

Project Proposal

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“Wave Your Mind”

Objective

To design a device that can be used as an animated “glow stick” to manifest one’s mind by waving it in the air.

Solution

- Arduino
- Super Bright Multicolor LEDs (8)
- Portable Power
- Device Packaging



Detail

Waving glow sticks in the air during music shows (except classic concert where formality is valued) is a common practice seen around the world. Fans/audience do this to express their passion and love for the performer(s).

However, the static lighting coming from the glow stick makes it less interesting and very hard to create customized waving patterns by average people. After the show, the cheap and non-customizable nature of the stick, combined with the descending emotion of the audience after the exciting moments during the show, make the inappropriate disposal of the glow stick a huge headache for the cleaners. In addition, the chemical liquid used to make the stick glow impose [certain danger to the user](#).

With these in mind, I envision a device which can replace glow sticks to foster a more interesting and sustainable behavior of “waving the mind”. Using super bright LEDs and the “Visual Stay Phenomenon” (the mechanism of films), this concept is illustrated in the flowing figure:



As can be seen in the figure, the device has a 1×8 LED matrix, which changes the lighting arrangement over time. By waving the LED matrix in the air at certain speed, due to the visual stay phenomenon mentioned above, it creates a personalized message (I ♥ U).

We can use datasets to store the lighting arrangement, and change the input of the LEDs over time. In terms of the changing frequency, more research and experiments are needed.

Using this device, the audience of music shows can customize their lighting message in a much easier and more interesting way. It is less likely that they throw the device away after the show since it is not as cheap as a glow stick. Besides, by making personal messages using the device and waving it to convey the message, it is expected that they gain emotional attachment to the device over time, which makes it even more difficult to dispose the device. At last, the device is not as toxic as the glow stick, making it safe to use in a long run.

Other potential use of the device include to call the attention of the traveller when someone is waiting him/her at the exit of transportation stations; to deliver message to drivers/pilots when used by traffic coordinators, etc.