NXJ Operating System.

Ideas to improve StartUpText App

LEJOS
Java for LEGO Mindstorms
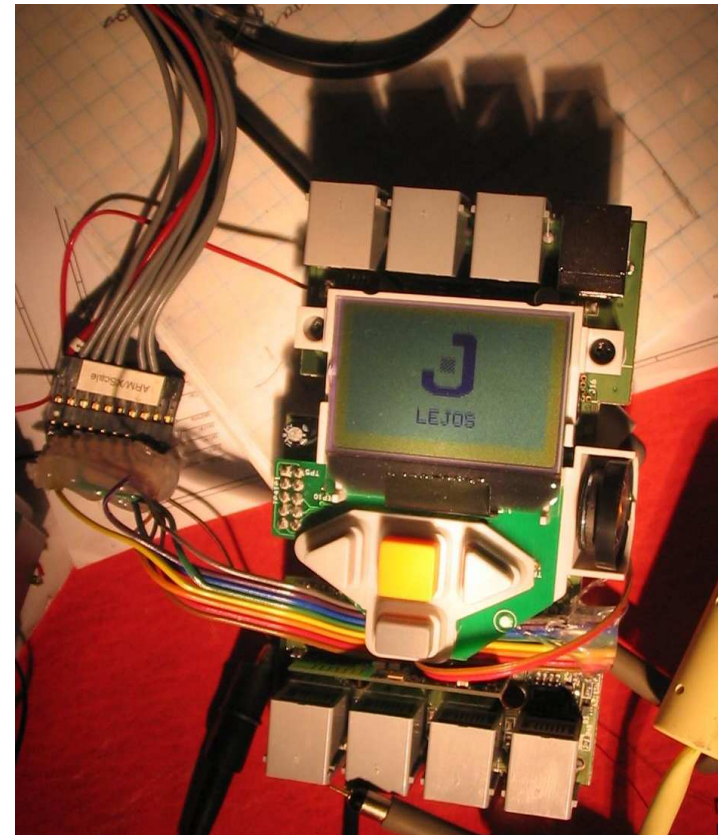
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Introduction:

The project Lejos and the product NXJ are a great effort to expand Java Virtual Machine's concept into Robotics field using a limited hardware like NXT Lego Mindstorm.

When you turn on NXT brick when you have installed Lejos JVM, you can interact with StartMenu application. The goal of this document is share ideas to improve this application.

An operating system (OS) is any software that can boot (start up) a computer and manage its functions. Operating systems come in various forms to meet different requirements. Operating system is a interface between user and hardware.

Current StartUpText application:

The application named StartUpText starts when you turn on your NXT Brick. Current application menu tree is the following:

- *Files*
  - *File 1*
    - *Execute | Delete*
- *Bluetooth*
  - *Devices*
  - *Search*
  - *Turn on | off bluetooth*
  - *Visibility on | off*
- *System*
  - *Defrag memory*

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Proposals to improve StartUpText:

Once I have analyzed current StartUpText my proposals to improve it are the following:

1. When you execute a program in NXT brick ant it finish the program, it is neccessary to go back to StartUpText.
2. Add the option to execute a Default NXJ Program
3. Add the option to turn on automatically when NXT brick detect energy.
4. It is neccesary to add a utility to format file system into NXT brick.
5. Add a utility to set a friendly name in your NXT Brick.

Proposals to improve StartUpText:

1. When you execute a program in NXT brick ant it finish the program, it is neccessary to go back to StartUpText.

Currently when any NXJ Program finish, your NXT Brick turn off. A good way to improve this interaction could be if when any program finish then StartUpText begin again

Proposals to improve StartUpText:

2. Add the option to execute a Default NXJ Program.

NXJ technology has been developed to build "NXT Souls". Once you have developed a robust NXJ software to control a NXT Robot, It is a useful improvement to add a option in StartUpText to set a Default program to start as soon as possible NXT Brick turn on.

By security reason, StartUpText when NXT Brick turn on could have a way to access to StartUpText for example using left and right button together.

Proposals to improve StartUpText:

3. Add the option to turn on automatically when NXT brick detect energy.

Currently if you want to execute any NXJ Program, your have to turn on your NXT Brick, but you notice that NXT batteries is charged. A good improvement to StartUpText could be the possibility to turn on automatically when NXT Brick detect energy.

Proposals to improve StartUpText:

4. It is neccesary to add a utility to format file system into NXT brick.

Sometimes, your NXT file system has several NXJ Programas, sounds and log files. It is neccesary to have a utility to delete all files from your NXT Brick.

Proposals to improve StartUpText:

5. Add a utility to set a friendly name in your NXT Brick.

Sometimes, in your NXJ Programs it is neccesary to set the name of your NXT brick to stablish a bluetooth communication. StartUpText should have a utility to set NXT Brick's name
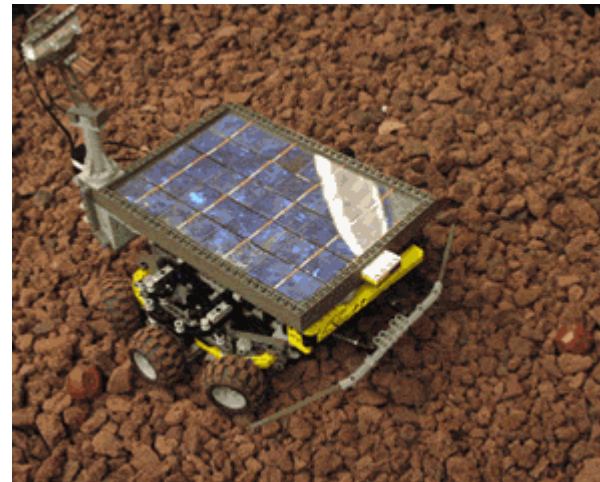
Proposals to improve StartUpText:

New application tree menu woul be:

- *Files*
  - *File 1*
    - *Execute | Delete*
- *Bluetooth*
  - *Devices*
  - *Search*
  - *Turn on | off bluetooth*
  - *Visibility on | off*

- *System*
  - *Defrag memory*
  - *Format file system*
  - *Set NXT Name*
  - *Select a default NXJ App*
  - *Activate Default NXJ App*
  - *Turn on with energy Enable | Disable*

Projects to use the improvements

This improvements would improve the performance of any NXJ Program which has been designed to control a NXT Robot. Besides with this improvements, community could start to use others energy sources like Solar Energy.

Links of interest:

http://lejos.sourceforge.net/

http://lejos.sourceforge.net/forum/

http://home.earthlink.net/~stuff.tm/solarlego/

http://www.juanantonio.info/jab_cms.php?id=28

http://www.philohome.com/nxtsupply/nxtsupply.htm

http://www.freewebs.com/robotprojects/nxtchargingstation.htm