

Organizing information: Social Learning for interdisciplinary projects of architecture.

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Abstract:

This poster is aimed at the development of a new methodology focused on the knowledge and information management for learning, teaching and researching in an architectural learning environment. Architecture is the discipline that combines technical and humanistic values and knowledge focused on creation. Every started project needs to achieve a large amount of information due to the complexity of the context. It is usual to work, to exchange ideas and different points of view with other disciplines during this process. This methodology generates lots of sources to work with, which needs to be cross-checked and evaluated in order to build a holistic framework.

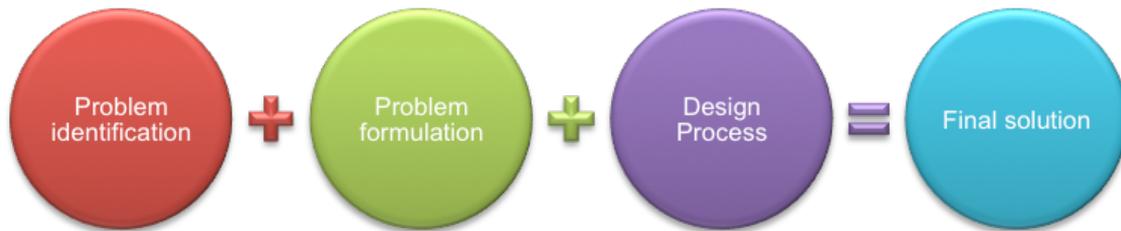
The traditional method used to organize all the information is obsolete today. Nowadays the knowledge is not coming in only one direction; web 2.0 provides us with large amounts of digital information. Currently, between physical and digital material, the organizing task has become an immense problem to be solved. The methodology we are proposing, goes beyond physical classes and extend teaching to a virtual stage. The new challenge in the training of this discipline is to find a methodology that provides architects with a tool to organize, share and compare their own elaborated information, using their own codes, their own style, and their own way of thinking. In our Studio Classes we are proposing the use of Zotero among students to organize information. It is freeware that allow students to learn how to deal with all the information, having an easy access to it for preparing reports, posters or plans about the project.

Keywords:

Architecture, architect, project process, design process, innovation, technology, research projects, information management, Zotero, web 2.0

Introduction

Nowadays the Information Technologies (IT) increases the proportion of the consulted information. It is changing the manner of working, business and marketing, social standards and educational methodologies. Information management presents difficult challenges. From the beginning, professors need to be realistic about this problem and try to provide the students with methods and tools to organize and manage all the information they will encounter throughout their professional lives.



Architecture and the project

Since therefore few men are thus gifted, an architect who must strive to be generally well informed in all the arts cannot hope to excel in each. [1]

We can consider architecture as the discipline that combines technical and humanistic knowledge, which is focused on solving a proposed problem. Architects are more than ever working in interdisciplinary groups and it is necessary to discover platforms to permit a dynamic exchange of sources and ideas. All of these participants, focus on the problem from different point of views, bringing a holistic view to the architect. Barrow [2] affirms that current architectural practice is the re-emergence of the old master-builder role, although in a contemporary way: as an ‘integrator’ of various skills and knowledge.



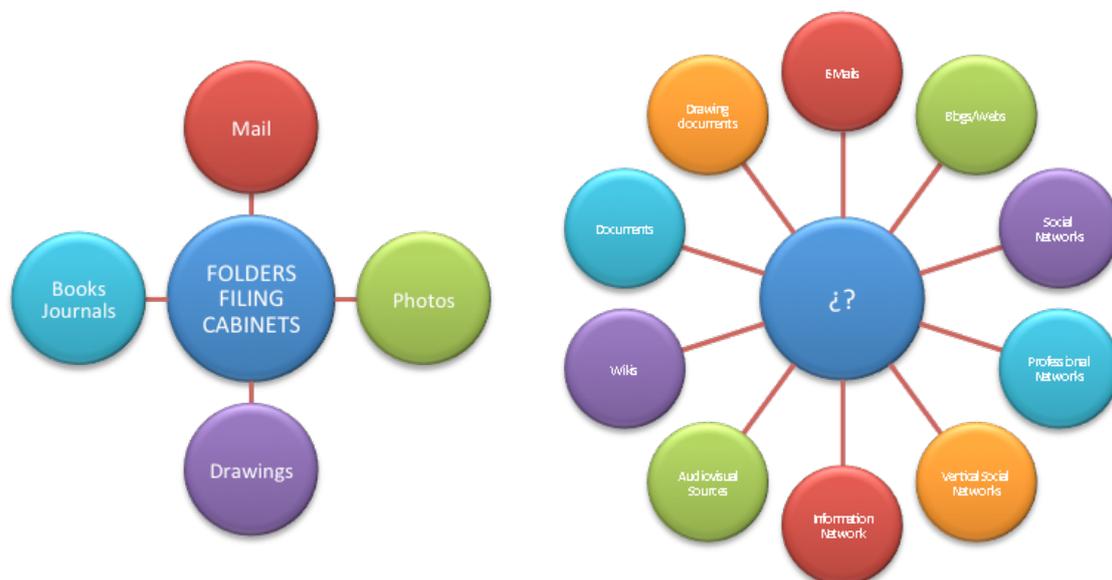
A career in architecture is so sensorially intense that it changes the way one observes the world. It is not a job, it becomes a behavior. Every detail in the street, every picture in a magazine, could be part of the next project. Inspiration could be everywhere. Architects are constantly learning from new information along the course of their lives. It is like Vitruvius said: they need to know about almost everything, but they will not be specialized in anything. The information management is vital along their professional life.



Architectural education needs to become conscious of the new changes and bring the students proper tools during the degree course. We encourage our students to organize and construct a good Personal Learning Environment (PLE) with an adequate Information Management System.

Architecture and new technologies

Information management presents difficult challenges. We believe there might be numerous solutions to this problem; nowadays, it is becoming popular the use of free software to organize and manage information (Evernote, Mendeley...), web pages (Delicious, Instapaper, Pocket...) or even social networks (facebook, twitter, tumblr...). Nevertheless, they can be useful for a quick approach but not so much to use them as professional storing, managing, and sharing tool. We are proposing the use of Zotero as an academic and professional solution and suggesting Doolphy or similar to plan the work of the teams.



Zotero is open source dedicated to reference management. It is software to organize bibliographic data and related research materials. It is not the first one of its kind (Procite, Endnote, Refworks, etc), but it is the first one created with the philosophy of open source. To sum up, it is free, with easy-to-use tools to collect, organize, cite, and share research sources, using any device, everywhere.

Although this kind of software is created for scholars and other disciplines, we realized that it has applications to help architecture students and architects with the tough task of information management.

Main characteristics in Zotero:

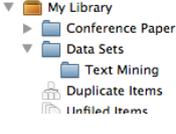
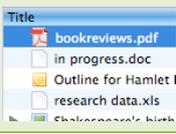
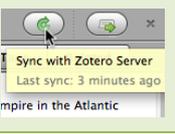
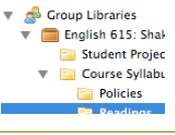
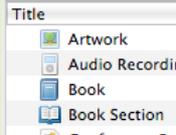
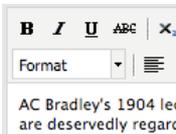
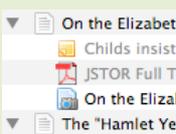
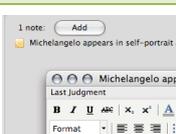
- Create and share group libraries: we can choose between private or public library and, on demand, we can start creating collections and subcollections.

- Add different types of file: every group member can add sources of all kind - videos, audio files, office files, PDF's, pictures (jpg, tiff, png...) CAD files,etc.- They need to be Learning for Open Innovation. [EFQUEL Innovation Forum](#). Granada 5-7 Septiembre 2012. EFQUEL. 3 European Foundation for Quality in e-learning

tagged in order to make easier searches. Those files will be in Zotero's cloud so we will be able to open them from everywhere

- Edit notes: we can attach a quick note to every new item, explaining why that one is important for the research topic; or copying certain paragraphs; or highlighting advices. Notes allow us to make the first brainstorms and questions about the research.

- Create and edit citations: once the work is finished, we can cite the used sources because it integrates the powerful and Citation Style Language.

Zotero Skills		
	Integrated in the web browser	Early works to 1800 East. <u>Economic aspects</u> Econon Economic Conditions and T Economics, Medical Ecuac Education, Elementary Eg The user can assign tags to every item, so the research will be organized with keywords.
	Organize items in collections and subcollections. Easy interface for easy search	Shakespeare <u>Desmet & Sawyer</u> 5 <u>Bibliography</u> Brandon, James R. "Kabuki and 5 <u>Desmet, Christy, and Robert Saw</u> <u>Godsalve, William H. L. Briton's</u> It creates footnotes, endnotes or bibliographies in the word processor, and in the Citation Style Language chosen
	It can store anything (PDFs, images, video, audio, CAD files, ...)	 The online syncing allows to use the data across all the chosen devices
	Automatically it indexes the text of the created library, to make it easy to search for them	 It permits to create and join research groups in order to share items, files, notes and discuss about the work.
		We shared a group Library. It can be public or private. We chose the private one and started creating collection and subcollections as we demanded
		Each one of us started adding sources of all kind. Videos, audio files, office files, PDF's, pictures (jpg, tiff, png...) CAD files...
		As Zotero allows us to edit notes, we attached to every source a quick note explaining why that item was important for the topic we were researching; certain paragraphs; advices
		Those files important to share and stored in our own hard drives, we attached and stored them in their proper items, in order to make a database to share between us. It was also a relief to realize that all files were stored in Zotero's cloud so we could access from everywhere and it was a safety copy just in case we lose something.
		The notes allowed us to make the first brain storms and questions about the topic. Even if they were Stand-Alone notes, the possibility of tagging it or related to an item, allowed us to organize them and check what the other person was working on or thinking.

To summarize, what we find really useful about Zotero for students and architects is the possibility to create a common database: so we can store any file, tag it, classify it, and share all these sources between the members of the group. We are proposing a methodology based in information management by encouraging students to think about the value of organizing all the information they manage to improve their work and projects.

[1] Vitruvius. *De Architectura*

[2] Larry R. Barrow. (2000). *Cybernetic Architecture. Process and Form: The Impact of Information Technology*, unpublished Doctor of Design Dissertation, Harvard Design School.