



UNIVERSITY OF SAINT JOSEPH

聖若瑟大學

CREATIVE INDUSTRIES IN MACAU

Innovation and Tradition at USJ

By Álvaro Barbosa

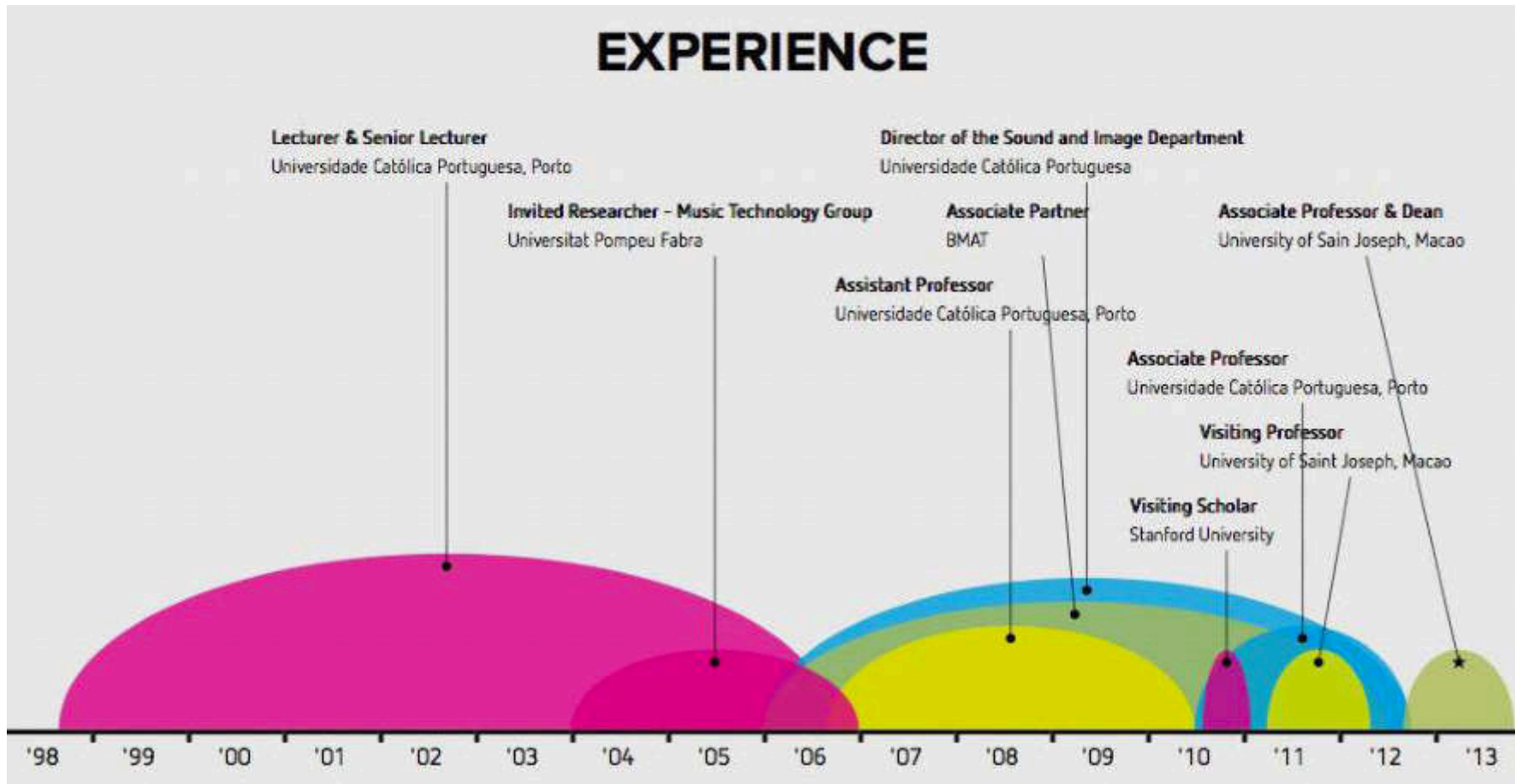
abarbosa@usj.edu.mo

FACULTY OF CREATIVE INDUSTRIES

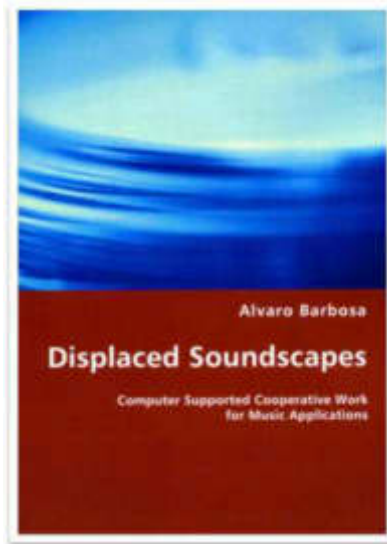
Álvaro Barbosa



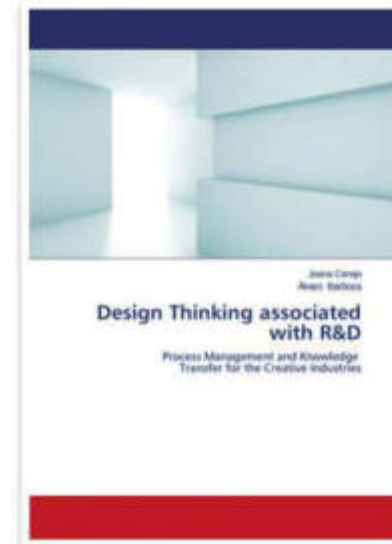
Early Web Developer in the industry (SAPO, Caleida & aeiou.pt, 1995-1998)



Research / Books



(Book) Barbosa, A. 2008
“Displaced Soundscapes”
Designing Technology for Music
Performance Over the Internet



(Book) Cerejo, J. & Barbosa, A. 2013
“Design Thinking in R&D”
Applying Designing Thinking in
Innovation and R&D



Macao SAR - China



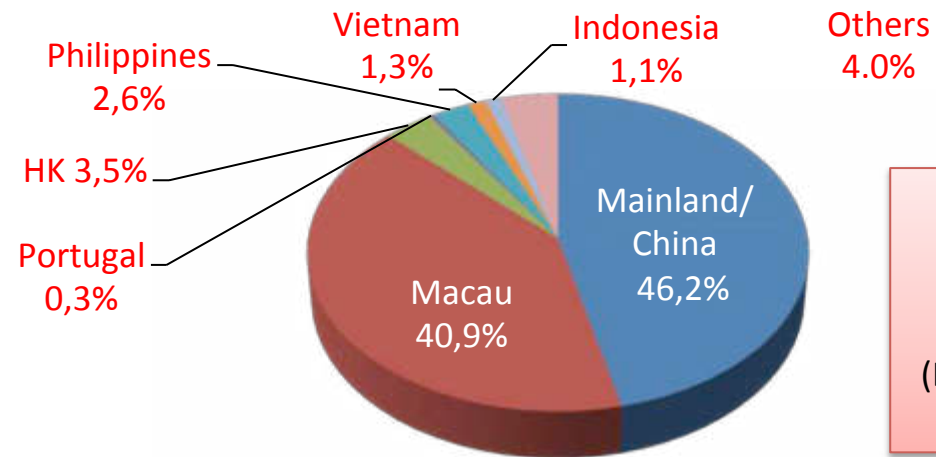
Macao SAR - China



Macao SAR - China



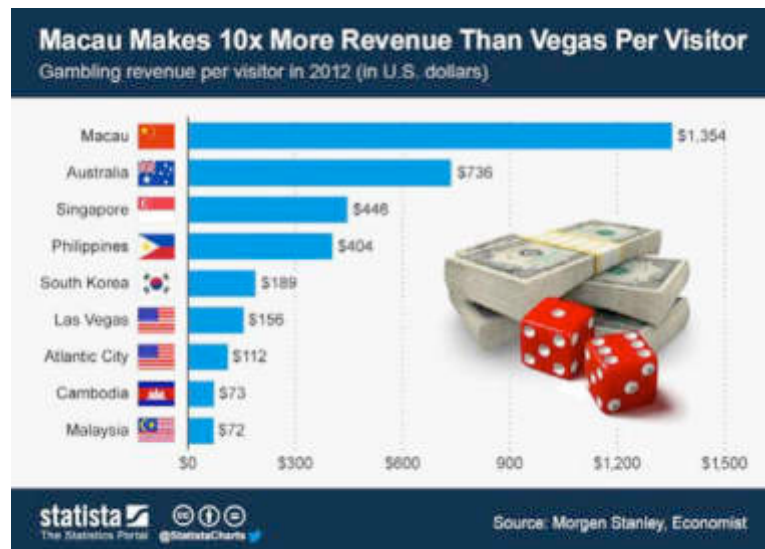
Macao SAR - China



2011
Total population
552,503
(Local population + non-resident workers)



Macao SAR - China





Macao SAR - China



Filipe Farinha

If Macao was a country it would be #2 in the world in GDP per capita (according to the World Bank) *

So why is it that when I walk the streets of Macao I don't feel like it is the second richest region in the world?

* <http://en.wikipedia.org>

[/wiki/List of countries by GDP per capita](http://en.wikipedia.org/wiki/List_of_countries_by_GDP_per_capita)

Rank ↕	Country ↕	Intl. \$ ↕	Year ↕
1	Luxembourg	91,388	2012
–	Macau	87,765	2012
2	Qatar	83,460	2012
3	Norway	65,640	2012
4	Singapore	61,803	2012
5	Switzerland	53,367	2012
6	Brunei	53,348	2012
–	Hong Kong	51,946	2012
7	United States	49,965	2012
8	Kuwait	45,455	2011
9	Australia	44,598	2012
10	Austria	44,208	2012
11	Ireland	43,592	2012
12	Netherlands	43,198	2012

Maths		Sciences		Reading	
1	Shanghai, China 613	1	Shanghai, China 590	1	Shanghai, China 570
2	Singapore 573	2	Hong Kong, China 555	2	Hong Kong, China 545
3	Hong Kong, China 561	3	Singapore 551	3	Singapore 542
4	Taiwan 560	4	Japan 547	4	Japan 538
5	South Korea 554	5	Finland 545	5	South Korea 536
6	Macau, China 538	6	Estonia 541	6	Finland 524
7	Japan 536	7	South Korea 538	7	Taiwan 523
8	Liechtenstein 535	8	Vietnam 528	8	Canada 523
9	Switzerland 531	9	Poland 526	9	Ireland 523
10	Netherlands 523	10	Liechtenstein 525	10	Poland 518
11	Estonia 521	11	Canada 525	11	Liechtenstein 516
12	Finland 519	12	Germany 524	12	Estonia 516
13	Canada 518	13	Taiwan 523	13	Australia 512
14	Poland 518	14	Netherlands 522	14	New Zealand 512
15	Belgium 515	15	Ireland 522	15	Netherlands 511
16	Germany 514	16	Macau, China 521	16	Macau, China 509
17	Vietnam 511	17	Australia 521	17	Switzerland 509
18	Austria 506	18	New Zealand 516	18	Belgium 509
19	Australia 504	19	Switzerland 515	19	Germany 508
20	Ireland 501	20	Slovenia 514	20	Vietnam 508

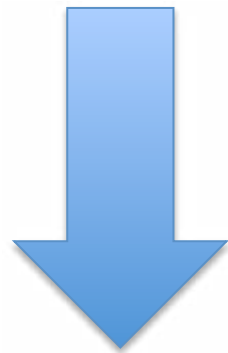
Macao SAR, China



SINGLE SECTOR DEPENDENT ECONOMY

“Dutch Disease in Macau: Theoretical Modeling, Empirical Diagnosis and Treatments”

Susana Mieirol, 2013 (PhD Thesis) http://www.usj.edu.mo/?post_type=thesis&p=3667



DIVERSIFY



Higher Education

Creative Industries



University of Saint Joseph, Macao SAR

Founded in 2009 – usj.edu.mo

The University College of Saint Paul December 1, 1594
(Founder: Alessandro Valignano SJ)

The Royal Seminary of Saint Joseph 1728 – 1968

The Macau Inter-University Institute 1996 – 2009

University of Saint Joseph 2009 (Funded by UCP)

1.800 Enrolled Students

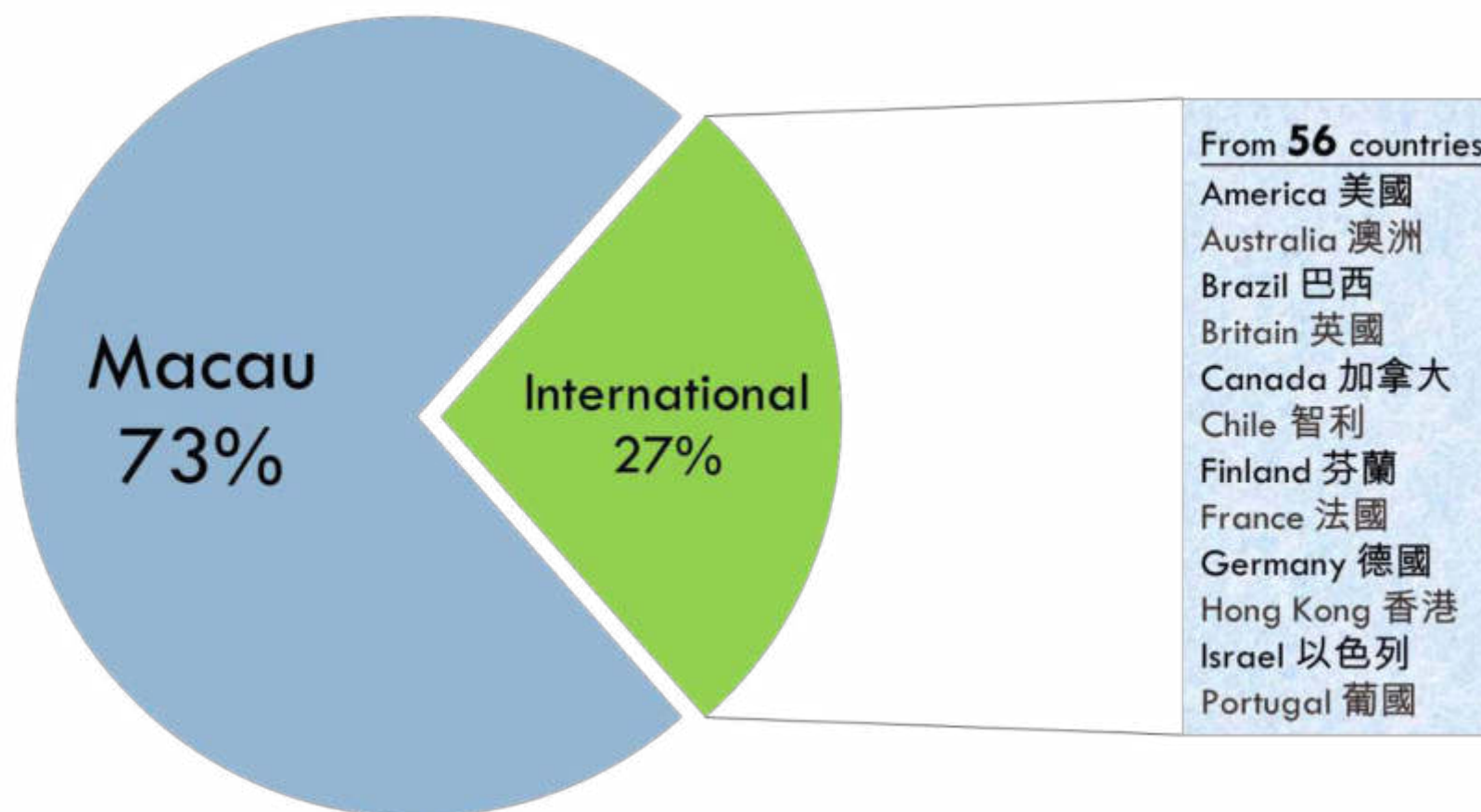
Over 2.000 Graduated Students in the fields of Business Administration; Government Studies; Social Work; Psychology; Education; Design; Information Systems; Communication and Media; History & Heritage Studies; Lusophone Studies; Contemporary China Studies; Philosophy; Christian Studies; Religious Studies.

More than 30 University Programs:

- Bachelor
- Master
- Doctorate



University of Saint Joseph, Macau SAR





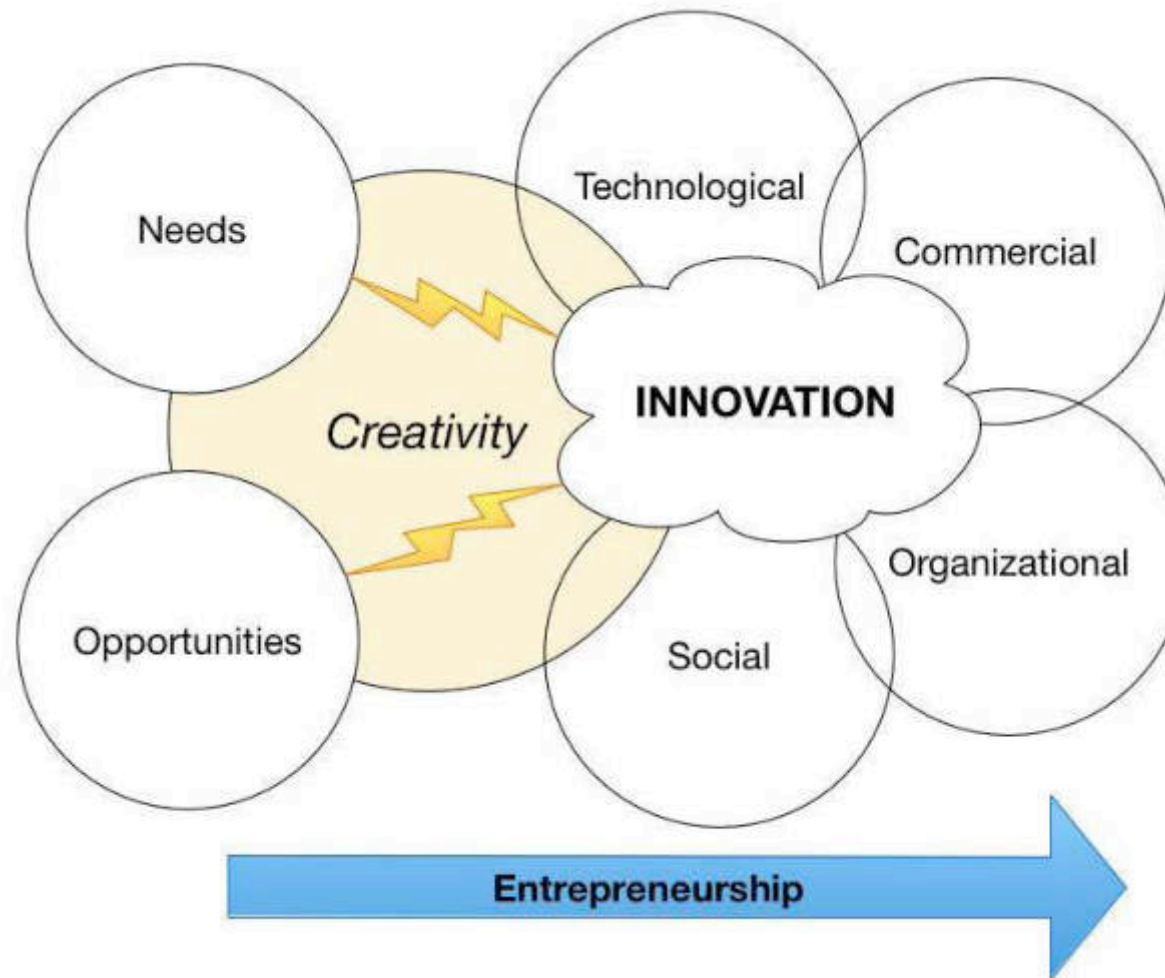
FACULTIES @ USJ

- ✓ Humanities
- ✓ Religious Studies
- ✓ Administration and Leadership
- ✓ Education and Psychology
- ✓ Science and Environment
- ✓ **Creative Industries**



WHY?

INNOVATION & ENTREPRENEURSHIP





Creativity \neq Art

CREATIVITY



CREATIVITY



Creativity is part of the process of
producing Art...

... as it is part of the process of producing
many other things...



Creativity ≠ Originality



The Obsession for
Originality is the Biggest
Enemy of **Mastery**...

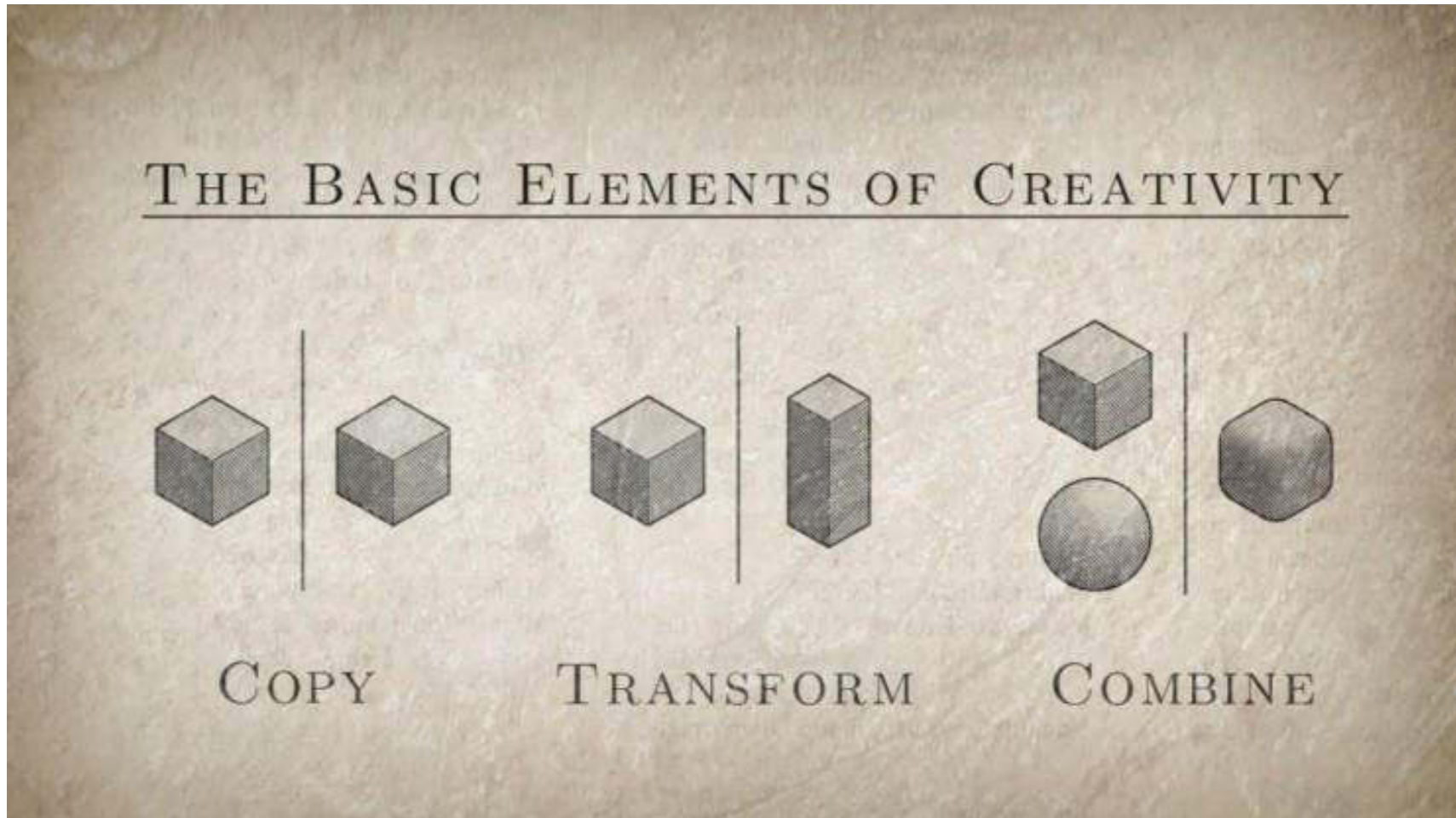
...Which is also Necessary in Art

CREATIVITY

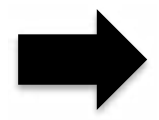


Everything is a Remix (2015) - <https://vimeo.com/139094998>

CREATIVITY



COPY



TRANSFROM



CIRQUE DU SOLEIL®



COMBINE



Macanese Entrepreneur **Fernando Lourenço**



+



=



CREATIVITY



CREATIVITY



CREATIVITY

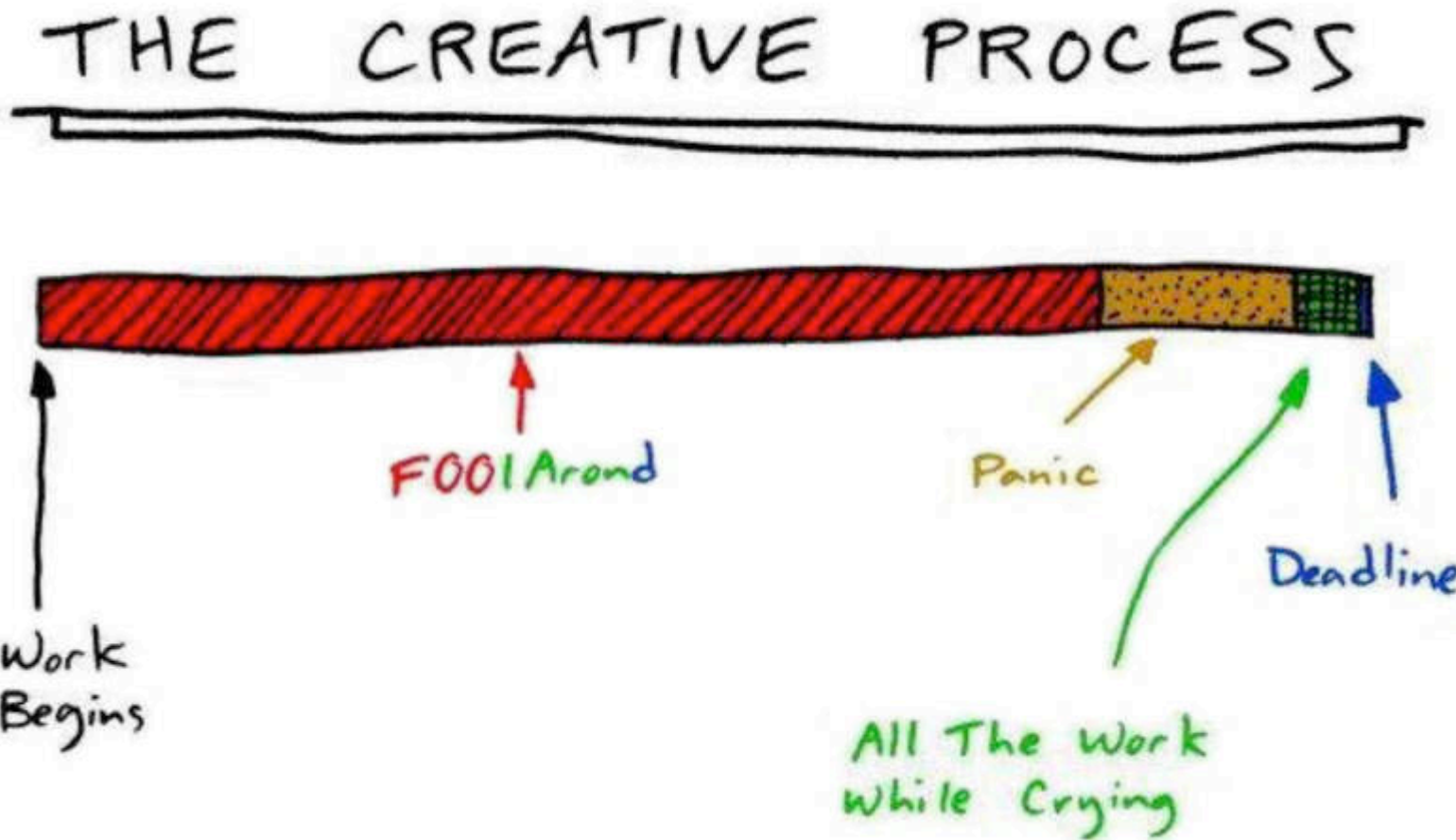


*Creativity is the **Process**
of Having **Original** Ideas with **Value***



(Sir Ken Robinson)

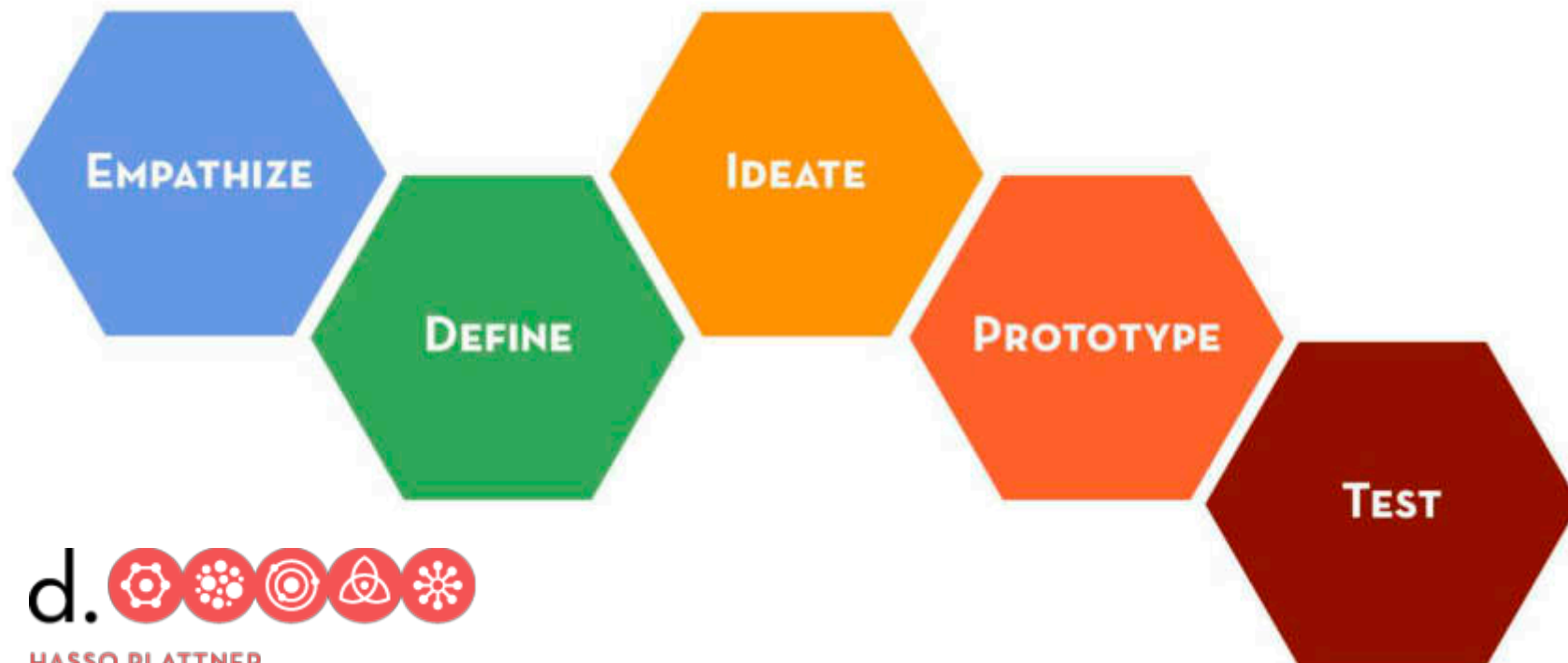
CREATIVITY





CREATIVITY

DESIGN THINKING PIPELINE (5 stages)



d. 
HASSO PLATTNER
Institute of Design at Stanford

CREATIVITY



Creativity \neq **Talent**

Creativity \Rightarrow **Process**

CREATIVITY



"human creativity is the ultimate economic resource"

Richard Florida (2002)

"The Rise of the Creative Class and How It's Transforming Work, Leisure and Everyday Life"





About **CREATIVE INDUSTRIES**



CREATIVE INDUSTRIES

DEFINITION:

*“those industries which have their origin in **individual creativity, skill and talent** and which have a potential for **wealth and job creation** through the generation and exploitation of **intellectual property**”*

By UK Government Department for Culture, Media and Sport (DCMS) in 2001

- ✓ *Mentions the Idea of **Creativity as a Process** (Skills result from Processes)*
- ✓ *Focuses in **Economical Outcomes** (Wealth and Job Creation)*
- ✓ *Mention **Intellectual property** as a core tangible value*



CREATIVE INDUSTRIES

- ✓ The term Creative Industries, refers to the **socio-economic potential** of activities that trade with **creativity**, knowledge and information.
- ✓ Governments and Society across the world are increasingly recognizing its importance as a **generator of jobs, wealth and cultural engagement.**
- ✓ Ventures within the Creative Industries usually seek a **Double Bottom Line**, not only focusing in **financial profit**, but also performing with **positive Social Impact.**



CREATIVE INDUSTRIES

12 Creative Sector according to DCMS after 2008:

- ✓ Advertising
- ✓ Architecture
- ✓ Arts and antique markets
- ✓ Crafts
- ✓ Design
- ✓ Fashion design
- ✓ Film, video and photography
- ✓ Software, computer games and electronic publishing
- ✓ Music, visual and performing arts
- ✓ Publishing
- ✓ Television
- ✓ Radio



CREATIVE INDUSTRIES IN MACAU

	UNESCO	UK	Korea	Hong Kong	New Zealand	Canada	Australia	Denmark	Taiwan
Music	×	×	×	×	×	×		×	×
Performing arts	×	×		×		×	×		×
Visual arts	×	×		×	×	×		×	×
Crafts	×	×		×	×	×			×
Design	×	×		×	×	×	×	×	×
Fashion design		×		×	×				×
Publishing	×	×	×	×	×	×	×	×	×
TV and radio		×		×	×	×	×	×	×
Film	×	×	×	×	×	×	×	×	×
Advertising	×	×		×	×	×		×	×
Architecture	×	×		×	×			×	×
Cultural facilities							×	×	×
Software and computer service	×	×		×	×	×			×
Interactive leisure software		×	×	×					×
Creative lifestyle									×
Others ^a	×		×			×	×	×	

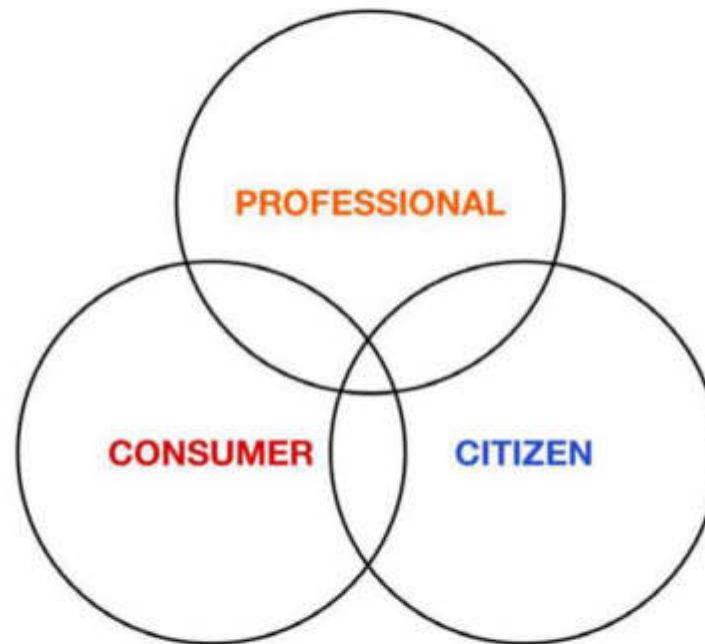
Notes: ^a The catalog "Others" refers to the cultural tourism and sports sectors in Unesco, animation industry and character in Korea, graphic design and marketing in Australia, toys and entertainment parks in Denmark, others in Canada

Source: Based on compiled information from CCA (2003a, 2003b, 2004b)



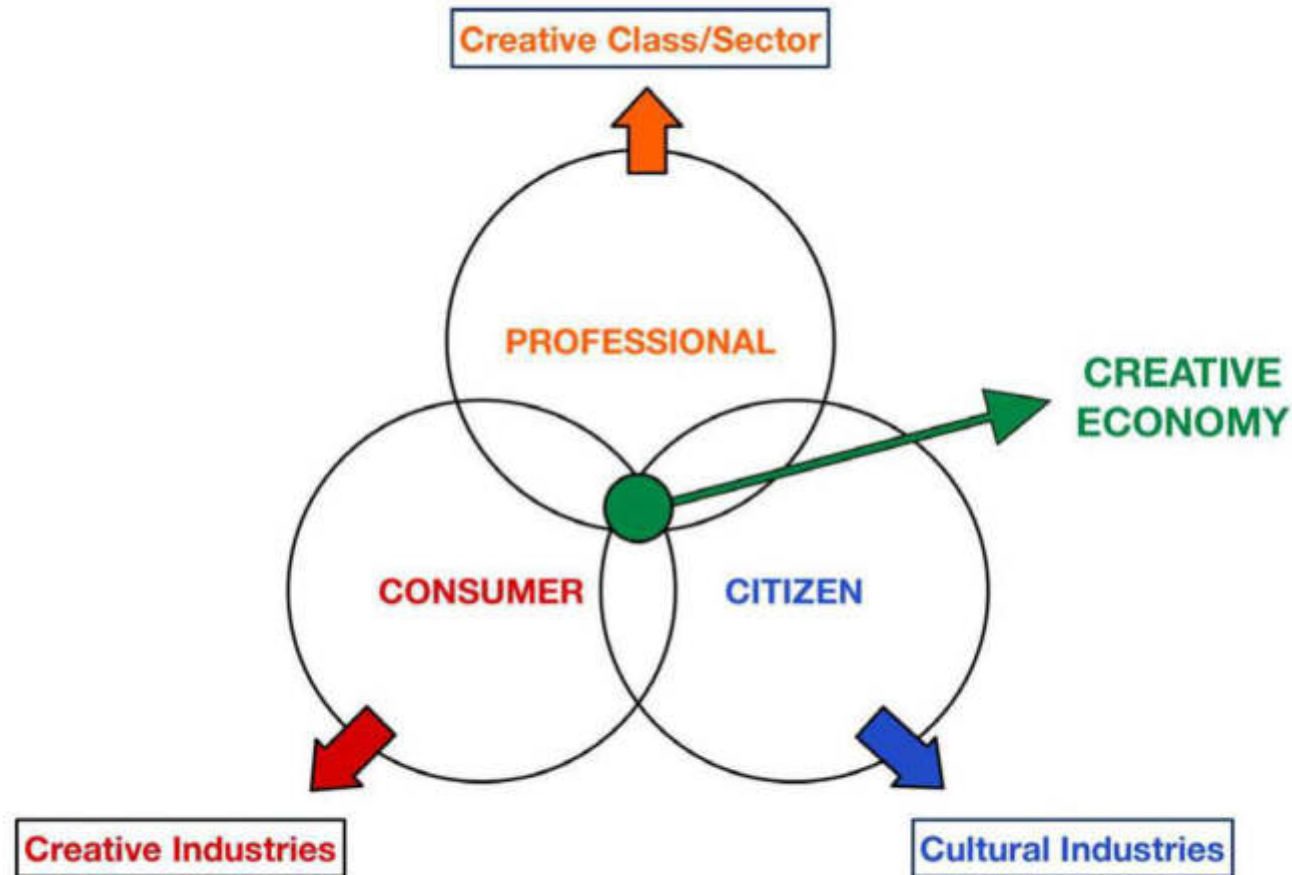
- ✓ **CREATIVE INDUSTRIES**
- ✓ **CULTURAL INDUSTRIES**
- ✓ **CREATIVE CLASS**
- ✓ **CREATIVE ECONOMY**

CREATIVE INDUSTRIES



Augusto Mateus (2015) "Culture, Arts and Creativity at the Heart of a New Economic Paradigm"

CREATIVE INDUSTRIES



Augusto Mateus (2015) "Culture, Arts and Creativity at the Heart of a New Economic Paradigm"



CREATIVE CLASS

- All Creative professionals working in **any sector of the Economy**

CREATIVE INDUSTRIES

- Ventures that focus on **Financially sustainable businesses** based on Creative Resources (Design, Publishing, Multimedia, Media Production, Architecture, etc.)

CULTURAL INDUSTRIES

- Ventures that focus on a variety of **'way of life' activities** (cultural tourism, heritage, museums, libraries, cultural entertainment, sports, etc). These Ventures are more concerned about primarily delivering non monetary value, including **cultural wealth and social wealth**.

CREATIVE ECONOMY

The direct result of the Cultural and Creative Industries activities and the work of the Creative Class

CREATIVE INDUSTRIES CLUSTERS

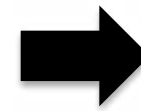
MAPPING PORTUGAL'S CLUSTERS

In a middle-income economy like Portugal, exporting clusters tend to be more natural-resource or labor intensive.



"A cluster is a geographical proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities"
(Michael E. Porter, On Competition)

CREATIVE INDUSTRIES CLUSTER MAPPING





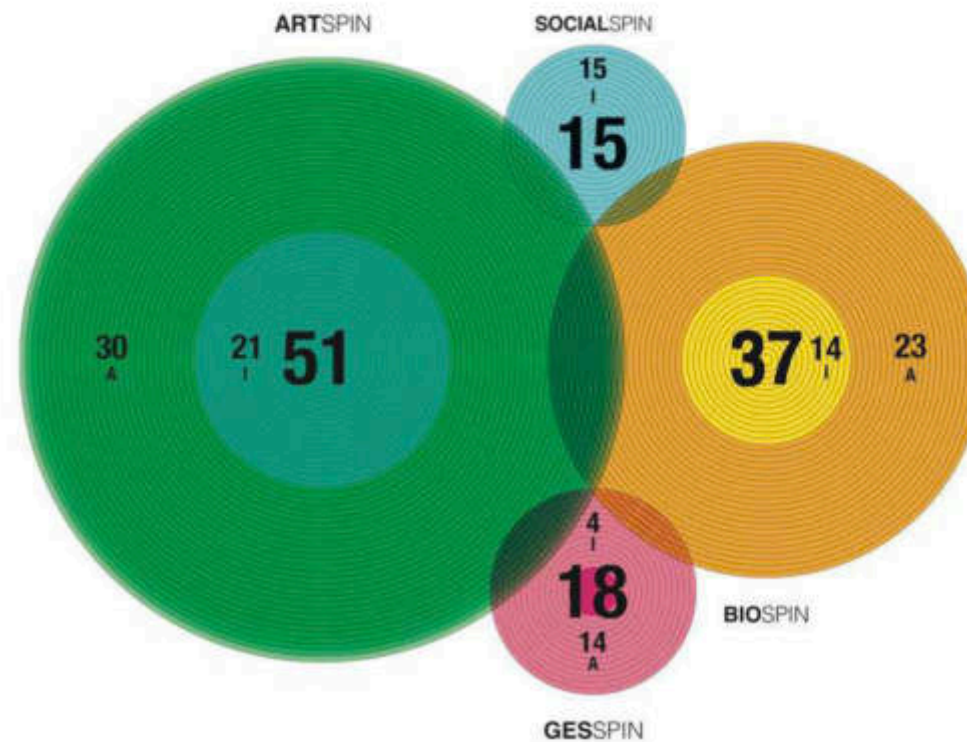
ecosystem spinlogic

Católica Porto
www.porto.ucp.pt/spinlogic

121
COMPANIES

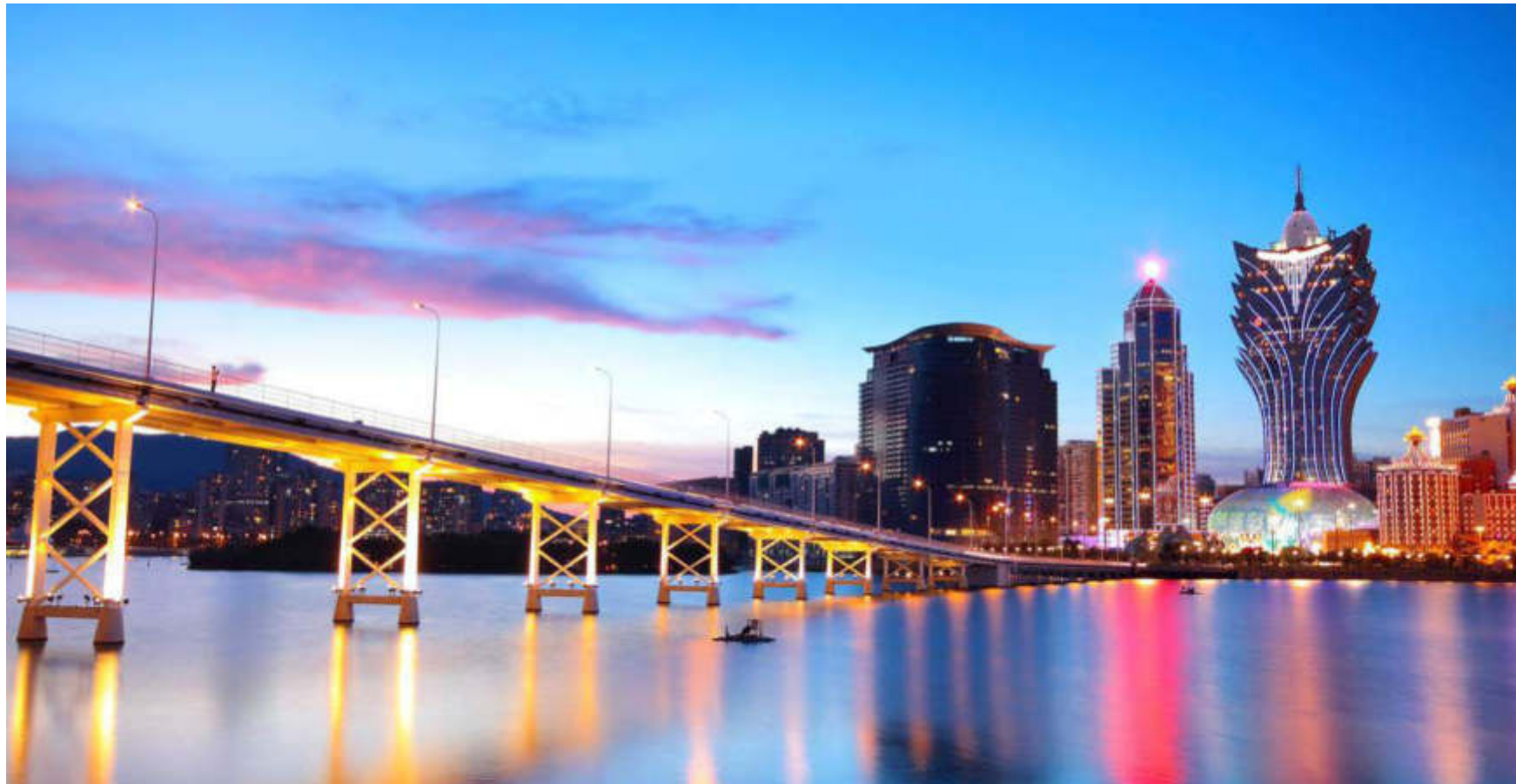
54
INCUBATION
I INCUBATION

67
ALUMNI
A ALUMNI

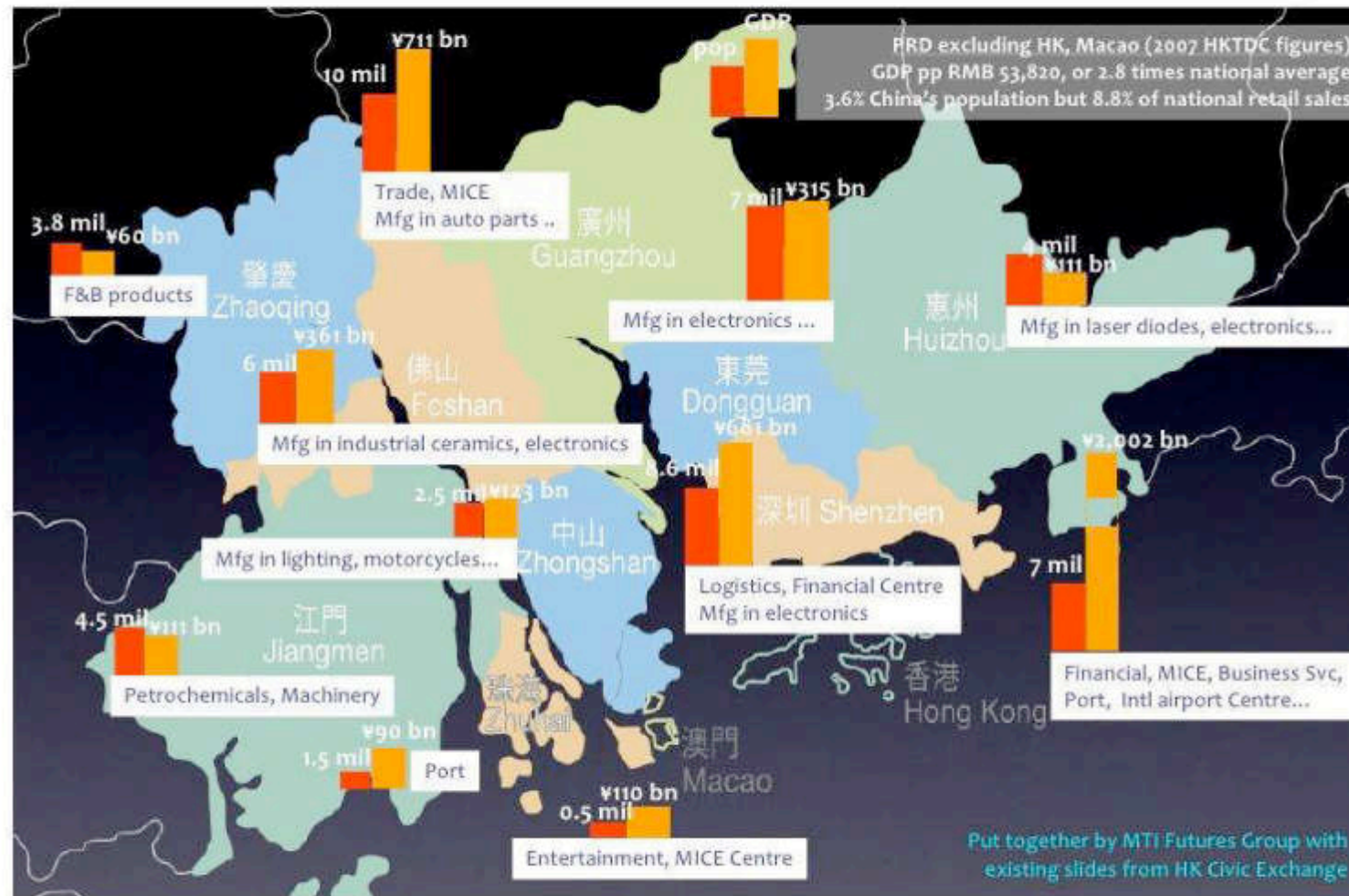


CREATIVE INDUSTRIES

MACAO



PEARL RIVER DELTA CLUSTERS FOR 2020





CREATIVE INDUSTRIES IN MACAU



澳門特別行政區政府文化局

INSTITUTO CULTURAL do Governo da R.A.E. de Macau

Macao Design
Industry Information
Collection Form

Macao Performing
Art Industry Information
Collection Form

Macao Visual Art
Industry Information
Collection Form

Macao Fashion Design
Industry Information
Collection Form

Macao Pop Music
Industry Information
Collection Form

Macao Publishing
Industry Information
Collection Form

Macao Animation & Comic
Industries Information
Collection Form

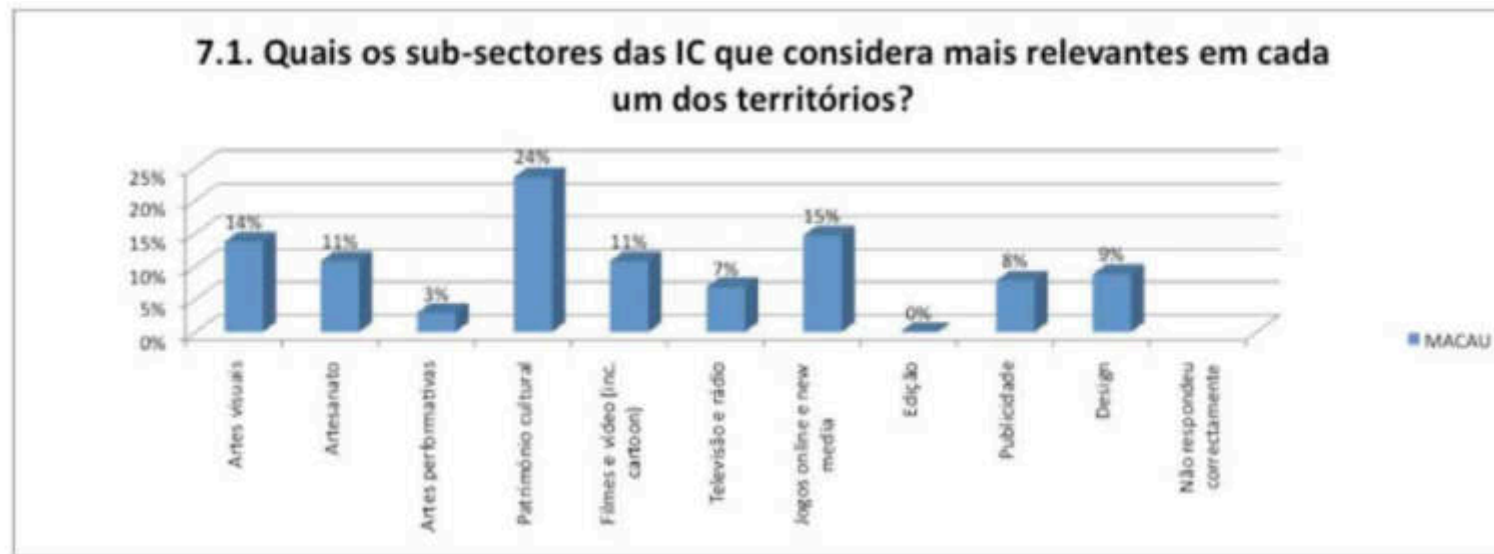
Macao Animation & Comic
Industries Information
Collection Form

Macao Cross-Disciplinary
Cultural & Creative Industries
Information Collection Form

Information Collection Forms:
Macao's Cultural and
Creative Practitioners

Information Collection Forms:
Macao Cultural and Creative
Industries - Related Activities

CREATIVE INDUSTRIES IN MACAU



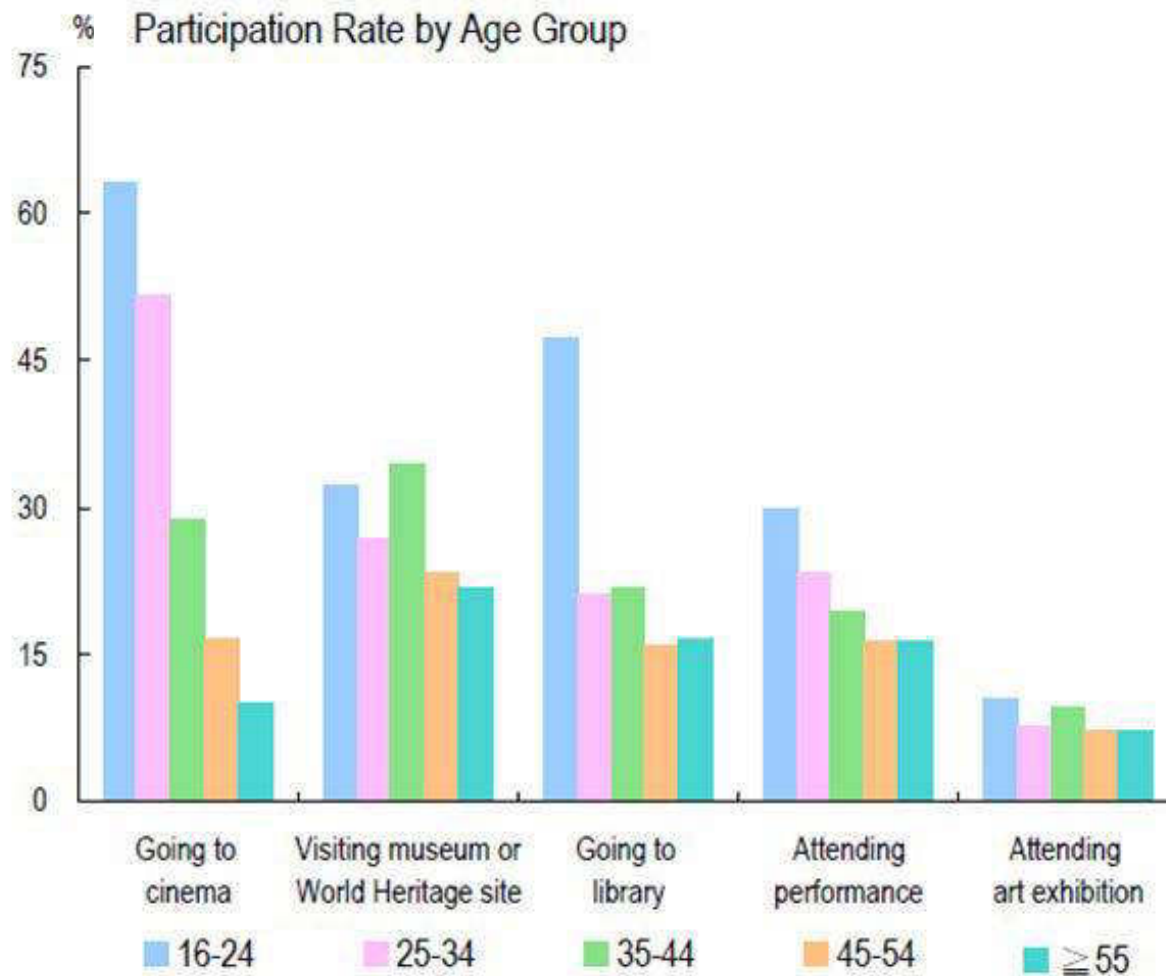
ICM Mapping

- | | |
|--------------------|-------------------------|
| 1. visual arts | 6. Popular Music |
| 2. Design | 7. Film |
| 3. performing arts | 8. Video |
| 4. Fashion | 9. Animation and comics |
| 5. Publishing | |

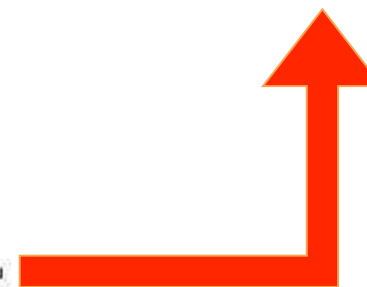
- ARCHITECTURE AND URBAN REGENERATION
- GASTRONOMY
- SPORTS
- SOFTWARE (MEDIA)
- HERITAGE AND CULTURAL TURISM
- EVENT TURISM

UCP/USJ Research Survey

CREATIVE INDUSTRIES IN MACAU



1056 cultural associations

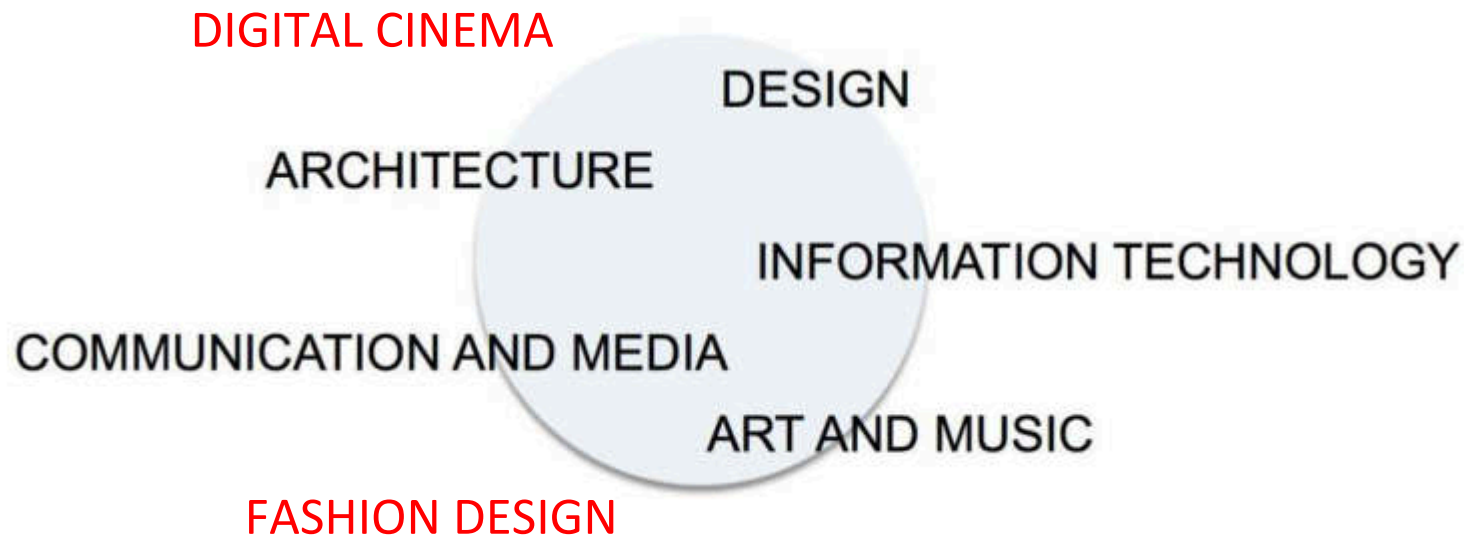


CREATIVE INDUSTRIES IN MACAU

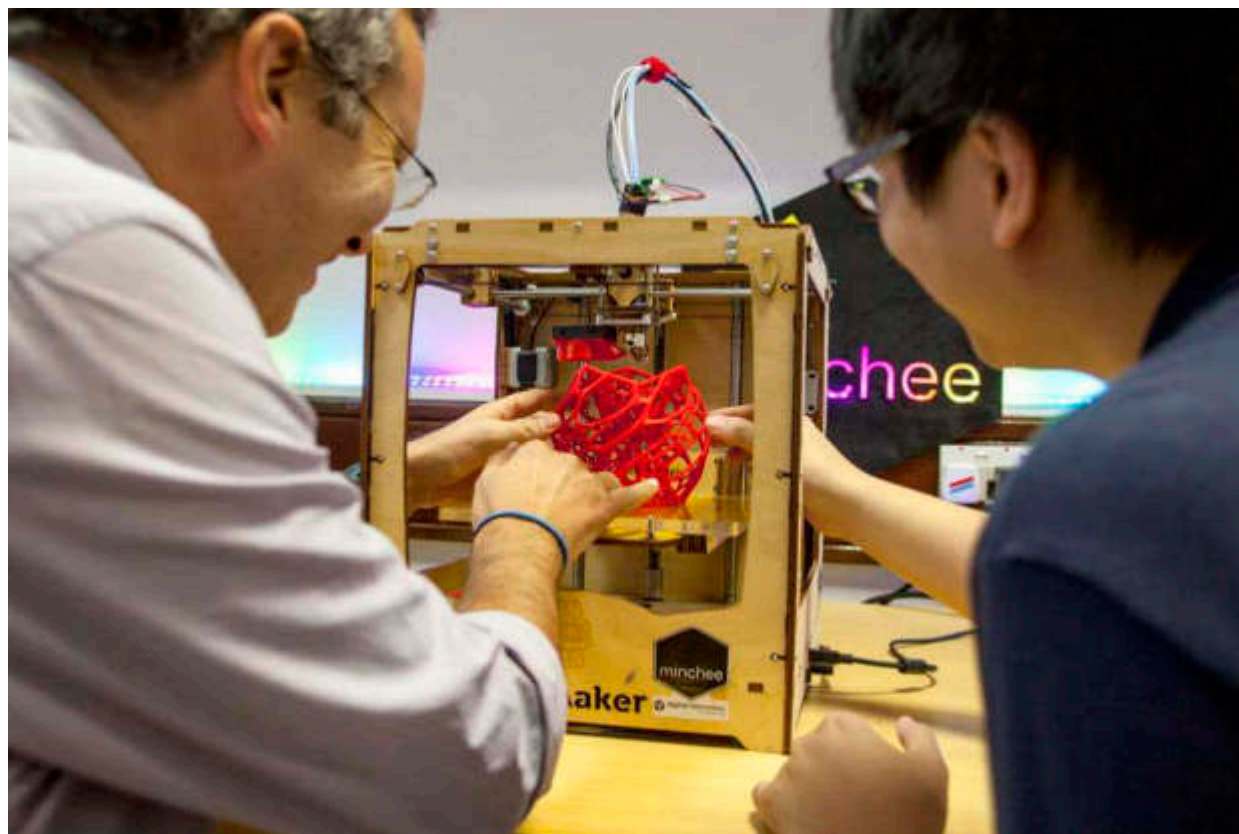




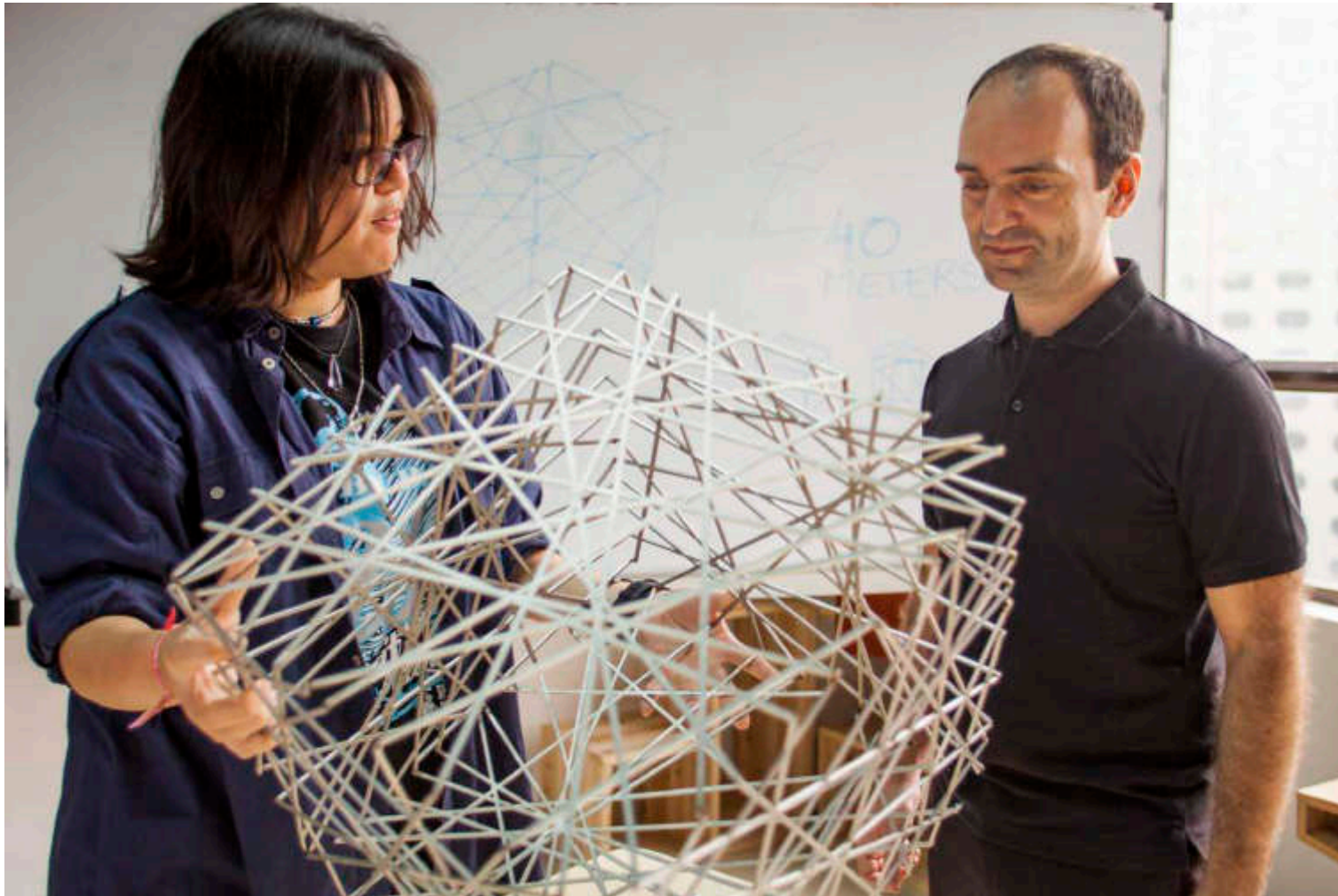
FACULTY OF CREATIVE INDUSTRIES



University of Saint Joseph, Macau SAR



University of Saint Joseph, Macau SAR



University of Saint Joseph, Macau SAR



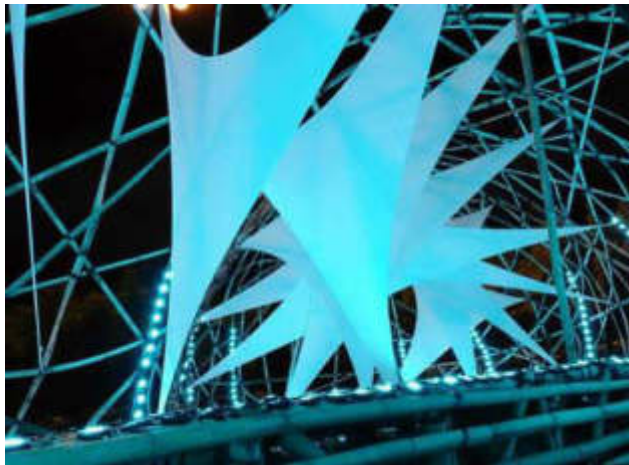
University of Saint Joseph, Macau SAR



University of Saint Joseph, Macau SAR



University of Saint Joseph, Macau SAR



University of Saint Joseph, Macau SAR



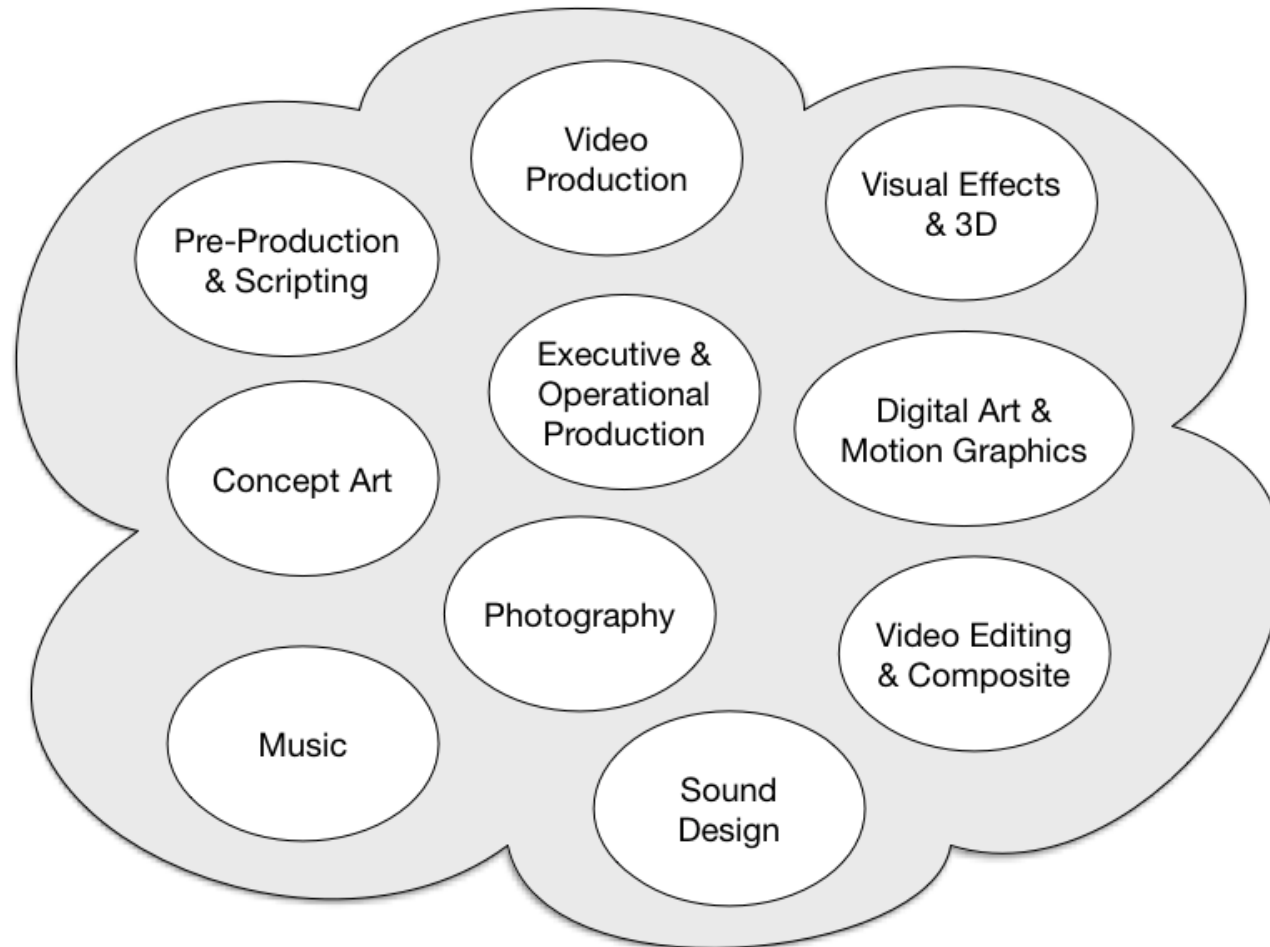
University of Saint Joseph, Macau SAR





Multidisciplinary

Audiovisual Production



University of Saint Joseph, Macau SAR



University of Saint Joseph, Macau SAR





Art and Technology

Research & Development



FASHION DESIGN

Fashion Design



Collaborating with Lines Lab

Fashion Design



Collaborating with Anna Noir

Fashion Design



Collaborating with Macau Fashion Show & CPTTM



DIGITAL CINEMA

DRONE CINEMATOGRAPHY

Digital Cinema



Collaborating with Macanese Film Director Sérgio Perez

Digital Cinema

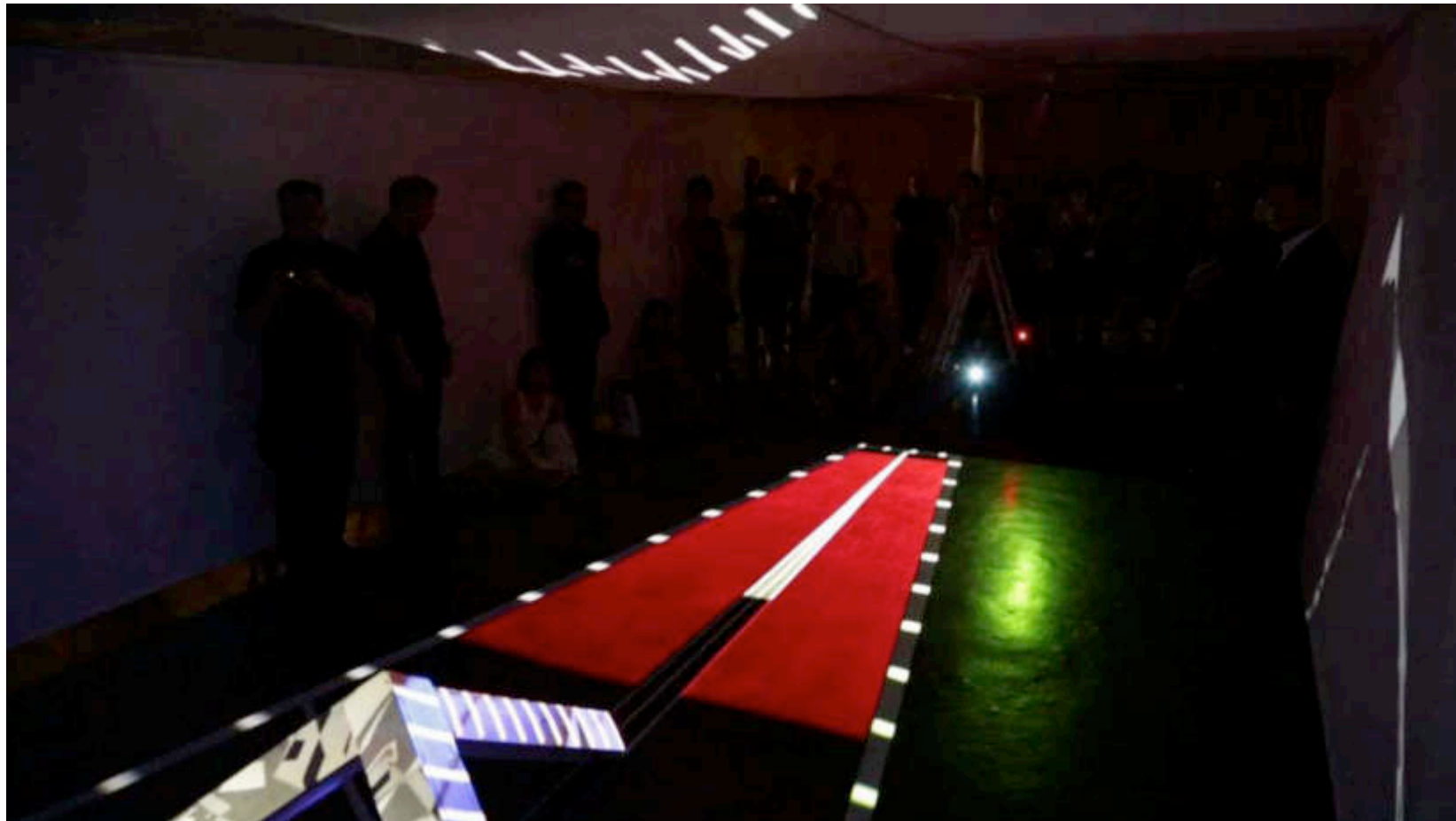




DIGITAL CINEMA

INTERIOR VIDEO-MAPPING

Digital Cinema



Interior Video Mapping



DIGITAL CINEMA

LIGHT FIELD PHOTOGRAPHY

Digital Cinema

Light Field Photography



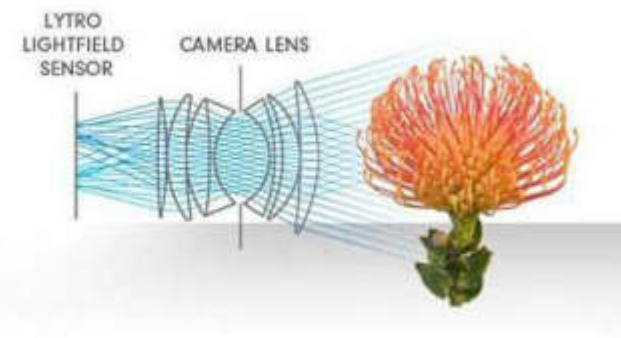
The Light Field

Defining the Light Field

The light field is a core concept in imaging science, representing fundamentally more powerful data than in regular photographs. The light field fully defines how a scene appears. It is the amount of light traveling in every direction through every point in space. Conventional cameras cannot record the light field.

Capturing the Light Field

Recording light fields requires an innovative, entirely new kind of sensor called a light field sensor. The light field sensor captures the color, intensity and vector direction of the rays of light. This directional information is completely lost with traditional camera sensors, which simply add up all the light rays and record them as a single amount of light.



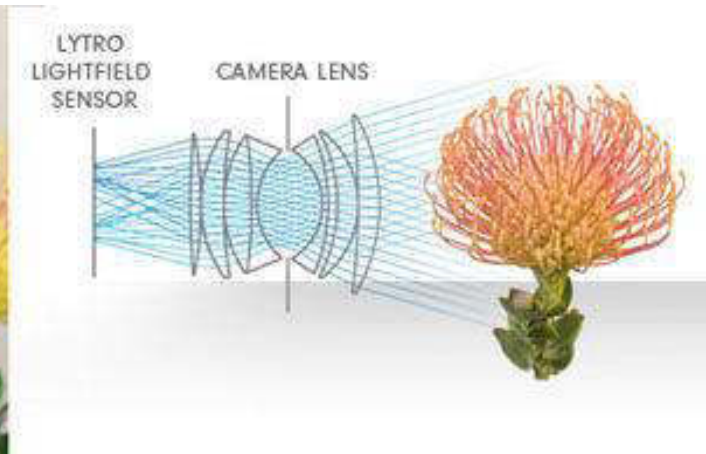
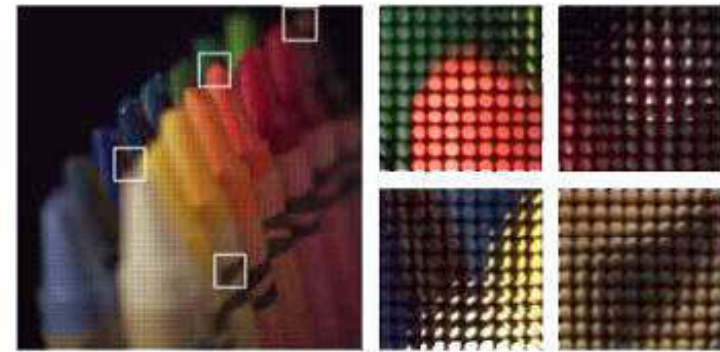
Digital Cinema



Conventional Camera Sensor



Light Field Camera Sensor



Digital Cinema



Digital Cinema



Digital Cinema



Digital Cinema



Digital Cinema





3D FABRICATION

3D Print a 3D Printer



Minchee Lab @ USJ

3D Print a 3D Printer

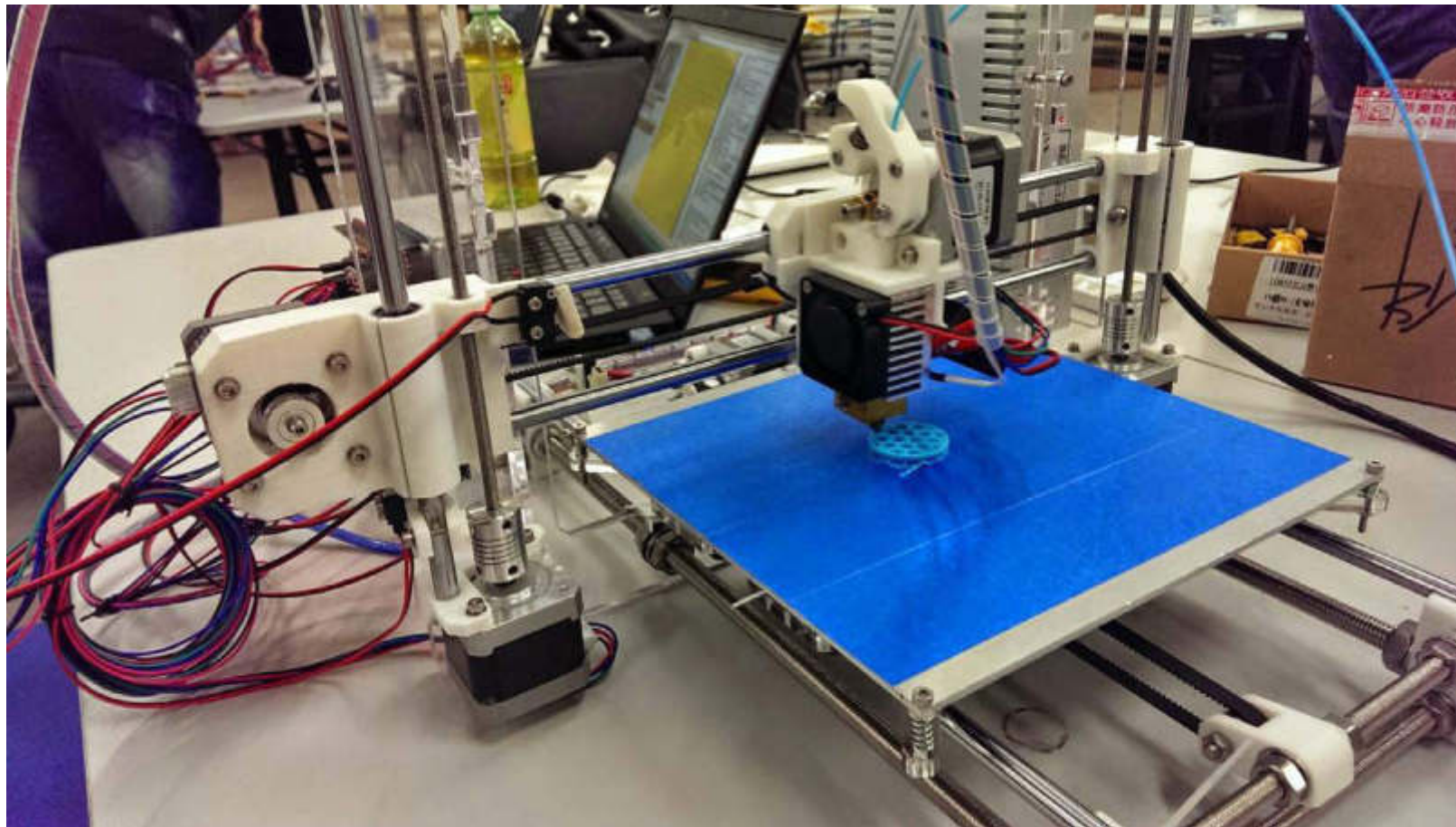


Print your Won 3D Printer Workshop

3D Print a 3D Printer



3D Print a 3D Printer

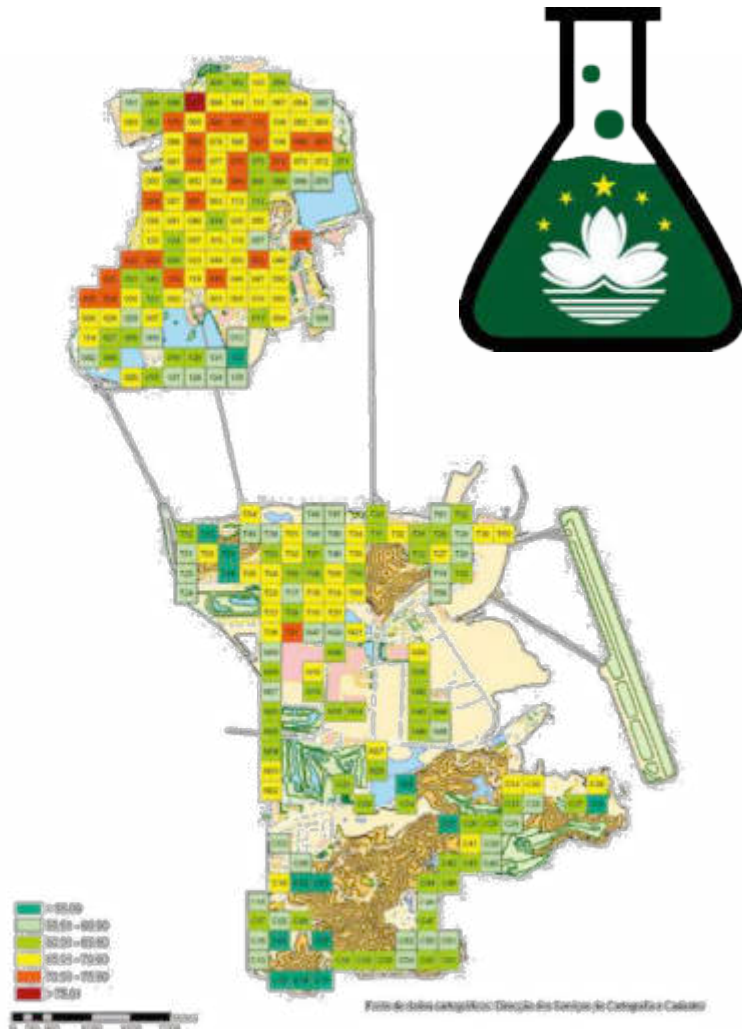




SOUNDSCAPES

URBAN SOUND IN MACAO

Urban Soundscapes



Urban Soundscapes



Coastline
(river delta)



Dense Forest
(island and continental)

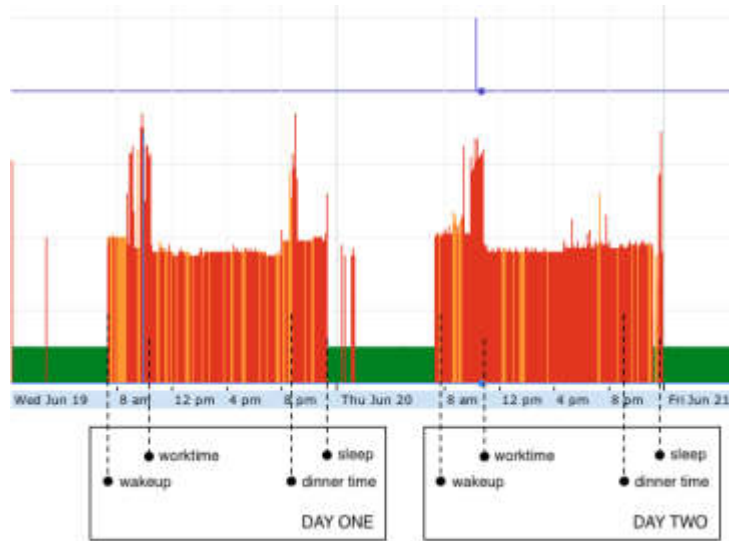


River / Bridges
(urban downtown)

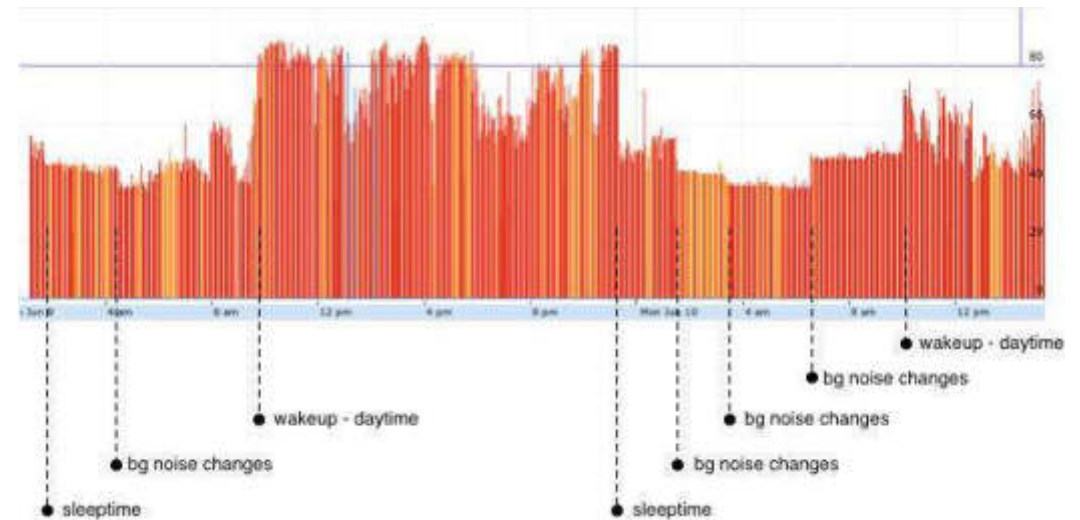


Mixed Residential
(skyscrapers vs old houses)

Urban Soundscapes



Porto-Portugal



Macau

Urban Soundscapes



	2010		2011		Percent increase/decrease
Residence / Disturbance from neighbors (case)	954	(16.9%)	886	(16.4%)	-7.1%
Conversation and shouting (case)	786	(13.9%)	870	(16.1%)	+10.7%
Construction work (case)	891	(15.7%)	797	(14.8%)	-10.5%
Commercial establishments (case)	446	(7.9%)	586	(10.9%)	+31.4%
Music and karaoke (case)	407	(7.2%)	568	(10.5%)	+39.6%
Mahjong (case)	316	(5.6%)	252	(4.7%)	-20.3%
Animals (case)	257	(4.5%)	185	(3.4%)	-28.0%
Air conditioner and ventilation system (case)	250	(4.4%)	162	(3.0%)	-35.2%
Eating houses (case)	134	(2.4%)	135	(2.5%)	+0.7%
Factories (case)	72	(1.3%)	70	(1.3%)	-2.8%
Traffic (case)	52	(0.9%)	66	(1.2%)	+26.9%
Outdoor shows and games (case)	54	(1.0%)	46	(0.9%)	-14.8%
Interior decoration work (case)	20	(0.4%)	30	(0.6%)	+50.0%
Water pumps of building (case)	11	(0.2%)	18	(0.3%)	+63.6%
Others (case)	1,011	(17.9%)	718	(13.3%)	-29.0%

Urban Soundscapes



Tenha consideração pelos outros e por si!

Uiva!

Silêncio, por favor!!!

Mantenha a tranquilidade da sua casa

做個好公民 為己及人

Manter a tranquilidade de sua casa

www.iacm.gov.mo

28337676

噪音擾人 顧己及人

Sem ruído perturbador, estamos todos tranquilos.

www.dspu.gov.mo



SOUNDSCAPES

SOUND MAPPING MACAO

Sound-Mapping Macao



FRESOUND SOUND MAPS

<http://www.freesound.org/browse/geotags/>



Sound-Mapping Macao

Shenzhen Biennale

The Value Factory and the Urban Border 2013 – 5th Edition



MACAU MORPHOLOGIES PAVILION

Sound-Mapping Macao



Sound-Mapping Macao



Sound-Mapping Macao





SOUNDSCAPES

SOUND SOCIAL NETWORKS

Soundscapes & Social Networks



Soundscape

*sound of a **place***

Citizen

inhabitant of a particular town or city

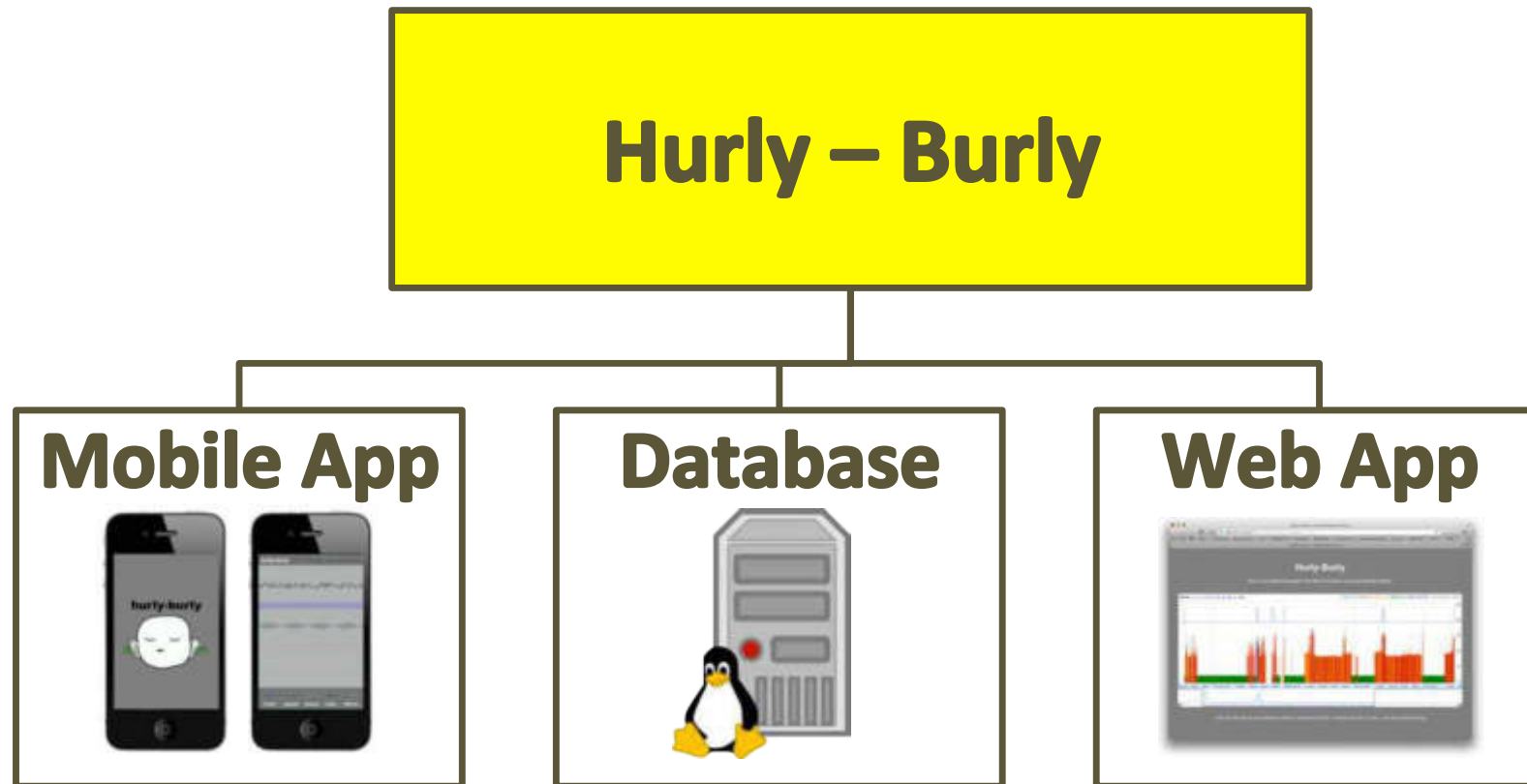


Soundscapes & Social Networks



Can soundscapes enhance social networking?

Soundscapes & Social Networks



Soundscapes & Social Networks





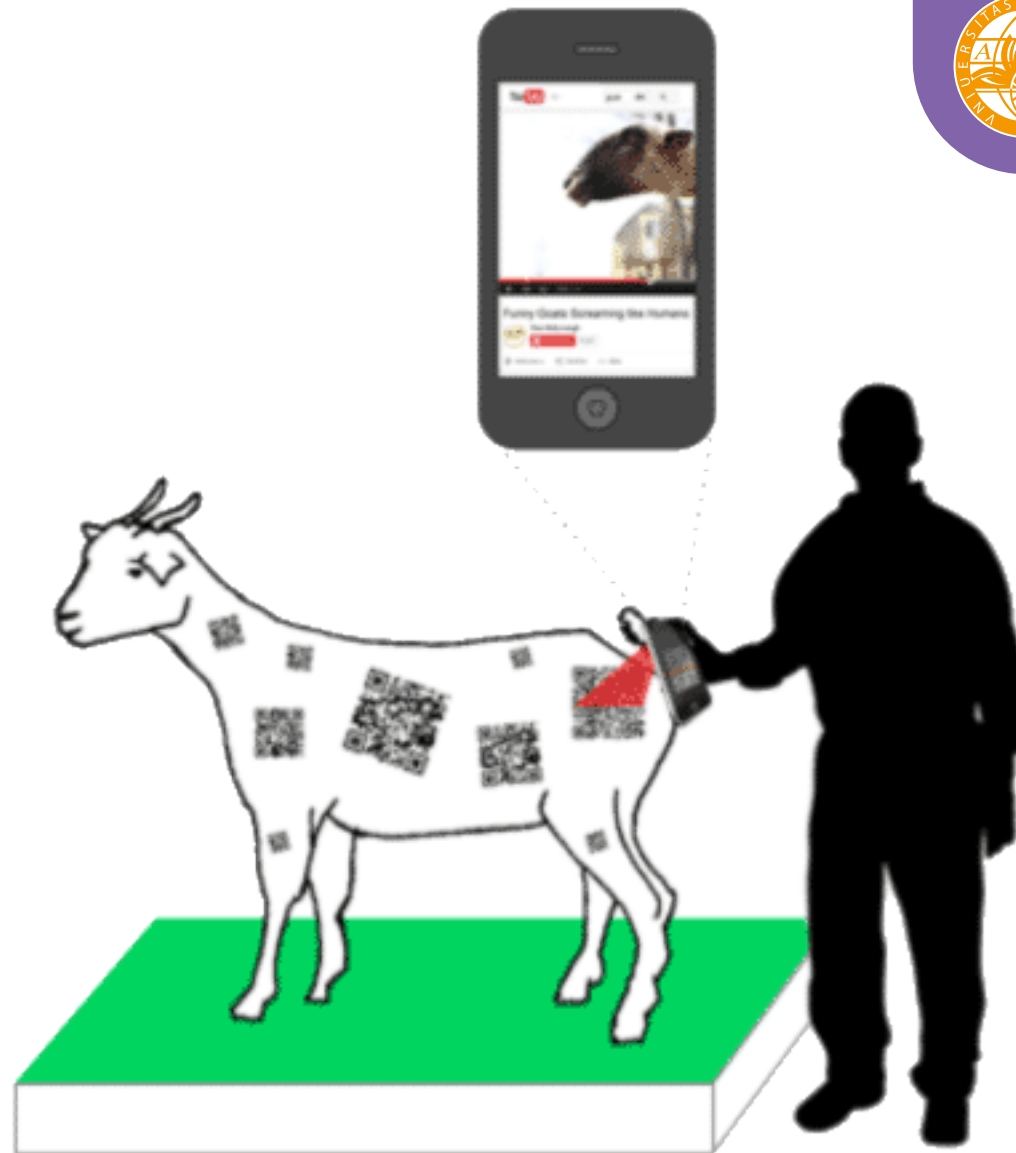
INTERACTION

PUBLIC SPACE INSTALLATIONS

QR-Goat



ANNO
MACAU CNY STREET ART FEST
CAPRUM
2015



QR-Goat



QR-Goat



QR-Goat



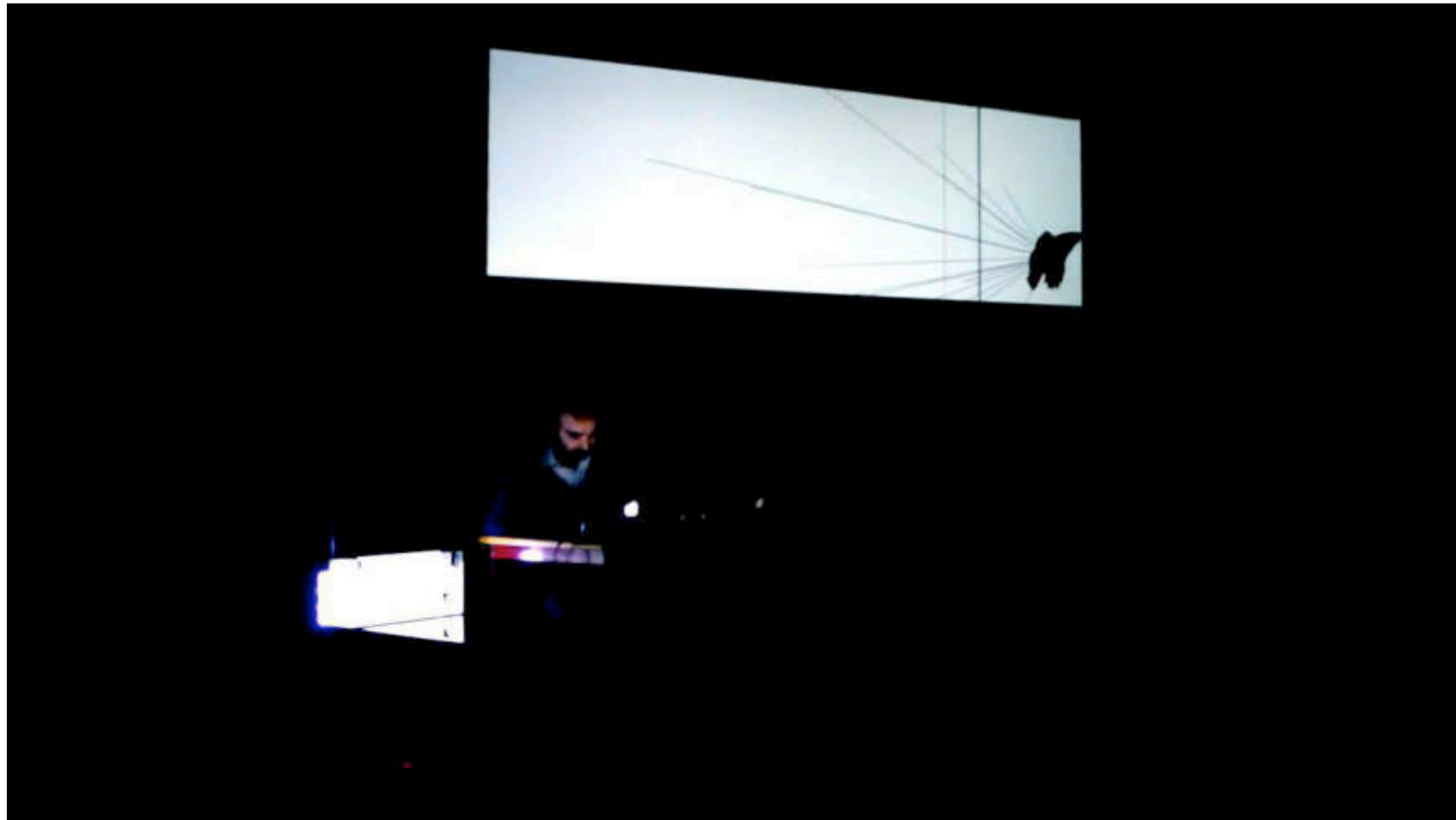


INTERACTION

INTERACTING WITH ANIMALS



Interacting with Animals



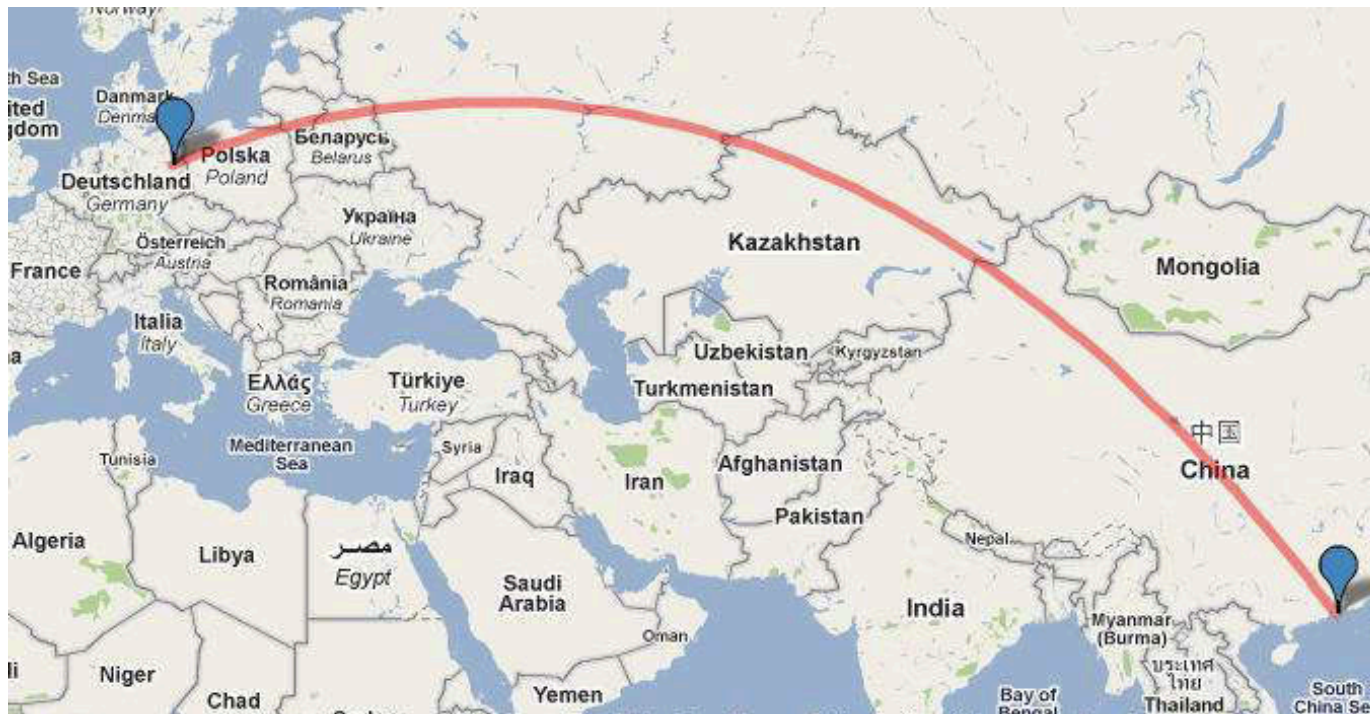


INTERACTION

NETWORKED MUSIC

Interacting on the Internet

Synchronizing Berlin and Hong Kong (1/April/2011 – 8.753 Km)
Hong Kong New Music Ensemble & Ensemble Adapter



<http://hknme.org/hongkongartsblog/?p=1525>



Interacting on the Internet

Performing Music at a Distance





Interacting on the Internet

Multiple Location – Same Performance

ARTECH 2008: Rambouillet (FR) / Casa da Música (PT) / SARC (IR)



<http://artes.ucp.pt/artech2008/>



Interacting on the Internet

Living with LAG by ume.net (2014)





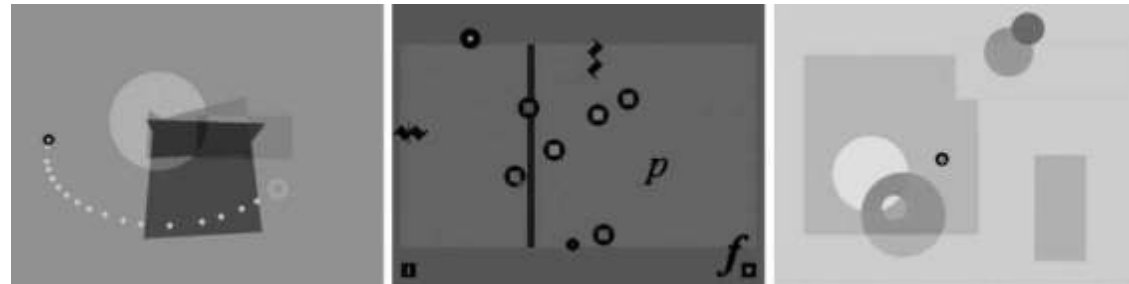
Interacting on the Internet

Latency and Networked Music

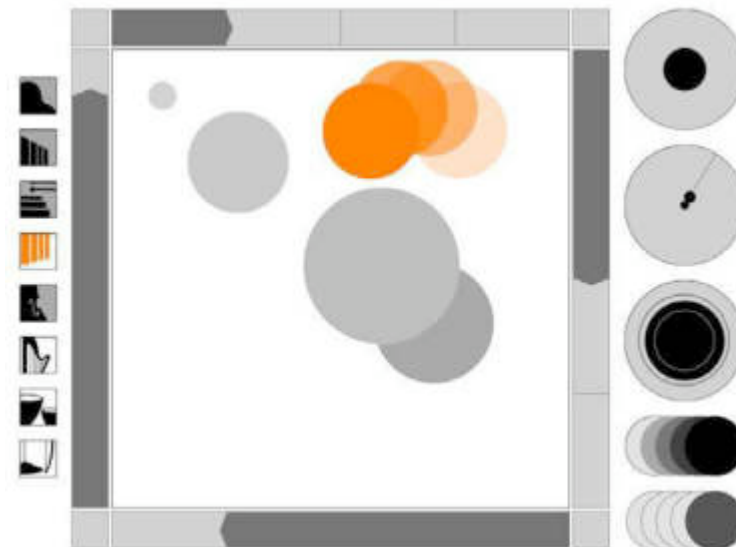
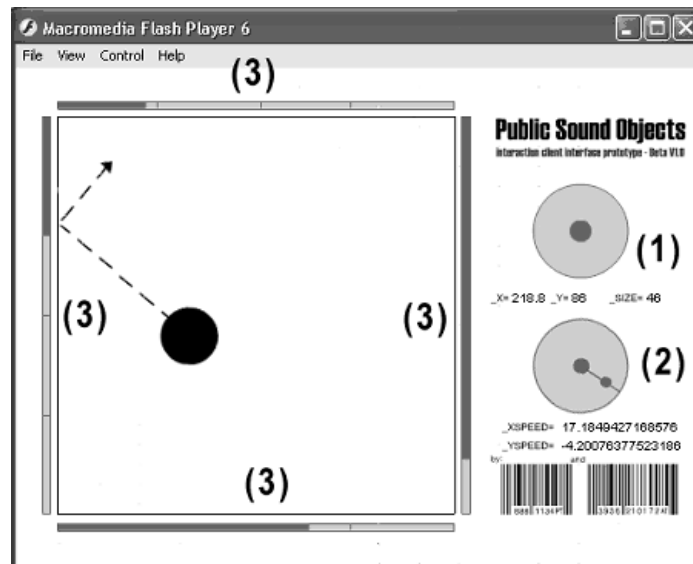
Basic Principles - Shared Sonic Environments

- (1) Digital Control Interface (software or tangible)
- (2) Local Synthesis & Transmission of Control Data
- (3) Peer-To-Peer Communication
- (4) Latency Adaptive Dynamics
- (5) Behavior Driven Interaction (Loose Coupling)

Interacting on the Internet



Small Fish (Fujihata e Furukawa 1999)



Public Sound Objects (Barbosa 2006)



Interacting on the Internet

Local Network of PSOs, CITAR (Porto 2008)

commissioned by “*Casa da Musica*”

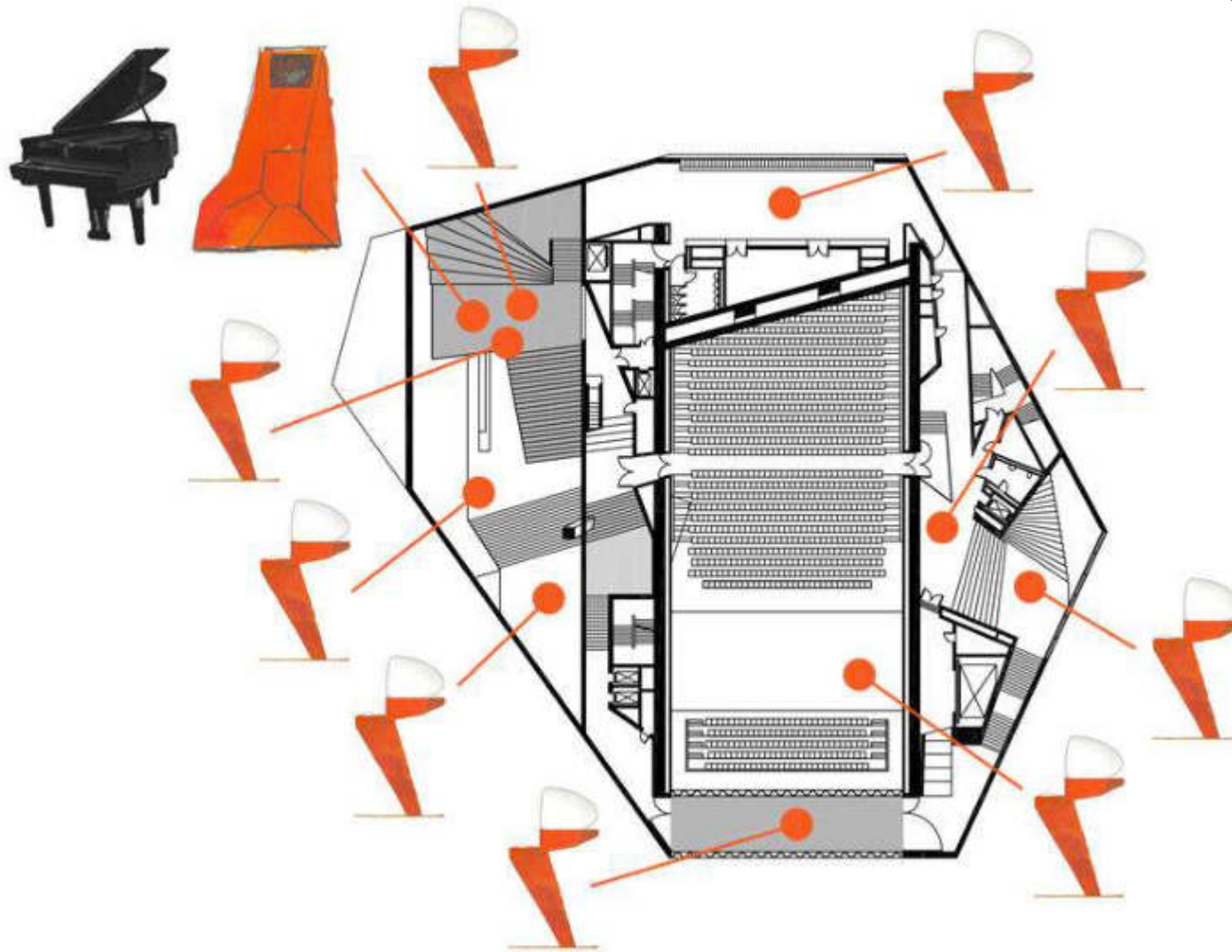
http://en.wikipedia.org/wiki/Casa_da_musica



Interacting on the Internet



Interacting on the Internet





INTERACTION

INTERACTING WITH BEHAVIOURS

Interacting with Behaviors



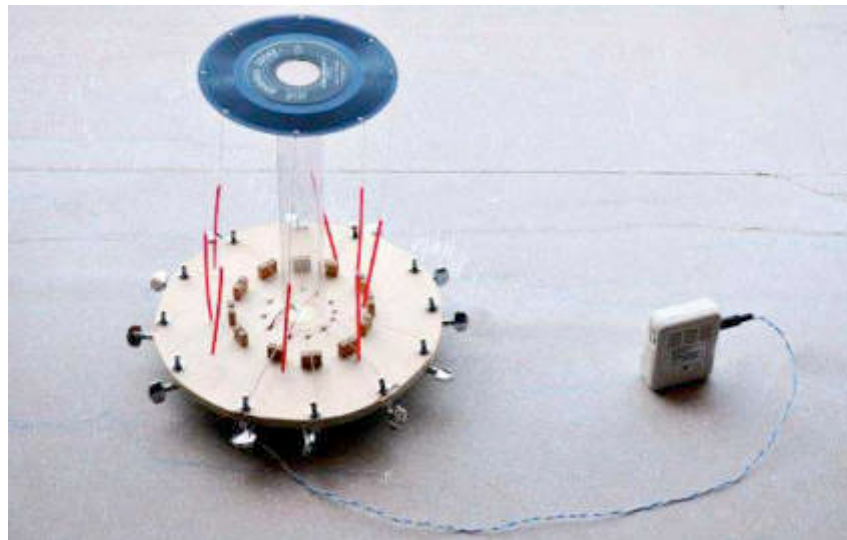
Interacting with Behaviors

Radial String Chimes

(1st prototype Developed at CCRMA – Stanford University)

Interactive musical device triggered by motion applied to a spinning vinyl record.

Users can spin the record, making hanging coffee straws to bounce and pluck twelve radial guitar strings, applied to a round wood board.



Interacting with Behaviors

DESIGN PATENT (*inpi 20111000031522*)

inpi Instituto Nacional
de Propriedade Industrial

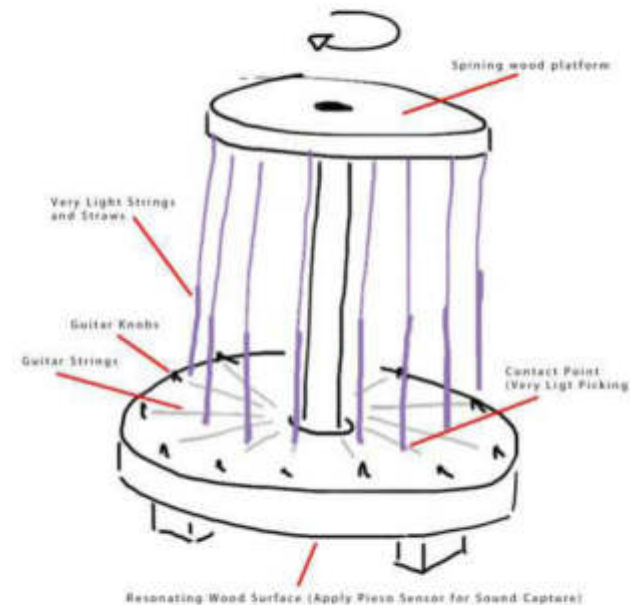
Comarca de Lisboa - 1149-039 Lisboa - Portugal
Tel: +351 218819100 / Linha Azul: 808 200888 / Fax: +351 218819388 / Fax: +351 218890066 / E-mail: atn@inpi.pt / www.inpi.pt

Nº	CÓDIGO	DATA E HORA DE RECEÇÃO	MODALIDADE	PROCESSO RELACIONADO
20111000031522	5499	2011/04/26-05:20:59	DOM	

PEDIDO DE REGISTO DE DESENHO OU MODELO

1 REQUERENTE	
Código	Nacionalidade PORTUGUESA
Nome ÁLVARO MANUEL MENDES BARBOSA	
Endereço TRAVESSA DA JUNQUEIRA 146, FRANCELOS	
Localidade VILA NOVA DE GAIA	Código Postal 4405-630
Telefone 227625513	Telemóvel 919566369
E-mail ABARBOSA@PORTO.UCP.PT	Fax
Actividade (CAE)	
NIF 196600464	
2 MODALIDADE / TIPO DE PEDIDO	
Modalidade: DESENHO/MODELO NACIONAL	
Nº de Objectos: 1	
3 EPIGRAFE OU TITULO	
RADIAL STRING CHIMES (ESPANTA ESPÍRITOS DE CORDAS RADIAIS)	
4 RESUMO	
<p>ESTE DISPOSITIVO CONSISTE NUMA INSTRUMENTO MUSICAL COM UMA SUPERFÍCIE CIRCULAR DE MADEIRA RESSONANTE ONDE SÃO APLICADAS CORDAS DE GUITARRA NUMA DISPOSIÇÃO CONCÊNTRICA E COM TENSÃO AJUSTÁVEL POR AFINADORES DE GUITARRA. SOBRE O CENTRO DA SUPERFÍCIE É APLICADO UM TUBO QUE SUPORTA UM DISCO DE MADEIRA ROTATIVO. DESTA DISCO ESTÃO SUSPENSAS FINAS LINHAS COM PALHAS DE PLÁSTICO NA PONTA, PERMITINDO O CONTACTO COM AS CORDAS NA BASE DO DISPOSITIVO. DURANTE O MOVIMENTO DE ROTAÇÃO DO DISCO, DESTA FORMA CRIA-SE UMA TEXTURA MUSICAL, QUE VARIA NO TEMPO COM A VELOCIDADE DE ROTAÇÃO DO DISCO SUPERIOR E NA TONALIDADE COM A AFINAÇÃO DAS CORDAS NA SUPERFÍCIE DE BASE.</p>	

RADIAL STRING CHIMES



DESIGN BY: Álvaro Barbosa (2011)

Interacting with Behaviors



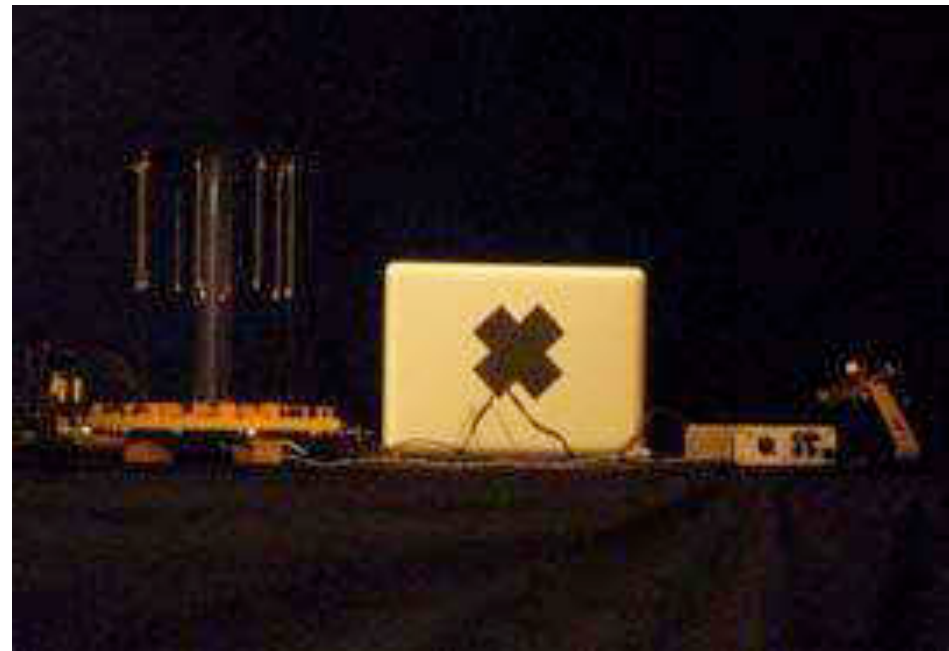


Interacting with Behaviors



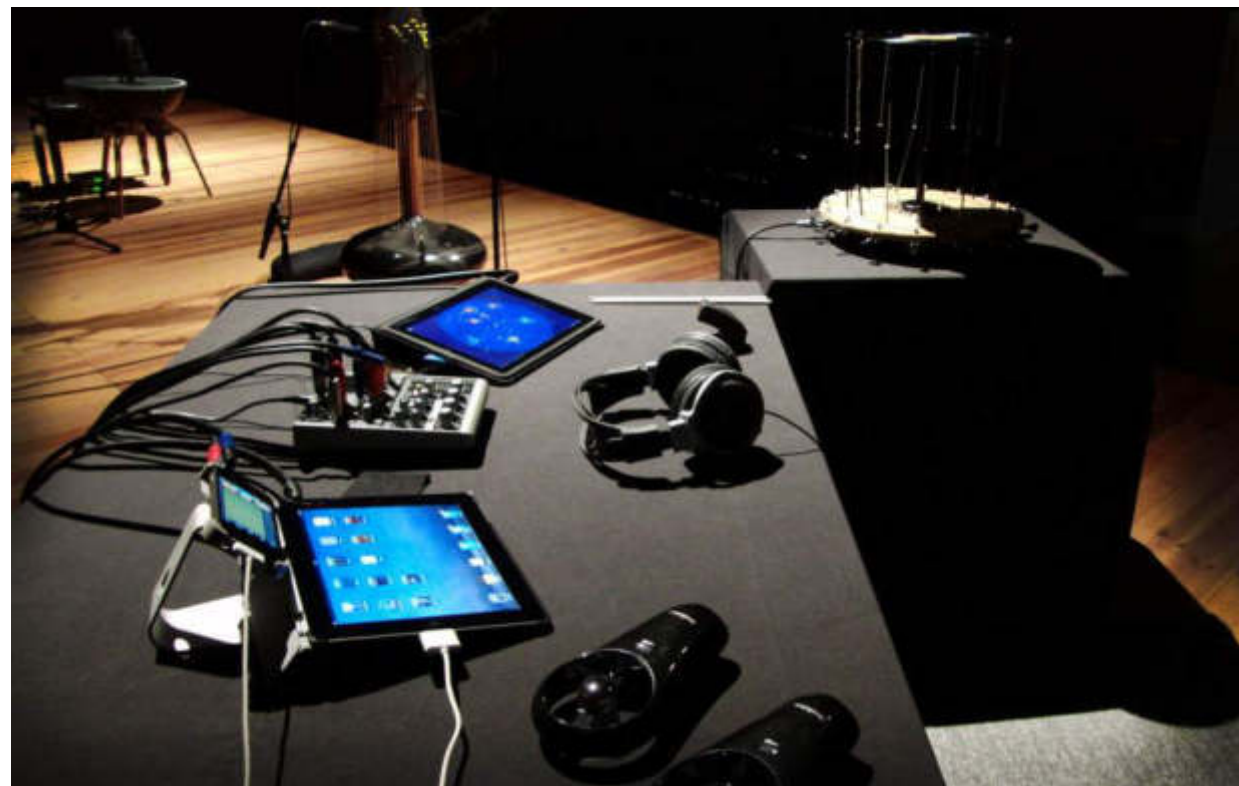
Used in Live Performances:

Live Set at Galerija Kapelica in Ljubljana, Slovenia During The EARZOM Festival 2010



Interacting with Behaviors

Live Set: Radio String Chimes; Wind Blowers; E-Bows; Ipads and Iphones running Realtime DSP (CS-Grain, Loopy, Reactable, Curtis,...)



Interacting with Behaviors





THANK YOU
abarbosa@usj.edu

Copyright Disclaimer

allowance is made for "fair use" for purposes such as criticism, comment, news reporting, teaching, scholarship, and research. Fair use is a use permitted by copyright statute that might otherwise be infringing. Non-profit, educational or personal use tips the balance in favor of fair use.