Tech News

Scrolling backgrounds

Scratch is designed so that sprites move around on a static background, but many games are designed so that the main player character stays on screen as the background scrolls past. Animations also frequently use a "pan shot" where the camera gradually turns to seem more of the background.

To get these effects in scratch, you don't use the backgrounds on the stage, but create new sprites to be the scrolling background, behind all the other sprites, but in front of the stage. Because sprites are usually limited to the size of the stage, you usually need at least two sprites to make side-by-side tiles. There is an example of a scrolling background using 3 sprites in "Scrolling Background Effect v3" by Graham in the Spring Hill Tech Club gallery. The three sprites all move in response to key commands, and when one sprite gets centered on the screen, it makes sure that the other two are to its left and right.

Google celebrated 28 January 2008 as the 50th anniversary of the Lego brick, with this holiday logo. The precise date is based on when Lego filed for a patent on the brick. The brick itself had its first prototypes earlier (in 1949). The Lego bricks today still fit with the bricks of 1958, but the material is different—Lego switched to the very durable ABS (Acrylonitrile Butadine Styrene) plastic in 1963, and has used it ever since. There are now over 2400 shapes for Lego parts, making it very difficult to get replacement parts if you lose a specialty part.

Lego is also celebrating the 30th anniversary of the minifig this year. They have released 17 minifig pictures for use as Scratch costumes at http://scratch.mit.edu/pages/imagepack You can use these images by dragging the pictures to the desktop, then importing them on Scratch's costume pane.

Congratulations on Science Fair!

I understand that there was 100% school participation in science fair this year. I only had a little over an hour to look at over 100 projects, so I did not get as much time as I would have liked to read them carefully. There were some very good projects this year.

Several of the Tech Club members will be going on to the county science fair (Saturday 8 March), and I would be happy to make suggestions on how to make the best impression there. I've been a judge at the county science fair for many years, and have gotten a rough feel for what the other judges are looking for.

Sixth graders who do well enough at the county level may go on to the state science fair (19 May in Los Angeles).

Making big sprites

Normally in scratch, when you edit the costume for a sprite, you are limited to making it no bigger than 480 pixels wide and 360 pixels high, the size of the stage. Importing larger images causes them to be scaled down to fit.

There is a way to get bigger costumes for sprites, by exploiting a bug in Scratch. A right-click on the stage (option-click on a Mac) provides a popup menu that either offers to grab a screen region to make a new sprite or grab a screen region to make a new costume for a sprite (depending whether there is a sprite underneath the mouse when you click).

After clicking on the menu choice, you can grab any part of the Scratch window (including more than the stage) with a click-and-drag from one corner of a rectangle to the opposite corner. I have grabbed regions as large as 1656x1003 this way, about 3 times bigger than the stage. You can edit them these big sprites with the usual paint editor, but "clear" will resize them to the stage size, and importing external pictures will still only import a 360x480 patch of the costume. You can, however, erase and draw normally in the big costume, though the editor won't zoom out far enough to let you see the whole thing.

I used this to make a on-sprite flashlight project at http://scratch.mit.edu/projects/kevin_karplus/90634 It only works when downloaded, because the java player on the web doesn't allow oversize sprites.