# eNTERFACE 2015

**The 11th International one-month Summer Workshop on Multimodal Interfaces**
**Aug 10th – Sept 4th 2015, Mons, Belgium**
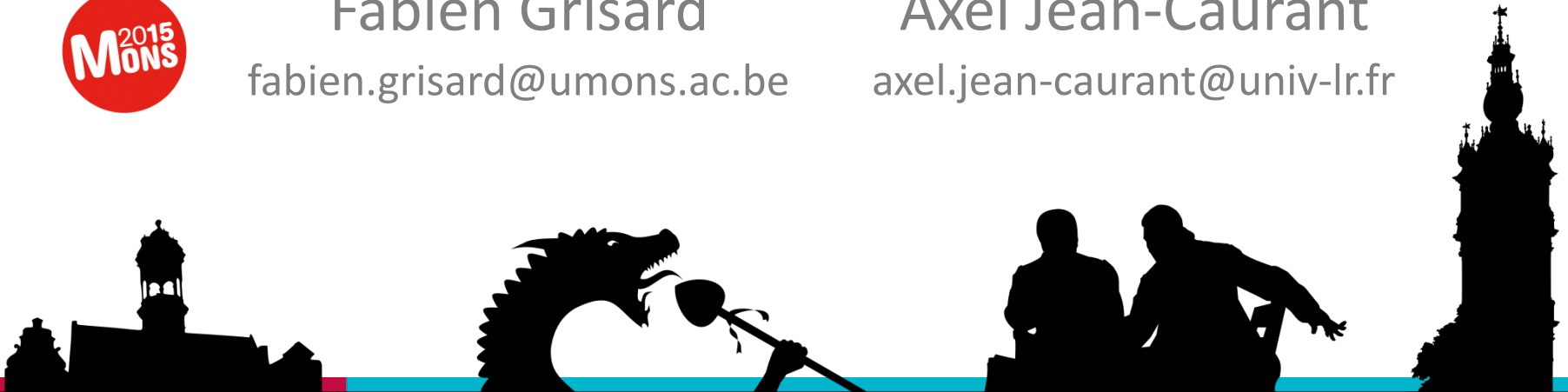
# BigDatArt
## Using big data in a creative way

UMONS
Université de Mons

POLYTECH MONS

numediart
UMONS INSTITUTE FOR CREATIVE TECHNOLOGIES

fnrs
FREEDOM TO RESEARCH

ifip

2015 Mons

Fabien Grisard
fabien.grisard@umons.ac.be

Axel Jean-Caurant
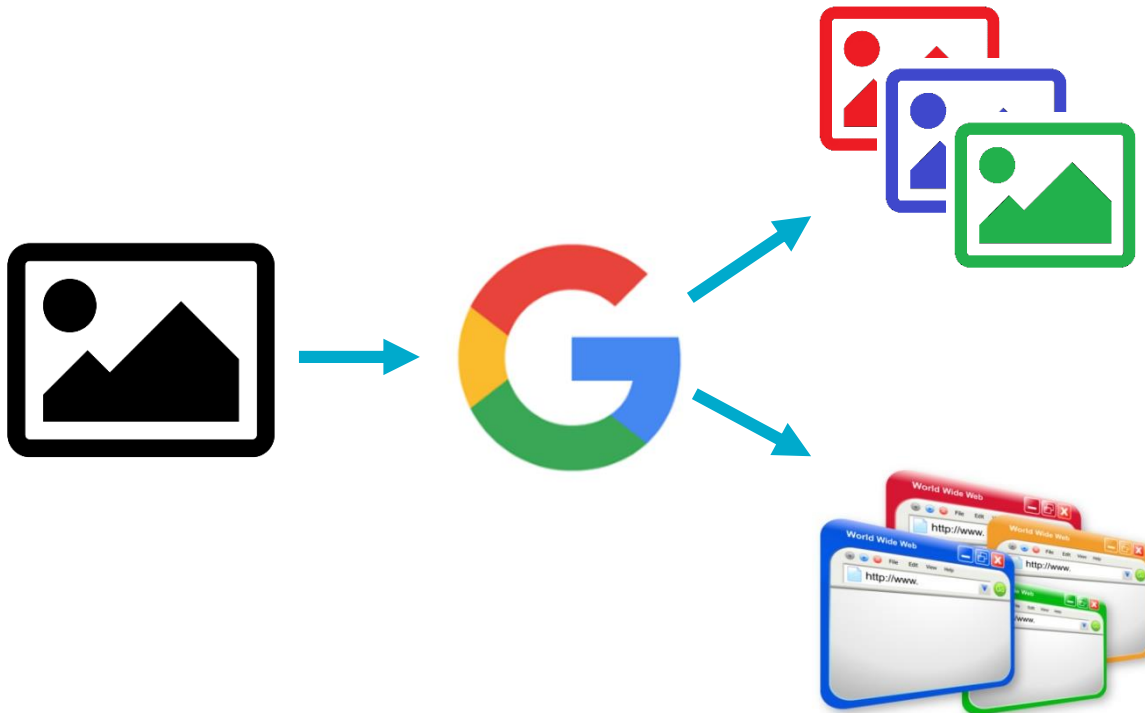axel.jean-caurant@univ-lr.fr

# Objectives

- **Using big data in a creative way**

- **Based on gaming interactions (Kinect sensors) to enhance creation of mashups of images, sounds and textual data extracted in real time from the web**

- **Playful interaction letting large public browse the big data, wonder about the relationship of such data and create interactive mashups**

# Presentation of the components of the application
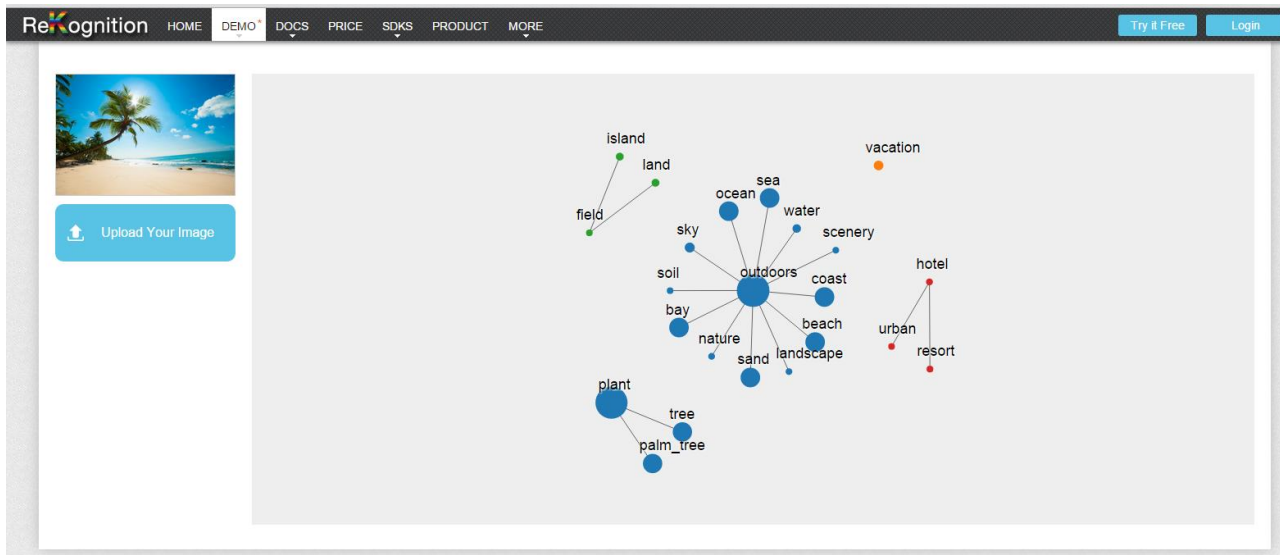
# Google API

**Google Image API**

Let us get key words from thumbnails images and search for related images based on those key words

**Web text mining**

Let us extract keywords from related web pages

# Rekognition API for Processing



Extract concepts from images using ReKognition.com web API
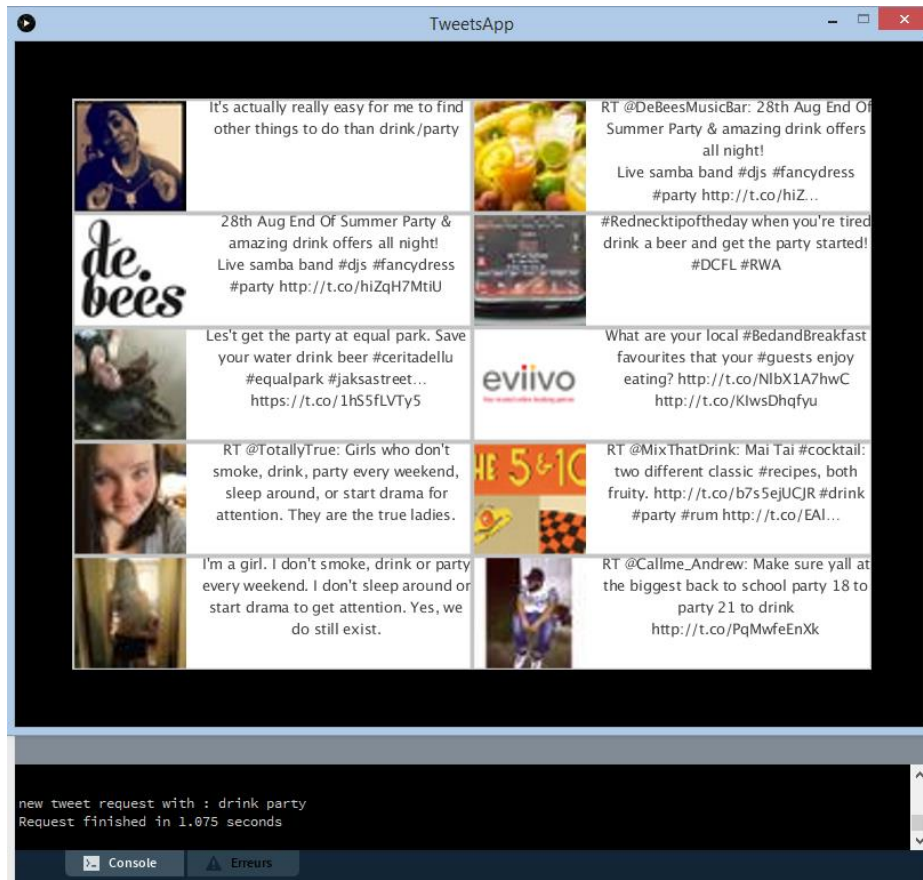
Enrich the collection of keywords from text mining module

https://rekognition.com/demo/concept

# Tweets finder for Processing



**Find and display tweets accordingly to a set of keywords**

**Use Twitter4J library**

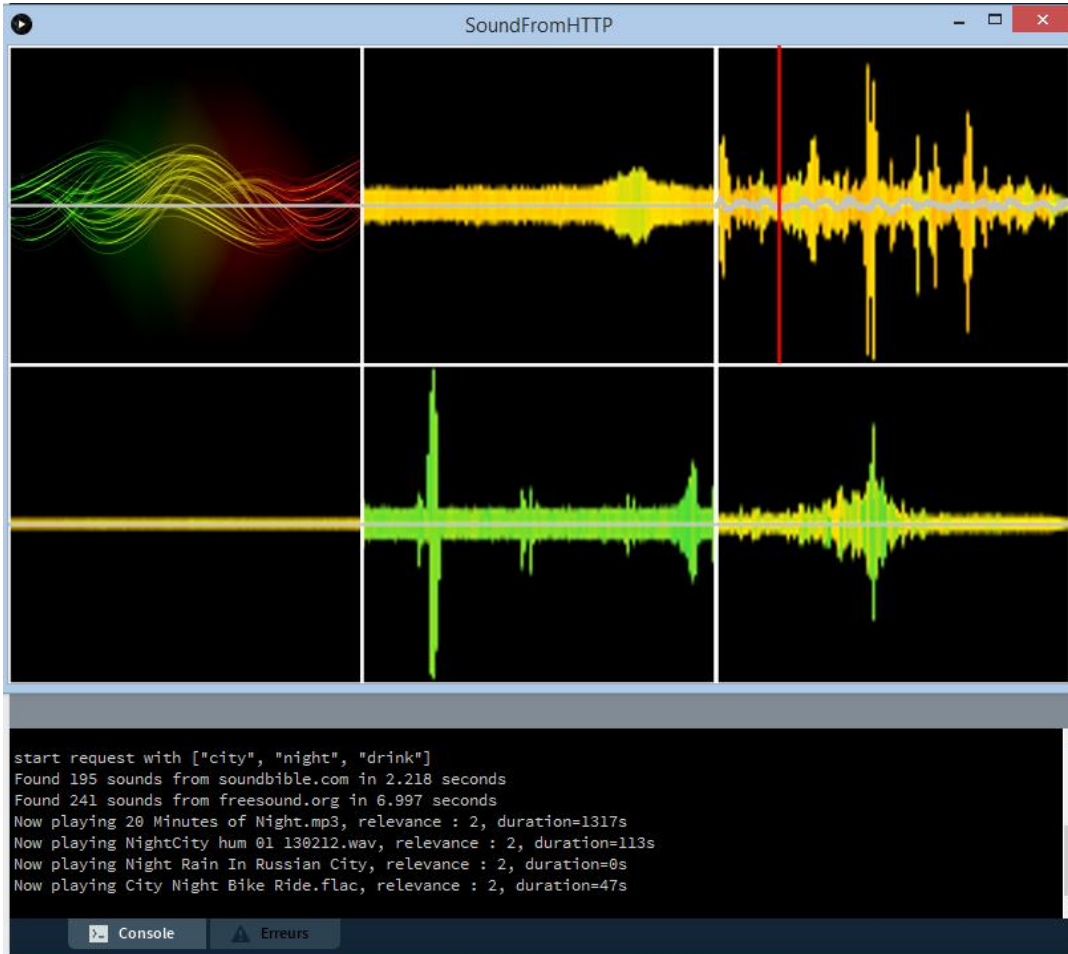**http://twitter4j.org/en/index.html**

# Word Cloud

**Using the WordCram libary (http://wordcram.org)**

**Keywords
+
Associated
weights**

# Freesound API for Processing



Let us download and play sound effects from Freesound accordingly to a set of keywords

**https://freesound.org/**

Use minim library
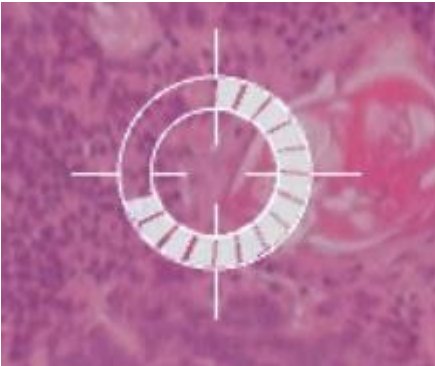
**http://code.compartmental.net/tools/minim/**

# Saliency Model (autonomous mode)

- **Prey/predator competitive dynamical system**

- **Based on Color, Intensity and Orientation**

- **Heat-map generation**

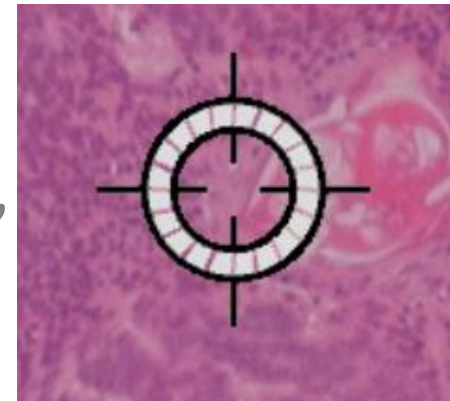- **Most salient area extraction**

# Kinect Interactions
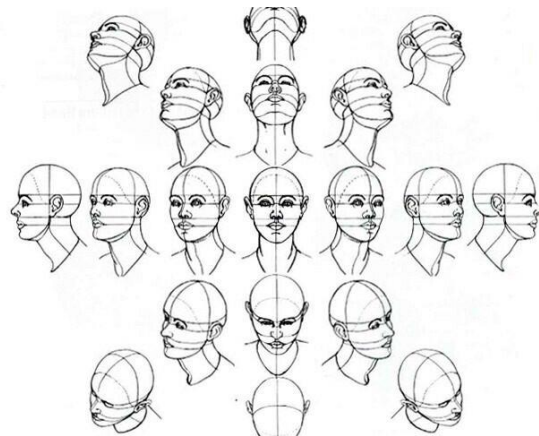## Using your head to select a zone of interest



**Stare at the same spot
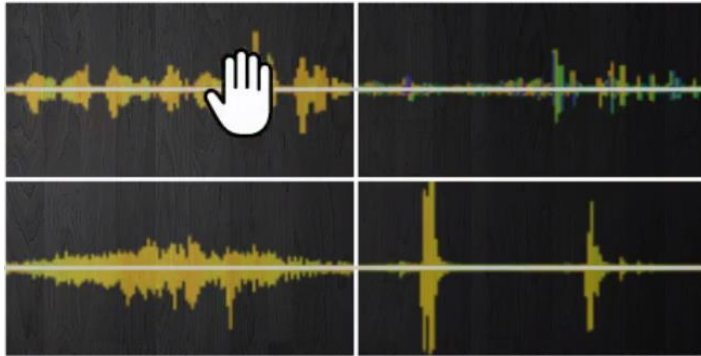for a small amount of time**
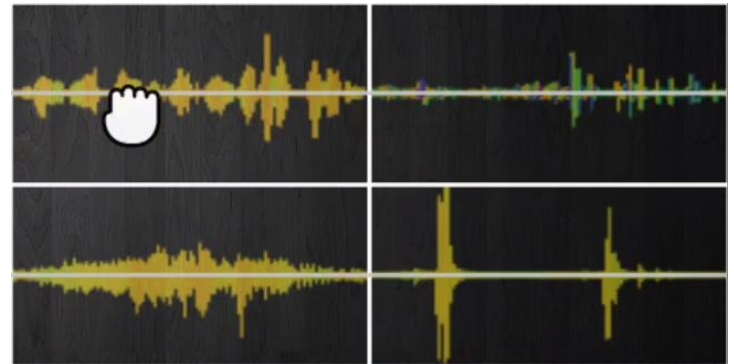
**Once the target is locked,
The zone is selected**
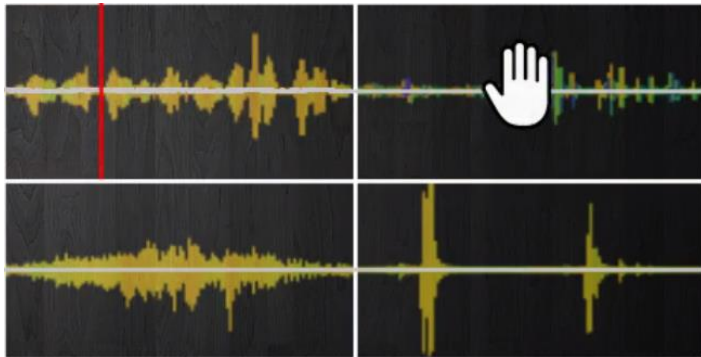
# Kinect Interactions

## Select a sound to play using your hand
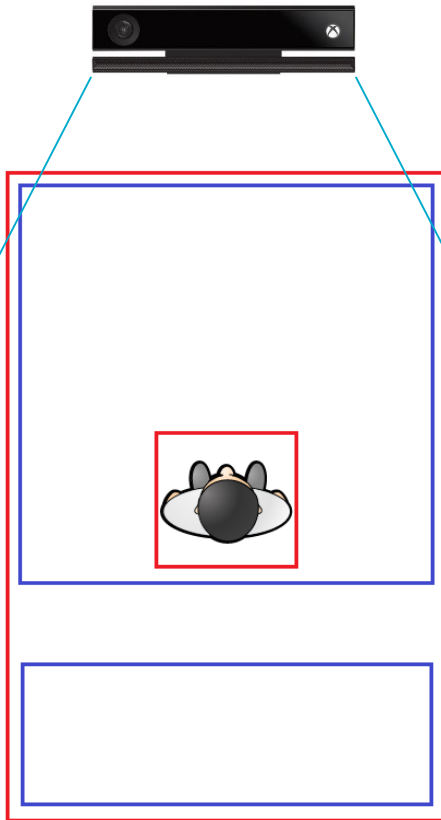


**Select a sound by hovering your hand over it**

**Close your hand to start it**



**Visual feedback while playing**

# Kinect Interactions
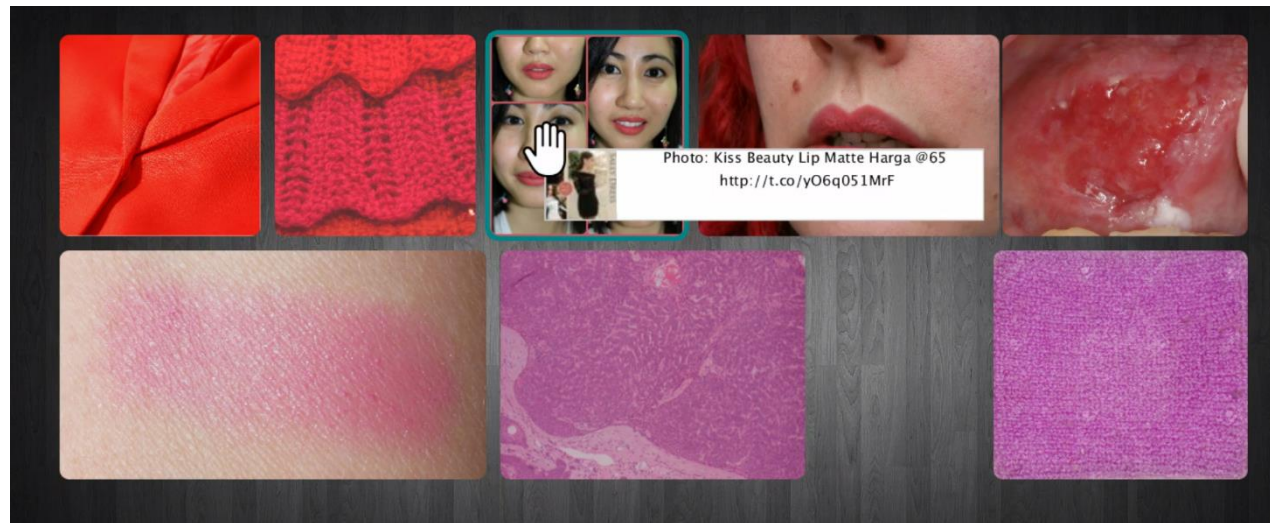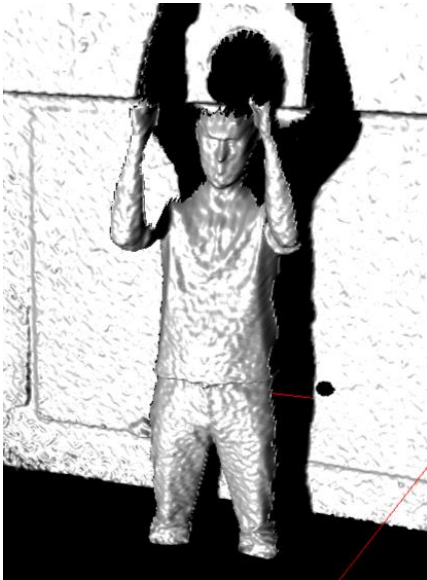
## Move backards to get a new random image



When you get a logo image,
you are doomed to get only logos

To start with a new random image,
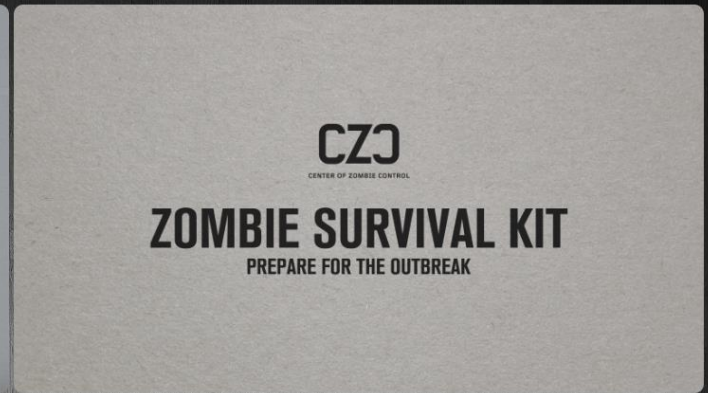you can move to the zone behind you

# Kinect Interactions
## Stop the journey through Big Data



**By placing your arms above your head, you can launch the mashup mode**

# MashUp

# MashUp

# MashUp

# Future improvements

- **Set up the network interaction between two players**

- **Filter retrieved key words to improve results**

- **Add more interactions to the Mashup (Gesture recognition)**

- **Try new saliency algorithms more object-centered**

**The 11th International one-month Summer Workshop on Multimodal Interfaces**
**Aug 10th – Sept 4th 2015, Mons, Belgium**

# Questions ?