

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.

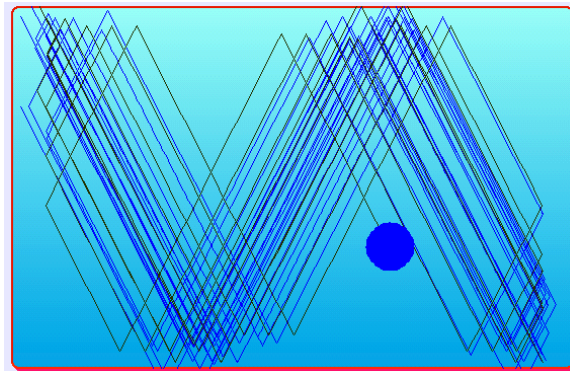
Section II

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

The Office for Mathematics, Science, and Technology Education
University of Illinois Urbana-Champaign





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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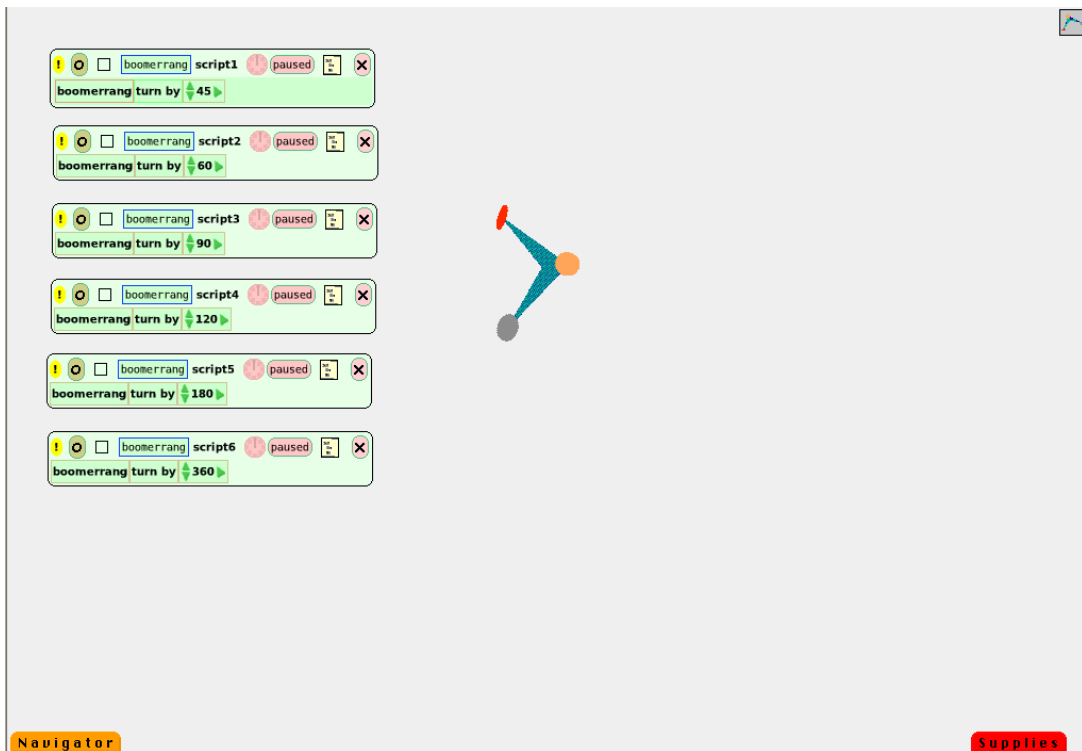
www.Squeakcmi.org

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Turn: turnnb

This project explores the effects of six different turn by values. The object is small and has several distinctive colors so that the effects are easy to see. The value of ticks per second has been changed too.

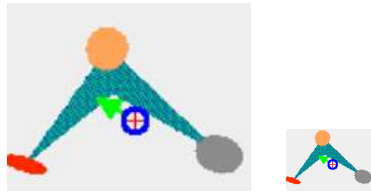


Draw a small object. Make it an angular shape and paint it several different colors. Keep it, alt/click on it, and get the halo of handles for the object.

Click on the cyan eye and open a viewer of scripts. Name the object a meaningful name.



Make sure the drawing is small.



The scripts make the object turn and if it is too big and if the computer is too slow then the effects will not show up as well. After you have written the scripts and tried then you might want to try them again with an even smaller version of the drawing. This project has six scripts.

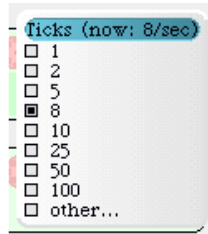


The default speed setting for running a script is 8 ticks per second.

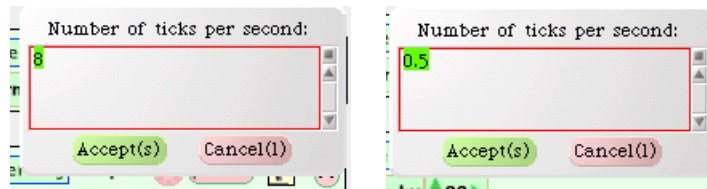
You can find this by clicking and holding down on the round clock near the word 'normal'.



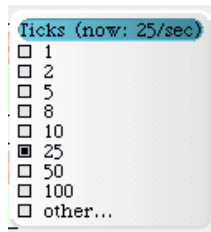
This menu opens. To choose a new Ticks just click in the box by the number. There is a category at the bottom of the menu called other which lets you choose any other numbers you want.



This box appears when other is selected. The box opens showing 8 highlighted green which means you can type any new value into the box such as 0.5 or 1000, whatever you are interested in seeing.



If each script with a different turn value is set to run at 25 ticks per second there are interesting geometric ghosts that appear.



Different sets of numbers will give different effects. Combinations of scripts will also give different effects. Different ticks per second will also give different effects.

