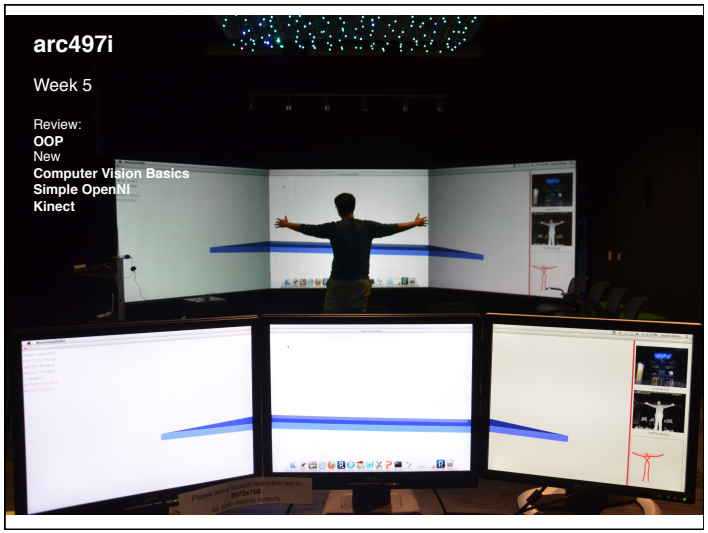


Object Oriented Programming (OOP)

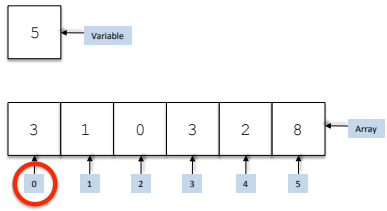
Object Oriented Programming (OOP)

```
int my_int();

someobject my_object();
```

When we create classes, we define new object types. They work the same as Processing's primitive data types (int, float, etc.)

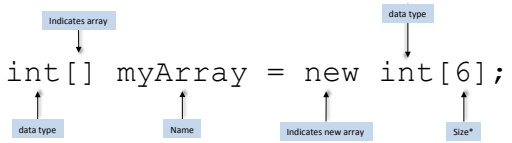
Classes are also blocks of code.

Arrays Review



Arrays are ***zero-based*** **indexed** lists of variables

Arrays Review



* must be an integer (hard-coded, variable, or expression)

Initializing Arrays: Using Loops

How to create and initialize an array of 10,000 random numbers?

```
float[] values = new float[10000];

for (int i = 0; i < values.length; i++){
  values[i] = random(0, 10);
}
```

Assigns the value to each position in the array.

Note: *arrayName.length* is much better than a hard-coded number.

Operate on an Array's Members

Square each number

```
int[] nums = {5, 4, 2, 3, 7, 2, 8, 14};

for (int i = 0; I < nums.length; i++){
  nums[i] = nums[i]*nums[i];
}
```

Operate on an Array's Members

Add a random number between 1 and 10 to each number

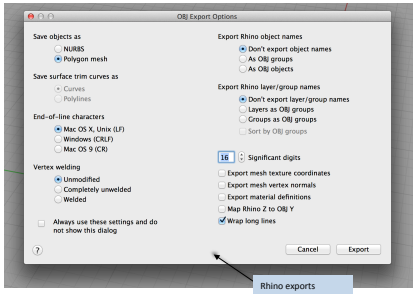
```
int[] nums = {5, 4, 2, 3, 7, 2, 8, 14};

for (int i = 0; I < nums.length; i++){
  nums[i] = nums[i] + (int) random(1, 10);
}
```

Arrays and OOP

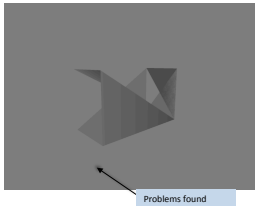
```
void mousePressed(){
 Spot s = new Spot(mouseX, mouseY, 5, random(0.2, 3));
 spots = (Spot[]) append(spots, s);
}
```

Append adds an element to the (last position of the) array.

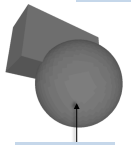
Importing 3-D geometry using OBJ loader library



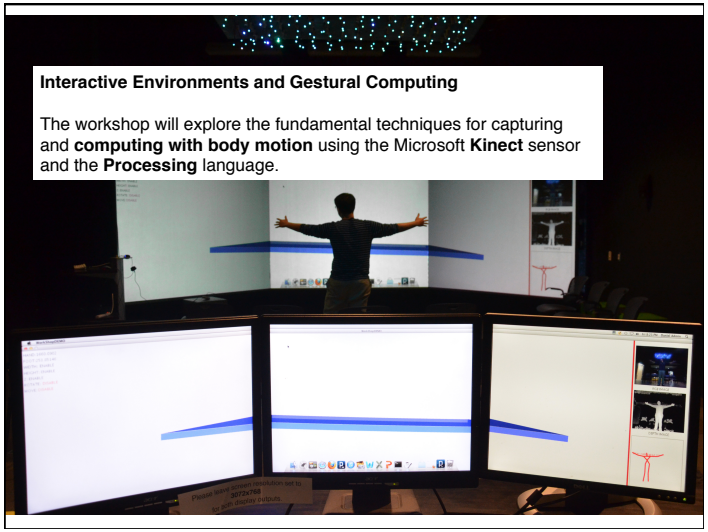
Rhino exports settings



Problems found when exporting as NURBS



Successful import



Interactive Environments and Gestural Computing

The workshop will explore the fundamental techniques for capturing and **computing with body motion** using the Microsoft **Kinect** sensor and the **Processing** language.

Interactive Environments and Gestural Computing

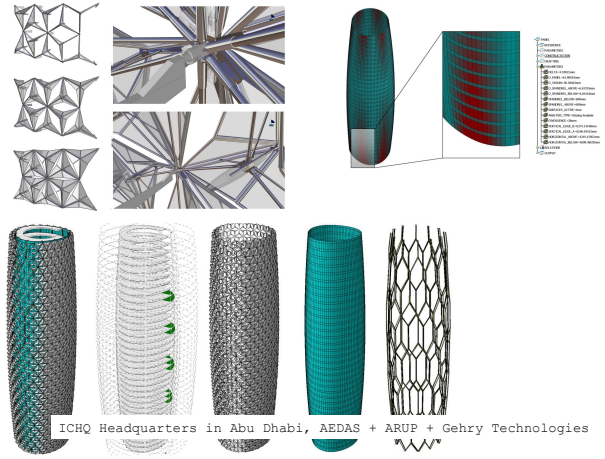
Kinetics + Embedded Computation (Interactive Environments)

What do buildings/landscapes/things *do*?

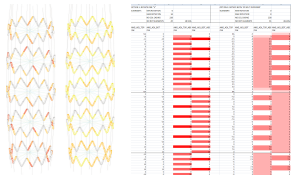
Algorithms + bodies

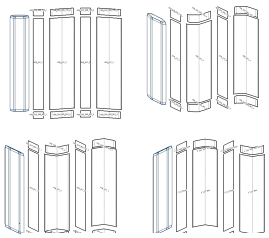
Can we think of systems (of living, of designing) that engage human bodies in a less… binary fashion?

What do buildings *do*?

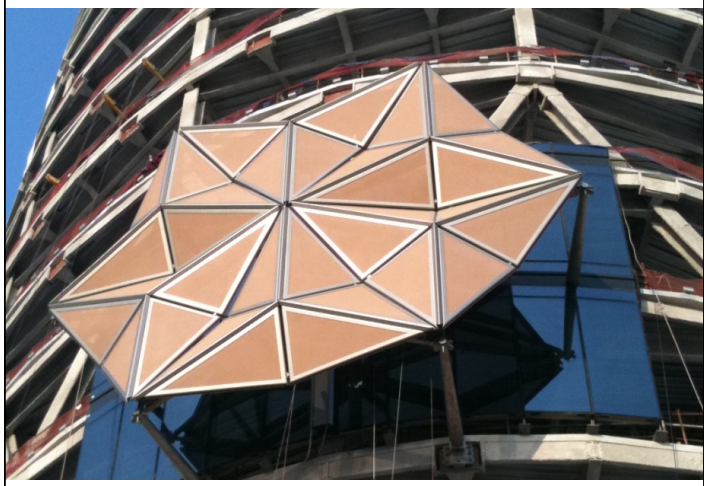


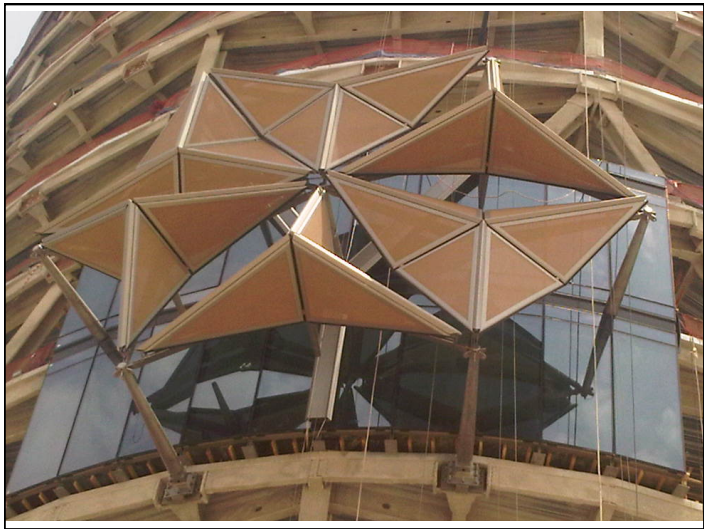
ICHQ Headquarters in Abu Dhabi, AEDAS + ARUP + Gehry Technologies

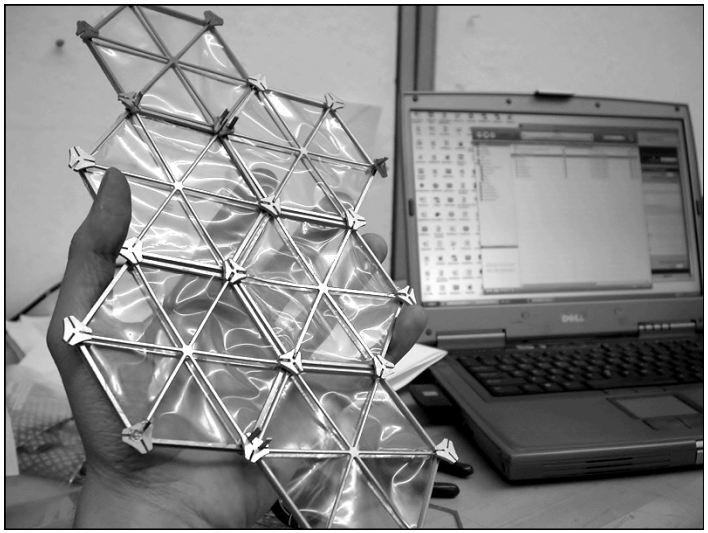


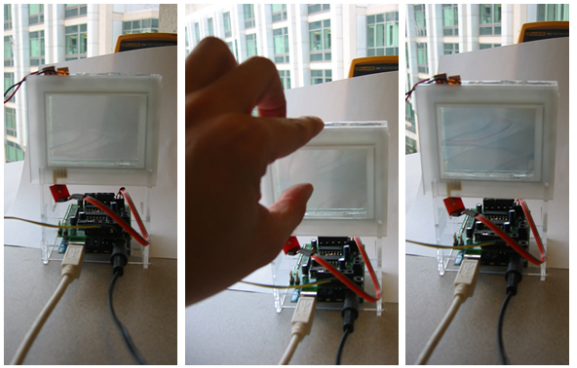


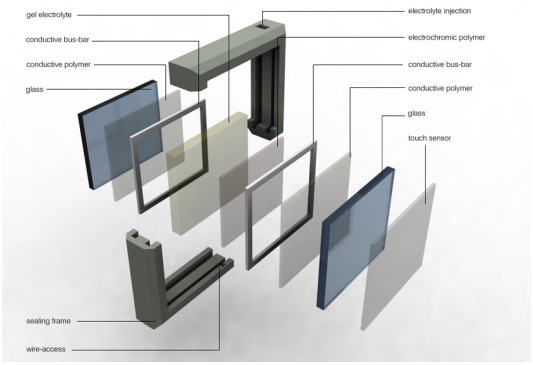
ICHQ Headquarters in Abu Dhabi, AEDAS + ARUP + Gehry Technologies



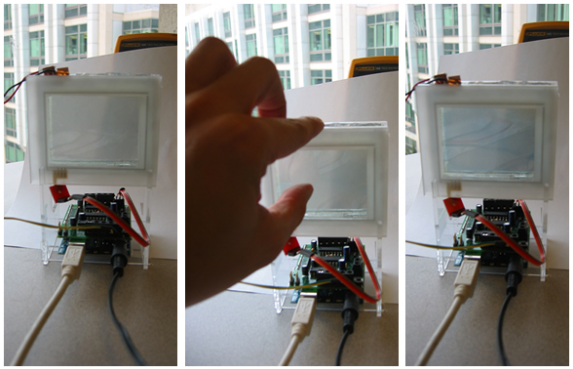




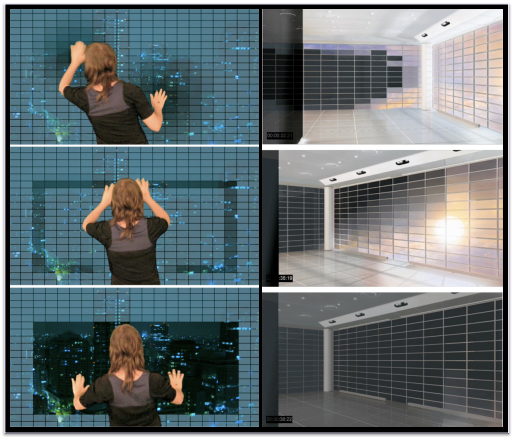




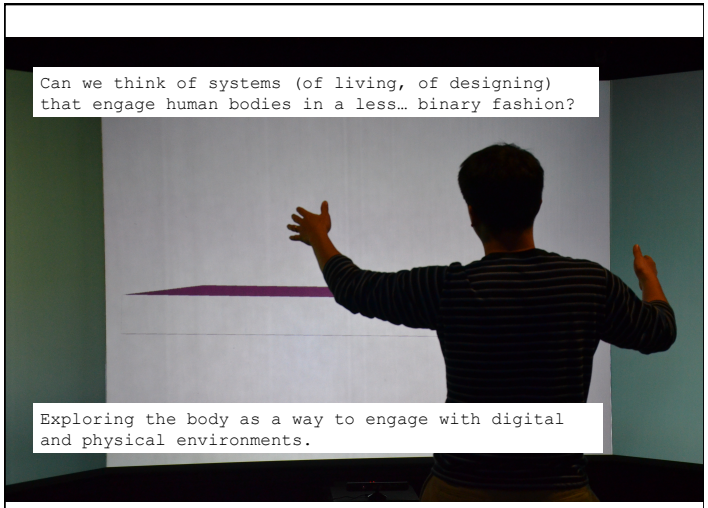
CROMA
Daniel Cardoso Llach & Avni Argun

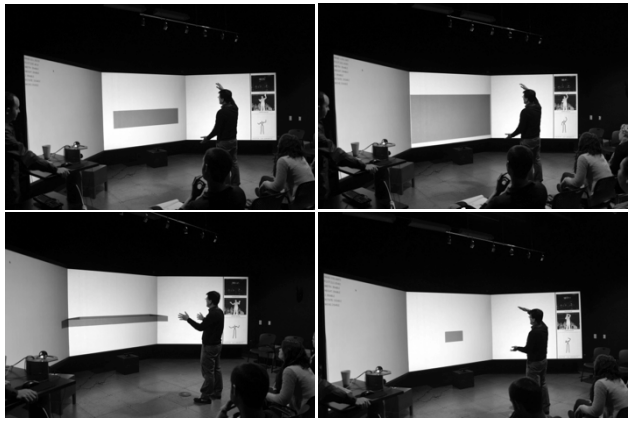


CROMA
Daniel Cardoso Llach & Avni Argun

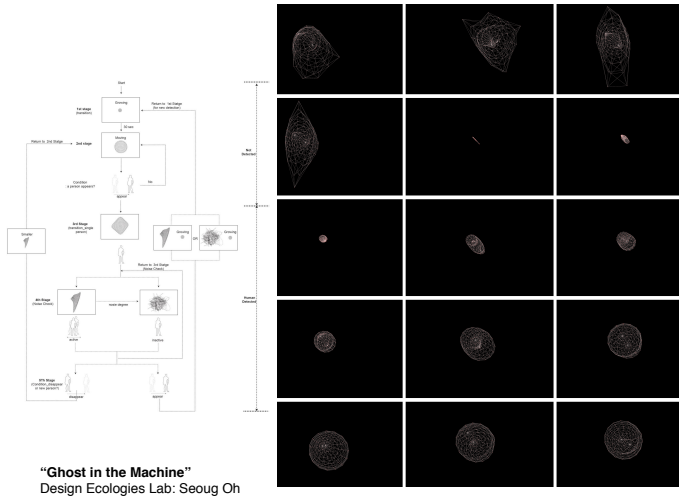


CROMA
Daniel Cardoso Llach & Avni Argun

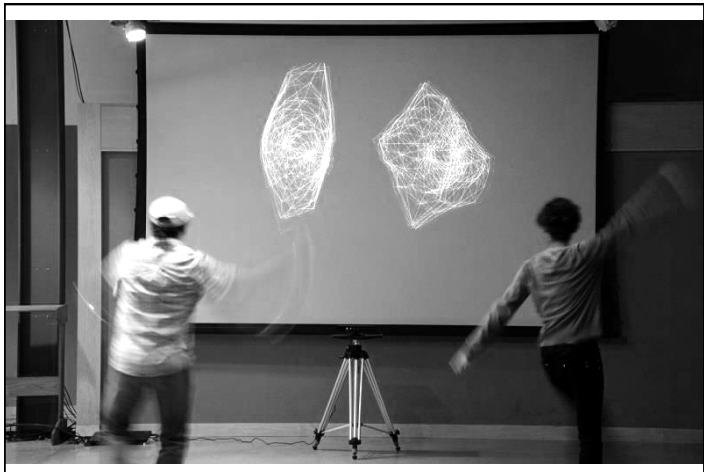




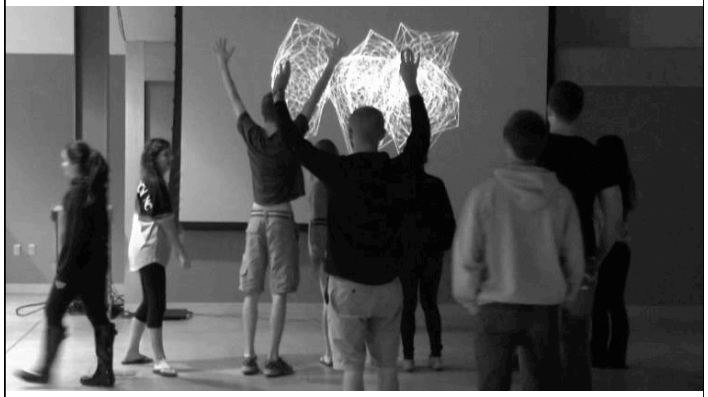
Gestural Modeling Prototype
Design Ecologies Lab: Seoug Oh



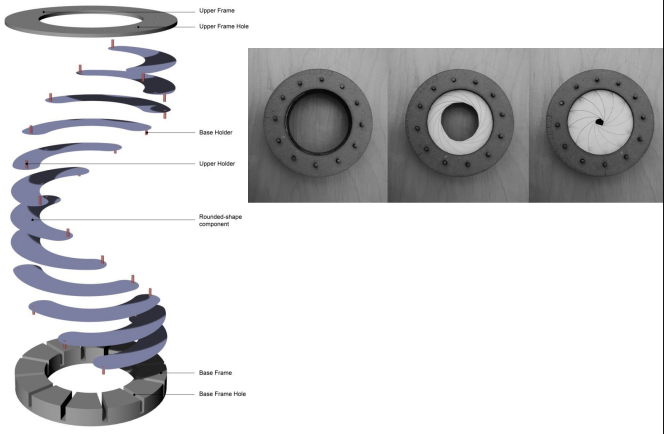
"Ghost in the Machine"
Design Ecologies Lab: Seoug Oh



"Ghost in the Machine"
Design Ecologies Lab: Seoug Oh



"Ghost in the Machine"
Design Ecologies Lab: Seoug Oh



Iris Machines
Design Ecologies Lab: Seoug Oh

Iris Machines
Design Ecologies Lab: Seoug Oh

Iris Machines
Design Ecologies Lab: Seoug Oh

Interactive Environments and Gestural Computing

Kinect, Processing, SimpleOpenNI

-Download Instructions from github
-Open sample codes
-Take them as starting point to implement your own systems/ideas.

Work on Projects