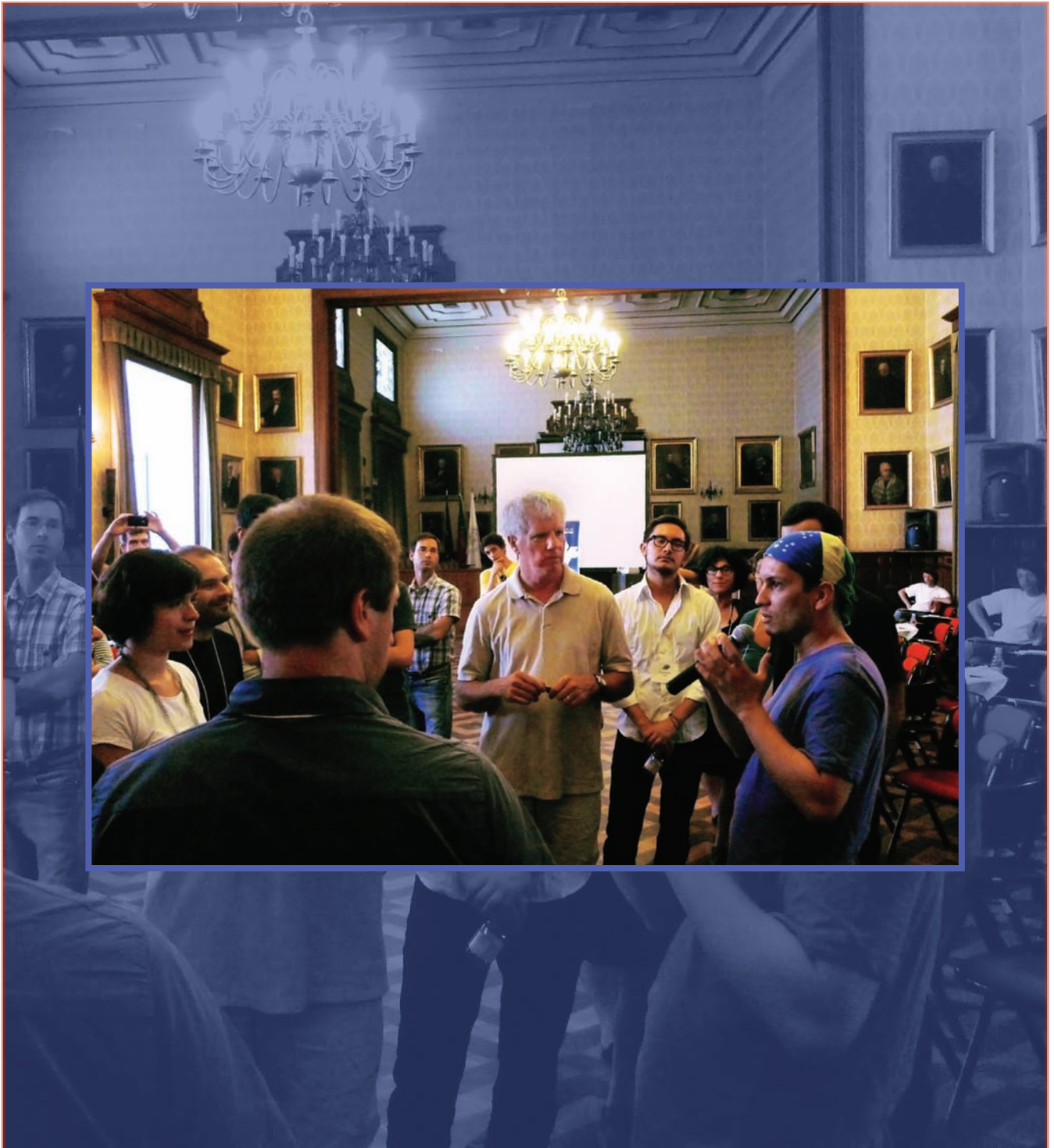# UT Austin | Portugal

INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLab

Annual Report 2009-2010: ADVANCED DIGITAL MEDIA

INTERNATIONAL COOPERATIVE RESEARCH AND EDUCATION: Year 4 of 5

Advanced Digital Media
CONTENTS

MISSION

To pursue internationally competitive graduate education, research, and development with a focus on:

- the future of television

- the future of news

- interactive media environments & serious games

- exploratory projects in interactive & digital media

WHY ADVANCED DIGITAL MEDIA

Advanced Digital Media facilitates new devices, methods, and processes for industry, education, and entertainment applications. From medical diagnostics, learning modules, and telecommunications devices, to musical experiences and multi-site, multi-player gaming—Advanced Digital Media is at the leading edge of technology and product development, as well as transdiciplinary scholarly contributions. This domain represents the blending of old and new media and incorporates the mathematical and computational bases for many innovations and applications.

While media technology and applications are evolving at an astounding rate, there is rapid saturation of these technologies into our cultures and, as a result, new social structures emerge. Because new media forms are interactive, questions arise that go beyond the bounds of old style notions of meeting market needs. As the audience becomes author, new challenges arise concerning the role of the media itself, as traditional functions are challenged or displaced. To keep pace with these diverse phenomena, CoLab increasingly focuses on:

- Digital media content creation
- Evolving media industries
- Interactivity: new horizons for technology, software, and interface applications
- Research for new media environments and tools
- Creating a climate for creativity in digital media in Portugal.

Strategy for Future
The broad scope of our program in advanced digital media recognizes the significant cultural currency of media in all of its forms. Whether in advertising, film, television and radio, Internet-based applications, the range of social networking tools, or embedded in architecture, performance and art, media saturate our world, informing our sense of identity, shaping our imagination even as it is shaped by our creativity.

We recognize in particular the necessity of creating *robust networks of colleagues* in this arena inasmuch as in the current century, it is *networks* and flows of information that will have critical roles in defining and channeling intellectual collaboration and accomplishment. Meaningful networks penetrate many institutions and organizations and epitomize the notion that innovation and knowledge can come from many quarters. Networks composed of professors, students, and people working in industry and government and civil society will be called on to work together in an increasingly complex society; creating the relationships among these constituencies that will be most fruitful for the future represents a critical component of the UT-Portugal program.
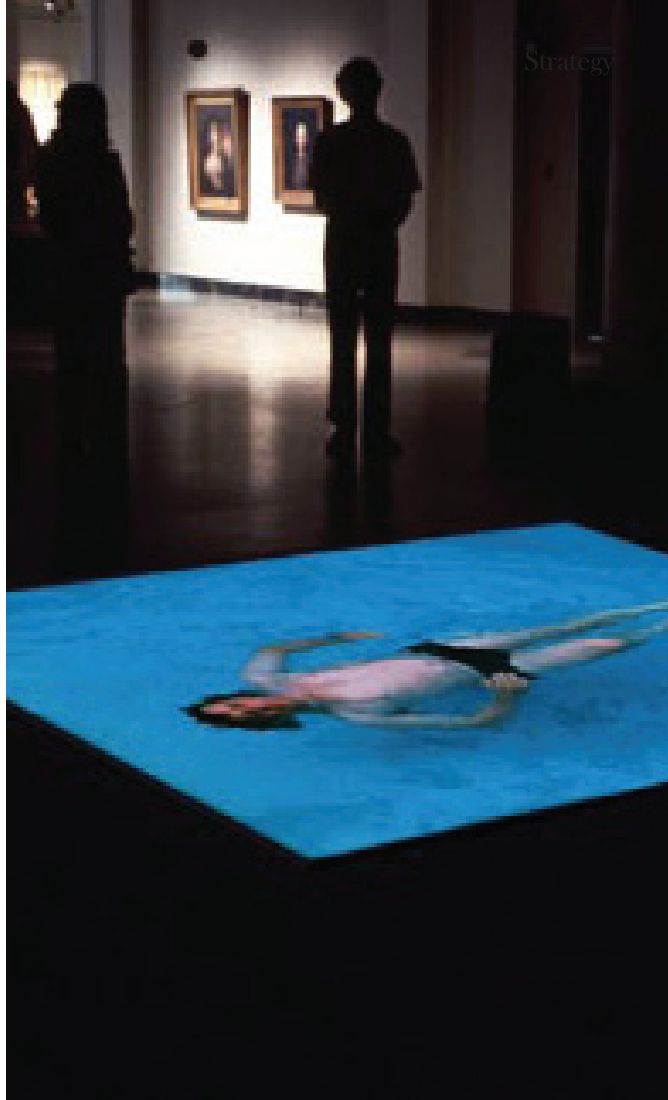
RESEARCH
2009 Projects

Two Digital Media projects were funded by FCT in 2009. One examines the important public policy and social issue of the digital divide in Portugal and the U.S., while the other examines new software/hardware development associated with kinetic controllers, an innovation whose applications have exploded in the wake of the popular Wii video game platform. In these projects, as well as upcoming projects, there is extensive graduate student involvement as well as participation from various media industries. The near-term productivity of both of the initial projects is reported below and conforms to the accepted metrics for scientific accomplishment, namely professional papers and presentations; in the case of the kinetic controller research, there is also the prospect of commercializable technology and patents. The research projects are proving to be excellent vehicles for linking faculty interests to social and industry needs, for training new researchers, and for building collaborative frameworks.

Cristina Ponte, UNL Principal Investigator, Project Digital Inclusion & Participation

Project: DIGITAL INCLUSION & PARTICIPATION
Comparing the Trajectories of Digital Media use by Majority and Disadvantaged Groups in Portugal and the USA

Principal Investigators:
1. Cristina Ponte, UNL
2. Joseph Straubhaar, UT Austin
3. José Manuel Pereira Azevedo, U Porto

Research Team, UT Austin
4. Wen Hong Chen
5. Jeremiah Spence
6. Dean Graber
7. Jacqueline Vickery
8. Laura Dixon
9. Stuart Davis

University of Texas San Antonio
10. Viviana Rojas

New University of Lisbon:
11. José Alberto Simões
12. Anabela de Sousa Lopes

University of Porto
13. José Manuel Pereira Azevedo
14. Armando Malheiro da Silva
15. Isabel Dias
16. Helena Santos
17. Fernanda Martins

Open University
18. Luisa Aires
19. Ricardo Campos

University of Aveiro
20. Ana Isabel Veloso
21. Óscar Mealha
22. Lídia de Jesus Silva

University of Coimbra
23. Isabel Ferin Cunha
24. Clara Almeida Santos

Catholic University of Lisbon
25. Carla Ganito

Industry Partners
IBM Portugal
Porto Editora
*Other partners*
City of Austin Libraries
Austin Free-Net

The project
To date, this project has incorporated a total of 27 PhD students from the UNL, U Coimbra, U Porto, and UT Austin plus 11 master's students and 28 undergraduate students from UT Austin. The digital inclusion project examines the digital divide, which is defined as gaps in technology access and use between generations and majority and minority social groups. This proposal is socially significant since Portugal has passed from being a country of emigrants to becoming a country of immigrants, from its colonies in Africa and Brazil in the last few decades, and more recently of immigrants from the countries of Eastern Europe. In the Lisbon area, eight percent of children that attend school were not born in Portugal, which raises the question of how to combine the initiatives of digital inclusion and cultural integration. Access and use of digital media also vary between children that have access to these media at home, and those who only get to use them at school and in public access where use is limited and conditioned by circumstances.

We examined the current research concerning: 1) Global conceptual frameworks, on generation and "life course" (Bertaux), and symbolic capital (Bourdieu); 2) Concepts focused on digital practices, related to: access and use; digital literacy; gender issues; age issues (children and young people as well the elderly); migrations (inside and from other countries); SES levels; ethnicity; 'domestication' in the households. Each team collected data on the social contexts, in Texas and in Portugal, on the general access to the digital (such as the levels of broad band penetration); media history; and educational systems. Researchers from both countries exchanged short reports on each of these topics in their countries. Based on these state-of-art reviews, the main research questions and methodological orientations were adopted in July 2009.

As an associate partner to this project, IBM Portugal has been active in promoting research and contributing to the general field of the project. A case study is currently being developed on the impact evaluation of training programs for female adolescents that IBM has been promoting. Interviews with participants, IBM promoters and mentors are in process in order to evaluate the impacts to the participants on digital inclusion dimensions. On the Austin side, the main partners have been the City of Austin, both its Telecommunication Office and its Library System, and a large digital inclusion NGO, Austin Free Net. The Free Net and Libraries were principal partners and sites of participant observation on digital inclusion programs this year. Interviews with users of these sites were also interviewed. Analysis of those data is taking place now.

A major task includes the qualitative analysis of families, identification of trajectories, similarities and differences between groups. In Portugal, the recruitment and training of students (mainly Master's) to do the qualitative fieldwork research was done in three Universities. Similar training sessions took place at UNL, Porto and Coimbra involving a total of 40 graduate students. The students participated in at least 12 theoretical and practical sessions where they were trained on conducting qualitative surveys and non-observer participation. In Austin, a total of 22 graduate students and 25 undergraduate students were trained in the three seminars at UT mentioned above. They were trained intensively in the first half of the semester and conducted interviews in the second half.
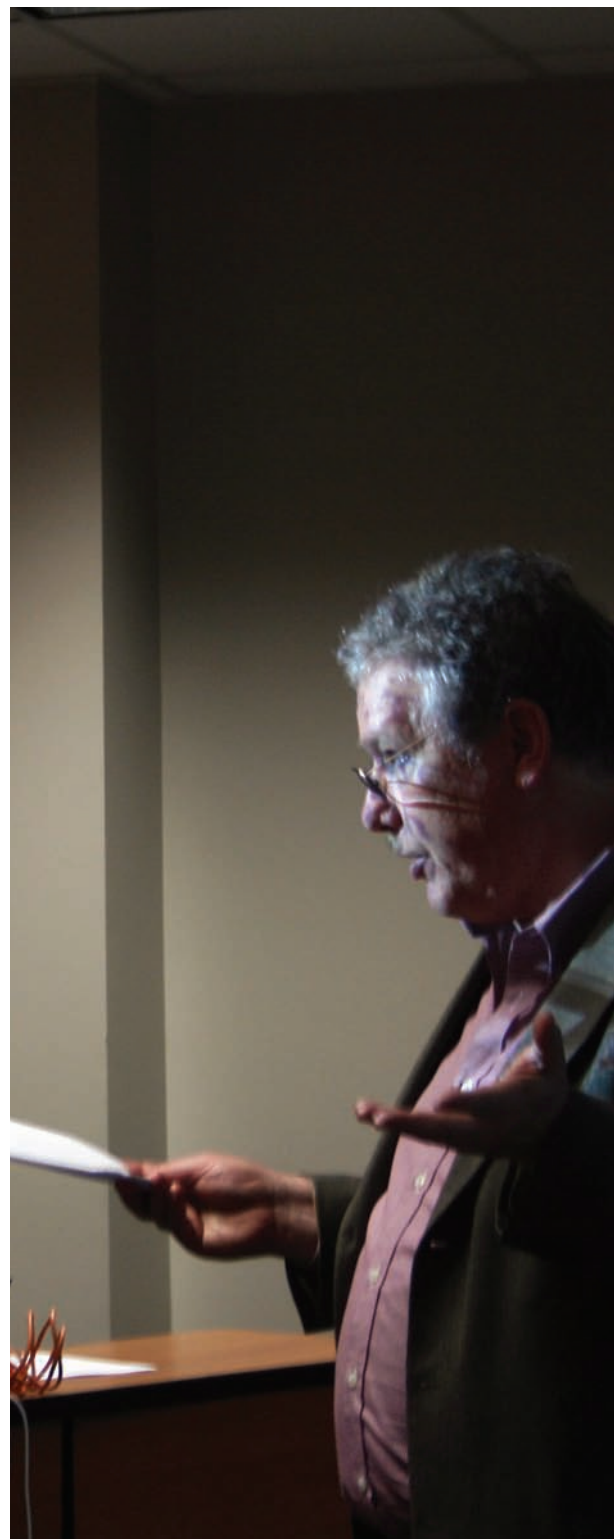
Joseph Straubhaar, UT Austin Principal Investigator, Project Digital Inclusion & Participation

At UT, the interview guide is primarily defined and based on previous research in the area. Portuguese researchers adapted the same topics to the Portuguese population. Therefore, the new questions were pre-tested and improved. The other tool for this qualitative research among families was the family genogram, enabling researchers to look at the generational trajectories within the families interviewed. This tool was consolidated among the UT researchers, but was new to Portuguese researchers.

In Texas, the choice of the families to be interviewed was based on criteria that the researchers agreed on in the July 2009 Mexico meeting: diversity of social class background, education, ethnic, migration status were considered. The Austin team wanted to provide some comparability to families that were interviewed ten years ago, therefore providing longitudinal comparative data. In Portugal, where no similar work had been done, the selection was mainly based on the agreed criteria above.

The field work was conducted in both countries in 2009. Austin researchers are now consolidating both quantitative and qualitative treatment of the genograms, to compare Austin and Portugal. The Portuguese interviews conducted in November-December 2009 by the 40 graduate students included the questionnaire and the genogram. As the field work involved a total of 65 families, 130 individuals were interviewed on their life story and their relation with the media, particularly the digital ones. In Texas, the 47 students trained in the seminars did similar interviews, with an emphasis on finding three generation families where possible. In Austin, 18 individuals were interviewed in April 2009 and 47 in November 2009.

All the interviews are transcribed and are being analyzed using qualitative data analysis programs. According to their different research interests, senior and junior researchers are now starting to explore this qualitative information. The diversity and the interest of the collected data are so impressive that their exploitation by the team researchers will be an ongoing work.

Ethnographic studies in cybercafés and other public spaces in Austin are being conducted; this research concentrated on public library access centers, NGO access and training centers, senior centers and immigrant service centers that provide digital inclusion. A provisional paper was presented at the ICA conference in June 2010, and a more advanced paper for publication is being prepared now.

Papers and presentations

Straubhaar, J., Spence, J. (July, 2009). Painel de apresentacoes do Projecto Digital Inclusion and Participation no *Digital Divide Working Group,* IAMCR, Mexico City.

Straubhaar, J. et al. (2010). *Structuring Access: A Ten-Year Review of the Role of Austin Public Libraries and Community Technology Centers in Digital Inclusion.* Comunicação na International Communication Association, Junho 2010, Singapura.

Ponte, C., Azevedo, J. & Straubhaar, J. (2009). *Digital inclusion and partici-pation: how disadvantaged families deal with the digital in Portugal and the US.* Comunicação apresentada na conferência Transforming Audiences 2, Universidade de Westminster, Londres, 4 de Setembro.

Straubhaar, J, Ponte, C., Azevedo, J., Ferin Cunha, I., Simões, J., Malheiro, A., Pinto, MM.   *Digital inclusion, migration, generation and social context: Comparing the life histories of digital media use by majority and disadvantaged groups in Portugal and the USA.* Painel aceite for apresentação no IAMCR, Braga, Portugal, Julho 2010.

Azevedo, J., Straubhaar, J., Dixon, L., Jorge, A., Francisco, K., *Comparing the life histories of digital media use in Portugal and the USA: What can we learn about digital inclusion processes.* Painel aceite para apresentação na conferência ECREA, Hamburgo 2010.
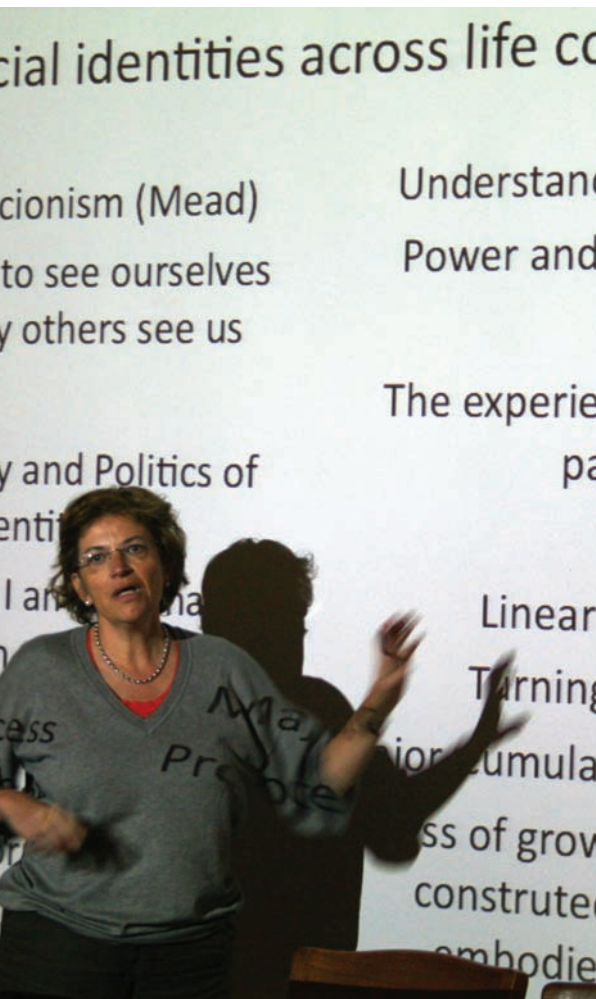
Aires, L. La inserción *Digital desde la Orientación: Las dos caras de Janus. Workshop—Mesa de Trabalho.* Facultad de Ciencias de la Educación. Universidade de Granada. 20/05/2010.

Brites, M.J. *Young people and their particular perspectives on the 2009 elections—I International Graduate conference on Media and Communication—Selling Politics and War,* C2COM—Universidade do Porto, YCREA and Media XXI. 14/05/2010.

Costa, C., Ponte, C. *How brand literate are we? The voices of 9 years old Children about brands, ads and their online community practices.* ESA Consumption Research Network Interim Meeting, Tartu 2010.

Ponte, C. (2010). "Jovens e internet: Discutindo divisões digitais." *XXXIII Congresso da INTERCOM.* M. Barbosa and O. Morais. Caxias do Sul, Brasil, INTERCOM: 42-71.

Project Kinetic Controller Driven Adaptive and Dynamic Music Composition Systems

Principal Investigators
1. Carlos Guedes, INESC Porto
2. Bruce Pennycook, UT Austin

Research Team
3. Russell Pinkston
4. Tomás Henriques
5. Gilberto Bernardes
6. Rui Dias
7. André Baltazar
8. Tanvi Joshi
9. Hugh Lobel
10. George Sioros
11. Carlos Guedes

The Project

Phase 1 research consisted of complementing the literature review initiated by the UT Austin team, developing a framework for implementation of a procedural music system, and developing some computer vision algorithms for gesture analysis. Work focused on reviewing published algorithms for generative music, including a thorough review of applications that involve automatic music generation. Researchers started implementing their computer vision as Max external objects, such as:

1) An algorithm for real-time human body skeletization by developing a previous algorithm by Fujiyoshi et al (2004);

2) Measurement of averages on the quantity of movement from a video stream, algorithms for automatic tempo detection from bodily movement that elaborate on Guedes's previous work (2005), and temporal filters to denoise real-time analysis information from video cameras.

Research has focused on a general framework for the implementation of a procedural music system that encompasses the automatic generation of syntactically correct musical structures and their transformation and adaptation over time according to the user's gestural input. This framework utilizes a "critic" (Rowe, 1993) that analyzes the output from the algorithms and prevents non-musical output. In addition, two doctoral students from the UT Austin-Portugal Program in Digital Media (Gilberto Bernardes and Rui Dias) are working on the project since November 1, as part of an independent study supervised by Guedes. These students intend to relate their doctoral dissertations to the project. Bernardes has reviewed applications of genetic algorithms (GAs) for automatic music generation elaborating on ideas initiated by Biles (1994) and Eigenfeld (2006, 2009). Dias was working on the Graphical User Interface (GUI) of the Toolbox, expanding on the work he did in his master's dissertation (2009).

Carlos Guedes, INESC Porto, Principal Investigator, Project Kinetic Controller Driven Adaptive and Dynamic Music Composition System

Phase II research (January-June 2010) was dedicated to the development of several algorithms for automatic rhythm generation and to the development of software applications involving generative algorithms. Bernardes is developing a software application using a GA that enables users to generate multilayered rhythms in known styles from gestural input, in which the input to the algorithm consists of a data set of drumming patterns (e.g. MIDI loops from Apple's GarageBand and Logic Pro) that are logically recombined in order to produce novel output. The recombination process (Cope, 1996) is supervised by Clarence Barlow's metric indispensability algorithm (Barlow, 1987) that functions as a critic to the output generated by the GA. Probabilistic models of rhythm generation that draw upon Barlow's metric indispensability algorithm (1987) are in development, and Temperley's recent work on automatic generation of rhythm using a Bayesian approach (2007).

Dias is developing a "Blues machine" that enables users to generate and control several instruments (piano, bass drums, saxophone/guitar) within a Blues structure using a Wii remote control. During this phase we had a meeting with researchers from YDreams in order to start thinking about the integration of the research outcomes into YVision, a platform for the development of interactive installations. During this phase we also put another call to hire a full-time researcher for the project who started working in the project in May. By the end of Phase II the INESC Porto team expects to have a set of MaxMSP externals that enable multi-layered rhythm generation in highly refined ways, by combining and modifying existing approaches for automatic rhythm generation such as those mentioned above. We also expect to have a MaxMSP prototype of a procedural musical software application to be implemented as an iPhone/iPod/iPad application.

The project continued to complete background research, literature searches and, most important, defined the work for the January-May 2010 work period when two new hires came on board. In January 2010 we hired Hugh Lobel, Master of Music candidate in Composition and Tanvi Joshi, M Sc. candidate in Electrical Engineering start realizing the work plan. There focus is on building music and audio analysis tools that will provide a framework for the acoustical and musical feedback component of the overall plan (presented by Guedes and Pennycook in December at UT). Also during this session, Professor Russell Pinkston, Director of the UT Electronic Music Studios and a well-known computer music expert, became a part of the UT team and has been providing valuable insights for both Lobel and Joshi. The work is predicated on past research by Pennycook (see refs below) and by Dale Stammen who completed his Ph.D. with Pennycook at McGill University.

The impact of the scientific work to date includes the following products, papers and presentations:

1) *A set of Max/MSP* programs have been written that extract pitch, timing, amplitude and articulation details from monophonic audio. This information is then parsed into musical phrases according to a revised version of the Lerdahl and Jackendoff Grouping Preference Rules (1983). Simultaneously, the data provides a set of temporal indexes into the original audio file for further analysis.

2) *Time Warp,* has been developed as a Max/MSP external. This function is particularly useful for pattern detection with information that has variable lengths such as speech detection. It will be used to dynamically create a database of salient musical phrases which will ultimately become input to the generative processes in the large model.

Papers and Presentations

Pennycook, Bruce and Carlos Guedes, *Kinetic Controllers and Generative Music.* UT Austin, December 11, 2009.

Pennycook, Bruce, Eugenia Costa-Giomi, Tanvi Joshi. (2010). *Audio Signal Analysis of instrumental and vocal excerpts.* 2010 Intl. Conf. on Music Perception and Cognition. Univ. of Washington.

Bernardes, Gilberto, C. Guedes, B. Pennycook (2010). *Style Emulation of Drum Patterns by Means of Evolutionary Methods and Statistical Analysis.* 7th Sound Music and Computing Conference. Barcelona, Spain.

Baltazar, André, C. Guedes, B. Pennycook, F. Gouyon. (2010). *A Real-time Human Body Skeletonization Algorithm for Max/MSP/Jitter.* Proc. of the 2010 Intl. Computer Music Conference. ICMA. (pp 96-99).

Guedes, Carlos and Heitor Alvelos. (2010). "Future Places and Sites: An R&D Project at INESC-Porto and a Digital Media Festival" Oral presentation at Ciência 2010, Lisbon, July 7, 2010 .

Guedes, Carlos (2010) "Movement and Musical Control." Oral Presentation at the Motion Capture Methodologies Workshop, University of Sussex, June 26, 2010.

Guedes, Carlos (2010) "Overview of Sound and Music Computing Research at INESC-Porto", Oral Presentation at GEAR- 1st Workshop for Practice-Based Research in Art and Design, University of Beira Interior, Covilhã, Portugal, April 5, 2010.

Prototypes/products

kin.skel & kin.draw – Max/MSP/Jitter external objects for real-time human body skeleton extraction and drawing

Wii Drums – software application developed to illustrate the proposed framework for procedural music toolbox development. Wii remote controller controls the automatic generation of rhythm as output by a genetic algorithm. (Involvement of Carlos Guedes's class in Automatic Music Generation [Masters in Multimedia, U Porto] in converting MIDI Drum loops and testing software developed by the research team.)

kin.rhythmicator – Max/MSP object that implements a modified version of Clarence Barlow's metric indispensability algorithm for automatic rhythm generation

kin.genalgorithm – generation of drum patterns by evolutionary methods using statistical analysis of data sets.

Blues Machine – automatic generation of blues-style music using a Wii remote controller.

Manuel José Damásio, Principal
Investigator, iDTV-HEALTH

João Magalhães, UNL, Principal
Investigator , ImTV

Rui Filipe Fernandes Prada, IST, Principal
Investigator , INVITE

2010 Projects

The latest round of 2010 FCT-funded research grants in the advanced digital media area include one high risk, exploratory research project that brings together new research ideas and experts working in various related areas, as well as larger six projects that are geared to yield results that can contribute strategically to media industries. The latter category includes grants focused on the future of television; the future of news, and interactive media environments/serious games.

Project: iDTV Health

Principal investigator Manuel José Carvalho de Almeida Damasio of Lusofona, with UT Austin's Associate Professor Laura Stein and advertising Assistant Professor Michael Mackert, will conduct the iDTV Health project to evaluate the potential of digital interactive television (iDTV) to promote health care and wellness services and information to Portuguese age 55 and older with low technology literacy. The results will give researchers a better understanding of how to present and distribute health information. The future of television will be quite different from our current experience. A substantial part of that difference will be related to its capacity to offer services and content to specific user groups. The iDTV Health project's main objective is to evaluate the potential of digital interactive television to promote original services, formats and contents that would be relevant to support personal health care and wellness of individuals over 55. The research question is how to map the nature of one configuration that presents and distributes information—within the context of today's profound transformation due to the emergence of new technological platforms such as digital terrestrial television (DTT) and IPTV, as well as new mobile communication technologies such as WimAX and Long Term Evolution (LTE). As such, the project will evaluate the satisfaction and potential generated by a iDTV service as a way to support personal health care and wellness and facilitate access to information visualization and contents, specifically on potential for increasing levels of social capital amongst target group. The project will focus on individuals over 55 years of age with low levels of technological literacy, and health professionals.

Project: ImTV

Principal investigator João Miguel Costa Magalhães of UNL, with Professor Sharon Strover of UT Austin's Radio-Television-Film Department and Assistant Professor Louis Francisco-Revilla of the School of Information as well as several other professors and students in Portugal, will examine Portuguese video content consumption trends. The ImTV project (On-Demand Immersive-TV for Communities of Media Producers and Consumers) aims at offering consumers a personalized combination of mainstream TV content and online user-generated content based on algorithms that process content metadata, user and community feedback.

Project: INVITE

Principal Investigator Rui Filipe Fernandes Prada of the Computer Science Department of Instituto Superior Técnico—Technical University of Lisbon will work with several researchers, including UT Austin Communication Studies Assistant Professor Jorge Pena, to use "serious games," a video game-like interface, to study social identification and intercultural cooperation in virtual environments. The goal of project INVITE (social Identity and partnership and VIrTual Environments) is to understand how human partnerships are created, maintained and terminated in virtual environments.

Project: REACTION

Retrieval, Extraction and Aggregation Computing Technology for Integrating and Organizing News. This research project with Principal Investigator Mário Jorge Costa Gaspar Silva at the University of Lisbon, in collaboration with UT Austin's Assistant Professor Matt Lease, aims to help journalists and researchers make better sense of what is news and what is not among the massive amounts of data produced every day. The enlarging deluge of 21st century worldwide information production demands new journalistic practices to effectively monitor, interpret, and summarize news—in addition to development of new models to present dynamic, interactive, integrated content to readers. News now evolves over time as a cooperative dialog between news outlets and the public at large.

News presentations should fundamentally reflect this through "anytime" organization of the latest events, expressing story elements as they develop over time, and integrating the story in the larger world context. Journalistic excellence today requires advanced data mining and search technologies, together with novel web services and integrative mash-ups. The goal of this project is to take news delivery and development to the next level. CoLab researchers identify the challenges of the industry in analyzing multiple information inputs (formal and informal, explicit and non-explicit), as well as in designing rich interactive interfaces for effective news delivery, and case study evaluation of computational journalism methodologies. In order to help address these challenges within practical constraints, REACTION has organized seven complementary research tasks: mining resources, entity and event tracking, web community sensing, tracking information flow, interaction and personalization, query and visualization, and computational newsroom.

Project: Breadcrumbs

Principal Investigator Álvaro Pedro de Barros Borges Reis Figueira of the research institute INESC at the University of Porto will work with Professors Lease and Francisco-Revilla of UT Austin's School of Information to explore how public participation in the global news cycle can enable journalists to harness reader participation. Titled Breadcrumbs, the project will build bridges between online news and social media so journalists can understand the interests of their readers and the implicit relationships that readers perceive between different articles and events in order to identify valuable contributors and follow new leads for further writing.

Project: LIFEisGAME

The sixth strategic research project, led by Dr. Verónica Orvalho of U Porto, is titled LIFEisGAME: LearnIng of Facial Emotions using Serious Games; her UT Austin partners include Professor Jake Aggarwal, the Cullen Trust for Higher Education Endowed Professor in Engineering at the Cockrell School of Engineering, and Assistant Professor Yan Zhang from the School of Information. The project will embed real-time computer vision/graphics-based facial expression analysis/synthesis into a serious game. The games will be used to teach individuals with Autism Spectrum Disorder (ASD) to recognize facial emotions and possibly help in the mitigation of ASD. Significant numbers of children worldwide, including the U.S. and Portugal, suffer from this debilitating communicational, behavioral and social disorder.

Mario Silva, Principal Investigator, REACTION

Álvaro Pedro de Barros Borges Reis Figueira, Principal Investigator, Breadcrumbs

Verónica Orvalho, U Porto, Principal Investigator, LIFEisGAME

Tomás Henriques, Principal Investigator,
See-Through-Sound

Project: See-Through-Sound

The See-Through-Sound exploratory research project focuses on the creation of an innovative solution for the cognition and sensing of space. Its novelty lies in mapping visual information into the auditory realm to enable a spatial environment's unique features to be described as an organized sonic event. The goal is to develop a portable, wearable interface that can be used in a wide range of applications, by a large pool of different users. In addition to being worn by a user, this interface might be mounted on a small mobile robotic in order to transmit the data to a remote location for analysis. The sonic events that are output by the interface are the "image" of the space being surveyed with complexity that spans from simple discrete timbres of varying spectral richness to intricate music-like sound structures making use of a plethora of rhythmic and melodic patterns. New spaces and new spatial environments will exhibit and provoke deviations on the known/stored sound patterns.

This project has the potential of creating a new and reliable "language" based on the correspondence of the proposed sound-image paradigm, with a user learning curve similar to that of acquiring a new language. The most immediate benefits of this technology are far reaching, including medical and scientific use, as well as a tool for people with vision disabilities enabling them to "see" space through sound. A further dimension of this research is the possible development of a universal auditory language with which to map visual data into auditory data.

Examples of Relevant Cross-program Projects

Project: Mathematical Modeling and Endoscopic Image Processing

This project focuses on the mathematical modeling and endoscopic imaging processing of aberrant polyps and aberrant crypt foci (ACF, which statistically precede polyp formation). Multiscale methods are used in a modeling process which involves partial differential equations and level set methods, to simulate the dynamics and shape of ACF and polyps populations. The project's aim in image processing is to develop computerized and fast algorithms to identify and assess ACF and polyps patterns, captured in vivo by endoscopy in order to facilitate and speed up screening methods towards CRC prevention.

Project SIMCARD: Patient-Specific Cardiovascular Modeling & Analysis (Advanced Computing)

Starting from high-resolution volumetric medical imaging, researchers are developing spatially realistic physiological models of the human heart and vasculature, with its pathologies and malformations. The long term goal is the development of a semi-automated software framework for accurate structure elucidation from imaging, geometric processing for high fidelity finite element models with quantified uncertainties, as well as the physics simulations of pulsate blood flow through the heart and vasculature models. The Portugal-UT Austin team is developing and deploying state-of-the-art techniques for key geometric and biophysics modeling and analysis steps that are essential for the ultimate development of this computational framework.

EDUCATION

New degree programs have been established as a result of the collaboration. They include a Ph.D. degree in digital media at U Porto with UNL, which began in fall, 2009, as well as a master's program in digital media at U Porto. As well, an accompanying Ph.D. degree can be obtained at UT Austin in various disciplines, i.e. a dual degree program is possible.

We have embarked upon a program of teaching and co-teaching courses in Portugal both in the summer and in the long semesters. Our most recent venture was to develop an intensive screenwriting laboratory for select students during the summer of 2010. Sponsored by industry partner ZON, this laboratory is dedicated to cultivating the next generation of talented media makers in Portugal. Complementing these academic programs, the UT-Portugal program has hosted visits in Austin from several graduate students and faculty from Portugal. The program facilitates internships for additional professional training in the Austin region and on campus, and supports exploratory visits from doctoral students interested in studying in Austin and in cultivating relationships with UT Austin faculty and students.

PhD, Digital Media

The four-year Digital Media degree program at U Porto and UNL was designed with a multidisciplinary structure supporting four specializations:

1) Creation of Audiovisual and Interactive Contents

2) Technology

3) Journalism

4) Industry, Publics, and Markets

Students are co-supervised by professors in Portugal and Austin, and the program includes a research fellowship in Texas. Students are eligible to apply to UT Austin doctoral programs for a dual degree. Over 60 students have applied for joint CoLab PhD programs to date.

MA, Digital Media

U Porto's Digital Media Master of Arts program entails one year of coursework complemented by a second year dedicated to thesis or project work. This new two-year multidisciplinary program offers the following profiles:

1) Arts and Culture

2) Education

3) Interactive Music and Sound Design

4) Technologies

A number of new courses have been created to support the new area of interactive music. In the second year, students pursue either a research-oriented thesis or a project developed with industry.

Courses, Lectures and Workshops

In addition to the degree programs, the collaboration has spawned lectures, summer courses, full semester courses and co-taught classes in Portugal, as well as workshops. The graduate level classes include core courses in the program as well as special programs to develop talent among Portuguese creative students. In 2009 - 2010, these educational opportunities involved at least 126 faculty members, from 43 institutions and 10 countries who addressed approximately 134 advanced topics at four Portuguese universities and UT Austin. A major new addition to the program was a

"Stuart's generosity in giving ideas is remarkable. He was always available for us and helped us in every way he could."

– ZON student

two-month long laboratory in Austin sponsored by ZON and attended by students selected from among several Portuguese universities. Our educational programs reached numerous students from several Portuguese universities as well as working, early career professionals.

ZON Intensive Script Development Laboratory

(June-July 2010) In the summer of 2010, leading Portuguese communications company ZON Multimedia partnered with the UT Austin-Portugal program to cultivate a new generation of creative talent, sending several promising student filmmakers to UT Austin, home to one of the top media production programs in the United States. Selected on the basis of story synopses submitted last spring, the students spent two months in the ZON Intensive Script Development Lab, a rigorous program designed to hone their production and writing skills and develop the brief synopses into scripts for ten-minute films. Upon return to their home institutions, the students will spend August and September in production and postproduction, so that they can submit their completed works to the ZON Criatividade em Multimédia prize 2010 competition in November.

During their stay in Austin, the students studied many aspects of film including production management, budgeting, and character development as well as applied technical skills such as cinematography and non-linear editing. The program was divided into three concentrated courses. These included Writing the Short Script, taught by Stuart Kelban, a professional screenwriter who serves as Head of Screenwriting in the Radio-TV-Film department; Producing Film and Television, taught by Richard Lewis, a highly experienced producer, director, and writer; and From Script to Screen, led by award-winning filmmaker Steve Mims.

The three classes created a demanding schedule, requiring class attendance Monday through Thursday in addition to many hours of study, writing, and practice outside of class. Kelban's screenwriting course led students though each step of script creation, with continuous writing exercises throughout the session. The students honed their story and character development skills, so that their original film treatments evolved into fully-fledged scripts. While doing so, they learned about the business and management aspects of filmmaking in Lewis's producing class, including the supervision of film crews and the construction of a realistic budget.

While each student was selected on the basis of his or her outstanding story treatment, the students possessed varying degrees of expertise regarding actual film production. Mims' From Script to Screen class began with the basics of 16mm and digital camerawork, and went on to address digital cinematography, film grammar and design, editing theory, and other elements of post-production. Additionally, students attended special labs on advanced audio and lighting. At the conclusion of Mims' Script to Screen course, the students separated into small groups and created their own short films. These were screened on July 28, just before their departure, with a farewell dinner following the final screening.

Students reported great satisfaction with their class experiences. In a survey conducted at the conclusion of the program, all students who responded strongly agreed that the classes improved their understanding of the subject matter and all respondents rated the instructors highly in terms of teaching effectiveness.

The ZON Intensive Script Development Lab at UT Austin fostered the development of professional ties and friendships among members of different institutions and allowed several aspiring filmmakers to further develop their abilities and realize their potential. By supporting these emerging filmmakers, the Lab nurtures the students' individual careers and also contributes to the development of a technologically and artistically

innovative new generation of media makers. ZON Intensive Script Development Workshop attendees included:

- José Azevedo from Universidade do Porto
- Raquel Martins from Escola Superior de Comunicação Social
- Pierre Jézéquel from Escola Superior de Música e Artes do Espectáculo
- Ricardo Feio from Escola Superior de Teatro e Cinema
- Ana Martins from Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa
- Patrícia Brásia from Universidade da Beira Interior
- Fábio Veríssimo from Universidade da Beira Interior
- Luís Brás from Universidade Lusófona
- Susana Neves from Universidade do Minho
- Nuno Castilho from Universidade Católica do Porto
- Danilo Nascimento from Universidade de Aveiro.

Digital Media Summer Institute 2010

The Summer Institute provides several intensive, graduate level courses that cover different aspects of the Digital Media Program including cinema, music and sound, animation, and journalism. The 2010 Summer Institute's classes were taught by award-winning UT Austin production and studies faculty members and took place at UNL. The courses focused on advancing students' conceptual knowledge and applied skills. These courses served about forty students in the areas of journalism, film studies, documentary production, and animation. Descriptions of the classes are below.

Digital Journalism for a Network Society
(June 21 to July 2) Rosental Alves, a professor at the UT Austin School of Journalism, taught a two-week course that explored the current business environment for news outlets, examining how technology is playing a role in reshaping both journalism and the broader society. In addition to exploring macro-social trends around the news industry, the course also examined how technology is changing the practice of journalism, both in terms of new, computer-aided methods of newsgathering and new relationships between journalists and news organizations. The course ended with a discussion of how initiatives in Portugal could take advantage of opportunities offered by the evolving network society.

Documentary Mash-Up
(June 14 to July 2) Karen Kocher of the Department of Radio-TV-Film (RTF) led a three-week course that combined documentary film production with the use of geospatial visualization tools like Google Maps and Google Earth. Students produced short documentaries about topics in Lisbon, keeping an emphasis on a sense of place. As the documentaries were produced, students also learned how to integrate these shorts into interactive mapping systems, which give the viewer the ability to access video by clicking on locations on the map related to the video. The 2010 students' video and video from prior classes was integrated into an interactive map of Lisbon, which is available here: http://utaustinportugal.org/docmashup/.

Intermediate Animation
(July 12 to July 30) Geoff Marslett from the Department of RTF taught a three-week course targeted toward experienced animators. The course, which employed both the vector-based Flash and raster-based After Effects software packages, required students to produce a three-minute animation at the end of the course. In addition to the technical skills involved in

"We were wonderfully welcomed in Austin."

– ZON student

animation, the course also taught students to think through the project management aspects of animation, from pre-production to production scheduling to asset management.

Digital Cinema

(June 21 to July 2) Tom Schatz, a professor in the Department of RTF, offered a two-week course examining the role of digital production technology in contemporary film and video. The course emphasized Hollywood feature films, but also explored the technical changes in other national cinemas, independent films, and ephemera such as commercials and music videos. In addition to changes in production, the course studied how digital technologies have affected the distribution of films and how the adoption of digital technologies has influenced globalization, media convergence, and ownership concentration.

Full Semester Courses

Documentary and Sound, Spring, 2010

(Spring 2010) RTF Professor Andrew Garrison co-taught two long semester courses at U Porto. In the first, co-taught with Soraia Ferreira, Dr. Carlos Guedes, and Dr. Jose Alves of U Porto, students from these classes were drawn from the masters and doctoral programs in digital media. Garrison lent his expertise in documentary production to class, which produced sound documents of everyday life in Porto. Students recorded audio from sites such as a butcher shop or a restaurant, and then edited the audio to create a narrative for the audience. A second course emphasized sound design. Students undertook exercises such as remixing audio from rough cuts of films and recording "sound portraits" of a classmate.

Digital Communication Theory, Spring, 2010

(Spring 2010) Dr. Derek Lackaff led this full semester investigation into the theoretical foundations of communication theory at U Porto.

Digital Interactive Systems,
Automatic Music Generation

(Fall 2010) Dr. Bruce Pennycook is co-teaching a fall 2010 graduate seminar at U Porto with Dr. Carlos Guedes. He also will spend a full semester at the U Porto in the spring of 2011 and will co-teach **Automatic Music Generation** in the second semester.

Lectures

Kathleen Tyner Gives Keynote at Games Conference

Associate Professor Kathleen Tyner from the RTF department gave the keynote at the VS Games 2010 conference at the University of Minho in Braga. Her talk, titled "An Array of Play: Games for Living and Learning" explored instrumental uses of games. Some games Tyner discussed, called "serious games" use gameplay to teach a particular set of knowledge or outcomes. Tyner also discussed virtual worlds such as *Second Life* or *World of Warcraft,* which offer new platforms for users to communicate and socialize. The conference looked at these games from a variety of disciplinary standpoints in order to advance understanding of how games can achieve social goals.

Motivation and Mobilization: Social Network Sites and Social Research

(March 2010) Dr. Derek Lackaff presented lectures in both Porto and Lisbon on the subject of network analysis, an important tool in understanding how social media unfold. Titled Motivation and Mobilization: Social Network

Sites and Social Research, his presentation pointed out that social network sites (SNSs) such as Facebook and MySpace have emerged as important platforms for online social interaction. These sites have exhibited astonishing convergence as they assimilate functions from other more specialized media platforms such as media sharing, blogging, and gaming. At the macro level, SNSs have played a significant role in many recent collective actions, ranging from mainstream political campaigns to pro-democracy protests within repressive regimes. At the micro or personal level, a range of factors impact behavior. His lecture presented research that examines the antecedents and consequences of SNS behavior, with a particular focus on social scientific explanations of individual motivation and the mobilization of network resources.

Interactive Advertising

Dr. Linden Dalecki, a professor of marketing at Pittsburg State University and an alumnus of UT Austin, presented a seminar in interactive advertising on June 2, 2010 at the University of Porto and met with several students and faculty and some advertising companies. His talk, titled "What's Playing on WalMart Tonight? Trends in Digital Marketing" addressed contemporary challenges in advertising with respect to using new media.

Visiting Scholars and Researchers in Austin

Pedro Resende (UNL) interned in Fall 2009 at 501 post studios. He later returned to Austin to pursue further work in the film industry during the summer of 2010. Nuno Rocha of Polytechnic of Porto (ESMAE) and ZON Prize Winner studied in the Department of RTF from September to December 2009 and shot his second short film while there.

Hugo Almeida Rodrigues, U Porto interned with RTF alumnus and instructor Kyle Henry in Austin from December 2009-January 2010.

Dr. Isabel Maria Ribeiro Ferin Cunha of the University of Coimbra spent a sabbatical at UT from February to June 2010, collaborating with RTF Professor Joe Straubhaar on the digital inclusion research project. Dr. Domingos Ferreira (UNL) is spending a yearlong sabbatical in Austin collaborating with advertising professor Matt Eastin. Dr. Maria Fernanda Fernandes (U Minho) came to Austin to work with College of Communications Dean Rod Hart at the Strauss Institute.

Joana Mirando (U Porto) attended the School of Journalism's International Online Journalism Symposium April 2010. João Grilo (UNL) screened his documentary "O Tapete Voador" in the RTF Department in April, 2010 and also met with faculty on various program planning matters. Members of the FCT-funded digital inclusion research team came to Austin in May, 2010 to work with Professor Joe Straubhaar. The researchers included Cristina Ponte (U Porto), José Acevedo (U Porto) and José Alberto Simões (UNL). Artur Alves (U Porto), Nuno Correia (UNL), Fátima São Simão (U Porto), visited the Austin campus in July 2010 to discuss ISDT10 and other administrative issues.

Gilberto Bernardes de Almeida (U Porto) is spending the fall semester at UT Austin, 2010, working with Dr. Bruce Pennycook. Edgar Texeira (UNL) is spending most of the fall semester 2010 in Austin working with Dr. Joe Straubhaar.

Exploratory Visits to Austin

UNL doctoral student Monica Mendes (UNL) came to Austin on an exploratory visit in March, 2010, where she attended South By Southwest Interactive Festival and also met with numerous faculty and students. Frederico Gustavo Pereira (U Porto) came to Austin in August, 2010 on an exploratory visit. Ten students from UNL are visiting Austin in September, 2010.

BUILDING CAPACITY:
Creating a Climate for
Creativity

While all of our educational and research endeavors contribute to accelerating creativity and encouraging entrepreneurship in new media in Portugal, creating a climate that is receptive to and nurturing of these efforts requires something that stretches beyond the walls of the academy. We observe that a flourishing cyberculture represents fast and easy exchanges between universities, businesses, artists, developers and public institutions. Sharing ideas, meeting other creative people, coming up with research ideas, and exploring new ventures are best accomplished in an environment with permeable membranes – places and circumstances that are receptive, experimental, playful, and unafraid to challenge conventional ideas. To this end, we endeavor to build Portugal's capacity for new media innovation through some novel and experimental venues.

Two major contributions to building a climate for creativity are our International School on Digital Transformation (ISDT) and the Future Places Digital Media Festival. Both aim to create environments where people from around the world can share ideas, test their theories, and engage other like-minded individuals. Creating networks of collaborators, friends, mentors, and students serves to cement the country's role in the digital media world and to bring more social capital into the mix. Our goal has been to try to attract talented and motivated people from around the world to participate in both of these for a, and to put them together with some of the most talented students and faculty in Portugal. The most vibrant cybercultures around the world thrive on a blend of virtual and face-to-face meetings and contexts for exploring similar interests, and Portugal is becoming a site for precisely these sorts of encounters, with the help of ISDT and Future Places.

"For me, ISDT was about building community, envisioning possible bridges between fields and projects, and facilitating possibilities for opening global conversation about shared areas of interest."

— ISDT Student

International School on
Digital Transformation (ISDT)

 The International School on Digital Transformation was launched as part of the UT Austin-Portugal Program in July 2009 at U Porto. The first ISDT session hosted 22 faculty presenters and 51 students, who applied from all over the world and represented 14 countries, including 17 students from Portugal. The second ISDT session took place in Porto in July 2010, drawing about 40 students and speakers from a variety of countries, including 16 from Portugal, to discuss social and political changes related to digital communication systems. It is an immersive, residential school that brings together students with academic and practitioner faculty to explore and share ideas on cutting edge technologies useful for civil society.

The purpose of ISDT has been two-fold. First, the program introduces Portuguese and other students to interesting ideas and projects that illustrate how digital technologies are transforming societies. Secondly, the School creates and fosters an international network of scholars, researchers, practitioners and innovators who are working with citizens all over the world to employ digital technologies in positive social change.

There were two inspirations for ISDT: the 43 year-old International School on Disarmament and Resolution of Conflicts, or ISODARCO, which is held every year in Italy; and the world's largest digital media conference, held in Austin, South-By-Southwest Interactive. ISDT is an attempt to combine the residential experience of ISODARCO with some of the subject matter of SXSW Interactive, and to bring together advanced students in digital media with experienced scholars and practitioners for a week of interaction. Porto has turned out to be an ideal location for the school, because it is attractive to people to visit, it is walkable and safe, and there are people in Porto who are doing valuable work that can be shared with others at the school.

ISDT builds on a common model of collaboration between researchers, scholars and social entrepreneurs in the nonprofit sector. It is the "permeability" of these different roles that leads to innovation and creativity in digital media, as well as some important social phenomena. ISDT is a place to explore this process with its best practitioners and with young leaders.

ISDT is also a method, so to speak. Everyone who attends is regarded as a peer, to encourage productive conversations, instead of as speakers and audience. There is free time built into the schedule to use for informal and spontaneous conversations, workshops, discussion groups, etc. Everyone shares breakfasts and dinners, again in order to promote conversations and idea-sharing. And ISDT is meant to be fun, too—a memorable experience, one that will make it stand out from conventional academic meetings. The combination of innovation, inspiration, interactivity and fun is what makes ISDT unique. A survey of 2010 student participants confirms this: Over 90% of respondents agreed that the program expanded their professional networks and 80% agreed that ISDT provided them with an experience they would be unable to find elsewhere. Sixty percent reported that as a result of ISDT, they are working with new collaborators.

ISDT's value to Portugal is to help create a core group of young leaders who are part of an international network of innovation and inspiration. Experience shows that these are the elements of creativity and progress in digital technologies. ISDT helps "put Portugal on the map" in the minds of international leaders in digital transformation. It is a way for Portuguese innovators to share their own work with people from around the world. The core constituencies of ISDT are changing the world with new ideas such as Open Source, free culture, transparency, crowdsourcing, civic engagement, community informatics, and a host of other, related concepts in digital media. It is to Portugal's benefit that these ideas become embedded in the way young Portuguese leaders think and how they create new things. These ideas are the "drivers" in creative centers like Austin, Texas, Brazil, Barcelona, Silicon Valley and elsewhere.

The School's topics include:

- Democratic transformations of society through digital media
- Innovations in transparency and political participation using new online tools
- Grassroots civic activities using digital technologies
- Prospects for digital communication in developing regions
- Economically and politically galvanizing historically underserved areas
- Developing "open cities" and municipal participation through technological interventions

"Participating in the ISDT09 was a very useful and inspiring experience which allowed me to get in touch and share ideas with a community of very challenging, thought provoking individuals with different points of view… It was certainly a long-lasting experience of "civic intelligence" that has not only broadened my scientific knowledge but also deepened my emotional intelligence and multicultural background."

— *ISDT Student*

ISDT is a place to explore these emerging issues with top practitioners and young, upcoming leaders; the program emphasizes concrete, real-world examples and stimulating, productive discussions. At the 2009 ISDT session, presentations about copyright, open licenses and digital media helped catalyze conversations among students about "free culture" in Portugal. In 2010, participants learned about Ushahidi, an Open Source mapping and crowdsourcing tool that has been invaluable in the effort to rebuild Haiti after its tragic earthquake. Another example described in the 2010 ISDT session was Cape Town's RLabs, or Reconstructed Living Labs, which has developed software to help very low-income residents of Cape Town, especially those with mental health and substance abuse problems. The personal exchange allowed by a weeklong residential program of a relatively small group of people allows extensive interaction and has led to the development of friendships and collaborations.

ISDT has been a solid success with its participants, and it's a program that is a valuable and vital element of the UT Austin-Portugal Project.

ISDT 2010 Faculty
Ademar Aguiar (INESC Porto)
Fiorella de Cindio (University of Milan Department of Informatics and Communication, Italy)
Eric Gundersen (Development Seed, US)
Michael Gurstein (Centre for Community Informatics Research, Development and Training, Canada)
Ming-Chun Lee (UT Austin School of Architecture)
Pedro Markun (Jornal de Debates, Brazil)
Tanya Notley (Tactical Technology Collective, UK)
Marlon Parker (Cape Peninsula University of Technology, South Africa)
Leslie Regan Shade (Concordia University, Canada)
Daniela Silva (Esfera, Brazil)
Laura Stein (UT Austin, College of Communications)
Karin Wilkins (UT Austin, College of Communications)
Gary Chapman (UT Austin, LBJ School of Public Affairs)

Future Places Festival

The Future Places festival in Porto explores interactive media's contributions to the development and enhancement of local cultures. In both 2008 and 2009, Future Places was a great success that brought participants from around the world to explore and celebrate contemporary cultures through competitions, concerts, receptions, and academic keynotes and panels. Over the past three years, participation in the festival has increased, and there were a record number of submissions this year. In addition to providing a world-class festival event, Future Places also presents a diverse selection of workshops, and showcased the workshop outcomes during the course of festival events. In this sense, the festival is both a learning and a presentation opportunity, as well as a chance for people to meet, mingle, talk and grow relationships. The 2009 workshops are described below.

The Future Places 2010 call for entries attracted over 100 submissions from over 20 countries, reflecting the festival's growing global reputation. The ten winning pieces, chosen by an international panel of 18 top digital media researchers, established artists, and entrepreneurs, show commitment to exploring how digital media can support local culture and community building. The festival is attracting support from private companies including the prominent Internet services firm SAPO. These industrial ties, combined with the festival's increasing visibility in the press, and among the arts and research communities, bode well for its future as a recurring, highly regarded event drawing attention to Porto's emergence as a principal creative city in Europe.

Computer Vision

This workshop offered a practical introduction to using computer vision techniques to create interesting interactions in Processing, a free Java environment for arts programming. Topics included a brief review of programming in Processing; direct pixel access and image manipulation; motion detection, object tracking, blob segmentation, and face recognition.

Uncovering Urban Stories

This workshop explored video shown on the emerging medium of location-aware mobile devices, systems capable of selectively presenting media to an audience who is out and about, engaging and interacting with a dynamic urban environment. The distinguishing quality of this media format is its powerful ability to deliver narrative experiences that merge with an audience's physical context – the environment immediately surrounding them. Its participants were guided through the process of authoring, structuring and designing mobile, spatially distributed narratives. The workshop addressed the processes of storyboarding, scripting and filming to suit presentation on mobile devices and culminated with a public exhibition showing the stories in context.

Open Cities

This workshop operated as a collaborative recording session where participants collected sounds used to create a show presented by workshop leaders Gunn and Brown later in the festival schedule. It included a loosely structured recording walk across a selected part of Porto using mobile recording equipment.

Interface Design for Mobile Devices

Mobile devices and network infrastructures open the possibility for new forms of information access or storytelling while visiting physical places. This workshop addressed this new trend by exploring the user interface design opportunities and challenges for different devices, taking into account the underlying information architecture or storyline. Participants were given the opportunity to develop a project in user interface design and information structuring for exploring a physical location. This workshop was intended for designers, illustrators, programmers interested in information structure and visual design, and content producers including photographers, video

Will Wynn addresses Creative Cities

South by Southwest Interactive

artists and sound designers.

Other Events, Talks, Workshops

Imaging, Modeling & Visualization in Multiscale Biology, 2010
This workshop presented topics from both mathematical and engineering perspectives on interdisciplinary topics, to address research problems related to medical imaging, biomechanics, biology, and bioengineering.

Network of Creative Cities
Austin's former mayor Will Wynn was present to help launch the international Network of Creative Cities in Lisbon in July 2009. Other participants included the Portuguese Secretary of State for Science, Technology and Higher Education, Manuel Heitor, as well as mayors and representatives of the most active municipalities in terms of creativity and innovation such as Guimarães, Óbidos, and Paredes as well as representatives of the UNL and the Technical University of Lisbon.

Involvement in external events

SXSW Interactive, Film, & Music Festivals
- Bruce Pennycook (UT Austin Digital Media) and Ivan Franco (YDreams, Portugal) spoke on New Interfaces for Performance.
- Heitor Alvelos, João Cruz, and Anselmo Canha (U Porto) performed at the Austin Museum of Digital Art music showcase.
- Carlos Guedes (U Porto) provided interactive music technology with Echo Locations, as part of the opening session of SXSW Interactive.
- ZON prize award winner Nuno Rocha's winning film was screened at the Alamo Ritz downtown, as part of UT Austin's RTF department's showcase.

Futurália
CoLab has been represented by an information booth at this high profile student event since 2008.

Stories of Art & Science Conference —Launch of Nomadic, Fall, 2009
Maria Esteva, a Research Associate/Data Archivist in the Visualization and Data Analysis group of UT Austin's Texas Advanced Computing Center addressed the topic Endless Possibilities: Digital Collections as Crossroads between the Humanities and the Sciences.

International Conference on Games and Virtual Worlds for Serious Applications, 2010
Kathleen Tyner (UT Austin Digital Media) presented the opening keynote speech at the Second Annual International Conference on Games and Virtual Worlds for Serious Applications on March 25-26, 2010 in Braga, Portugal.

Gear Up: Sound and Interactive Media 2010
Bruce Pennycook and Jade Walker (UT Austin Digital Media), Heitor Alvelos (Univ. Porto), and Carlos Guedes (Polytechnic Institute of Porto) presented talks at this conference on practice-based research in art and design at the University of Beira Interior from April 7 to 12, 2010.

Artibytes 2009
CoLab's Executive Director in Portugal, Pedro Madeira, served on a debate

panel to discuss International Partnerships for Art & Technology.

Black & White Audiovisual Festival 2009
Several films by RTF UT Austin Students were screened at the Black and White Festival in Porto, 2009.

SHiFT (Social and Human ideas For Technology) Conference 2009
Geoff Marslett (UT Austin Digital Media) provided a presentation followed by the workshop Digital tools as an extension of animated ideas.

UFrame International Video Festival
UT Austin has joined U Porto and the Universidade da Coruña to produce this film festival during the last three years. This juried festival includes Master Class lectures from UT Austin faculty (Professor Andrew Shea in 2008 and Professor Stuart Kelban in 2010). To date, two of the main prizes have been awarded to UT Austin students participating through the Digital Media Program.

International Online Journalism Congress
Rosental Alves (UT Austin Digital Media) addressed the ways the digital revolution is removing barriers in journalism, especially in the way the role of the journalist has become an open public forum. A special day is allocated to the Ibero-American forum for Spanish- and Portuguese-speaking journalists from around the world.

Portugal Tecnológico 2009
Future Places festival winners presented their interactive digital media projects as part of the conference events:

- Filipe Pais (Living Room Plankton)

- Rudolfo Quintas (Burning the Sound)

- Rui Penha (Digitópia)

THE ADVANCED DIGITAL MEDIA COLAB GROUP

Advanced Digital Media Directors

Sharon Strover, Director, Digital Media Austin
Professor and Chair of the Department of Radio-Television-Film; director, Telecommunications and Information Policy Institute (TIPI)

António Câmara, Director, Digital Media Portugal
Professor of Environmental Systems Analysis at Faculdade de Ciências e Tecnologia; Founder of YDreams

Artur Pimenta Alves, Co-Director, Digital Media Portugal
Professor Catedrático, Faculty of Engineering, Department of Electrical and Computer Engineering, Telecommunications Section, U.Porto; researcher, Institute for Systems and Computer Engineering of Porto (INESC Porto)

Nuno Correia, Co-Director, Digital Media Portugal
Professor, Dept. of Computer Science and coordinator of the Interactive Multimedia Group at FCT/UTL

João Mário Grilo, Co-Director, Digital Media Portugal
Professor, Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa, FCSH/UNL

University Partners

New University of Lisbon
- Faculty of Science and Technology (FCT/UNL)
- Faculty of Social Sciences and Humanities (FCSH/UNL)
- School of Economics

University of Porto
- Faculty of Engineering (FEUP)
- Faculty of Fine Arts (FBAUP)
- Faculty of Humanities (FLUP)
- Faculty of Economics (FEP)
- INESC Porto

The University of Texas at Austin
- College of Communication
    - » *Radio, Television and Film (RTF)*
    - » *Journalism*
    - » *Communication Studies*
    - » *Advertising & Public Relations*
- College of Fine Arts
- LBJ School of Public Affairs
- School of Information