

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.

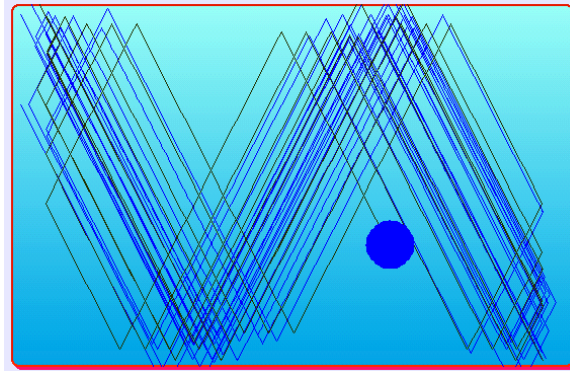
Section II

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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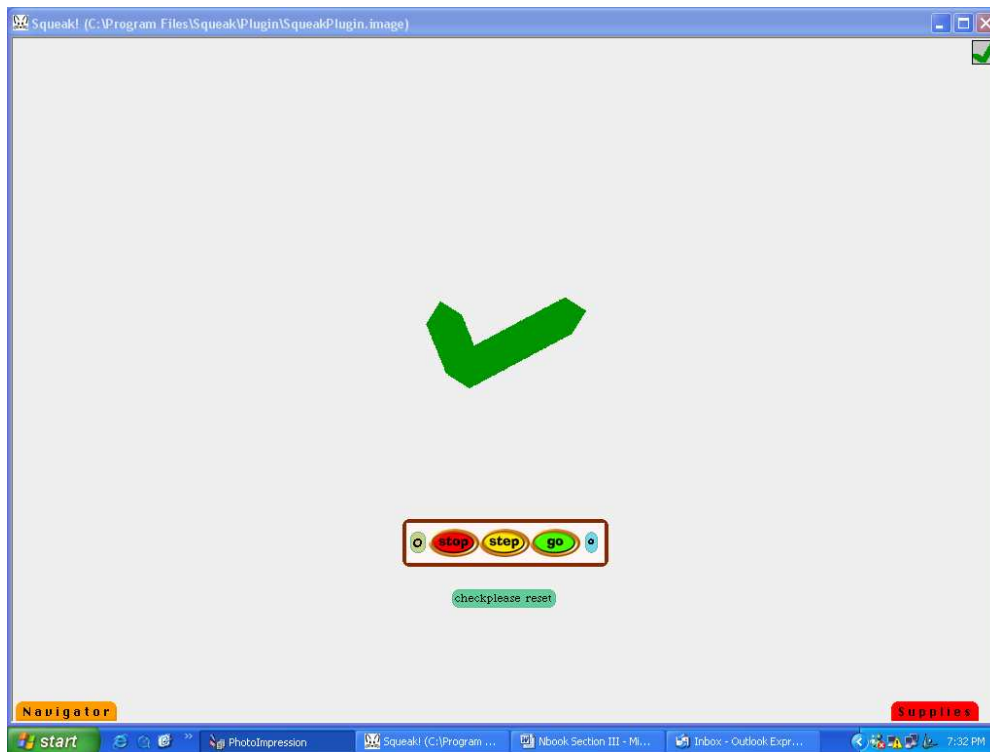
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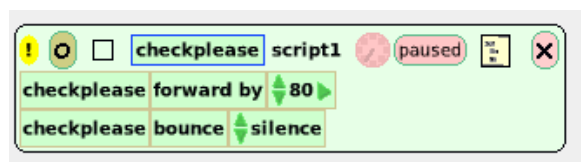
Reset Script: checkPleasenb

This project shows how to build a reset script and a button to fire it when it is wanted.

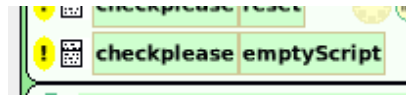


Draw an object, keep it and get the halo of handles and click on the cyan eye to open a viewer panel of scripts.

Here is the script for this project. The bounce phrase tile is found in the motion category of the viewer panel of scripts. Click on the tiny green up/down arrows to scroll through the menu list. Or, hold down on the label 'basic' and open the whole menu. Click on the new category to choose it.



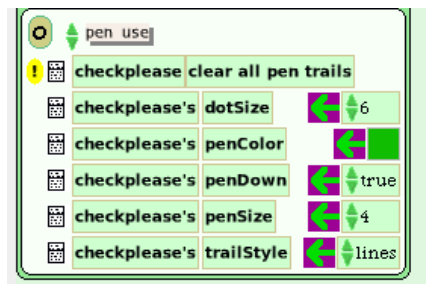
Then start a new script by clicking on tile checkplease emptyScript and dragging it out onto the screen.



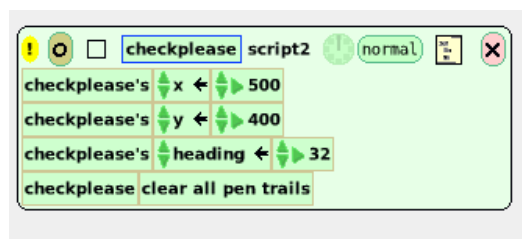
When you drop it a script box will form around it. Add in the tiles for the x and y positions. You decide what those positions are and that is where you want your object to be when the script restarts.

Use the green backed purple arrow to draw the whole phrase into the script box. Add the phrase tile for the heading of the object too.

Click on the motion category and drag out a copy of the phrase clear all pen trails and drop it in script 2 also.

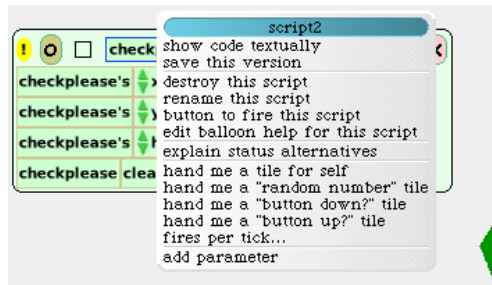


The new script will look like this.



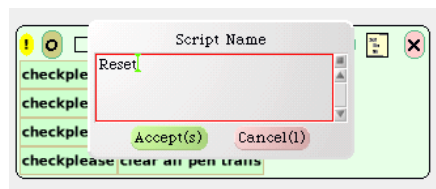
Look for the box in the top border of the script2 and find the box with the name you gave this script. Click on that box and a menu will open. There are many choices in this menu and this project uses two of them.





Click on the phrase rename this script.

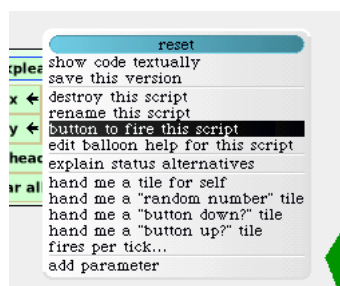
A box will open where the new name can be typed.



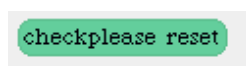
Here is script2 now renamed reset.



Now look at the menu again. Select the phrase button to fire this script.

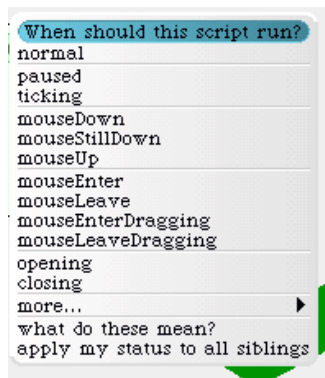


This button will be produced and stuck to the end of the cursor's point.



Drop it on the screen. Before closing the reset script and clearing it off of the screen, click and hold down on the word normal in the top of the script box. A menu of choices will open. These choices show when a script should run and whether it should run when the mouse is down or mouse is up after clicking on it.

There are many other choices. It is good to experiment with these to build a vocabulary of techniques for future projects.



This project uses the mouseDown phrase. This means, when someone clicks on the small reset button that the reset script will run and the object will return to the x and y positions and the heading in that script.

