

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.

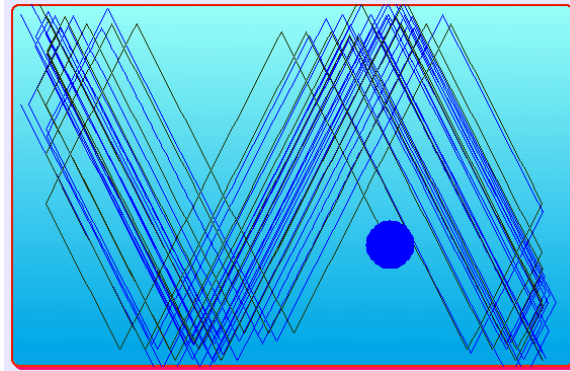
Section II

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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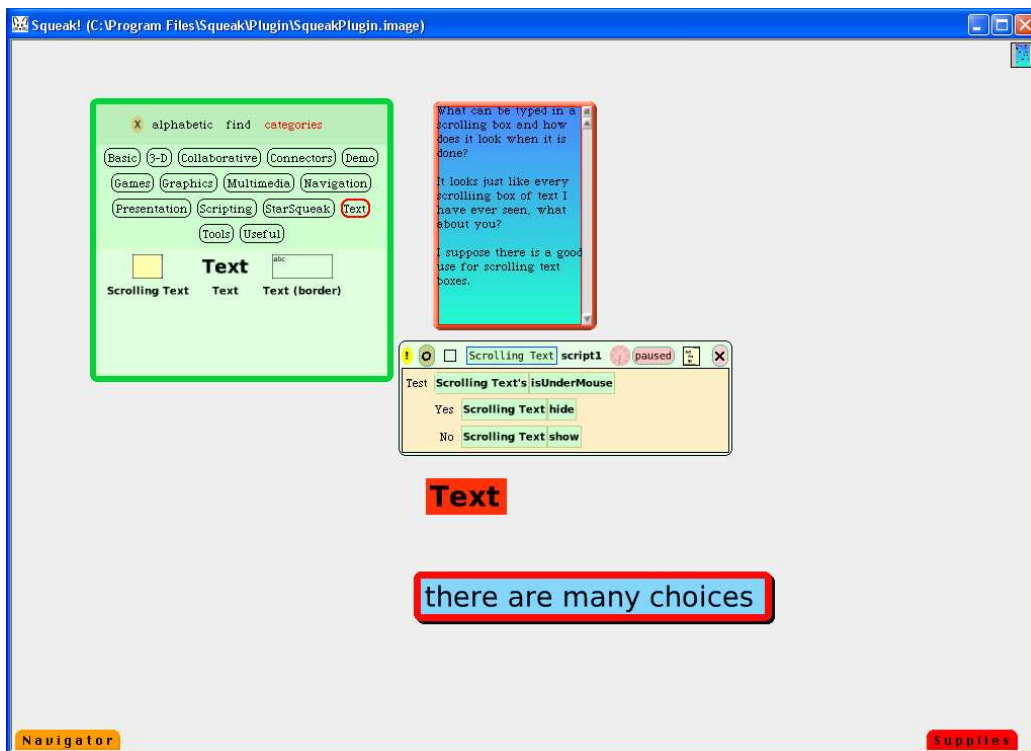
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


Text: textBasicsnb

Scrolling Text, Text, and Text with a Border are three ways text can be added to projects. Text can be added to books, playfields, and holders dragged from Supplies. Text can be included any place on the screen.



Open Supplies and drag out the Object Catalog.

Click on the category Text.  The three kinds found there are shown on the screen in the view above. Spend some time trying the various text options to build a vocabulary of the ideas for future uses.

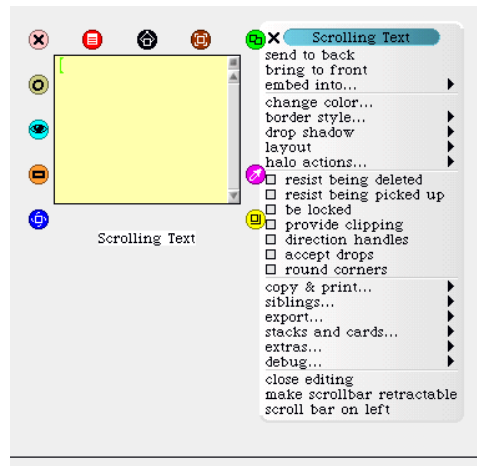
1. Scrolling Text

The Scrolling Text box halo's red handle shows a menu of choices. Scrolling text boxes are common in web pages and it will be a familiar way of presenting text.

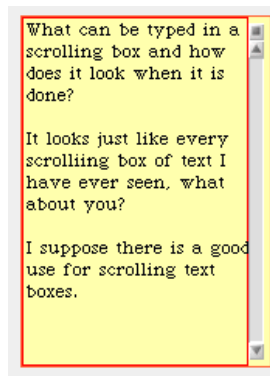


The menu includes options about color and border style. The scroll bar can be retractable and it can be on the left or the right.

Here is the scrolling text panel with all halo handles showing. The red menu button was clicked to open the panel called Scrolling Text.

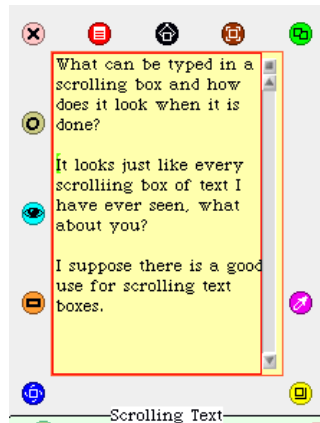


Two examples will be enough to give an idea of how these handles can be useful to add emphasis to a project.



Click on the cyan eye and open a viewer of script panels.

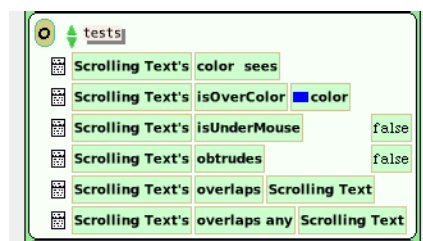




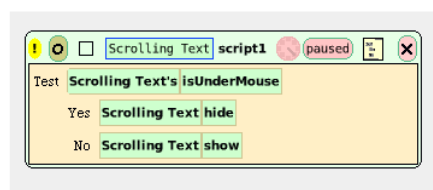
Click on basic and choose scripts from the drop down menu. Drag out the tile scrolling text Script 1 and drop it in an empty part of the screen. Click on the small beige rectangle to the right of the word normal, a test form will attach to the cursor. Drop this form into the scrolling text script 1 box.

Next, click on basic in the script viewer panel and choose test from the drop down menu. Test allows you to set conditions for when, where, how, and why something will happen in project.

There are several choices listed in that category.



For this example, choose the phrase Scrolling Text's isUnderMouse and drop it into the script 1 box on the bright green target area that appears when the cursor is inside the script box.



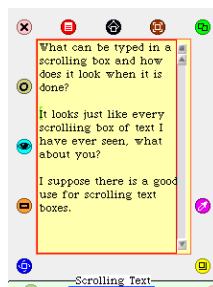
Now click on basic and choose the miscellaneous category. Select Scrolling Text hide and drag a copy of it into the script's Test and drop it by the word Yes. A bright green target area will appear and accepts the new phrase tile.

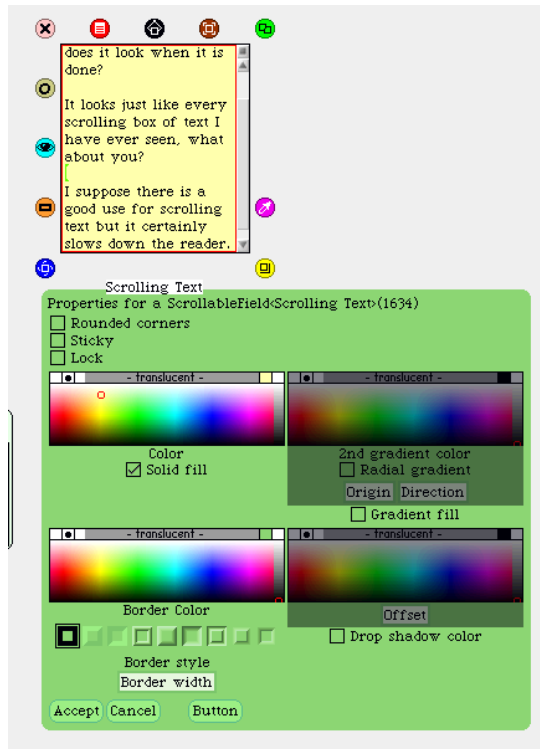
Select Scrolling Text show and drop it into the script by the word No.

Now test your script by clicking on the circle to the left of the word normal to start the script running and then move the cursor up to touch the scrolling text box you have written text in as part of your project. The script you just wrote will cause the scrolling text to hide when it is under the mouse and show when the mouse is not inside the edges of the scrolling text box.

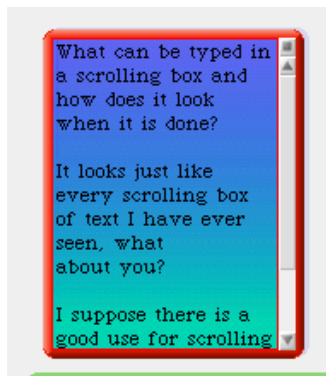
Another example of a text change using the halo of handles is to change to color of the box. Do this by clicking on the magenta handle and opening a pallet of changes.

Here the halo is showing and the magenta handle has been clicked on to open the box called Properties for a ScrollableField<Scrolling Text> (1634).





Here is the same text and the same scrolling text box but it has been modified using the properties options.



2. Text

To add plain text to a project, open Supplies, click and drag out a copy of the word Text. Drop it on the screen where you want the text to be.


Typing text is very much like it is in any word processing program except in

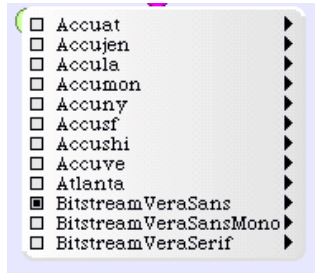


Squeak the text is also an object and has a halo of handles which allow changes to be made.



There are three extra handles for Text: light green, peach and rust.

The light green handle  : opens to these font styles. Each black arrow head opens menus to choose the size of the font. There are standard sizes and there are also ways to specify a size that is not typical. As an example;



click on the arrow to the right of BitstreamVeraSerif and when the menu open choose new size. A box will open, type in 6 and you will see print this

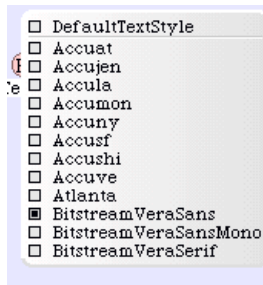
small.



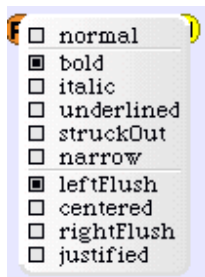
The size of the text box must be adjusted using the yellow halo handle to make enough space for the words.

This handle  opens this menu.





The rust colored handle  opens a menu of these choices.



3. Text with a border

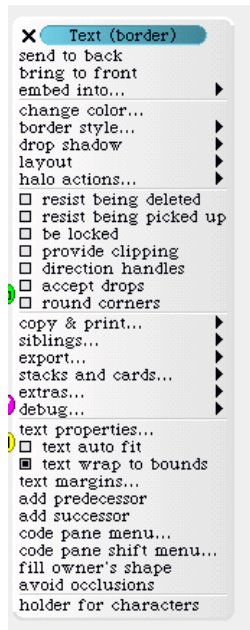


Text with a border has a halo which includes the same three extra handles that plain text has available. They have been described above and are exactly the same. The red menu handle opens up some different options and menus.

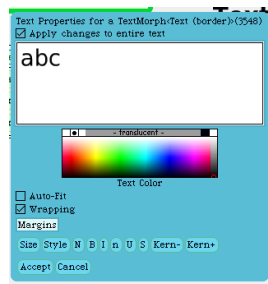


The red halo handle opens this Text (border) menu which includes special properties that can be changed to make text fit a space, change margins and avoid occlusions among other things.





Click on text properties to open yet another way to modify text.



Each of these tools gives you the author/designer more control over how your project looks to someone and how it works.

