

Music! Programming! Arduino!

or

Building Electronic Musical Interfaces to
Create Awesome

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**Electronic musical
instruments???**







GCD129 7 months ago

I could literally wave my hands over rocks to this music and make it look like I was playing ROCKS!!!

Reply ·  

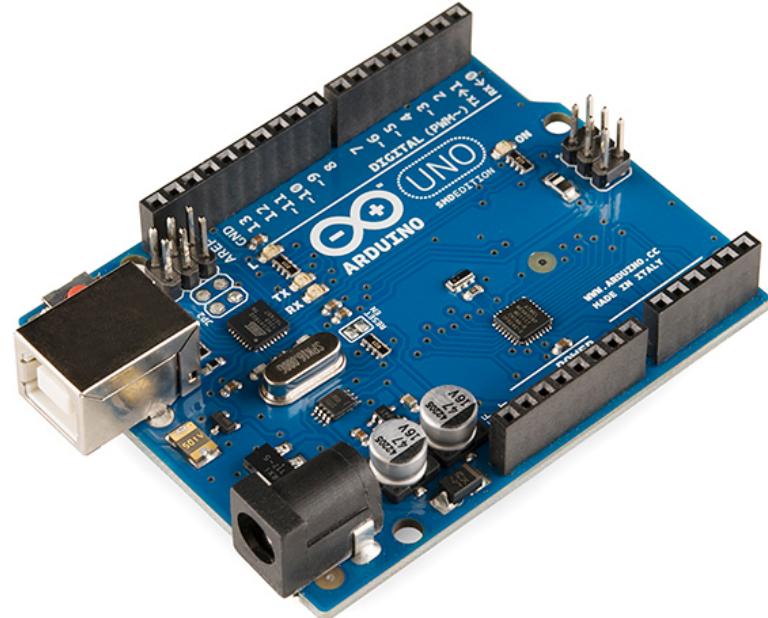
programming = magic?

**programming + hardware
= definitely magic!**

Spell ingredients!



Ingredient #1: Arduino!



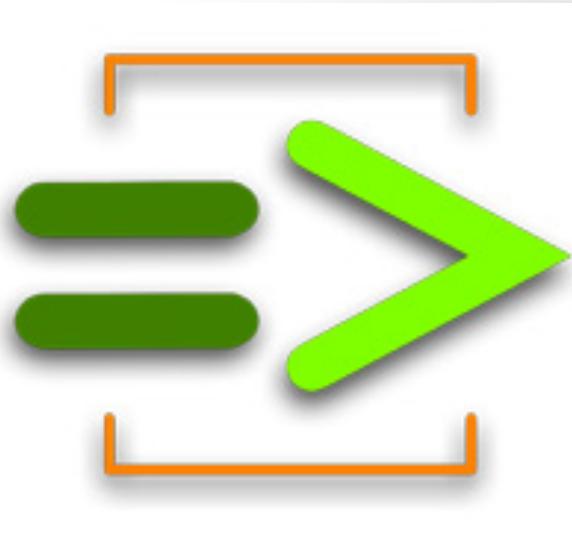
- **Affordable**
- **Beginner-friendly**
- **Accessible**

Sensors!

- Light
- Temperature
- Touch
- Water
- GPS
- Motion
- ...many more!



Ingredient #2: ChucK!



- Musical programming lang
- Designed for musicians
- Free; Mac/Windows/Linux

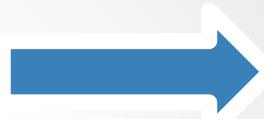
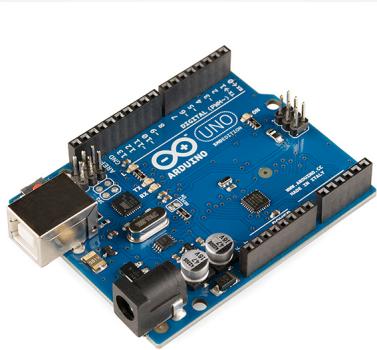
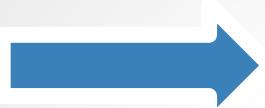
```
1 Sin0sc osc => dac;  
2 1::second => now;
```

arguments

440

```
1 Sin0sc osc => dac;
2 |Std.atof(me.arg(0)) => float f;
3 osc.freq(f);
4 2::second => now;
```

**Music + programming +
Arduino?**



0
0
10
26
55
300
200
50
...
...

A vertical list of numerical values, likely representing data being processed or output by the system.

miniAudicle

File Edit Font Chuck Window Help

Untitled

Add Shred Replace Shred Remove Shred Remove Last Shred Clear Virtual Machine

arguments

```
Sin0sc osc => dac;  
1::second => now;
```

Virtual Machine

running time: 23:43.18436

shred: 0

shred name time

Console Monitor

```
[chuck]:(2:SYSTEM): I | I allocating messaging buffers...
[chuck]:(2:SYSTEM): I | I activating LOOP
[chuck]:(2:SYSTEM): I | I real time mode: NO
[chuck]:(2:SYSTEM): I | I mode: CALLBACK
[chuck]:(2:SYSTEM): I | I sample rate: 44100
[chuck]:(2:SYSTEM): I | I buffer size: 256
[chuck]:(2:SYSTEM): I | I num buffers: 8
[chuck]:(2:SYSTEM): I | I odc: 1 doc: 2
[chuck]:(2:SYSTEM): I | I channels: in: 2 out: 2
[chuck]:(2:SYSTEM): I | I initializing compiler...
[chuck]:(2:SYSTEM): I | I type dependency resolution: MANUAL
[chuck]:(2:SYSTEM): I | I activating system engine...
[chuck]:(2:SYSTEM): running virtual machine...
[chuck](WM): spork: incoming shred 1 (Untitled...)
[chuck](WM): error replacing shred: no shred with id 1...
[chuck](WM): spork: incoming shred 1 (Untitled...)
```

minAudicle

HTML

This screenshot shows the miniAudicle software interface. It features a code editor with the following ChucK code:

```
Sin0sc osc => dac;  
1::second => now;
```

Below the code editor is a "Virtual Machine" window displaying system logs. A large blue arrow points from the sensor image up to the code editor. Another large blue arrow points from the Arduino image up to the VM window. A third large blue arrow points from the VM window down to the console monitor.

Make This Stuff!

- Illumaphone: <http://goo.gl/A52MQC>
- Mug Music: <http://goo.gl/J0fYAT>
- Piano Stairs: <http://goo.gl/IUKqsn>

**ANYTHING IS POSSIBLE IF YOU
USE YOUR**



IMAGINATION

memegenerator.net

Thanks!



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