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| logo.png |  | Sapient fireworks  A Kinect driven hand tracking experiment |

Tech Frinks (Eden House, London) – Thursday, 4th June 2015

# Untitled:Users:jmira:Dev:OF:v0.8.4:apps:myApps:fireworks:docs:screenshot.png

# overview

The aim of this experiment is to showcase the hand tracking capabilities of a Kinect camera connected to a computer. Using a simple **vertical hand gesture** **recognition**, the app is able to create multiple fireworks along the horizontal axis which get fired from the bottom of the screen.

To increase the dynamism of the experiment, the app uses **random values** for the fireworks colors, trail size, gravity, amount of particles, fading, damping…

To maximize the audiovisual appeal, the app also features these techniques:

* 2D Skybox with a seamless background texture
* Parallax effect (some clouds moving faster than the sky)
* Base soundtrack playing in a loop and 7 different sound effects, including a crowd of people cheering after a rich round of continuous fireworks
* Dynamic blur effect using shaders for the hand calibration overlay

# technologies

This app has been coded in an **Apple MacBook**, using the **Xcode** IDE. The programming language used is **C++** and the main library is **OpenFrameworks**, a set of open source tools widely used around the world for artistic installations and creative applications. There are also a few OF add-ons worth mentioning:

* **ofxKinect**: an API/Interface to interact with Kinect from OF
* **ofxOpenNI**: a wrapper for OpenNI (for the hand tracking logic)
* **ofxBlur**: for the blur functionality

All the images and sounds have been obtained from free stock repositories.

# more info

This app can be adapted to **any screen size** and it currently works in both, **landscape and portrait mode**. It can also work in Windows and Linux, although a Mac (with a decent CPU) is preferred due to a higher support by the community.

Note: Kinect cameras cannot be connected to mobile devices or tablets, although their touch screen can be used as controllers for similar apps.

For demos and more info, please contact **Joan Mira** ([jmira@sapient.com)](mailto:jmira@sapient.com)), Senior Interactive developer at SapientNitro, Spitalfields.