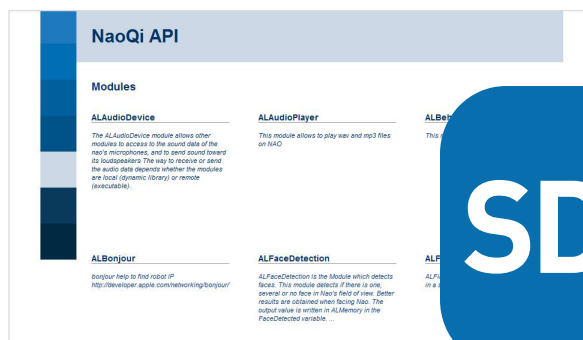


NAOqi OVERVIEW

NAOqi is the middleware running on NAO that allows algorithms to make their APIs available to others and helps prepare modules to be run either on NAO, or on a remote PC. Code can be developed on Windows, Mac or Linux, and be called from many languages including C++, Python, Urbi and .Net.

ALDEBARAN Robotics provides many modules built on top of this framework that offer rich API for interacting with NAO.



FEATURES

AUDIO

- Multilingual speech synthesis
- Multilingual speech recognition
- Sound detection
- Sound-based localization

VISION

- Face detection
- Face & picture recognition
- Image recording
- Vision tool box (handling of darkness, backlight, white balance...)

MOTION

- Joint and Cartesian control
- Whole Body Motion (Generalized inverse kinematics)
- Advanced Walking (Omni-directional walk, velocity, destination and step control)

COMMUNICATION

You can communicate with your robot, make several robots communicate with one another or with other devices via:

- Internet (Wifi and Ethernet)
- Infrared

LOW LEVEL ACCESS

- Real-time and synchronization
- Access to actuators and sensors

DOCUMENTATION

- APIs are fully documented

ENVIRONMENT

- Distributed computing
- Sequential, Parallel or event-driven programming

CROSS-LANGUAGE

- C++
- Python
- Urbi
- .Net
- Microsoft Robotics Studio

MINIMUM SYSTEMS AND TOOLS

INSTALLATION REQUIREMENTS



- Linux Ubuntu 32 bits
- Mac OSX Snow Leopard 10.6
- Windows XP 32 bits

HARDWARE REQUIREMENTS

- 1.5 GHz CPU
- 512 MB RAM
- Certified OpenGL graphics card
- LAN with DHCP
- Wi-Fi card (for wireless connection between computer and Nao)

BUILD REQUIREMENTS

- **Windows**
 - Cmake 2.6.4+
 - Python 2.6 (not above)
 - Visual Studio 2005 / 2008
- **Linux and Mac**
 - Cmake 2.6.4+
 - Python 2.6 (not above)
 - gcc / QtCreator / Eclipse / Xcode
 - ssh, scp (for deployment)
 - Python-tk (for modulegenerator)