Plate()
    Draw_Support_Tubes()
    Save_to_STL()
View Text Edit Format Templates robot.py Run Script
User Persp
(1) Cylinder.014
View Select Add Object Object Mode Global
Scene
RenderLayers
World
Camera
Cube
Cube.002
View Search All Scenes
Render
Render Animation Audio
Display: Image Editor
Dimensions
Render Presets
Resolution:
X: 1920 px
Y: 1080 px
50%
Frame Range:
Start Frame: 1
End Frame: 250
Frame Step: 1
Aspect Ratio:
X: 1.000
Y: 1.000
Frame Rate:
24 fps
Time Remapping:
: 100
: 100
Borde Crop
Anti-Aliasing
5 8 11 16
Mitchell-Netravali
Full Sample
Size: 1.000 px
Sampled Motion Blur
Shading
Performance
Post Processing
Stamp
Output
/tmp/
Overwrite
File Extensions
Placeholders
Cache Result
PNG BW RGB RGBA
PYTHON INTERACTIVE CONSOLE 3.4.3+ (default, Oct 14 2015, 16:03:50) [GCC 5.2.1 20151010]
Command History: Up/Down Arrow
Cursor: Left/Right Home/End
Remove: Backspace/Delete
Execute: Enter
Autocomplete: Ctrl-Space
Zoom: Ctrl +/-, Ctrl-Wheel
Builtin Modules: bpy, bpy.data, bpy.ops, bpy.props, bpy.types, bpy.context, bpy.utils, bgl, blf, mathutils
Convenience Imports: from mathutils import *; from math import *
Convenience Variables: C = bpy.context, D = bpy.data
>>>
Console Autocomplete

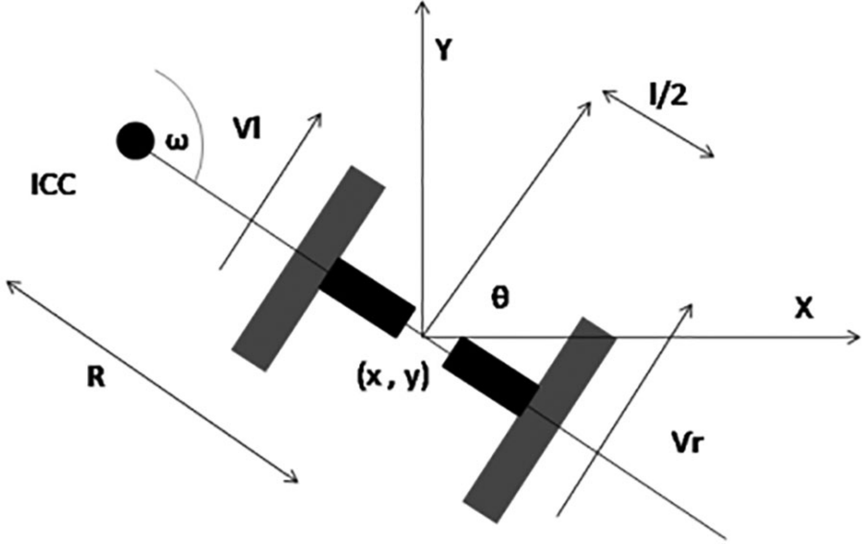

Project_1
FOV: 60
FPS: 117.6
Mesh: exported.stl
Vertices: 912
Faces: 1760

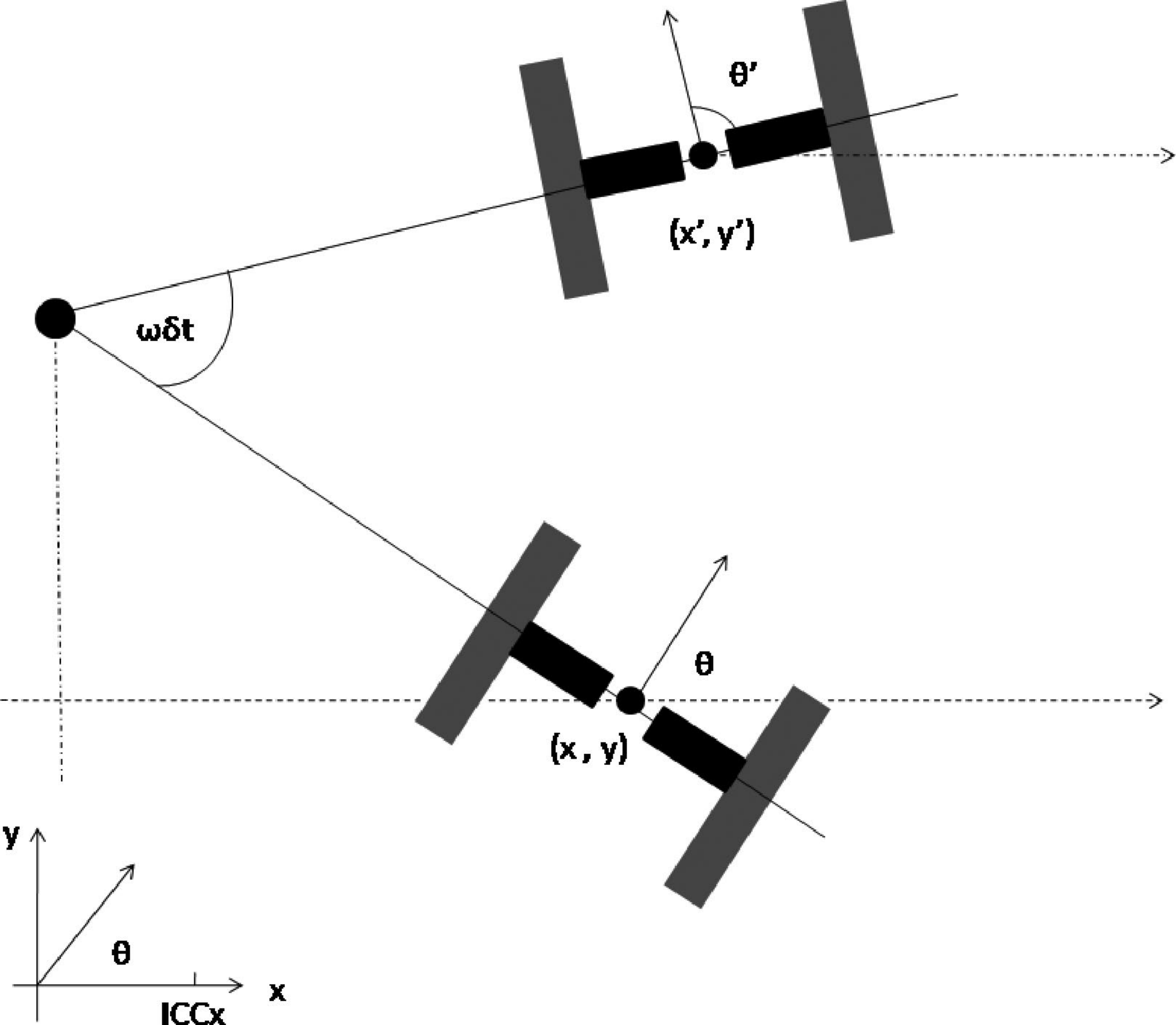


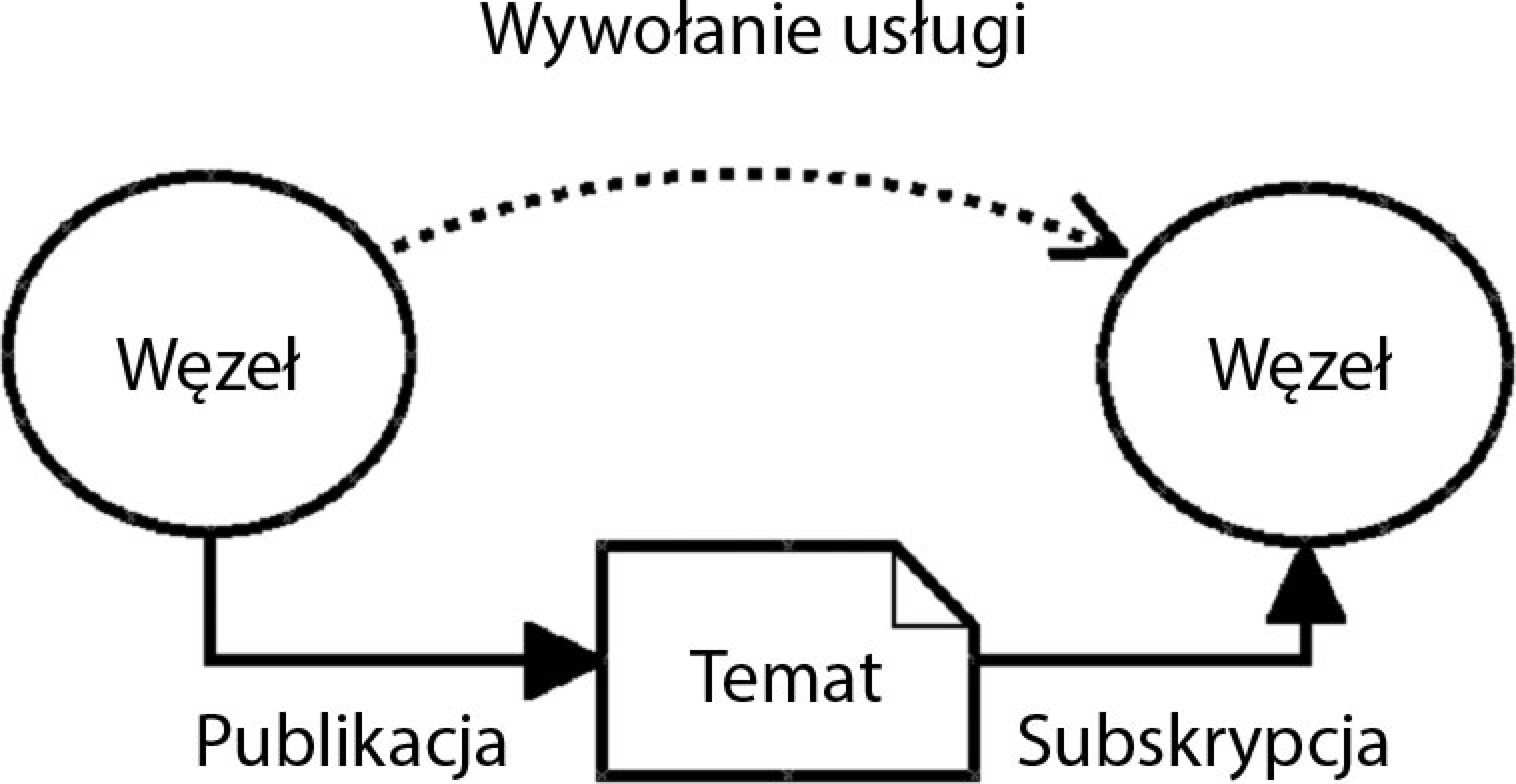
Y
θ
X

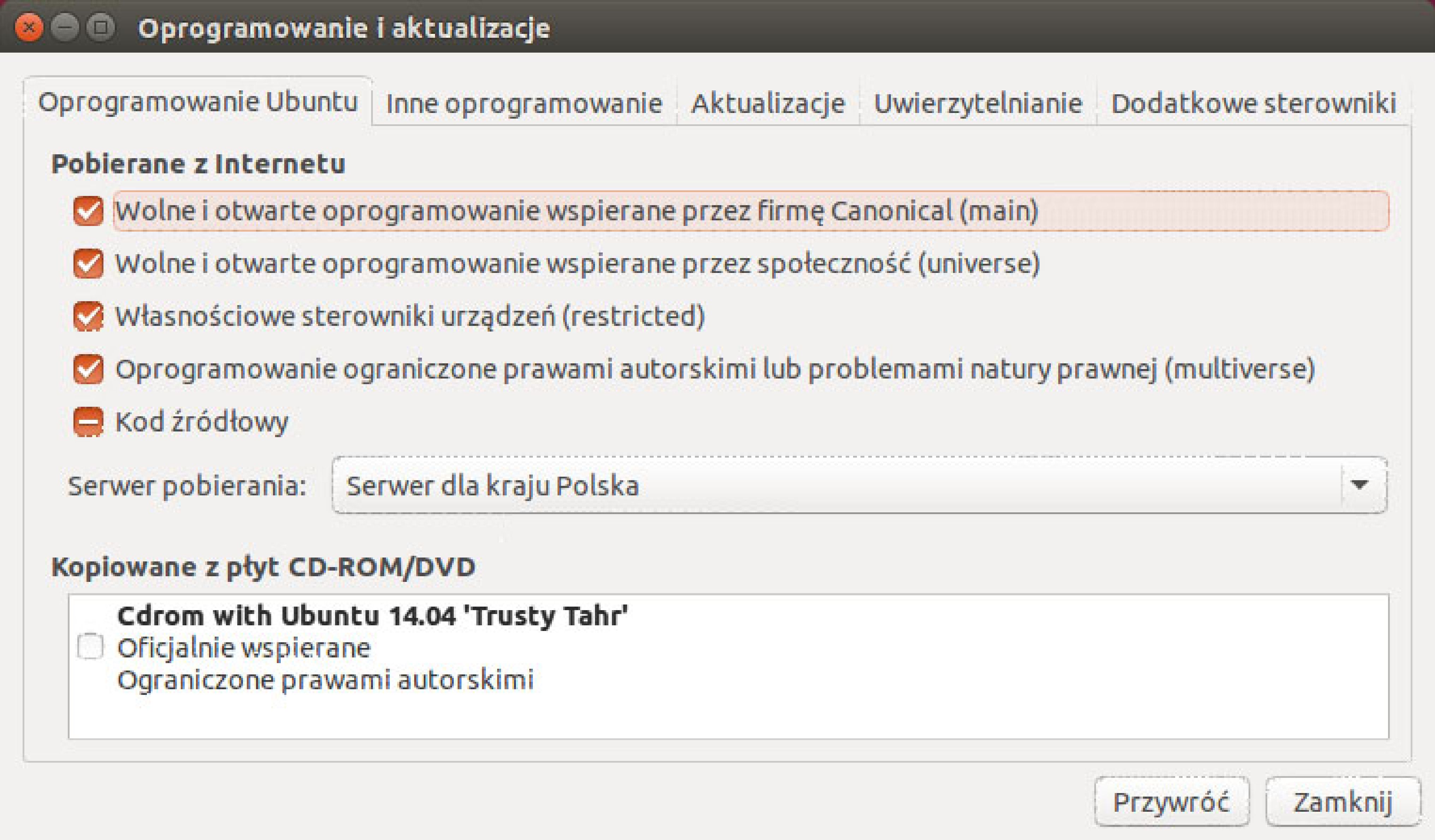

Lokalna oś Y
Lokalna oś X

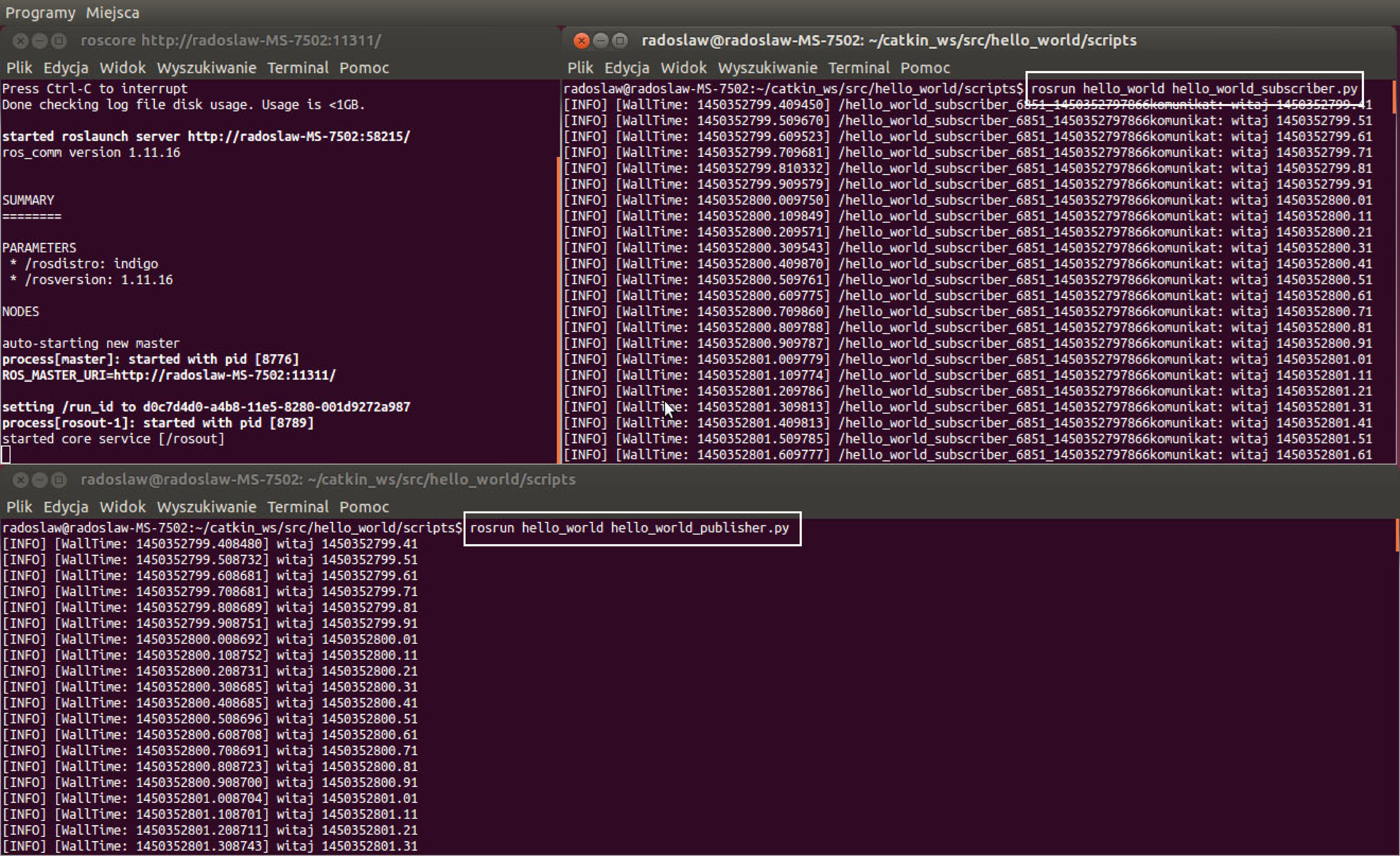

ICC
ω
Vl
Vr


Y
l/2
Vl
ω
ICC
θ
X
R
(x , y)
Vr

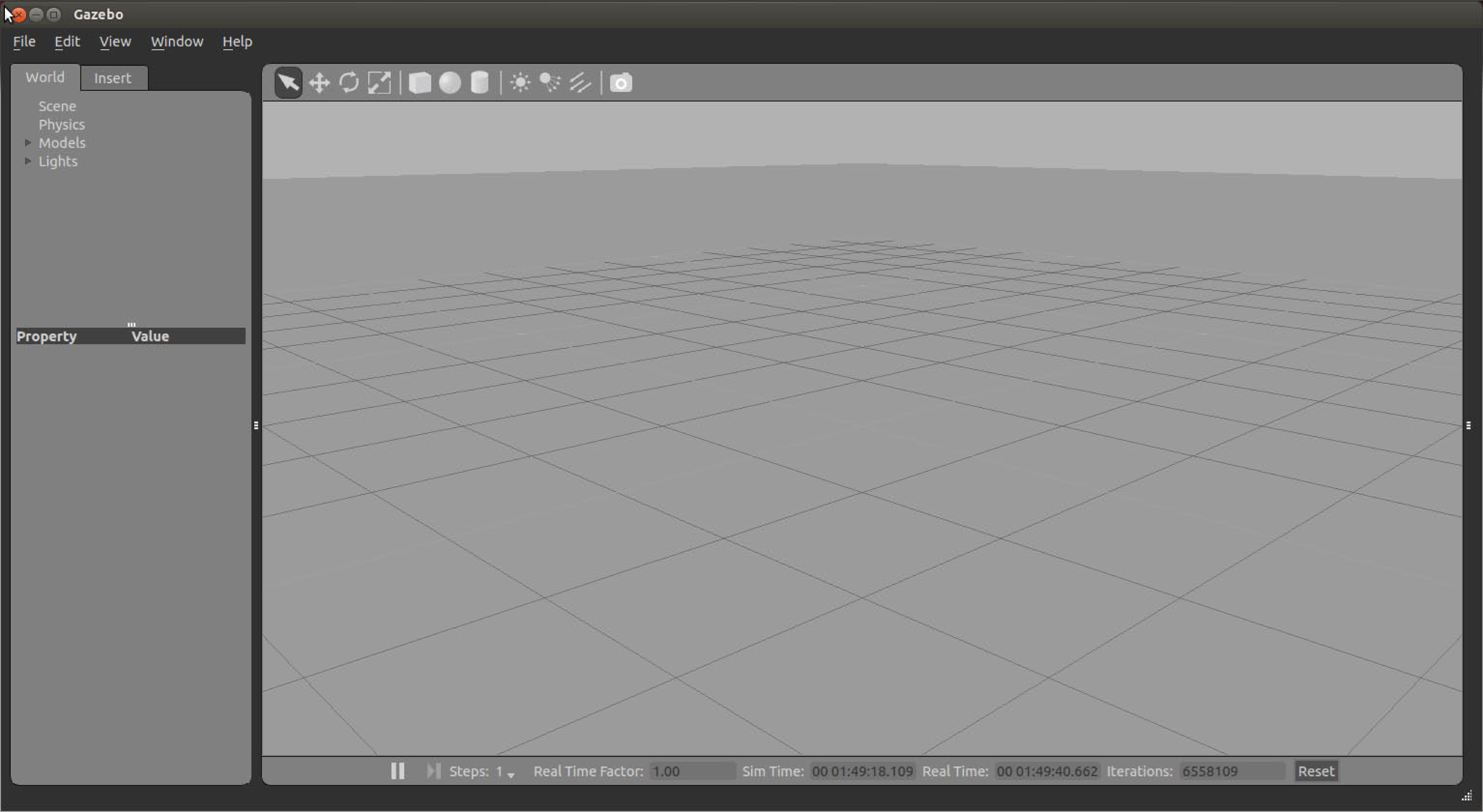

θ'
(x', y')
ωδt
θ
(x , y)
y
θ
x
ICCx


Wywołanie usługi
Węzeł
Węzeł
Temat
Publikacja
Subskrypcja


Oprogramowanie i aktualizacje
Oprogramowanie Ubuntu
Inne oprogramowanie
Aktualizacje
Uwierzytelnianie
Dodatkowe sterowniki
Pobierane z Internetu
Wolne i otwarte oprogramowanie wspierane przez firmę Canonical (main)
Wolne i otwarte oprogramowanie wspierane przez społeczność (universe)
Własnościowe sterowniki urządzeń (restricted)
Oprogramowanie ograniczone prawami autorskimi lub problemami natury prawnej (multiverse)
Kod źródłowy
Serwer pobierania:
Serwer dla kraju Polska
Kopiowane z płyt CD-ROM/DVD
Cdrom with Ubuntu 14.04 'Trusty Tahr'
Oficjalnie wspierane
Ograniczone prawami autorskimi
Przywróć
Zamknij



Programy Miejsca
roscore http://radoslaw-MS-7502:11311/
Plik Edycja Widok Wyszukiwanie Terminal Pomoc
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.
started roslaunch server http://radoslaw-MS-7502:58215/
ros_comm version 1.11.16
SUMMARY
========
PARAMETERS
* /rosdistro: indigo
* /rosversion: 1.11.16
NODES
auto-starting new master
process[master]: started with pid [8776]
ROS_MASTER_URI=http://radoslaw-MS-7502:11311/
setting /run_id to d0c7d4d0-a4b8-11e5-8280-001d9272a987
process[rosout-1]: started with pid [8789]
started core service [/rosout]
radoslaw@radoslaw-MS-7502: ~/catkin_ws/src/hello_world/scripts
Plik Edycja Widok Wyszukiwanie Terminal Pomoc
radoslaw@radoslaw-MS-7502:~/catkin_ws/src/hello_world/scripts$ rosrun hello_world hello_world_subscriber.py
[INFO] [WallTime: 1450352799.409450] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352799.41
[INFO] [WallTime: 1450352799.509670] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352799.51
[INFO] [WallTime: 1450352799.609523] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352799.61
[INFO] [WallTime: 1450352799.709681] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352799.71
[INFO] [WallTime: 1450352799.810332] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352799.81
[INFO] [WallTime: 1450352799.909579] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352799.91
[INFO] [WallTime: 1450352800.009750] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.01
[INFO] [WallTime: 1450352800.109849] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.11
[INFO] [WallTime: 1450352800.209571] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.21
[INFO] [WallTime: 1450352800.309543] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.31
[INFO] [WallTime: 1450352800.409870] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.41
[INFO] [WallTime: 1450352800.509761] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.51
[INFO] [WallTime: 1450352800.609775] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.61
[INFO] [WallTime: 1450352800.709860] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.71
[INFO] [WallTime: 1450352800.809788] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.81
[INFO] [WallTime: 1450352800.909787] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352800.91
[INFO] [WallTime: 1450352801.009779] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352801.01
[INFO] [WallTime: 1450352801.109774] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352801.11
[INFO] [WallTime: 1450352801.209786] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352801.21
[INFO] [WallTime: 1450352801.309813] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352801.31
[INFO] [WallTime: 1450352801.409813] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352801.41
[INFO] [WallTime: 1450352801.509785] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352801.51
[INFO] [WallTime: 1450352801.609777] /hello_world_subscriber_6851_1450352797866komunikat: witaj 1450352801.61
radoslaw@radoslaw-MS-7502: ~/catkin_ws/src/hello_world/scripts
Plik Edycja Widok Wyszukiwanie Terminal Pomoc
radoslaw@radoslaw-MS-7502:~/catkin_ws/src/hello_world/scripts$ rosrun hello_world hello_world_publisher.py
[INFO] [WallTime: 1450352799.408480] witaj 1450352799.41
[INFO] [WallTime: 1450352799.508732] witaj 1450352799.51
[INFO] [WallTime: 1450352799.608681] witaj 1450352799.61
[INFO] [WallTime: 1450352799.708681] witaj 1450352799.71
[INFO] [WallTime: 1450352799.808689] witaj 1450352799.81
[INFO] [WallTime: 1450352799.908751] witaj 1450352799.91
[INFO] [WallTime: 1450352800.008692] witaj 1450352800.01
[INFO] [WallTime: 1450352800.108752] witaj 1450352800.11
[INFO] [WallTime: 1450352800.208731] witaj 1450352800.21
[INFO] [WallTime: 1450352800.308685] witaj 1450352800.31
[INFO] [WallTime: 1450352800.408685] witaj 1450352800.41
[INFO] [WallTime: 1450352800.508696] witaj 1450352800.51
[INFO] [WallTime: 1450352800.608708] witaj 1450352800.61
[INFO] [WallTime: 1450352800.708691] witaj 1450352800.71
[INFO] [WallTime: 1450352800.808723] witaj 1450352800.81
[INFO] [WallTime: 1450352800.908700] witaj 1450352800.91
[INFO] [WallTime: 1450352801.008704] witaj 1450352801.01
[INFO] [WallTime: 1450352801.108701] witaj 1450352801.11
[INFO] [WallTime: 1450352801.208711] witaj 1450352801.21
[INFO] [WallTime: 1450352801.308743] witaj 1450352801.31


Gazebo
File
Edit
View
Window
Help
World
Insert
Scene
Physics
Models
Lights
Property
Value
Steps: 1
Real Time Factor: 1.00
Sim Time: 00 01:49:18.109
Real Time: 00 01:49:40.662
Iterations: 6558109
Reset

Programy Miejsca

Menedżer Pakietów Synaptic

Plik Edycja Pakiet Ustawienia Pomoc

Odśwież | Zaznacz wszystko do aktualizacji | Zastosuj | Właściwości | Szybki filtr: ros-indigo-rocon | Szukaj

Wszystkie
Administracja systemem
Administracja systemem (m
Administracja systemem (r
Administracja systemem (u
Bazy danych
Bazy danych (universe)
Biblioteki
Biblioteki (multiverse)
Biblioteki (universe)
Biblioteki - programistyczn
Biblioteki - programistyczn
Biblioteki - programistyczn
Biblioteki - stare
Biblioteki - stare (universe)
Debug
Debug (multiverse)
Debug (universe)
Dokumentacja
Dokumentacja (multiverse)
Dokumentacja (universe)
Edukacja (universe)
Edytory
Edytory (multiverse)
Edytory (universe)
Elektronika (multiverse)
Elektronika (universe)
Email
Email (multiverse)

S	Pakiety	Zainstalowana we	Najnowsza wersja	Opis
	ros-indigo-concert-resource-pool	0.7.0-0trusty-20151	0.7.0-0trusty-20151	Python interfaces for managing a pool of ROCON scheduler resources.
	ros-indigo-concert-scheduler-requests	0.7.0-0trusty-20151	0.7.0-0trusty-20151	Python interfaces for managing ROCON scheduler requests.
	ros-indigo-concert-scheduling	0.7.0-0trusty-20151	0.7.0-0trusty-20151	ROCON scheduler support packages.
	ros-indigo-concert-service-admin	0.1.12-0trusty-2015	0.1.12-0trusty-2015	A general purpose admin service (mostly configures rocon interactions).
	ros-indigo-concert-service-image-stream	0.1.12-0trusty-2015	0.1.12-0trusty-2015	image_stream by request from a rocon interactive program.
	ros-indigo-concert-service-msgs	0.7.12-0trusty-2015	0.7.12-0trusty-2015	Messages used by official rocon services.
	ros-indigo-concert-service-teleop	0.1.12-0trusty-2015	0.1.12-0trusty-2015	Teleop by request from a rocon interactive program.
	ros-indigo-concert-services	0.1.12-0trusty-2015	0.1.12-0trusty-2015	Officially supported rocon services for the concert framework.
	ros-indigo-rocon	0.7.2-0trusty-20151	0.7.2-0trusty-20151	This is a meta package for robotics in concert(a.k.a rocon)
	ros-indigo-rocon-app-manager	0.7.13-0trusty-2015	0.7.13-0trusty-2015	The public interface and retaskable interface for a robot.
	ros-indigo-rocon-app-manager-msgs	0.7.12-0trusty-2015	0.7.12-0trusty-2015	Messages used by the platform app manager.
	ros-indigo-rocon-app-manager-tutorials	0.6.7-0trusty-20151	0.6.7-0trusty-20151	Tutorials for the rocon app manager.
	ros-indigo-rocon-app-platform	0.7.13-0trusty-2015	0.7.13-0trusty-2015	Robot application platform for ros robots with a default implementation in python.
	ros-indigo-rocon-app-utilities	0.7.13-0trusty-2015	0.7.13-0trusty-2015	The rocon_app_utilities package
	ros-indigo-rocon-apps	0.7.13-0trusty-2015	0.7.13-0trusty-2015	Core rocon apps for use with the appmanager and rocon concert.
	ros-indigo-rocon-bubble-icons	0.1.23-0trusty-2015	0.1.23-0trusty-2015	Bubble icon library for rocon.
	ros-indigo-rocon-concert	0.6.11-0trusty-2015	0.6.11-0trusty-2015	The concert framework modules.
	ros-indigo-rocon-console	0.1.23-0trusty-2015	0.1.23-0trusty-2015	Command line python console utilities (mostly for colourisation).
	ros-indigo-rocon-device-msgs	0.7.12-0trusty-2015	0.7.12-0trusty-2015	Messages used by rocon devices
	ros-indigo-rocon-devices	0.0.7-0trusty-20151	0.0.7-0trusty-20151	rocon devices meta package
	ros-indigo-rocon-ebnf	0.1.23-0trusty-2015	0.1.23-0trusty-2015	Internal packaging of the 0.91 version of the simple python EBNF parser written by LParis.
	ros-indigo-rocon-gateway	0.7.10-0trusty-2015	0.7.10-0trusty-2015	A hub acts as a shared key-value store for multiple ros systems (primarily used by gateways).
	ros-indigo-rocon-gateway-graph	0.7.12-0trusty-2015	0.7.12-0trusty-2015	An rqt plugin that displays the gateway graph across multiple ros masters from the perspective of the master executing the plugin.
	ros-indigo-rocon-gateway-tests	0.7.10-0trusty-2015	0.7.10-0trusty-2015	Testing programs for gateways.
	ros-indigo-rocon-gateway-tutorials	0.6.7-0trusty-20151	0.6.7-0trusty-20151	Collection of gateway demos illustrating usage of the gateway model.
	ros-indigo-rocon-gateway-utils	0.7.10-0trusty-2015	0.7.10-0trusty-2015	Utilities for gateway users (avoids large dependency requirements).
	ros-indigo-rocon-hub	0.7.10-0trusty-2015	0.7.10-0trusty-2015	A hub acts as a shared key-value store for multiple ros systems (primarily used by gateways).
	ros-indigo-rocon-hub-client	0.7.10-0trusty-2015	0.7.10-0trusty-2015	Client api for discovery and connection to rocon hubs. It also has a few convenience api for manipulating data on the hub.
	ros-indigo-rocon-hue	0.0.7-0trusty-20151	0.0.7-0trusty-20151	phue wrapper package to use in rocon
	ros-indigo-rocon-icons	0.1.23-0trusty-2015	0.1.23-0trusty-2015	Icons for rocon.
	ros-indigo-rocon-interaction-msgs	0.7.12-0trusty-2015	0.7.12-0trusty-2015	Messages used by rocon interactions.

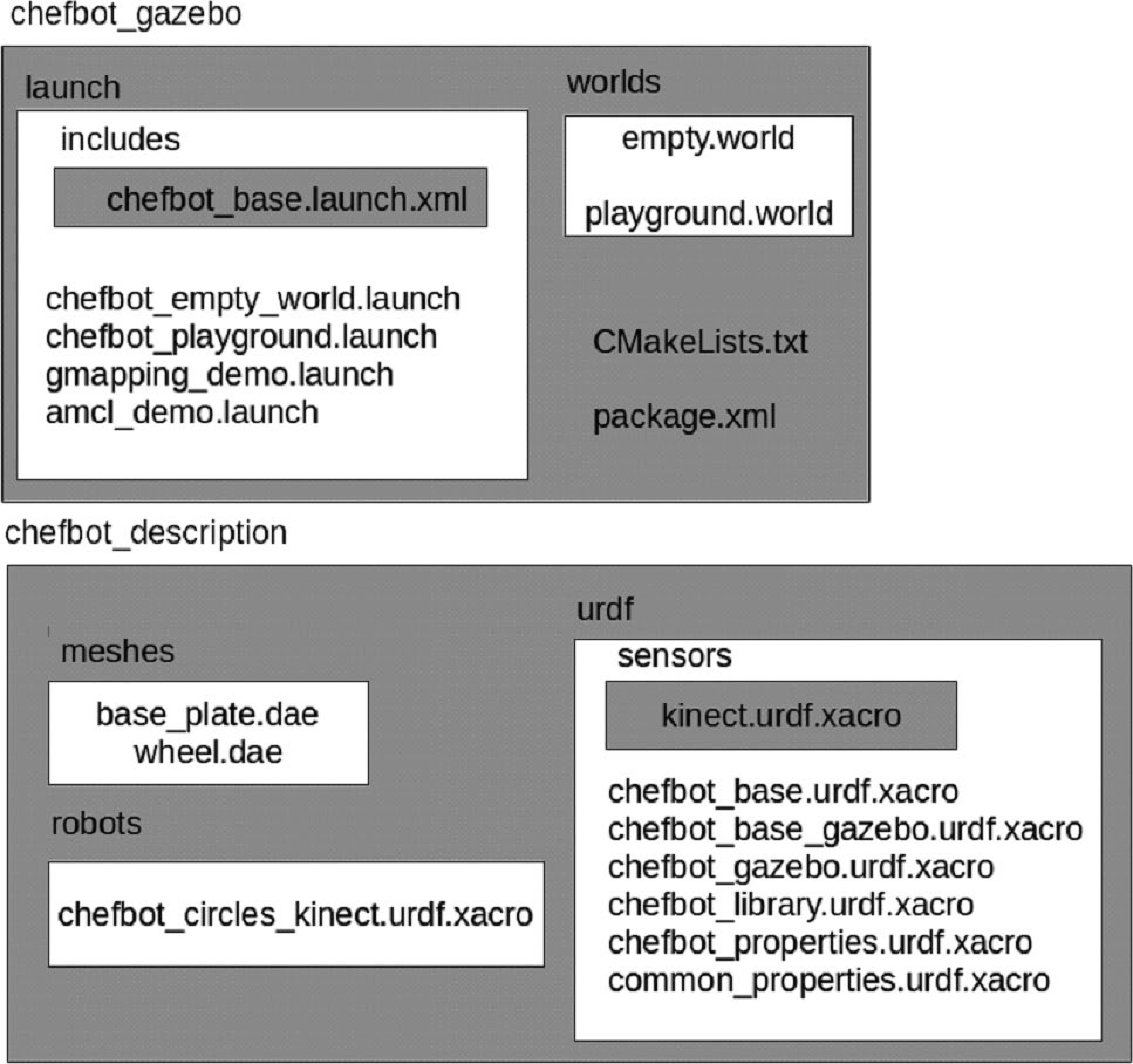
Działy
Stan
Pochodzenie
Własne filtry
Wyniki wyszukiwania
Architektura

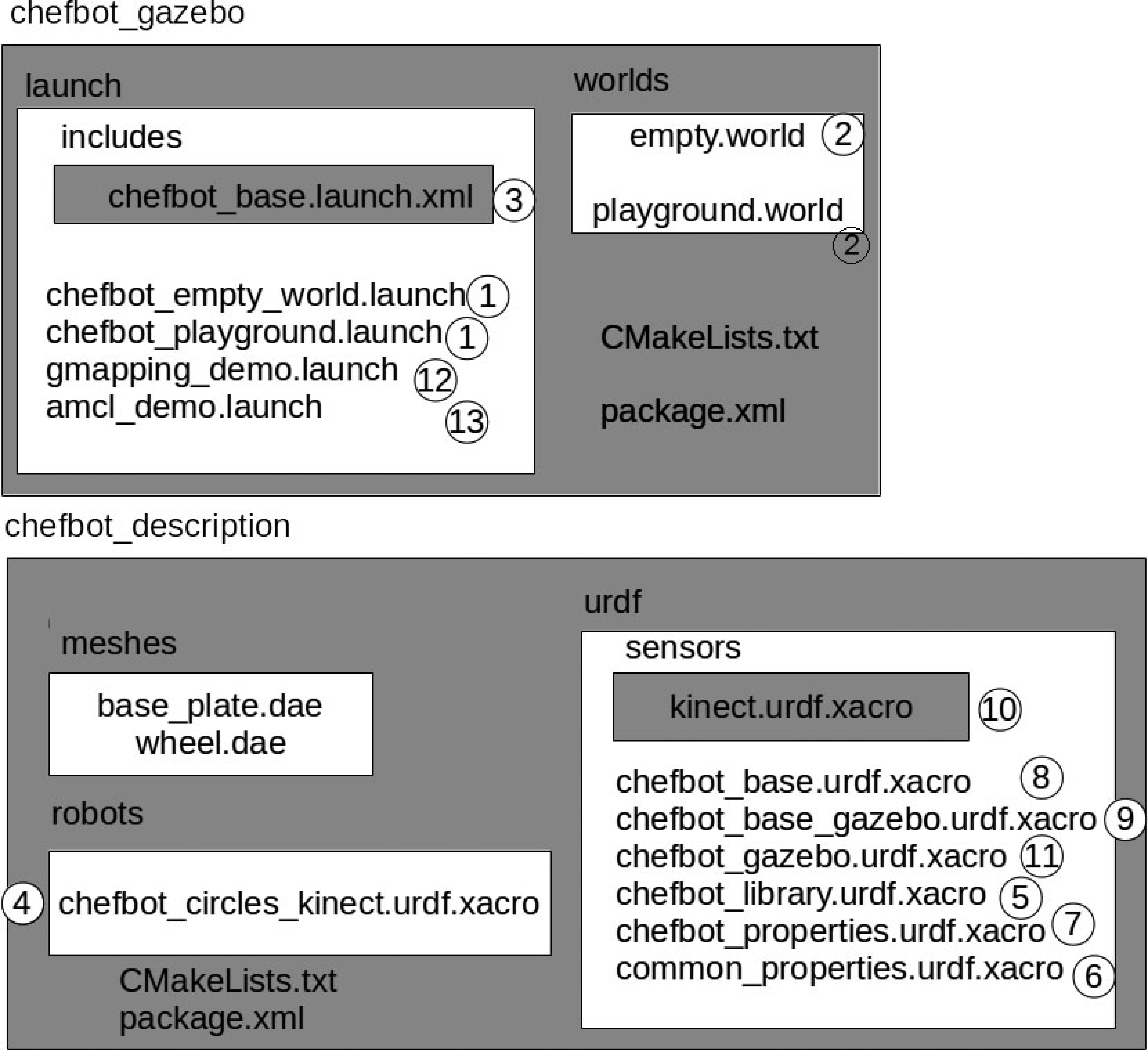
Nie wybrano pakietu.

65 pakietów, 3062 zainstalowanych, 0 uszkodzonych. 0 do zainstalowania/aktualizacji, 0 do usunięcia

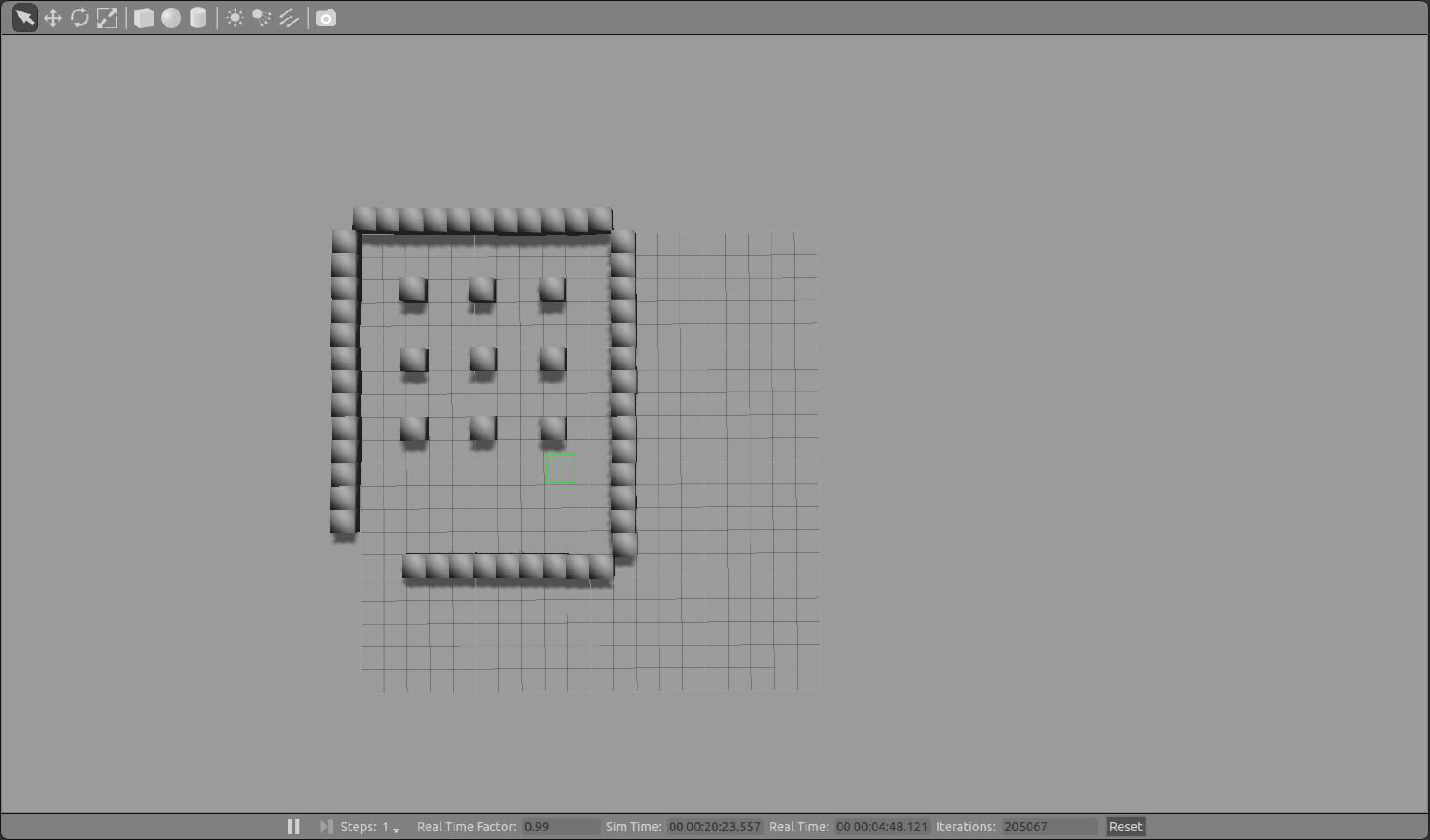

Menedżer Pakietów Synaptic
Plik Edycja Pakiet Ustawienia Pomoc
Odśwież
Zaznacz wszystko do aktualizacji
Zastosuj
Właściwości
Szybki filtr
ros-indigo-kobuki
Szukaj
Wszystkie
Administracja systemem
Administracja systemem (n
Administracja systemem (r
Administracja systemem (u
Bazy danych
Bazy danych (universe)
Biblioteki
Biblioteki (multiverse)
Biblioteki (universe)
Biblioteki - programistyczn
Biblioteki - programistyczn
Biblioteki - programistyczn
Biblioteki - stare
Biblioteki - stare (universe)
Debug
Debug (multiverse)
Debug (universe)
Dokumentacja
Dokumentacja (multiverse)
Dokumentacja (universe)
Edukacja (universe)
Edytory
Edytory (multiverse)
Edytory (universe)
Elektronika (multiverse)
Elektronika (universe)
Email
Email (multiverse)
Działy
Stan
Pochodzenie
Własne filtry
Wyniki wyszukiwania
Architektura
S Pakiety Zainstalowana we Najnowsza wersja Opis
ros-indigo-kobuki 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Software for Kobuki, Yujin Robot's mobile research base.
ros-indigo-kobuki-auto-docking 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Automatic docking for Kobuki: Users owning a docking station for Kobuki can use this tool to let Kobuki find its nest autonomously.
ros-indigo-kobuki-bumper2pc 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Bumper/cliff to pointcloud nodelet: Publish bumpers and cliff sensors events as points in a pointcloud, so navistack can use them for poor-man navigation. I
ros-indigo-kobuki-capabilities 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Kobuki's capabilities
ros-indigo-kobuki-controller-tutorial 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Code for the Kobuki controller tutorial.
ros-indigo-kobuki-core 0.6.1-0trusty-20151 0.6.1-0trusty-20151 Non-ROS software for Kobuki, Yujin Robot's mobile research base.
ros-indigo-kobuki-dashboard 0.4.2-0trusty-20151 0.4.2-0trusty-20151 The Kobuki dashboard is a RQT-based plug-in for visualising data from Kobuki and giving easy access to basic functionalities.
ros-indigo-kobuki-description 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Description of the Kobuki model. Provides the model description of Kobuki for simulation and visualisation. The files in this package are parsed and used by
ros-indigo-kobuki-desktop 0.4.2-0trusty-20151 0.4.2-0trusty-20151 Visualisation and simulation tools for Kobuki
ros-indigo-kobuki-dock-drive 0.6.1-0trusty-20151 0.6.1-0trusty-20151 Dock driving library for Kobuki. Users owning a docking station for Kobuki can use this tool to develop autonomous docking drive algorithms.
ros-indigo-kobuki-driver 0.6.1-0trusty-20151 0.6.1-0trusty-20151 C++ driver library for Kobuki: Pure C++ driver library for Kobuki. This is for those who do not wish to use ROS on their systems.
ros-indigo-kobuki-ftdi 0.6.1-0trusty-20151 0.6.1-0trusty-20151 Utilities for flashing and enabling Kobuki's USB connection. This package contains tools for flashing the Kobuki's FTDI chip (usually done at the factory). The
ros-indigo-kobuki-gazebo 0.4.2-0trusty-20151 0.4.2-0trusty-20151 Kobuki simulation for Gazebo
ros-indigo-kobuki-gazebo-plugins 0.4.2-0trusty-20151 0.4.2-0trusty-20151 Kobuki-specific ROS plugins for Gazebo
ros-indigo-kobuki-keyop 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Keyboard teleoperation for Kobuki: relays commands from a keyboard to Kobuki.
ros-indigo-kobuki-led-controller 0.0.1-0trusty-20151 0.0.1-0trusty-20151 Convenient modules to control kobuki leds
ros-indigo-kobuki-msgs 0.6.1-0trusty-20151 0.6.1-0trusty-20151 Kobuki message and service types: custom messages and services for Kobuki packages.
ros-indigo-kobuki-node 0.6.6-0trusty-20151 0.6.6-0trusty-20151 ROS nodelet for Kobuki: ROS wrapper for the Kobuki driver.
ros-indigo-kobuki-qtestsuite 0.4.2-0trusty-20151 0.4.2-0trusty-20151 An rqt plugin that provides a graphical, interactive testsuite for Kobuki.
ros-indigo-kobuki-random-walker 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Random walker app for Kobuki
ros-indigo-kobuki-rapps 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Robot apps for Kobuki
ros-indigo-kobuki-rviz-launchers 0.4.2-0trusty-20151 0.4.2-0trusty-20151 The kobuki_rviz_launchers package
ros-indigo-kobuki-safety-controller 0.6.6-0trusty-20151 0.6.6-0trusty-20151 A controller ensuring the safe operation of Kobuki. The SafetyController keeps track of bumper, cliff and wheel drop events. In case of the first two, Kobuki i
ros-indigo-kobuki-soft 0.1.1-0trusty-20151 0.1.1-0trusty-20151 Soft kobuki impementation meta package
ros-indigo-kobuki-softapps 0.1.1-0trusty-20151 0.1.1-0trusty-20151 The kobuki_softapps package
ros-indigo-kobuki-softnode 0.1.1-0trusty-20151 0.1.1-0trusty-20151 ROS nodelet for fake Kobuki.
ros-indigo-kobuki-testsuite 0.6.6-0trusty-20151 0.6.6-0trusty-20151 Kobuki test suite: this package provides tools to thoroughly test Kobuki's hardware.
Nie wybrano pakietu.
27 pakietów, 3077 zainstalowanych, 0 uszkodzonych. 0 do zainstalowania/aktualizacji, 0 do usunięcia


/home/radoslaw/turtlebot/src/turtlebot_simulator/turtlebot_gazebo/launch/turtlebot
lik Edycja Widok Wyszukiwanie Terminal Pomoc
INFO] [1450371347.532663152, 1.210000000]: Kobuki(ns = //): <tf_prefix> =
og Plugin model name: mobile_base
INFO] [1450371347.533411994, 1.210000000]: Will publish tf. [mobile_base]
INFO] [1450371347.543288250, 1.210000000]: Kobuki(ns = //): Advertise joint_st
tes[joint_states]!
INFO] [1450371347.545580718, 1.210000000]: Kobuki(ns = //): Advertise Odometry
odom]!
INFO] [1450371347.557402935, 1.210000000]: Kobuki(ns = //): Try to subscribe t
mobile_base/commands/motor_power!
INFO] [1450371347.571205179, 1.210000000]: Kobuki(ns = //): Try to subscribe t
mobile_base/commands/reset_odometry!
INFO] [1450371347.588574357, 1.210000000]: Kobuki(ns = //): Try to subscribe t
mobile_base/commands/motor_power!
INFO] [1450371347.590913315, 1.210000000]: Kobuki(ns = //): Advertise Cliff[mo
ile_base/events/cliff]!
INFO] [1450371347.592868915, 1.210000000]: Kobuki(ns = //): Advertise Bumper[m
bile_base/events/bumper]!
INFO] [1450371347.596805003, 1.210000000]: Kobuki(ns = //): Advertise IMU[mobi
e_base/sensors/imu_data]!
INFO] [1450371347.597054226, 1.210000000]: GazeboRosKobuki plugin ready to go!
[mobile_base]
spawn_turtlebot_model-4] process has finished cleanly
og file: /home/radoslaw/.ros/log/fda94c74-a4de-11e5-b3b6-001d9272a987/spawn_tur
lebot_model-4*.log
/home/radoslaw/turtlebot/src/turtlebot/turtlebot_teleop/launch/keyboard_teleop.la
lik Edycja Widok Wyszukiwanie Terminal Pomoc
ODES
/
turtlebot_teleop_keyboard (turtlebot_teleop/turtlebot_teleop_key)
OS_MASTER_URI=http://localhost:11311
ore service [/rosout] found
rocess[turtlebot_teleop_keyboard-1]: started with pid [29625]
ontrol Your Turtlebot!
----
oving around:
u i o
j k l
m , .
/z : increase/decrease max speeds by 10%
/x : increase/decrease only linear speed by 10%
/c : increase/decrease only angular speed by 10%
pace key, k : force stop
nything else : stop smoothly
TRL-C to quit
urrently: speed 0.2 turn 1
Gazebo
File Edit View Window Help
World
Insert
Scene
Physics
Models
Lights
Property
Value
Steps: 1
Real Time Factor: 1.00
Sim Time: 00 00:07:07.740
Real Time: 00 00:07:10.528
Iteratic

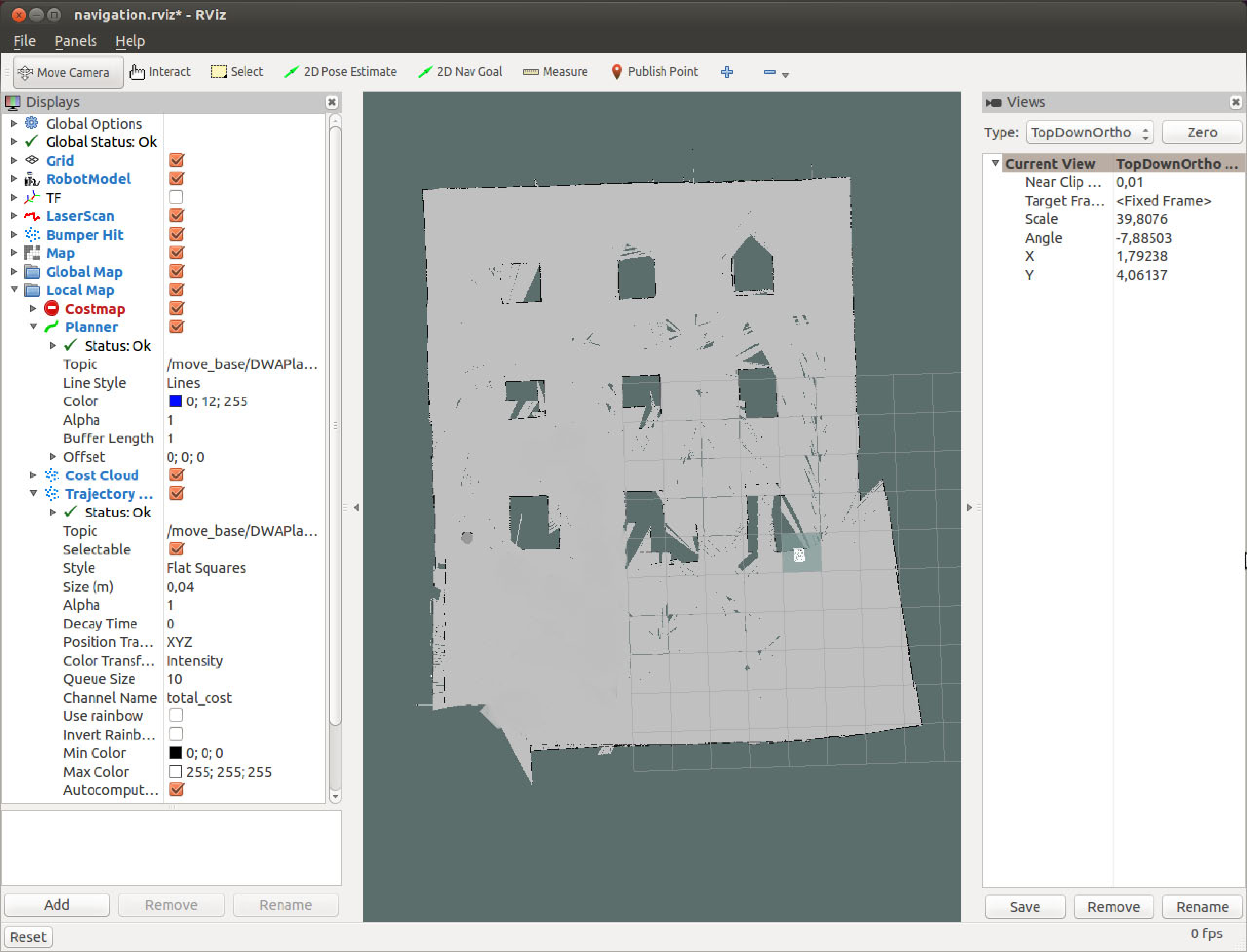

chefbot_gazebo
launch
includes
chefbot_base.launch.xml
chefbot_empty_world.launch
chefbot_playground.launch
gmapping_demo.launch
amcl_demo.launch
worlds
empty.world
playground.world
CMakeLists.txt
package.xml
chefbot_description
meshes
base_plate.dae
wheel.dae
robots
chefbot_circles_kinect.urdf.xacro
urdf
sensors
kinect.urdf.xacro
chefbot_base.urdf.xacro
chefbot_base_gazebo.urdf.xacro
chefbot_gazebo.urdf.xacro
chefbot_library.urdf.xacro
chefbot_properties.urdf.xacro
common_properties.urdf.xacro

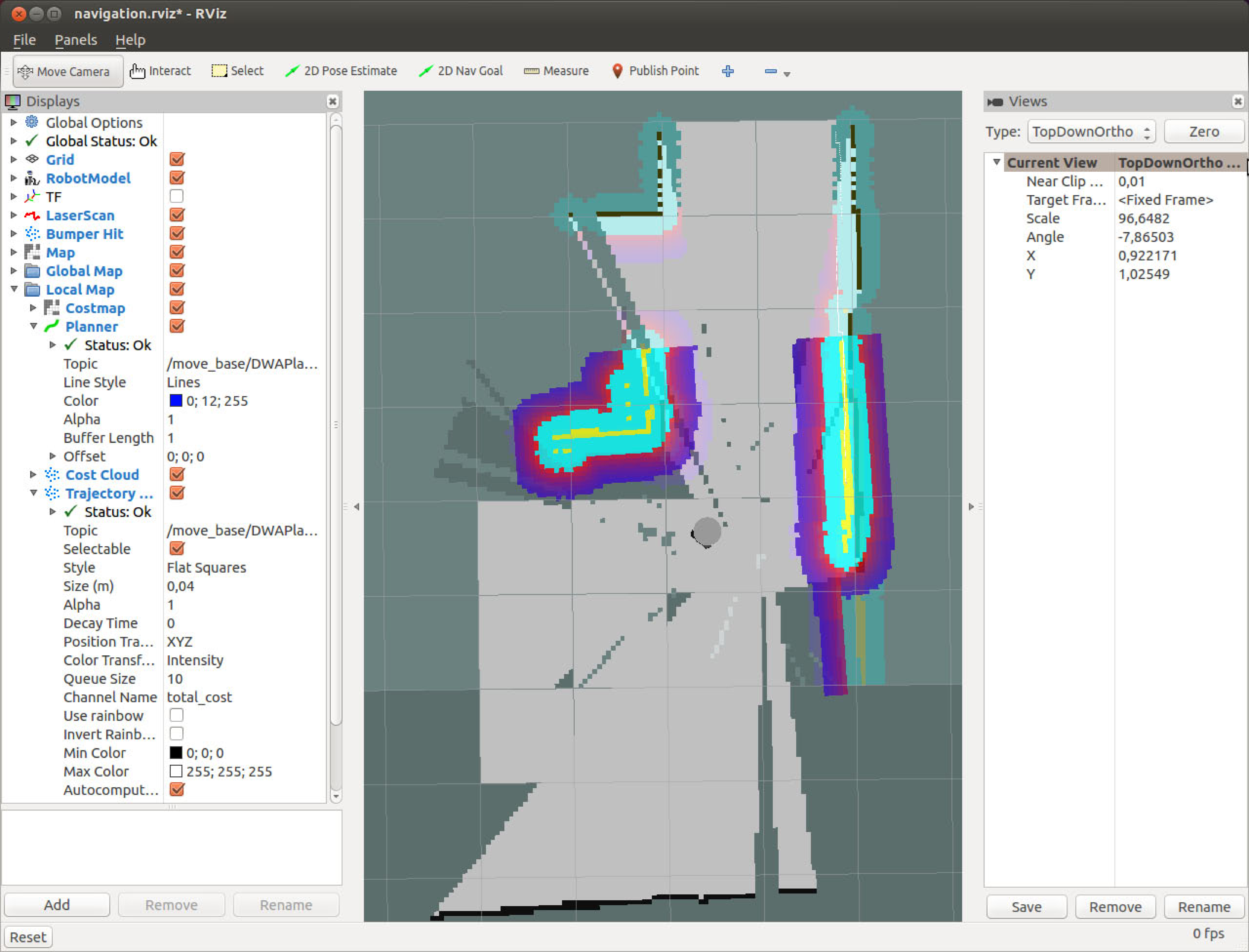

chefbot_gazebo
launch
includes
chefbot_base.launch.xml
3
chefbot_empty_world.launch
1
chefbot_playground.launch
1
gmapping_demo.launch
12
amcl_demo.launch
13
worlds
empty.world
2
playground.world
2
CMakeLists.txt
package.xml
chefbot_description
meshes
base_plate.dae
wheel.dae
robots
4
chefbot_circles_kinect.urdf.xacro
CMakeLists.txt
package.xml
urdf
sensors
kinect.urdf.xacro
10
chefbot_base.urdf.xacro
8
chefbot_base_gazebo.urdf.xacro
9
chefbot_gazebo.urdf.xacro
11
chefbot_library.urdf.xacro
5
chefbot_properties.urdf.xacro
7
common_properties.urdf.xacro
6


Gazebo
File
Edit
View
Window
Help
World
Insert
Scene
Physics
Models
Lights
Property
Value
Steps: 1
Real Time Factor: 0.68
Sim Time: 00 00:02:01.330
Real Time: 00 00:02:56.958
Iterations: 121330
Reset

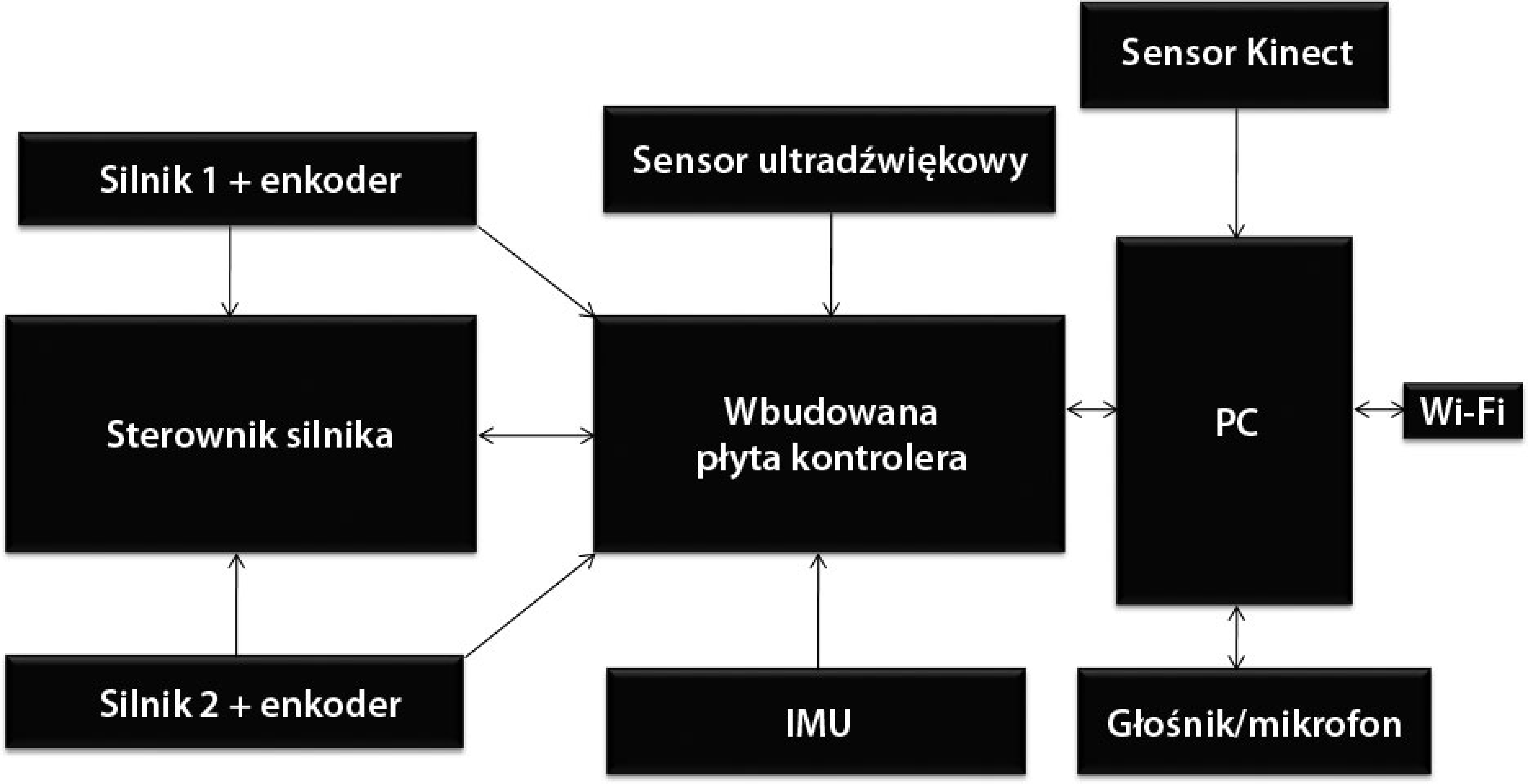

Steps: 1
Real Time Factor: 0.99
Sim Time: 00 00:20:23.557
Real Time: 00 00:04:48.121
Iterations: 205067
Reset


navigation.rviz* - RViz
File
Panels
Help
Move Camera
Interact
Select
2D Pose Estimate
2D Nav Goal
Measure
Publish Point
Displays
Global Options
Global Status: Ok
Grid
RobotModel
TF
LaserScan
Bumper Hit
Map
Global Map
Local Map
Costmap
Planner
Status: Ok
Topic /move_base/DWAPla...
Line Style Lines
Color 0; 12; 255
Alpha 1
Buffer Length 1
Offset 0; 0; 0
Cost Cloud
Trajectory ...
Status: Ok
Topic /move_base/DWAPla...
Selectable
Style Flat Squares
Size (m) 0,04
Alpha 1
Decay Time 0
Position Tra... XYZ
Color Transf... Intensity
Queue Size 10
Channel Name total_cost
Use rainbow
Invert Rainb...
Min Color 0; 0; 0
Max Color 255; 255; 255
Autocomput...
Min Intensity 3,621
Max Intensity 9,621
Amcl Particle ...
Add
Remove
Rename
Views
Type: TopDownOrtho
Zero
Current View TopDownOrtho ...
Near Clip ... 0,01
Target Fra... <Fixed Frame>
Scale 69,2774
Angle -7,85503
X 0,245884
Y 0,577835
Save
Remove
Rename
Reset
Left-Click: Rotate. Middle-Click: Move X/Y. Right-Click:: Zoom. Shift: More options.
0 fps

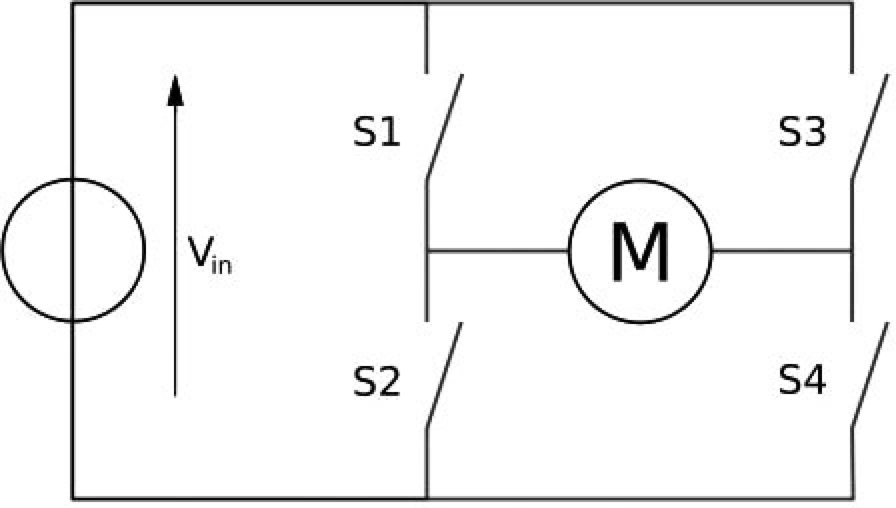

navigation.rviz* - RViz
File
Panels
Help
Move Camera
Interact
Select
2D Pose Estimate
2D Nav Goal
Measure
Publish Point
Displays
Global Options
Global Status: Ok
Grid
RobotModel
TF
LaserScan
Bumper Hit
Map
Global Map
Local Map
Costmap
Planner
Status: Ok
Topic /move_base/DWAPla...
Line Style Lines
Color 0; 12; 255
Alpha 1
Buffer Length 1
Offset 0; 0; 0
Cost Cloud
Trajectory ...
Status: Ok
Topic /move_base/DWAPla...
Selectable
Style Flat Squares
Size (m) 0,04
Alpha 1
Decay Time 0
Position Tra... XYZ
Color Transf... Intensity
Queue Size 10
Channel Name total_cost
Use rainbow
Invert Rainb...
Min Color 0; 0; 0
Max Color 255; 255; 255
Autocomput...
Add
Remove
Rename
Reset
Views
Type: TopDownOrtho
Zero
Current View TopDownOrtho ...
Near Clip ... 0,01
Target Fra... <Fixed Frame>
Scale 39,8076
Angle -7,88503
X 1,79238
Y 4,06137
Save
Remove
Rename
0 fps



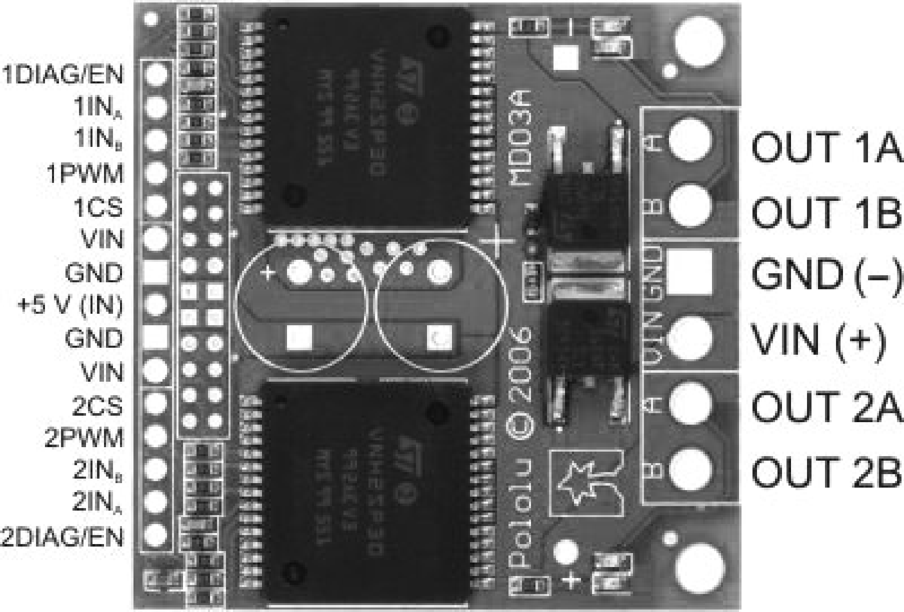
navigation.rviz* - RViz
File
Panels
Help
Move Camera
Interact
Select
2D Pose Estimate
2D Nav Goal
Measure
Publish Point
Displays
Global Options
Global Status: Ok
Grid
RobotModel
TF
LaserScan
Bumper Hit
Map
Global Map
Local Map
Costmap
Planner
Status: Ok
Topic
/move_base/DWAPla...
Line Style
Lines
Color
0; 12; 255
Alpha
1
Buffer Length
1
Offset
0; 0; 0
Cost Cloud
Trajectory ...
Status: Ok
Topic
/move_base/DWAPla...
Selectable
Style
Flat Squares
Size (m)
0,04
Alpha
1
Decay Time
0
Position Tra...
XYZ
Color Transf...
Intensity
Queue Size
10
Channel Name
total_cost
Use rainbow
Invert Rainb...
Min Color
0; 0; 0
Max Color
255; 255; 255
Autocomput...
Add
Remove
Rename
Reset
Views
Type:
TopDownOrtho
Zero
Current View
TopDownOrtho ...
Near Clip ...
0,01
Target Fra...
<Fixed Frame>
Scale
96,6482
Angle
-7,86503
X
0,922171
Y
1,02549
Save
Remove
Rename
0 fps

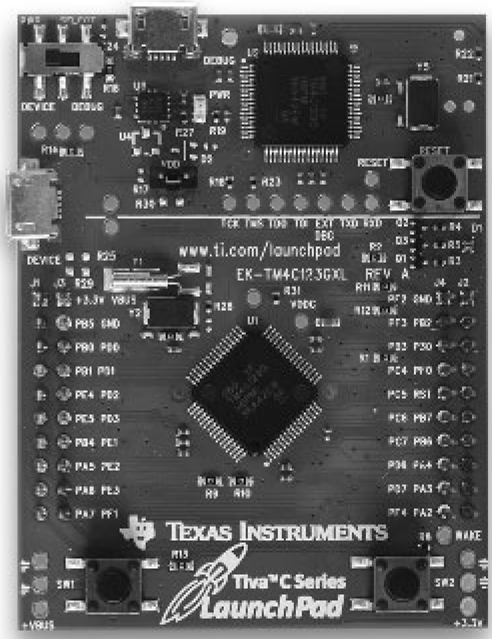

Sensor Kinect
Sensor ultradźwiękowy
Silnik 1 + enkoder
Sterownik silnika
Wbudowana płyta kontrolera
PC
Wi-Fi
Silnik 2 + enkoder
IMU
Głośnik/mikrofon


www.pololu.com

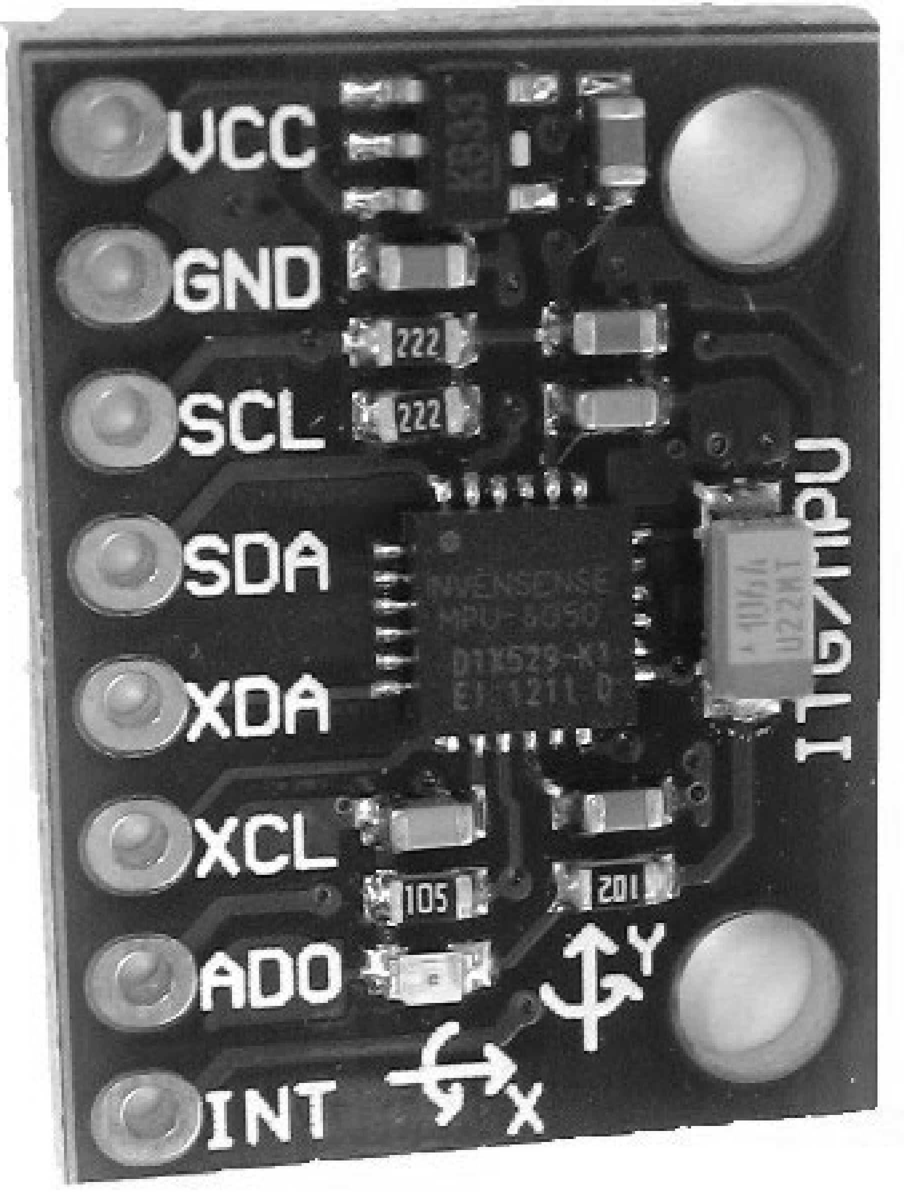


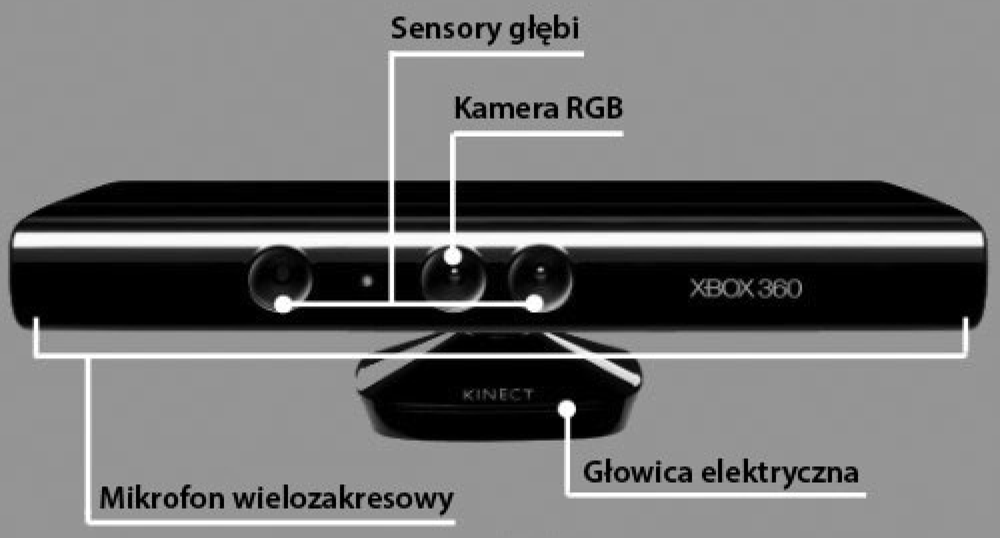
S1
S3
Vin
M
S2
S4


1DIAG/EN
1IN$_A$
1IN$_B$
1PWM
1CS
VIN
GND
+5 V (IN)
GND
VIN
2CS
2PWM
2IN$_B$
2IN$_A$
2DIAG/EN
MD03A
Pololu © 2006
OUT 1A
OUT 1B
GND (–)
VIN (+)
OUT 2A
OUT 2B


www.ti.com/launchpad
EK-TM4C123GXL REV A
TEXAS INSTRUMENTS
Tiva™ C Series
LaunchPad
RESET
DEBUG
DEVICE
PWR
WAKE
SW1
SW2


4.000
Y1
HC-SR04
Vcc
Trig
Echo
GND
T
J1
R

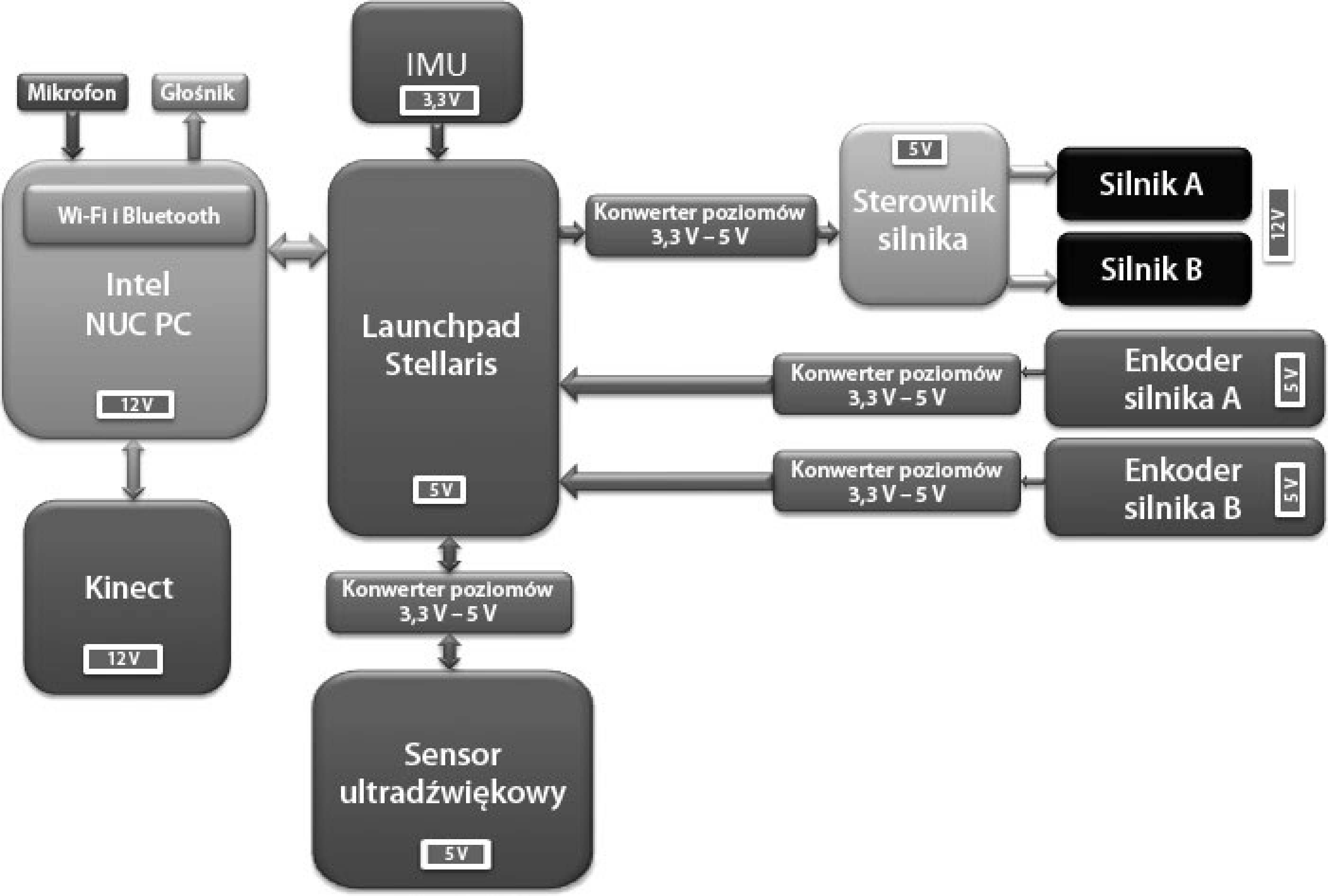

VCC
GND
SCL
SDA
XDA
XCL
ADO
INT
222
222
INVENSENSE
MPU-6050
105
201
ITG/MPU
Y
X


Sensory głębi
Kamera RGB
XBOX 360
KINECT
Głowica elektryczna
Mikrofon wielozakresowy

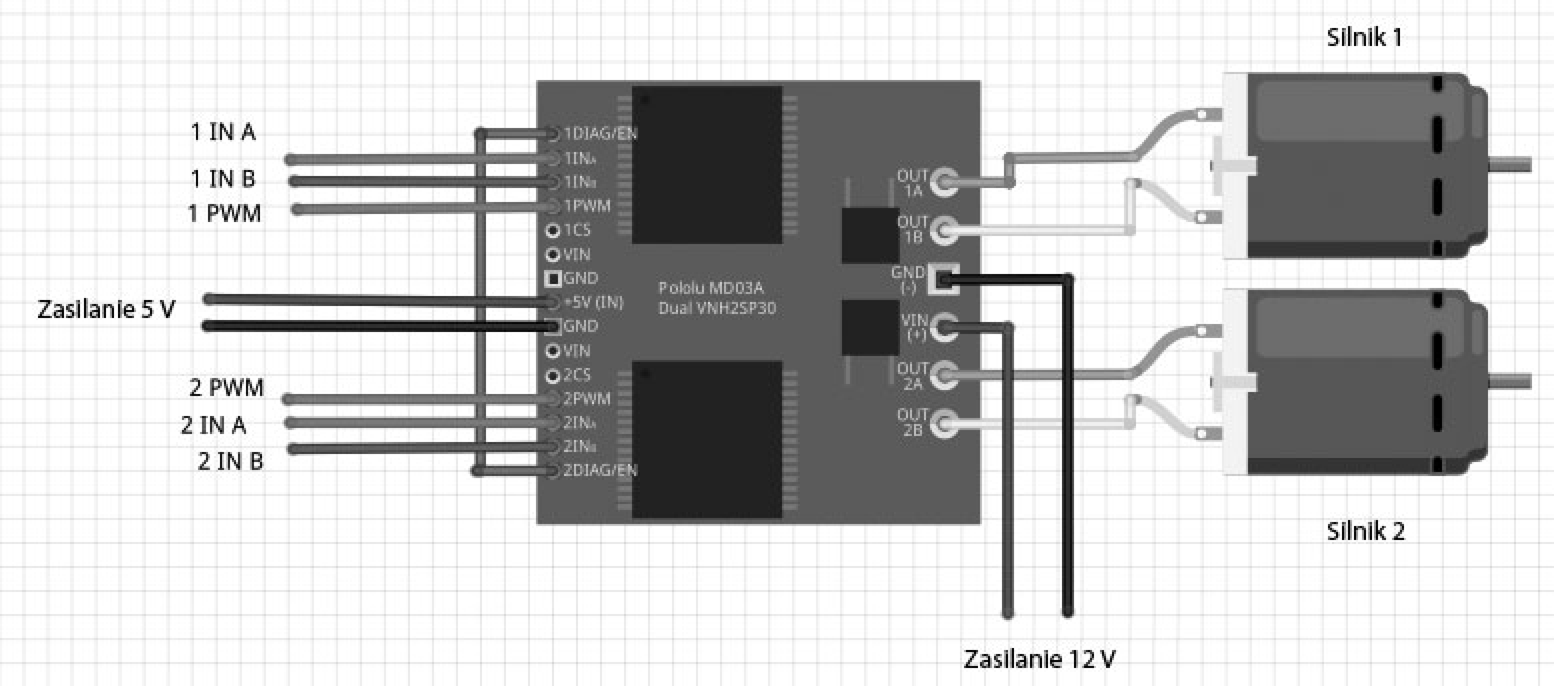
KINECT

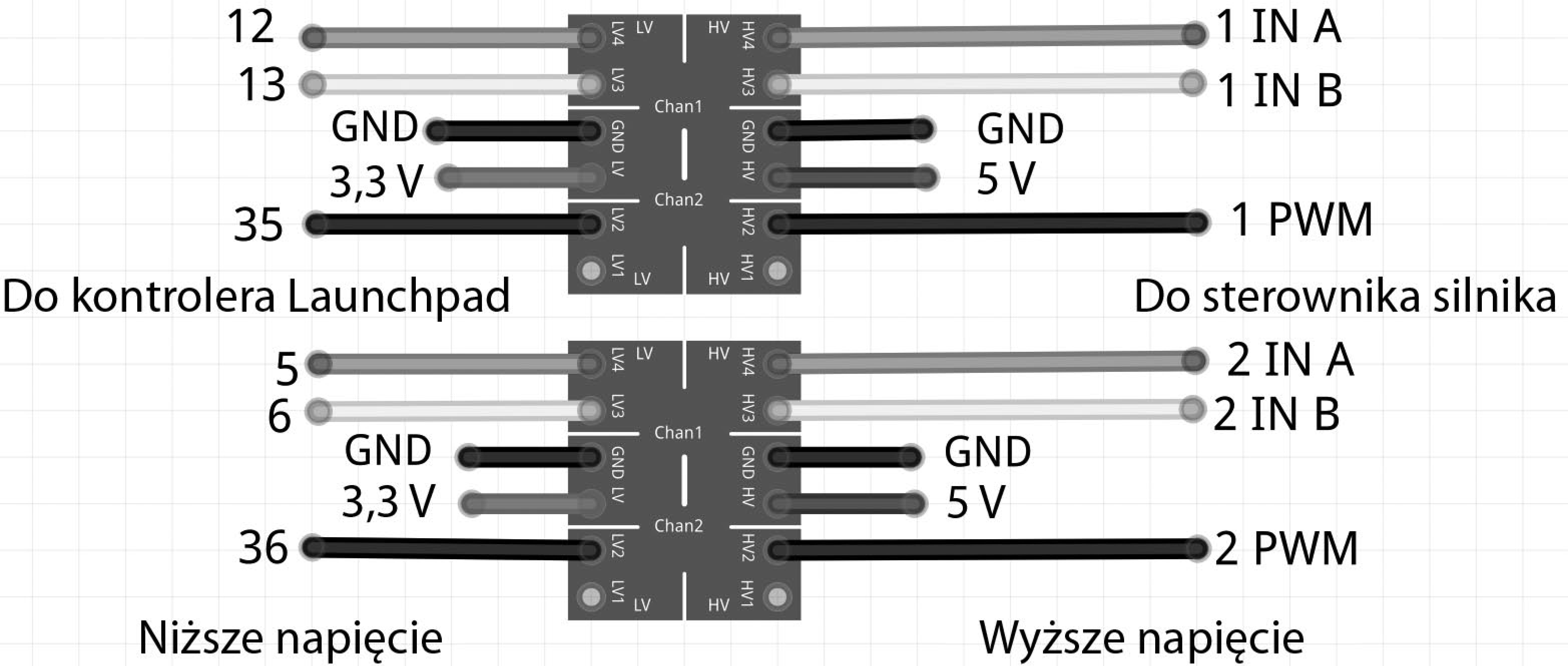

12V
HDMI


大容量鋰離子可充電池
Super Rechargeable li-ion Battery
型號(MODEL): YSD-12900
(INPUT):12.6VDC
(OUTPUT):12VDC 9000mAh
CE
RoHS
YINGSHITA TECHNOLOGY CO LTD

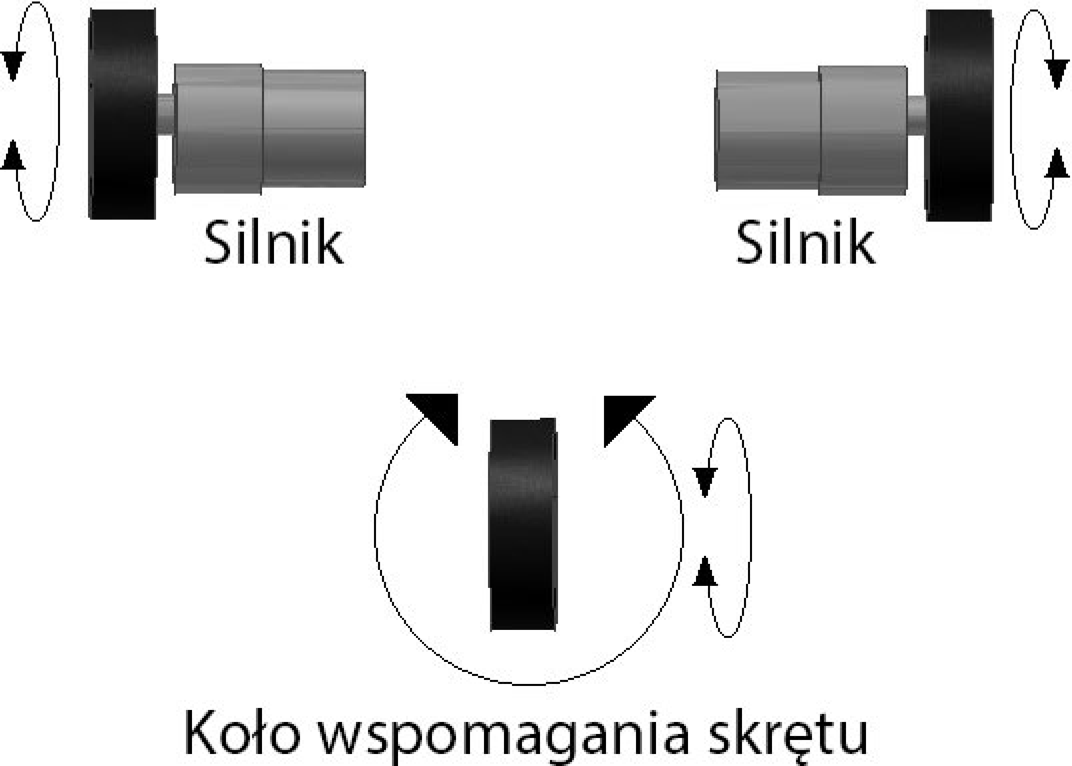


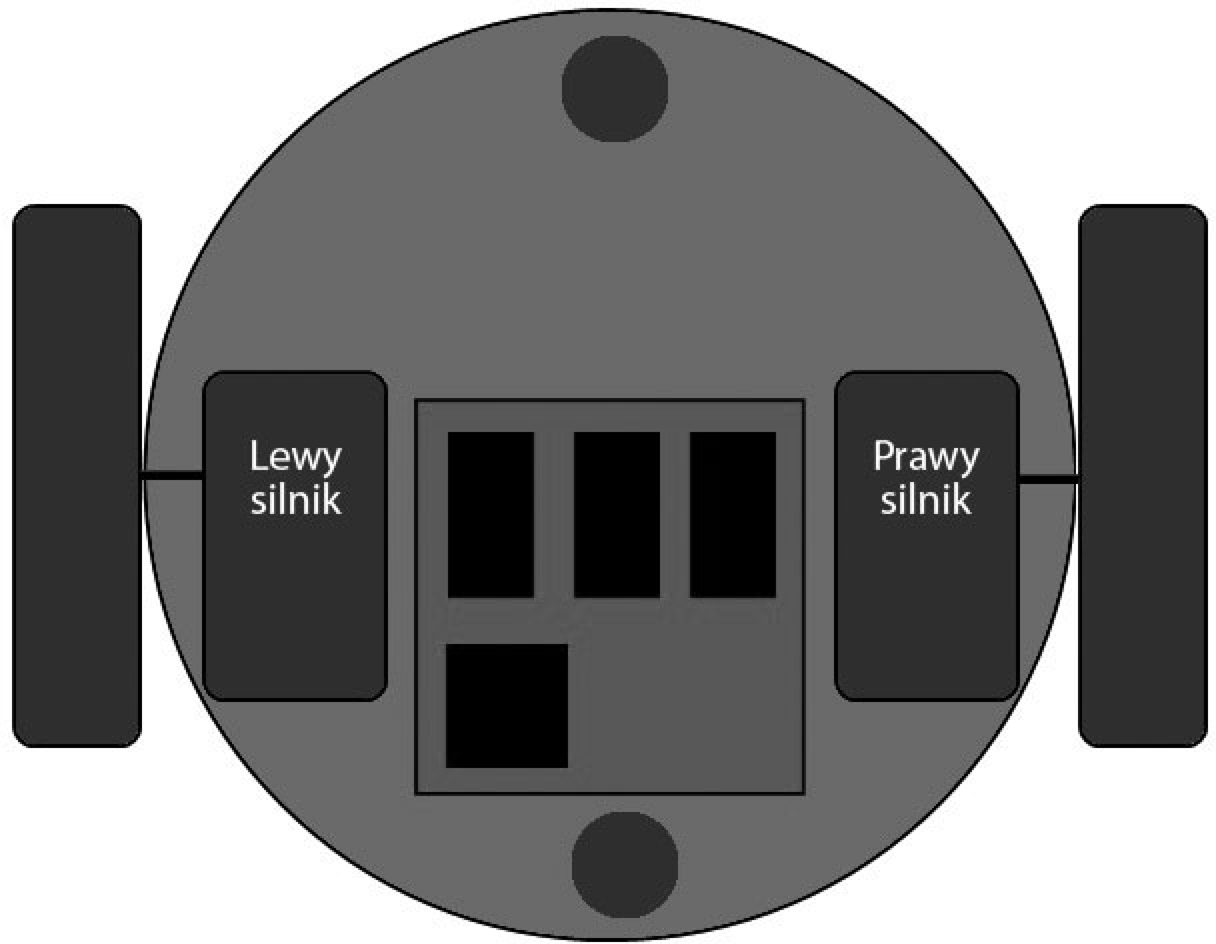
Mikrofon
Głośnik
IMU
3,3 V
Wi-Fi i Bluetooth
Intel
NUC PC
12 V
Launchpad
Stellaris
5 V
Konwerter poziomów
3,3 V – 5 V
5 V
Sterownik
silnika
Silnik A
Silnik B
12 V
Konwerter poziomów
3,3 V – 5 V
Enkoder
silnika A
5 V
Konwerter poziomów
3,3 V – 5 V
Enkoder
silnika B
5 V
Kinect
12 V
Konwerter poziomów
3,3 V – 5 V
Sensor
ultradźwiękowy
5 V

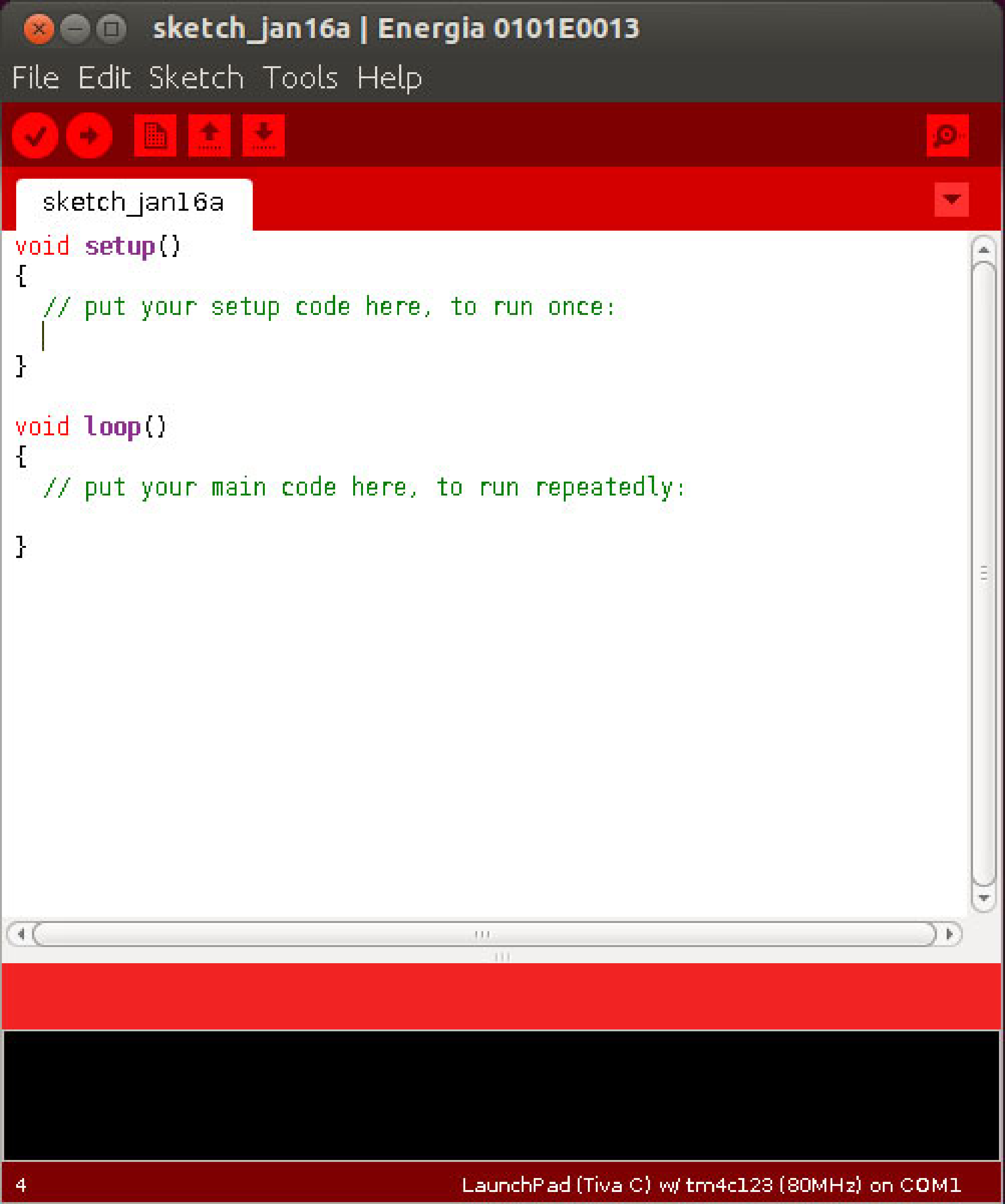

Silnik 1
1 IN A
1 IN B
1 PWM
1DIAG/EN
1INA
1INB
1PWM
1CS
VIN
GND
+5V (IN)
GND
VIN
2CS
2PWM
2INA
2INB
2DIAG/EN
Zasilanie 5 V
2 PWM
2 IN A
2 IN B
Pololu MD03A
Dual VNH2SP30
OUT 1A
OUT 1B
GND (-)
VIN (+)
OUT 2A
OUT 2B
Silnik 2
Zasilanie 12 V

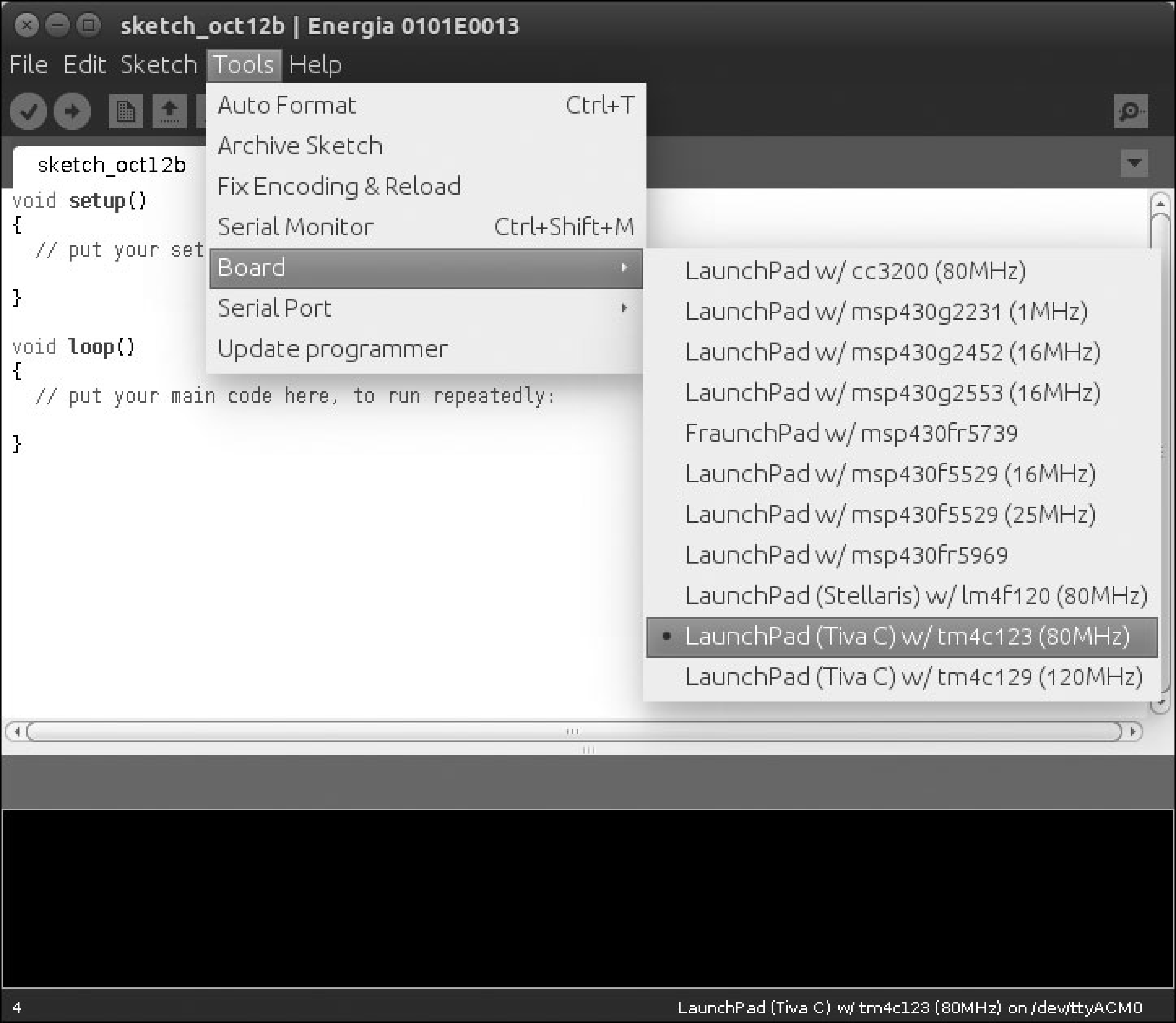


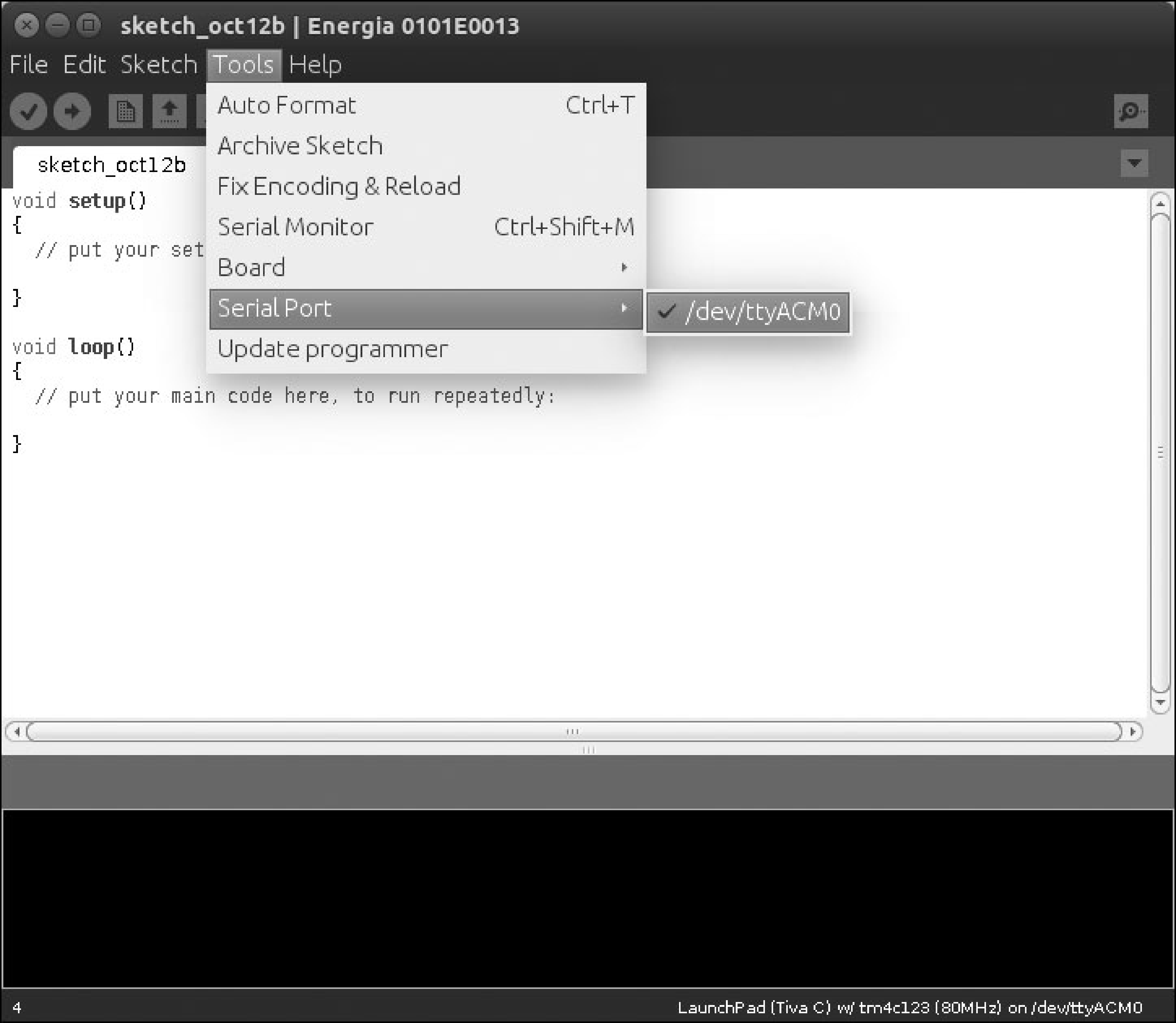
12
13
GND
3,3 V
35
LV4
LV3
GND
LV
LV2
LV1
LV
HV
HV4
HV3
Chan1
GND
HV
Chan2
HV2
HV1
1 IN A
1 IN B
GND
5 V
1 PWM
Do kontrolera Launchpad
Do sterownika silnika
5
6
GND
3,3 V
36
2 IN A
2 IN B
GND
5 V
2 PWM
Niższe napięcie
Wyższe napięcie


Silnik
Silnik
Koło wspomagania skrętu

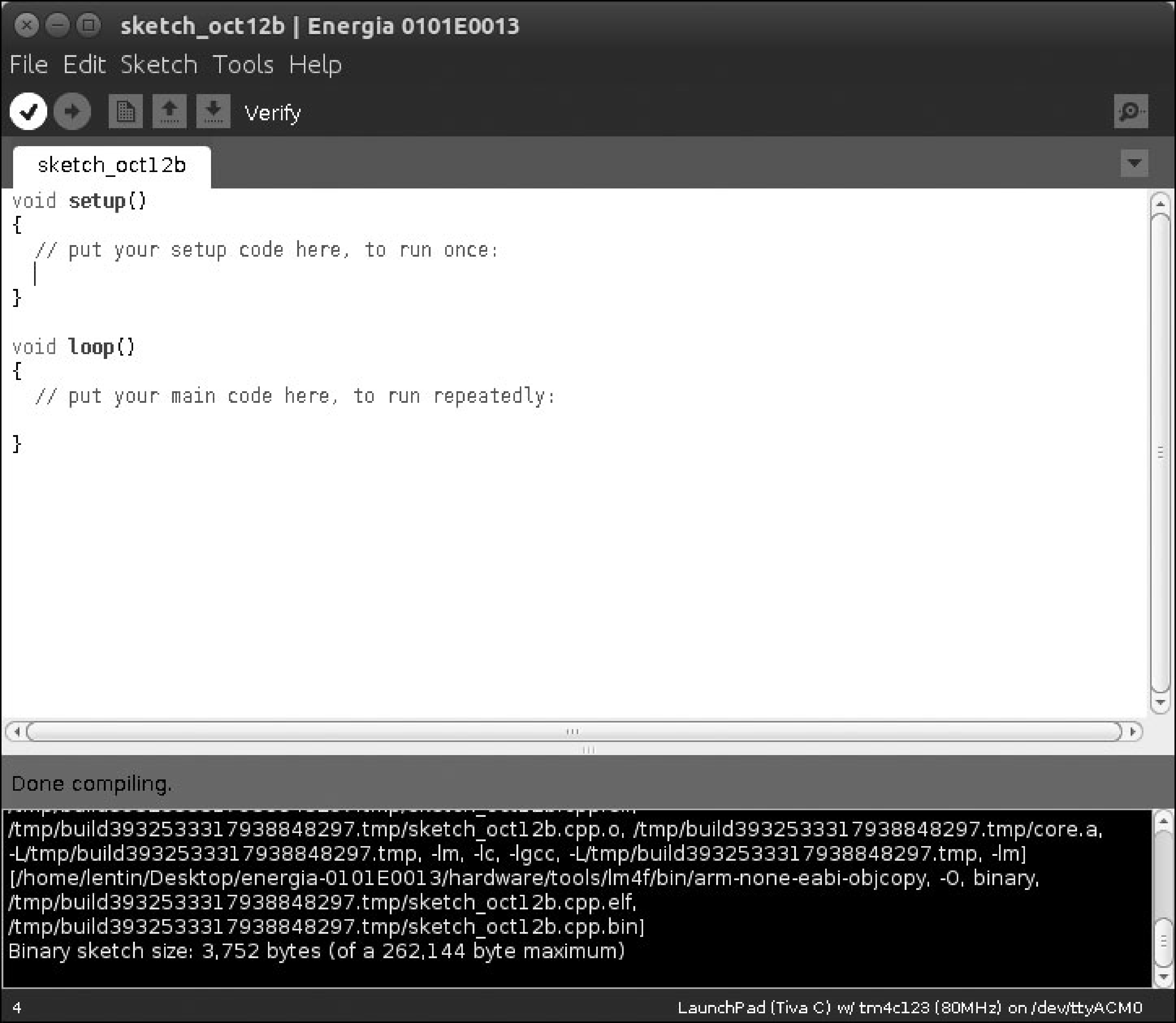

Lewy silnik
Prawy silnik

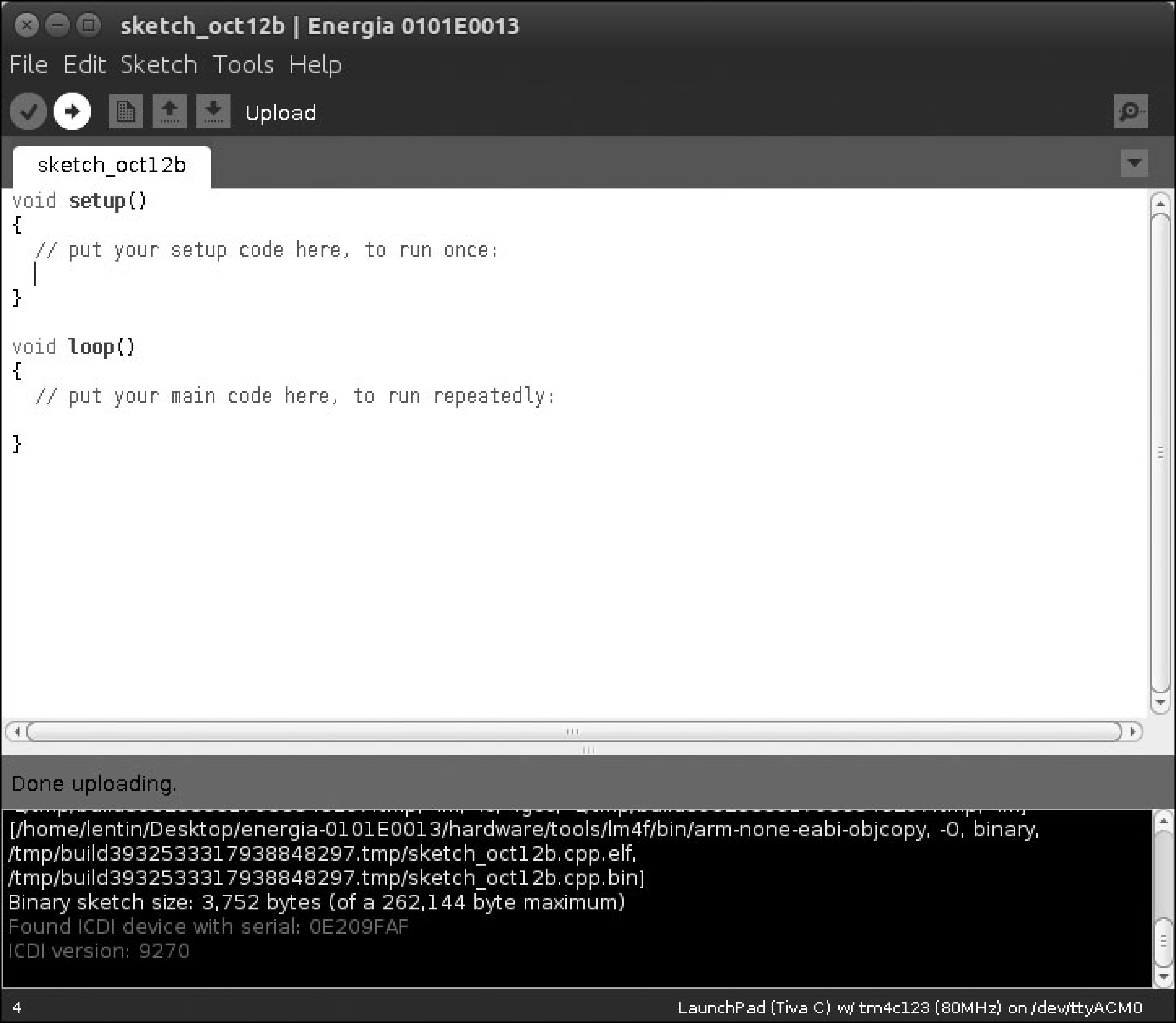

sketch_jan16a | Energia 0101E0013
File Edit Sketch Tools Help
sketch_jan16a
void setup()
{
// put your setup code here, to run once:
}
void loop()
{
// put your main code here, to run repeatedly:
}
4
LaunchPad (Tiva C) w/ tm4c123 (80MHz) on COM1


sketch_oct12b | Energia 0101E0013
File Edit Sketch Tools Help
Auto Format Ctrl+T
Archive Sketch
Fix Encoding & Reload
Serial Monitor Ctrl+Shift+M
Board
Serial Port
Update programmer
sketch_oct12b
void setup()
{
// put your set
}
void loop()
{
// put your main code here, to run repeatedly:
}
LaunchPad w/ cc3200 (80MHz)
LaunchPad w/ msp430g2231 (1MHz)
LaunchPad w/ msp430g2452 (16MHz)
LaunchPad w/ msp430g2553 (16MHz)
FraunchPad w/ msp430fr5739
LaunchPad w/ msp430f5529 (16MHz)
LaunchPad w/ msp430f5529 (25MHz)
LaunchPad w/ msp430fr5969
LaunchPad (Stellaris) w/ lm4f120 (80MHz)
LaunchPad (Tiva C) w/ tm4c123 (80MHz)
LaunchPad (Tiva C) w/ tm4c129 (120MHz)
4
LaunchPad (Tiva C) w/ tm4c123 (80MHz) on /dev/ttyACM0

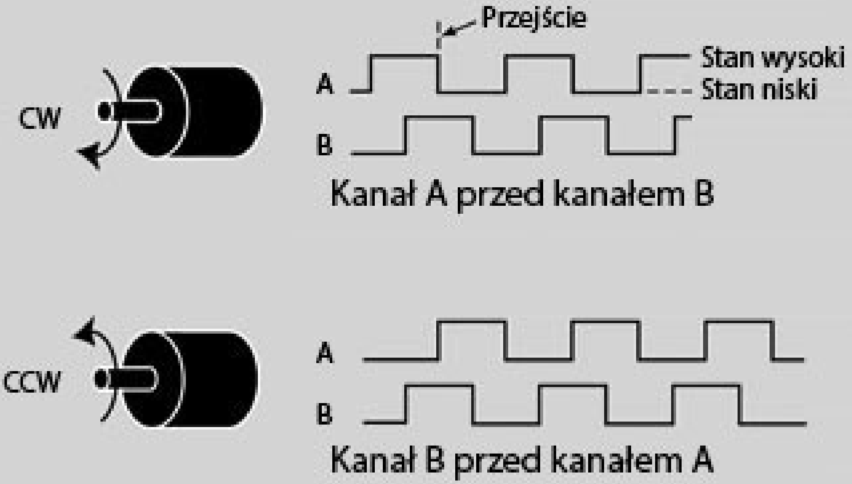


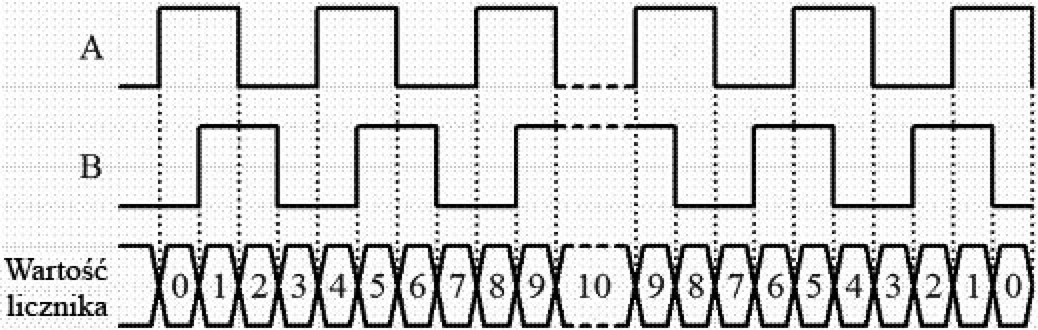
sketch_oct12b | Energia 0101E0013
File Edit Sketch Tools Help
Auto Format Ctrl+T
Archive Sketch
Fix Encoding & Reload
Serial Monitor Ctrl+Shift+M
Board
Serial Port
/dev/ttyACM0
Update programmer
sketch_oct12b
void setup()
{
// put your set
}
void loop()
{
// put your main code here, to run repeatedly:
}
4
LaunchPad (Tiva C) w/ tm4c123 (80MHz) on /dev/ttyACM0

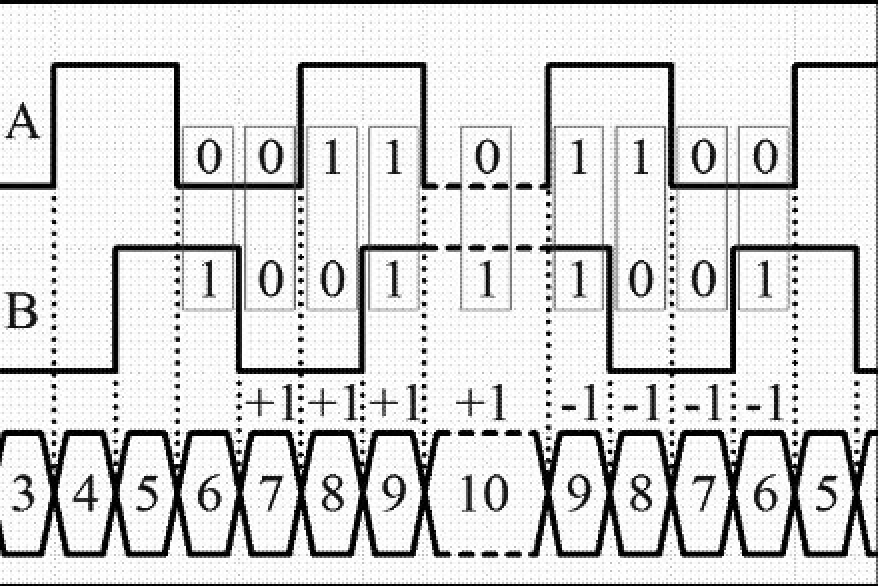

sketch_oct12b | Energia 0101E0013
File Edit Sketch Tools Help
Verify
sketch_oct12b
void setup()
{
// put your setup code here, to run once:
}
void loop()
{
// put your main code here, to run repeatedly:
}
Done compiling.
/tmp/build3932533317938848297.tmp/sketch_oct12b.cpp.o, /tmp/build3932533317938848297.tmp/core.a,
-L/tmp/build3932533317938848297.tmp, -lm, -lc, -lgcc, -L/tmp/build3932533317938848297.tmp, -lm]
[/home/lentin/Desktop/energia-0101E0013/hardware/tools/lm4f/bin/arm-none-eabi-objcopy, -O, binary,
/tmp/build3932533317938848297.tmp/sketch_oct12b.cpp.elf,
/tmp/build3932533317938848297.tmp/sketch_oct12b.cpp.bin]
Binary sketch size: 3,752 bytes (of a 262,144 byte maximum)
4
LaunchPad (Tiva C) w/ tm4c123 (80MHz) on /dev/ttyACM0

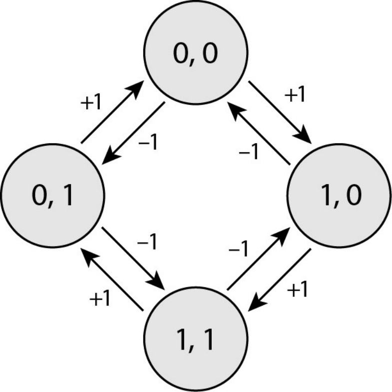

sketch_oct12b | Energia 0101E0013
File Edit Sketch Tools Help
Upload
sketch_oct12b
void setup()
{
// put your setup code here, to run once:
}
void loop()
{
// put your main code here, to run repeatedly:
}
Done uploading.
[/home/lentin/Desktop/energia-0101E0013/hardware/tools/lm4f/bin/arm-none-eabi-objcopy, -O, binary,
/tmp/build3932533317938848297.tmp/sketch_oct12b.cpp.elf,
/tmp/build3932533317938848297.tmp/sketch_oct12b.cpp.bin]
Binary sketch size: 3,752 bytes (of a 262,144 byte maximum)
Found ICDI device with serial: 0E209FAF
ICDI version: 9270
4
LaunchPad (Tiva C) w/ tm4c123 (80MHz) on /dev/ttyACM0

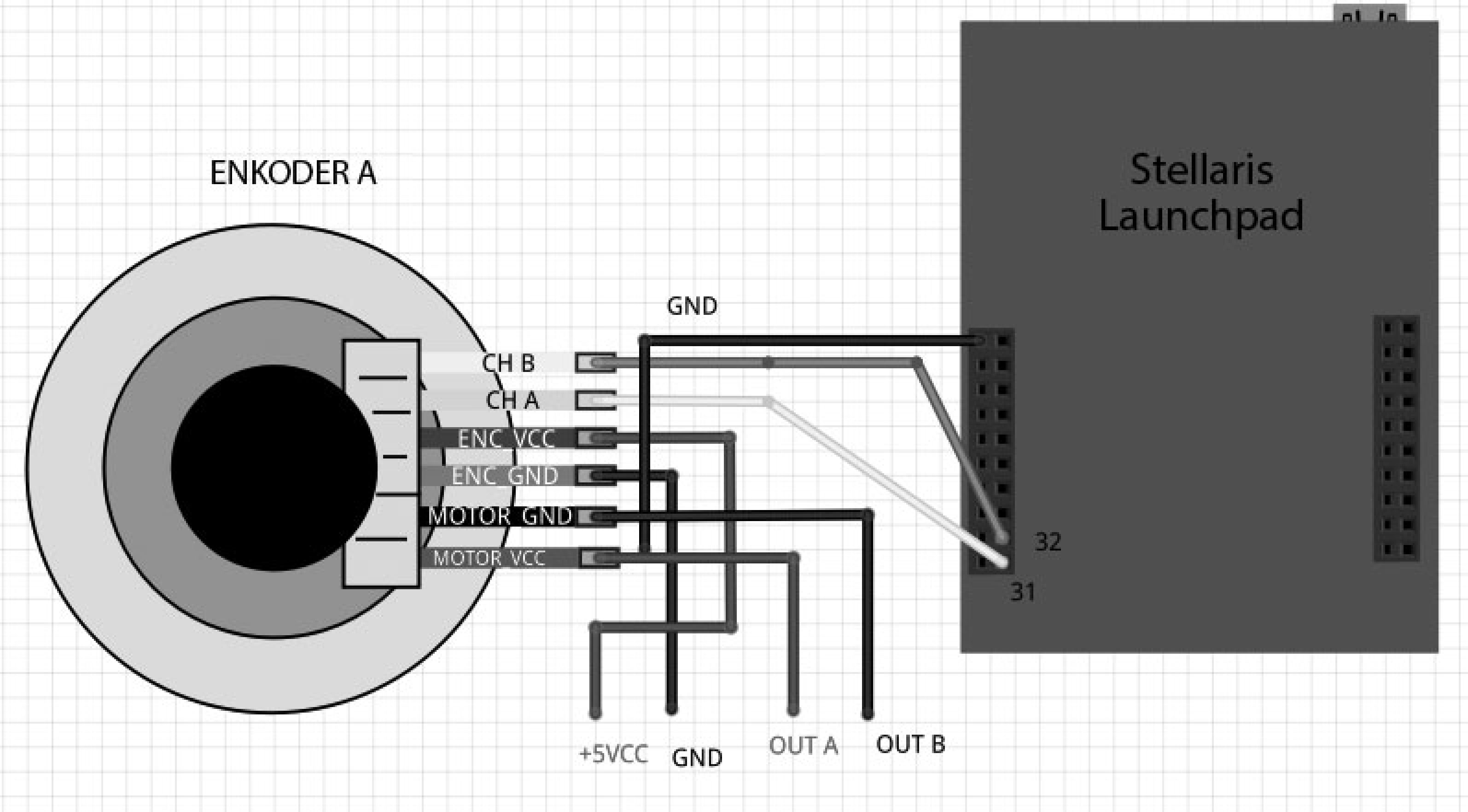
Enkoder kwadraturowy

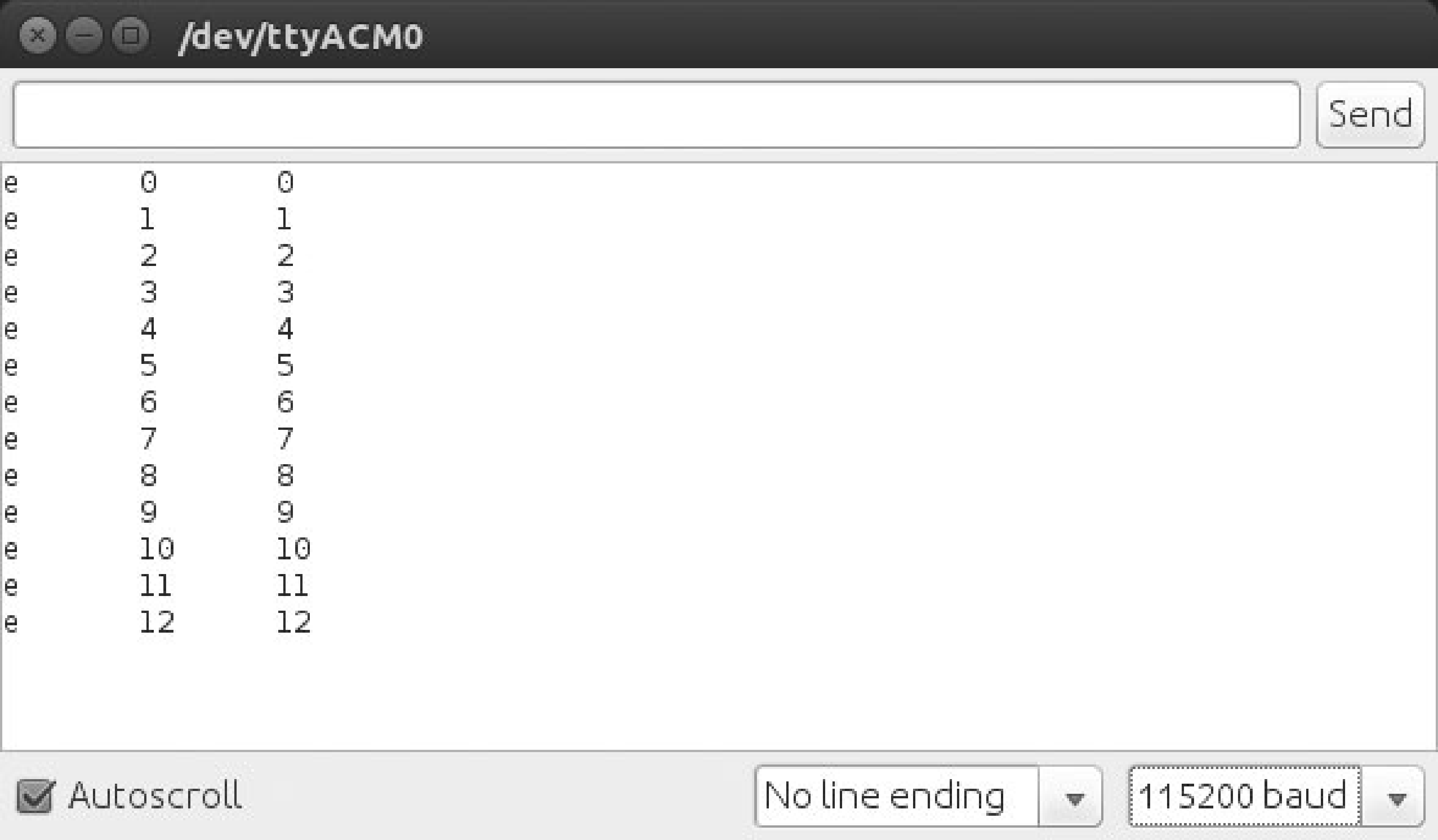


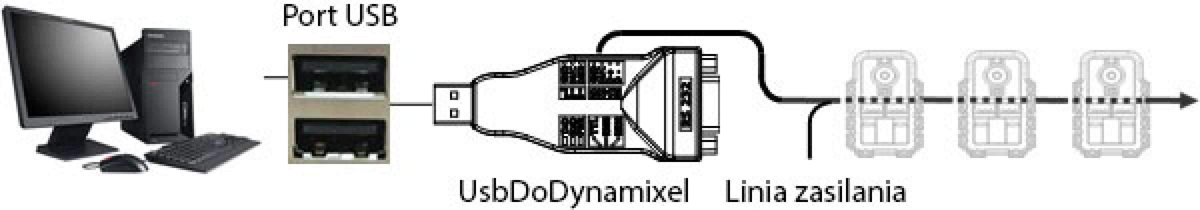

A
B
Wartość
licznika
0
1
2
3
4
5
6
7
8
9
10
9
8
7
6
5
4
3
2
1
0

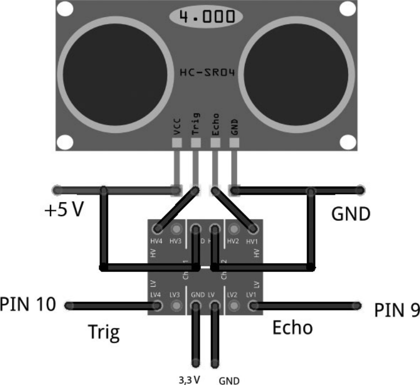

A
B
0 0 1 1 0 1 1 0 0
1 0 0 1 1 1 0 0 1
+1 +1 +1 +1 -1 -1 -1 -1
3 4 5 6 7 8 9 10 9 8 7 6 5

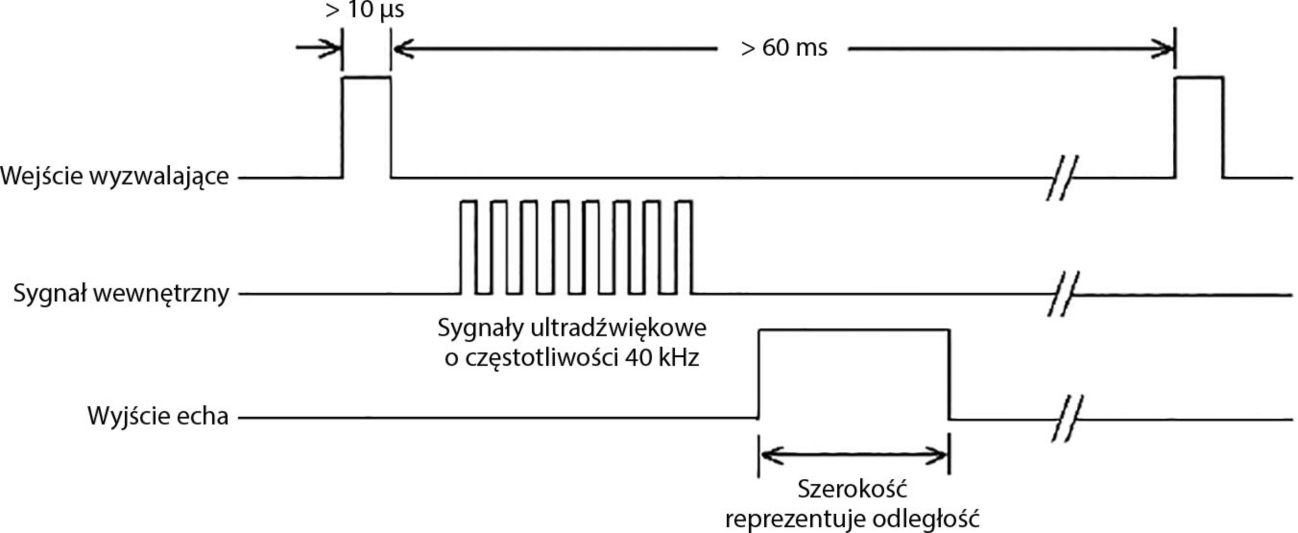

0, 0
+1
+1
−1
−1
0, 1
1, 0
−1
−1
+1
+1
1, 1

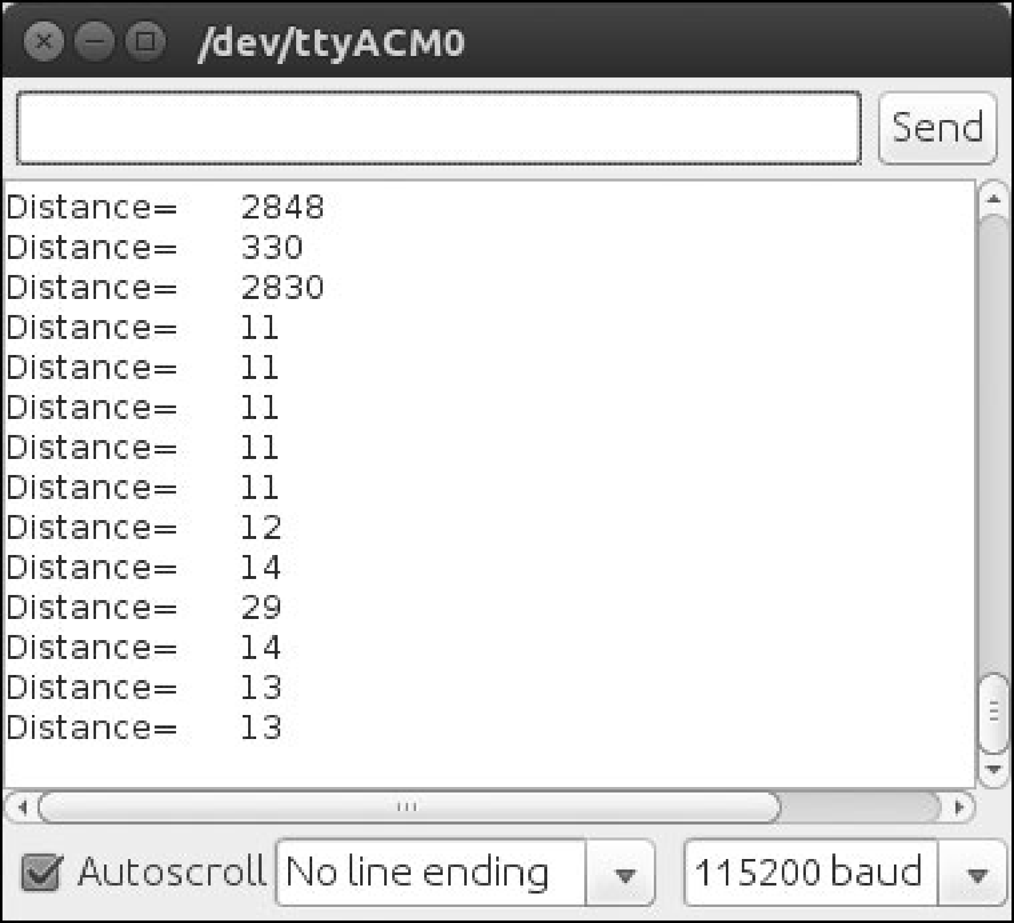

ENKODER A
Stellaris
Launchpad
GND
CH B
CH A
ENC_VCC
ENC_GND
MOTOR_GND
MOTOR_VCC
32
31
+5VCC
GND
OUT A
OUT B


/dev/ttyACM0
Send
e 0 0
e 1 1
e 2 2
e 3 3
e 4 4
e 5 5
e 6 6
e 7 7
e 8 8
e 9 9
e 10 10
e 11 11
e 12 12
Autoscroll
No line ending
115200 baud

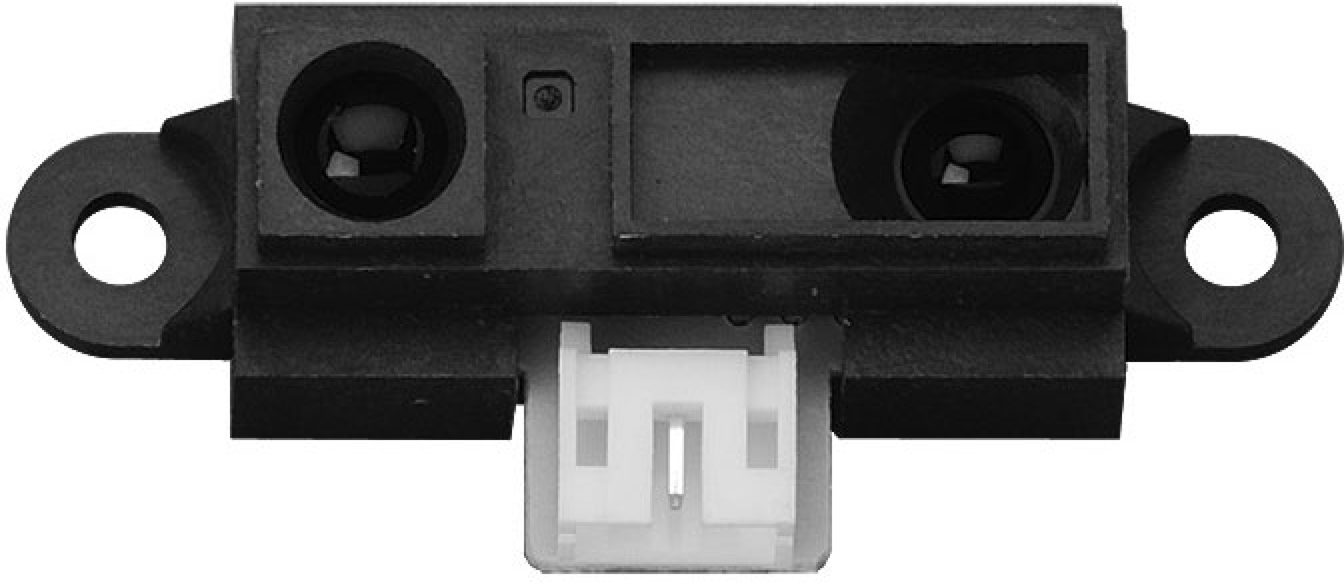

Port USB
UsbDoDynamixel
Linia zasilania

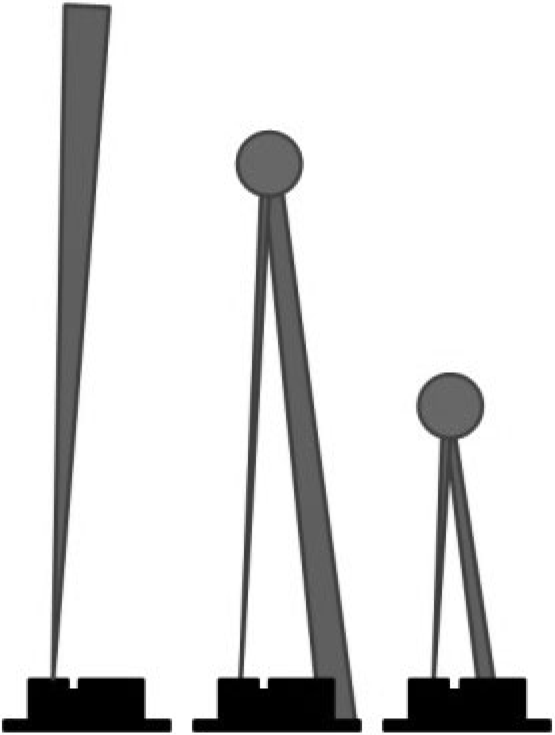

4.000
HC-SR04
VCC
Trig
Echo
GND
+5 V
GND
HV4
HV3
HV2
HV1
LV4
LV3
GND
LV
LV2
LV1
PIN 10
PIN 9
Trig
Echo
3,3 V
GND

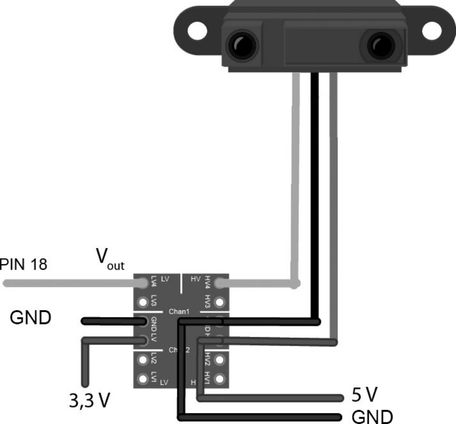

> 10 µs
> 60 ms
Wejście wyzwalające
Sygnał wewnętrzny
Sygnały ultradźwiękowe
o częstotliwości 40 kHz
Wyjście echa
Szerokość
reprezentuje odległość

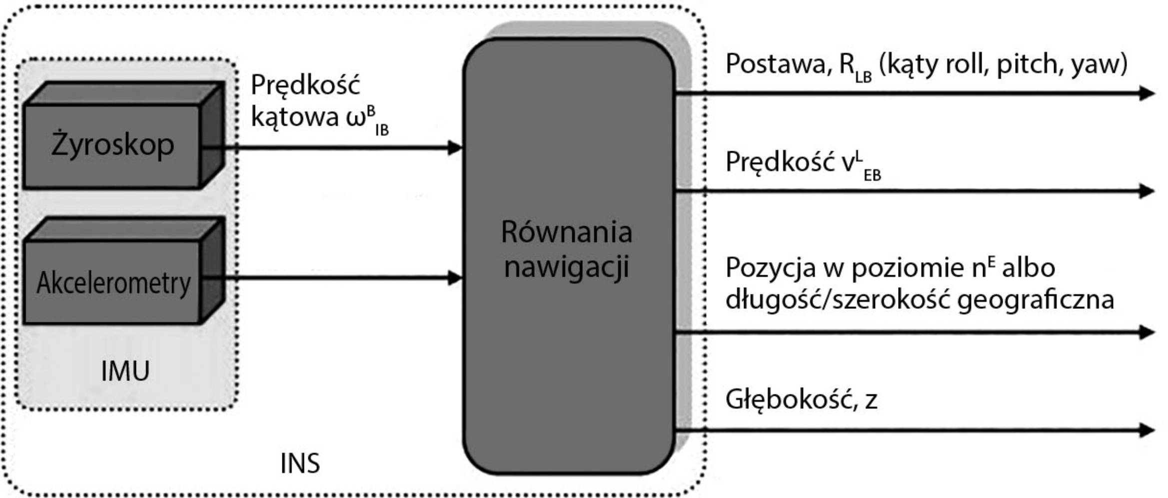

/dev/ttyACM0
Send
Distance= 2848
Distance= 330
Distance= 2830
Distance= 11
Distance= 11
Distance= 11
Distance= 11
Distance= 11
Distance= 12
Distance= 14
Distance= 29
Distance= 14
Distance= 13
Distance= 13
Autoscroll
No line ending
115200 baud

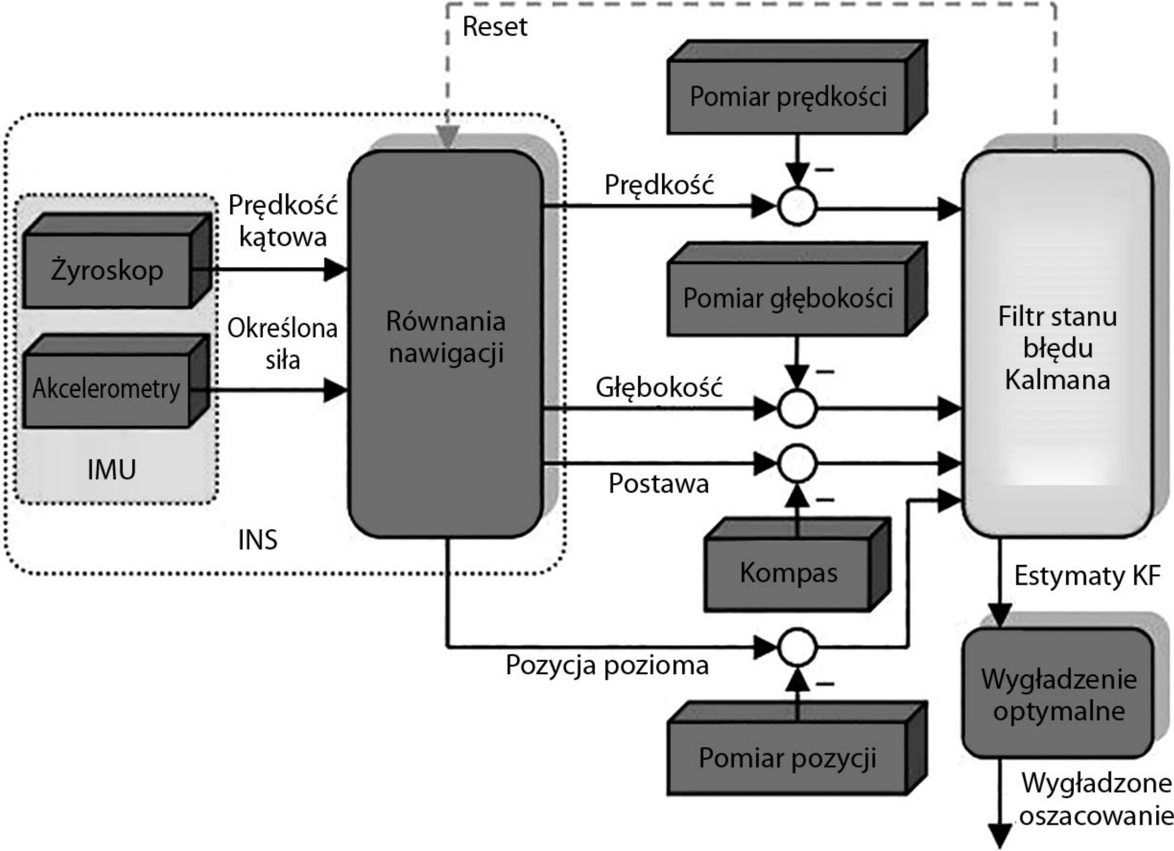
```
lentin@lentin-Aspire-4755: ~

Odległość=          12

Odległość=          2903

Odległość=          5

Odległość=          9

Odległość=          7

Odległość=          6

```



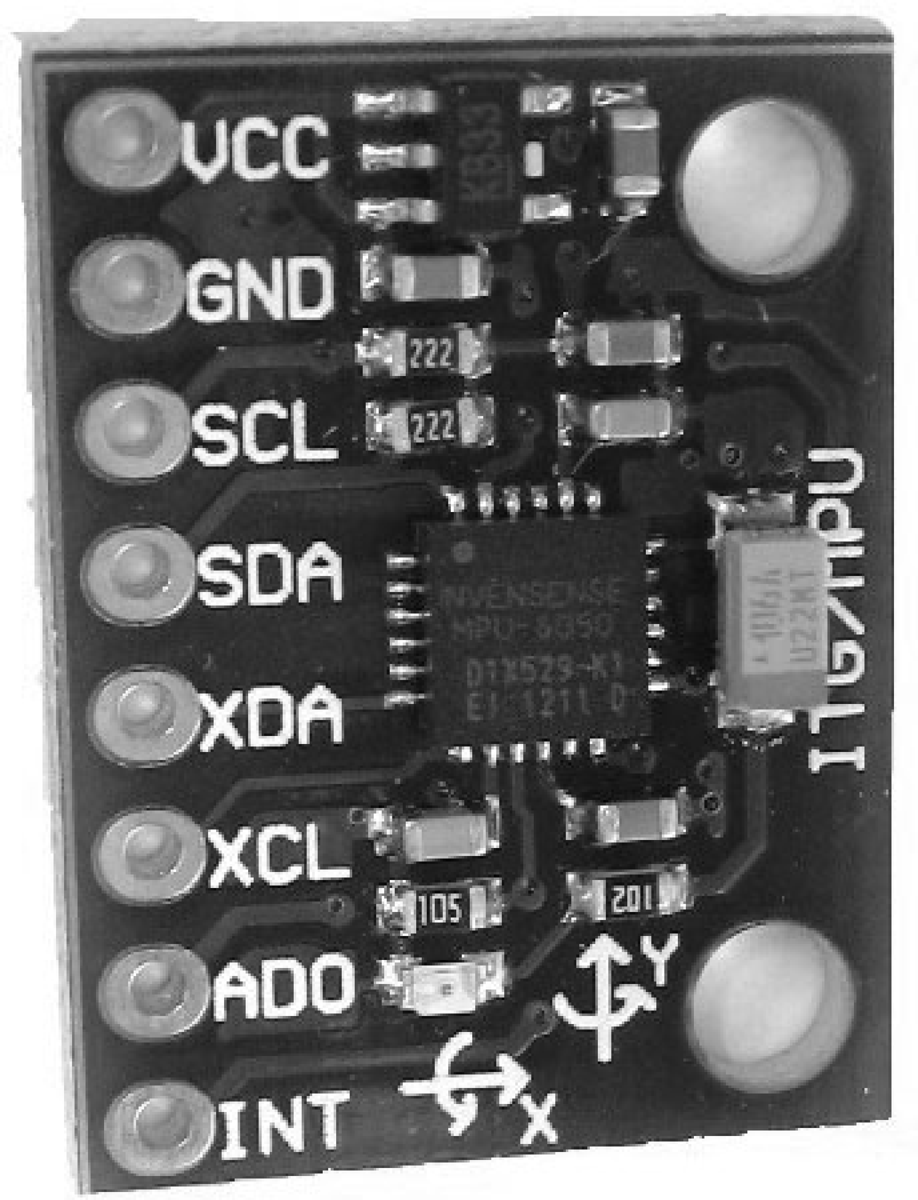


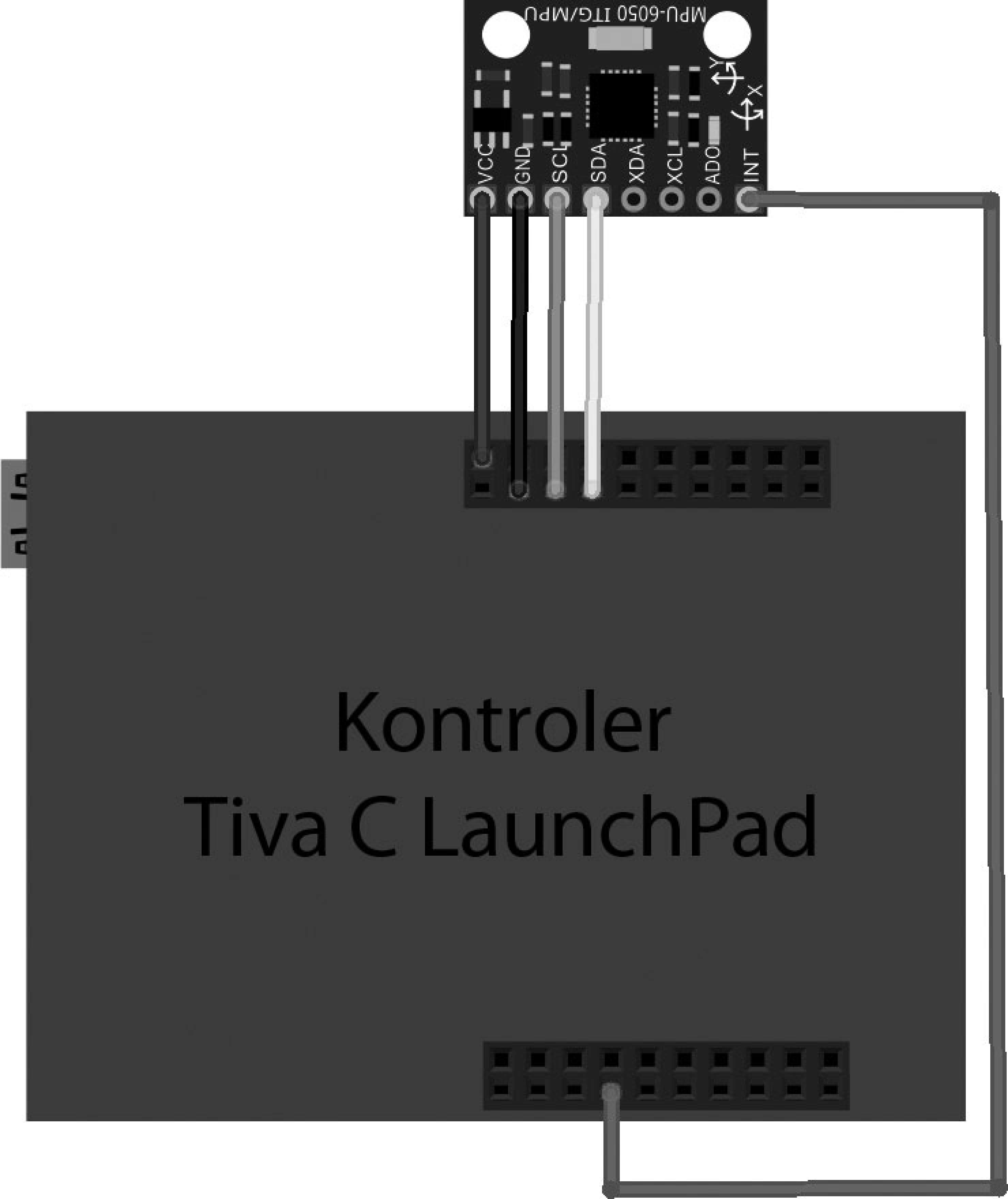

PIN 18
V_{out}
GND
3,3 V
LV4
LV3
GND
LV
LV2
LV1
LV
HV
HV4
HV3
HV2
HV1
Chan1
5 V
GND

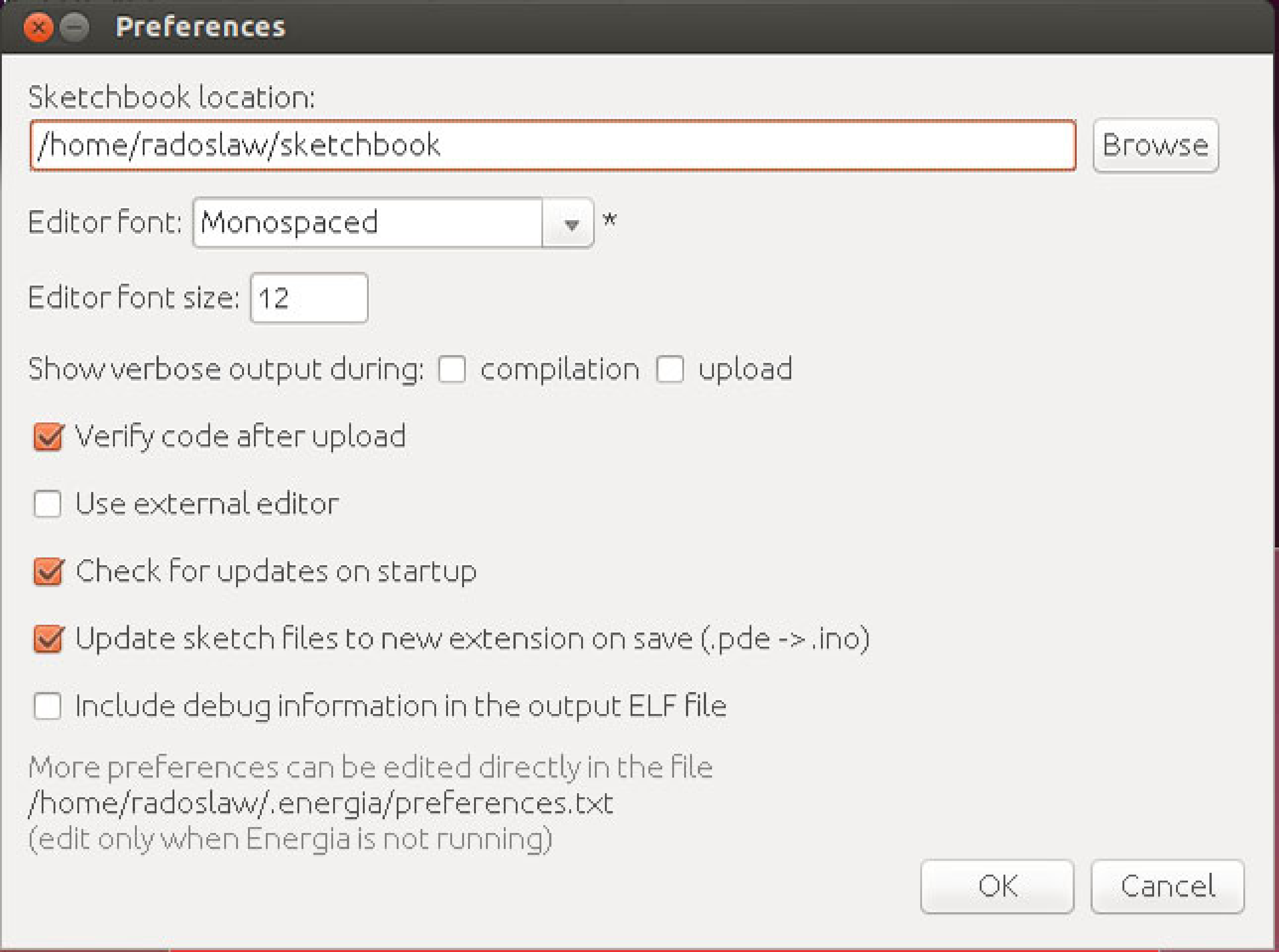

Żyroskop
Akcelerometry
IMU
Prędkość kątowa ω^{B}_{IB}
Równania nawigacji
INS
Postawa, R_{LB} (kąty roll, pitch, yaw)
Prędkość v^{L}_{EB}
Pozycja w poziomie n^{E} albo długość/szerokość geograficzna
Głębokość, z

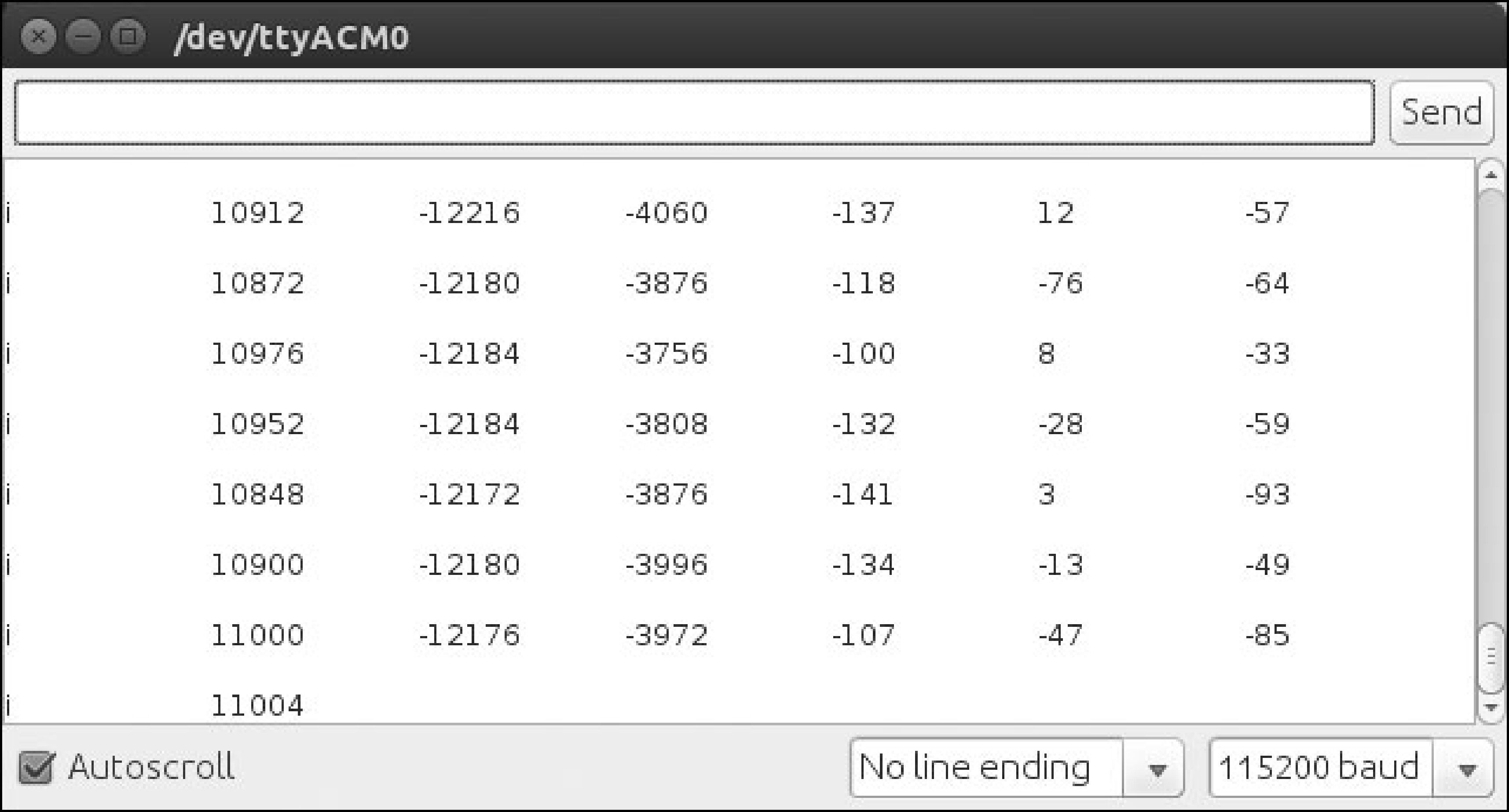

Reset
Pomiar prędkości
Prędkość kątowa
Żyroskop
Określona siła
Akcelerometry
IMU
INS
Równania nawigacji
Prędkość
Pomiar głębokości
Głębokość
Postawa
Kompas
Pozycja pozioma
Pomiar pozycji
Filtr stanu błędu Kalmana
Estymaty KF
Wygładzenie optymalne
Wygładzone oszacowanie


Trzyosiowy kompas
MPU-6000/
MPU-6050
Żyroskop
Akcelerometr
DMP
FIFO
I²C or SPI
Procesor aplikacji


VCC
GND
SCL
SDA
XDA
XCL
ADO
INT
222
222
105
201
Y
X
ITG/MPU
INVENSENSE
MPU-6050


MPU-6050 ITG/MPU
VCC
GND
SCL
SDA
XDA
XCL
ADO
INT
Y
X
Kontroler
Tiva C LaunchPad


Preferences
Sketchbook location:
/home/radoslaw/sketchbook
Browse
Editor font: Monospaced *
Editor font size: 12
Show verbose output during: compilation upload
Verify code after upload
Use external editor
Check for updates on startup
Update sketch files to new extension on save (.pde -> .ino)
Include debug information in the output ELF file
More preferences can be edited directly in the file
/home/radoslaw/.energia/preferences.txt
(edit only when Energia is not running)
OK
Cancel


/dev/ttyACM0
Send
i 10912 -12216 -4060 -137 12 -57
i 10872 -12180 -3876 -118 -76 -64
i 10976 -12184 -3756 -100 8 -33
i 10952 -12184 -3808 -132 -28 -59
i 10848 -12172 -3876 -141 3 -93
i 10900 -12180 -3996 -134 -13 -49
i 11000 -12176 -3972 -107 -47 -85
i 11004
Autoscroll
No line ending
115200 baud

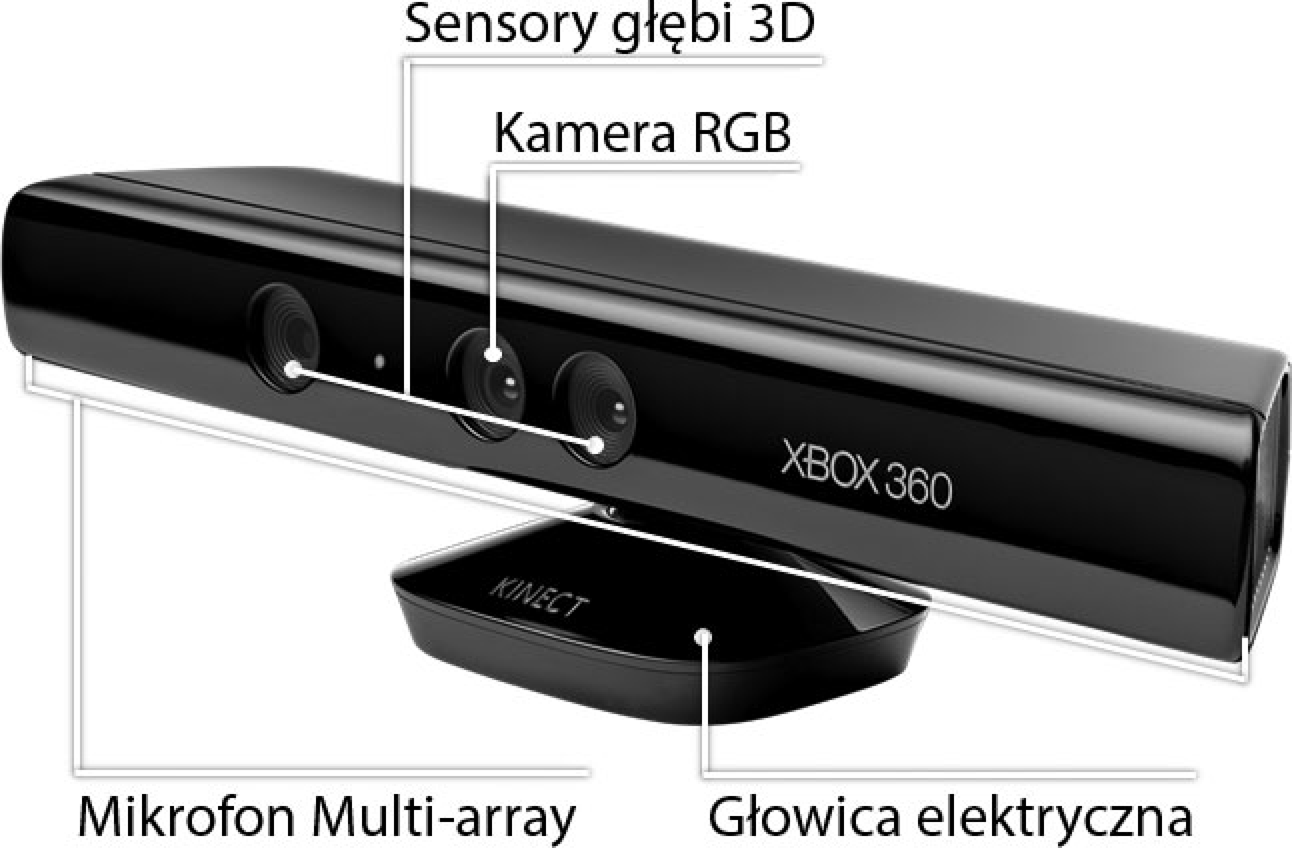
```
lentin@lentin-Aspire-4755: ~

i        10904    -12140  -3864    -152     46        -86

i        10964    -12156  -3940    -151     43        -76

i        11008    -12152  -3780    -146     23        -59
```

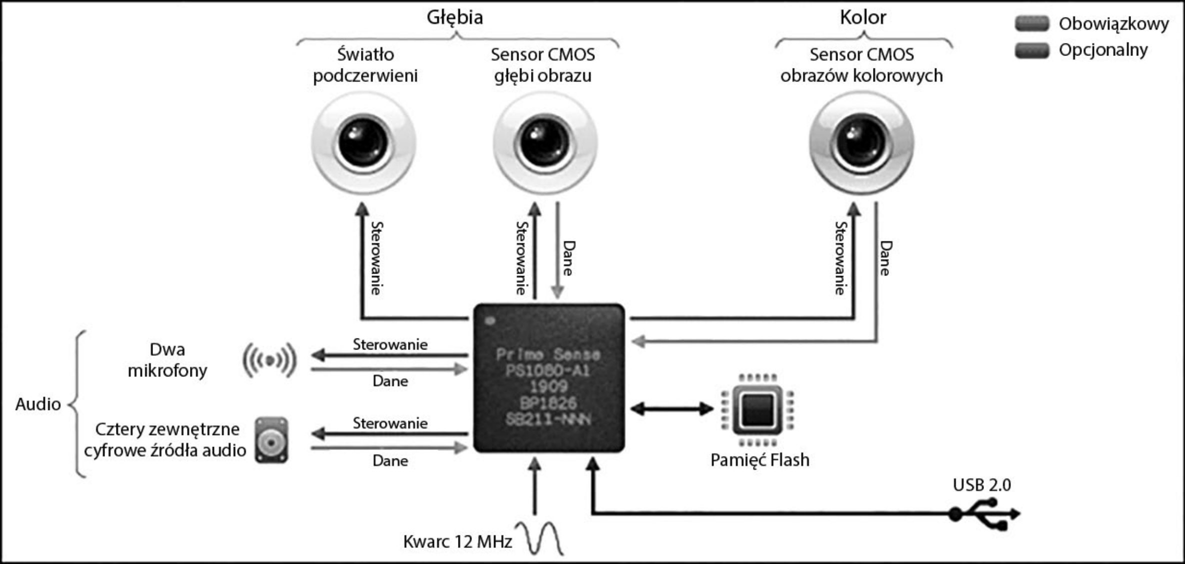

/dev/ttyACM0
Send
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
i -0.56 -0.07 0.49 -0.67
Autoscroll
No line ending
115200 baud

```
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
i         -0.56   -0.07   0.49    -0.67
```


PIXY
open source
hardware

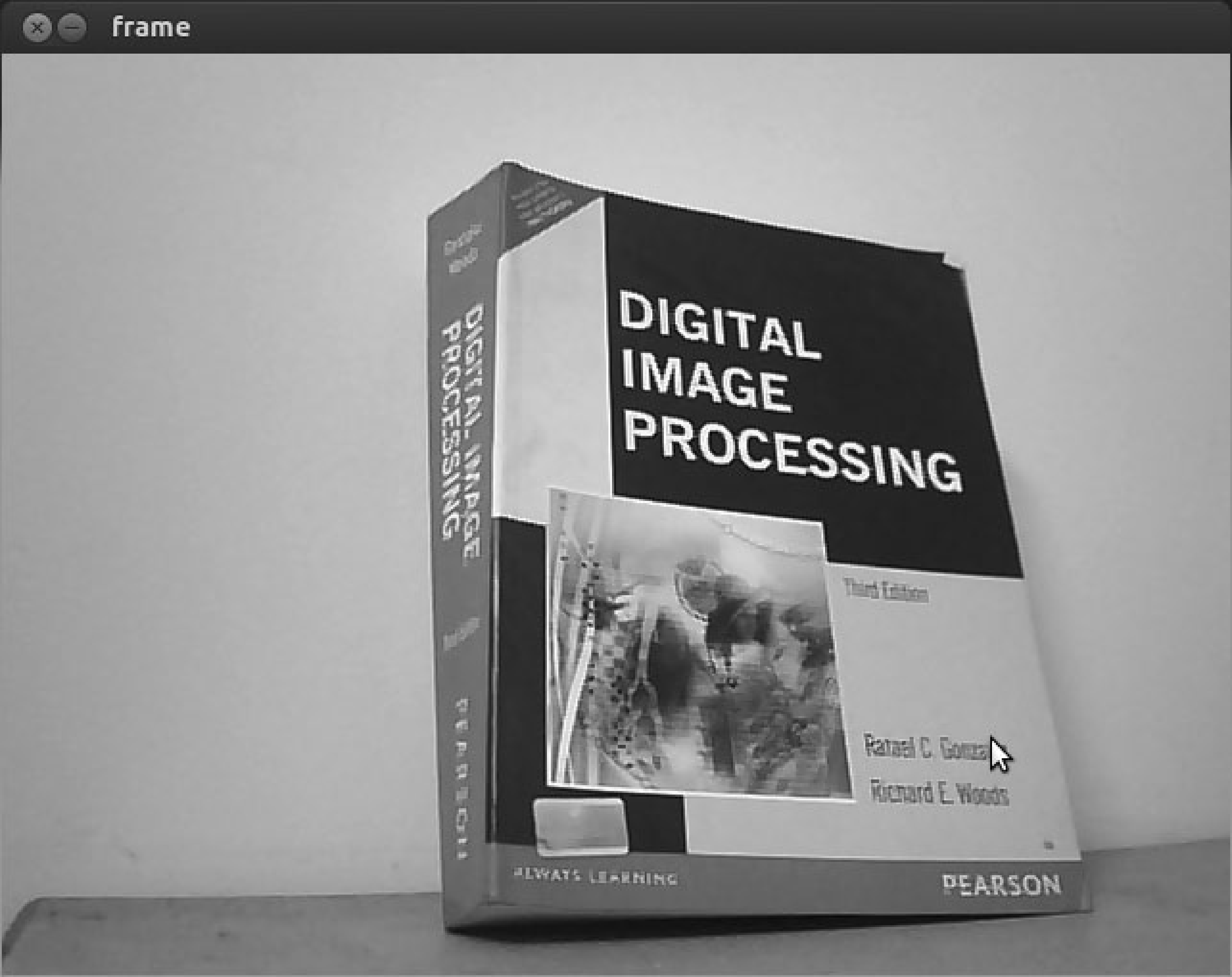

Logitech

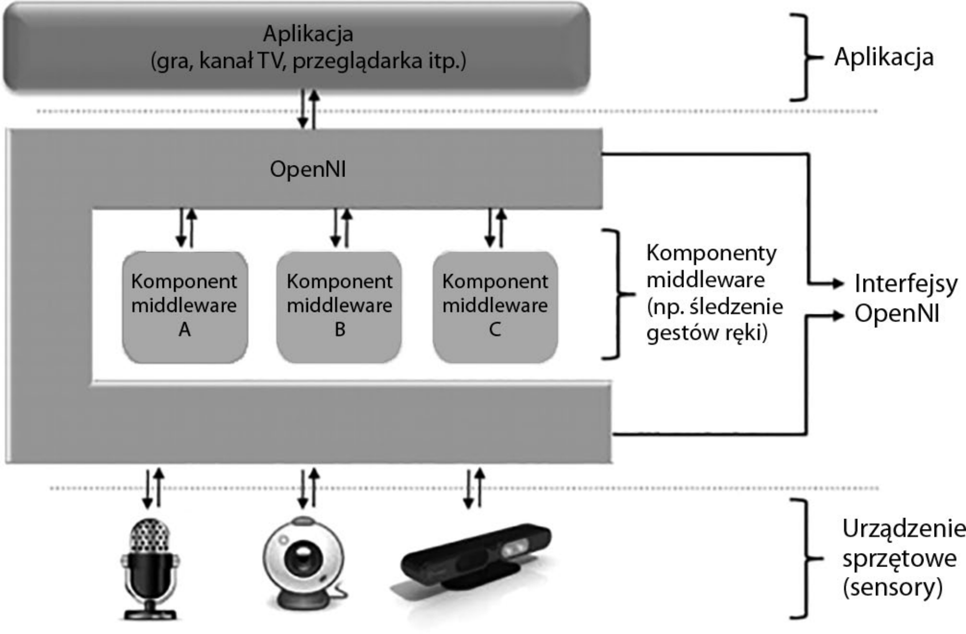

Sensory głębi 3D
Kamera RGB
XBOX 360
KINECT
Mikrofon Multi-array
Głowica elektryczna


Głębia
Kolor
Obowiązkowy
Opcjonalny
Światło podczerwieni
Sensor CMOS głębi obrazu
Sensor CMOS obrazów kolorowych
Sterowanie
Sterowanie
Dane
Sterowanie
Dane
Dwa mikrofony
Sterowanie
Dane
Audio
Cztery zewnętrzne cyfrowe źródła audio
Sterowanie
Dane
Prime Sense PS1080-A1 1909 BP1826 SB211-NNN
Pamięć Flash
USB 2.0
Kwarc 12 MHz

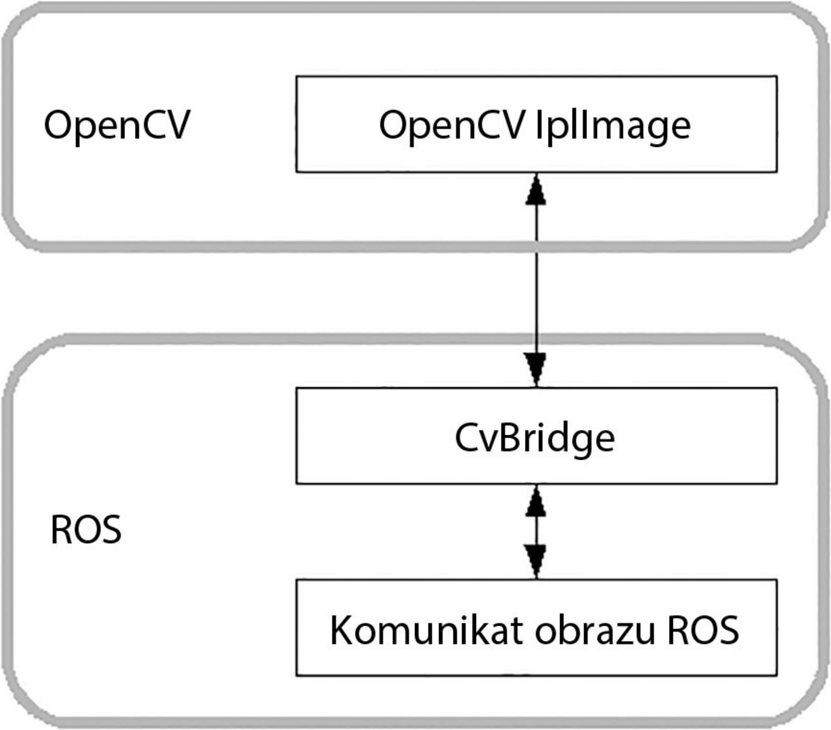
OpenCV


image
ASIMO
HONDA

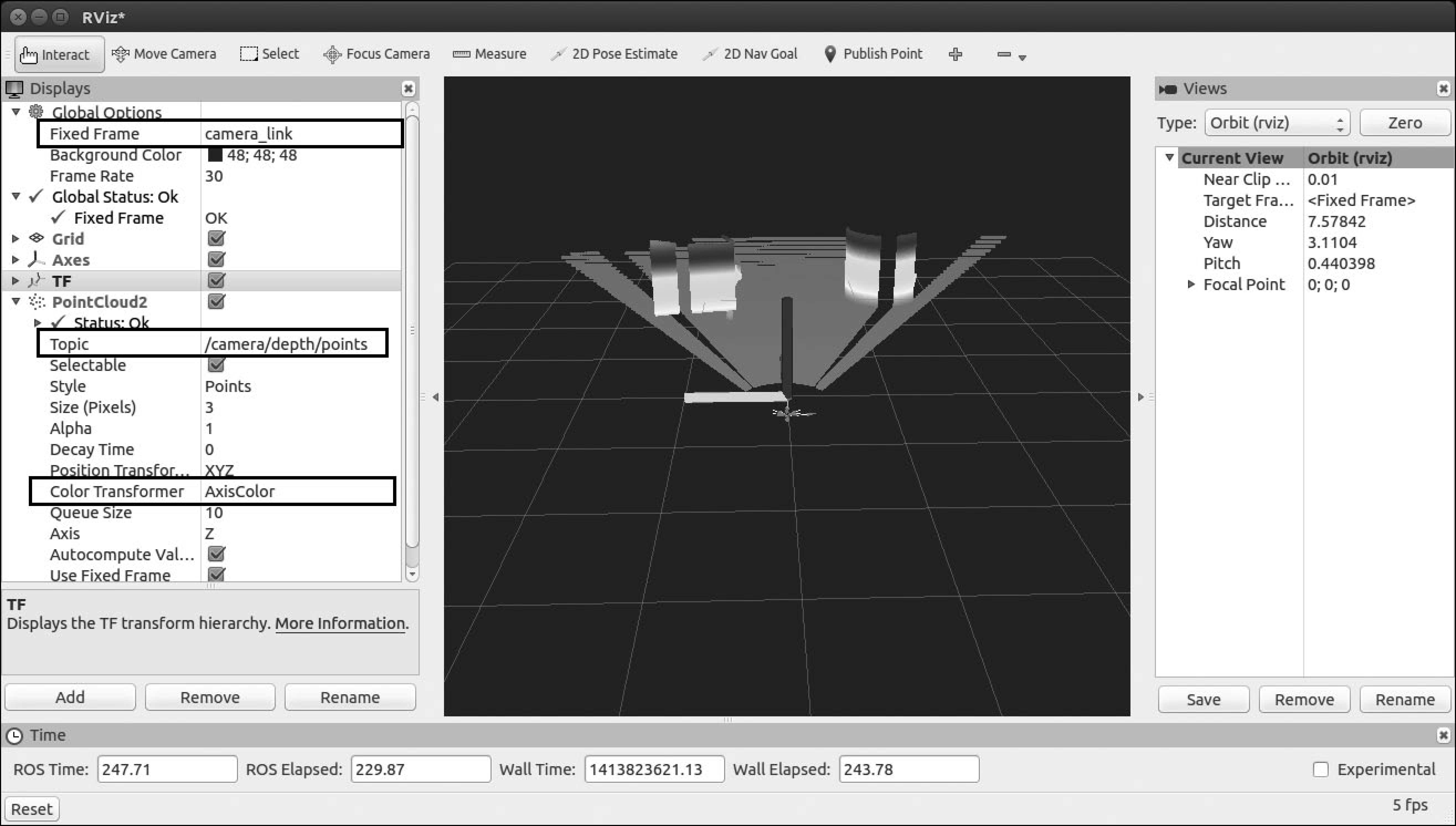

frame
DIGITAL IMAGE PROCESSING
Third Edition
Rafael C. Gonza
Richard E. Woods
ALWAYS LEARNING
PEARSON

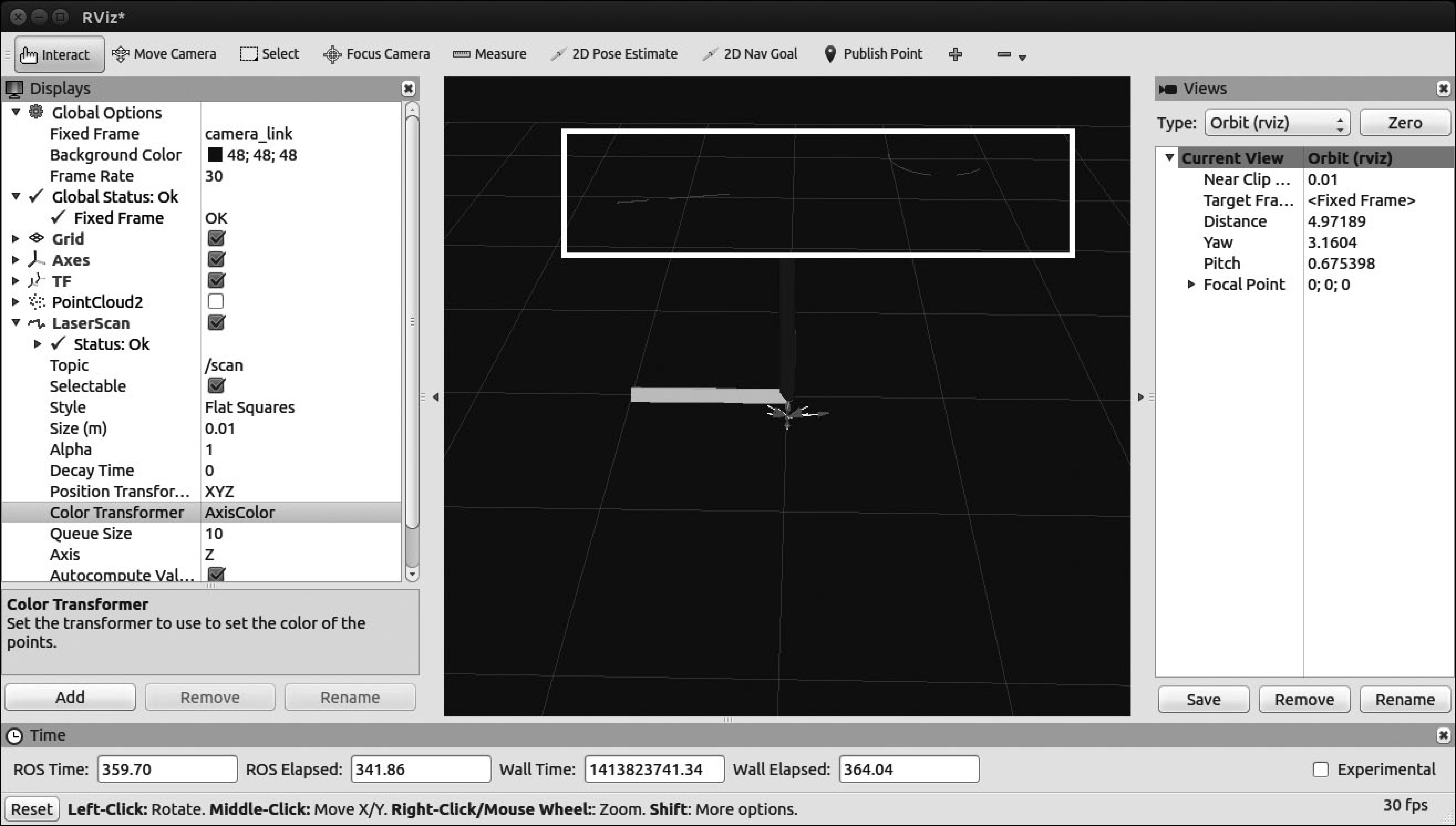

Aplikacja
(gra, kanał TV, przeglądarka itp.)
Aplikacja
OpenNI
Komponent middleware A
Komponent middleware B
Komponent middleware C
Komponenty middleware (np. śledzenie gestów ręki)
Interfejsy OpenNI
Urządzenie sprzętowe (sensory)

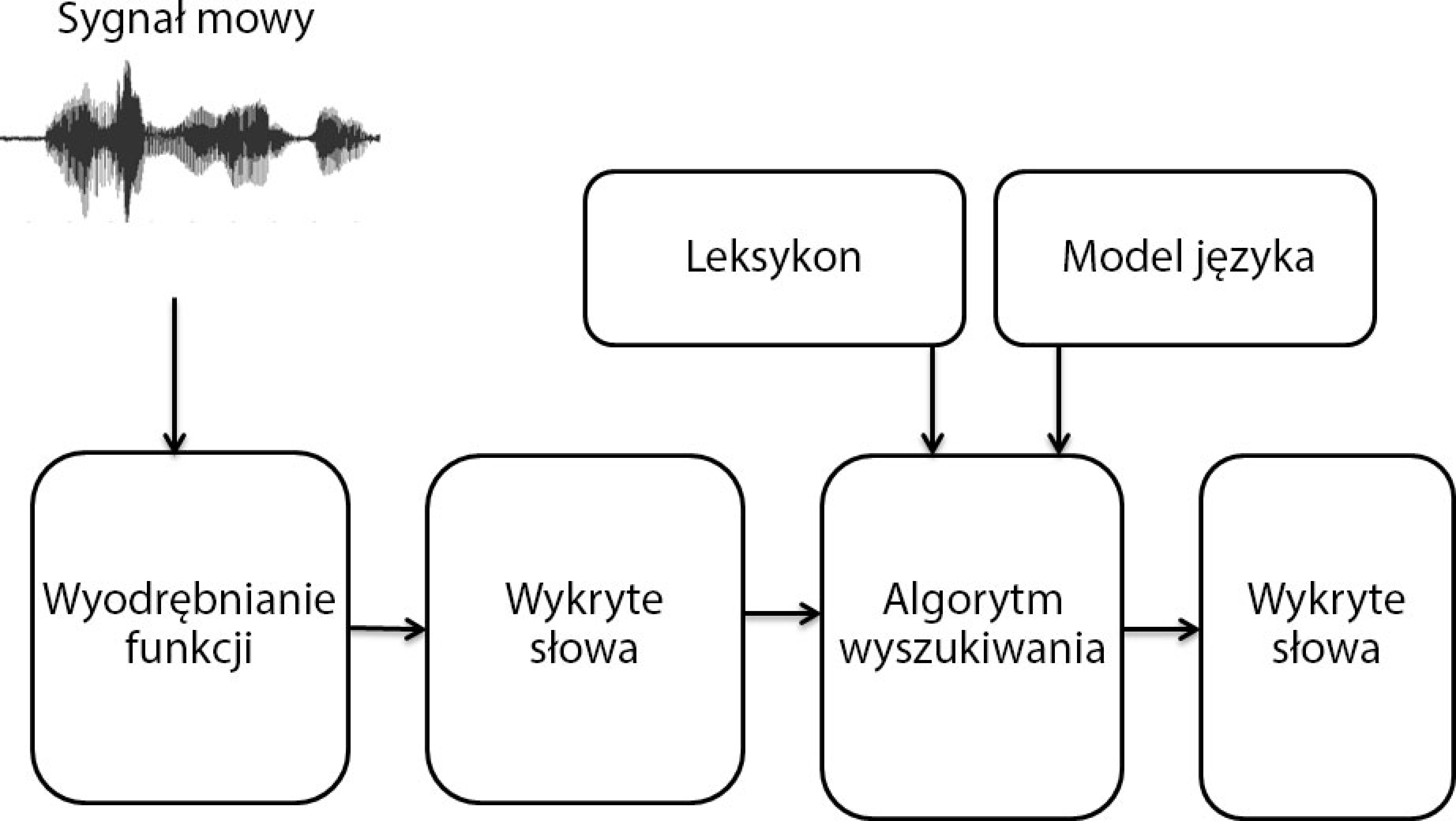
pcl

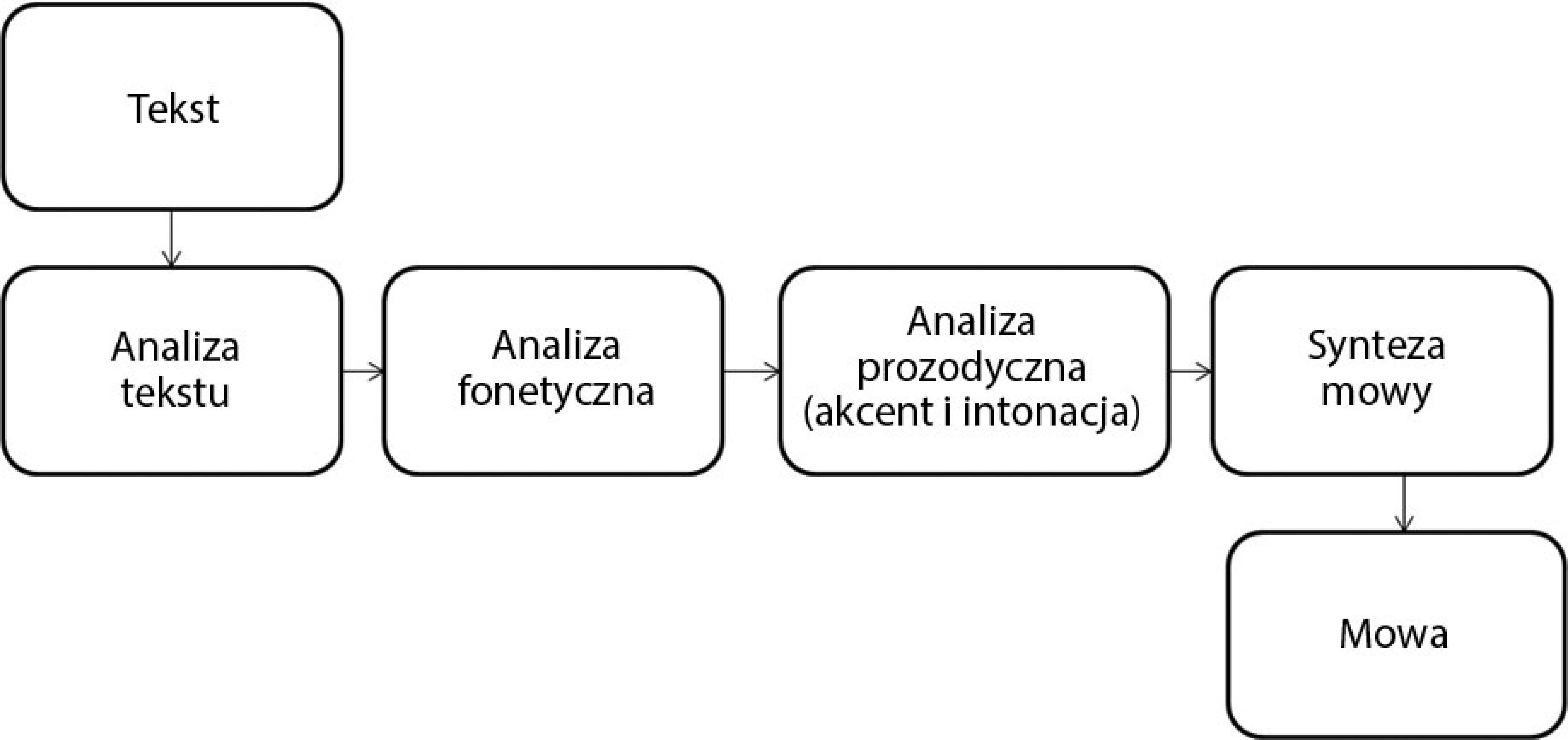

OpenCV
OpenCV IplImage
ROS
CvBridge
Komunikat obrazu ROS


Obraz RGB
DIGITAL
IMAGE
PROCESSING
PEARSON
Obraz głębi
Obraz krawędzi


RViz*
Interact
Move Camera
Select
Focus Camera
Measure
2D Pose Estimate
2D Nav Goal
Publish Point
Displays
Global Options
Fixed Frame
camera_link
Background Color
48; 48; 48
Frame Rate
30
Global Status: Ok
Fixed Frame
OK
Grid
Axes
TF
PointCloud2
Status: Ok
Topic
/camera/depth/points
Selectable
Style
Points
Size (Pixels)
3
Alpha
1
Decay Time
0
Position Transfor...
XYZ
Color Transformer
AxisColor
Queue Size
10
Axis
Z
Autocompute Val...
Use Fixed Frame
TF
Displays the TF transform hierarchy. More Information.
Add
Remove
Rename
Views
Type:
Orbit (rviz)
Zero
Current View
Orbit (rviz)
Near Clip ...
0.01
Target Fra...
<Fixed Frame>
Distance
7.57842
Yaw
3.1104
Pitch
0.440398
Focal Point
0; 0; 0
Save
Remove
Rename
Time
ROS Time:
247.71
ROS Elapsed:
229.87
Wall Time:
1413823621.13
Wall Elapsed:
243.78
Experimental
Reset
5 fps


RViz*
Interact
Move Camera
Select
Focus Camera
Measure
2D Pose Estimate
2D Nav Goal
Publish Point
Displays
Global Options
Fixed Frame camera_link
Background Color 48; 48; 48
Frame Rate 30
Global Status: Ok
Fixed Frame OK
Grid
Axes
TF
PointCloud2
LaserScan
Status: Ok
Topic /scan
Selectable
Style Flat Squares
Size (m) 0.01
Alpha 1
Decay Time 0
Position Transfor... XYZ
Color Transformer AxisColor
Queue Size 10
Axis Z
Autocompute Val...
Color Transformer
Set the transformer to use to set the color of the points.
Add
Remove
Rename
Views
Type: Orbit (rviz)
Zero
Current View Orbit (rviz)
Near Clip ... 0.01
Target Fra... <Fixed Frame>
Distance 4.97189
Yaw 3.1604
Pitch 0.675398
Focal Point 0; 0; 0
Save
Remove
Rename
Time
ROS Time: 359.70
ROS Elapsed: 341.86
Wall Time: 1413823741.34
Wall Elapsed: 364.04
Experimental
Reset
Left-Click: Rotate. Middle-Click: Move X/Y. Right-Click/Mouse Wheel:: Zoom. Shift: More options.
30 fps


Sygnał mowy
Leksykon
Model języka
Wyodrębnianie funkcji
Wykryte słowa
Algorytm wyszukiwania
Wykryte słowa


Tekst
Analiza tekstu
Analiza fonetyczna
Analiza prozodyczna (akcent i intonacja)
Synteza mowy
Mowa

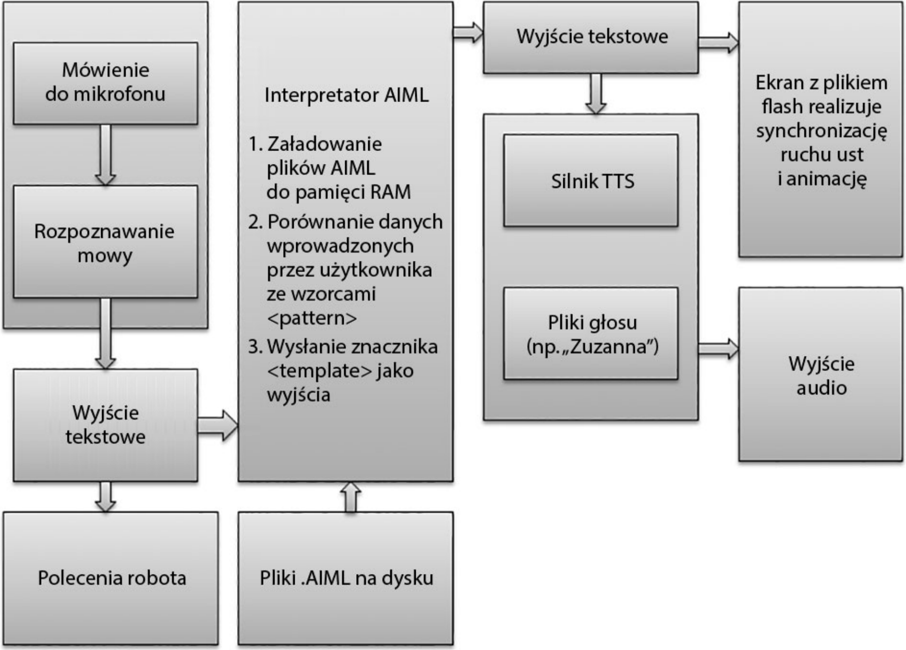
radoslaw@radoslaw-MS-7502: ~

Plik Edycja Widok Wyszukiwanie Terminal Pomoc

```
INFO: ngram_search_fwdflat.c(948): fwdflat 0.34 CPU 0.022 xRT
INFO: ngram_search_fwdflat.c(951): fwdflat 0.35 wall 0.022 xRT
INFO: ngram_search.c(1266): lattice start node <s>.0 end node </s>.1570
INFO: ngram_search.c(1294): Eliminated 0 nodes before end node
INFO: ngram_search.c(1399): Lattice has 993 nodes, 3275 links
INFO: ps_lattice.c(1365): Normalizer P(O) = alpha(</s>:1570:1586) = -10474099
INFO: ps_lattice.c(1403): Joint P(O,S) = -10569046 P(S|O) = -94947
INFO: ngram_search.c(888): bestpath 0.05 CPU 0.003 xRT
INFO: ngram_search.c(891): bestpath 0.05 wall 0.003 xRT



Wykryty tekst:> ('we heard her a can have horror', '000000000', -200912)




INFO: ngram_search_fwdtree.c(430): TOTAL fwdtree 6.29 CPU 0.396 xRT
INFO: ngram_search_fwdtree.c(433): TOTAL fwdtree 6.41 wall 0.404 xRT
INFO: ngram_search_fwdflat.c(174): TOTAL fwdflat 0.34 CPU 0.022 xRT
INFO: ngram_search_fwdflat.c(177): TOTAL fwdflat 0.35 wall 0.022 xRT
INFO: ngram_search.c(317): TOTAL bestpath 0.05 CPU 0.003 xRT
INFO: ngram_search.c(320): TOTAL bestpath 0.05 wall 0.003 xRT
radoslaw@radoslaw-MS-7502:~$
```

```
INFO: ngram_model_arpa.c(77): No \data\ mark in LM file
INFO: ngram_model_dmp.c(142): Will use memory-mapped I/O for LM file
INFO: ngram_model_dmp.c(196): ngrams 1=5001, 2=436879, 3=418286
INFO: ngram_model_dmp.c(242):     5001 = LM.unigrams(+trailer) read
INFO: ngram_model_dmp.c(288):   436879 = LM.bigrams(+trailer) read
INFO: ngram_model_dmp.c(314):   418286 = LM.trigrams read
INFO: ngram_model_dmp.c(339):    37293 = LM.prob2 entries read
INFO: ngram_model_dmp.c(359):    14370 = LM.bo_wt2 entries read
INFO: ngram_model_dmp.c(379):    36094 = LM.prob3 entries read
INFO: ngram_model_dmp.c(407):      854 = LM.tseg_base entries read
INFO: ngram_model_dmp.c(463):     5001 = ascii word strings read
INFO: ngram_search_fwdtree.c(99): 788 unique initial diphones
INFO: ngram_search_fwdtree.c(147): 0 root, 0 non-root channels, 60 single-phone
words
INFO: ngram_search_fwdtree.c(186): Creating search tree
INFO: ngram_search_fwdtree.c(191): before: 0 root, 0 non-root channels, 60 singl
e-phone words
INFO: ngram_search_fwdtree.c(326): after: max nonroot chan increased to 13428
INFO: ngram_search_fwdtree.c(338): after: 457 root, 13300 non-root channels, 26
single-phone words

(original_code_gst.py:3611): GStreamer-CRITICAL **: gst_clock_get_time: assertio
n 'GST_IS_CLOCK (clock)' failed
Press any key to start recognition:>
```

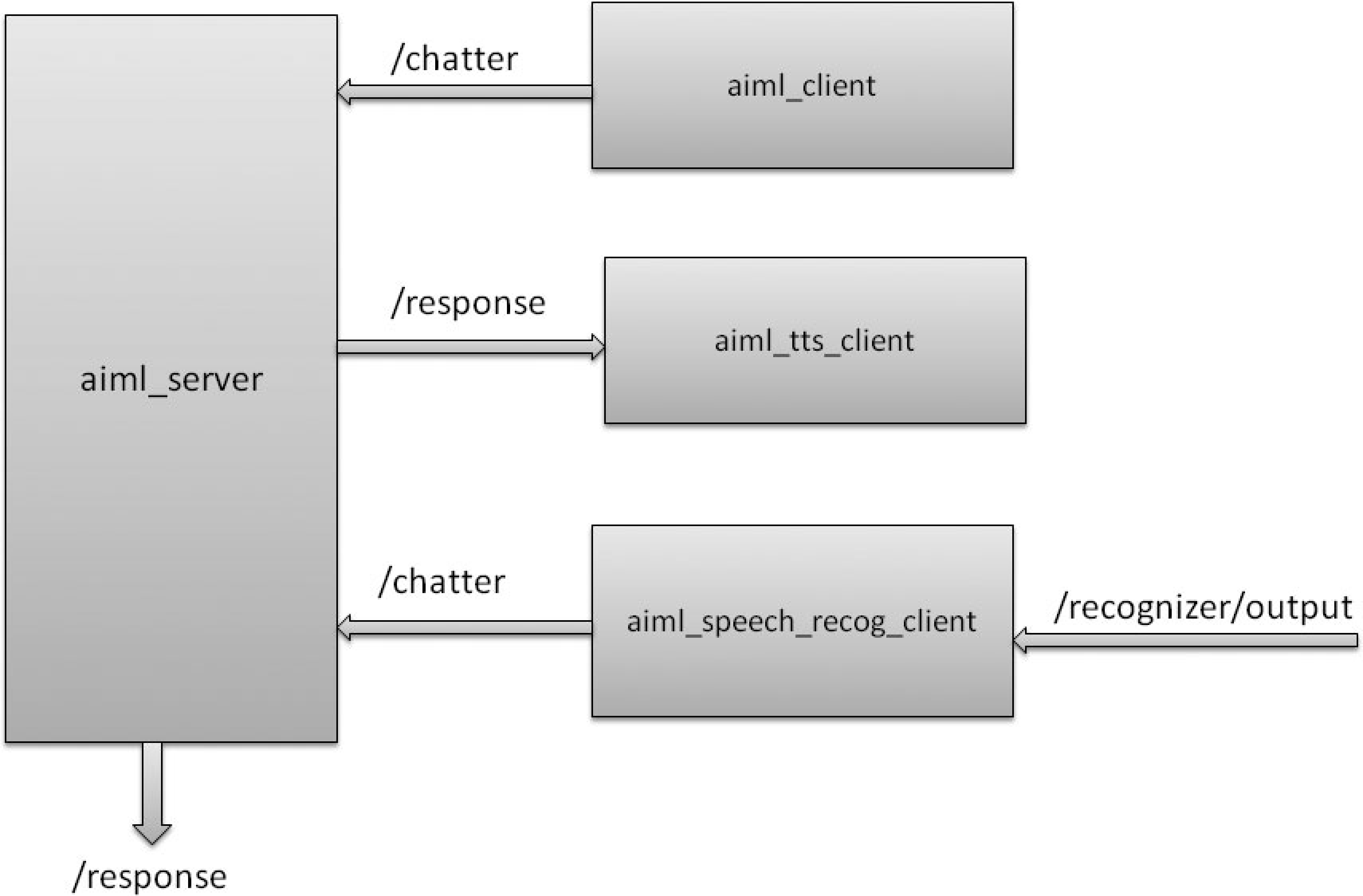
```
lentin@lentin-desktop:~/ros_ws/pocketsphinx/demo$ rostopic echo /recognizer/output
data: move left
---
data: move right
---
data: full speed
---
data: left
---
data: left
---
data: ''
---
```

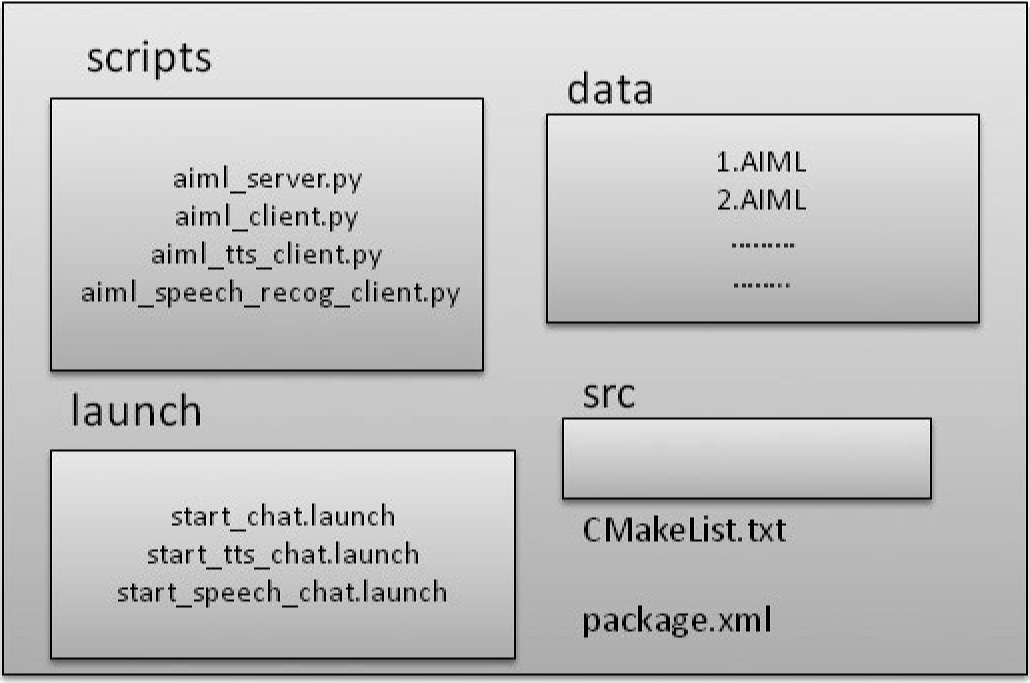

Mówienie do mikrofonu
Rozpoznawanie mowy
Wyjście tekstowe
Polecenia robota
Interpretator AIML
1. Załadowanie plików AIML do pamięci RAM
2. Porównanie danych wprowadzonych przez użytkownika ze wzorcami <pattern>
3. Wysłanie znacznika <template> jako wyjścia
Pliki .AIML na dysku
Wyjście tekstowe
Silnik TTS
Pliki głosu (np. „Zuzanna")
Ekran z plikiem flash realizuje synchronizację ruchu ust i animację
Wyjście audio

```
radoslaw@radoslaw-MS-7502:~/pyaiml$ ./chatbot.py sample.aiml
Loading sample.aiml... done (0.02 seconds)
Wprowadź dane>JAK SIĘ MASZ
W PORZĄDKU
Wprowadź dane>
```

```
Loading music.aiml... done (0.00 seconds)
Loading inquiry.aiml... done (0.01 seconds)
Loading food.aiml... done (0.01 seconds)
Loading loebner10.aiml... done (0.00 seconds)
Loading gossip.aiml... done (0.00 seconds)
Loading knowledge.aiml... done (0.23 seconds)
Loading mp2.aiml... done (1.03 seconds)
Wprowadź dane >How are you
Everything is running smoothly.
Wprowadź dane >
```

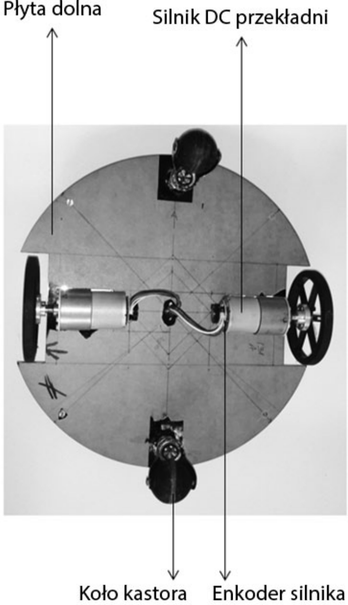
```
Loading primitive-math.aiml... done (0.00 seconds)
Loading interjection.aiml... done (0.01 seconds)
Loading pyschology.aiml... done (0.08 seconds)
Loading salutations.aiml... done (0.01 seconds)
Loading music.aiml... done (0.00 seconds)
Loading inquiry.aiml... done (0.01 seconds)
Loading food.aiml... done (0.01 seconds)
Loading loebner10.aiml... done (0.00 seconds)
Loading gossip.aiml... done (0.00 seconds)
Loading knowledge.aiml... done (0.23 seconds)
Loading mp2.aiml... done (1.01 seconds)
Saving brain to standard.brn... done (0.61 seconds)
Wprowadź dane > How are you
I am doing very well. How are you  ?
Wprowadź dane >
```


/chatter
aiml_client
/response
aiml_tts_client
aiml_server
/chatter
aiml_speech_recog_client
/recognizer/output
/response



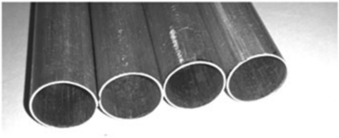
ros_aiml package

Widok z góry

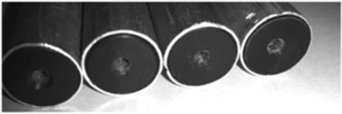


Widok z dołu

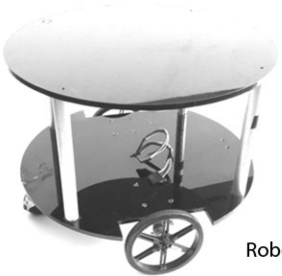
Płyta środkowa



Żeński łącznik płyty dolnej

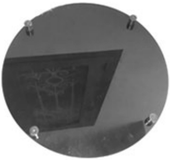


Żeński łącznik płyty środkowej

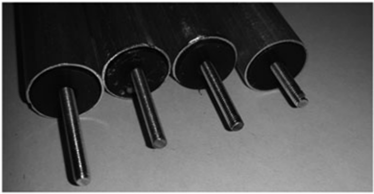


Robot zmontowany do płyty środkowej

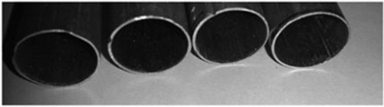
Częściowo zmontowana obudowa robota



Płyta górna

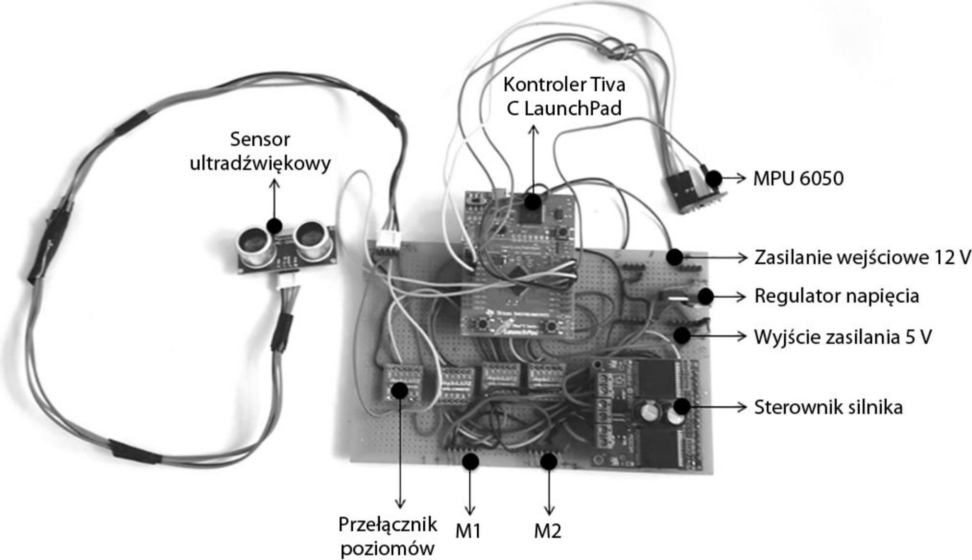


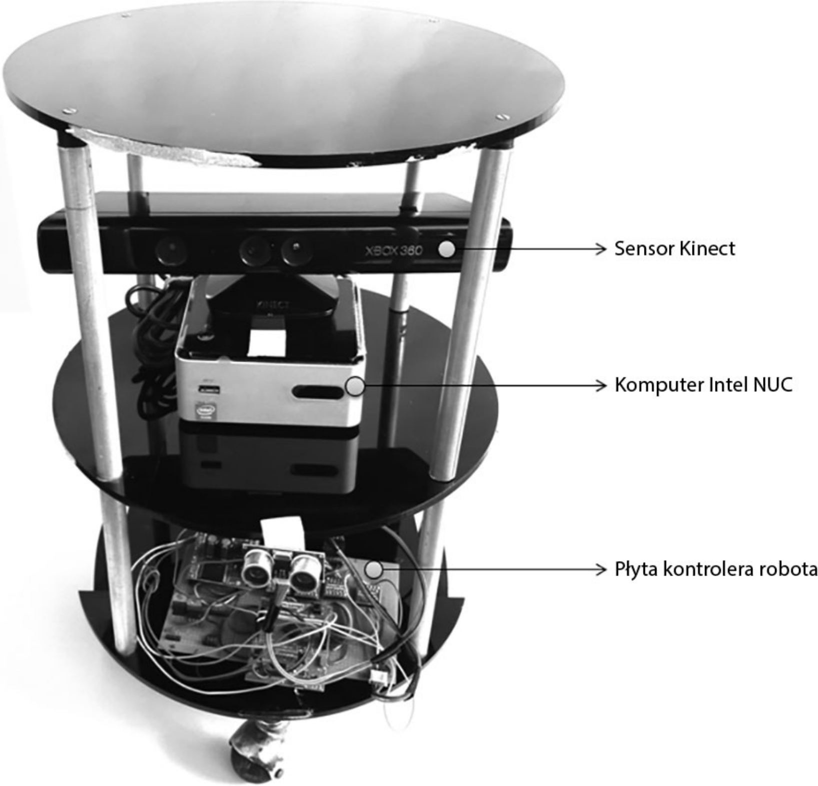
Męski łącznik płyty środkowej

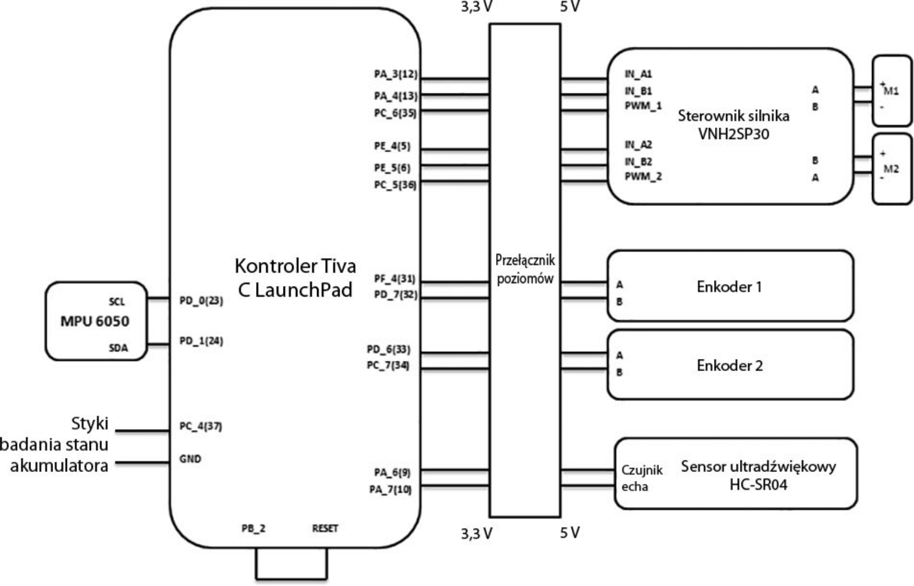


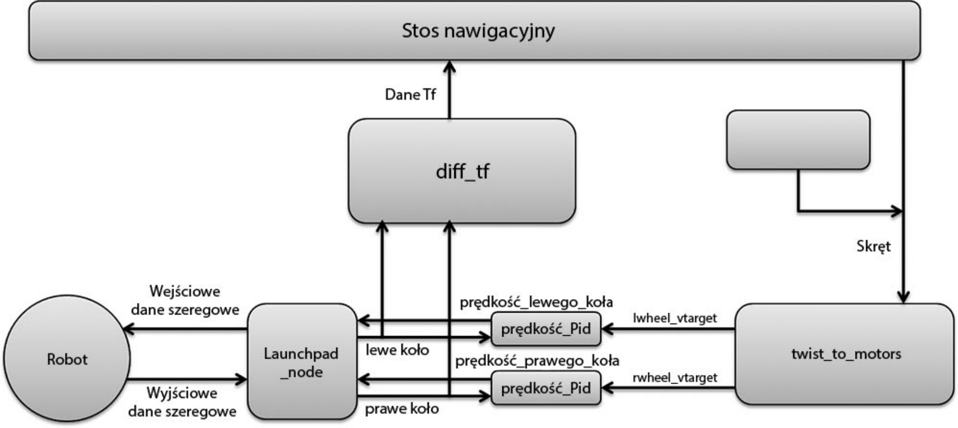
Żeński łącznik płyty górnej

W pełni zmontowana obudowa


Kontroler Tiva
C LaunchPad
Sensor
ultradźwiękowy
MPU 6050
Zasilanie wejściowe 12 V
Regulator napięcia
Wyjście zasilania 5 V
Sterownik silnika
Przełącznik
poziomów
M1
M2


Sensor Kinect
Komputer Intel NUC
Płyta kontrolera robota


3,3 V
5 V
Kontroler Tiva C LaunchPad
PA_3(12)
PA_4(13)
PC_6(35)
PE_4(5)
PE_5(6)
PC_5(36)
PF_4(31)
PD_7(32)
PD_6(33)
PC_7(34)
PA_6(9)
PA_7(10)
PD_0(23)
PD_1(24)
PC_4(37)
GND
PB_2
RESET
Przełącznik poziomów
Sterownik silnika VNH2SP30
IN_A1
IN_B1
PWM_1
IN_A2
IN_B2
PWM_2
A
B
B
A
M1
M2
Enkoder 1
Enkoder 2
A
B
Czujnik echa
Sensor ultradźwiękowy HC-SR04
MPU 6050
SCL
SDA
Styki badania stanu akumulatora
3,3 V
5 V


Stos nawigacyjny
Dane Tf
diff_tf
Skręt
Wejściowe dane szeregowe
Robot
Launchpad _node
Wyjściowe dane szeregowe
prędkość_lewego_koła
prędkość_Pid
lwheel_vtarget
lewe koło
prędkość_prawego_koła
prędkość_Pid
rwheel_vtarget
prawe koło
twist_to_motors

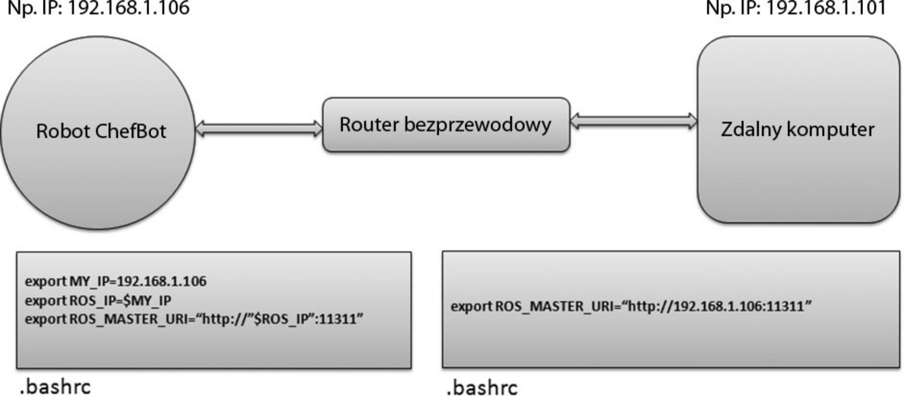

Robot ChefBot
Router bezprzewodowy
Zdalny komputer
Np. IP: 192.168.1.106
Np. IP: 192.168.1.101

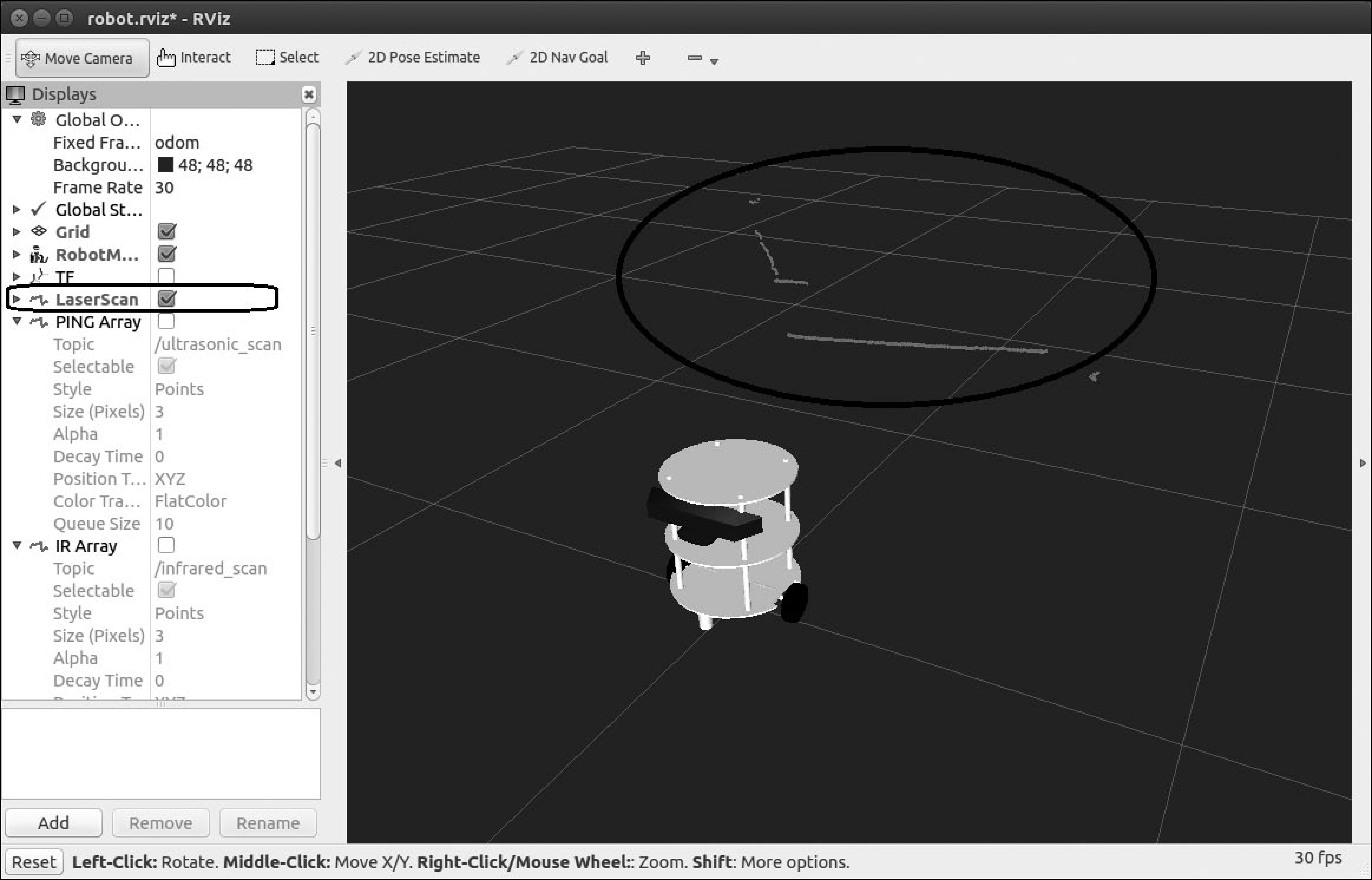
```
b       0.00
t       66458239        0.05
e       0       0
u       10
s       0.00    0.00
i       -0.68   -0.47   -0.40   0.40
b       0.00
t       66511681        0.05
e       0       0
u       10
s       0.00    0.00
i       -0.68   -0.47   -0.40   0.40
b       0.00
t       66566051        0.05
e       0       0
u       10
s       0.00    0.00
i       -0.68   -0.47   -0.40   0.40
b       0.00
t       66620423        0.05
e       0       0
u       10
s       0.00    0.00
```

```
robot@robot-desktop:~$ rosrun chefbot_bringup launchpad_node.py
Initializing Launchpad Class
[INFO] [WallTime: 1424097603.219564] Starting with serial port: /dev/ttyACM0, bau
d rate: 115200
[INFO] [WallTime: 1424097603.220825] Started serial communication
```

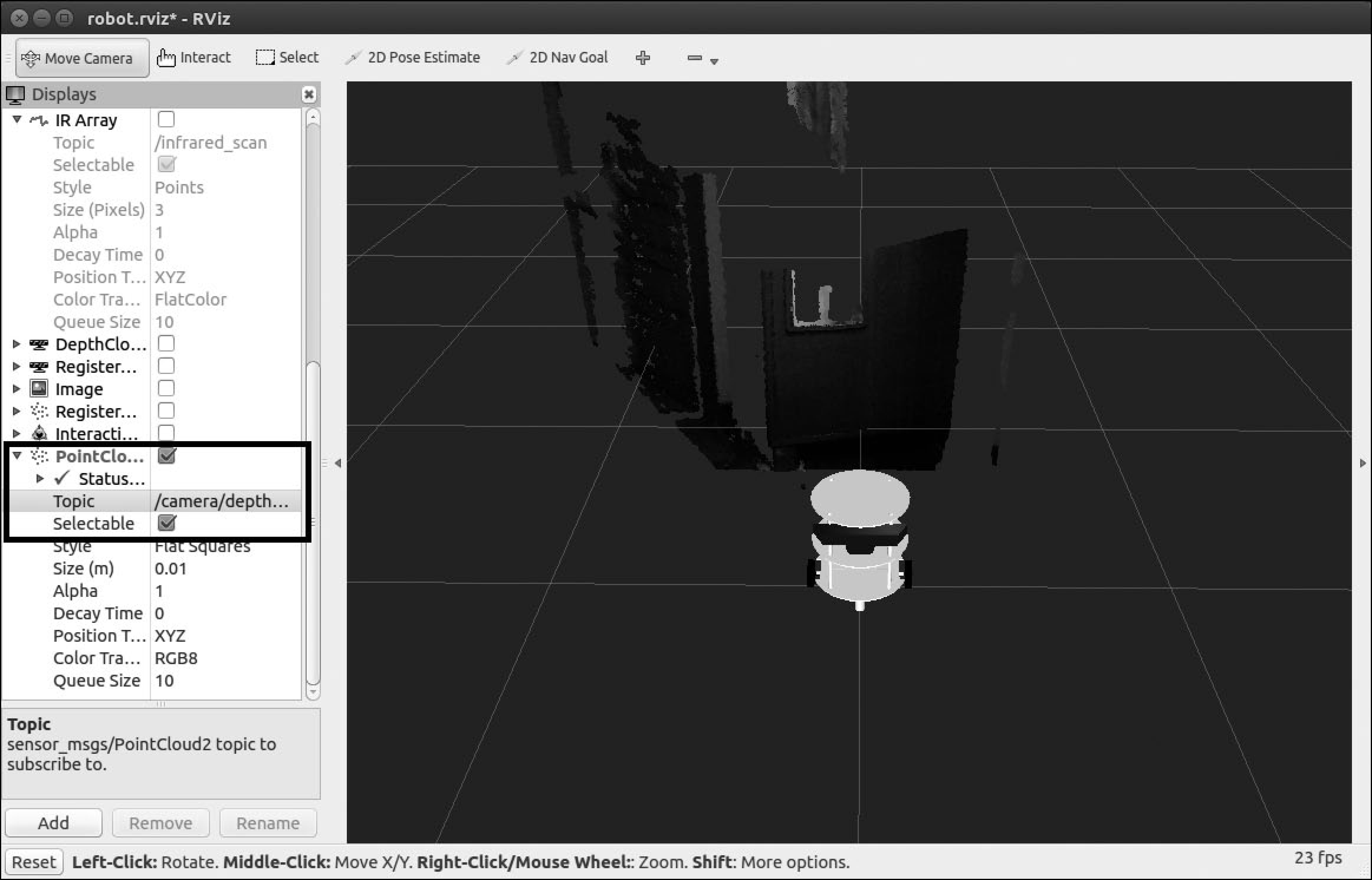
```
robot@robot-desktop:~$ rostopic list
/battery_level
/imu/data
/left_wheel_speed
/lwheel
/qw
/qx
/qy
/qz
/right_wheel_speed
/rosout
/rosout_agg
/rwheel
/serial
/ultrasonic_distance
```

```
---
data: 16266, in:  e     1       -1
---
data: 16267, in:  u     10
---
data: 16268, in:  s     0.00    0.00
---
```

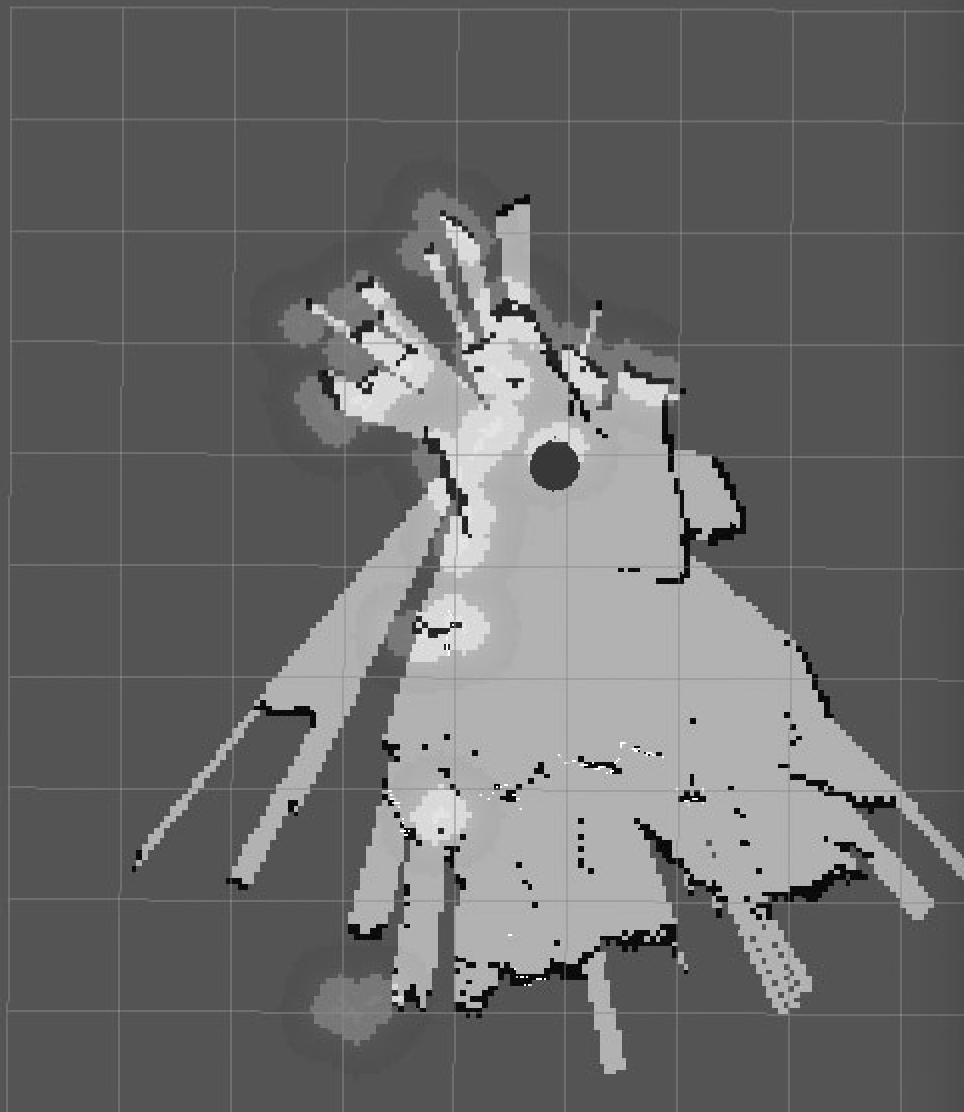

Np. IP: 192.168.1.106
Np. IP: 192.168.1.101
Robot ChefBot
Router bezprzewodowy
Zdalny komputer
export MY_IP=192.168.1.106
export ROS_IP=$MY_IP
export ROS_MASTER_URI="http://"$ROS_IP":11311"
export ROS_MASTER_URI="http://192.168.1.106:11311"
.bashrc
.bashrc

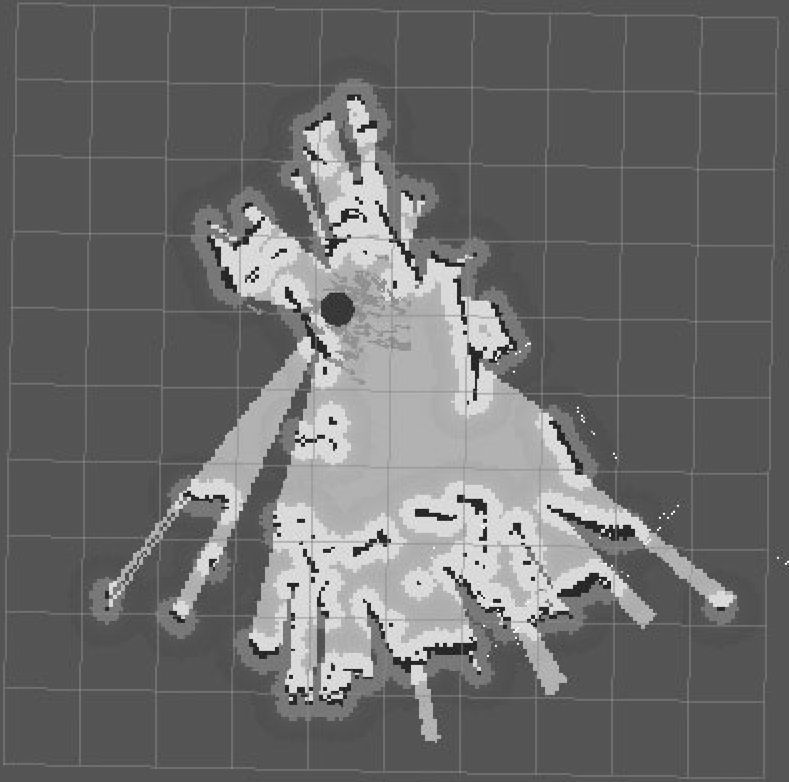


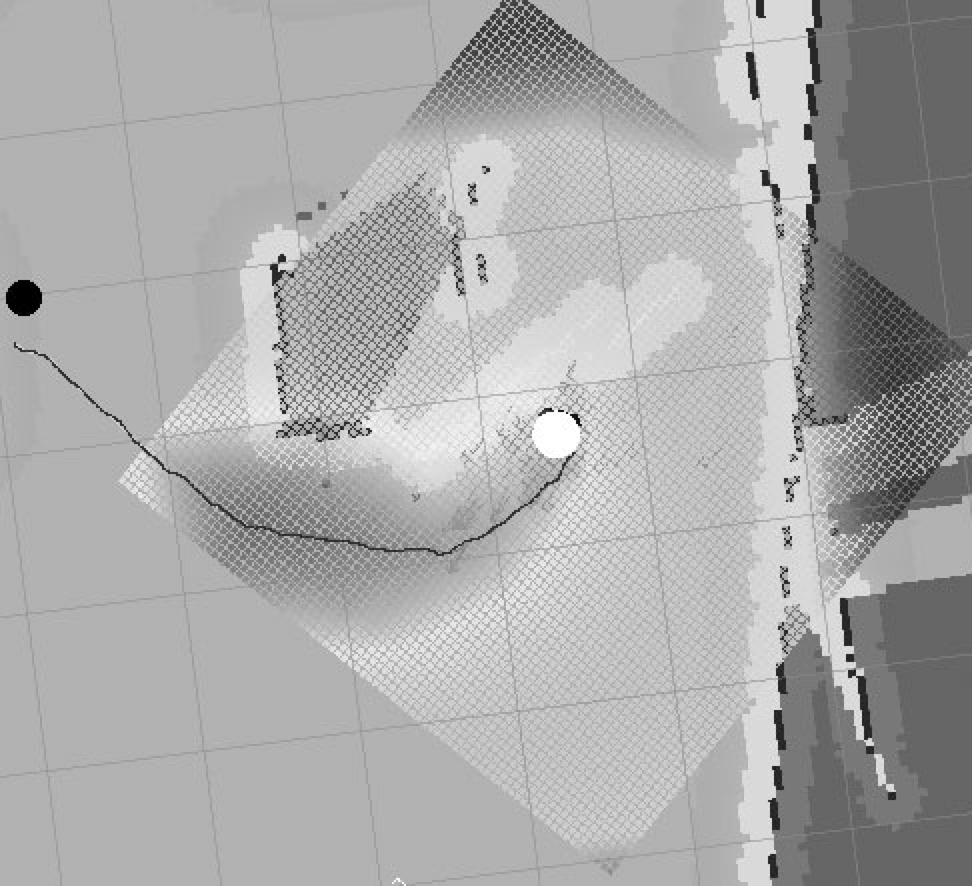
robot.rviz* - RViz
Move Camera
Interact
Select
2D Pose Estimate
2D Nav Goal
Displays
Global O...
Fixed Fra... odom
Backgrou... 48; 48; 48
Frame Rate 30
Global St...
Grid
RobotM...
TF
LaserScan
PING Array
Topic /ultrasonic_scan
Selectable
Style Points
Size (Pixels) 3
Alpha 1
Decay Time 0
Position T... XYZ
Color Tra... FlatColor
Queue Size 10
IR Array
Topic /infrared_scan
Selectable
Style Points
Size (Pixels) 3
Alpha 1
Decay Time 0
Add
Remove
Rename
Reset
Left-Click: Rotate. Middle-Click: Move X/Y. Right-Click/Mouse Wheel:: Zoom. Shift: More options.
30 fps

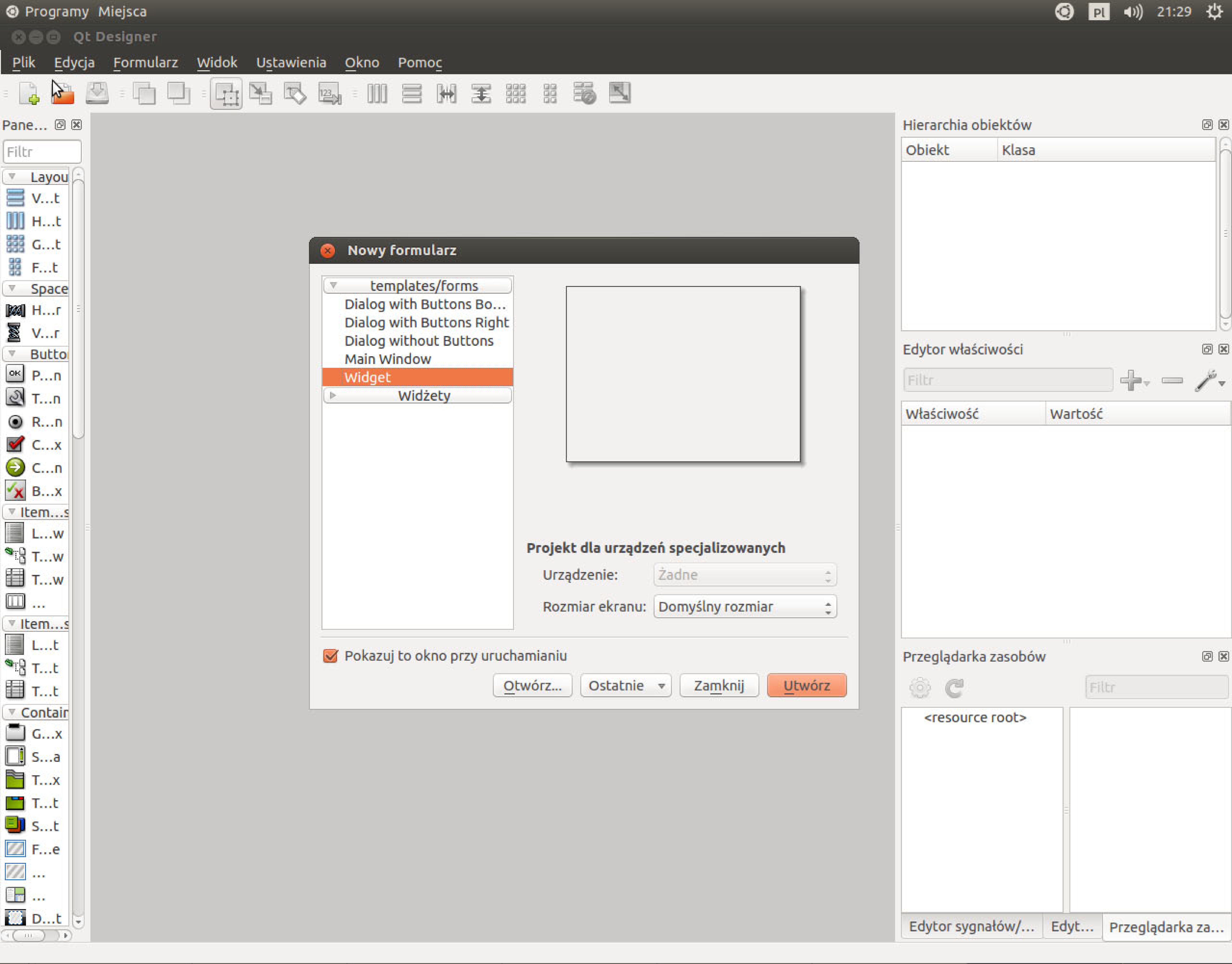

robot.rviz* - RViz
Move Camera
Interact
Select
2D Pose Estimate
2D Nav Goal
Displays
IR Array
Topic
/infrared_scan
Selectable
Style
Points
Size (Pixels)
3
Alpha
1
Decay Time
0
Position T...
XYZ
Color Tra...
FlatColor
Queue Size
10
DepthClo...
Register...
Image
Register...
Interacti...
PointClo...
Status...
Topic
/camera/depth...
Selectable
Style
Flat Squares
Size (m)
0.01
Alpha
1
Decay Time
0
Position T...
XYZ
Color Tra...
RGB8
Queue Size
10
Topic
sensor_msgs/PointCloud2 topic to subscribe to.
Add
Remove
Rename
Reset
Left-Click: Rotate. Middle-Click: Move X/Y. Right-Click/Mouse Wheel:: Zoom. Shift: More options.
23 fps

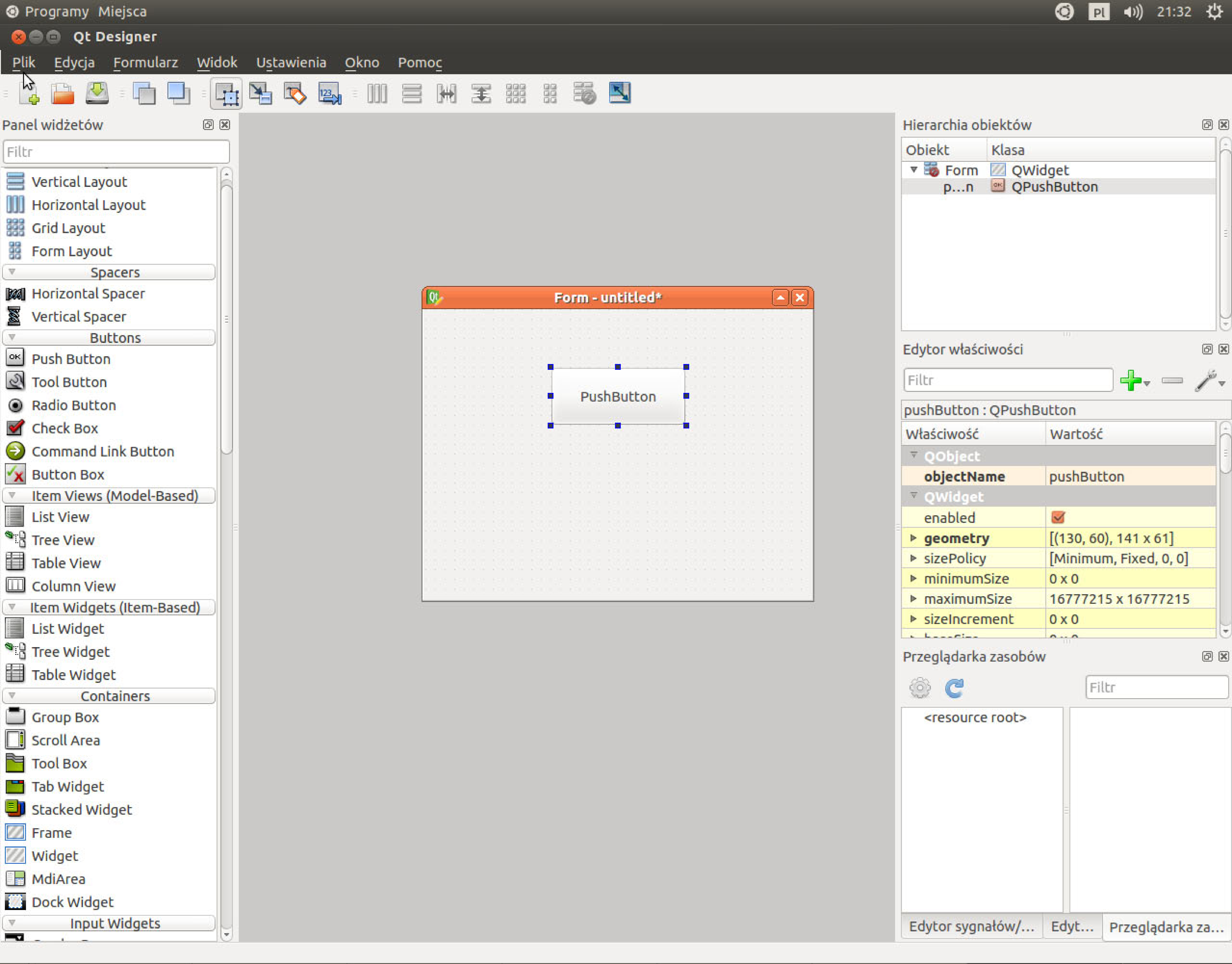
```
[ INFO] [1422618733.585407153]: Created local_planner dwa_local_planner/DWAPlanner
ROS
[ INFO] [1422618733.604762090]: Sim period is set to 0.20
[ INFO] [1422618735.208493249]: odom received!
```



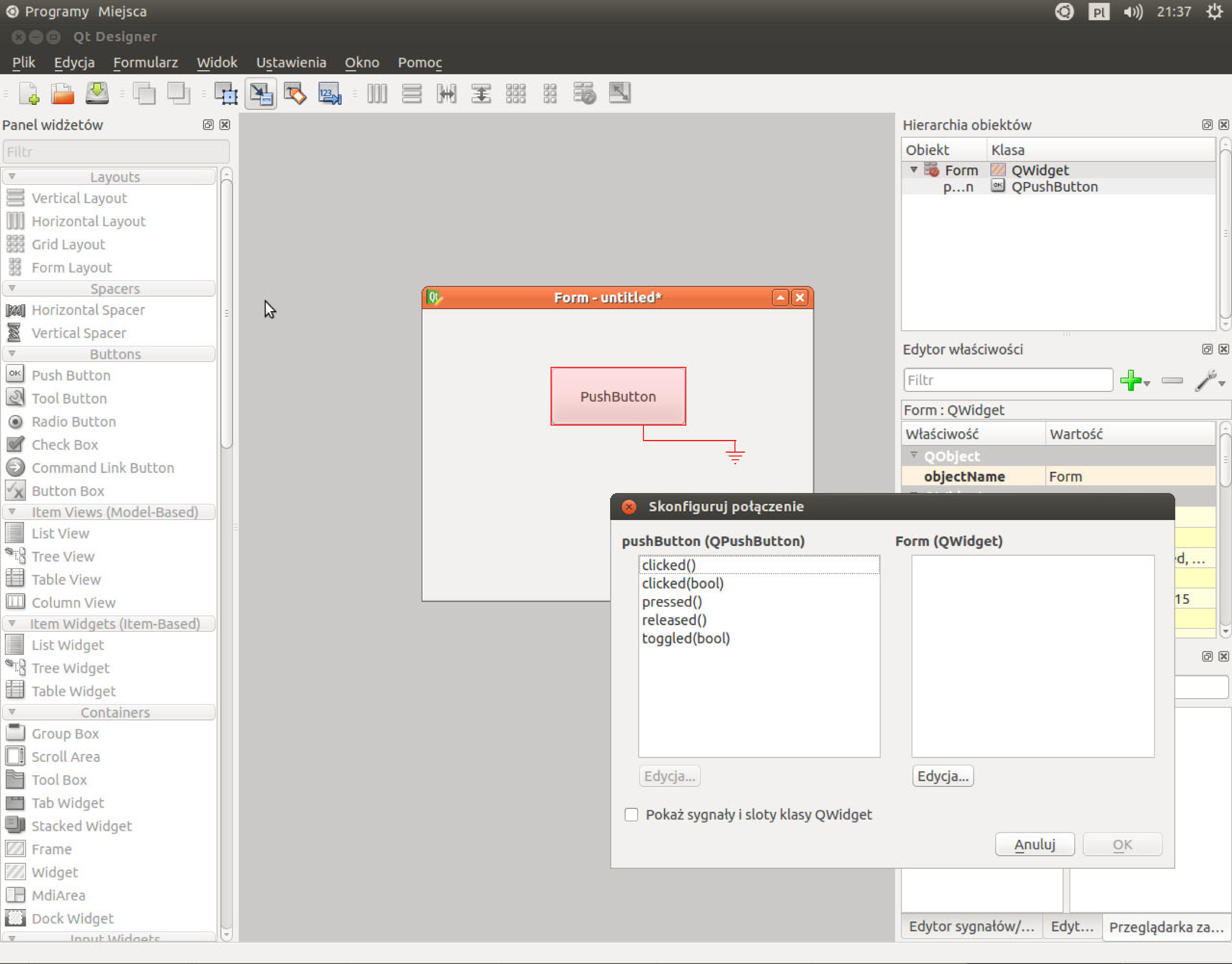


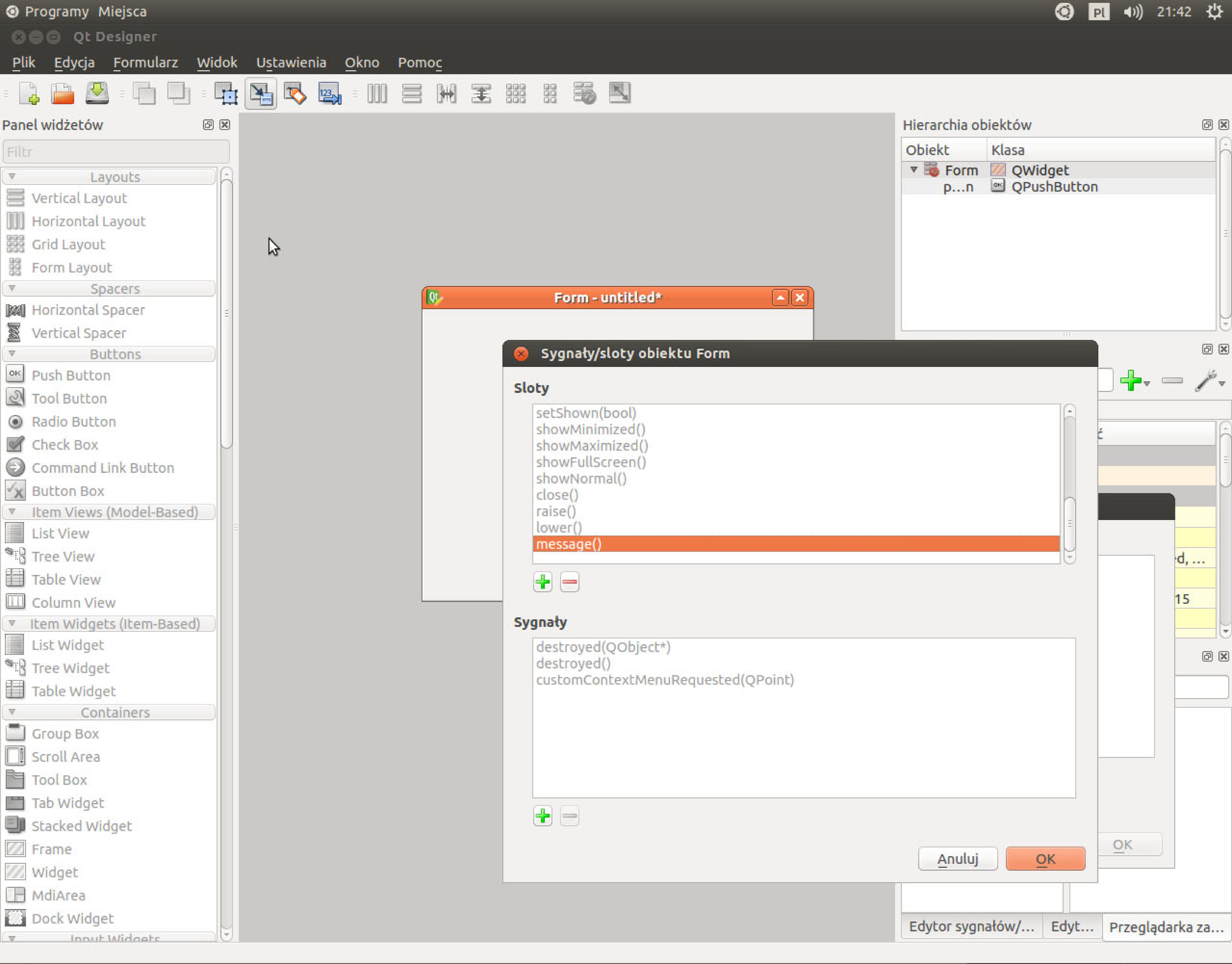


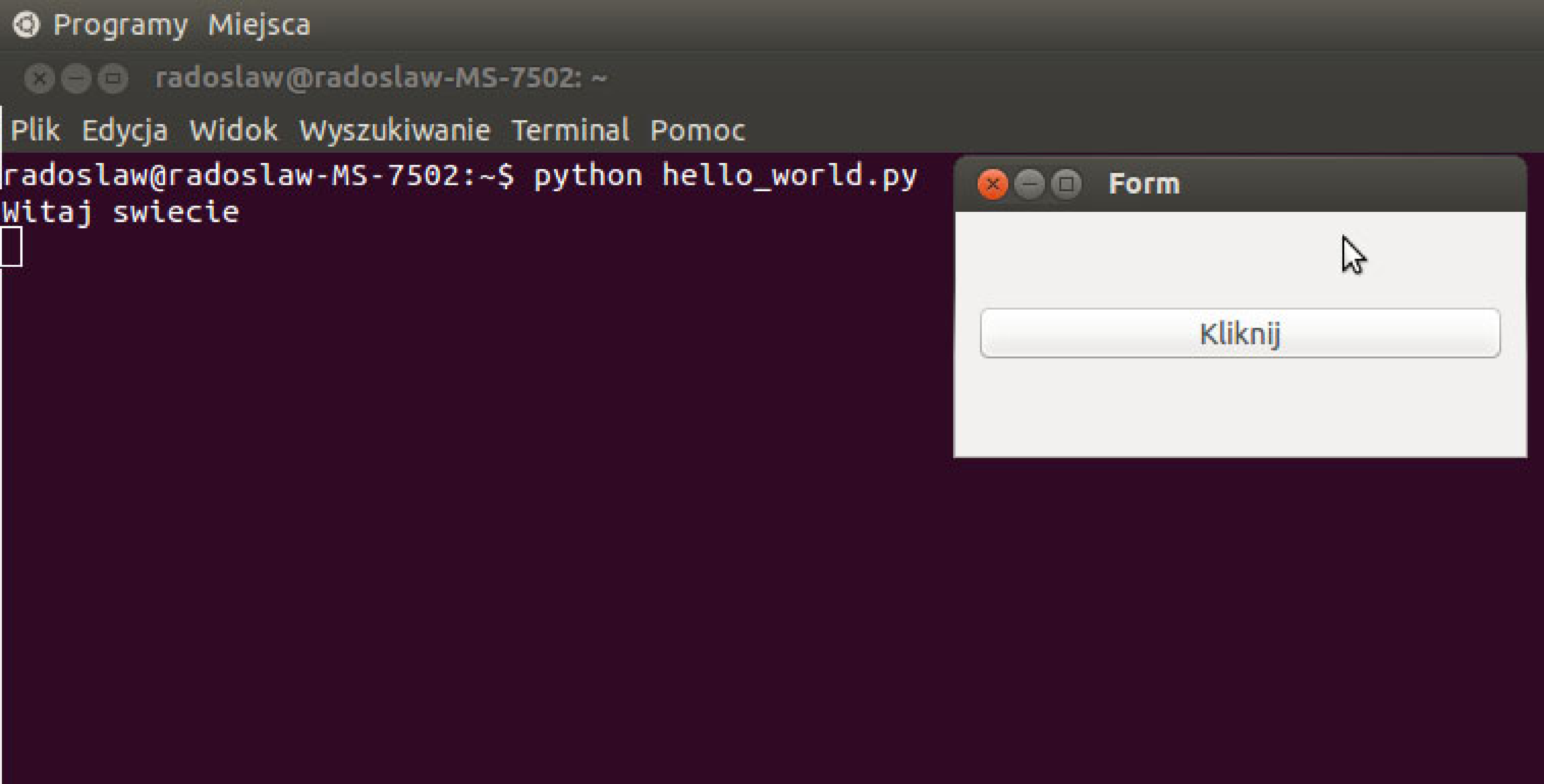

Programy Miejsca
21:29
Qt Designer
Plik Edycja Formularz Widok Ustawienia Okno Pomoc
Pane...
Filtr
Layou
V...t
H...t
G...t
F...t
Space
H...r
V...r
Butto
P...n
T...n
R...n
C...x
C...n
B...x
Item...s
L...w
T...w
T...w
...
Item...s
L...t
T...t
T...t
Contair
G...x
S...a
T...x
T...t
S...t
F...e
...
...
D...t
Nowy formularz
templates/forms
Dialog with Buttons Bo...
Dialog with Buttons Right
Dialog without Buttons
Main Window
Widget
Widżety
Projekt dla urządzeń specjalizowanych
Urządzenie:
Żadne
Rozmiar ekranu:
Domyślny rozmiar
Pokazuj to okno przy uruchamianiu
Otwórz...
Ostatnie
Zamknij
Utwórz
Hierarchia obiektów
Obiekt
Klasa
Edytor właściwości
Filtr
Właściwość
Wartość
Przeglądarka zasobów
Filtr
<resource root>
Edytor sygnałów/...
Edyt...
Przeglądarka za...

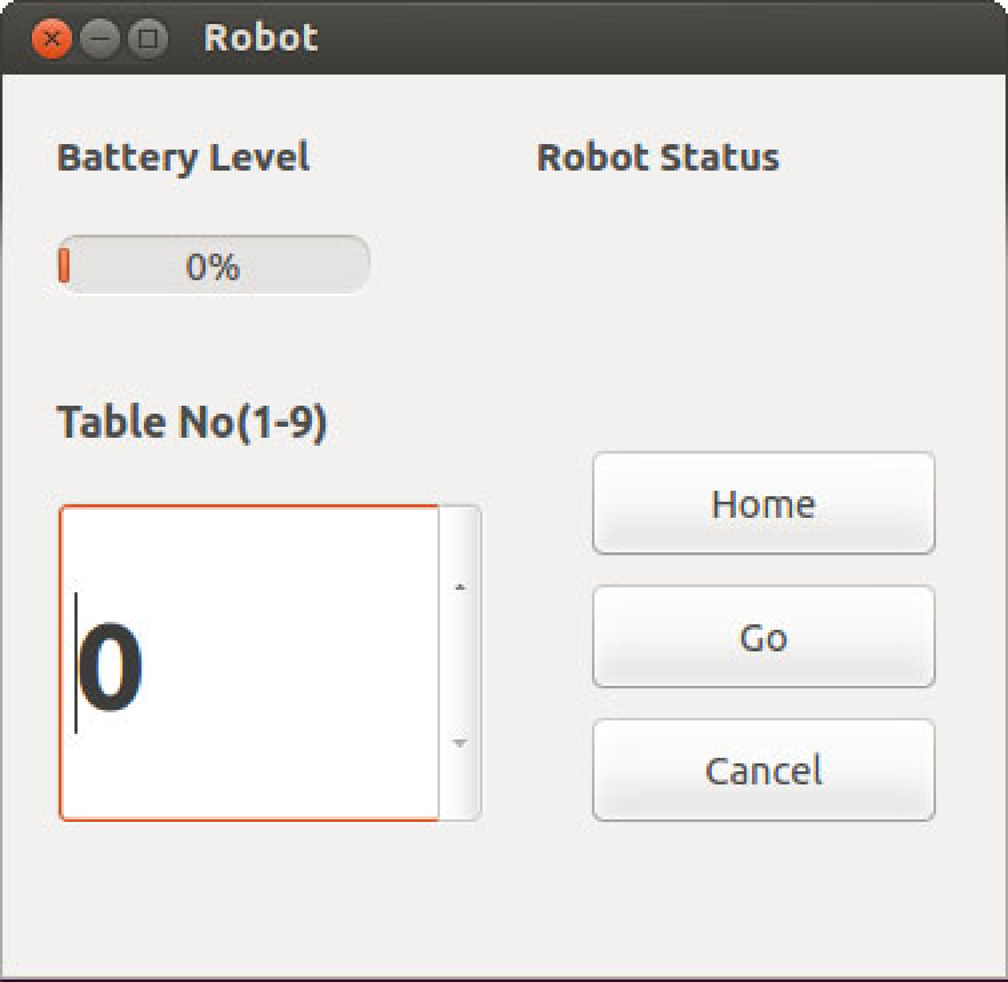


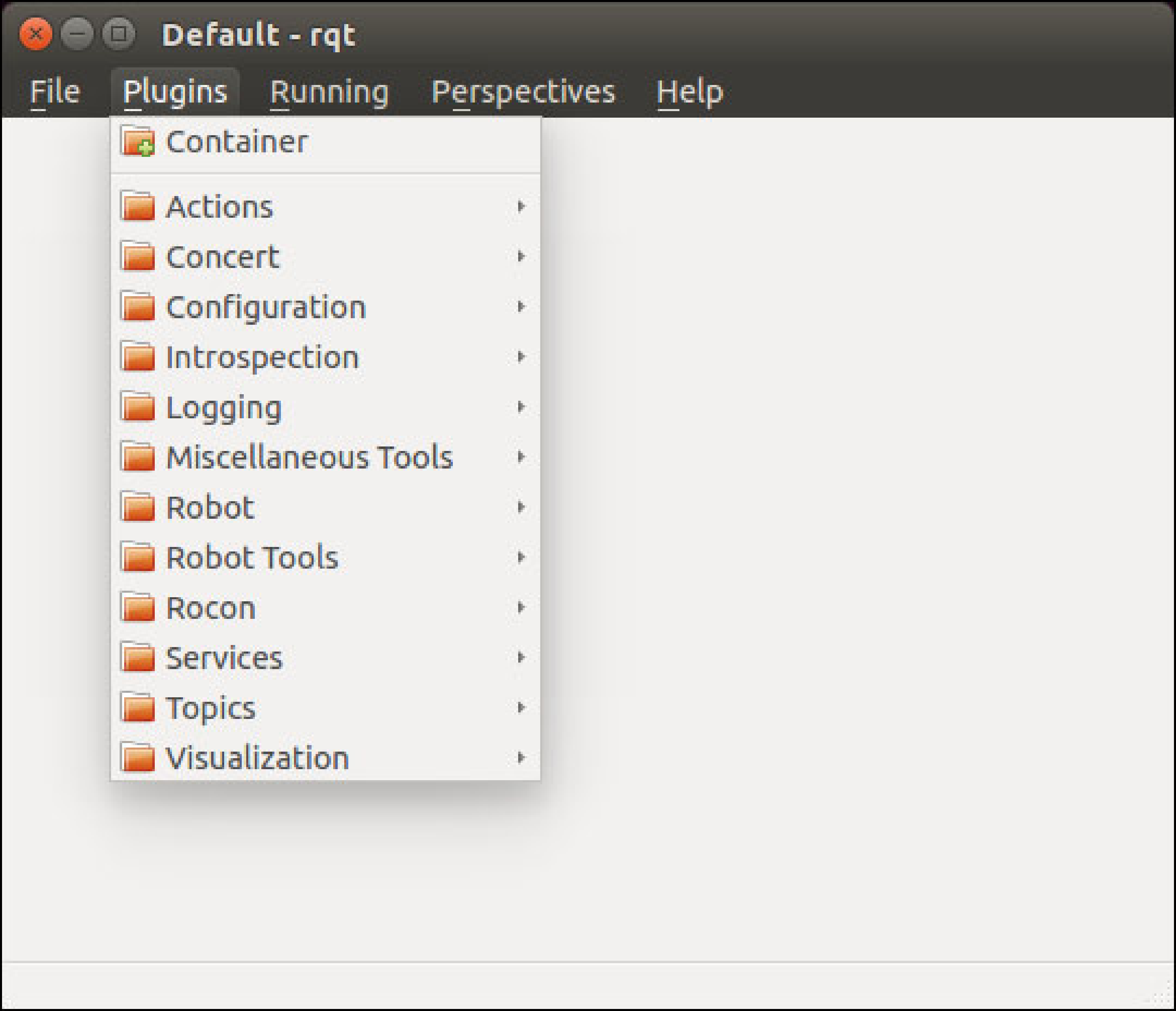
Programy Miejsca
Pl 21:32
Qt Designer
Plik Edycja Formularz Widok Ustawienia Okno Pomoc
Panel widżetów
Filtr
Vertical Layout
Horizontal Layout
Grid Layout
Form Layout
Spacers
Horizontal Spacer
Vertical Spacer
Buttons
Push Button
Tool Button
Radio Button
Check Box
Command Link Button
Button Box
Item Views (Model-Based)
List View
Tree View
Table View
Column View
Item Widgets (Item-Based)
List Widget
Tree Widget
Table Widget
Containers
Group Box
Scroll Area
Tool Box
Tab Widget
Stacked Widget
Frame
Widget
MdiArea
Dock Widget
Input Widgets
Form - untitled*
PushButton
Hierarchia obiektów
Obiekt Klasa
Form QWidget
p...n QPushButton
Edytor właściwości
Filtr
pushButton : QPushButton
Właściwość Wartość
QObject
objectName pushButton
QWidget
enabled
geometry [(130, 60), 141 x 61]
sizePolicy [Minimum, Fixed, 0, 0]
minimumSize 0 x 0
maximumSize 16777215 x 16777215
sizeIncrement 0 x 0
Przeglądarka zasobów
Filtr
<resource root>
Edytor sygnałów/... Edyt... Przeglądarka za...

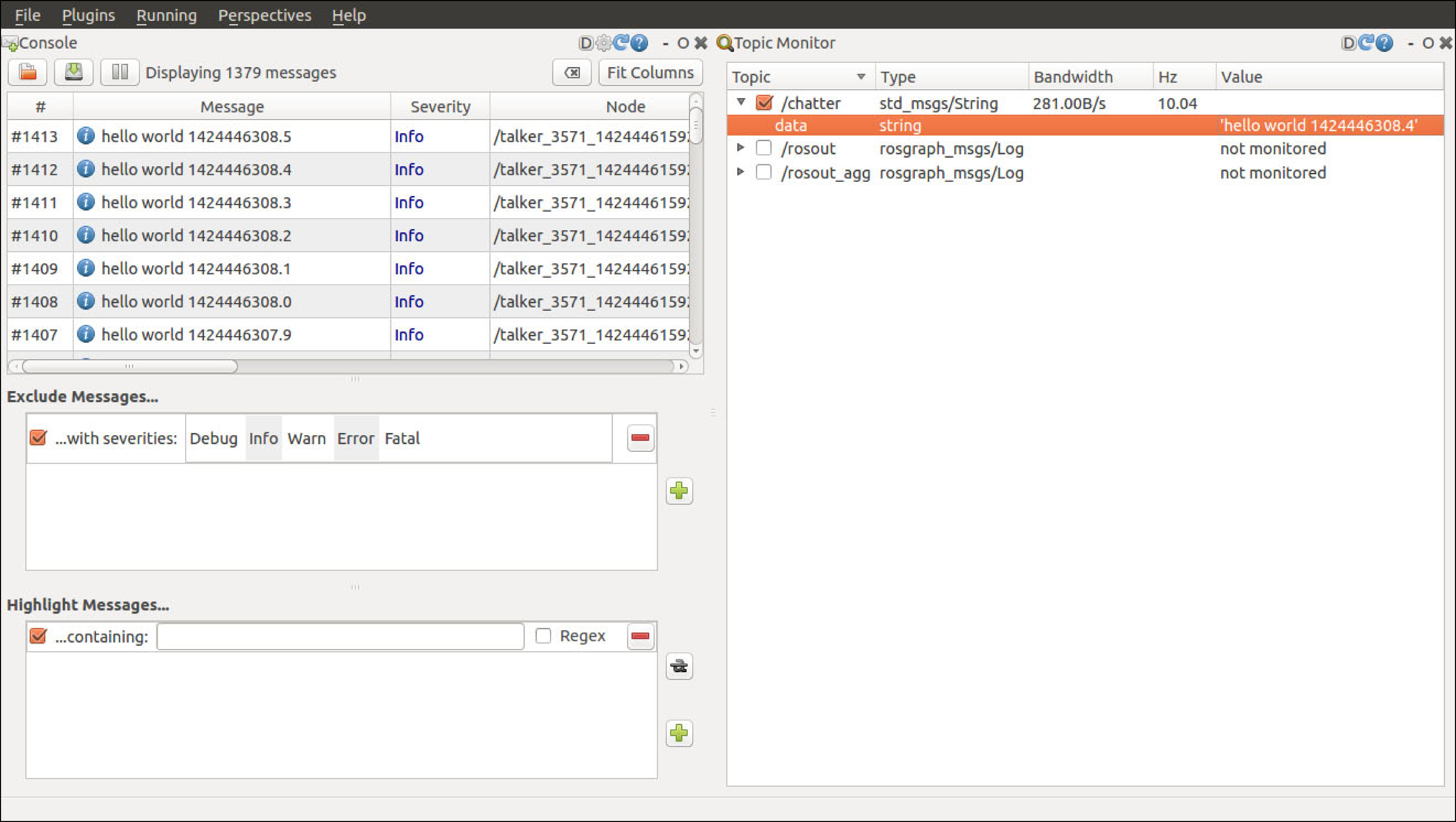

Programy Miejsca
21:37
Qt Designer
Plik Edycja Formularz Widok Ustawienia Okno Pomoc
Panel widżetów
Filtr
Layouts
Vertical Layout
Horizontal Layout
Grid Layout
Form Layout
Spacers
Horizontal Spacer
Vertical Spacer
Buttons
Push Button
Tool Button
Radio Button
Check Box
Command Link Button
Button Box
Item Views (Model-Based)
List View
Tree View
Table View
Column View
Item Widgets (Item-Based)
List Widget
Tree Widget
Table Widget
Containers
Group Box
Scroll Area
Tool Box
Tab Widget
Stacked Widget
Frame
Widget
MdiArea
Dock Widget
Form - untitled*
PushButton
Hierarchia obiektów
Obiekt
Klasa
Form
QWidget
p...n
QPushButton
Edytor właściwości
Filtr
Form : QWidget
Właściwość
Wartość
QObject
objectName
Form
Skonfiguruj połączenie
pushButton (QPushButton)
Form (QWidget)
clicked()
clicked(bool)
pressed()
released()
toggled(bool)
Edycja...
Edycja...
Pokaż sygnały i sloty klasy QWidget
Anuluj
OK
Edytor sygnałów/...
Edyt...
Przeglądarka za...

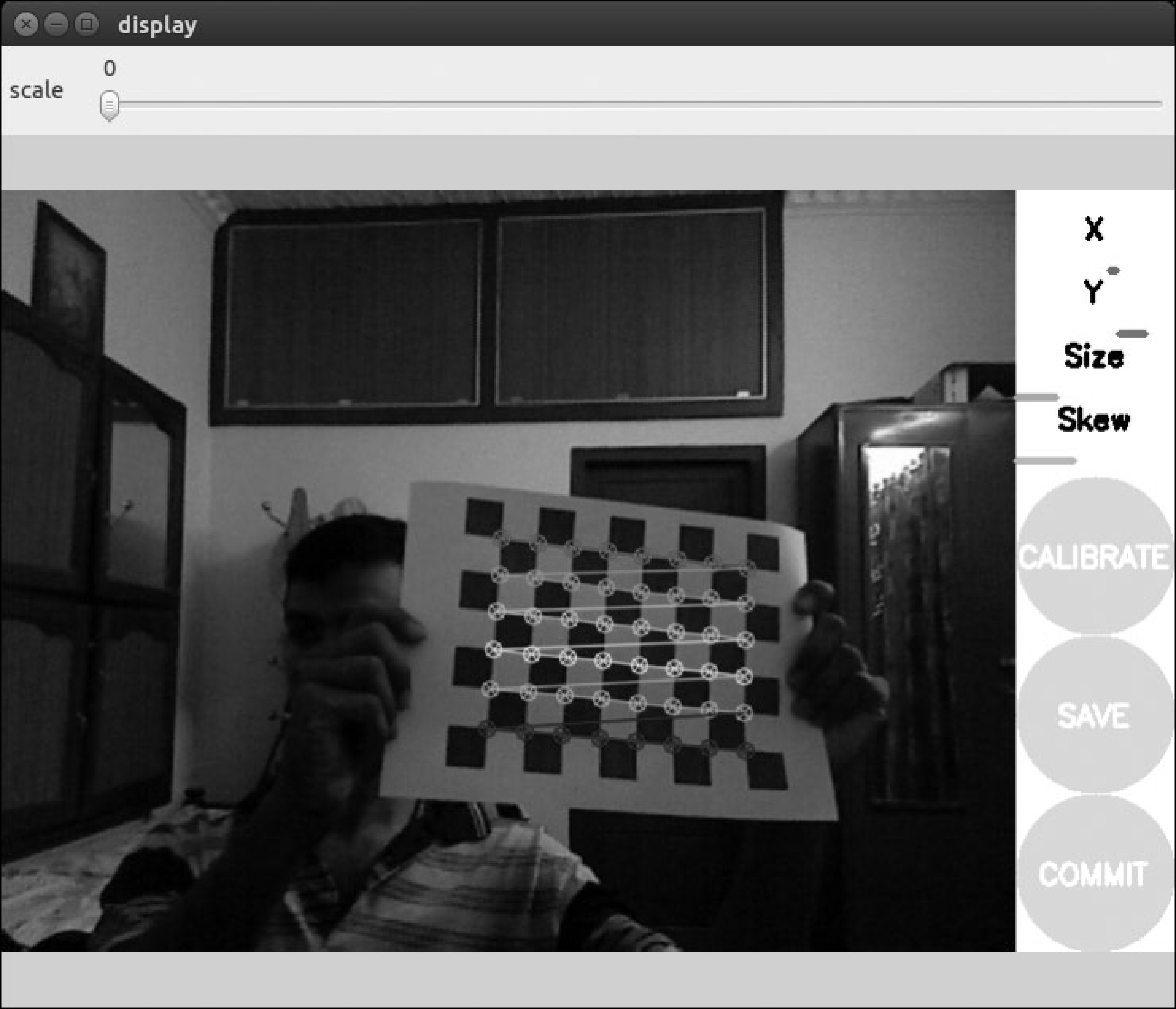

Programy Miejsca
21:42
Qt Designer
Plik Edycja Formularz Widok Ustawienia Okno Pomoc
Panel widżetów
Filtr
Layouts
Vertical Layout
Horizontal Layout
Grid Layout
Form Layout
Spacers
Horizontal Spacer
Vertical Spacer
Buttons
Push Button
Tool Button
Radio Button
Check Box
Command Link Button
Button Box
Item Views (Model-Based)
List View
Tree View
Table View
Column View
Item Widgets (Item-Based)
List Widget
Tree Widget
Table Widget
Containers
Group Box
Scroll Area
Tool Box
Tab Widget
Stacked Widget
Frame
Widget
MdiArea
Dock Widget
Form - untitled*
Sygnały/sloty obiektu Form
Sloty
setShown(bool)
showMinimized()
showMaximized()
showFullScreen()
showNormal()
close()
raise()
lower()
message()
Sygnały
destroyed(QObject*)
destroyed()
customContextMenuRequested(QPoint)
Anuluj
OK
Hierarchia obiektów
Obiekt
Klasa
Form
QWidget
p…n
QPushButton
Edytor sygnałów/…
Edyt…
Przeglądarka za…

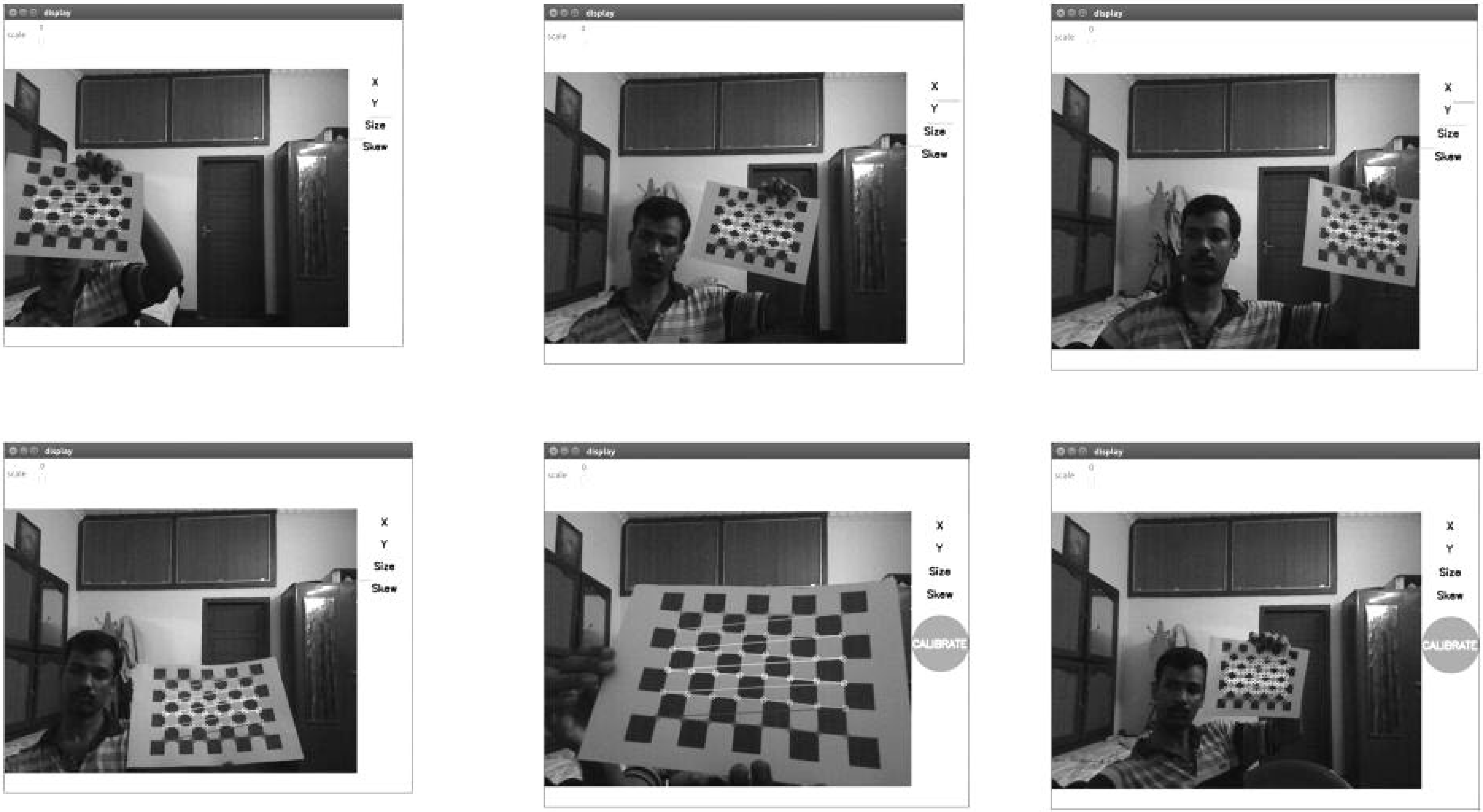

Programy Miejsca
radoslaw@radoslaw-MS-7502: ~
Plik Edycja Widok Wyszukiwanie Terminal Pomoc
radoslaw@radoslaw-MS-7502:~$ python hello_world.py
Witaj swiecie
Form
Kliknij

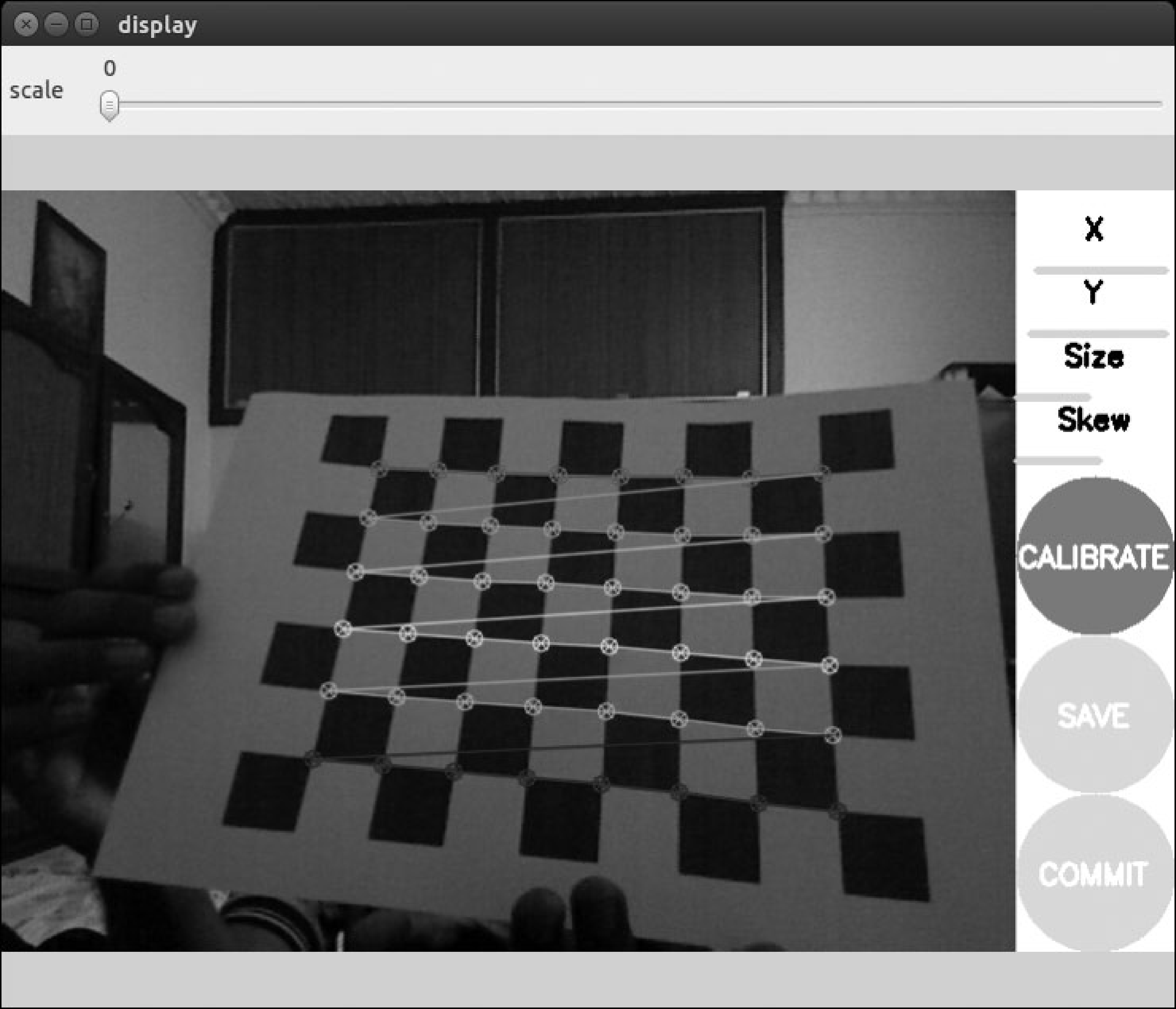

Robot
Battery Level
Robot Status
0%
Table No(1-9)
0
Home
Go
Cancel

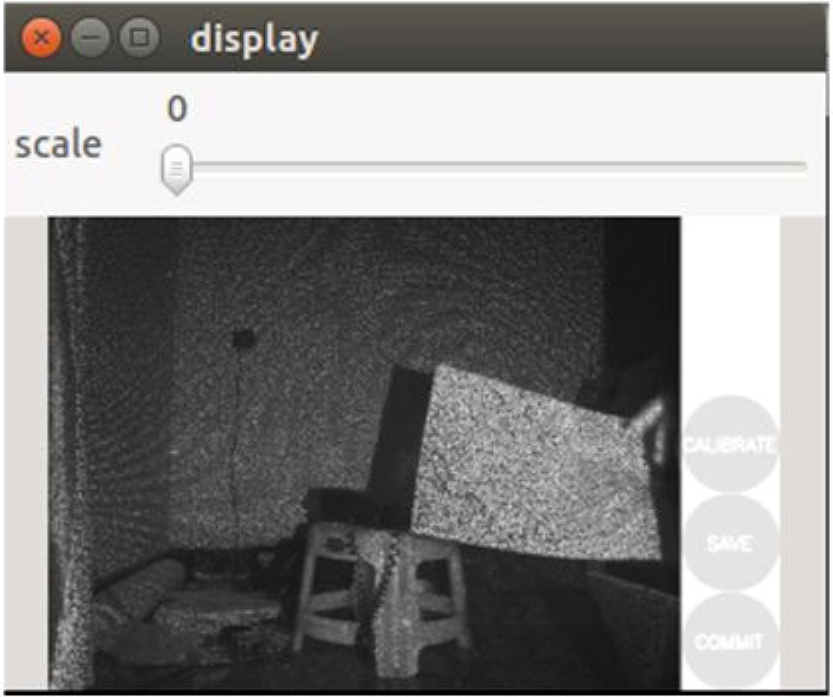

Default - rqt
File
Plugins
Running
Perspectives
Help
Container
Actions
Concert
Configuration
Introspection
Logging
Miscellaneous Tools
Robot
Robot Tools
Rocon
Services
Topics
Visualization


File Plugins Running Perspectives Help
Console
Displaying 1379 messages
Fit Columns
Message Severity Node
#1413 hello world 1424446308.5 Info /talker_3571_142444615
#1412 hello world 1424446308.4 Info /talker_3571_142444615
#1411 hello world 1424446308.3 Info /talker_3571_142444615
#1410 hello world 1424446308.2 Info /talker_3571_142444615
#1409 hello world 1424446308.1 Info /talker_3571_142444615
#1408 hello world 1424446308.0 Info /talker_3571_142444615
#1407 hello world 1424446307.9 Info /talker_3571_142444615
Exclude Messages...
...with severities: Debug Info Warn Error Fatal
Highlight Messages...
...containing:
Regex
Topic Monitor
Topic Type Bandwidth Hz Value
/chatter std_msgs/String 281.00B/s 10.04
data string 'hello world 1424446308.4'
/rosout rosgraph_msgs/Log not monitored
/rosout_agg rosgraph_msgs/Log not monitored

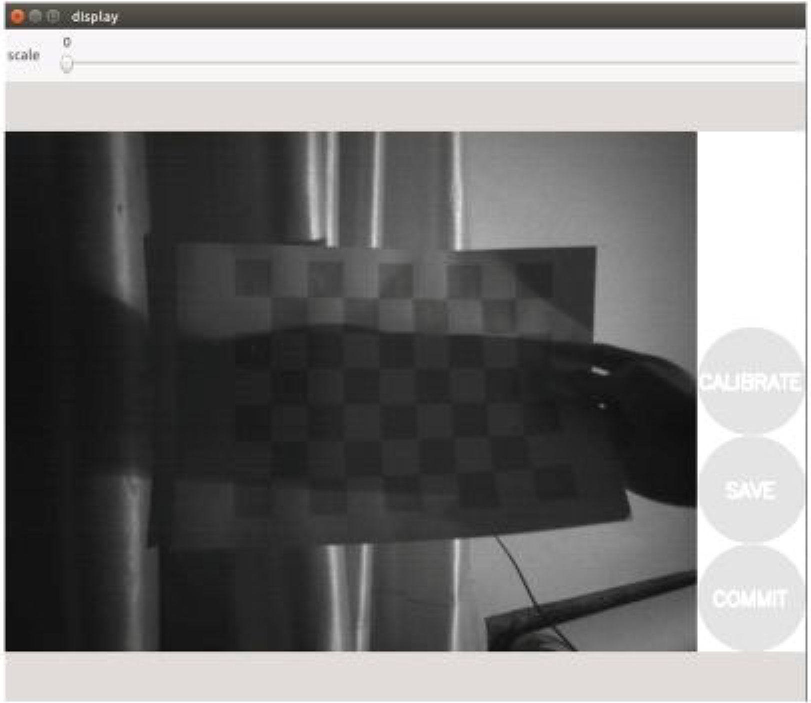

display
scale
0
X
Y
Size
Skew
CALIBRATE
SAVE
COMMIT


display
scale
X
Y
Size
Skew
display
scale
X
Y
Size
Skew
display
scale
X
Y
Size
Skew
display
scale
X
Y
Size
Skew
display
scale
X
Y
Size
Skew
CALIBRATE
display
scale
X
Y
Size
Skew
CALIBRATE

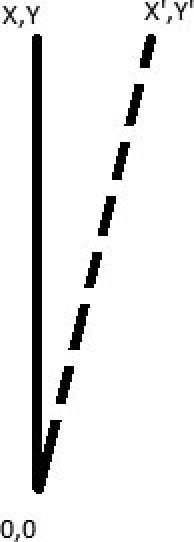

display
scale
0
X
Y
Size
Skew
CALIBRATE
SAVE
COMMIT

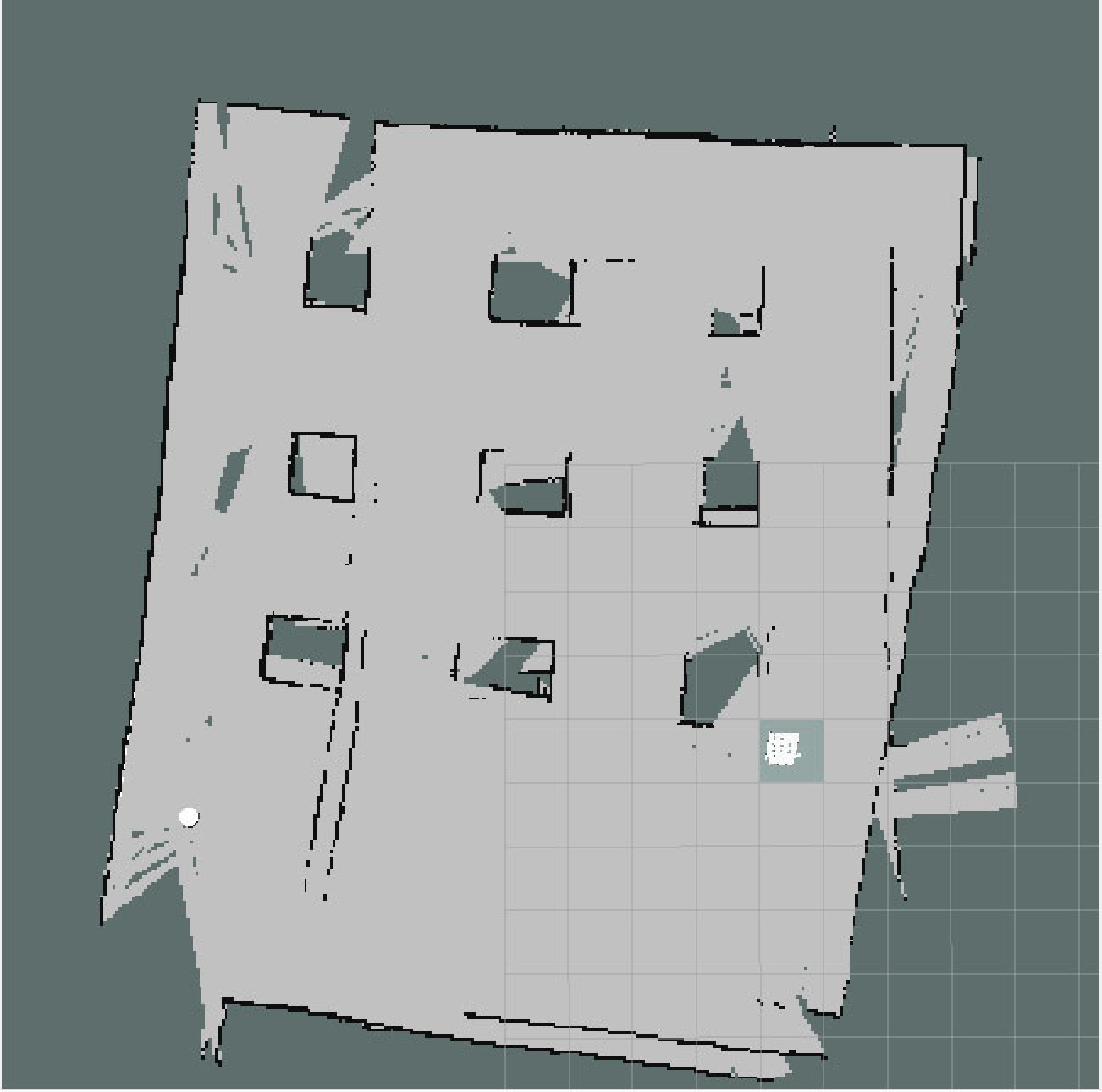


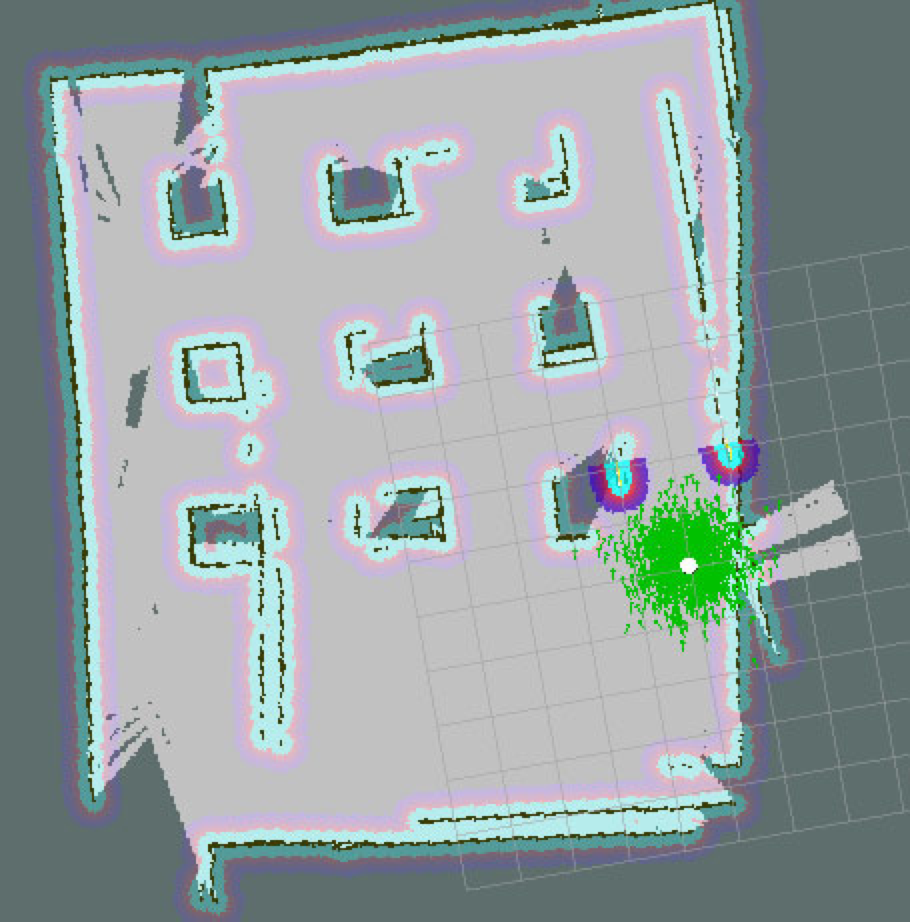
Widok szachownicy z wzorem plamki



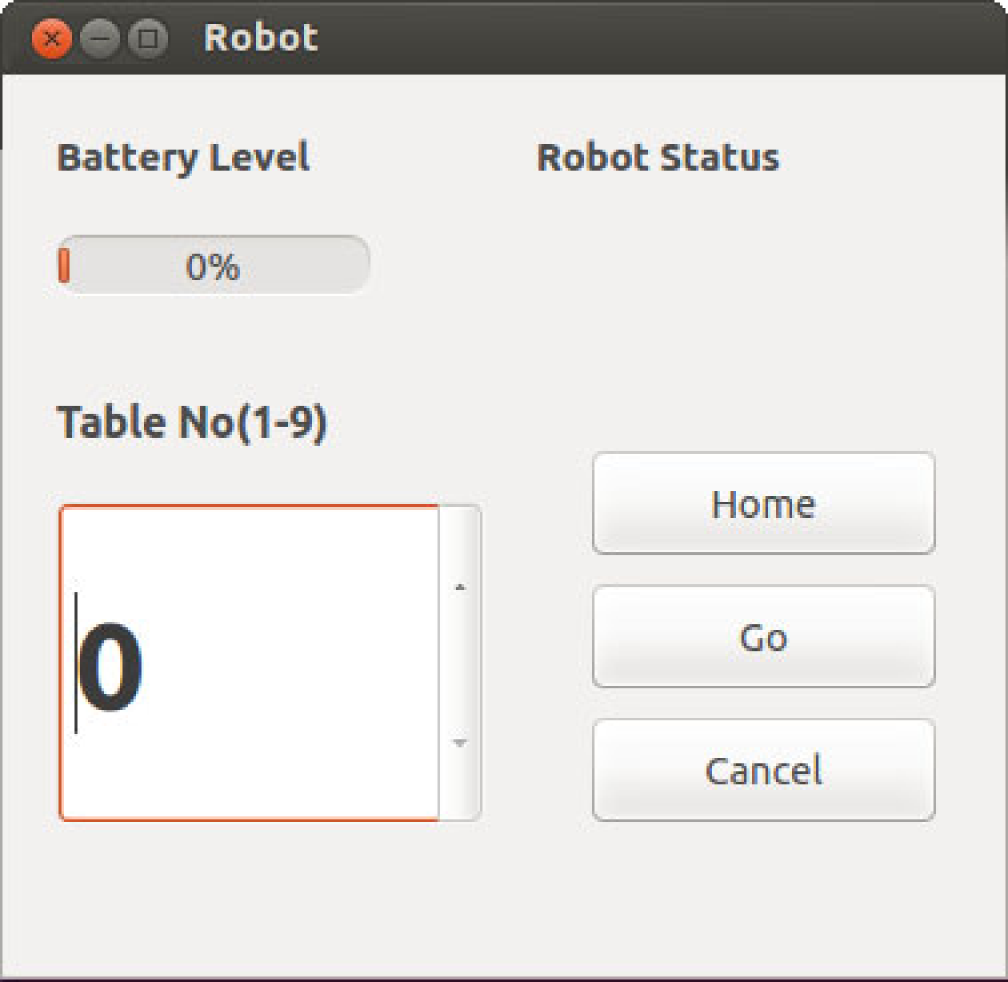
Widok szachownicy przy zakrytym projektorze


X,Y
X',Y'
0,0





```
Frame chefbot_caster_front_link exists with parent base_link.
Frame chefbot_caster_back_link exists with parent base_link.
Frame cliff_sensor_front_link exists with parent base_link.
Frame cliff_sensor_left_link exists with parent base_link.
Frame cliff_sensor_right_link exists with parent base_link.
Frame gyro_link exists with parent base_link.

At time 1024.033
- Translation: [0.058, 0.033, 0.010]
- Rotation: in Quaternion [0.000, 0.000, -0.005, 1.000]
            in RPY [0.000, 0.000, -0.009]
At time 1024.438
- Translation: [0.058, 0.033, 0.010]
- Rotation: in Quaternion [0.000, 0.000, -0.005, 1.000]
            in RPY [0.000, 0.000, -0.009]
At time 1024.830
- Translation: [0.058, 0.033, 0.010]
- Rotation: in Quaternion [0.000, 0.000, -0.005, 1.000]
            in RPY [0.000, 0.000, -0.009]
At time 1025.228
- Translation: [0.058, 0.033, 0.010]
- Rotation: in Quaternion [0.000, 0.000, -0.005, 1.000]
            in RPY [0.000, 0.000, -0.009]
```


Robot
Battery Level
Robot Status
0%
Table No(1-9)
0
Home
Go
Cancel