RECURRENT LLULL, TEXT STREAM 7

BY RAFAEL LOZANO-HEMMER - STANDALONE VERSION

Version: 2025-04-25

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GENERAL IMPORTANT INFORMATION

This short section must be read for proper operation.

RECURRENT LLULL (2019)

BY RAFAEL LOZANO-HEMMER

Technique

Custom generative code, computer, display.

Description

"Recurrent Llull" (Text Stream 7) is a recursive algorithmic animation made with the collected works of Mediterranean philosopher and polymath Ramon Llull, born in the kingdom of Majorca in 1232. Among Llull's accomplishments was the very first symbolic machine, a series of concentric circles that could be operated to generate combinations of "elemental truths". The mechanistic approach to knowledge influenced Leibnitz and then Babbage to make the first mechanical computers. In this piece, Llull's writing is animated along co-linear cylindrical cogs that unpredictably become detached and even revealed not as closed loops but endless spirals. The entire flow of typography is generative and is never repeated.
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Operation

Please refer to <u>Appendix I - Installation</u> for detailed system information and wiring diagram.

1. To turn the piece **ON**, press the power button of the computer for a second then release it.
   Important notes: Please do not push the button again as this will shut down the piece. Wait at least 2 minutes before pressing it again as the computer might take that long to boot. After 2 minutes (maybe faster), you should see the piece. The display might require to be turned on, for this use it's remote or the button at the back of the display.

2. To turn the piece **OFF**, press the computer's button all the way down until you've seen the "Shutting down…" screen appearing and fading to a black screen (shouldn't be required for more than 2 seconds).

3. If the piece doesn't start within 2 minutes, try to turn **ON** the piece again. If it still doesn't turn **ON**, then hold the power button all the way down for 10 seconds. Then, wait at least 3 seconds and press the power button all the way down for 1 second and you should be up and running again.

General Artwork Behaviors

The display shows a recursive algorithmic animation made with the collected works of Mediterranean philosopher and polymath Ramon Llull, born in the kingdom of Majorca in 1232. Llull's writing is animated along co-linear cylindrical cogs that unpredictably become detached and even revealed not as closed loops but endless spirals. The entire flow of typography is generative and is never repeated.

Maintenance

Please do not clean the display with Windex or soap. Use a lint-free cloth and a LCD screen liquid cleaner, such as Kensington Screen Guardian found in computer stores. We recommend cleaning the piece at least every two months.

Placement Instructions

The vertical center of the display should be hung at 150 cm (59 inches) from the ground. If the display has a sensor receiver you can stick to the side or to the back of the piece. This sensor is what the remote needs to be pointed at for the remote to work.

The computer and video cable should be hidden out of sight, either at the back of the display, covered, or through the wall, or other technique.

DETAILED TECHNICAL INFORMATION

Normal Software Operation

This piece uses TouchDesigner 099 by Derivative as its primary software. By default, none of the artwork's code can be edited or manipulated, as it is running on TouchPlayer Commercial license, however, there are parameters for the presets that can be changed using the GUI. Any software changes should be made by the studio.

The software runs on a single 16:9 display in portrait mode either natively in HD (1920x1080) or scaled up in 4K (3840x2160). Future computers with better GPUs, combined with software updates, would allow running this natively at 4K.

The GUI of the artwork can be accessed by pressing 'Alt + g' on the keyboard. This will pop open a menu that can be resized and minimized. The presence of the GUI however, disables the smooth transitions between presets. The GUI can be closed with 'Alt + c' on the keyboard. 'g' for 'GUI' and 'c' for 'close'. Each version mentioned below has a photo of its GUI.
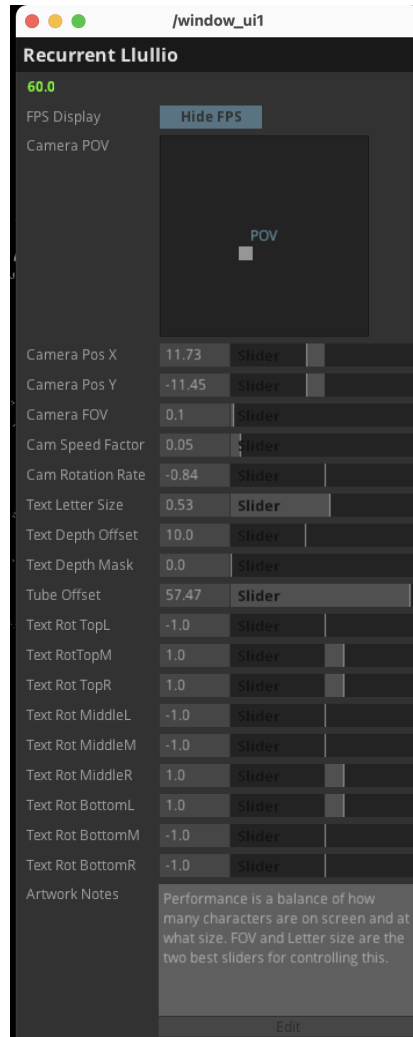
The playback of the artwork consists of a preset system that randomly chooses a preset to blend to over a random time range. Each preset, which can be triggered manually using the numbers '1-0' on the keyboard while also holding the 'ctrl key', remembers what state its parameters were in and will interpolate those values between presets.

Num '1' = preset 1
Num '2' = preset 2
Num '3' = preset 3
….

So on and so forth, currently only 10 presets can be triggered manually however there can be more presets in the GUI's bank.

Remote Access to Artwork's Computer

There is a software installed on the computer running this artwork that allows the studio to connect remotely to the artwork. This feature is helpful when you require assistance from the studio, as we can remotely connect to it, do a quick inspection, and do a debugging session of your components, if needed. In order to enable this feature, the computer has to be connected to the internet at all times. Depending on the computer's operating system (Windows 7/8/10/11, OSX), the procedure to set the computer online will vary. Please look online for tutorials, if necessary.

Preliminary Troubleshooting Steps

After pressing the power button, nothing seems to happen.

If you press the power button and the piece does not start within two minutes, try turning on the piece again. If it still doesn't turn on, then hold the power button all the way down for 10 seconds. Then, wait at least three seconds and press the power button all the way down for one second and you should be up and running again.

Do not worry if you see a window that reads: "Your PC encountered a problem and had to restart". Simply click: "Don't send details" and then the piece will playback normally. Any error like this can usually be fixed by restarting the computer: using the keyboard, press the Windows key in the bottom left of the keyboard (next to the **CTRL** button) and then navigate to the power icon at the top right of the screen, and, finally, click **RESTART**.

If the artwork does not show up, or displays in an unusual way.

You can connect a keyboard and mouse to the PC. hit the **ESC** key to stop the artwork. You can navigate to the windows 'start' icon, on the power button icon, select 'restart' and let your computer turn off then on again. It should come on and start the artwork again; if it does not come back on, you may need technical support from our team.

If the piece is improperly oriented (software orientation doesn't match display orientation) or stretched / compressed.

The first element to verify here is in Windows' Display settings. To do so: press **Escape** key on the keyboard to quit the rendering of the software. Then, click the **Start button** at the bottom left of your screen, then **Settings**, then **System**, then **Display**, and choose a screen orientation from the drop-down list labeled **Orientation** or **Display Orientation**.

If the keyboard does not react.

If the keyboard is not working, turn over the keyboard and check to see if the keyboard is turned ON (there is a button that shows red or green; green is ON.) Also, check that the USB dongle is in the computer, and try putting it in different USB ports. You can also open the bottom of the keyboard and check if the batteries are dead, and replace them if necessary.

Troubleshooting Assistance

Prior to contacting the Antimodular Studio with a problem about your artwork, please ensure that you went through the preliminary troubleshooting steps outlined in the previous section.

The troubleshooting process will vary depending on the problem. In order to make the process easier, it is recommended that you collect and send the following information to the studio:

- Date and time when the problem first happened;
- Description of the problem;
- Actions taken so far and conclusions;
- Detailed photographs (or videos) displaying the problem;
- Detailed photographs (or videos) of the suspected faulty component;
- Detailed photographs (or videos) of the whole artwork and its surroundings;
- Personnel involved.

Support (Contact Us)

If you would like support for the piece, please feel free to call Lozano-Hemmer's studio in Canada:

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APPENDIX I - INSTALLATION

Description of Components

This artwork requires the following components:

Component	Description
Computer	Computer running on at least Windows 8.1, with an NVidia graphics card (at least GTX 1070).
Video Cable	Connects the computer to the display.
Display	A 16:9-ratio display placed in a vertical orientation. Ideally, the monitor would be as matte (non-reflective) as possible, and as slim as possible with bevels as small as possible.
Keyboard	While not required for normal use of the artwork, it allows you to troubleshoot the artwork and is necessary for the computer to startup correctly.

Wiring Diagrams and Connections

  In order for the piece to run properly, the computer should be connected according to the following diagram.