RTC:Joy User Guide

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1 Introduction

RTC:Joy is an RT-Component for joysticks under UNIX-based operating systems. It supports the standard joystick interface exposed through device nodes such as `/dev/js*`.

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2 Requirements

RTC:Joy requires the C++ version of OpenRTM-aist-1.0.0.

RTC:Joy uses the CMake build system[1]. You will need at least version 2.6 to be able to build the component.

3 Installation

3.1 Binary

Users of Windows can install the component using the binary installer. This will install the component and all its necessary dependencies. It is the recommended method of installation in Windows.

1. Download the installer from the website.

2. Double-click the executable file to begin installation.

3. Follow the instructions to install the component.

4. You may need to restart your computer for environment variable changes to take effect before using the component.

The component can be launched by double-clicking the `rtcjoy_standalone` executable. The `rtcjoy` library is available for loading into a manager, using the initialisation function `rtc_init`.

3.2 From source

Follow these steps to install :

1. Download the source, either from the repository or a source archive, and extract it somewhere.

   ```
   tar -xvzf rtc.tar.gz
   ```

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[1]http://www.cmake.org/

Parameter	Effect
device	Path of the joystick device node.
x_axis	Axis index to use for the X axis.
y_axis	Axis index to use for the Y axis.
scale_v	Scale factor to convert Y position into velocity in m/s.
scale_a	Scale factor to convert X position into velocity in rad/s.

Table 1: Available configuration parameters.

2. Change to the directory containing the extracted source.

   ```
   cd rtc.0.0
   ```

3. Create a directory called "build":

   ```
   mkdir build
   ```

4. Change to that directory.

   ```
   cd build
   ```

5. Run cmake or cmake-gui.

   ```
   cmake ../
   ```

6. If no errors occurred, run make.

   ```
   make
   ```

7. Finally, install the component. Ensure the necessary permissions to install into the chosen prefix are available.

   ```
   make install
   ```

8. The install destination can be changed by executing ccmake and changing the variable `CMAKE_INSTALL_PREFIX`.

   ```
   ccmake ../
   ```

The component is now ready for use. See the next section for instructions on configuring the component.

RTC:Joy can be launched in stand-alone mode by executing the `rtcjoy_standalone` executable (installed into `${prefix}/bin`). Alternatively, `librtcjoy.so` can be loaded into a manager, using the initialisation function `rtc_init`. This shared object can be found in `${prefix}/lib` or `${prefix}/lib64`.

4   Configuration

The available configuration parameters are described in Table 1.

5   Ports

The ports provided by the component are described in Table 2.

6   Examples

An example configuration file is provided in the `${prefix}/share/rtc/examples/conf/` directory.

Name	Type	Data type	Purpose
axes	OutPort	RTCJoyTypes::JSAxis	Axis values, normalised to between -1.0 and 1.0.
buttons	OutPort	RTCJoyTypes::JSBtn	Button press and release events.
xy	OutPort	RTC::TimedPoint2D	X/Y position.
va	OutPort	RTC::TimedVelocity2D	Forward and angular velocity based on xy.

Table 2: Available ports.