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Heart Beat Indicator Using ECG

LED ring that blinks to your heart beats and displays current BPM both by number and color of illuminated LEDs.

[↶ Beginner\(/projects?difficulty=beginner\)](#) [📄 Full instructions provided](#) [🕒 6 hours](#) [👁 16,513](#)

(<https://www.hackster.io/events>)

Ad


(<http://help.hackster.io/knowledgebase/what-are-these-ads>)

Things used in this project

Hardware components

uECG device		× 1	<div><div></div><div>s=BAhJIhMxNjI0NDZlSUhJdmVjdAY6BkVG%0A)</div></div>	
	Arduino Nano R3 (/arduino/products/arduino-nano-r3?ref=project-87b938)	× 1	<div><div></div><div>s=BAhJIhMxNjI0NDZlSUhJdmVjdAY6BkVG%0A)</div></div>	<div><div></div></div>
	Adafruit NeoPixel Ring: WS2812 5050 RGB LED (/adafruit/products/neopixel-ring-ws2812-5050-rgb-led?ref=project-87b938)	× 1	<div><div></div><div>s=BAhJIhMxNjI0NDZlSUhJdmVjdAY6BkVG%0A)</div></div>	<div><div></div></div>
	Li-Ion Battery 1000mAh	× 1	<div><div></div><div>s=BAhJIhMxNjI0NDZlSUhJdmVjdAY6BkVG%0A)</div></div>	<div><div></div></div>

Hand tools and fabrication machines

	Soldering iron (generic)
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Story

For many years I just wanted to make something with LEDs that blinks to my heartbeats (and not only when I'm staying perfectly still, and yet skipping a beat here and there). That turned out to be surprisingly difficult, I tried and failed for years. But not anymore!

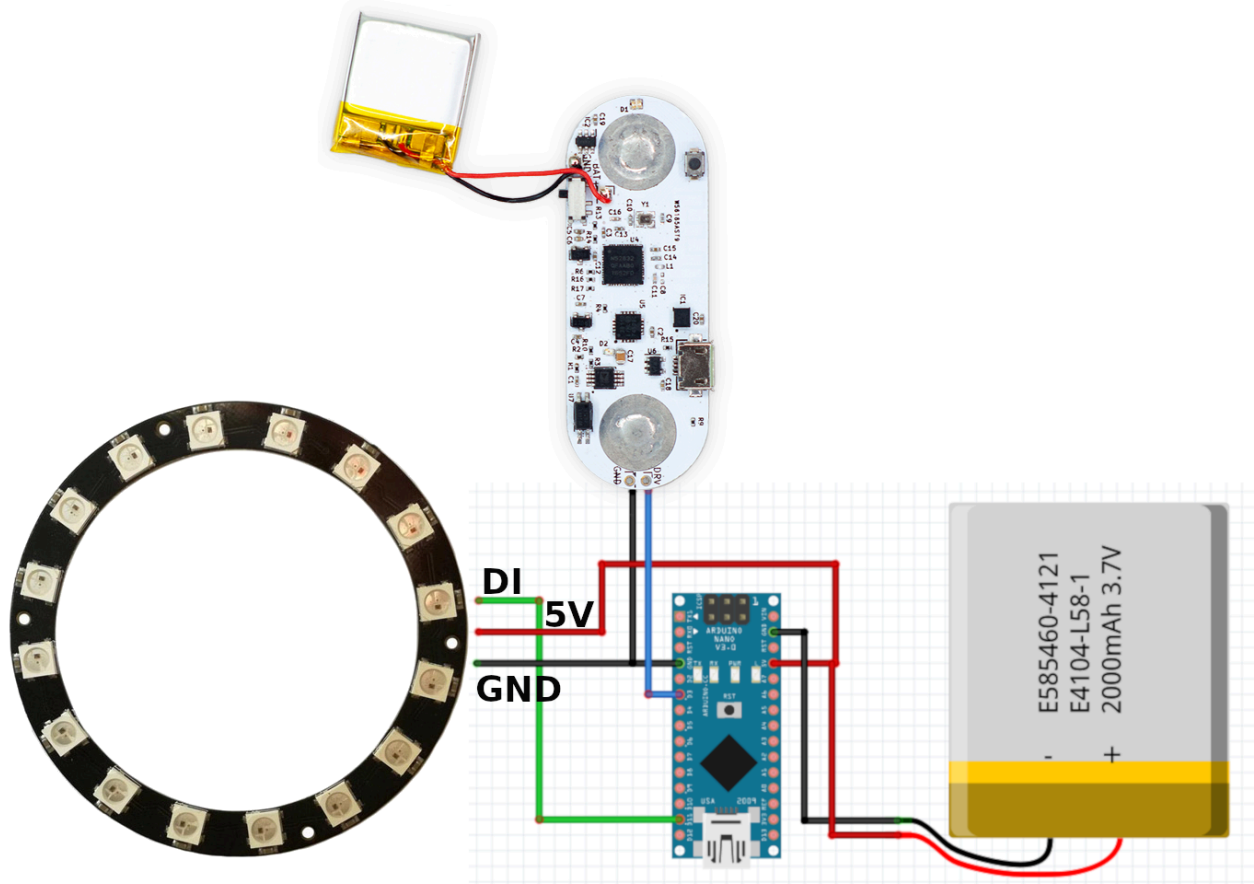


Read more

Schematics

Schematic

(https://hacksterio.s3.amazonaws.com/uploads/attachments/935712/schematics_ikxTk367Ny.png)



Code

uECG_pixel_ring.ino Arduino



[Download](/code_files/268451/download) (/code_files/268451/download)

```
2 #include <Adafruit_NeoPixel.h>
3
4 #ifdef __AVR__
5   #include <avr/power.h>
6 #endif
7
```

Credits



Dmytro Dziuba (/the_3d6)

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(/the_3d6) I'm an electronics engineer with background in AI and physics

Follow

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Thanks to **Ultimate Robotics** (<https://igg.me/at/uecg>).

Comments

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“

Share your thoughts! What do you like about this project? How could it be improved? Be respectful and constructive – most Hackster members create and share personal projects in their free time.

Post



guillain (/guillain)

5 years ago

⋮

The next step can be the Jarvis integration 😊

For that Jarvis GPL project and Matrix Creator will help to succeed !

If you want to play on, I've pushed my baseline here:

<https://github.com/guillain/raspberry-matrix-creator> (<https://github.com/guillain/raspberry-matrix-creator>)

Have fun 😊

Thank • Reply • 1 thank



Dmytro Dziuba (/the_3d6)

5 years ago

⋮

Thanks! That board is very powerful, it can do way, way more than just blinking LEDs. But it comes at a cost of size and, well, price))

Thank • Reply to conversation



xtayfunyksl (/xtayfunyksl)
5 years ago



Hi! My name Tayfun my 18 years old. My (<http://old.my>) Biomedical technician. And your'e project a make a have decided but your'e coder there an is error does not accept chip code please can you help me? ☺

Thank • Reply • 1 thank



yvvolkii (/yvvolkii)
4 years ago



Hi! My name Volkan my 18 years old. My (<http://old.my>) Biomedical technician. And your'e project a make a have decided but your'e coder there an is error does not accept chip can you help me please

Thank • Reply



Dmytro Dziuba (/the_3d6)
4 years ago



Sorry for not responding! I'm not getting any notifications from here so I don't know when a new comment is posted - please write us either via Tindie or to our email hi@ultimaterobotics.com.ua (mailto:hi@ultimaterobotics.com.ua) - there we'll see it and will respond within a few days

Thank • Reply to conversation



nagendra1433 (/nagendra1433)
4 years ago



Hello Dmitry add some additional features like display of heart rate in that ring and also detection of arrhythmia s

Thank • Reply



sonu_025 (/sonu_025)
3 years ago



Instead of the ring if I use 24-30 individual WS2812 5050's, would that make a difference in the connection or the code?

Thank • Reply



louis (/louis17)
2 years ago



How did you connect the readings to your phone .. which app and how did you do that

Thank • Reply

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(/kitty-yeung/flowers-arduino-nano-crazycircuits-dfrobot-55be42)

Kitty Yeung (/kitty-yeung)

👍 34 👁 7.7K



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Measure SpO2, Heart Rate and BPT Using Arduino
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DIY heart rate monitor and pulse oximeter
(/manodeep/diy-heart-rate-monitor-and-pulse-oximeter-81191c)

manodeep (/manodeep)

👍 3 👁 2.6K



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M. Mahdi K. Kanan (/mvtdesign)

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Heart Beat Monitoring Device (/mohammadsohail0008/heart-beat-monitoring-device-8adf7c)

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👍 5 👁 19K







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