

Introduction to Pioneer 3-DX, ARIA and MobileSim

What is Pioneer

- Pioneer is a family of mobile robots, including two-wheel and four-wheel drive versions.
➤ <http://www.mobilerobots.com/>



Pioneer 3-AT



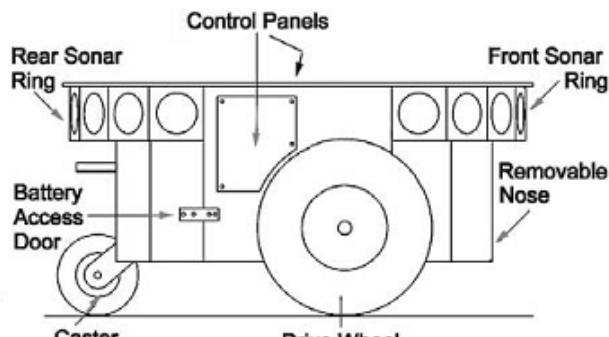
Pioneer 3-DX



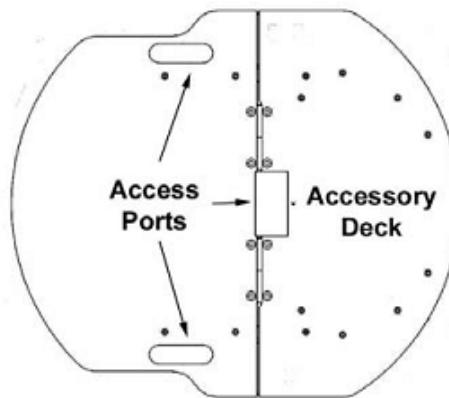
Pioneer LX

Pioneer 3-DX

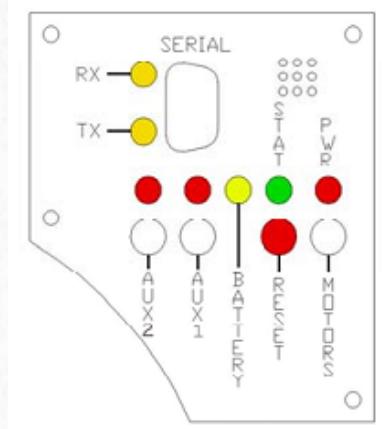
- Specifications



Side view



Top view

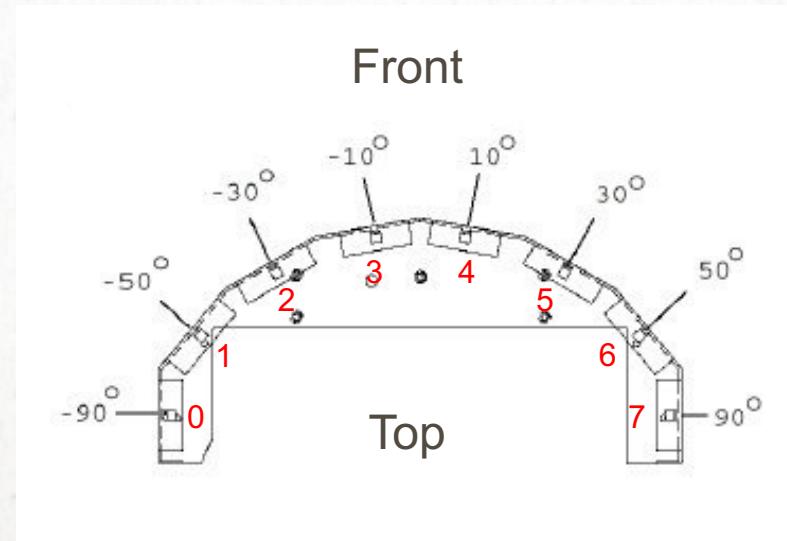


Control Panels

Pioneer 3-DX

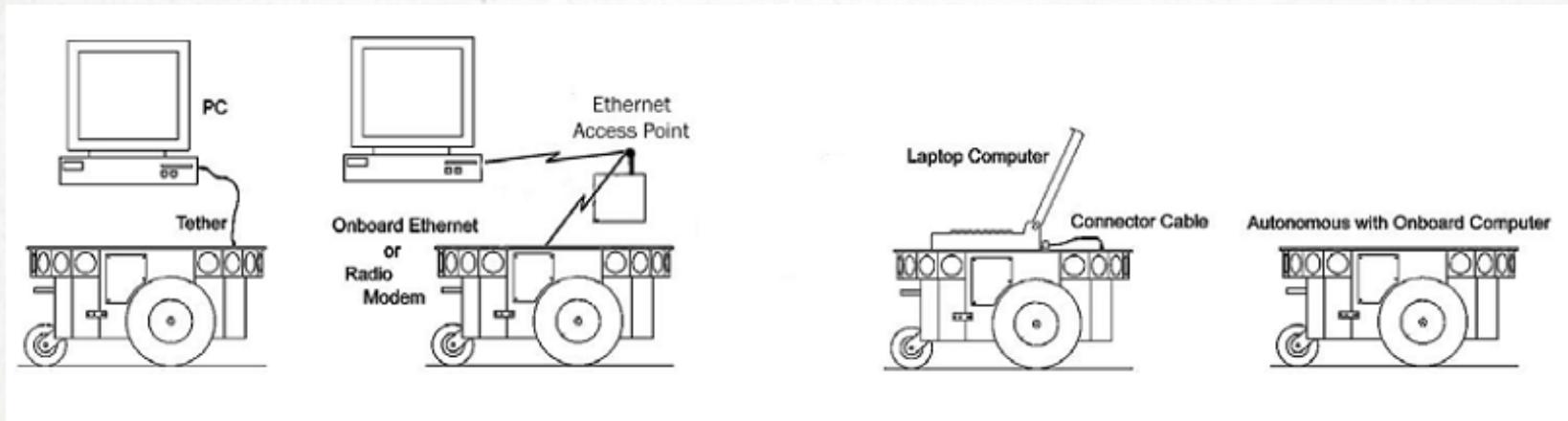
- Sonars
 - 8 sonar arrays: One on each side, and six facing outward at 200 intervals
 - Range from 10cm to 5m

Sonar numbers



Connection Options

- All MobileRobots platforms are served in a client-server architecture.



ARIA

- Open-source C++ library for all MobileRobots platforms and many accessory devices.
- Applications developed with ARIA can easily navigate the mobile platform, as well as manage odometry, sensor readings, and other operating data.
- Download link:

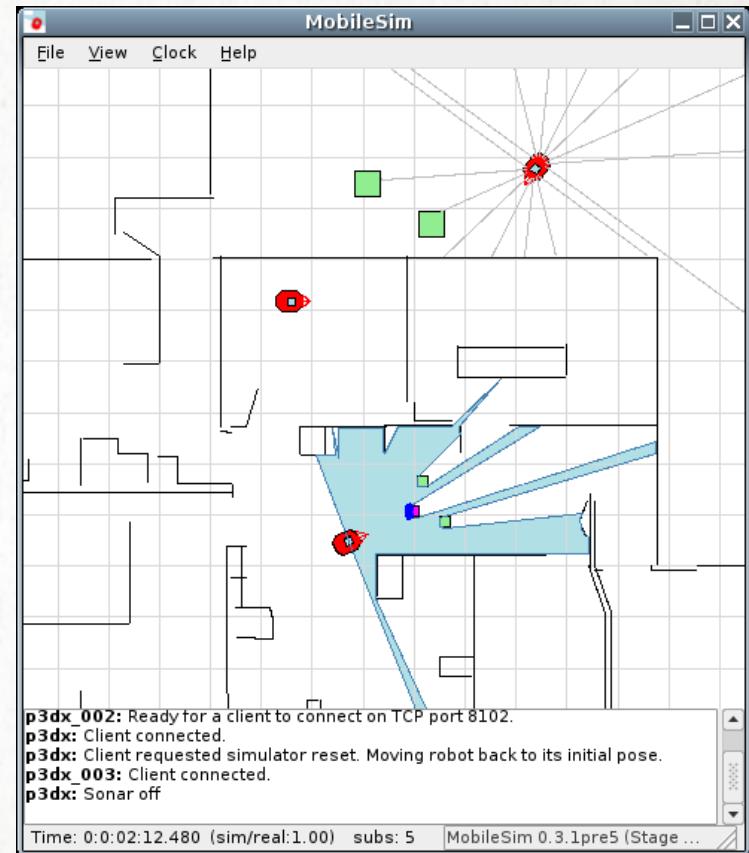
<http://robots.mobilerobots.com/wiki/ARIA>

Examples of ARIA

- Path
 - Program Files\MobileRobots\Aria\examples
- Important examples
 - demo.cpp
 - General purpose testing and demo program, using ArMode classes to provide keyboard control of various robot functions.
 - wander.cpp
 - Example using actions and sonars to implement a random wander avoiding obstacles.

MobileSim

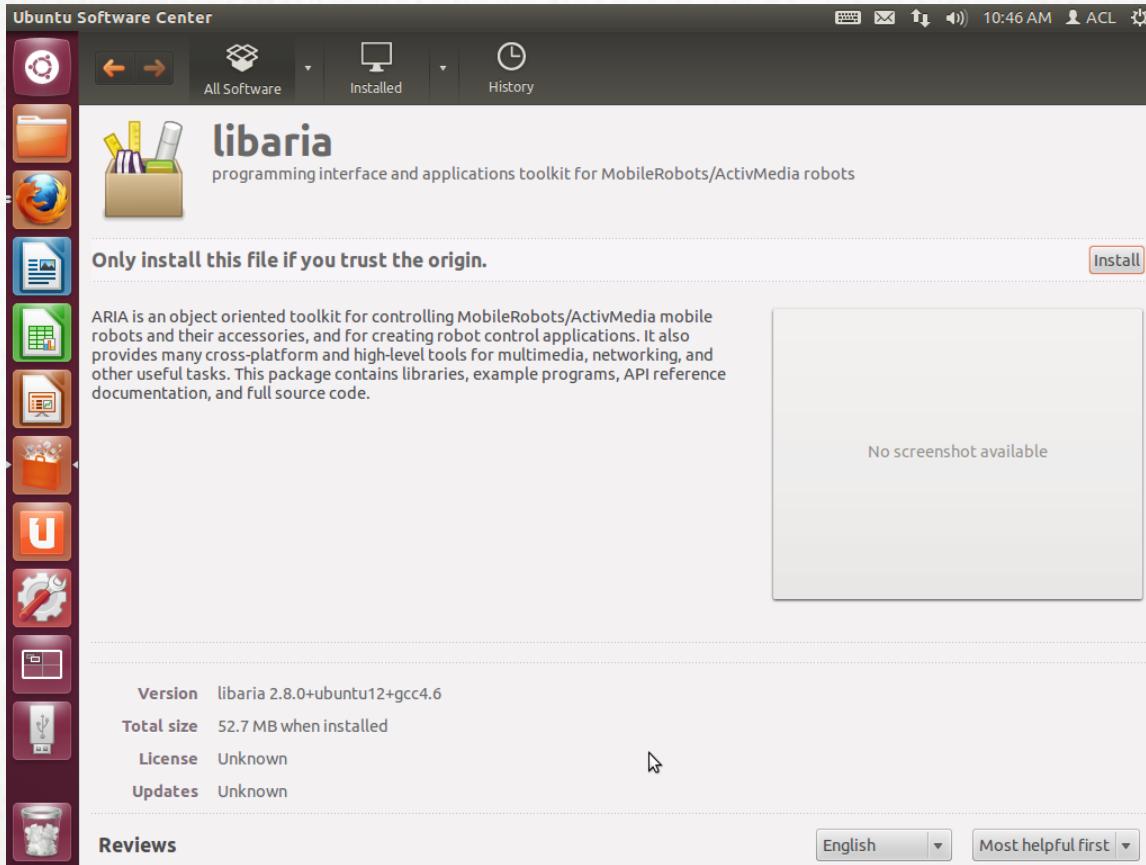
- MobileSim provides a simulation environment for MobileRobots platforms and many accessories.
- Download link:
<http://robots.mobilerobots.com/wiki/MobileSim>
- The following pages show how to run MobileSim on Windows and Ubuntu.



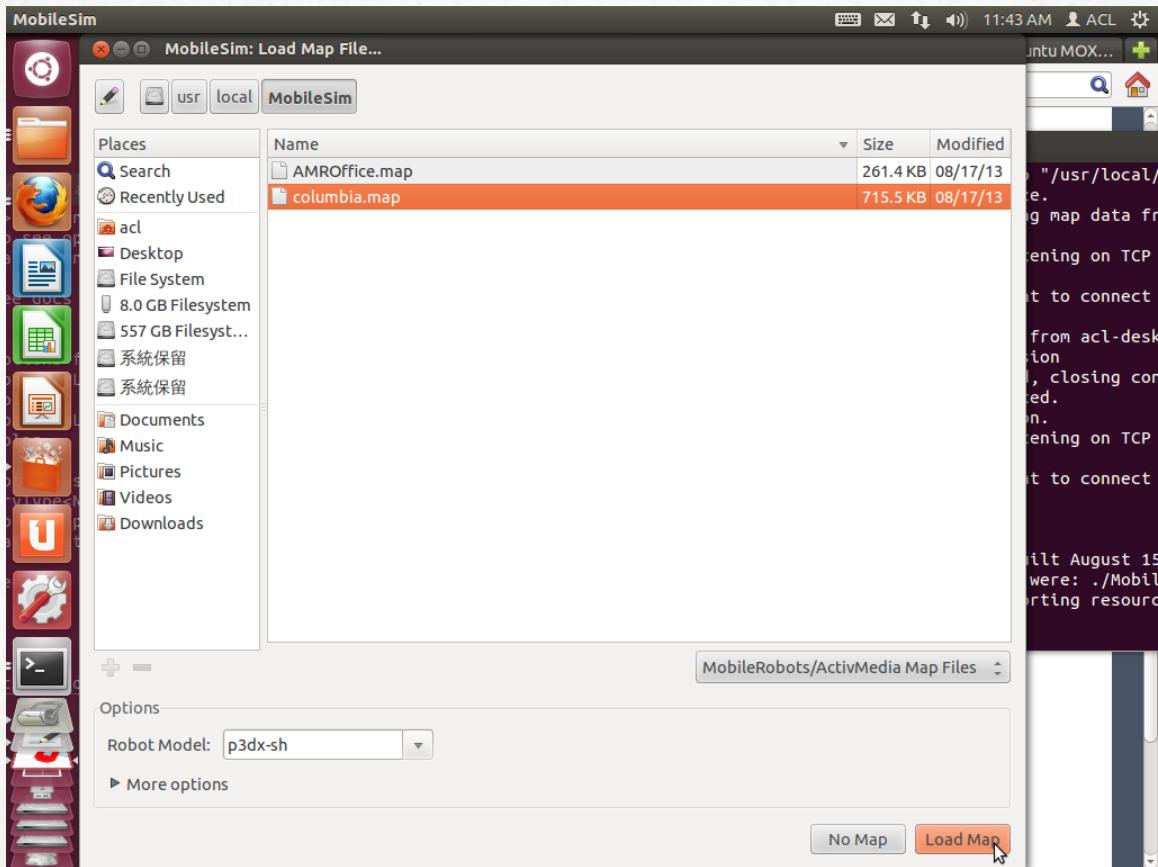
Ubuntu

- Download ARIA and MobileSim.
 - Latest Version for Ubuntu 16.04
 - ARIA 2.9.4
 - MobileSim 0.9.8
- Install them with the file.
 - They should be located at:
 - /usr/local/Aria
 - /usr/local/MobileSim
- Make ARIA before use it.

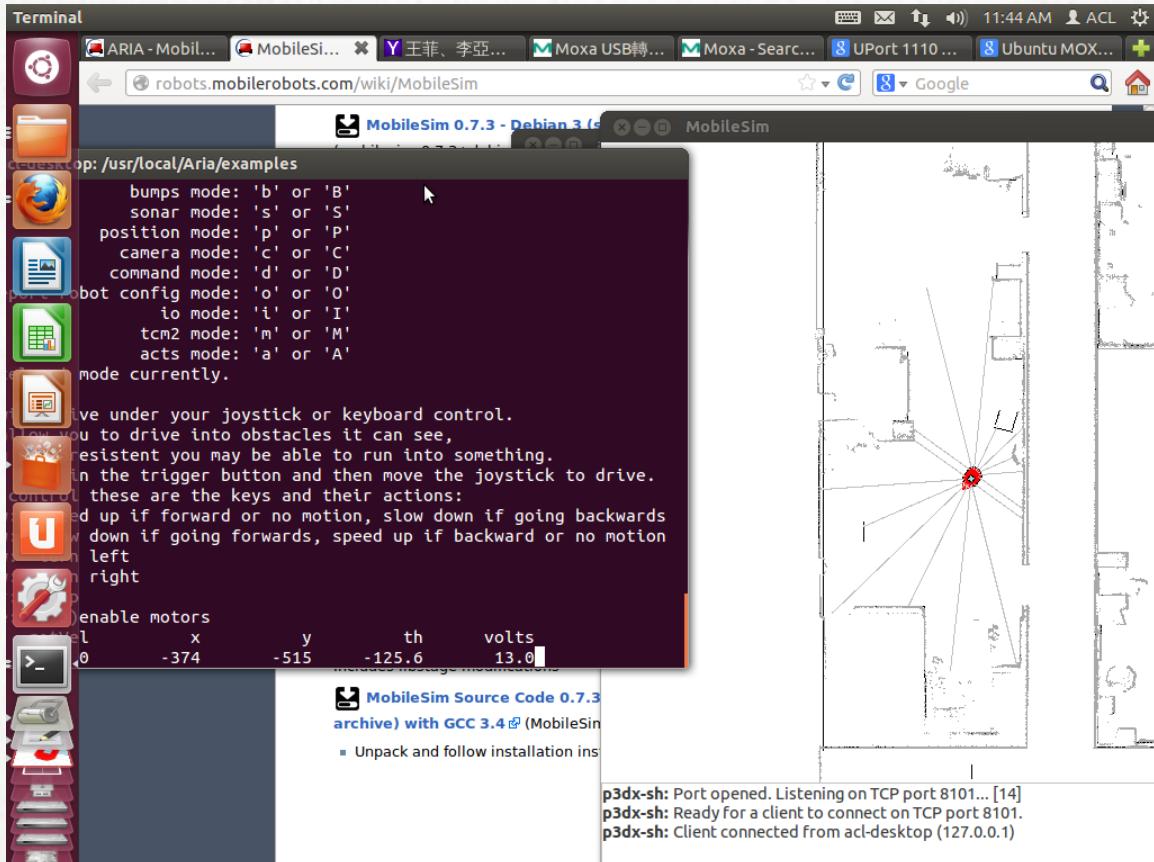
Ubuntu



Ubuntu



Ubuntu



Assignment1 Announcement

- Assignment1 is now live on CEIBA.
 - Deadline: **2018/10/08 13:00**
 - Make sure you followed the requirements before submission.

