

1:Intro:Tools:PD

Interactive Installations F07

Dan Wilcox

C:Art:Media
Valand

Introduction

- Hi
- What are we doing?
- How will it go?

Hi

- **Who:** Dan Wilcox
- **Background:** BS Computer Engineering, MS Art & Tech
- **My Website:** <http://www.robotcowboy.com/>
- **Get Me:**
 - Email: danomatika[at]gmail.com
 - AIM: wakanneiyo
 - Tel: 0708 876812
- **What I Do:**
 - Music
 - Human Computer Performance

What are we doing?

- **What:** Interactive Installations
 - *interactivity: the extent to which a computer program and human being may have a dialog*
- **How:** Hardware/Software Tools
 - Arduino : hardware interface to your computer
 - Pure Data : graphical-based visual/audio programming
 - Processing : text-based graphical programming
- **To What Extent?:** Enough to get the job done
 - Not enough time to teach theory
 - Focus on Introduction and Practical Applications

How will it go?

- **How will it go?:**
 - We introduce each tool one at a time
 - Then make them work together
 - Choose practical problems to solve aka mini-projects each class
 - Provide tools you need for your other classes
 - tell me what you want to know!

Class Page

- <http://class.robotcowboy.com/intro07/>
- Contains:
 - All lesson slides from class
 - Any Code form cLass
 - Schedule
 - Other, info ...

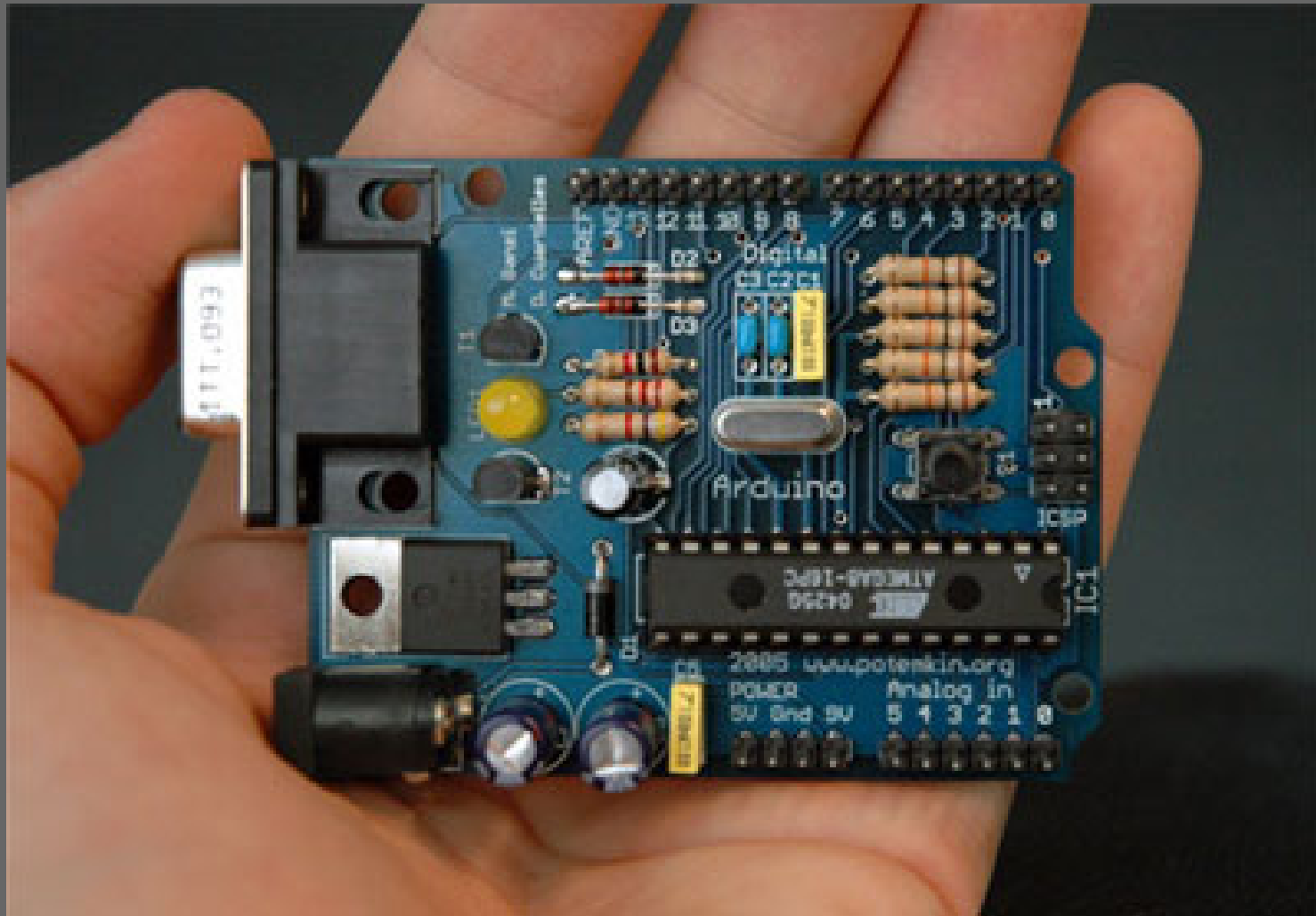
Tools

- Arduino
- Pure Data
- Processing

Arduino

- <http://www.arduino.cc/>
- **What is Arduino?:**
 - *an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments.*
 - *a low-cost microcontroller board + programming software*

Arduino



Pure Data

- <http://puredata.org/>
- **What is Pure Data?:**
 - *PD (aka Pure Data) is a real-time graphical programming environment for audio, video, and graphical processing.*
 - *graphical, object-oriented programming language*
 - *basically, connecting lots of little boxes*

Pure Data



this is the frequency of the tone,
use the mouse to change it



this is an oscillator, it makes a tone

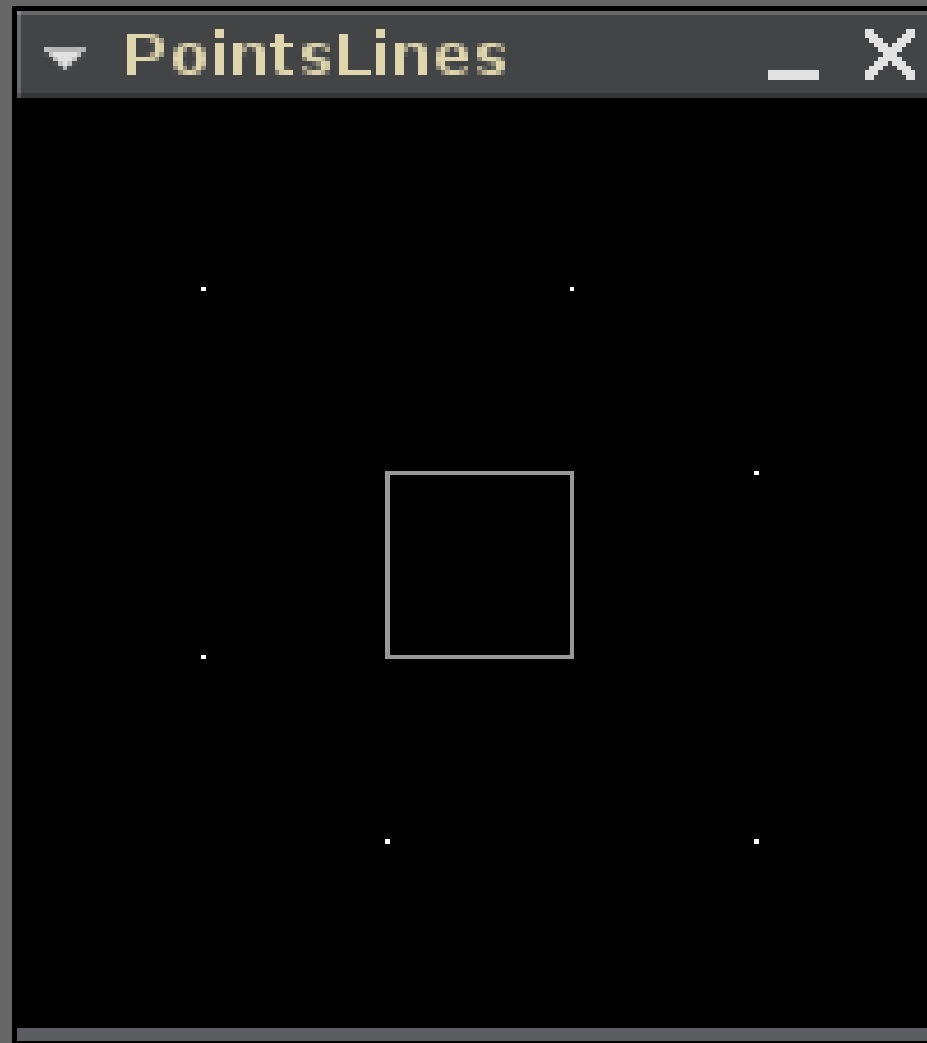


this is your soundcard

Processing

- <http://processing.org/>
- **What is Processing?:**
 - *an open source programming language and environment for people who want to program images, animation, and interactions.*
 - *textual, object-oriented programming language*

Processing



Hard Part

- **The Hard Part:**

- we do not have enough time to really go into detail
- I cannot cover all of the technical background (electronics theory, programming, practice, etc)
- it's up to **you** to really put in the time and effort to learn how to use these tools and apply them to your projects

- **The Soft Part:**

- we will introduce and build a new mini-project each class
- Arduino, Pure Data, and Processing have their own documentation and lots of resources from their respective online communities
- ask me, that's what I'm here for

PD

- Install PD
- PD Intro

Install PD

- <http://at.or.at/hans/pd/installers.html>
- Download and install for your system
- Once installed, run it and try the audio test
 - Media -> Test Audio and MIDI

PD Introduction

- There is already an introduction on Pure Data
 - Help -> HTML ...
 - and on the web:
http://www.crca.ucsd.edu/~msp/Pd_documentation/index.htm
- We will follow this as well as some example help patches
 - Help -> Browser ...