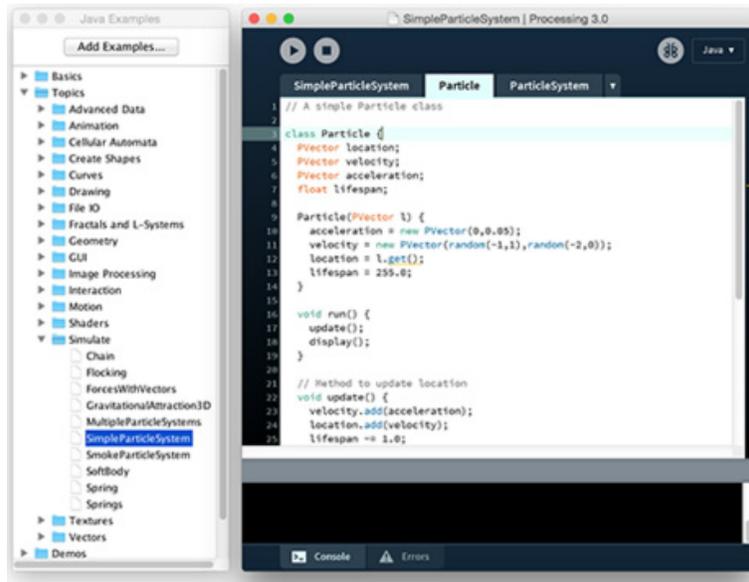# the creators project

Here's Everything Awesome About Processing 3.0

By Benoit Palop - October 19

Welcome to Processing 3 from Processing Foundation on Vimeo.

It's like Christmas coming early for the creative-coding community: the latest update to Processing, perhaps the most artist-friendly programming language and IDE, is out, bringing Casey Reas, Ben Fry, and Dan Shiffman's initiative to the next step. Staying true to the initial value and philosophy that have been signature to the platform since 2001, the 3.0 version keeps things going strong when it comes to promoting the open-sourced, community-developed computer programming environment, offering everyone the ability to understand, read, and write software for computer-based art and creativity,
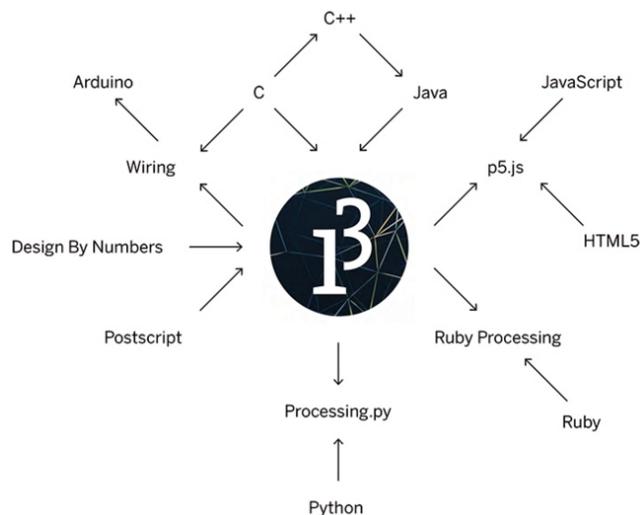
By providing an extremely user-friendly coding format, syntax, and interface, Processing offers non-program-mers the ability to not only learn the computer and code-generated arts, but to wade through the fundamentals of computer programming through a visual means. As a tool enabling boundless creativity, Processing has attracted many creators, allowing them to amplify their projects by injecting code at the core of their creative process. Arduino-powered wearable, complex generative patterns and even mathematical-driven music videos are just a fraction of the impressive works that have emerged so far.

Documentation from the Processing 3.0 development meeting sponsored by the Emergent Digital Practices program at the University of Denver, November 2014. Left to right: Ben Fry, Casey Reas, Dan Shiffman

The new makeover enhances both front- and back-end, and the ever-evolving and easy-to-use interface de-buts with new features including a re-thought editing window, a brand new, redesigned user interface, high-res display support, and even a unified contributions manager.

To learn more about about the essence of Processing—and also about the latest features—The Creators Project talked to Casey Reas, one of the co-creator of the platform.
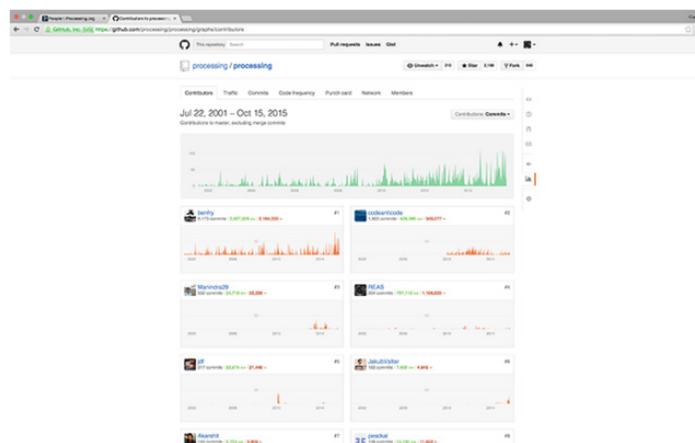

Diagram of how Processing has influnced some programming languages and has been influenced by others

The Creators Project: Processing has evolved significantly since its creation. Can you briefly talk about the different main steps from the beginning to now?

Casey Reas: It started as a software "sketchbook" and environment for classrooms and it's still both of those things, but it has also emerged as a high-performance environment for computer graphics and interactive installations. It evolved into this new role in two steps, at Processing 2.0 and now with Processing 3.0.

It has also evolved as a community as libraries created by the community have become essential to Processing and its identity.

Yeah, it seems that the community aspect is crucial into the development process. Can you give us some details about that?

Processing is almost entirely created by volunteers—people who donate their time because they believe in the project's mission. As a free, open-source project since the beginning in 2001, we have always worked as an international group coordinating through online tools. The list of current and past contributors is online here and GitHub keeps track of the precise data here and here.

Can we have some details about the new features offered by this upgrade? What's new?

This is a big release. Dan made a 20-minute video to walk through the new features—it really takes that long to get through it all. In short, we've pushed it in two directions. We have completely updated the code editor and environment to help beginners with suggestions and annotations that includes a new "tweak" mode for making changes while code is running as well as an integrated debugger to inspect what the code is doing in more detail. We have made internal changes for your code to run faster, to take advantage of high resolution displays, and to run at full screen across multiple displays.

Related, Processing for Android has been updated for 3.0 and we're actively adapting Processing to integrate well with the Raspberry Pi. The Pi project will be announced soon. Also,we launched an official library for audio for Processing 3. It's developed by Wilm Thoben and it's called simply "Sound."

Source code commits to Processing from 2002 to 2015 by volume and individual

Do you have any advice for using these new features?

We've changed very little of the Processing language for 3.0 so almost all programs that use the core of Processing will run without modifications. Many of the contributed libraries need to be updated and we're currently reaching out to Library creators to help with updating their important contributions for the new software. We have a full list of changes on GitHub that includes tips for migrating code from Processing 2.0.

What's next for Processing? Any insights that you can share with us?

We think of Processing as an approach to writing code within the context of the visual arts, more than we think of it as a specific software tool. This is easier to understand with the addition of p5.js (a JavaScript version of Processing) and Processing.py (a Python version of Processing) all under the banner of the Processing Foundation. We have always sought to bridge the "two cultures" (the humanities and the sciences) and we are pursuing that further with new software development and partnerships with like-minded orgs.

Later this fall, we plan to launch an open call for a Processing Fellowship initiative to offer a stipend to people to explore ways to move Processing forward in new social and technical directions.

Processing 3.0 is free and open-sourced, and is available for download here.

Credits:

Lead Developers: Ben Fry and Casey Reas started Processing in Spring 2001 and continue to obsessively

work on it. In 2012, they started the Processing Foundation along with Dan Shiffman, who formally joined as a third project lead.

Senior Developers: Andres Colubri (Boston), OpenGL / Video, Florian Jenett (Frankfurt), Forum, Elie Zananiri (Montreal), Contributed Libraries / Tools, Scott Murray (San Francisco), Website / Reference / UI.

Developers: Jakub Valtar (Brno), Processing Core, Scott Garner (New York), Hello Processing Website, Gottfried Haider (Amsterdam), Serial Library Updates (64-bit), Jamie Kosoy (San Francisco), Website, Manindra Moharana (San Diego), PDE / Core, James Grady (Boston), Visual Design.