USER FRIENDLY TOOLS TO TEACH & RESEARCH ON A HUMANOID PLATFORM

TAKE CONTROL OF NAO AND BRING HIM TO LIFE WITH ALDEBARAN SOFTWARE SUITE.

**CHOREGRAPHE SUITE INCLUDING:**
- **CHOREGRAPHE:** PROGRAM WITH A POWERFUL BUT EASY TO USE VISUAL INTERFACE
- **MONITOR:** VISUALIZE NAO’S JOINTS & SENSORS DATA IN REAL TIME

**WEBOTS FOR NAO:** TEST AND VALIDATE YOUR PROGRAMS IN A HIGH-END FEATURES VIRTUAL ENVIRONMENT

**KEY BENEFITS**
- Intuitive graphical interface, suitable from beginners to experts. Ideal for animation or interactive applications design.
- Safe behavior testing in a realistic world ruled by a physics engine.
- Access to more than 2000 sensors and joints data with graphs for easy analysis

WWW.ALDEBARAN-ROBOTICS.COM
PROGRAM YOUR NAO: JUST DRAG & DROP READY TO USE CODE AND BEHAVIORS!

Choregraphe enables thousands of students, teachers and researchers to develop programs by simply moving boxes and links. Focus on your objectives and results rather than learn how to use our software:

- Benefit from a user friendly graphical interface to discover the key concepts of programming or to explore various robotics research topics such as vision, navigation or audio treatment.
- Start immediately with 80 ready to use pre-programmed boxes and behaviors. Easily access or edit code in any box: from beginners to experts, Choregraphe is suitable for any user level.

CHOREGRAPHE KEY FEATURES

PRE-PROGRAMMED BEHAVIORS & BOXES

- Motions: animations, walk, sit, stand up...
- Audio: localization, text to speech, recognition...
- Object: face detection, face recognition, vision recognition...
- Communication: email, infrared, LEDs...
- Control: for, if, multiply, wait...

GRAPHICAL USER INTERFACE

- User friendly interface: drag and drop boxes, live visual follow up of robot...
- Integrated tools: robot view, debug window, script editor...

TIMELINE EDITOR FOR ANIMATIONS

- Worksheet mode: motion keyframe editor of joint position represented by rectangles.
- Curve mode: motion keyframe editor of joints represented by curves.

PROGRAMMING TOOLS

- Timeline box: simultaneous or time scheduled programming with motions and behavior layers
- Flow diagram box: sequential, parallel or event based programming with linked boxes
- Script box: box coding in Python
- Automatical extraction from C++ or Python code from recorded moves.

ACCESS TO ALL SENSORS AND MOTORS

- Through programming in Choregraphe
- Through Monitor provided with Choregraphe
MONITOR KEY FEATURES

DATA VIEWER
- Large data range available:
  - Actuators (position, electric current, command, temperature, control parameters - $K_p$, $K_i$,...)
  - Sensors (FSR, gyrometer, accelerometer, battery...)

CAMERA VIEWER
- Video recorder in QVGA
- Video live feedback of NAO’s cameras (local network only)

WEBOTS FOR NAO KEY FEATURES

SENSORS
- Camera 1 & Camera 2
- Articular position
- Inertial unit
- Force Sensitive Resistors (FSR)
- Sonars
- Bumpers
- Tactile touch
- Chest button
- Infra Red emitter/receiver
- Leds

ENVIRONMENT
- Weightiness (mass & inertia of NAO and environment)
- Collision: between NAOs & environment
- Simple object addition
  - (More than 50 objects available)
- Move an object with mouse

NAO SUPPORT
- NAO v3.3
- NAO v4 NextGen
- Multi-NAO on same simulation

INTERFACE
- Textures (e.g. paintings)
- Scene camera tethering
  - (follow NAO or any objects)

LANGUAGES
- English - Spanish - Chinese
- French - Japanese - German

ENVIRONMENT EDITABLE
- 2 Worlds available (empty & apartment)
- World editable: edit & save the world
- Objects editable (some parameters)
- Friction of NAO’s material (user-modifiable)
# NAO Software Suite

## Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OS</strong></td>
<td>Windows 7 / XP, Mac OS X Snow Leopard / Lion and Linux</td>
</tr>
<tr>
<td><strong>SYSTEM</strong></td>
<td>1.5 GHz CPU / 512 MB RAM / 1.2 GB free disk space / certified OpenGL graphics card</td>
</tr>
<tr>
<td><strong>NETWORK</strong></td>
<td>Wifi access point, wired connection (for first initial setting), internet (for licence activation)</td>
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<tr>
<td><strong>ROBOT COMPATIBILITY</strong></td>
<td>Models: H25, H21, T14, T2. Versions 3.2 / 3.3 / Next Generation</td>
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## Availability

Available on [www.aldebaran-robotics.com/downloads](http://www.aldebaran-robotics.com/downloads)