Drawing on the Web
CSCI-UA 380

HTML Canvas
Programming Raster Graphics

<canvas>
HTML5 Canvas

The HTML5 canvas tag is used to draw raster graphics in the browser using JavaScript.

With the canvas, you can illustrate, make photo compositions, and create animation.

Canvas was first introduced by Apple for the Mac OS X Dashboard and later implemented in Safari and Chrome.

The canvas is supported by all major web browsers.
HTML5 Canvas

Create

A canvas is a rectangular area on an HTML page, and it is specified with the `<canvas>` element.

By default, the canvas element has no border and no content.

Always specify an ID attribute as well as width and height attributes to define the size of the canvas.

You can have multiple canvas elements on one HTML page.

W3Schools: HTML5 Canvas
www.w3schools.com/html/html5_canvas.asp
HTML5 Canvas

Draw

All drawing to the canvas must be done with JavaScript.

First, reference the canvas by its ID.

Then, call its `getContext()` method and pass the string, “2d” to it.

The canvas is a two-dimensional grid whose upper-left corner has coordinate (0, 0).

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Methods

Canvas only supports one primitive shape: rectangles

All other shapes must be created by combining one or more paths.

There are a variety of methods which make it possible to compose shapes

These include methods for drawing lines, arcs, text, color, and images

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p5.js

A JS client-side library for creating graphic and interactive experiences

Based on the core principles of Processing

p5.js has a full set of drawing functionality for the HTML canvas

It also has add-on libraries for text, input, video, webcam, and sound

p5.js was originally created by Lauren McCarthy in 2013 and its ongoing development is collaborative