

DRIPPIGMENT

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Abstract. Drippigment reflects on how new emerging interaction techniques influence preconceived notions of painting. A Leap Motion device is used as interface, capturing the gestures made by the performer. A custom application developed in Max reads and parses the motion data and sends control messages to the Arduino, making the machine's motors move. In this current version the Drippigment's performance uses hand's gesture as the input for the act of painting, however, the hands are detached from the paintbrush: the paper is not touched by any brush, rather the pigment is dripping. The artistic processes emerge from two stages: the interaction between physical and digital interfaces and the balance between art as experience and art as an object.

Keywords: Installation, Interface, Aquarelle, Art, Performance, Interactive System.

Drippigment

Drippigment is a performance that allows users to control an unfamiliar medium for creating aquarelle artwork. The machine is composed by a wooden cubic structure, with 1 meter long edges, and an electronic mechanism made of one stepper motor and four servo motors, all driven by an Arduino micro controller. The performance starts when the performer places both hands over the sensor. The performer has access to two different controls parameters: the ability to drop pigment and to rotate the position of the servo motors.

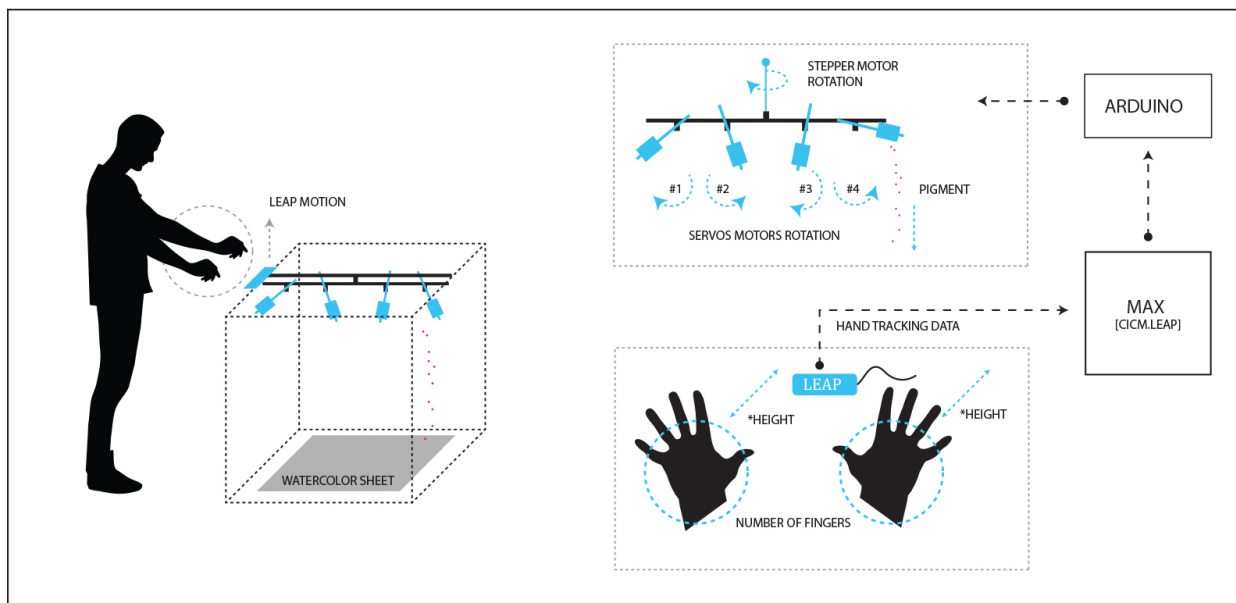


Figure 1. Interactive Scheme: User makes gestures over the Leap Motion device, data is read by a Max application and sent to the Arduino, which controls the motors.

The number of fingers showed on each hand controls the rotation of the stepper servo on the top. For example, when making a fist, the performer controls the rotation (right fist = clockwise; left fist = counter-clockwise). Also worth

mentioning, is the modular nature of the interaction: we can configure the system in different ways, making any hand control all motors, or making each hand control only one or a pair of them. Finally, in order to explore different interactions and data sources, future versions of *Drippigment* have been tested. As of today we are exploring with: i) an autonomous data-driven version, with no human interaction, resulting in a actions driven by random generated algorithms; ii) live data feeds from online sources are used as input and translate into actions, providing a aquarelle data-visualization; and also, iii) a reactive set-up, with music as input.

Thematic Statement

Digital technology has come a long way in the last 30 years. We have rapidly become used to having real-time, mobile and social interactions with each others, technology and the world around us. The ubiquity of these digitally connected tools added more voices to the debate, more creators to the field, and has blown open ways audiences can be reach. As a digitally connected society, indeed, we are more globalized and industrialized but also, more than ever before, we have the tools to create and distribute unexpected forms of expression that diverge from any other previous conceived standard. When the experience is in itself an outlier, preconceived notions are inevitably put into question. In our work, art is seen both as an expression of human nature and as a tool for re-contextualizing concepts: Can a mass-consumption device be stripped of its meaning/purpose and be used as a new interface for creative inquire? What was painting before we experience this new interface? What is painting now? Who is the artist: developer, performer and/or the interface itself? What did we think we were doing when engaging with art? Who am I in this setting? The answer to these questions will not be deterministic, for each individual reflection will derive from a combination of the i) experience, ii) education and iii) social and cultural background of each of the participants. In sum, we are always influenced by our own representation of our activities to ourselves. Every new experience influences the way we perceive old experiences, and vice-versa.

Related Work

This performance is based on Jackson Pollock's painting technique "Dripping", which is broadly characterised by the non-contact between the brush and the canvas. Pollock uses his canvas on the floor, on the horizontal plane, allowing the ink to fall - dripping. The gesture and the movement of the body in relation to the canvas are the most important features of this abstract expressionist technique. Pollock uses the gesture and the randomness to create his work. PRO¹ (Painting Robots Orquestra), from the contemporary Portuguese artist Leonel Moura, makes use of digital media - robots that produce paintings - on the horizontal plane. In Leonel's work, the sound is used as an input to produce random frequency-dependent paintings.

Currently, modern art is rooted on the exploration beyond common sense reasoning towards the fields of subjectivity, experimentalism, randomness, and more recently chaotic determinism and emergence.²
(Leonel Moura)

We establish a relation between these two approaches to develop our performance. In *Drippigment*, the gestural input is captured by a digital interface, which is then transformed by an algorithm that will output the dripping technique as a random canvas. With practice we are able to further improve the esthetic in order to control the final output.

¹ <http://www.leonelmoura.com/pro.html>

² <http://www.leonelmoura.com/>

Media Assets

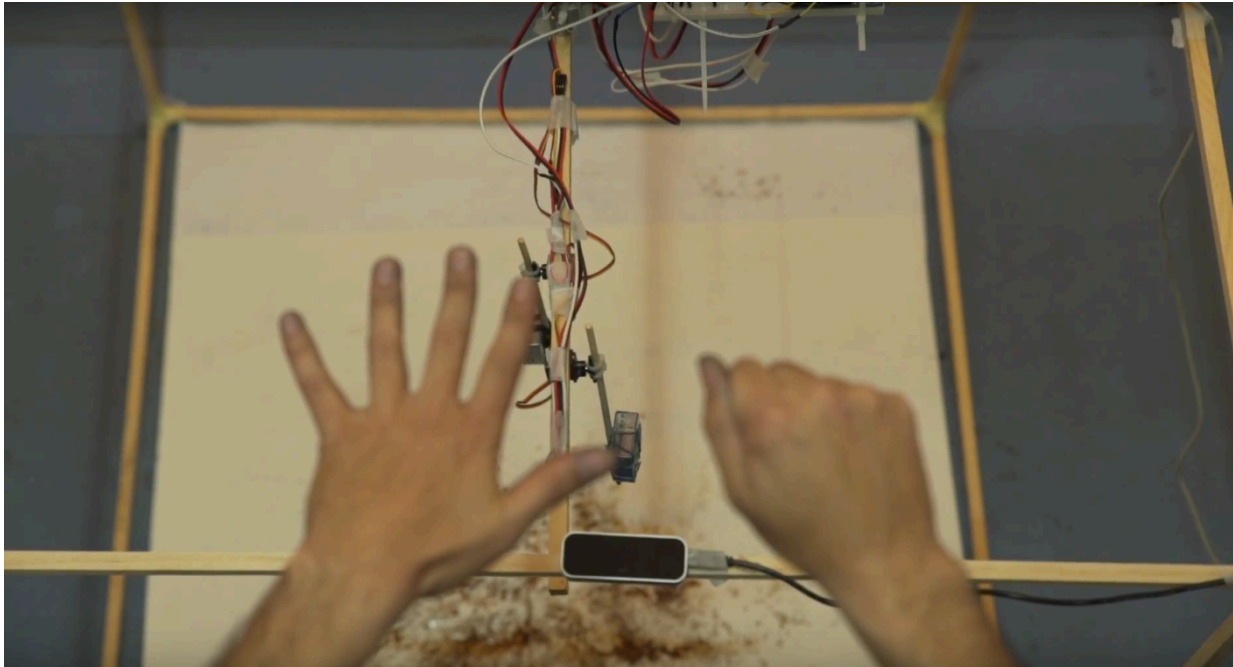


Figure 2. Still image from Drippigment's teaser video

Images and video documentation from Drippigment can be found at the following URL:
<https://drive.google.com/folderview?id=0B5IfB2zAq4gZSGNBMGV0NGgwSjA&usp=sharing>

Authors

Ivo Teixeira (Espinho, 1979), visual and new media artist from Porto, Portugal. Graduated in painting and a Master Degree in Art and Design for Public Space at Fine Arts School of University of Porto. Nowadays is a PhD researcher under UT Austin/Portugal program in Digital Media at University of Porto/FCT and his work explore interactive systems in audiovisual installations and live performance between the private and public space, the physical and digital creating Augmented Spaces in his artistic work.

Rodrigo Carvalho (Porto, 1983), designer & new media artist from Porto/Portugal. Graduated in Design (U. Aveiro-PT, 2005) and with a Master Degree in Digital Arts (U. Pompeu Fabra, Barcelona, 2009). Rodrigo's work on live visuals, coding and interactive art involves a range of different outputs, from screen digital work, interactive installations, audiovisual live acts, or interactive visuals for stage performance. He is currently enrolled in a PhD program for Digital Media at the University of Porto/FCT under the UT Austin/Portugal Program. His research is focused on the relations and the synergies between sound, movement and image in audiovisual real time systems and environments.

Tiago Gama Rocha (Porto, 1981), Creative thinker from Porto/Portugal. Graduated in Film Studies (ESAP, Porto 2006) and with a Master Degree in Documentary Filmmaking and Society (ESCAC, Barcelona 2007). Tiago's curiosity as drove him to work on numerous settings: artistic, cultural, technological, entrepreneurial and industrial. He is currently enrolled in a PhD program for Digital Media at the University of Porto/FCT under the UT Austin/Portugal Program. His research focuses on distribution strategies for the digitally connected audience.

INTERNATIONAL CONFERENCE ON LIVE INTERFACES

Francisca Rocha Gonçalves, (Porto, 1978), having a background in biological sciences with a degree in Veterinary Medicine in ICBAS - University of Porto and right now attending a Multimedia Master (Interactive music and sound design) in FEUP - University of Porto, she combines her interests in music and nature. Using interactive installations she pretends to raise aural awareness in the society, promoting environmental education and assessing the impact of noise in animal communication.