



IntelChair

Project in Informatics Engineering 2018/2019

Final Presentation

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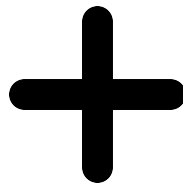
Context



IntelChair



Motorized Wheelchair



Laptop



RGBD Camera



Laser Rangefinder

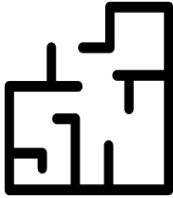


Inertial Motion Unit

Main Features



Manual Control



Room Mapping



Navigation

Extra Features



Voice Control



Follow User

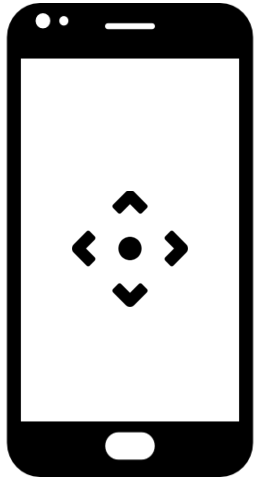


Object Avoidance

How it looks



Our System



Smartphone

Mobile Application for the user

WheelChair



Laptop

Links all system nodes



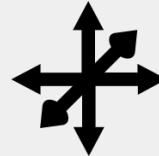
Rangefinder

Mapping and Navigation



Kinect

Object Detection



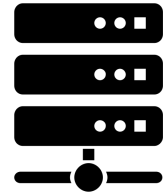
IMU

Positional Data



Dashboard

Management tool for admins



Server

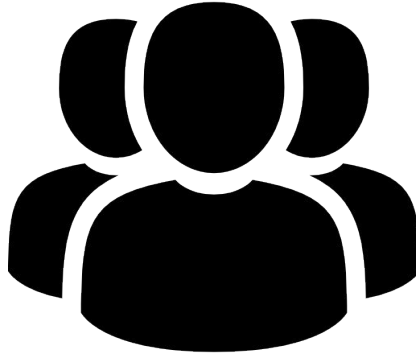
User access and Map management

Dashboard



Wheelchairs

Create and manage Wheelchairs



Users

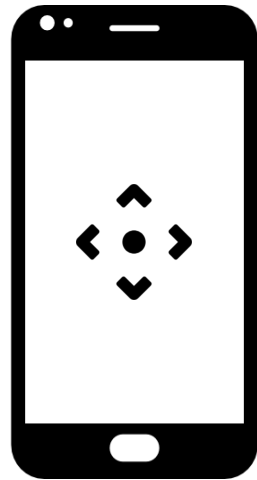
Control user access and permissions



Maps

Manage all generated maps

Manual Control



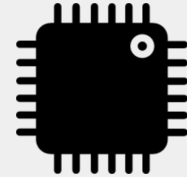

Virtual
Joystick



 **base_controller**
ROS NODE

WheelChair

Linear and Angular
Velocity

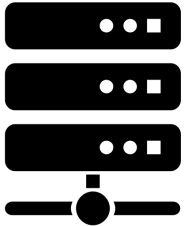


**Wheelchair
Controller**

Mapping



Virtual
Joystick



Map



WheelChair

base_controller
ROS NODE

rf2o_laser_odom
ODOMETRY NODE

map_saver
ROS NODE

Laser
Rangefinder



LMS1xx
SCAN NODE

Scan

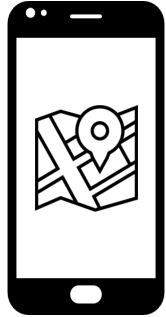
Odom

Map

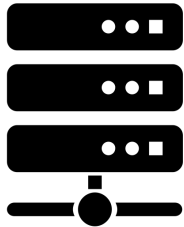
Scan

pf_slam_2d
MAPPING NODE

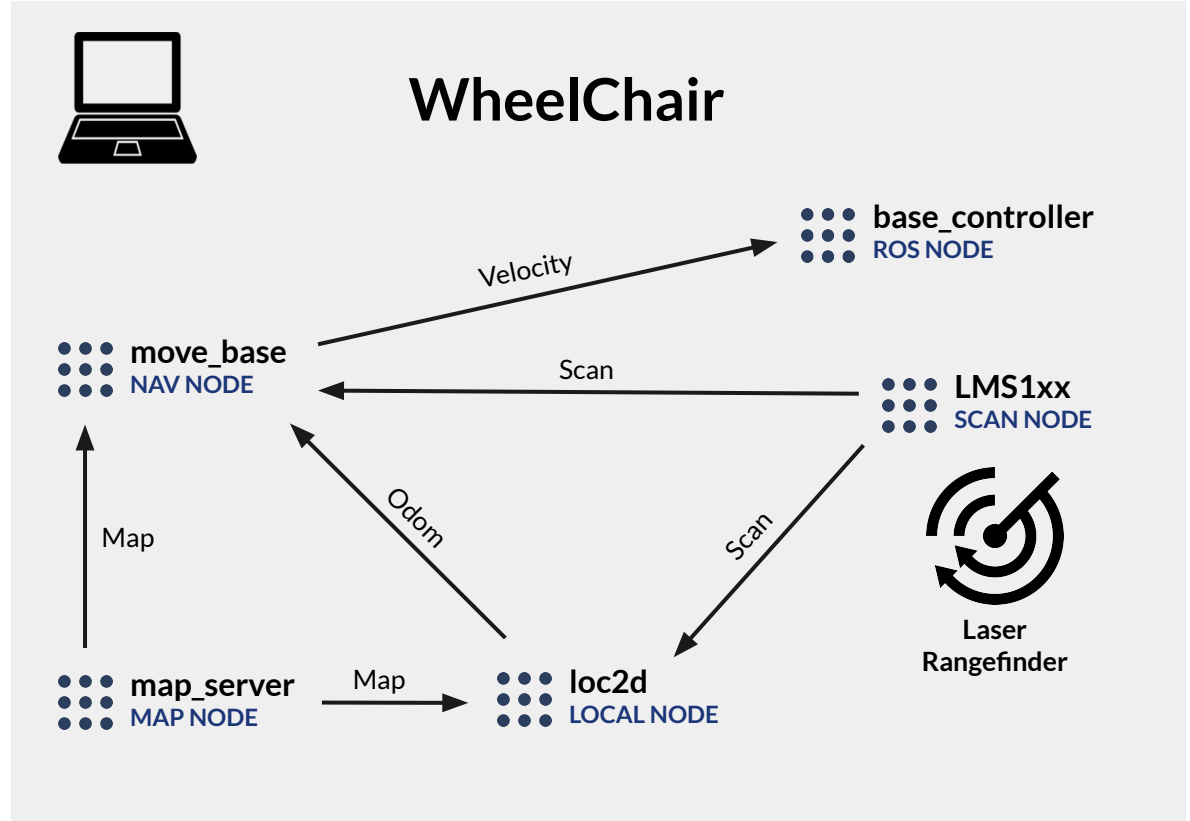
Navigation



Goal



Map



Lines Of Code

