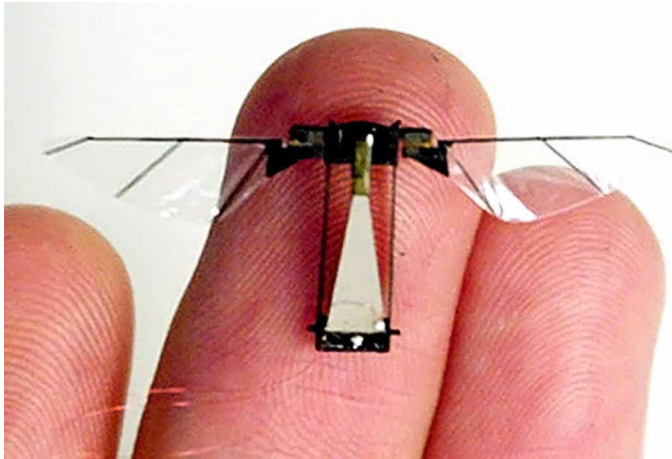


Tech News

Robot Fly

Researchers at the Harvard Microrobotics Lab have managed to make a tiny robot fly the size of a penny (wingspan 3cm), but much lighter (weight 0.06 grams) while a US penny weighs 2.5 grams (since 1982). These tiny robots can fly, but can't yet carry their own batteries, sensors, or controls. So far, they have only gotten the flies to fly straight up on a track, but they hope to have independent flight within a few years.

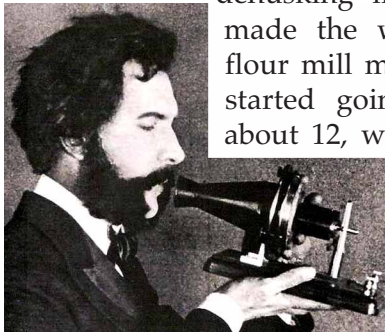


This is a picture of a robot fly from Harvard Microrobotics. The large, pale trapezoid is the actuator—the muscle that flaps the wings. The black parts at the top are the transmission and wing hinge, and the clear plastic wings are the airfoil.

Alexander Graham Bell's birthday

Alexander Graham Bell, the inventor of the telephone, was born on 3 March 1847. According to Wikipedia, he got a patent for the telephone in 1876, but he refused to have a telephone in his study, regarding it as an intrusion on his work as a scientist.

Bell's first invention was as a 12-year-old, a simple dehusking machine for wheat that made the work at his neighbor's flour mill much easier. His mother started going deaf when he was about 12, which started his lifelong interest in acoustics and communication.

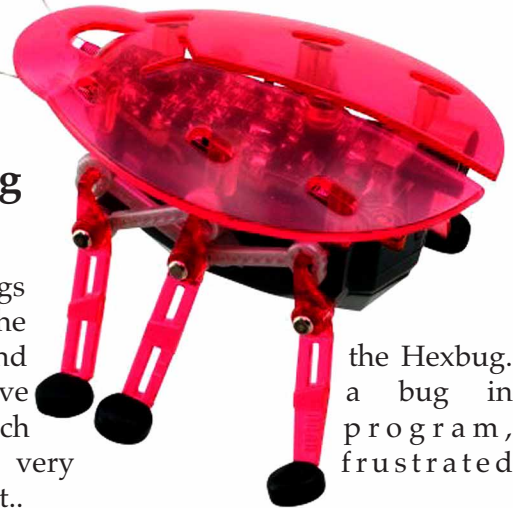


Hexbug

A somewhat larger and cheaper robot insect is the Hexbug, which retails for about \$10 and is about 3 inches long. These toys walk on a smooth surface and will back up and turn if their feelers touch something or if they hear a loud noise. The Student Council may consider selling Hexbugs as a fund-raiser.

Debugging Programs

Not all bugs are as fun as the Robot Fly and Hexbug. When you have your Scratch program, you can get very frustrated trying to find it.



the Hexbug. a bug in program, frustrated

Here are some tips to help.

- Make sure that script you think is running actually is running. The Scratch environment lights up the running scripts with a white border. If the script is not running, check to see if it was supposed to be repeated in a forever loop or a repeat-until loop. It may have been run once, when you expected it to be run many times. Also check the starting condition for the script. If it is supposed to be started by a message, was the message ever sent?
- Try to see what the script is doing that is different from what it is supposed to be doing. Quite often when you see exactly what the script is doing, you are often halfway to fixing the problem. For example, just say that a sprite isn't moving correctly isn't specific enough. If you see that it moves left when it should move right, then you might know to change the sign on a x-movement. If it moves up instead of right, then maybe you change y instead of x.
- Know when you want things to happen. Are the conditions you are testing or waiting for the right ones?