**Artwork captions:**

Title : Not Suitable for Breathing

Year : 2021

Material (software, hardware or others) :

Software : Processing, Ableton Live, Arduino, Max 8, Rhino 8

Hardware : See next page App1. Installation list (Excluding the projectors, screens and speakers in York Transmedia Lab)

Dimensions : 8.83m \* 11.89m (York Transmedia Lab)

**Artwork description：**

**Short abstract ：**

Not Suitable for Breathing, a data visualization and art installation, which visualizes Canadian COVID-19 mortality data through animation, physical objects, and sound. These projects provide viewers with an opportunity to contemplate and reflect on our experiences and those we have lost during the pandemic.

**Long description ：**

Many people do not realize, nor connect emotionally to the daily COVID-19 mortality rate that they see and hear reported in the news. They do not personally know the names of the persons represented in the death toll. The numbers do speak to the lived experiences of those afflicted with and treating the disease. Behind the data are medical personnel who are afraid of infection and have been reluctant to take off their protective clothing when spending time with their loved ones at home. There are critically ill patients whose lungs are connected to machines. They are still unable to breathe. For many, their only option has been to self-isolate and die alone.

Not Suitable for Breathing is an art installation that visualizes Canadian COVID-19 mortality data through physical objects, projected animation, and sound. The installation consists of white rice paper bags, medical infusion stands, a system of air pumps and spotlights. The air pumps are programmed to inflate and deflate the bags, according to the daily number of COVID-19 deaths from Canada. Hence, the breathing of the paper bag visualizes such information. The data showing the date and daily death count is projected on a 270-degree screen using 3 projectors, with an animation showing the increase in the number of deaths using an icon of the coronavirus. The 9-channel soundscape plays an assemblage of news reports from different countries mixed with the sound of a person breathing, water, medical machines, and synthetic sounds.

Visualizing the number of COVID-19 related deaths through this project helps viewers to understand that COVID-19 has affected everyone throughout the various sectors of society. Thus, not only governments and health institutions but everyone shares a responsibility to reflect on and help stop the spread of this pandemic.

**Artist bio ：**

Zhouyang Lu is a creative, innovative, and passionate graphic and digital media designer with four years of experience designing engaging logos, posters, web pages, UI/UX, brochures, promotional videos, and more. During Zhouyang's graduate studies in digital media at York University, he has been exploring the intersection of design, interactive technologies, and data visualization. He produces excellent pieces for publications and exhibitions every year.

**Artist website ：**

https://www.designoflz.com/

**App1. Installation list**

|  |  |  |
| --- | --- | --- |
| Picture | Item Description | Quantity |
| 电子仪器  中度可信度描述已自动生成 | Variable Voltage Controller, AC 220V Motor Speed Controller Switch Electric Regulator Dimming Thermostat Transformer US Plug for Fan Speed Motor | 12 |
| 黑色的照相机  描述已自动生成 | VIVOSUN 317GPH Air Pump 20W 4 Outlet 18 L/Min for Aquarium and Hydroponic Systems | 12 |
| 图片包含 游戏机, 电脑  描述已自动生成 | Belker 36W Universal 3V 4.5V 5V 6V 7.5V 9V 12V AC DC Adapter Power Supply for LCD LED Light Strip Router Speaker Smart Phone Tablet Kindle and Echo Dot TV Box 0.5A 1A 1.5A 2A 2.5A 3A 3000mA Amp Max. | 6 |
| 电子器材  中度可信度描述已自动生成 | Arduino A000067 ARDUINO MEGA2560, REVISION 3 | 1 |
| 图片包含 游戏机, 电路  描述已自动生成 | KEYESTUDIO Mega Sensor Shield V1 for Arduino Mega 2560 R3 | 1 |
| 卡通人物  低可信度描述已自动生成 | Wonninek Brown Kraft Paper Bags 4.7" x 2.7" x 8.5", Paper Lunch Bags Paper Grocery Bags Fresh Bread Candy Gift Bag Small Vintage Wedding Treat Cafe Party Paper Storage Bag Popcorn Bags (50Pcs) | 12 |
| 图片包含 游戏机  描述已自动生成 | Roscoe Medical 25 Foot Oxygen Tubing | 12 |
| 图片包含 游戏机  描述已自动生成 | Elegoo 120pcs Multicolored Dupont Wire 40pin Male to Female, 40pin Male to Male, 40pin Female to Female Breadboard Jumper Wires Ribbon Cables Kit for arduino | 3 |
| 图片包含 游戏机  描述已自动生成 | SunFounder 20KG Servo Motor Waterproof High Torque Servo, SF3218MG Metal Gear Digital Servo, Aluminium Case, Control Angle 270° for RC Robot Cars | 12 |
| 图示  描述已自动生成 | Smraza Ultrasonic Sensor for Arduino, HC-SR04 Distance Sensors with 2pcs Mounting Bracket for Arduino R3 MEGA2560 Nano Robot XBee ZigBee, Set of 5 S03-CN | 1 |
| 图片包含 图表  描述已自动生成 | Drive Medical 13033 Economy Removable Top IV Pole, Chrome Plated Steel, 2 Hook, 40"- 82" Height | 6 |
| 图示, 地图  中度可信度描述已自动生成 | T.K.Excellent Phillips Flat Head Wood Screws Kit,150 Pieces | 1 |
| 手机屏幕截图  中度可信度描述已自动生成 | Kable Kontrol Natural Clear Zip Ties - 4" Inch Long - 18 Lbs Tensile Strength - 100 Pcs/Pack | Multipurpose | Self-Locking Cable Management Wire Wraps | 1 |
| 图片包含 图形用户界面  描述已自动生成 | 3.3V/5V IRF520 MOSFET Driver Module PWM Output Driving Boards Output 0-24V for Arduino | 12 |
| 图片包含 物体, 桌子, 男人, 游戏机  描述已自动生成 | Xking 12Pcs/Set Dimmable LED1.5W 12VDC Mini Spotlight Jewelry Showcase Display Lighting Fixture Black Shell Surface Mount (Cold White 6000K) | 12 |
| 徽标  描述已自动生成 | AWSOM 65.6ft Electric Wire 22 Gauge LED Strip Extension Wire Cable Red Black for Led Strips Single Color 2 pin 3528 5050 | 12 |
| 卡通人物  低可信度描述已自动生成 | iCreating 100ft 4 Pin RGB Extension Cable Wire Cord for 5050 3528 Color Changing Flexible LED Strip Light with 10x Gapless LED Strip Connectors, 20x LED Strip Clips, 20x 4 Pin Male to Male Connector | 1 |
| 图片包含 游戏机, 桌子  描述已自动生成 | UGREEN Printer Cable USB 2.0 Type A Male to B Male Computer Scanner Cord High Speed Compatible for Brother, HP, Canon, Lexmark, Dell, Xerox, Samsung and More (15ft/5m) | 1 |
| 图示  描述已自动生成 | 100 Meters Monofilament Fishing Line, Strong Tension Nylon Fishing Wire Abrasion Resistant Mono About 0.45mm in Diameter Clear | 1 |
| 背景图案  描述已自动生成 | Elegoo 3pcs MB-102 Breadboard 830 Point Solderless Prototype PCB Board Kit for Arduino Proto Shield Distribution Connecting Blocks | 4 |
| 图片包含 物体, 灯光, 灯, 食物  描述已自动生成 | Shellvcase ECO Friendly Lanterns,100% Biodegradable Fully Assembled Wishing Lanterns White for Birthdays, Weddings, Christmas, Memorials (20 Pack) | 1 |