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.

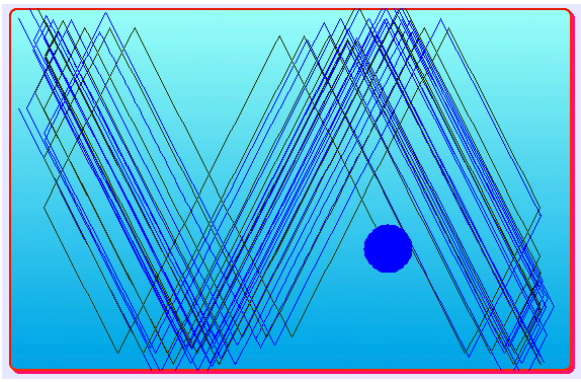
These projects can be explored on the computer by opening them from www.Squeakcmi.org. This dynamic experience of projects on the computer in conjunction with the written materials should give you a range of ideas and possibilities to combine in many ways and for many purposes.

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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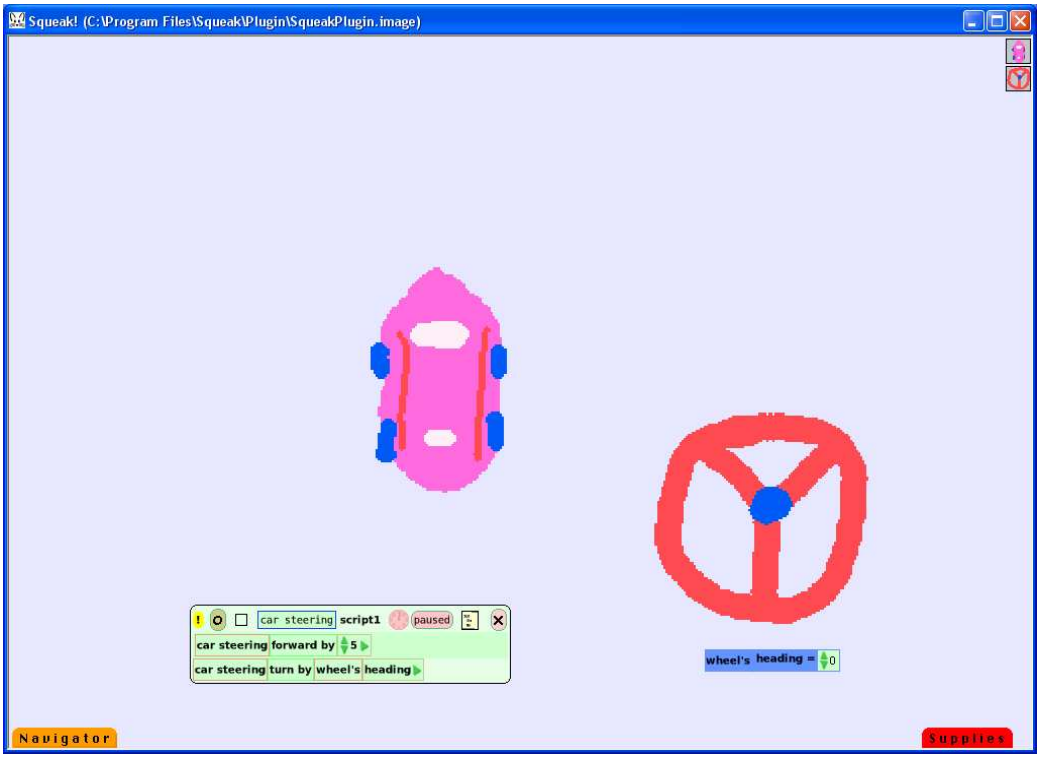
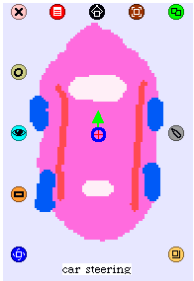
Detailed Watcher: detailedwatcherheadingnb

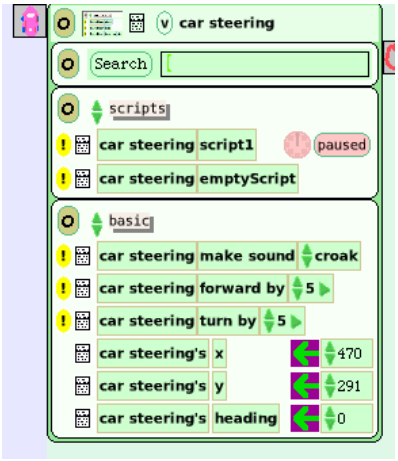
This project shows using a detailed watch and steering wheel to control the direction of the car. The detailed watcher gives information about the heading of the steering wheel. The detailed watcher's tiny green up/down arrows can be used to steer the car.



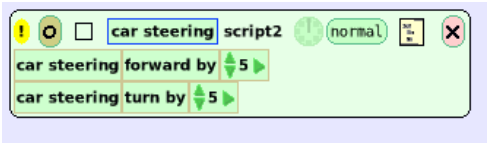
Open the Navigator flap drag out a paint brush, paint a car and click on keep it. Get the halo for the car and click on the cyan handle to open a viewer of scripts.



Name the script car steering.

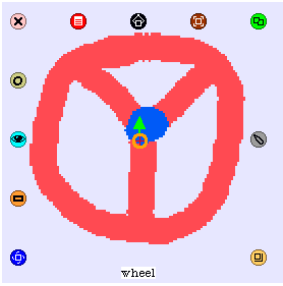


Drag out the phrase tile car steering forward by 5 and drop it in an empty part of the screen. Drag out the phrase car steering turn by 5 and drop it in the same script box.

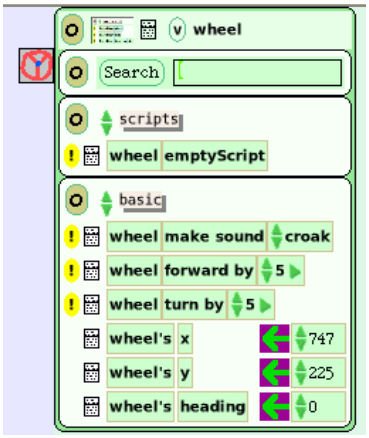


Open the Navigator flap drag out a paint brush, paint a steering wheel and keep it.

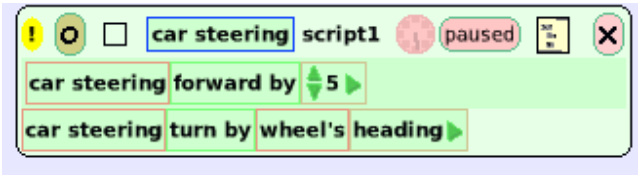
Get the halo for the steering wheel and click on the cyan handle to open a viewer of scripts.



Name it a wheel.



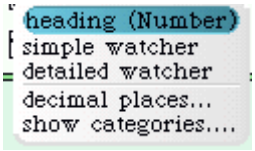
Drag a tile named wheel's heading from the viewer panel and join it to the end of the phrase car steering turn by 5. A bright green target area will show where to join these two scripts phrase tiles. The script will look like this.



Do not drag the wheel's heading tile by the purple arrow. This would have a different effect in the script.

The detailed watcher is found by clicking on the very small rectangle to the left of the words wheel's heading

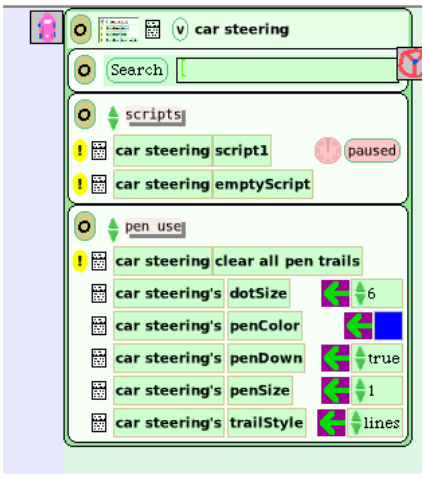
Click on the rectangle and a menu will open. Click on detailed watcher



and a small blue tile will attach to the end of the cursor for you to drop onto the screen.

Start the car script and watch the wheel's heading numbers change. Or, you can use the tiny green up/down arrows to steer the car.

If you would like to see the trail of the car's path, open the viewer of scripts and choose pen use. Find the tile pen down and click on the tiny green up/down arrow to change the tile from false to true.



The car will leave a trail that is the path the center of the car has followed.