

Tech News

Report on third meeting

Tech Club continues to grow, with three more kids joining. It's a good thing that they don't all show up every week, or we'll run out of computers! The 5th graders continue to be the largest part of the club, though we now have a fair number of 4th graders also.

We started with a demo of Abe's Dancer program, to illustrate both sequencing and message broadcast, then Graham showed several of the programs that he'd been working on at home.

This Week

If the weather cooperates and we have a cool day, we'll try launching a hot air balloon this week. We should have time for that and some more scratch programming.



The balloon in this picture is not the one we'll try to launch—ours is much smaller. [Source: http://www.allposters.com/-sp/Colorful-Hot-Air-Balloon-in-Sky-Albuquerque-New-Mexico-USA-Posters_i1511157_.htm]

The global "shooter x" variable records the x-position of the spaceship every time the ship moves.



Running scratch at home

There are pointers to the version of scratch we are using (as well as some example programs) at

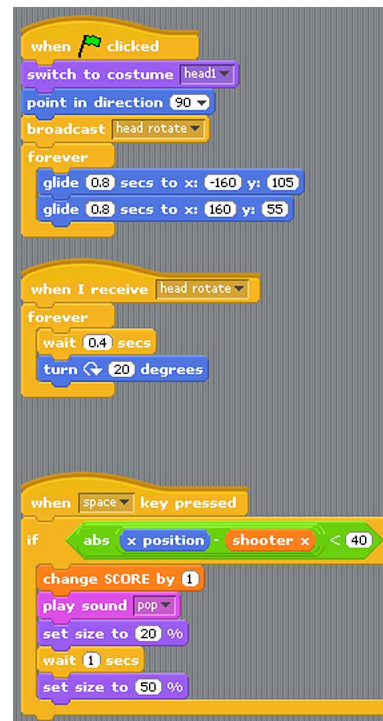
http://www.soe.ucsc.edu/~karplus/scratch_programs

I'm also putting PDF files with the back copies of *Tech News* there, so parents of kids who join Tech Club late can still read all the issues.

Programming tip

In Abe's "Shoot Kevin" game, there are two sprites: a spaceship, controlled by the player's arrow keys, and Kevin's head, which glides back and forth along a track rotating as it glides. When the player uses the space bar to shoot, the head sprite has to determine whether it has been hit.

A variable is used to communicate between the spaceship sprite and the head sprite. Variables can either *local*, used by only one sprite, or *global*, shared by all sprites. These variables are used both for computation and for communication between sprites.



The head has two motions that it keeps doing forever: gliding back and forth and rotating. Note the use of a broadcast message to start a second action in parallel with the first.



When the space bar is pressed, the head sprite checks the position of the spaceship and if it is close enough to hit, changes the head size and the score.