

Creating a My Brick using LEGO Mindstorms NXTg Software

What is a My Brick ? – A My Brick is a single icon that represents a whole mini program that you have written. In other words you are able to package a larger program into a single icon.

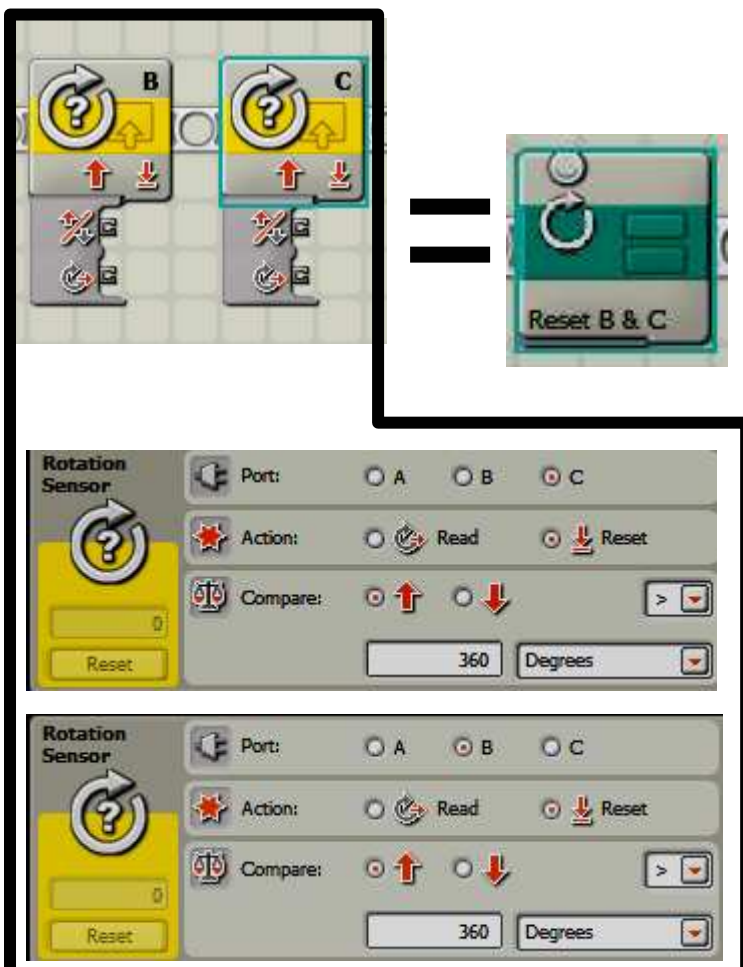


Why Bother? – The NXT bricks memory is prone to filling up so it's important to write programs that have as few as possible icons in them (and avoid using sound and picture icons). Creating a My Brick condenses a longer program down into one single icon **and if you need to use the same section of program again in that same program (or any other program) you just use the My Block you created with the program inside it instead of having to write that whole section of program again each time.** This saves memory space on the NXT brick and saves you programming time.

The other advantage is that if you need to change any part of the program inside a particular My Brick this change will happen in every place you use the same My Brick again, one change happens in all uses of the My Brick.

Another use of the My Brick is to package longer pieces of programming into one icon so that your program on the computer screen is reduced in length across your computer screen. I would do this when the program becomes very long and I need to use data hub wires for long distances and find connecting the wires difficult. In this use I probably wouldn't be editing the My Block as I could only be using it once in the program rather than using it to save memory space. Programmers may sometimes refer to a My Brick as a sub-routine.

Mission 1 A and Mission 1B My Block Example



In this program example I have created one MY BLOCK called Reset B and C. This My Block contains two blocks configured to re-set the degrees counters on Motor B and on Motor C

I have then used the Reset B and C My Block whenever I need to re-set the degrees sensors on B and C, this saves time and screen space in the program and makes editing the configuration easy. I edit will cover all instances of use.

To Edit A My Block:
Drag the block to the screen and double click on it. This will open the program. Edit the blocks and configurations, save the changes and all changes will be saved in the My Block and all instances of use.

Warning
When you use My Blocks and you change computers (burn on a Cd, save on a USB, e mail) you must also save /send the My Block or use Pack and Go – see following

Steps to Create a New My Block

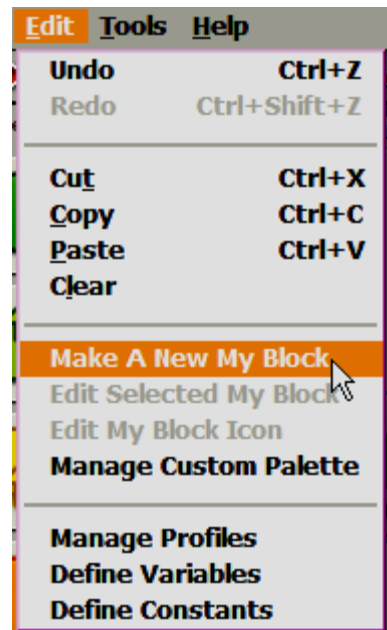


1 Write a program and configure the settings. In this example I want to stop motors B and C for .25 of a second. (You could use this in the Mission 1 program)

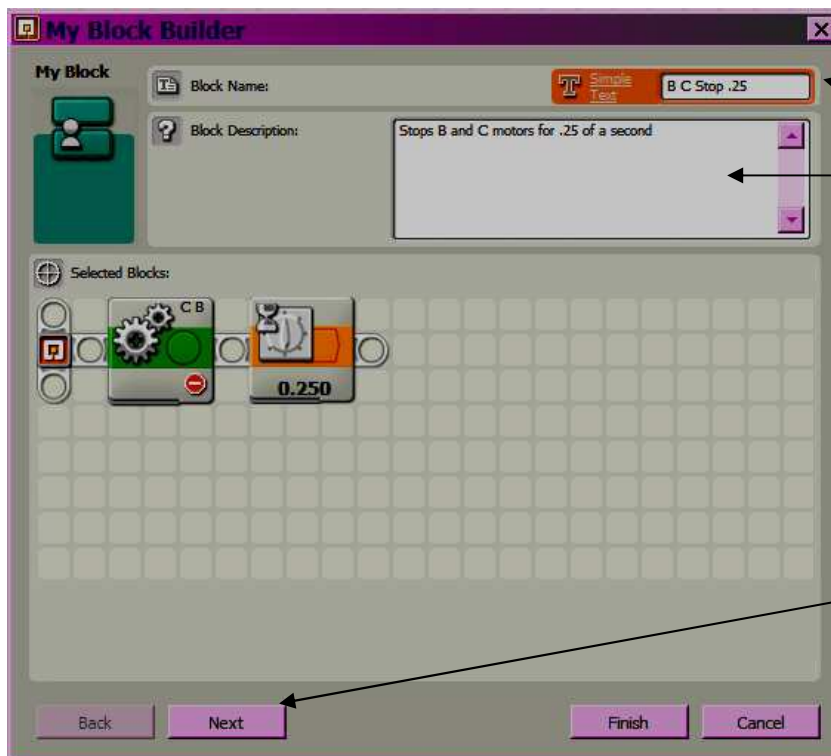


2 Left mouse click and hold to select all the blocks you want to include in you're my Block. The selected blocks will have a blue border around them

3 Click Edit from the menu bar and select Make A New My Block



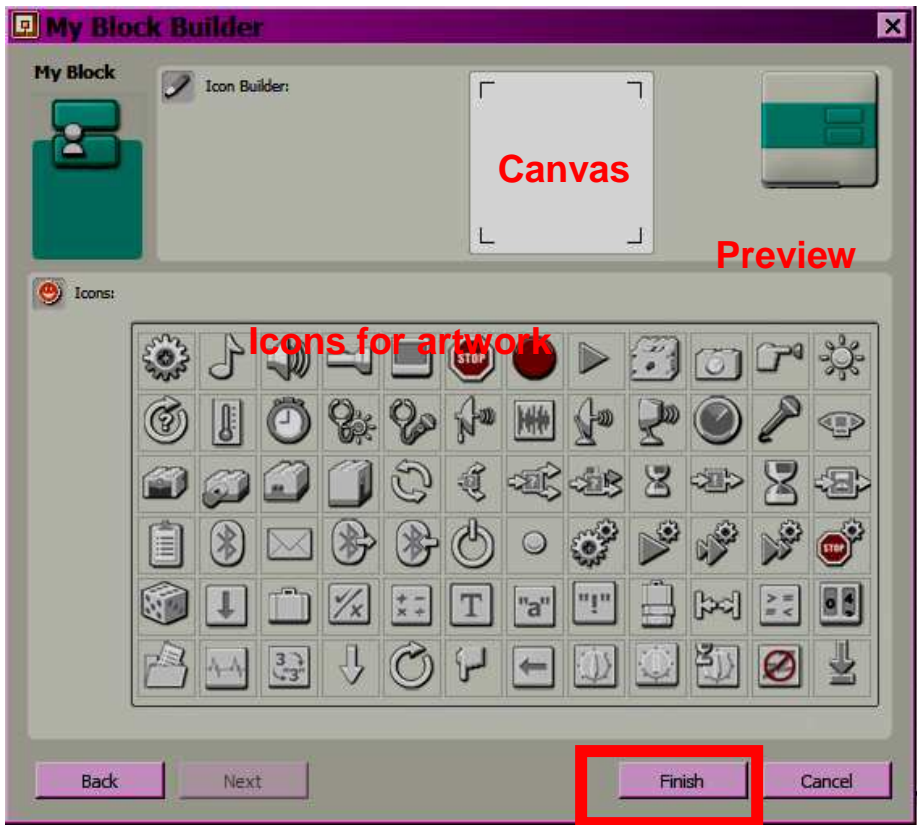
4 The Block Builder screen will appear . Name your block here , this will appear on the block so keep it short. Write a description of what the program does then click Next



4 a Name the block

4 b Describe what it does

4 c Click NEXT



5 Design the artwork for your block

5a Click and drag the icons you wish to add to your block from the icons selection to the white canvas. You can re size them here and see a preview of what they will look like on the left

5b Then click FINISH this will add you're my Block to the selection in the CUSTOM Palette.

6 You can now use this My Block in any program you write.

6 CUSTOM Palette



Accessing & Using you're my Blocks

The finished My Block has your artwork and name. It can be used in any program by clicking on the CUSTOM PALETTE tab at the bottom of the Palette bar on the left. Click on My Blocks and then drag the selected block the same way you use all other blocks



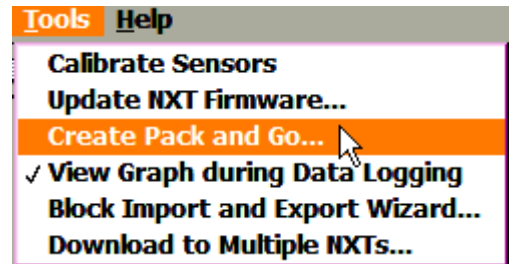
Pack and Go - V2 Software

This is a handy tool provided in the version 2 software. When you use My Blocks and you change computers (burn on a Cd, save on a USB, e mail) you must also save /send the My Block so that it can be used in the program as My Blocks are saved in a different place in the software to where your programs with standard blocks are. My Blocks are unique to the computer that created them unless you use Pack and Go or save and paste the My Blocks individually.

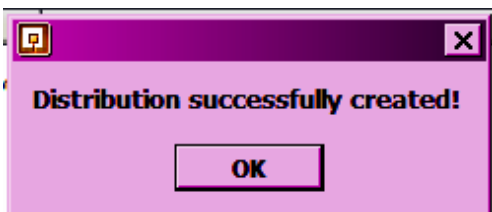
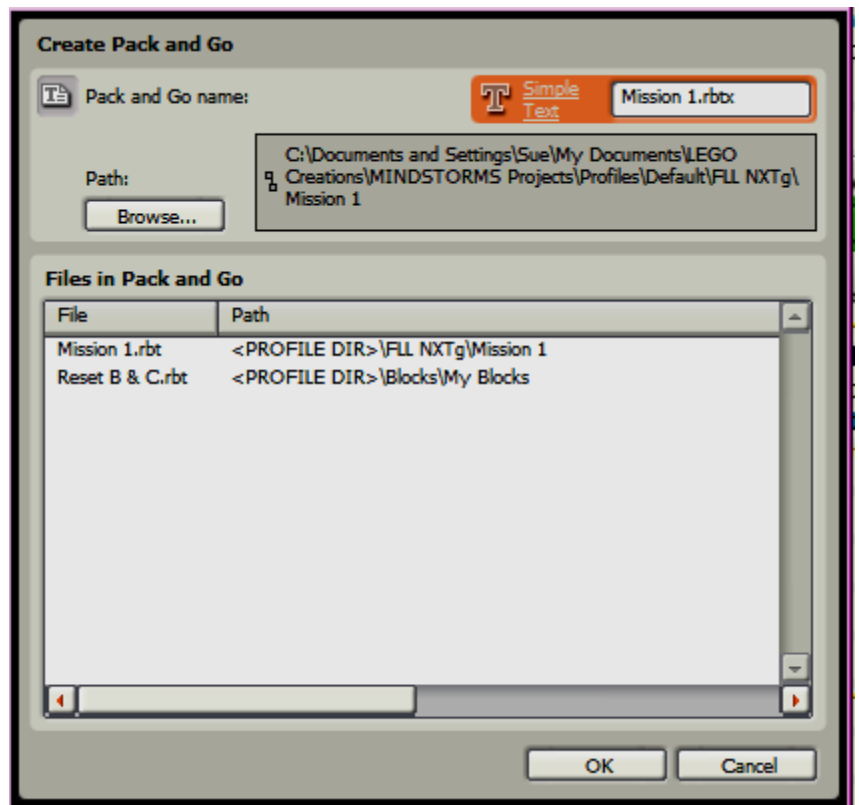
Pack and go ties the program and the My Blocks together in a file with the **.rbtx** extension. This can then be transported to any computer and run/ downloaded.

To Pack and Go a program with My Blocks in it :

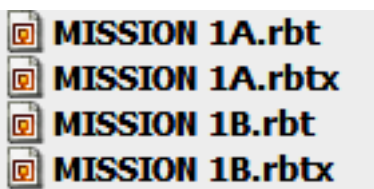
1 Click on the TOOLS drop down from the menu bar and select CREATE PACK AND GO



- 2 The Pack and Go screen will show you the programs name and the components that it will tie together this includes the original program and any My Blocks used.
- 3 Click OK if this looks right
- 4 The message will appear when the process is complete, click OK



- 5 If you wish to copy / burn/ e mail etc this program you will find the Pack and go combination in the Profiles folder along with the original .rbt program. The original My Block is also still in the My Blocks folder.



Pack and Go programs have the **.rbtx** extension

Moving NXT Programs and My Blocks from Computer to Computer Manually

If you are not using Mindstorms NXT g Version 2 software you will need to copy / burn/ e mail the program and then the My Blocks you used as separate elements. You will then need to paste /copy the My Blocks into the Mt Blocks folder . This is usually found in the users My Documents folder , follow this pathway.

C drive (or whatever)

Documents and Settings

Select the current users name

My Documents

LEGO Creations

Mindstorms Projects

Profiles

Default (or whatever profile you created for yourself) Programs and Pack and go programs reside here.

Blocks

My Blocks – My Blocks are stored here.
Paste My Blocks into this folder

Check with your computer technician if you are networked as he may have set up different folders and profiles for students for standard programs and My Blocks. The pathway described above is for un-networked computers using the default profile for NXTg software