

UT Austin | Portugal INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB



■ The CoLab team wishes you all a good summer holiday!

Digital Media Summer Institute 2013 Completes

The Digital Media Summer Institute wrapped up in July. This year's program offered four intensive courses taught by UT faculty in Lisbon and Porto, each graduate-level course lasting three weeks. In addition, an advanced one-week workshop on Interaction Design was offered at U. Porto in July, taught by UNL doctoral students.

One of the first courses this year was **Research Methods**, taught by **Sharon Strover** in Lisbon. Her classes gave a thoroughgoing overview of systematic data collection, covering a variety of methods including ethnography, field experiments, online and offline surveys, and focus groups. Students also learned the theoretical underpinnings of social science research, examining concepts such as epistemology and measurement. The course was oriented particularly toward students beginning their doctoral projects. Also in May, **Rosental Alves** led a course on **Entrepreneurial Journalism** in Lisbon. The course featured offline and online components this year, as students looked at the ways in which digital media has affected the production, distribution, and consumption of news. In June, **UT advanced doctoral student William Moner** led a course on **Human-Computer Interaction and Interactive Media**, focusing on how tools on the web can be used to tell a story. Students were asked to construct a narrative experience based on a place, such as their hometown.



William Moner and some students

In Porto, **Bruce Pennycook** from the University of Texas at Austin, led a workshop on **Digital Game Design**. During the course, students used the GameSalad engine to design a game and employed different software tools to create graphics and audio.



Bruce Pennycook and his students

The hands-on course featured lecture, practical instruction, and open lab time, and concluded with final demonstrations via Skype. In addition to his workshop, on June 27th Pennycook gave a talk entitled "The Impact of New Media on Music Creativity".

During an hour presentation, Bruce Pennycook talked about how new media – meaning hardware and software developments in audio and music – have altered how we work and how we make music.

Students in Porto also had the opportunity to participate in a **workshop on Interaction Design**. From July 8th to July 19th at FEUP, eleven motivated students attended the course and developed skills in areas such as User Experience Design, Content Strategy, Information Architecture, Personas, Wireframing, Interface Design, Prototyping, among others. Students were able to plan and develop an interactive product through design thinking processes and applying user experience design methods. The first week included intensive classes in the morning and afternoon and the second week was devoted to free project work, with a final project presentation at the end of the week.

The course, lectured by **Bruno Nobre and Cláudia Pernencar**, both Digital Media Ph.D. students from the UT Austin | Portugal Program and invited assistant professors from IADE-U (Institute of Art, Design and Enterprise - University), focused on the development strategies and tools of an Interaction Design project regarding a User Centered Design approach. This particular condition relied on an overview of principles, processes, and tools that supports Interaction Design, and was focused in the pursuit for innovative and lateral thinking in the creation of interactive media having the User in the center role.



Digital Media Summer Institute 2013 Completes

Students have responded very positively to the diverse summer course offerings, with many commenting on how the courses will help them in future academic and professional endeavors. Survey respondents have given the five courses an average overall rating of 4.5 out of 5.



Interaction Design Class

■ INVITE Project Researchers Convene at UT

Several members of the **INVITE project** team met in Austin in mid-June to perform their first round of field experiments at UT and to discuss how the project may be further developed. Principal investigator Rui Prada, professors Pedro Santos and Carlos Martinho and graduate student Guida Preto met with co-principal investigator Jorge Peña of UT's Communication Studies and UT graduate student Nick Brody. The project, titled INVITE: social Identity and partNership in VlrTual Environments, is an FCT-funded effort initiated in 2010.

This research explores the development of artificial intelligence mechanisms that can perform well in complex social situations such as games and virtual environments. During the project, the team created a 3D, highly customizable virtual world where different aspects of the decision-making process may be studied. The game may be used to explore people's behavior and how they negotiate a social dilemma, choosing between working for the personal and the public good. For example, players' avatars may work in teams populated by virtual agents as well as other human players. Under a time constraint, each player must decide whether to focus on his or her own personal advantage or to focus on working to the advantage of the team as a whole.

This tool also investigates the construction of social identity, studying how players develop feelings of belonging with other group members, including virtual agents. With its great flexibility, the application may be useful in diverse fields including psychology, business, and education.



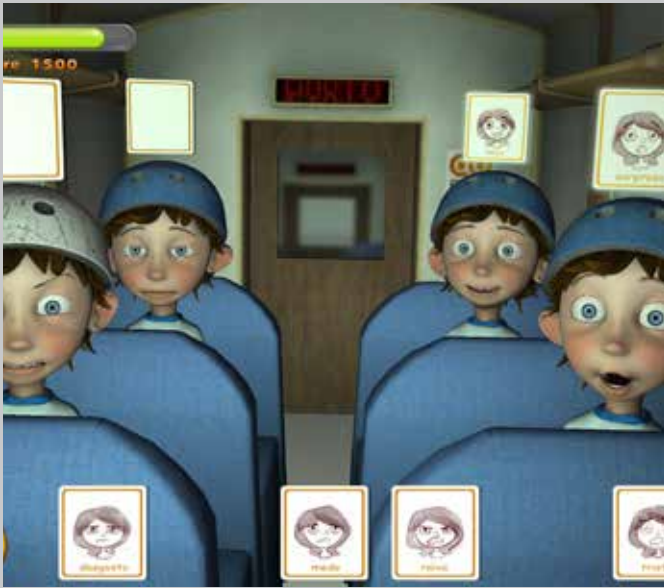
INVITE Project Researchers Convene at UT

LIFEisGAME Project Presents Demonstration in Porto

The LIFEisGAME research team gathered on June 11 in Porto to formally present the results of their work. Led by principal investigator Verónica Orvalho of U. Porto, the researchers include co-PIs Jake Aggarwal of UT Austin and Miguel Sales Dias of Microsoft, the project's industry partner, Cristina Queirós of U.Porto, and António Marques of IPP. The project has been based at the Porto Interactive Center.

Launched in 2010, the FCT sponsored project has developed tools to help children with Autism Spectrum Disorder improve their communication skills in an engaging game environment. LIFEisGAME uses real time synthesis and automatic facial expression analysis to help players learn to recognize emotions conveyed by the face and also teaches them to mimic expressions as they learn to match facial cues with emotion. The game's flexibility allows therapists to adapt it to the needs of the individual child, helping the child achieve a variety of learning outcomes.





Players are led through four learning stages: Recognizing emotions portrayed by the onscreen character; using the game's sketch tool to build a facial expression that matches a particular emotion; mimicking the facial cues of a 3D avatar; and learning to perform expressions based on situations portrayed in a story. Innovations produced by the team may be applied to a variety of fields including psychology, entertainment, health, and academia. Orvalho expressed great satisfaction with the team's achievements and conveyed her hopes for the project's future, saying "The LIFEisGAME project has gone beyond current state of the art techniques in character animation and opened the door to explore novel lines of research in the understanding of emotion recognition through new interaction models... we have gone one extra mile and implemented our game on-line and for tablets, so hopefully many kids can explore its potential and become part of our next versions!"

■ Scholars Gather at Digital Media Methods Conference in Porto

The first meeting on Digital Research Methods (DiME) took place May 24 at FEUP. Austin Digital Media Director Sharon Strover and Portuguese directors and co-directors Nuno Correia, José Azevedo, Carlos Guedes, Heitor Alvelos, and Artur Pimenta Alves acted as speakers and moderators, opening and closing the daylong session. Ademar Aguiar and Joana Resende of U. Porto joined them, also serving as speakers. The conference featured presentations from 10 advanced PhD students and was created to provide a forum for doctoral students to discuss their projects from the perspective of their respective research methods.

The range of approaches addressed in the conference reflected the diversity of the students' interests and included user experience and survey designs, the study of social networking dynamics and innovation, researching marketing and new media, qualitative approaches to film and new media, and digital media and journalism, among other topics. Eduardo Morais, Gustavo Costa, Jaime Fins, João Miguel Aguiar, and Marisa Silva organized this inaugural meeting. Presenters included Horácio Tomé Marques, Filipe Lopes, Pedro Bastos, Fernando Governo, Paulo Fontes, Jasmina Stoyanova, Bruno Nobre, Carlos Figueiredo, Soraia Ferreira, and Ricardo Batista.

■ UT Digital Media Faculty Present Research at International Conferences

Several UT Austin Digital Media faculty took advantage of the summer to travel to some major international conferences and present their latest research. Sharon Strover, Karin Wilkins, Joe Straubhaar, and Laura Stein of the Radio-TV-Film Department, Jorge Peña of the Communication Studies Department, and Michael Mackert of Advertising and Public Relations all participated in the International Communication Association annual meeting in London, June 17-21. Faculty took part in a wide variety of panels on topics including broadband network access, political communication during the Arab Spring, freedom of the press in the digital age, expressions of regional identity in Brazilian media, health communication and behavioral outcomes, and military training and video games. Several of the UT faculty went on to the International Association for Media and Communication Research (IAMCR) annual meeting, which convened in Dublin from June 25-29.

Also at IAMCR, UT Austin-Portugal researcher Cristina Ponte of UNL presented research on how mediagraphies can support media research and education.

In early July, Straubhaar spoke in a plenary panel at the International Conference Interfaces Lusophone, which took place in Braga. The conference addressed a range of study areas including Lusophone media production, migration and identity, and trends in Lusophone culture around the world. Straubhaar, an expert on global media and international communication, contributed to the plenary session titled "Intercultural and representations of the Portuguese language in the media," and was joined by former UT visiting researcher Isabel Ferin Cunha of the University of Coimbra, Maria Manuel Baptista of the University of Aveiro, and Claudia Castle of the Tropical Research Institute.

UT Austin Visiting Researchers Spend Active Summer



Cláudia Silva Latinitas

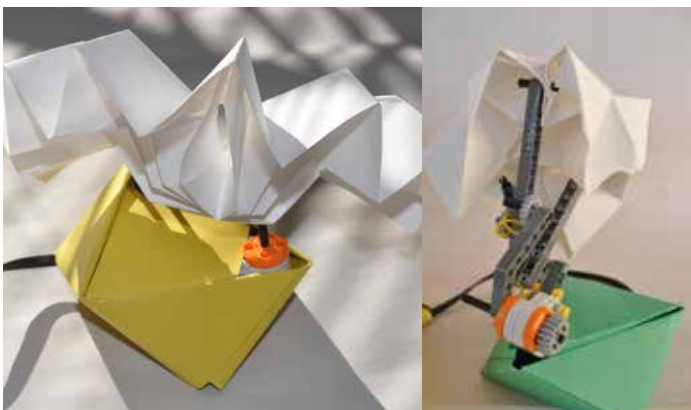
UT Austin-Portugal Digital Media visiting researchers have spent a productive summer teaching workshops, gathering data, and traveling the world. Isabel Paiva went to Brazil to conduct the PaperBots Workshop on July 23 and 24 at the Electronic Language International Festival (FILE) in São Paulo.

The FILE festival features exhibitions, roundtables, workshops, and lectures focused on art, technology, and digital culture. It will run from July 23 to September 1.

Paiva's workshop combined digital and physical computing, as she taught participants how to construct interactive devices known as Paperbots built with technology from LEGO Mindstorms kits. Paiva works with faculty at UNL and UT Austin, specializing in design, engineering, and art. After taking classes at UT Austin as a registered student, she transitioned to visiting researcher status to pursue the development of her final project.

Doctoral student Gustavo Magalhães is doing research in San Francisco this summer with nonprofit organization Code For America, a nationwide organization devoted to promoting open government policies, supporting civic startup companies, and improving citizen engagement. Magalhães is studying entrepreneurship in the fields of civic and open data technology.

UNL doctoral student Cláudia Silva recently concluded her first series of workshops on locative media and storytelling at Latinitas, a Texas nonprofit organization devoted to empowering young Latinas through media and technology. Silva, who has taken classes at UT Austin, is now a visiting researcher and works with two local community groups, Latinitas and the River City Youth Foundation. Working with girls between the ages of 10 and 14, Silva taught them about smartphones, GPS, mapping,



PaperBots

and the creation of place-based stories. By the end of the sessions, several of the girls were able to create narratives about specific places significant to them, and make the stories available on a website created by Silva. Silva's dissertation project, supervised by Professors Joe Straubhaar of UT and António Granado of UNL, studies the potentials of locative citizen journalism. More information about her research is available on Silva's blog.

After nearly two years as a visiting researcher, Tiago Videira returned to Lisbon this summer to complete his dissertation. During his stay in Austin, Videira worked closely with UT professor Bruce Pennycook, studying programming techniques for musical analysis and symbolic manipulation using the programming language Lisp. His extended visit proved highly productive: While at UT, he composed over a dozen original music pieces and began development of a new instrumental music generator, still in progress, in addition to studying a wide range of disciplines as he shaped his dissertation topic.

Videira commented, "I feel as if I took two or three different master courses while I was here on my own... The amount of information I gathered during these two years was overwhelming but in the end I take with me a 140 page dissertation in progress and many, many notes that will help to shape my future work." During his last weeks in the US, Videira explored the country beyond Texas, touring Arizona, California, and Nevada.



Tiago Videira trip



Tiago Videira trip

■ João Mario Grilo Visits UT

Award-winning filmmaker João Mário Grilo visited Austin in May. Grilo, a professor in the department of Communication Sciences at UNL, met with UT students and faculty and presented some of his latest work. Traveling for several weeks in Mexico and the United States, Grilo visited and photographed the landscapes appearing in films by legendary directors such as Sergei Eisenstein and John Ford. Grilo is researching ways in which new media can be used to teach contemporary students about these iconic directors, such as through the creation of 3-D models that allow students to virtually explore film landscapes and study how the directors' framing decisions affect the overall work. This may offer a new means to acquaint today's students with some of the twentieth century's most powerful films.

■ Advanced Computing – Portuguese students at the University of Texas at Austin

This summer, eight students from the University of Minho are doing their internships at the University of Texas at Austin. They are working on exciting projects in graphics, high-performance computing, and parallel programming. Daniel Gomes, Jose Alves, and Luis Gomes are working with Professor Don Fussell in the Department of Computer Science at UT Austin on advanced ray-tracing techniques. Fabio Correia and Diogo Lopes are working with Dr. Paul Navratil at TACCC on the Stampede cluster, which is one of

the fastest computers in the world. Cristiano Sousa, Rui Brito, David Pereira and Bruno Medeiros are working with Professor Keshav Pingali, co-director of Colab, on graph partitioning problems on multicores and GPUs. The UT Austin research supervisors report that the Portuguese students have an excellent background in parallel programming, and that they are strongly motivated. We look forward to seeing some significant accomplishments by the end of the summer!



DIGITAL MEDIA DOCTORAL STUDENTS' NEWS

■ Bruno Nobre (FCT/UNL) attended the 11th Euro iTV

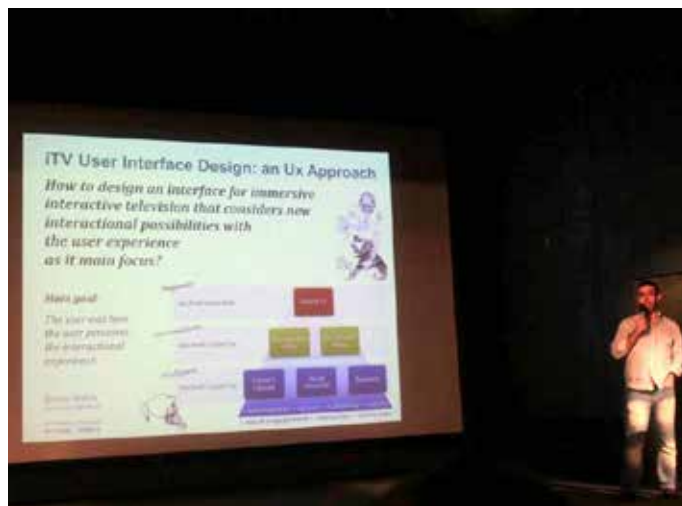
During the 11th edition of the European Interactive TV Conference series: Euro iTV 2013 - the leading international conference for media and interaction related to video and television - hosted this year by the Politecnico di Milano from June 24 - 26, 2013 in Como, Italy, Bruno Nobre, a Digital Media doctoral student from FCT/UNL presented the ongoing PhD research entitled "iTV User Interface Design: an Ux Approach" at the conference Doctoral Consortium. This research is part of the "ImTV - On-Demand Immersive-TV for Communities of Media Producers and Consumers" FCT/MEC funded project and aims to study the interface design for interactive television considering the user experience as its main focus since the early ideations.

The presented paper was mainly focused on the developments of a persona creation strategy for interactive television users and the preliminary conclusions that were achieved at that time. Also, at the conference Closing Session this work was again exposed in a short format version, enabling the statement of the study focus and goals to the entire Euro iTV 2013 audience.

In Bruno's own words: "This was a very good opportunity to show the results of the research that we're pursuing and get valuable feedback from the scientific community. Also, the chance to see in first-hand the advances in industry and

academic research of interactive television in one single place was outstanding and inspiring. Definitely, it will contribute significantly to the quality of the research." Furthermore, Bruno Nobre also had the chance to attend the "Out of the Box Selection and Application of User Experience Evaluation Methods and Practical Cases" tutorial led by Marianna Obrist, Santosh Basapur and Hendrik Knoche. This workshop provided a general understanding of UX evaluation available methods, concrete UX evaluation case examples and hands-on exercises, engaging in a reflection on practical use of UX methods, problems and challenges.

This year edition had another particularity: it was the last of the Euro iTV series. Next year, it will be titled as: ACM TVX - ACM International Conference on Interactive Experiences for TV and Online Video. For more info: <http://tvx2014.com/>



Horácio Tomé Marques (U.Porto) presents his projects [Music, Reason and/or Emotion] on several events

Doctoral student Horácio Tomé Marques keeps applying his research on two fronts. Working at EEG (brain electric potentials) lab recording and analyzing data from musicians (mostly guitarists) and on the expected correlations of resonance potentiation and conditioning of human behavior (musicians and public) by harmonic synchronization of oscillators. This project has been featured on the TV program *Música e Emoções*, by *Ciência 2.0* from University of Porto. He is applying his ideas based upon the human EEG and other bio-electric potentials phenomena on several projects as well, from which he currently highlights two of them:

1) μ ARTs* collective, with colleagues from neurosciences, dance and media. With this one Horácio have been participating in several events and venues, applying innovative ideas like taking the EEG lab to concerts, museums or art galleries, transforming it into truly art installations and performative acts, and also proposing new perception models, e.g. by playing blinded, simultaneously with blind

and sighted friends, in order to understand the impact on perception, emotions and reasoning and work on the findings in subsequent artistic proposals.



Tangible Feelings Workshop μ ARTs

2) Inside Music Machine**, with two colleagues musicians and another from the faculty of engineering. This project conceptually proposes an interpretation/revelation, through some unprecedented visual methodologies in real-time and in creative ways, but with objective empirical support, the invisible side of humans on the act of producing and playing music — a generated phenomenon, both exterior and interior, that is not perceptible by visual or auditory system but is constituent of the phenomena itself and that influences the overall perception and understanding of images and sounds. For that the group is using special really innovative technological apparatus within this context, such as thermographic cameras, plus sensors for bio-electric potentials and reactive algorithms, making possible to decode that phenomena as well as the acoustic oscillations generated by musicians, i.e., music as we appropriately define it.

The group made the grand opening for the 31º Festival de Música de Leiria 2013, the oldest classical music festival in

* μARTs (founding members)

· Horácio Tomé Marques - Music · Brain Potentials · Digital Art
· Francisco Marques Teixeira - Neuroscience · Neuro-engineering · Mind
· Sofia Ferreira Leite - Neuroscience · Dance · Empathy
· Tiago Gama Rocha — Web · Neurocognition · Communication (also PDMD)

www.muarts.org

** Inside Music Machine

Music - Ianina Khmelik – Violin; Hugo Novo - Teclados, Samplers e Sequencers
Visuals - Horácio Tomé Marques - (BCI / EEG) Brain-to-computer-interfaces,
Acoustic and Bio Sensors; António Silva - Termographic Cameras, Acoustic and
Bio Sensors

www.insidemusicmachine.org

Portugal, where they introduced this original approach. Horácio always analyses the possible consequences of the art proposals by talking and interviewing several attendees of the venues, not only from general public, but also art directors and curators, to get a broader notion (and statistical data) of the potential impact.

Through methodologies and projects like these the researcher is giving meaning to his quest. As Horácio writes: "As the performative acts are a much broader phenomena than most of us can perceive, and not exclusively because of the layers contained beyond the capabilities and mechanisms of human perception — therefore constituting events of relationship and interaction (e.g., musicians and audience) - this approaches aim to significantly contribute to an extended and amplified aesthetic relationship between the protagonists of the performing arts, i.e., between the performers and the audience.



Inside Music Machine

Digital Media Intern Publishes Online Ad Study

Former Digital Media research intern Ana Margarida Barreto recently published the results of a marketing study performed during her stay at UT Austin. The study is featured in an article titled "Do users look at banner ads on Facebook?" which appears in volume 7 of the peer-reviewed Journal of Research in Interactive Marketing. Barreto, who is now finishing her doctorate in Strategic Communication at the University of Lisbon, came to Austin in the fall semester of 2010 to do research on social media and advertising.

Working with Professors Sharon Stover of Radio-TV-Film and Zenzi Griffin of UT's Department of Psychology, Barreto conducted an eye-tracking study to investigate the phenomenon known as "banner blindness," which describes how users of websites may not actually look at advertisements. Barreto learned that ads on Facebook attract lower attention levels from participants than friends' recommendations. The study offers empirical data on user behavior that may contribute to the development of more effective online advertising campaigns, an area of increasing financial investment. Barreto's award-winning blog [<http://doisdedosedmarketing.wordpress.com/>] covers a variety of issues surrounding marketing communication. She is currently a visiting scholar at Columbia University's Business School.

Diana Marques Contributes to Augmented Reality Project at Smithsonian Museum

Digital Media doctoral student Diana Marques is currently working at the Office of Education and Outreach at the world-renowned Smithsonian National Museum of Natural History in Washington, DC. Marques, whose areas of expertise include scientific illustration and animation as well as biology, studies the integration of technology, particularly augmented reality, in museum environments. At the Smithsonian Museum, she is part of a skilled team that is developing a mobile AR experience to digitally renovate a nineteenth century skeleton exhibit, with the goal of making the exhibit more engaging to the public.

Marques noted that her participation in this project has given her the opportunity to further develop her skills as a 3D visual communicator as well as develop new skills in user interface design, observation, tracking, and interviewing methods. Her team's work has broad implications for the future of science communication and museums, as it explores how AR may be best employed as a tool to engage and educate the public.



“e-maestro” project showed at “Guarda Nacional Republicana” (Republican National Guard) historic headquarters in Lisbon

The interactive video installation “e-maestro” from Digital Media PhD student Rui Avelans Coelho featured in the Republican National Guard's 102nd anniversary celebrations. This year's exhibition received more than 22,200 visitors which exceeded the numbers of the five previous editions held between 2007 and 2011. Miguel Macedo, the Portuguese Minister of Internal Administration, was present at the official opening and had the opportunity to try “e-maestro” himself. Renascença Radio visited the GNR headquarters and interviewed Rui Coelho. The story can be seen here: <http://vmais.r.sapo.pt/default.aspx?fil=491492>



■ Ongoing Opportunities

- **Fellowships and Grants - 2013 Call for PhD Studentships, PhD Studentships in Industry and Post-Doctoral fellowships**

With this call, FCT aims to support the best graduate investigators who wish to pursue research leading to a PhD degree, in any scientific domain, and the most creative post-doctoral researchers in pursuing cutting-edge research, in Portuguese or foreign research centres.

More information:

<http://www.fct.pt/apoios/bolsas/concursos/individuais2013.phtml.en>

- **European Institute of Technology Preparation Projects**

FCT aims to support Portuguese research teams in joining the new KICs, through the establishment of co-location centres in Portugal. Towards this end, FCT launches a call for business plans for the implementation of co-location centres of a KIC. The selected proposal(s) are expected to integrate European consortia applying to the 2014 EIT call for KICs (EIT-KIC-2014).

The R&D areas addressed in this call are: innovation for healthy living and active ageing; and raw materials.

More information :

<http://www.fct.pt/apoios/projectos/concursos/2013/editais/eit/index.phtml.en>

- **Advanced Digital Media Mobility Awards**

Awards for Digital Media faculty and student travel to UT Austin.

For more information please visit:

<http://utaustinportugal.org/calls/dm-travel>

Useful links

www.utaustinportugal.org

www.fct.mctes.pt

www.utexas.edu

www.ic2.org

www.ati.utexas.edu

www.austin-chamber.org

<http://colab.ic2.utexas.edu/dm/>

www.utenportugal.org

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to carolina.enes@fct.unl.pt.

UT Austin | Portugal

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INDEPENDÊNCIA EM PENSAMENTO E CRIATIVIDADE