

SqueakCMI Notebook: Projects, Tools, and Techniques

Introduction

Welcome to eToys/Squeak: an object-oriented programming language. This notebook was written to introduce Squeak to curious beginners with step-by-step descriptions of projects and how they were done.

Advice is freely given in the hope that the path you take to learning eToys/Squeak is quick and smooth. The Squeak community will be generous with their time, their knowledge, and their willingness to help newcomers. The Office for Mathematics, Science, and Technology Education at the University of Illinois Urbana-Champaign invites you to use these materials to the benefit of students everywhere.

These projects can be explored on the computer by opening them from www.Squeakcmi.org. This dynamic experience of projects on the computer in conjunction with the written materials should give you a range of ideas and possibilities to combine in many ways and for many purposes.

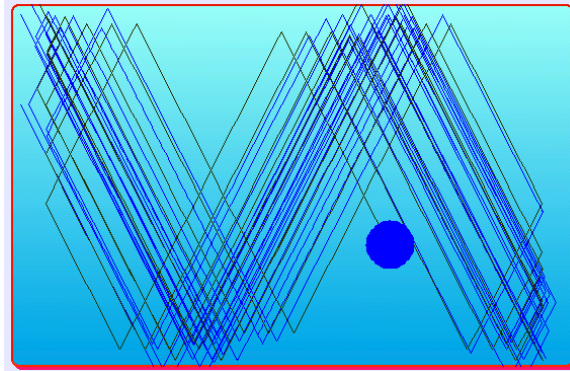
Section I

This section contains two easy projects designed to help you get started with Squeak. They are followed by an extensive description of the rich resources, tools, icons, supplies, and conventions that make Squeak what it is.

Section II

This section explains more complicated projects. They are in alphabetical order by the name of a Squeak tool used predominantly in that project. The projects are not in sequential order by level of difficulty. The project's name can be used to locate that project at www.Squeakcmi.org. So, if you wonder, "What is a scale factor and how could it be used in a Squeak project?" you can find out.





www.SqueakCMI.org

Resources, projects, tutorials, and standards-based lessons applying Squeak in math, science, language arts, social science, and art. Additional projects and essays can be found on the website. Tutorials developed by math specialists show the myriad ways Squeak enriches the study of geometry and trigonometry. The SqueakCMI community can answer questions, share ideas, and schedule workshops.



www.squeakland.org

The origin of Squeak: software, tutorials, and example projects. Get the most current versions of the software at Squeakland. The site includes interesting essays about the nature of learning, about programming and thinking.

www.squeak.org

Technical information for experienced programmers and developers

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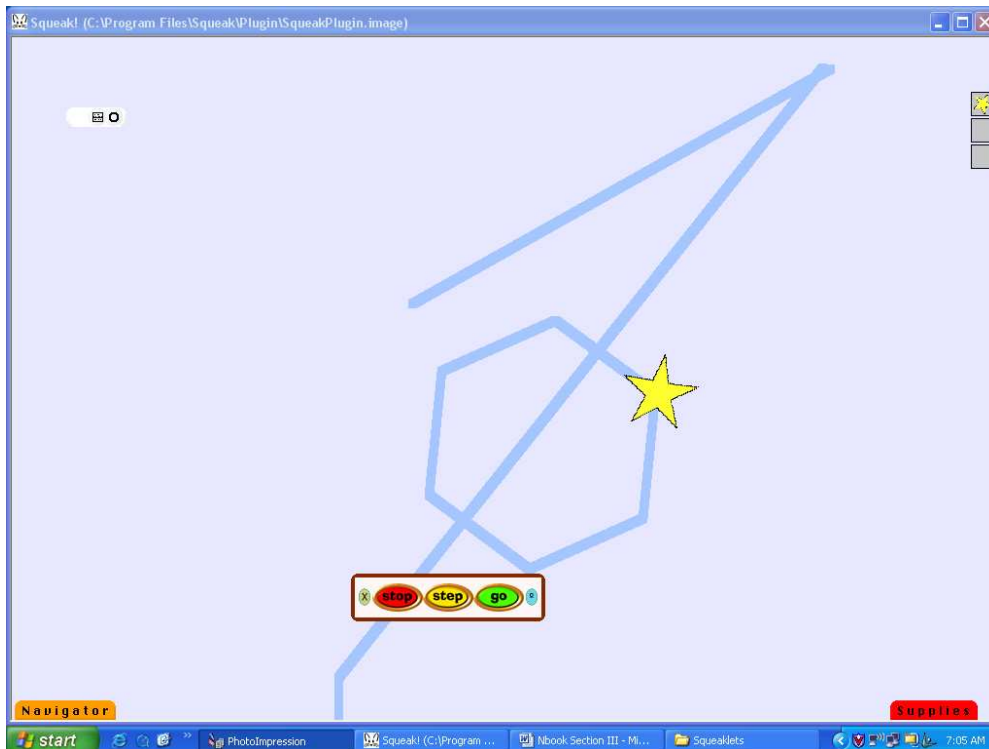
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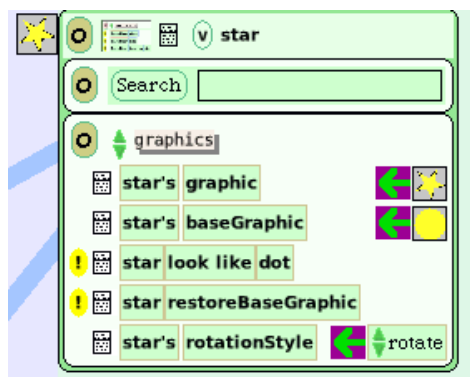


Animation2: animationstarTrailnb

This project is an animation and leaves a pen trail.



Draw a spot of color on the screen using the paint brush. Name the spot of color star. Open its viewer pane and click on graphics from the list of viewer pane categories.

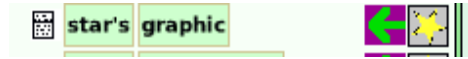


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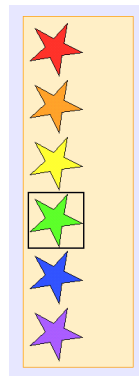
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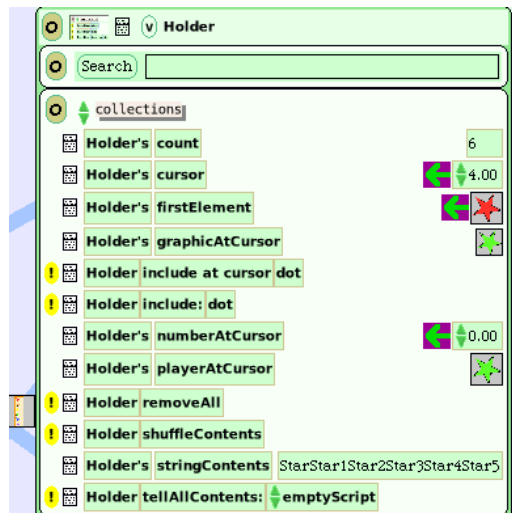
Click and drag the phrase tile star's graphic by its green/purple arrow. Drop it on the screen.



Drag many stars from the Supplies Flap then change their size and color properties by using the halo handles. Put each star into one holder dragged from the Supplies Flap and dropped on the screen.



Get the viewer pane of scripts for the holder and select the category collections and drag the phrase holder's graphicAtCursor into script1 for the star and join it to the end of the phrase already there.



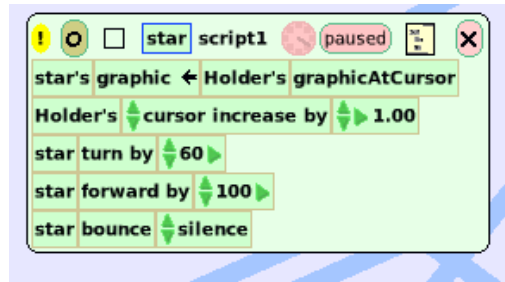
Then from the collections category drag the phrase holder's cursor into the script. Use the green/purple arrow to drag the phrase into Script1.

www.Squeakcmi.org



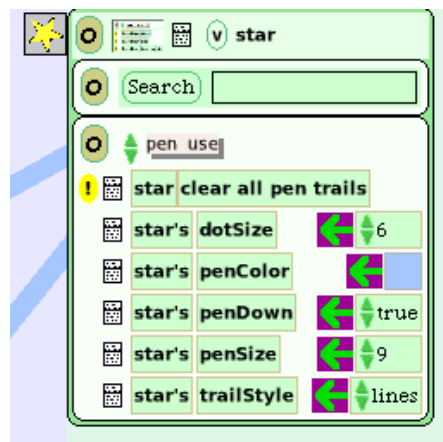


Use the tiny green up/down arrow to change the phrase to read holder's cursor increase by 1.



The path the star take can be made visible by having them leave a pen trails. Trails trace the path that the center of the object takes as it follows the script.

Use the viewer panel for the star (not the viewer for the holder). Click on basic to open the category choices and click on pen use for the star.

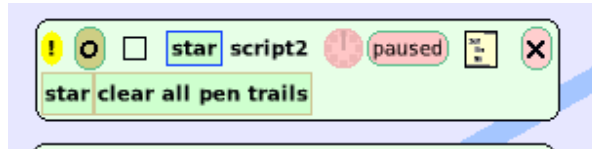


Change the word false to true after the phrase star's pen down. These tiles can be left in the viewer pane or can be put into the script box. It works in either way. Change the pen size with the tiny up-/down green arrows, change the color by clicking in the star's penColor box and using the color chooser and change the trail style to arrows, arrowheads, or dots. Erase pen trails by clicking on the yellow oval with an exclamation point on it. This will erase all pen trails in a project.





Or, drag a copy of the phrase clear all pen trails onto the screen and drop to form a separate script box.



Start and stop the script using the round clock button in the top of the script box.

If there is a script that says pen down true and a script that says clear all pen trails, a stop-step-go button's result will be that the trail is drawn and erased and visible only briefly. A large object will hide this effect, but a small object looks like a shooting star.

