openFrameworks

A cross platform, open source C++ toolkit for creative coding

Works with the following IDEs

- Apple Xcode (OS and iOS)
- Microsoft Visual Studio
- Linux Code::Blocks
- Android Studio
- Eclipse

Also integrates with QT (Windows, Linux, OSX) and can run on Raspberry Pi and other armv6 and armv7 based hardware.

https://openframeworks.cc/download/

Features

Powerful:

openFrameworks leverages advanced libraries like openGL and openCV: making full use of graphics hardware while connecting to peripherals like video and 3D stereoscopic cameras.

Extensible:

openFrameworks is designed to be extensible. New libraries can easily be added to the structured scaffolding that is openFrameworks.

There are currently 1,500 add ons available for inclusion in your projects.

Designed with Simplicity in Mind

Despite the power of the underlying libraries, openFrameworks makes accessing those libraries simple: The core libraries (for example openGL) are wrapped in easy to use interfaces.

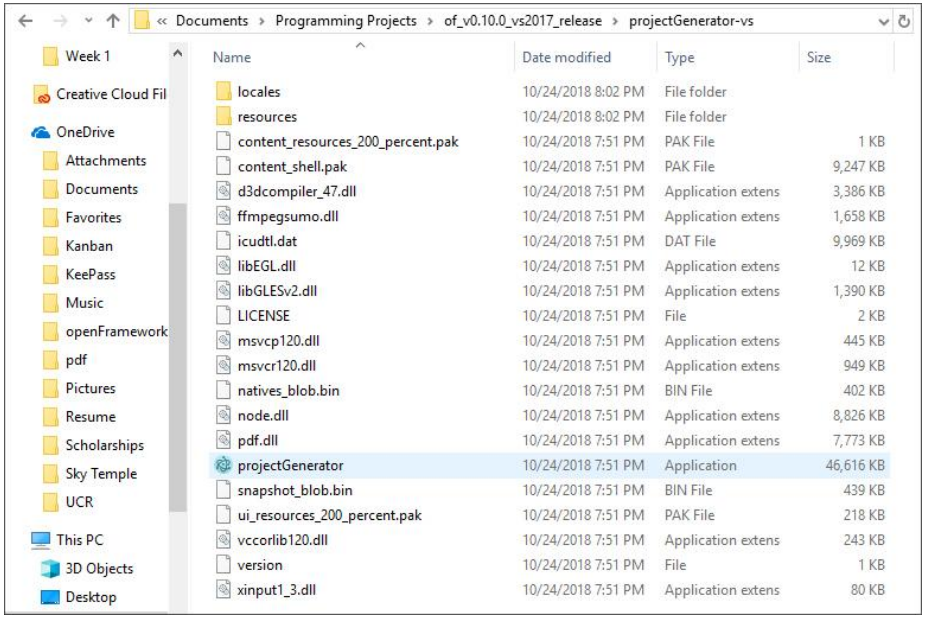
Example:

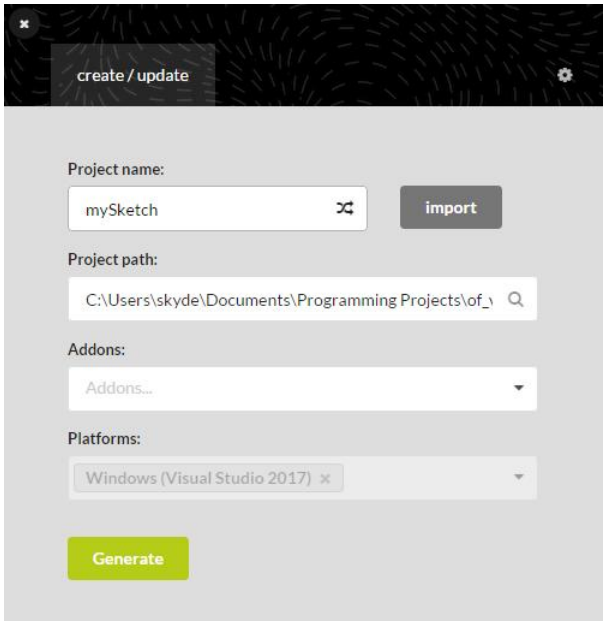
ofTexture() is a wrapper class for an openGL texture. After creation this texture “lives” on your graphics card, providing a huge boost to performance since it doesn't need to be reprocessed for each draw cycle. This is huge.

Many other classes exist to access the advanced functionality of the core libraries.

Starting a New Project

The easiest way to start a new project is using the projectGenerator application that ships with openFrameworks (its inside the projectGenerator directory!)





Useful Classes for doing Mathemagics

A few examples:

- ofVec2f, ofVec3f, and ofVec4f (two, three, and four dimensional vectors)
- ofQuaternion
- ofMatrix3x3
- ofMatix4x4

Not having to create these classes (along with their respective functionalities like cross_product(), dot_product(), length(), normal(), rotate(), invert(), etc) saves time and brain power for more creative tasks.

https://openframeworks.cc/documentation/

The Agile Manifesto:

Not a process.. It is a philosophy and a set of values.

- “Individuals and interactions over processes and tools.”
- “Working software over comprehensive documentation.”
- “Collaboration over contract negotiation.”
- “Responding to change over following a plan.”

Make something!

openFrameworks

Pros:

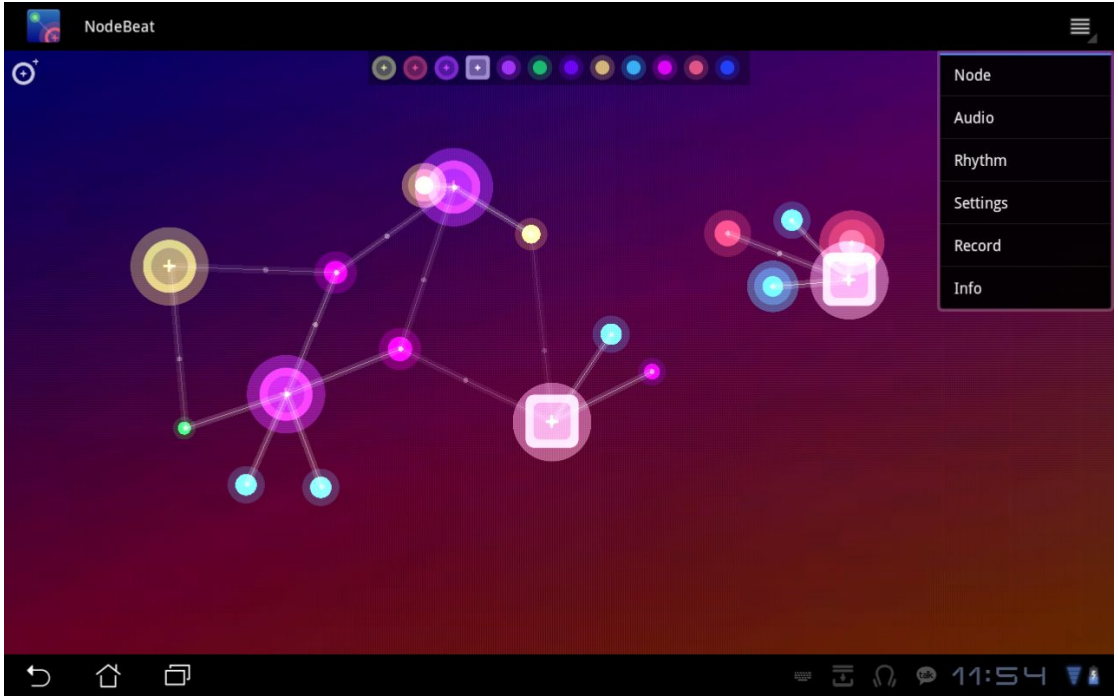
- Easy to start projects
- Good documentation
- Accessible interface
- Process video and audio easily
-

Cons:

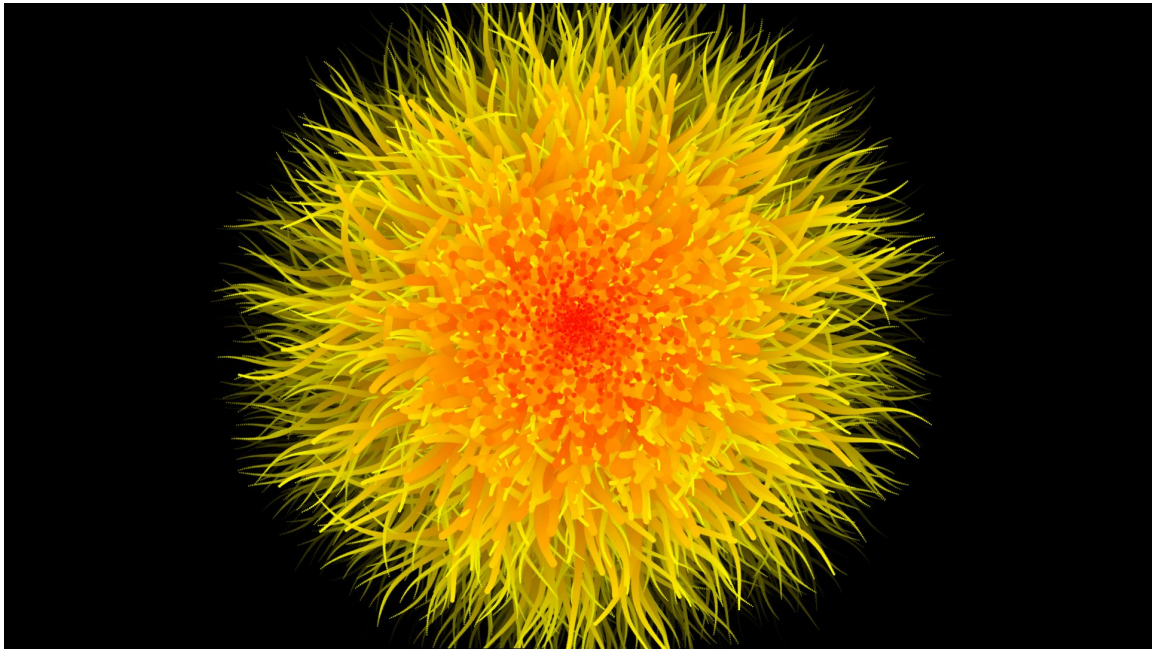
- It's not Unreal Engine!

Inspirational Projects

James Alliban - Generative Art



NodeBeat



Julian Vidal - Particle Based Animation

openPossibilities:

Creative Applications Network - Articles on cutting edge use of openFrameworks

Sparkfun - Introduction to using openFrameworks with Arduino

PINCHPLANT.COM - Generative Audio using openFrameworks

Spherical Display System - Integrating ESRI Ach GIS