

From a Pedagogical Experience of a Photography Course on Architectural and Public Space into a Research Project focused on Communication of Public Space's State and Evolution, Architecture and Urban Cultures

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1. ABSTRACT

This paper will explain how, from a blended teaching experience¹ in CFM (Communication, Photography and Multimedia) Course at FAUP (Faculty of Architecture, University of Porto) that lead to several didactic experiences and research projects on architecture and public space (seminars, workshops, publications and editorial projects), CCRE (Centre for Spatial Communication and Representation) Research Group has been able to interrelate a set of significant experiences and results coming from the former work and activities with the on-going R&D project DARC, more specifically with its City Spaces|Culture module, directed towards the communication of content related to cultural events and spaces as architectural heritage, identity and historical places.

All these projects, together with CCRE's communication philosophy, its online platforms and physical outputs – such as publications and exhibitions – constitute a blend between direct and “indirect” pedagogy strategies on architecture, public space and the way they are experienced by the general public.

As we will explain in this paper, all these research projects were fundamental to assess the possibilities and limits of our pedagogic/didactic philosophy, as well as to trigger new and more effective ways of communicating and sharing substantial information between students and the general public.

This paper will therefore explore the blended approach that we've taken in CFM classes, how it translated into the various platforms that we've used for it and for other parallel activities, and how this knowledge is being applied to the on-going DARC research project and to its set of communication and presentation operators. The goal will be to verify how the combined operators that we've used in our platforms (ranging from geo-referenced maps, images and videos – focused on visual literacy – and social networking – focused on communication) allowed for a deeper involvement and participation of both academic community and general public.

1 Blended learning is a pedagogical strategy that simultaneously integrates traditional learning methods (which require the student's presence at a given time and direct contact between them and the teachers) with complementary methods, supported by ICT and the Internet, that further expands the learning process and provides students and teachers with new channels of communication and interaction possibilities.

2. INTRODUCTION

CCRE² is a research group that belongs to CEAU³ (R&D unit of FAUP) and has been responsible for diverse research projects focused on using Digital Media Technologies on the web for collaborative work and for communicating public spaces, as well as any proposed design for them.

This research group structures its activities among three strategic fields, which we believe are interconnected and interdependent:

i) CCRE is engaged in research focused on the design and study of hybrid spatial environments: E-Learning Centers with strong ICT integration. The global aim of these spatial environments is to create a set of new dynamic learning spaces integrating ICT and able to combine social interaction and diverse activities with studying.

ii) CCRE's coordinator is responsible for lecturing CFM (Communication, Photography and Multimedia) and CAAD (Computer Aided Architecture Design) at FAUP, and therefore is involved in research focused on blended learning approaches for teaching those classes, namely the use of online digital platforms for communicating and presenting works. It is worth to mention that CAAD has as its main exercise the design of an E-Learning architectural program.

iii) CCRE is engaged in research related to city and cultural spaces and endorses a participatory perspective that it believes to be the way to cultivate societies' multiple public interests – a society-centered view of government and the ability to let pluralism live (Dredge, 2009), making possible a place for subjective rationalities of individual citizens within the planning, design and communication process of their cities. Through its on-line platforms, CCRE also envisions to improve communication techniques and methodologies for the interchange of information on architecture and cityscapes, exploring several digital media, especially photography, to inform the general public and contribute to open university/academic researches to society and its city. These online platforms constitute a powerful medium through which diverse collaborative studies are accomplished inside and outside the academic environment.

This paper will explain how, from a blended teaching experience in CFM Course at FAUP that lead to several didactic experiences and research projects on architecture and public space (seminars, workshops, publications and editorial projects), CCRE Research Group has been able to interrelate a set of significant experiences and results coming from the former work and activities with the ongoing R&D project DARC⁴, more specifically with its City Spaces|Culture module, directed towards the communication of content related to cultural events and spaces as architectural heritage, identity and historical places.

2 CCRE is an open project that aims to hold the interest of different people and research coming from various institutions and fields of study. The work is focused on using Digital Media Technologies on the web for collaborative work and for communicating public spaces, as well as any proposed design for them. Its website constitutes the main medium where all these different collaborative studies take place. We have been exploring the potential of this platform for learning in Architecture and want to extend it to Art and Design courses.

3 Research Centre on Architecture and Urbanism (Centro de Estudos de Arquitectura e Urbanismo).

4 Digital Architecture Representation Communication (<http://darc.pontopr.com/>) is a research and technological development project (RD&T) supported by FEDER in the terms of the Portuguese National Strategic Reference Board 2007 - 2013. This online compound of interconnected platforms, that is currently under development, intends to be a product - the software - that will allow: i) to structure, represent, promote and disseminate diverse content aimed at the market of Creative Industries, Planning and Environment and Cultural City Spaces and Tourism; ii) to structure and allow sharing of information and representations for interactive collaborative work in the construction industry (Architecture and Urbanism) and in University Education (related to Architecture and Arts).

DARC consortium is comprised of two public institutions of education and research (University of Porto; Faculty of Architecture of U. Porto) and three private companies (PontoPR, Publicidade e Robótica, Lda.; João Castro Ferreira Arquitectos, Lda.; Né S. Design Unipessoal, Lda.). This interdisciplinary team is able to generate synergies to produce planned research and criticism in order to obtain new knowledge and skills to produce and develop the DARC product and its specific applications.

We will start by introducing our pedagogical experience and philosophy of CFM Course at FAUP, which will help to understand our blended-learning approach towards teaching and how digital and interactive platforms on the World Wide Web can help us accomplish our objectives. This can be seen at chapter 3: “CFM PHILOSOPHY AND PEDAGOGICAL EXPERIENCE”.

Then, we will present those platforms in a more detailed way: some are third-party platforms that we’ve used to accomplish some of our objectives and that are normally accessible to anyone on the WWW; others were imagined and created by ourselves as a response to other projects where we were involved and therefore constitute a more personalized and throughout way of addressing our needs and objectives. This will be addressed in chapter 4: “DIGITAL ONLINE PLATFORMS USED OR DEVELOPED BY CCRE IN TEACHING AND RESEARCH”.

After that, we will make a brief comparison of all the platforms that we’ve used or created in order to understand their qualities and weaknesses and to acknowledge whether they were effective or not and in what terms. This comparison will be presented in chapter 5: “COMPARISON OF THE DIGITAL ONLINE PLATFORMS USED OR DEVELOPED BY CCRE”.

Finally, we will conclude by answering our main research question: how did these experiences influenced our current main R&D project (DARC). This will be discussed in chapter 6: “DARC - Digital Architecture Representation and Communication” and chapter 7: “MAIN CONCLUSIONS”.

3. CFM PHILOSOPHY AND PEDAGOGICAL EXPERIENCE

CFM’s Pedagogical Experience is an evolving and upgraded methodology for teaching technical and artistic aspects on photography and for discussing photography projects, as well as the structure and communication strategies of the visual narratives, with the intent to promote critical awareness about architecture and public space. It’s a comprehensive approach because it implies, in the learning process, a time for analysis of a determinate object, with the right set of conceptual and technical tools, and the time to structure and explore the best way to communicate it to an expanded audience.

This approach will allow our students, on one hand, to consolidate and communicate, through visual narratives and text, their own critical visions of a set of problems related to architecture and public space, and on the other hand, to encourage public awareness and debates through the presentation of these works.

We support the idea that through a communicative action it is possible to develop a discourse⁵ and rationality capable of arriving at more equitable or universal social norms and in this way guarantee a more representative and democratic public space. The term “public space” is understood as being capable of a broader definition that includes artistic, architectural, technological, geographical, mental, and ideological dimensions. We also think of public urban space as the event of assembly in the sense that Panu Lehtovuori explains “...the experiential, particular weak places come together, suspending their potential conflicts and thereby opening a horizon of political discourse and of a community.” (Lehtovuori 2005). Moreover, the concept of “public space” as a public forum⁶ is guided by the ethical text and actions of Habermas’ theories of communication (Habermas 1998) and by ideas of other authors who study the cultures of cyberspace, the Internet, the information society and the potential and changes that web systems brought to the public Agora, such as Manuel Castells or Donna Haraway (Bell, 2006), W. Mitchel (Mitchel, 2003) or Malgorzata Hanzl (Hanzl, 2007). It is important to state that, for this “public space” to be genuine, people have to feel the need to participate in a rational discourse, where all are fully aware of the other’s perspectives and interpretations - a time and space allowing the more conscious sprawling of the ideals of democracy and public participation. All this gives force to the thought that public participation and other public

5 Michael Mason (1999, 8), “Discourse refers to modes of communication between people in which understanding rests upon, or presumes the possibility of, agreement motivated by convincing reasons rather than by any form of coercion or deception.”.

6 “Porto Redux ou (re)habitar a cidade” is an example of how it is possible to create a public forum in the city. Several public participation events that integrated seminars discussing the city, heritage and architecture themes were held in an abandoned space. An architectural workshop was also organized for promoting new design ideas for an important eighteenth century market (<http://portoredux.blogspot.com/>).

or private citizenship exercises are really both personal and political and that citizenship means not only established rights, but also a performance through which these rights are put into practice and in this way democratically (re)defined and (re)affirmed, as explained by Liette Gilbert and Catherine Phillips (2003).

It is also significant to refer that, even though we are aware of the limitations of this process of communicative action and rational discourse, we believe that it is the most democratic and fair approach for arriving at a consensus in our present democratic societies. The limitations have to do with the fact that, for arriving at a consensus, there has to be necessarily also some kind of exclusion. This is so because in a free society there is always the potential for conflict and diversity of ideas and this consensus will mean, off course, the exclusion of some ideas in favor of others, as is referred by authors that argue against Habermas rational consensus, such as Chantal Mouffe (2000). Nevertheless, we believe that this communicative action and rational discourse of Habermas is the best way for trying to reach the maximum common denominator from the different perspectives and interpretations that naturally may occur in democracy. In fact, the rational consensus ensures that the minimum damage will be caused to democracy's plurality and to the ethical-political principles of our liberal democracies, which are liberty and equality.

CCRE also believes that the public and participative characteristics of the web systems are themselves contributing strongly for the increase of public participation and other related actions. Contrary to other more traditional media that are a lot more closed and only accessible to a minority, in societies where the web is disseminated, the public's space original democratic meaning is not subverted but reinforced. The web systems create communication channels that are more public, more accessible and a lot freer than many other mediated spaces before them. In fact, CCRE trusts that by using these web systems it can contribute for a more democratic and responsible society, enriching awareness and giving space to many new ideas and positive critic in relation to how the city and its public spaces are lived, transformed and designed (Neto 2005).

Within this context, our goal was to use photography, jointly with the CCRE's collaborative platform in Internet, as a way to strongly involve students in creating visual narratives for appraisal, analysis and perception of certain public spaces and architecture. Thus we adopted a blended learning approach and a pedagogical strategy that could secure more flexibility for students and teachers to communicate and work without the constraints of traditional classes, timetables and space location and an approach that could strengthen the relation between teacher and student and that would support the use of photography as an instrument of inquiry and critical analysis of city's public space and architecture (Neto, 2008). All this pedagogical work with students, jointly with the critical visual narrative exercises completed by them, gave significant information and knowledge about many of present public space problems that imperil our cities and encouraged students to participate actively in many of the events and actions that were organized with the objective of opening university to them⁷ (Neto, Vieira, Pereira & Ribeiro, 2008).

Even though photographic images can be used to illustrate the character of certain places or of the people that inhabit them with the objective of confirming a certain point of view or opinion, we try to go beyond this illustrative approach and encourage a more significant practice. Photography can also be a powerful research instrument that allows discovering new perspectives about places and people. Accordingly, the aim of this course is to make students explore, question and problematize the potential of digital photography and Internet for representing, communicating and questioning urban reality. Thus, the students' visual narratives must be created in such a way that they simultaneously (i) communicate the problems and characteristics that define the character of diverse city places and (ii) give new perspectives about those public places and of how people live, perceive and understand them.

Therefore, the theoretical and empirical bases of this photography course had as goals: (i) to give students theoretical and practical knowledge about photography and its use in interactive collaborative platforms in Internet; (ii) to give students analytical instruments that allow them to create critical visual narratives about our cities' public spaces and architecture; (iii) to point out specific attributes of photography images; (iv) to make students explore photography and digital tools in a creative way; and (v) to make students understand the potential of using digital online platforms as collaborative systems.

7 Visible in "Porto Redux ou (re)habitar a cidade": http://web.ccre.arq.up.pt/projectos/show.php?projecto_id=296

Finally, we reinforced the strategies that encouraged students to be active participants of the learning process, an idea supported by many authors (Shao, 1997; Broadfoot, 2003; Salman, 2008) and inline with the learning, reflection and change theory of Donald Schon (Schon, 1988), taking advantage simultaneously of the Web 2.0 potentialities, such as the CCRE platform, for collaborative work. This had as result, besides other things, the creation of a learning environment that encouraged students to exchange ideas and that made them adopt an active role in the learning process.

Taking all this into account, the pedagogical process was structured across three main lines: the traditional teacher-student classroom communication; the academic photography projects understood as group and individual construction of visual narratives; the use of digital online platforms for collaborative work, public communication, social networking and information sharing.

As can be inferred by the CFM philosophy and pedagogy previously described, we intend to contribute for a more democratic and responsible society, enriching awareness and giving space to many new ideas and positive critic in relation to how the city and its public spaces are lived, transformed and designed (Neto, 2005), while simultaneously making students and teachers part of this process.

4. DIGITAL ONLINE PLATFORMS USED OR DEVELOPED BY CCRE IN TEACHING AND RESEARCH

Our main objective, in line with our philosophy and pedagogical strategy, was to continue exploring the collaborative online platforms for supporting CFM's photography course in both a physical and virtual design studio environment. We wanted, through this course, to make students and teachers closer to the emergent problems of their city and to encourage a way of teaching that would allow the creation of a community of inquiry that could be applied to a different set of problems and studies. As a result, we have used several platforms to structure and develop our pedagogical experience; some of them were third-party applications, already available on the market, but others were created by us in order to overcome some of the limitations that we've encountered.

After starting with Moodle, the institutional platform that is used by the University of Porto, we felt the need to evolve to a platform/software that would allow us to deal with visual information (Photography, Architecture and Art) within a more efficient communication and operational process. This led to the creation of CCRE Platform.

From that point on, and at a certain stage, we became aware of a more direct, quick and informal communication tool brought to light by the social networks (such as Facebook), which made us follow and take advantage of their potential. This led to the creation of CFM and Espaço F-FAUP Facebook Pages.

Finally, we understood that it would be relevant to the pedagogical process to have an online platform where a set of photography, architecture and public space theoretical issues were to be discussed by an extended group of people, coming from different disciplinary fields, allowing an easy way to comment and discuss its contents. This led to the creation of Espaço F-Faup Blog, which used the Wordpress platform.

4.1. Experience with the usage of third-party online platforms: Moodle, Facebook and Wordpress

Moodle is the official e-learning platform of University of Porto. It is being used by us mainly as an information repository, storing diverse kinds of multimedia resources such as Powerpoint and Flash presentations about lectures; it is also being used for the upload and download of exercises and as an official channel for public feedback on group work through its forum tool.

U. Porto's Moodle has been, for several years now, unable to captivate the students (especially in Arts and Architecture fields) for a closer communication involvement: it lacks appealing visualization tools for graphical contents (such as video players and image galleries) capable of efficiently answering the needs of these areas of study; it's unable to handle large files, commonly used by these fields; it has no automatic email notifications to the primary email used by the students; it's

very limited on comments, annotations and synchronous/asynchronous communication; finally, its visual environment is limited and non-appellative.

These limitations made us consider the use of the recently created⁸ Facebook network, for its simplicity, popularity, and because it was, as Moodle, free software. Therefore, our first experience of Facebook in CFM was through a 'Closed Group Forum'⁹, accessible only to teachers and students, which was mainly used as a communication tool in CFM's pedagogical experience in 2011/2012.

This strategy revealed itself as extremely positive. As a starting point we noticed that the intuitive operators of the application, as well as its broad current use for socialization purposes, generated a familiarity of the great majority of the students with the platform. Its compatibility with almost all kinds of media made it a powerful vehicle for synchronous and asynchronous communication.

CFM's Facebook page allowed the publishing and disclosure of diverse media contents such as images, videos, audio, both embedded and linked from other sources on the WWW (such as YouTube, Vimeo, or Issuu) which allowed a graphical and image-based communication, more adequate to the dynamics of teaching Photography and Art related courses.

Facebook allowed, among other things: effective commenting on teachers and students' posts and links, expressing satisfaction and asking or clarifying doubts on the course functioning; asking or clarifying doubts on technical and artistic issues related to photography and architecture; sharing links and contents related to the matter of classes; sharing of events related to photography, arts, architecture and public space performances (enhancing a proficuous cultural background); sharing of links to student's own work looking for informal critical remarks; sharing of other diverse contents that would nurture the relations between students and teachers.

Apart from some initial privacy concerns, students were added to CFM's Facebook group at their own initiative and the ones that didn't want to expose themselves publicly used the private message tool instead.

Together with this 'Closed Group Forum', CFM and Espaço F-FAUP used Facebook 'Pages'¹⁰ to disclosure to a broader audience the information uploaded and built on CCRE's other online platforms. Facebook proved, this way, to be an effective platform for sharing and revitalizing content that was already published on other platforms.

Espaço F-FAUP blog¹¹ was introduced to the students in the course's first class and played two main roles in CCRE's pedagogical strategy for CFM. First, it provided a framework for theoretical discussion by teachers, students and other guests on Photography, Communication and Public Space questions, building up a continuous and upgraded range of studies and activities related to the use of photography as a critical documentary tool and as a visual research instrument focused on the city, architecture, art and technology. Second, it functioned as an information repository, providing thematically structured links on Photography¹² and image and video galleries, embedded from YouTube's CCRE channel¹³.

This Blog is managed by CCRE's research team and has the contribution of a diverse number of authors with different interests and scientific background, providing a frame for an updated discussion on contemporary issues related to Photography, Architecture and Public Space. The blog intended simultaneously to reach CFM students, as well as the public interested in these matters.

8 Facebook was officially released on February 2004.

9 <https://www.facebook.com/groups/224329467628831/>

10 <https://www.facebook.com/espacoffaup> and <https://www.facebook.com/profile.php?id=100000609235408>.

11 <http://www.ffaup.cityscopio.com/>. It was created using the Wordpress blog framework which provided us with a balance between a rapid development and some customization.

12 The themes consisted on Photography, Photographers, Photography Theory, Photography Blogs, Photography Publications, and Architects that deal with Photography.

13 Also structured on themes related to: Territory|Landscape, Street Photography, Events, City|Urban, Education, Documentaries, Photography Communication, CFM 2008-2009, Authors: Work and Interviews, Art, Architecture, and Anthropology|Ethnography|Social Sciences.

4.2. Online platforms developed by CCRE: didactic experiences and research projects on architecture and public space

CCRE's activities related to the teaching of photography always intended to be based on the perception of urban space and its social, individual and physical components, as well as on the production of a visual communication that is pertinent and appealing to several kinds of audience.

Apart from our teaching experiences, we acknowledged that there was a potential and a personal interest from all of the CCRE team members to further develop our research on Photography, Architecture, Public Space and Public Participation, which proved to be extremely positive.

As we will see, we intended to involve the students in our research in these areas of study. In fact, the students were stimulated to join these external research initiatives and to make use of them as examples for their academic photography projects. By adopting this strategy, students attained a better personal and institutional relationship between the academic world and the 'real' world, as well as inside knowledge of the research developed by CCRE and by other institutions to which CCRE is related and works with¹⁴.

Some of these platforms also allowed the exchange of knowledge between students and non-students, which also allowed us to test different kinds of responses from different subjects while opening the student community to the broad society.

4.2.1. CCRE's platform

CCRE's platform¹⁵ was created to fulfill some of Moodle's constraints in terms of graphical and visual communication for photography projects, as well as to provide a public service by disseminating academic works and other relevant projects on Architecture and Public Space towards a broader audience.

CCRE's Platform allowed students to complete a set of critical analysis and exercises focused on photography that, because of class time limitations, would otherwise not have been possible to achieve. This platform didn't replace the traditional face-to-face interaction between teacher and student and, on the contrary, helped to strengthen their relation and to achieve a higher visual literacy, helping to integrate important theoretical layers in the course and to allow various online individual and collaborative activities. We've explored several application supports, visualization techniques, representation methods and interaction levels in order to communicate architecture, art and public space and to simulate new design proposals.

The site can be divided into 4 main areas: 'Home', 'Projects', 'Participation' and 'Archive'. The 'Home' is, as the name suggests, the homepage of the CCRE's website (Fig.1).

This page has an important area called 'Curators Space' for publishing different types of visual narratives. These narratives can be made up of any type of images (photography, video, animations, digital montages and other more) and should be inspired or related to the city space and to how people live and use them. It is here where different authors have their work published, and the responsibility for choosing the authors to publish is of the curator who is invited to do this work for a period of, at least, 6 months. The homepage has an animated footnote showing the recent news and highlighting a certain event or information.

'Projects' is the heart of the site. Here we have extensively used animation for navigating, structuring and interacting through the projects and some of the menus and operators (Fig.2). Each communication project is linked to its own 'Forum' and these can be accessed individually in each communication project or globally in another important main area of the site called 'Participation'. In fact, all these projects allowed for viewers, designers and authors to interact. This interaction - with users analyzing the different views, models and representation methods of the proposed design and posting their opinion on the website - was implemented through 'Forum' operators linked to each project.

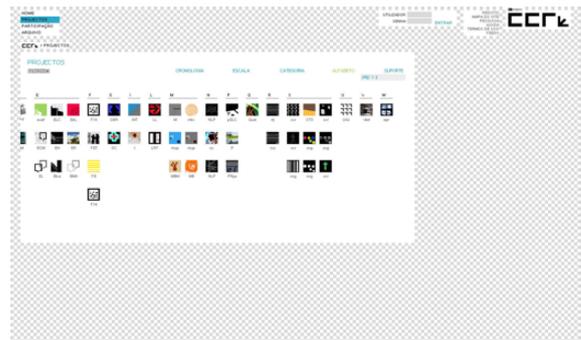
14 University of Porto; School of Architecture of Minho; 'Juventude - Palácio das Artes' Foundation; Porto 2.0 - Cidade em Mudança; CityScopio Cultural Association; Guimarães 2012 European Capital of Culture; etc.

15 <http://web.ccre.arq.up.pt/>

The 'Metaproject' application, inside 'Projects' main area, allows the creation of communication projects with a layout structure close to a linear storyline, with contents ranging from images, videos, vectorial drawings and flash animations, in an easy and intuitive manner.

Finally, the 'Archive' section is an information repository related to several areas of CCRE's interest. There we have 'News' (where it is possible to access all the news published daily in our web site); 'Links' (a collection of url addresses structured by a set of themes in headings and subheadings that give access to a wide compilation of websites); 'Publications' (a collection of url addresses structured by a set of themes in headings and subheadings that give access to a wide compilation of articles related with CCRE, especially scientific reports, magazines articles, seminars, conference presentations, and academic documents).

We believe that at least some of the projects presented in this site were able to achieve an effective communication by exploring the interactive potential of the site and by carefully and sensibly using digital representation of space and computer visualization techniques so that their potential would not be undermined by dumbing down the design communication with excessive emphasis on imagery, (Richens 1999; Futures 2004) which could actually impoverish design communication (Bourdakis 1997; Koutamanis 1997). Thus the projects presented on the site provide extensive information about the design proposals program and activities and both realistic and abstract representations are used to communicate its design (so that specialists and other people can both understand better what is being proposed). The way these different representation methods and computer visualization techniques are integrated allows users to perceive different viewpoints and aspects of the design and to relate them in various ways, and for that a comprehensive online platform was needed. That was the main reason for developing CCRE.



Figures 1 and 2 - CCRE's 'Home' page and CCRE's 'Projects' page, respectively.

4.2.2. Porto Redux

CCRE was involved in the organization of Porto Redux "(re)habitar a cidade". This activity proved to be an example of how it was possible to create a public forum in the city. Several public participation events that integrated seminars discussing the city, heritage and architecture themes were held in an abandoned space. An architectural workshop was also organized for promoting new design ideas for an important nineteenth-century market. The majority of the attendees of these set of events were FAUP students and for online communication we've used a blog platform at <http://portoredux.blogspot.com/>.

4.2.3. On the Surface: Public Space and Architectural Images in Debate

The International Seminar “On the Surface: Public Space and Architectural Images in Debate,”¹⁶ had, as main objectives, the promotion of a global critical analysis of the relations between architectural images and public imaginaries; to understand how different types of images build diverse imaginaries: between fiction and documentary, reproduction and manipulation, or analog and digital. The event comprised an interdisciplinary Congress and a Workshop that were two distinct but important complementary events.

The majority of the attenders were architecture students from different schools and young architecture practitioners that felt the urge to develop their knowledge on the Seminar themes.

The photography workshop was directed to architecture and fine arts students and originated an itinerary exhibition that was exhibited at several important venues in Porto, reaching a relatively large audience.

The second edition of the International Seminar “On the surface: Public Space and Architectural Images in Debate” aims to continue the success of its first edition, which proved to be an important forum for debate and reflection about public space and architectural images, and whose work can be seen in *Scopio Magazine*¹⁷ and in the catalog that will be published in 2012. The current event website can be seen at <http://www.nasuperficie.ccre-online.com/>.



Figures 3 and 4 - On the Surface: Public Space and Architectural Images in Debate website: first and second editions, respectively.

16 <http://nasuperficie.up.pt/>. Several important speakers and known authors in the field of photography and image representation for architecture and public space were present at this International Seminar. Thus, we had the attendance of Beatriz Colomina (Princeton University's School of Architecture, USA); Robert Elwall (Photographs Curator at the British Architectural Library, UK); Filip Dujardin (Architectural photographer, Belgium); Christian Gaenshirt (Universität Kassel, Germany), Juan Rodriguez (Architectural photographer, Spain); Carlos Machado (Architect - FAUP), Daniel Malhão (Photographer), Diogo Seixal Lopes (Architect - FAUTL), Edgar Martins (Photographer), Fernando José Pereira (Arts - FBAUP), Joaquim Moreno (Architect - Columbia University New York), João Figueira (Architect - UTLFA), Júlio de Matos (Architect and Photographer), Luís Urbano (Architect - FAUP), Manuel Graça Dias (Architect, Director of Architectural Journal, Portugal), Paulo Catrica (Photographer), Pedro Gadanho (Architect - FAUP and MOMA curator), Ricardo Nicolau (Art Critic, Commissioner of Photography Exhibitions' for Serralves Museum of Contemporary Art), Sofia Thenaisie (Architect), Susana Ventura (Architect), Vitor Silva (Arts - FAUP).

17 <http://www.nasuperficie.ccre-online.com/>

4.2.4. Scopio Magazine

Scopio Magazine¹⁸ is an editorial project on Photography, Architecture and Public Space, sustained on a partnership between our research group CCRE and Cityscopio Cultural Association¹⁹, which followed the realization of the On the Surface seminar. Scopio's first issue had an addendum whose focus was the outcome of the On the Surface Photography Workshop projects, demonstrating an interrelation and complementarity between the development of photography projects and the will to publish and disclose the work of students and academia.

Scopio's main interest is to publish visual narratives, texts or other related works coming from several authors, in which photography is used as a research instrument, using both traditional and digital online publishing platforms and websites.

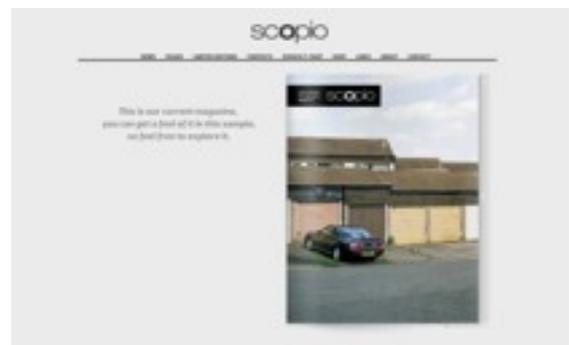
This editorial project intends, with this strategy, to promote the awareness and reflection upon photography image in regards to its conception as (a) an instrument to question the real space and its experiences, (b) a support and technique for the mediatization and reception of architecture by a wide public and (c) an instrument for exploring spatial forms and new architecture. The intent is to present diverse visual narratives that convey a position, argument or story about a particular architectural problem.

In Scopio's first issue we focused on the theme of Architecture, which means we were looking for authors and works where the concept of architecture was explored on light, form, detail and on how architecture was experienced through imagination and reality.

The second issue was entitled City and was dedicated to the subject of public space and city life, trying to show works that characterized the rich multi-faceted world of several public spaces. One of this issue's purposes was to make known the richness inherent to the various public spaces so that elements or features that might have been previously considered fragmentary, trivial, or that were hidden, could gain a new visibility.

The third edition is called Territory and will be dedicated to the territory transformation in relation with land art or large-scale landscape architecture, as well as to regional or local planning. The concern is to think on how the transformation of natural landscape has a great potential to induce a new balance between built space, nature and man. We present the works of authors in the area of photographic image using different visual narratives where the transformation of the territory explores the concepts of science versus art.

Besides the communication with Scopio's editorial staff, the students had to study the magazine's contents and, working in groups, were asked to choose an author from Scopio Magazine issues #1 and #2 and make a class presentation taking in account the author's conceptual work and its main artistic and technical supports, as well as the messages it was able to communicate to the general public about the city's objects (physical and conceptual) in focus. All this proved to be very important because it was a good practical experience to get acquainted with a project that actually sets in motion all the technical and conceptual procedures taught in CFM course.



Figures 5 and 6 - Cityscopio Cultural Association and Scopio Magazine websites, respectively.

¹⁸ <http://www.scopiomagazine.com/>

¹⁹ <http://www.cityscopio.com/>

4.2.5. Alternative Routes in the Historic Centre of Porto

This project aimed to create on the WWW and to a wide audience a platform for the communication of contents related to alternative areas and routes in the city, seeking to promote the critical analysis and discussion about these places, often neglected or unknown, but also rich in terms of experiences and forms of space appropriation.

Born from a collaboration between CCRE and Porto 2.0 - “Manobras no Porto”²⁰, the aim of this project was to use the city of Porto as an excuse to bring people together, to fight stigma and blur prejudice related to local people and the spaces they inhabit.

The project’s outcome was an online platform²¹ that hosted several projects from the work of three groups that participated in “Manobras no Porto”: Porto Próximo, Com.Tacto, and Retornáveis²² - as well as contents produced by CCRE itself (urban paths/visual narratives developed by students of architecture and monitorization of the referred group’s work). Even now we consider this platform as work-in-progress, and CCRE is studying a way to populate it with works coming from CFM classes.

The platform was built to answer three functional requirements which were considered relevant: i) dissemination of images and videos of projects - 'gallery' module; ii) geo-referencing of content - "map" module; and iii) integration with “Manobras no Porto”’s Facebook Page - "social" module.

This platform is open to receive new contents that can interest and bring a wider audience to it. This was an important objective, right from the beginning of this project: to create a platform that would continue to evolve over a time period after the formal end of the project. Thus, in order to continue this project, we have to: i) provide the platform with a back-office in order to facilitate introduction of contents (which currently can only be introduced through specific programming); and ii) able to attract other groups - such as CFM students, as mentioned - to contribute with more content to the platform helping, in this way, its disclosure, visibility and influence.

Taking into account the second point of the preceding paragraph, CCRE has already established a partnership with the Photography Club of the Students Association in FAUP (Faculty of Architecture in Porto University). This partnership has as aim the development of photographic projects that address the Historical Centre of Porto. The partnership involves the construction of visual narratives through photography that are more than the production of a sequence of imagetic singularities, exploring a specific concept, clear and relevant to discussions on the nature of urban space and its potential uses. We envisioned all this addressing the imagetic potential that is associated with photographic images while trying to broaden our architectural and urban perspective by integrating people from different study areas and academic backgrounds in this partnership. The conclusion of this work will be accomplished until the end of 2012 and will be available online as soon as the authors and CCRE agree that they are ready and capable of drawing the attention and interest of a diverse audience, both academic and non-academic.

This project was a good experience to test the communication of visual information (photography and video projects) structured as spots, paths and areas over a geo-referenced map.

Figures 7 and 8 - Navigation through projects (“map” and “social” modules) and Project Visualization (“gallery” module), respectively.

20 “Manobras no Porto” is a program of action and collective construction that challenges ordinary citizens and cultural agents to intervene in present and future condition of Porto Historical Core through initiatives of urban creativity, which are intersected the popular and the erudite, the traditional and the alternative, the ephemeral and the enduring. The result were dozens of informal events scattered in time and space, with particular concentration in September 2011 and 2012 in Porto historic centre. Info at <http://manobrasporto.com/>.

21 <http://www.percursosalternativos.ccre-online.com/>

22 “Porto Próximo” was a project conceived and coordinated by SPOT in partnership with Inês Alves, Francisco Flórido and Renata Malta; “Com.Tacto” was a project coordinated by Eunice Azevedo e Susana Milão and developed by the students Márcia Coelho, Liliana Pinto, David Silva, Cláudia Oliveira, Joana Domingos and Myklail de Ceita; “Retornáveis” was a project developed by Chiara Sonzogni.



Figures 7 and 8 - Navigation through projects (“map” and “social” modules) and Project Visualization (“gallery” module), respectively.

4.2.6. D.T.W. Photography - Rethinking | Questioning Urban Realities

D.T.W. Photography consisted on an event that accommodated debates, round tables and a photography workshop about the historic centre of Porto.

In the context of this event we gave special importance to the exercise of rethinking and questioning an area of the city with strong historical roots and identity, drawing attention to the potential of photography as a tool for communication and representation of architecture and public space as well as how the public perceives and appropriates these spaces.

It was intended to offer new perspectives about that historical place, looking for details and views that may have given prominence to characteristics of the place that otherwise would not be recognized. It was intended to go beyond the obvious, trying to communicate what was more subtle or complex, taking into account the richness and variety of experiences that those places implied.

Once again, we aimed for the creation of visual narratives from several images - to represent the photography project ideas through a set of photographs structured in various diptychs, leaflets, pans or other compositions. The objective was that the ideas of each photo were reported using a combination of unified images rather than the sum of a set of individual images and/or units.

The results of the workshop consisted in a number of visual narratives simultaneously describing certain problems and characteristics of the spaces and making known new perspectives on public space and the way people perceive and live it.

The problems which served as starting points for the study of the work area and its public spaces were comprised among the topic of: i) urban art and architectural qualities of buildings and spaces; ii) places and no degradation of the architectural heritage; iii) private and public space; iv) anonymous architecture; v) experiences outside of touristic tours and distinct levels of socialization and social interaction of the various public spaces, vi) social exclusion and poverty; vii) differences in daily and night living of public spaces.

DTW Photography was very proficuous in terms of outcomes/outputs accessible to the general public and specifically for students. First, the photographic projects gave rise to an exhibition that has been displayed in different venues. Second, the debates and round tables proceedings, together with the visual narrative projects, were published in a limited edition (available to participants) and in a print on demand edition (<http://br.blurb.com/books/2901810>) available to the general public. Third, the exhibition opening was the stage for a shared lecture with a geographer and a curator²³ at FAUP on the subjects of D.T.W. Photography itself and on “Territory” - the subject of Scopio Magazine’s third issue. Fourth, all the debates and round tables were recorded and the video material is being edited in order to be released online across the platforms operated by CCRE, expanding the range of accessibility to information. Fifth, it was created an online gallery (<http://www.realidadesurbanas.cityscopio.com/galeria/>) to display the visual narratives. This online gallery shows georeferenced visual narratives over an aerial map, allowing a geographical interpretation of the diverse phenomena the authors envisioned to share through their work.

23 The Lecture speakers were Inês Moreira (curator) and Álvaro Domingues (geographer).



Figures 9 and 10 - DTW Gallery website: home page and project page, respectively.

5. COMPARISON OF THE DIGITAL ONLINE PLATFORMS USED OR DEVELOPED BY CCRE

By designing, implementing and testing the set of WWW platforms mentioned before we were able to reach a series of conclusions regarding their performance, qualities and problems. This knowledge is proving to be essential for us to maintain a critic and informed opinion towards the development of our main R&D project at this point (DARC) which will be described in the next chapter.

In this chapter, we will draw our attention to a comparative analysis between: i) Moodle; ii) Facebook; iii) Espaço F-FAUP Blog (Wordpress); iv) CCRE; v) Porto Redux (Blogspot); vi) On the Surface; vii) Scopio Magazine; viii) Cityscopio; ix) Alternative Routes in the Historic Centre of Porto; and x) D.T.W. Photography - Rethinking | Questioning Urban Realities.

Moodle is a dynamic content platform maintained and customized by University of Porto (GATIUP - New Technologies in Education) for the majority of its faculties and courses. That is an extremely positive fact since it provides the University with a common platform to share resources, that easily becomes familiar to its users, either students or teachers, even if they change course or Faculty. By being maintained by U. Porto, this also means that it's regularly updated and upgraded - for instance, the "Biography" module that was developed by GATIUP and the server reconfiguration that they have done, as requested by CCRE, in order to allow larger file uploads by students, since large files are commonly used by these creative courses. Moodle has proved to be a good platform for structuring information for the student's. Our students use Moodle to download tutorials, and information about exercises or other informative documents, but don't use it for interacting between themselves or with teachers, unless that is asked during classes; Moodle's forum operator isn't used mainly because student's aren't warned by email²⁴ to responses they might have received, forcing students to first access the forum to see if there are changes.

This brings us to the evaluation of Facebook. As a global and horizontal social network, Facebook caused some privacy concerns to a few number of students. Acknowledging that, the use that we've done of the social network was essentially considered a pedagogical experience which didn't want to replace but to complement Moodle. In fact, Moodle's strength at structuring information is Facebook's weak point because of it's linear flow of information, where newer information is permanently added to the top of the list while older, and some times relevant information is left behind; curiously, it's this easiness of information flow that turned Facebook into an effective platform for quick communication between students and teachers, also allowing an easy way to insert rich multimedia content such as images, videos, links and sounds, being student's own work or other references. This means that a strategy of using both Moodle and Facebook proves to be an effective solution to complement each platform's weaknesses.

²⁴ To their personal email. It is a fact that, despite being mandatory, student's rarely access their institutional email, and the vast majority of them don't know that they can forward it to their personal mail through their webmail application.

As for the blog platforms (Porto Redux and Espaço F-FAUP) they served different purposes: Porto Redux was mainly produced to inform about the event and also to publish some critic information about what was happening (what we've called a "REDUX Release"); for that purpose the standard blog platform "Blogspot" (nowadays replaced by "Blogger") was enough, providing us with the tools to easily create and publish content. Espaço F-FAUP, on the contrary, used a customized wordpress installation: this allowed us to customize both the appearance of the site but also its functionality (we've added, for instance, a plugin that allows sharing the blog's content to social networks). With this we were trying to increase visibility of the site in order to obtain a greater interaction with its visitors.

CCRE's website was a research project developed with the intent to provide a rich and intuitive way to allow publishing, critic, review and curatorship of photography projects, answering the specific needs of art and architecture courses in terms of functionality, design, and easiness of use. In that terms we may say that it was a complete success and has contributed with significant knowledge to our ongoing research project DARC. However, it's active use has stopped in 2009 because of an incompatibility between the platform and the latest developments in server's software. A solution for the problem is currently being searched for. This has made us realize that these powerful and dynamic platforms require a great effort in terms of maintenance, as GATIUP is doing with Moodle.

The last of these dynamic applications is Cityscopio's website, which was done using Joomla's content management system; this decision was taken to provide the website with a set of features that would have been otherwise difficult to implement at that time: integration with social networks, a translation and real-time search module, and a back-office for editing contents or accessing private documents. This was done to provide the association members with the capability of editing the site themselves, although some training would still be needed. This is the biggest advantage of having a back-office or a direct way to edit information from a platform's frontend, which was the common quality of all the platforms that we've compared so far.

The last applications - Scopio Magazine, Alternative Routes in the Historic Centre of Porto, and D.T.W. Photography - Rethinking | Questioning Urban Realities - were developed without a back-office. This has proved to be limited in terms of updates, since it means that only users with programming skills can make changes to the sites. This was considered not so limiting in Scopio Magazine and on D.T.W. Photography - Rethinking | Questioning Urban Realities websites since they were created with, essentially, informative purposes. However, in the case of Alternative Routes in the Historic Centre of Porto, this has limited the application's usability. It would be more adequate that users could directly interact with the application adding new projects, markers on the map and image galleries.

The overall balance of using and developing these applications has proven to be very positive since it allowed us to become aware of the qualities and problems that all these applications have showed over time. This knowledge is therefore being applied to our R&DT project DARC, which we will describe in the next chapter.

6. DARC - DIGITAL ARCHITECTURE REPRESENTATION AND COMMUNICATION

DARC is a research project on communication of architecture, public space and cultural activities, that is currently under development and that has been taking in account CFM pedagogical experience, CCRE's research activities and the evaluation of its WWW platforms, as it was seen in the previous chapter.

Taking in account all the research and teaching activities, set together with our proficiency in taking advantage of new technologies such as online communication and information maneuverability, much of which consisting in images, CCRE started a joint venture with other three partners to develop an online collaborative platform.

DARC - Digital Architecture Representation and Communication - is therefore the expected product of a R&DT and co-promotion project with an important financial support from QREN (<http://www.qren.pt/>). Up to now, DARC is the result of a partnership between: i) Ponto PR, the international E-marketing, software and web design company and leader of the group, with people linked to research in these areas and having already won several financial programs and prizes; ii) João Castro Ferreira, Ltd., the architecture, planning and urban design firm engaged in fields such as housing, urban design and wider urban studies, with people linked to a research program for obtaining a PhD in FAUP focused on public space transformation of the city of Porto; iii) Né S. Design - Unipessoal, Lda, the design professional responsible for DARC's corporative image; iv) Faculty of Architecture of University of Porto and its R&D unit CCRE; and v) University of Porto, the home institution where FAUP is integrated.

In brief, we can say that this R&DT project will develop software for the following markets: a) arts, heritage and architectural communication for city tourism; b) collaborative teamwork for architecture and engineering design projects; c) architectural competitions; and d) E-Learning platform for collaborative design projects in arts, architecture and engineering courses.

The objective is to offer the knowhow and instruments capable of fulfilling the needs of these markets, which means being able to provide them with a set of interactive computer applications on the Internet to allow structuring, representing, and promoting architecture, city spaces and designs. It also means offering a platform focused on collaborative design projects for E-Learning and for teamwork in professional architectural and engineering offices. It is expected to create software to allow the use of different types of image, sound and spatial/architectural models that can be interrelated in several ways and linked to alphanumeric data.

From these markets, one is of particular importance to this paper: arts, heritage and architectural communication for city tourism. "City Spaces|Culture" will be DARC's dedicated module towards this particular market, a module that reflects all the info we have acquired and research we have done in the particular projects that we've been mentioning in this paper.

6.1.1. DARC City Spaces | Culture

DARC City Spaces|Culture module is specifically directed towards the communication of content related to cultural tourism in cities and its architectural heritage, identity and historical places like museums and cultural venues. The module will be characterized by the possibility to offer significant levels of interaction and easiness of use, allowing the introduction of diverse types of data for the promotion and disclosure of city spaces, as well as different levels of interaction with the stored information.

The aim of DARC City Spaces|Culture is to create an interactive application to use in the Internet to help preserve the cultural identity of public spaces and bring the architecture of its many buildings into the realm of public culture, using several computer visualization capacities provided by this medium.

These spaces can be situated in different types of urban areas and not just in the historical zones: this means creating an open and interactive platform focused on the use of image and sound, different visualization and representation techniques and interactive digital models to communicate more effectively the buildings, public spaces and ambiances of the city, historical zones and other significant areas from any region or urban setting. We intend to allow people to visit those places through virtual walkthroughs and make them explore these virtual models where diverse representation methods, images and sounds are used together. This will allow strengthening the social and cultural experience of people through the use of DARC in the Internet and in other supports.

DARC City Spaces|Culture is imagined to serve as a platform for the communication of both academic works and official/institutional contents about architecture, public spaces and cultural events. This is expected to help educational and research institutions to reach the wider society and its professionals, particularly those interested in the communication of space and its social dynamics: architects, engineers, geographers, photographers, film-makers, sociologists, etc. However, it will not be required for someone to be part of these professional groups to interact with DARC's platform: wide public participation is welcomed as they can provide a different look at the city spaces - a look deeply influenced by their real-life and everyday experience of the place, something that professionals generally can't provide. By combining (but not merging) these two kinds of content - institutional and public - we will be able to give a more complete look of the territories depicted in the platform. Users will, however, be able to filter these contents, choosing to see all content or just the accredited ones.

In DARC City Spaces|Culture three kinds of content are expected to be created by its users: an object (either architectonic, such as a building, or urban, such as a square), a path, or an event. This content is expected to be displayed over a geo-referenced map (such as Google Maps or Bing Maps) to make it more clear and structured, and tools for online collaboration shall be present, allowing projects to be created by several users. We also expect to integrate DARC with social networks such as Facebook, Google+, etc. in order to reach a wider audience and help to promote DARC on the Internet.

Through an indirect pedagogy this DARC module is intended to boost a better city and urban space knowledge for its inhabitants, enhancing their conscious intervention in urban policies and characterization of the spaces they inhabit, while simultaneously assisting the promotion of more democratic and inclusive cultural policies.

7. MAIN CONCLUSIONS

In this paper we focused on how our teaching experience on CFM was extended throughout several different research projects and didactic events on architecture, public space and the way these were lived, and how that knowledge evolved and is being translated to the ongoing R&D project DARC, particularly DARC's City Spaces|Culture module.

Thus, the envisioned set of visualization and collaborative work operators of DARC City Spaces|Culture are not only a result of significant literature review about these types of platforms, but also coming from the informed knowledge of all the projects, experiences, activities and pedagogical experience described in this paper, helping in this way to strengthen the proposed DARC software.

As described, a blended teaching experience in CFM Course lead to several didactic experiences and research projects, interrelating some of the results obtained with the R&D research project DARC, and all this makes it an ongoing research work. This means that we will be always exploring and testing diverse platforms and communication strategies for upgrading our platforms, communication strategies and the DARC software itself. Nevertheless, in a very near future, we will have a prototype of the software in order to test, refine and debug. The positive experience already obtained in terms of supporting a set of teaching courses with diverse collaborative platforms, on communicating photography, art and design and on supporting public participation events, gives us reasons to believe in the potential of the future DARC software as a platform for effectively support the following areas and activities: participatory design of public space; design that interacts and changes peoples' attitudes towards public space; participatory platforms in Internet as active mediums for achieving more social responsibility and the inclusion of more citizens in the planning and design process.

It can be said that the positive results coming from the event of Porto Redux ou (re)habitar a cidade, with its seminars and workshop, as well as the seminar On the Surface: Public Space and Architecture Images in Debate, Alternative Routes, D.T.W. and Scopio editorial project proved that it is possible to perceive, discuss, communicate and acknowledge the city with its important symbolic and architectonic characteristics in innovative ways. All these activities have been empowered by the use of diverse collaborative platforms and social networks, as was described in this paper.

A general evaluation on the didactic experiences and research projects described in this paper allows us to consider them as fructuous experiences on assessing urban realities and visual communication theories. This ensemble of research projects is important in the teaching experience because they provide a practical intervention, a contact with reality not restricted by academic constrains. These projects keep our team up to date with contemporary architecture and public space constrains, state and eventualities as well as able to inspect and verify the validity of theoretical issues regarding public space and the way it's lived. With this provision of awareness we find it easier to better direct students to study and investigate problems and situations that actually need a contemporary answer or explanation.

As was seen, all the research projects mentioned in this paper were fundamental to assess the possibilities and limits of our pedagogic/didactic philosophy and research, as well as triggering new ways of communicating and sharing substantial information to students and especially to the general public. In fact, a blended approach between geo-referenced information (focused on visual literacy - image and video), social networks (such as Facebook) that allow broad visual communication (embedded or linked), together with institutional and public participation (content creation and sharing) was the next step for CCRE's research - the DARC project. This plan envisioned DARC as a kind of virtual agora: an assembly place; 'another' centre for social, cultural, political and artistic life of the city.

In the near future, we propose that DARC software, especially its City Spaces|Culture module, may be used for all the activities and research described in this paper, improving their performance because of its communication and visualization operators, informed by all this experience and research. As was already explained, an extended documentation on DARC, including City Spaces|Culture and Architecture and Arts Education (DARC's module more related to learning) already exists on other scientific documents, papers and reports.

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