How to Configurate Icommand in Windows Platform.

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Introduction

I have decided to write this document, because, I had severals problems when I started to program with Icommand and I saw in NXT forums a lot of people with my same problems then I started to write it. I hope that it help you.

This document try to explain with my comments and photos the documentation attached with <u>http://lejos.sourceforge.net/icommand_0.4.zip</u>

Icommand is a package allows you to control your NXT using Java and a Bluetooth connection. It uses the standard Lego NXT firmware to receive commands from Java code on your computer. We are still looking for users to test this on Linux and Macintosh systems and provide install documentation. Please email me (<u>bbagnall@mts.net</u>) or leave comments at www.lejos.org/forum if you can test this and type up some docs for those respective platforms.

Installation

Installation is a little steep because of all those pesky JAR files (and DLL's) that need to be set up in Java. There are several things to set up to get iCommand working: Java SDK (you probably already have it if you program in Java), Eclipse (optional IDE but recommended), RXTX (a package that allows communication), setting up a Bluetooth COM port, and iCommand (this). Note: This package was tested using J2SDK 1.4.2_12 and 1.5.0_06 on Windows.

iCommand Install

- 1. Unzip the contents of iCommand_0.3.zip into a directory.
- 2. Set your classpath to include icommand.jar. In Eclipse, after you start a new project, select Project, Properties, Java Build Path and "Add External Jars...", then browse to icommand.jar.

Comments:

Download icommand from Lejos website, <u>http://lejos.sourceforge.net/</u> (When I wrote this document, lastest version of icommand was icommand0.4) <u>http://lejos.sourceforge.net/icommand_0.4.zip</u>





What's New?

September 22, 2006 11:08 PM



Version 0.4 of iCommand is now available. The new version copies leJOS commands more precisely (as seen in the iCommand API) and adds functions for the Ultrasonic sensor. It's still not perfect but it is starting to show some potential. Download now

August 28, 2006 11:13 PM



Introducing iCommand 0.3, a Java API for controlling the Lego NXT brick. iCommand allows you to program your robot and control it using your Bluetooth connection. The <u>iCommand API</u> is modelled on the leJOS API with some differences. *Note: This is not a firmware replacement*. <u>Download now</u>.

When you download icommand, unzip it and create a project with Eclipse. You can download Eclipse IDE in <u>http://www.eclipse.org/</u>

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Home	Community	Membership	Committers	Downloads	Resources	Projects	About Us			
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When you install it, create a new Java Application in Eclipse:

😂 New Project	X					
Select a wizard	>					
Create a Java project						
Wizards:						
Java Project Java Project from Existing Ant Buildfile Plug-in Project CVS Eclipse Modeling Framework EClipse Modeling Framework EClipse Modeling Framework DECLIPSE Java Java Java Java Java Java Project Java Project PHP PHP Project PHP PHP Project Simple						
< Back Next > Finish	Cancel					

When you are configurating your new Java Application, you have to add Java libraries, in this case, you should to add Icommand library into your icommnad project:

va Settings		
fine the Java build settings.		
🖲 Source 🔁 Projects 📑 Libraries 🍫 Order and Export		
HK's and class folders on the build path: HK and class folders on the build path: KK and class folders on the build p	Add JARs	
A RXTXcomm.jar - C:\DATOS\ROBOTICS\JAVA\rxtx-2.1-7-bins-r2\rxtx-2.1-7-bins-r2 Source_attachment: (None)	Add External JARs.	
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ommandTest	Browse	
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Once you have added icommand library, you have to install RXTX.

RXTX Install

The steps to install RXTX are:

- 1. Download RXTX from http://www.rxtx.org.
- 2. Set the Java build path to include RXTXcomm.jar. In Eclipse, after you start a new project, select Project, Properties, Java Build Path and "Add External Jars...", then browse to RXTXcomm.jar.
- There are some dll's that come with RXTX. Make the dll's accessible by copying them to your Java bin directory e.g. c:\j2sdk1.4.2_12\bin. In Eclipse, select the RXTXcomm.jar you just added and expand it by clicking +. Select "Native library location" and browse to the RXTX subdirectory \Windows\i368-mingw32 (or the directory for your platform).

Comments:

Download RXTXcomm.jar from RXTX web site in http://www.rxtx.org



Click in download link and search Window Version:

Download
RXTX 2.1 for use withOUT Sun's CommAPI (namespace gnu io) The Mac OS X has an installer in the source file too. The First file just contains the libraries. There was over 20 'pre' releases of 2.1-7. This the Final release.
Linux, Windows, Solaris, Mac OS <u>rxtx-2.1-7-bins-r2.zip (Final)</u> source/Mac OS X <u>rxtx-2.1-7r2.zip (Final)</u> The ToyBox: <u>ToyBox</u>
The ToyBox has about 35 platforms (and growing). If you have a toy (even an s390), we have the ToyBox. Find the OS, Libc, and CPU You are looking for. Please report any problems to the <u>mail-list</u> . Unix users can extract zip files with jar -xf foo zip. It works fine and on all platforms we support.

When you have downloaded rxtx-2.1-7r2.zip, unzip it and add the path in the new Java Application that you are configurating in Eclipse.

🖨 New Java Project	
Java Settings Define the Java build settings.	P
Source Projects Ibraries Order and Export JARs and class folders on the build path: Icommand.jar - C:\DATOS\ROBOTICS\JAVA\icommand_0.4 RXTXcomm.jar - C:\DATOS\ROBOTICS\JAVA\icommand_0.4 Source attachment: (None) Javadoc location: (None) Native library location: C:\DATOS\ROBOTICS\JAVA\rxtx-2.1-7-bins+r2\rxtx-2.1-7-bins+r2\rxtx-2.1-7-bins-r2	Add JARs Add External JARs Add Variable Add Library Add Class Folder Edit Remove
Default output folder: icommandTest	Browse
< Back Next >	Finish Cancel

When you have added RXTXcomm.jar then you have to expand it to add Native library location path, Windows\i368-mingw32.

On this folder, there are 2 files:



📽 Native library location: C:/DATOS/ROBOTICS/JAVA/rxtx-2.1-7-bins-r2/rxtx-2.1-7-bins-r2/Windows/i368-mingw32 🔐 Access rules: (No restrictions)

Besides you have to copy and paste that files into the folder of you Java JDK. In my installation I installed jdk1.5.0_09



The COM port serial service

When you installed the Lego software, it set up a COM port already. You just need to figure out how to find the COM port.

- 1. Go to Control Panel, System. Click the Hardware tab and select Device Manager.
- 2. You can now expand 'Ports(COM & LPT)' tree to see the COM ports.
- 3. The one you want is the lowest Bluetooth COM port in the list e.g. COM4
- 4. Now click the Advanced tab, Environment Variables.
- 5. In the System Variables window enter NXTCOMM and for the value enter your COM port e.g. COM4.

Comments:

When you turn on your NXT brick and if you have installed in your PC or your laptop a Bluetooth dongle then the system will recognize your NXT brick as a bluetooth device but you have to configurate it.



Put a key, in your wizard window to add. I recommend the key 1234 because in NXT brick, this key is edited as a default key.

Asistente para agregar dispositivos Bluetooth	3
Windows está intercambiando claves de paso.	, P
Cuando se le indique, escriba la clave de paso usando el dispositivo Bluetooth. Para obtener más información acerca de cómo escribir una clave de paso, vea la	
documentación que viene con el dispositivo.	
🖌 Conectando	
🖌 Escriba la clave de paso en su dispositivo Bluetooth.	
Clave de paso: 1234	
Instalando dispositivo Bluetooth	
	S
	Ĭ
< Atrás Siguiente > Cancelar	

When you have connected NXT brick with your laptop, Windows O.S. tell you the COM ports used by NXT brick. In next step you will use lowest COM port.



If you have doubts about COM ports used by your NXT brick, use Admin Machine Window. Another way to access to this window is the following:



If you expand Device Manager, and you click in COM & LPD ports you will see COM ports used by your NXT brick



When you know the right port, the lowest COM port used by your NXT brick, you have to set a system variable.



hestaurar sistema	Actualizac	iones automáticas	Acceso remoto		
General Nomb	re de equipo	Hardware	Opciones avanzada:		
Debe iniciar la sesión como un Administrador para hacer la mayoría de los cambios. Rendmiente					
Efectos visuales in	rogramación del	ntocesador, uso i	te memoria u		
memoria virtual	rogramación aci	processidor, 480 (de memoria y		
			Configuración		
Perfiles de usuario					
Configuración del e	scritorio relacion	iada con su inicio	de sesión		
and a d ay of water ea					
			Configuración		
Início y recuperació	n				
Inicio de sistema, e	rror de sistema e	información de d	epuración		
			Configuración		
	Variables de	entorno	nforme de errores		
	Valiables de		filonie de enores		

Click in Environment Variables:



Variable	Valor
TEMP TMP	es C:\Documents and Settings\JAB\Config C:\Documents and Settings\JAB\Config
	Nueva Modificar Eliminar
ariables del sistema Variable	a Valor
LANG NUMBER_OF_P NXTCOMM	es 1 COM13 Windows NT

When you see this window, click in new system variable and write NXTCOMM and the lowest port used by your NXT brick

	Modificar la variable	del sistema 🔹 💽)
c	Nombre de variable:	NXTCOMM	
е	Valor de variable:	COM13	
0		Aceptar Cancelar	
· j			

When you have done all steps, you can compile and run your icommand programs.



Thanks for Lejos Team. :D

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