

BYOB 2.0

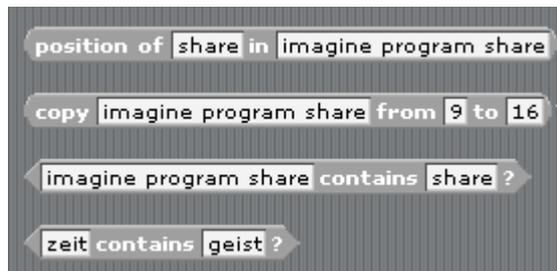
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What's new:

- custom blocks
- nestable sprites
- sharing sprites in a mesh network
- compiler
- scrolling enhancements
- undo

I. Custom Blocks

(1) Arguments are now all combi-fields, allowing both numerical and text input (as well as dropped reporters). Now you can compose your own string functions in BYOB:



(2) showValue now also works for custom reporter blocks. Double click (or click and hold) on any reporter block to trigger a speech bubble showing its result:



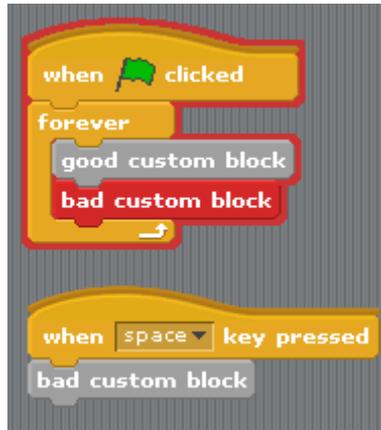
(3) The block editor's answer field finally works as expected, letting you compose complex return expressions without having to fiddle and wiggle:



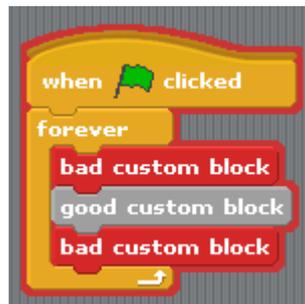
(4) Debugging: The new error feedback rules for Scratch 1.4 now also work for custom blocks and their script definitions. Consider this bad script in a custom block definition:



When you execute a script containing this custom block, it is shown as 'bad' (John, this design of yours is brilliant, it's kind of an automatic break point, I *adore* this):



If there are several blocks in the current stack sharing the same definition, all become lit up:

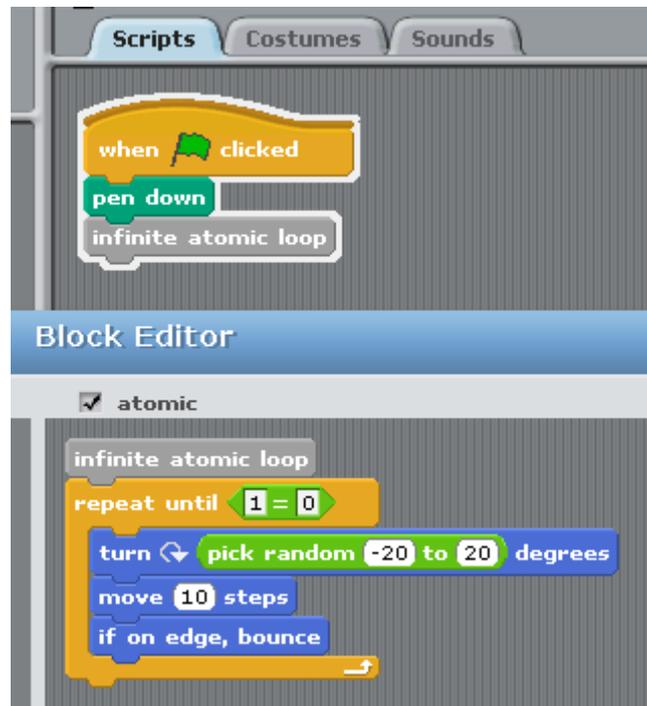


When you edit the custom block definition of any of these blocks, it highlights the part, in which the error occurred:



If you press 'Ok' in the block editor, the highlighted block goes back to its normal color.

(5) Tried to fix a bug / feature request by Brian Harvey about escaping out of infinite atomic loops:



Pressing (and holding) the Esc key disables the 'atomic' setting while the script is running. Pressing any mouse button while holding the Esc key stops all scripts (this is how I intended it to work in the first place, but I forgot to flush the keyboard input queue before...).

(6) Compatibility: You can now open / import any Scratch project into BYOB. Old BYOB projects can also be opened and edited. If you save a project which was started in Scratch or imported in the Scratch file format, BYOB warns you before you writes it to disk, that you will not be able to open the file in Scratch:



Being able to open / import regular Scratch projects and refine them in BYOB has been requested by many users.

I also fixed a number of other bugs and glitches along the way.

II. Nestable Sprites

BYOB now features object composition/structural recursion in Scratch.

This is how it works:

You can stick a sprite to another one by dragging its library icon and dropping it onto the new owner. I have added a new sprite feedback morph for this:



(the outline of the target owner sprite is displayed *above* the dragged library icon, so you know the location at which you can drop it even if the target is so small that it otherwise hides beneath the dragged library icon).

You can detach a "sticky sprite" by dragging its library icon and dropping it onto the stage .

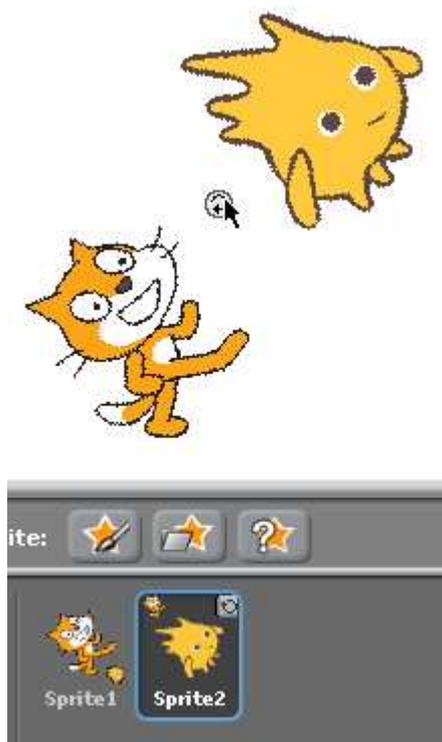
Each sprite's library icon reflects its nesting state: A tiny icon in the top-left corners indicates the sprite's owner. Tiny icons along the bottom indicate subsprites (there can be an infinite number of subsprites, but only the first three are shown as icons):



Controlling a subsprite's rotation rule:

At the library icon's top right corner of a nested sprite there now is a tiny rotation style toggle button, which controls if the sprite rotates along with its owner, or independently.

Default is "rotate with owner":



If set to "rotate independently" the nested sprite still rotates its position along with its owner, but will not turn automatically:



Subsprites behave as integral parts of their owners. Among other things they resize, rotate and move along with their owners. They can be exported and imported into other BYOB projects.

III. Sharing Sprites in a Mesh Network

For this BYOB version I have activated Scratch's mesh networking features and added the ability to share (nested) sprites among peer sessions.

IV. Compiler

Also included is a current compiler. This will let you turn any Scratch/BYOB project into a Windows .exe file.

V. Scrolling Enhancements

Editor panes in BYOB feature autoscrolling and scrolling by dragging....

VI. Undo

....oh, and finally you can undo any accidental block drops/merges.