

MINOS

Threads of Knowledge

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Abstract: Minos is a proposal developed within the project INDEVOL:NEM – Dinamic Interfaces Evolutive: Navigation into Multidimensional Space- Knowledge is a series of virtual threads located in cultural spaces, open to the public, which can be accessed through mobile phones, PDA, laptop computers or any other technological device which can be connected to the web. Its purpose is to visualize information either in real space or at a distance through the internet. It's a tool for the future for e-culture focused on the expansion of the classroom.

1 INTRODUCTION

Minos is a System that can be implemented with either simple or sophisticated technology, from a network of RFID titles to a complex system of geopositioning or indoor spatial positioning. It can also be linked with a special compass that in addition to indicating directions registers the position in which it is slanted. In addition it can be used with a Augmented Reality device for visualizing the threads. What these technologies have in common is that they will be connected to a local server by cable or WIFI which will serve as a mediator between the user and the database in the device. The use of the net WIFI permits the extension of minos beyond the walls of the institution, into public space. It permits the sharing of information in the street or any other place with internet access. *“Beyond buildings transcending their borders the threads extend knowledge from the inside to the outside”*.

2 MINOS. CONCEPTUAL BASES

In the maze of information there are invisible threads that draw grids of knowledge. We cannot see them but they're there, around us.



Figure 1: Simulation using MINOS.

Minos is a proposition that speaks about localized tissues and about the relational paths between all the knowledge taken place in a specific place. Also, as a multiplicity of Ariadna threads that allow rediscovering experiences “threaded” by many in a same space, *“occupy the virtual presence of a shared trace”*.

These Ariadna threads are variable and progressive because they are a medium of reading and writing at the same time; each one is evolutive, and is created from a first piece of information that is susceptible of being complemented or updated by other users. They are shared constructions of public property at the users' disposal to sustain the spreading of common knowledge. With wireless technology, visitors can, for example, save and share via email a fragment of information or leave a message associated with a painting, or simply, to a part of the space that is set on the grid.

This filiform entanglement can be placed in museums, galleries, libraries or any other communication space and the threads can be

visualized with a PDA, a mobile phone or a laptop computer. Not only these are the technological tools that allow us to “catch” the sequence-thread of the works sited in the space but they also enable us to catch the thread of the visitors’ comments or the thread of a guided tour by an artist, a scientist or a fisherman. The electronic device shows us something that we cannot see but that is there. It is the conscious and registered trace that has been left by a specific “threader” user.

2.1 Functioning

The interface that allows our reading is the thread itself. We move about in the space and the multimedia thread scrolls as we move, giving us access to a wide range of information associated with the fragment or portion that we are going through. The fluidity in the correspondence between the virtual thread and the representation of the thread in our screen is of most importance so that the user can understand how it works. The immediacy of the answer is crucial.

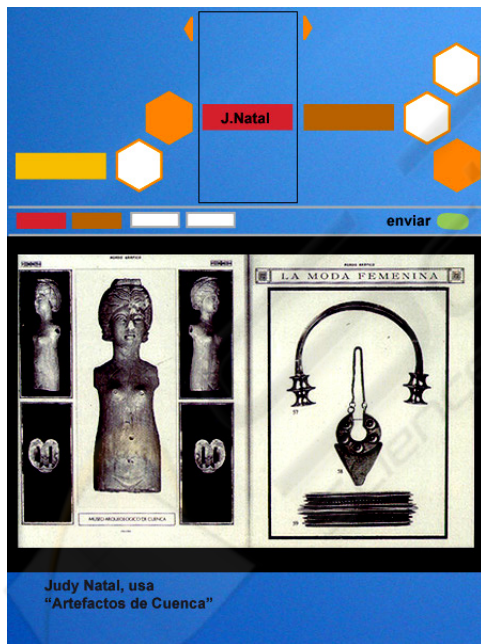


Figure 2: A thread’s node in a PDA screen.

2.2 Segments and Conjunctions

The interface allows us to move in depth in order to have a global and detailed vision of the available contents in the physical space. It is a ZOOM movement on the screen associated with a horizontal

scroll that allows exploring the contents of each thread.

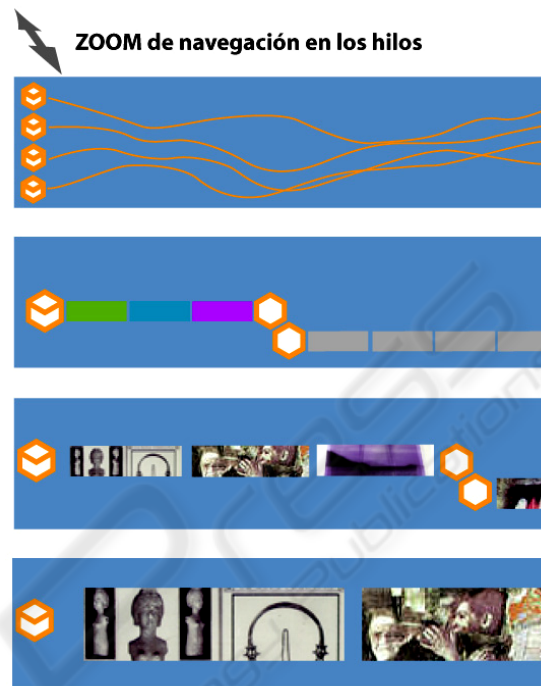


Figure 3: Zoom levels in the thread.

The digital thread represents the different relational and understanding proposals, associated with the concrete physical space that we visit. The digital thread slides in perfect synchronization with the users movements.

“Geometrical conjunctions” show in the interface, related to the nature of the segments in the carried out combinations.

2.2.1 Mecano-Code

These geometrical elements develop from a hexagon that can mutate into various other forms. The online combination draws the extension and the articulation of the memory segments.

Each element that composes the horizontal thread is mobile and evolutive. Each form fulfils a purpose such as pointing out an available database, a guided tour, an 18th century manifesto or the restoration techniques of a piece.

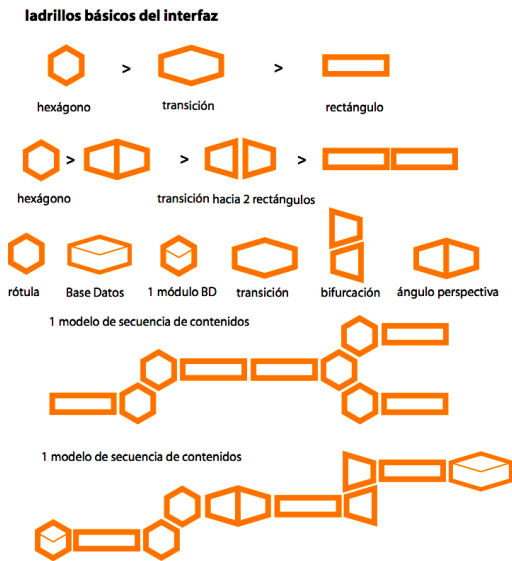


Figure 4: Catalogue of conjunctions and segments.

Just like a DNA sequence, the thread has an unbreakable basic structure. It has a key head, "HEAD", that could be for example: "Data Base on fishing in Ireland", followed by its description, authorship and other links related to it. Then, the hexagons can begin several parallel routes to one same thread. They are forks that correspond to the different sections, for example, a branch of "visual documents", and a branch of "textual description". Each rectangle is a data container that could be either a text, an audio file, a video, or an image.

2.3 Web and Didactic Classroom

During the visit, the user can save the whole (or part) of the contents, by dragging to the inferior boxes, the rectangle representing the contents. This operation allows creating a personal combination. After choosing the contents considered to structure that version are chosen, the user can, through the PDA, the mobile phone, or the computer, send its sequence to an email. The information sent, has a specific format that can be decoded on the project's web page, when at home or in a Didactic Classroom. His thread can be registered (if willing) in the project's archive so that other internauts can visit his route. Apart from the information that the "official threader" has linked in the visit, the web system allows to attach another kind of information that will be added to the first base of the "thread". The user can create new threads from zero, or can modify existing ones, and save them as derived versions. Therefore, when a visit is made to the Museum, one

can, not only see the information uploaded by an expert (for example), on the database, but also visualize documents that are considered do be relevant and that have been linked. These documents will logically come from other web servers. The user can prepare his visit before going to the Museum, and can upload the prepared information to see associated contents, once there. This is a very practical tool for a teacher that prepares the itinerary for the visit to the Museum before going there with his students. Museum and Didactic Classroom find a consistent bond.

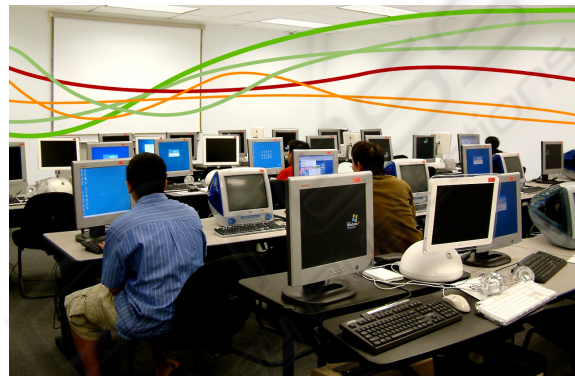


Figure 5: The user can make a previous visit based on the system, before going to the Museum.

2.3.1 Web Application

A multimedia reader device, accessible on the project's website, and especially designed and programmed to read MINOS' multimedia threads, serves us to visualize the previously existing contents and to add new documents that are considered to be relevant (edition).

The thread is nothing more than a small program, of a few kilobits that holds the kind of information and the reading order of the material from a related database, like a bookmark collection.

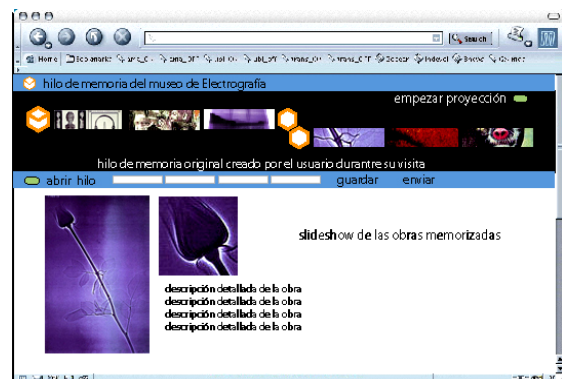


Figure 6: Minos application on the web.

We follow the threads that are a navigational memory of other users, or generate a new combination of coloured segments, variable in length and contents.

3 UTOPIAN IDEAS ARE ROUND

We can imagine that all of Minos relational paths converge into a central dome inside the space. This dome allows us to analyze the connections between the different filaments and get a detached view from the tissue, so as to analyse, as Fuller pretended with his Dymaxion Map, the repercussions, differences and unlikenesses and possible solutions. The Museum connects with the Didactic Classroom but also with the world.

“Utopian ideas-like ‘Spaceship Earth’-are round, multidimensional, interrelated: their archetypal map is the Milky Way, the infinite constellations. But rational thinking is instrumental, linear, it distorts: and that’s exactly the problem with the Mercator map, the most common world projection. Buckminster Fuller, inventor of the geodesic dome, created a ‘Dymaxion map’ to undo those distortions.” (Holmes)

Fuller represents the earth as an icosahedrons divided in 20 faces of triangular shape. The geometrical structure is then displayed on a plan, therefore avoiding, the polar and continent deformations.

In 1967, in the Montreal’s Universal Exhibition, Fuller worked in a shared problem-solving process which he called “World Peace Game. « The basic idea was simple: radical democracy. »Make the world work, for 100% of humanity, in the shortest possible time, through spontaneous cooperation, without ecological offense or the disadvantage of anyone.”(Holmes).

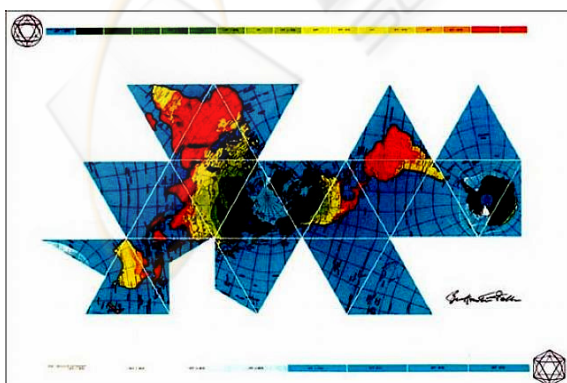


Figure 7: Dymaxion Map. Buckminster Fuller. (artnet.com).

4 CONCLUSION

Technology ought to be a tool that enables us to see further, we can enhance our gaze with it, but we cannot allow it to replace our senses and convert into an indispensable prosthesis in our approach to the world and culture. Minos makes the exploration of data related to cultural places easier, showing the interweaving of links that surpasses the contents of a specific nucleus. The devise that allows us to reach this nucleus is not the aim of this research, it’s just the means –restrained by the current technological advances and budget limitations- that holds us back to go deeper into the quest for knowledge.



Figure 8: Minos, conceived by UBIK2, within the project I+D INDEVOL:NEM. 2006.

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