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.

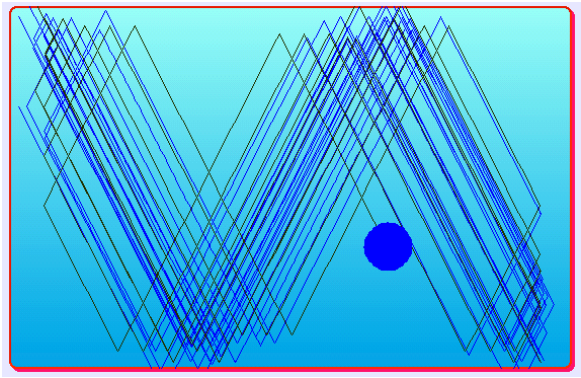
These projects can be explored on the computer by opening them from www.Squeakcmi.org. This dynamic experience of projects on the computer in conjunction with the written materials should give you a range of ideas and possibilities to combine in many ways and for many purposes.

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 atwww.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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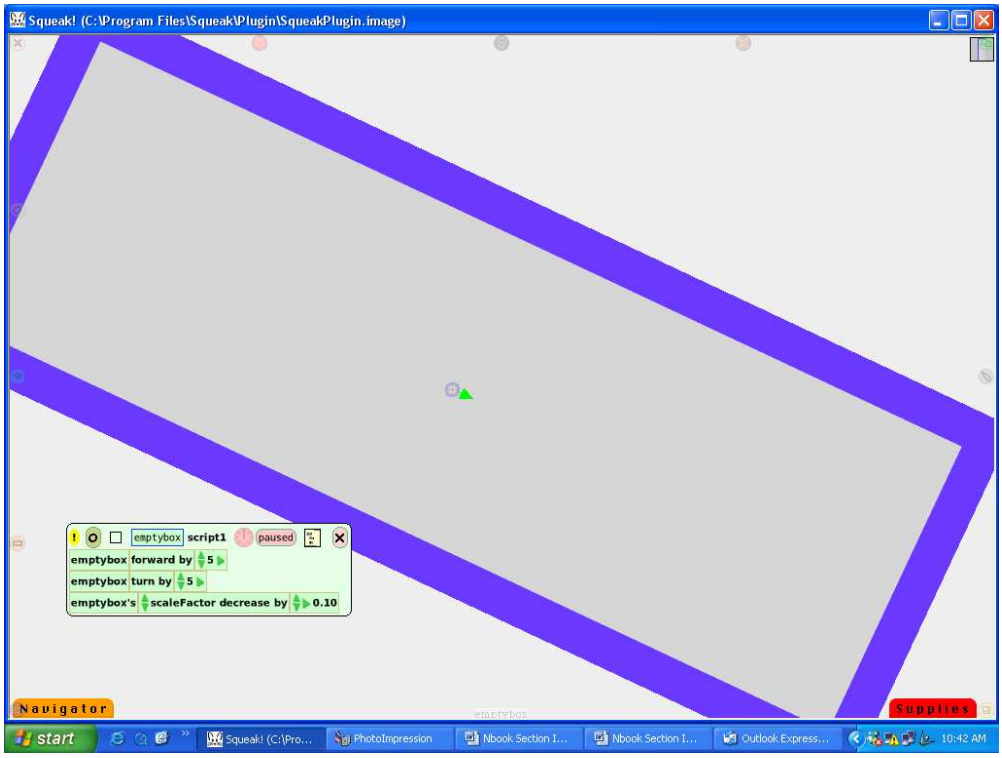
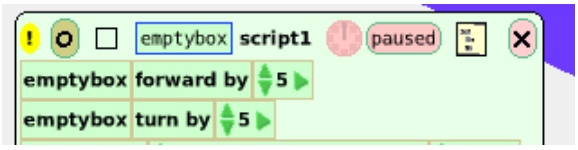
Scale Factor: emptyBoxnb



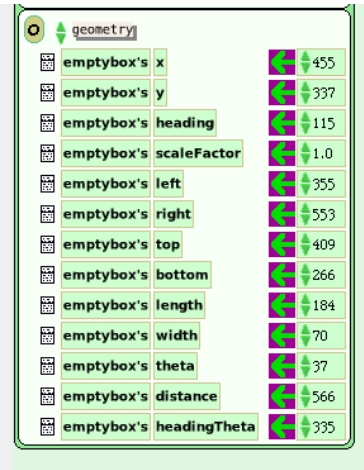
This project uses a scale factor from the geometry category of script tiles to make the drawing of a box get smaller and smaller with each tick of the script.

Draw an object, keep it, and use the cyan eye in the halo of handles to open a viewer panel of scripts. Click and drag the two tiles forward by 5 and turn by 5 into one script box on the screen.



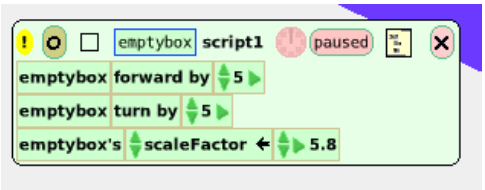
Click on the word basic in the viewer panel to open a menu of other categories and choose geometry.

There are many ways to use this category of tiles but this project only uses the one called emptybox's scale factor.

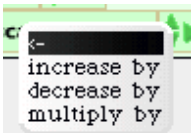


Change the scale of the drawing by clicking on the tiny up/down arrow by the number 1.0. This project drawing was increased to 5.80 as the size to start with when the script runs. You will see the project change size as you scroll up through the numbers.

After setting the new scale, then click on the green arrow with a purple background to get a copy of the whole phrase and drop it into the script box already started.



There is one more setting to change in this script. Click on the tiny green up/down arrow by the words ‘scale factor’ in the script1 box. Hold down and a menu will appear.



Choose decrease by. If you choose increase by or multiply by be prepared to stop the script very soon after starting it because the object will grow very large, very fast.

Here is the finished script.