



Hello\_WPP\_School\_students\_

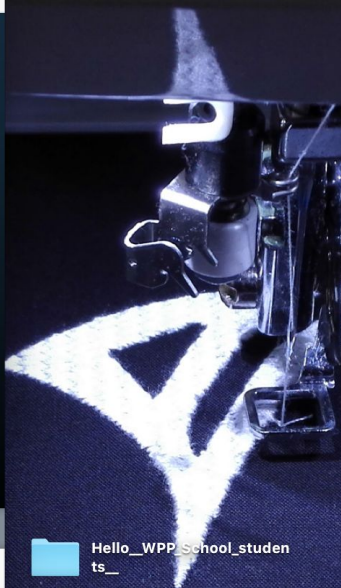
Hello\_WPP\_School\_students\_ | Processing 3.0.1



Java ▼

Hello\_WPP\_School\_students\_ ▼

```
1 void setup() { // initialize the window
2   size(400, 200);
3   background(255);
4   fill(20, 120, 120);
5   textSize(14);
6 }
7
8 void draw() { //do something
9   text("Hello, WPP School Students", 100, 80);
10  text("This is Aven Speaking....", 150, 110);
11 }
12
13
14
```



Hello\_WPP\_School\_students\_



Console



Errors

Hello\_WPP\_School\_students\_

Hello, WPP School Students

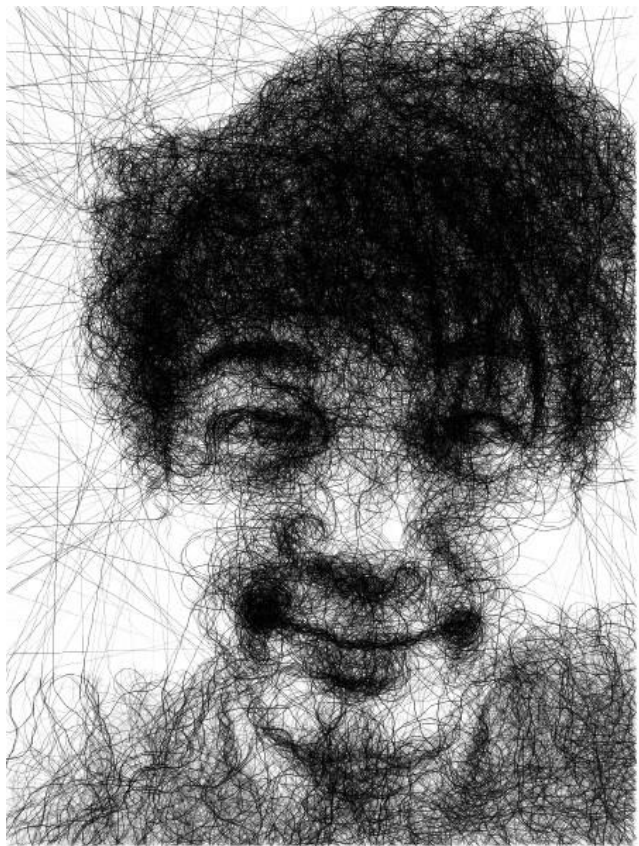
This Is Aven Speaking....

Hello, WPP School Students

This is Aven Speaking....



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# Aven | 周乐

Resident research fellow,  
Interactive Media Arts Program  
New York University, Shanghai.



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What about you?



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基本信息  
想象中这门课干什么的  
最想学到什么／如果学到了 XX你就会觉得这课很酷

比如：

我叫Aven, 写代码玩电路做着各种设计的建筑师, 喜欢做饭。  
想象中这门课要酷, 做有范儿的project, 我爱钢铁侠, 希望可以做一套战甲, 或至少做个头盔。

我叫aaaven, 不喜欢干嘛, 只爱打游戏。  
我想写一款游戏, 可以简单点儿, 但是至少得是一款完整版的游戏, 比如雷电。



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~~Coding课~~  
~~Processing课~~  
~~Arduino课~~  
~~Processing&Arduino课~~



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# Make Design Interact

--An Introduction to Interactive Technology



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Processing —— 工作平台I:  
Computational Media

Arduino —— 工作平台II:  
Physical Computing



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# MDI — — New Media & Communication



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# 约法三章

语言  
发言  
设备



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# LEARNING OBJECTIVES | 学习目标

Electricity and electrical components | 电学&电子元件

Analog and digital inputs and outputs on microcontrollers | 数字和模拟信号输入与输出

Fundamental programming concepts: variables, conditionals and iteration

基础的编程概念: 变量, 条件语句&迭代、循环

Programatic methods for drawing and animation | 绘图和动画编程

Code organization techniques: functions and objects | 代码架构: function&objects

Screen based and physical interaction design principles | 动画和physical interaction 设计准则

Programatic methods for the manipulation of images, audio and video | 图像、声音和动画处理

Data formats, data manipulation and data visualization | 数据类型、处理和可视化

Serial communication | Serial 通信



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# COMPUTATIONAL MEDIA vs PROCESSING

Computational media involves the creation and use of algorithms, the processes which instruct a computer how to act, to create software for practical and creative purposes.

COMPUTATIONAL MEDIA包括开发和运用算法去使用 计算机开发程序服务于产品或设计、艺术

Processing: 英文 [https://en.wikipedia.org/wiki/Processing\\_\(programming\\_language\)](https://en.wikipedia.org/wiki/Processing_(programming_language))

中文wiki: <https://zh.wikipedia.org/wiki/Processing>

Processing官网: <https://processing.org/>

openProcessing: <http://www.openprocessing.org/>



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# PHYSICAL COMPUTING vs Arduino

Physical Computing is a creative framework for understanding human beings' relationship to the digital world. In practical use, the term most often describes handmade art, design or DIY hobby projects that use sensors and micro controllers to translate analog input to a software system, and/or control electro-mechanical devices such as motors, servos, lighting or other hardware.

人类和数字世界之间的联系, 界面

通常指DIY设计, 创客项目: 使用传感器、微型控制器去将自然信号 转译并输入系统并驱动电子/机械  
设备做出特定的反馈(包括电机、灯光及各种硬件)

Arduino 英文wiki: <https://en.wikipedia.org/wiki/Arduino>

中文wiki: <https://zh.wikipedia.org/wiki/Arduino>

Arduino 官网: <http://www.arduino.cc/>



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# READINGS | 阅读文献

Getting Started with Arduino  
爱上Arduino

Getting Started with Processing  
爱上Processing

Learning Processing: A Beginner's Guide to Programming Images, Animation, and Interaction

Additional required readings | 其它课堂提供阅读材料



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# 交互逻辑图解

讨论:

A: 参与者 / 用户

eg: 开灯

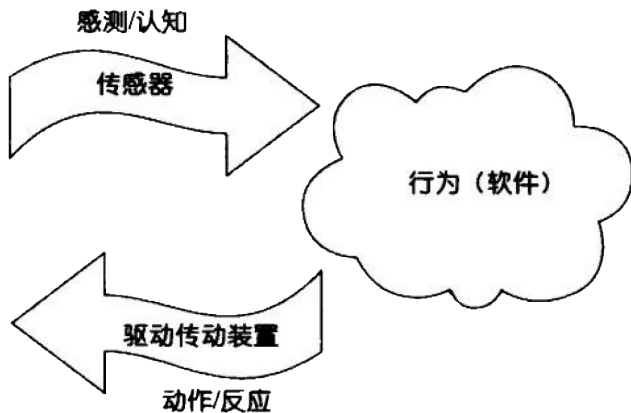


图4-1: 互动装置



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# 交互界面

讨论:

B: 设计者

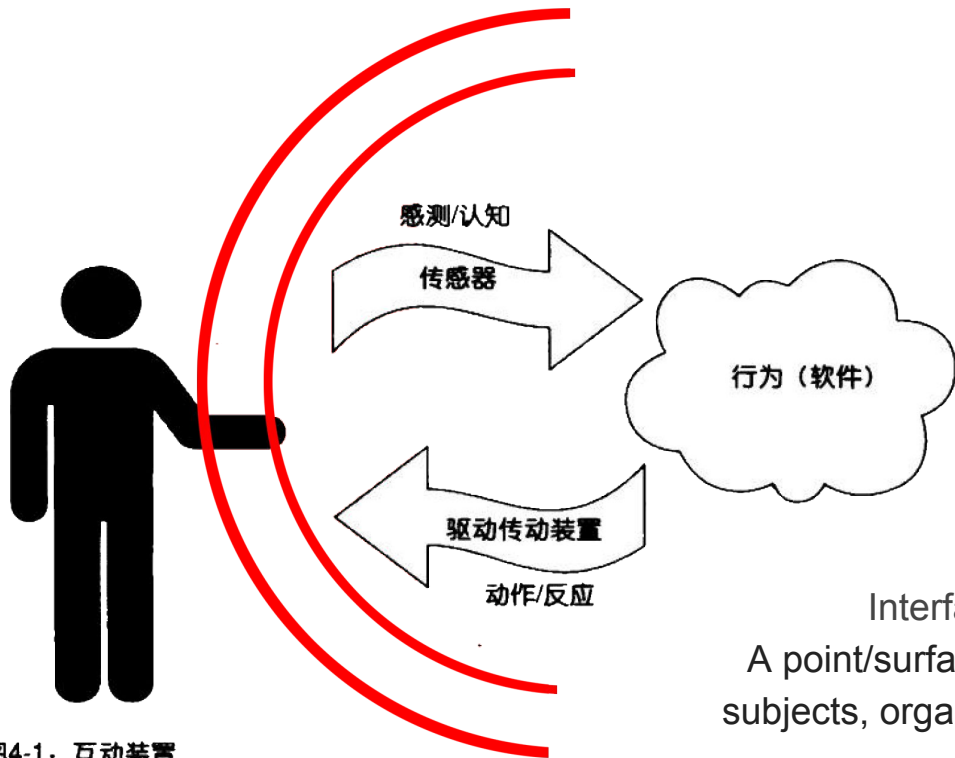


图4-1: 互动装置

Interface | 交互界面

A point/surface where two systems, subjects, organizations, etc., meet and interact.



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# 课堂讨论A:

输入 | 输出 | 软件逻辑设计



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# 讨论B:

Q1:你希望通过这个课做出个什么项目／脑袋里面有什么 idea

Q2:用交互逻辑图解去思考可能的输入输出和逻辑设计分别是什么



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Basic Electronics To Arduino Start with Phisic Computing			Physical Interaction Continue on EE & Arduino				
week01		week02		week03		week04	
		Drawing and Animation in Processing Start with Programming with Processing		Conditionals,Functions,Interaction Continue on Processing		Processing & Arduino Commucation	
						Objects&Array Beauty of Programming	
						week05	
				Mid-term Project Workshop		WEEKEND	
						Mid-term Project Critiques	
						week06	
						Digital Modeling & Fabrication Introduction	
						Digital Modeling & Fabrication Workshop	
				week08			
				Strings & Data		Kinect + leapmotion tracking Popular Physical Interface	
						Images&Audio&Video&Computer Vision Generative Media Arts	
						Controlling High Current Loads larger scale installation	
				week09			
		Final Project Workshop		WEEKEND		Final Project Workshop	
		week10					
		Projects Set Up Final Project Critiques					



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# Week\_01\_1.1:

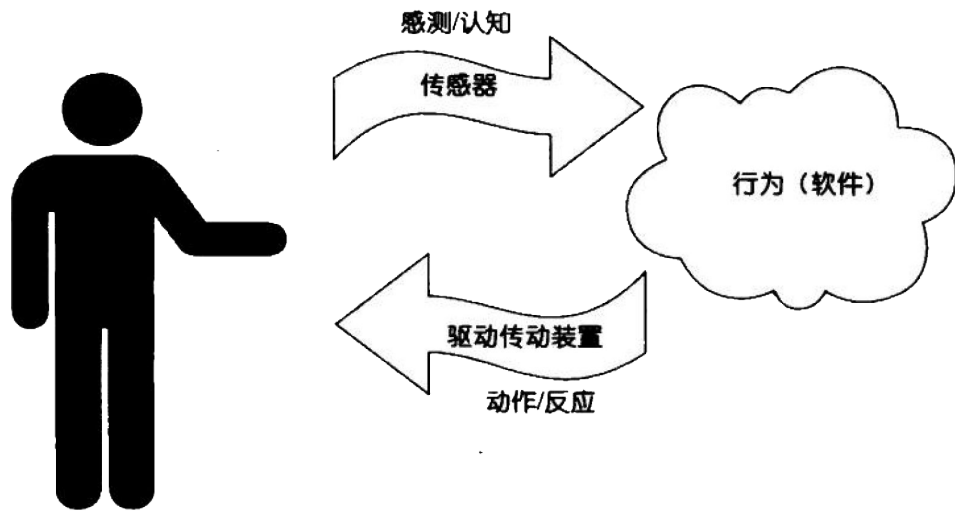


图4-1: 互动装置

根据讨论B的反馈, 继续完善你的想法  
(结合你的想法)  
写写对交互逻辑图解的理解  
(包括但不限于 课上讲的两个层面)

