Kinect (Sensor)

The Kinect is a motion sensing input device
Components:
- IR light source + IR sensor (3d depth sensing)
- CMOS color sensor (webcam)
- Motorized tilting base
- Accelerometer (3-axis)
- Microphones (1 + 3)

Processing

In the processing programming language we are reading the data from the Kinect and sending it to the the web through a websocket.

Libraries:
- OpenKinect (interface between processing and Kinect)
- SimpleOpenNI (Tracking and other computations)
- OpenCV (Computer Visualization) [necessary?]

Data:
- Number of people
- Location of people in 3d environment
- Height

Mysql DB

Storing the data in the cloud

D3.js + HTML + ...

Visualizing the data

Processing

OpenCV + HogDescriptor [no longer using]
Processing + kinect:
- Install the drivers and libraries (in correct order)
  - Macports
  - CMake
  - libtool
  - libusb
  - OpenNI SDK [not version 2.1] (libfreenect)
  - Daniel Shiffman's OpenKinect library or SimpleOpenNI

switch windows computer?
- SimpleOpenNI library
- or Kinect for Processing
- Kinect for Windows SDK

Track users (Identifying persons & classifying unique persons)
Format data to be appended to the DB
Send data to the DB

Mysql DB

Set up the DB?/Table

D3.js + HTML + ...

Determine the format of data objects
Map data to DOM
Write php script to access DB & format data

```
{
  user: ###,
  color: "#######",
  pos:  [ [##, ##], [##, ##], [##, ##], [##, ##] ],
  pastPos: [ [##, ##], [##, ##], ... ]
}
```

Future

New views
- Overlay live video
- Perspective

More kinects in the studio
- to map the entire space of the main room
- to add new rooms