CORRELATION BETWEEN UX/UI DESIGN AND ARCHITECTURAL COMPOSITION OF SPACE

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ABSTRACT

Architecture is a multi-defined science that many people have tried to create a specific definition for but have not been able to so far. One of the most famous definitions of architecture is "the science of modelling space" which in fact could work also for user experience design with just one difference: the space.

User Experience design is a new design field closely connected to technology development and the growing need of people to use and understand computers and smartphones. The link between computers and users is actually made through user experience and user interface design. The main connection between these two sciences is the understanding of how people interact with an environment and of how users navigate with a computer or smartphone interface through an experience.

There are a lot of architects working in UX/UI design since it is a fast-growing field. The graphic examples of forming space through dots, lines and shapes is almost the same as the formation of the space we live in, which is constructed of columns, walls and rooms which in conclusion is the reason why the orientation of people in space is similar to their orientation in the computer screen.

KEYWORDS: Architecture, User experience, Interaction, Space, Computer screen

INTRODUCTION

Everything we are surrounded by in the world is included in the definition of space. All we see, hear, percept and touch is put under the same name because it is difficult to be conceived as singular elements. Architecture, is the science of modelling space, it is how you create, model, decorate the space surrounding people in order to fulfill basic functions, to fulfill their need of beauty and esthetic and also to improve their health and way of living. It seems sometimes surreal that one science can actually help in the integration of all these elements in one space, making everything function and look so perfect as it was created by nature as one mechanism. Architecture is always inspired by nature, and the greatest challenge is to create space that doesn't confront nature at its finest but works with it as a small addition in order to improve people's lives.

On the other hand, human beings have created a whole new life besides what nature has created and it is the life we all live every day inside our computers, smartphones, tablets and smart watches. The same problems dealing with architectural space appear in the digital life, where we get to organize us. "home", our "bank accounts", our "e-mails" and everything we can do through technology so far. Living inside and outside of the computer has made us think of our surroundings in similar ways. This new science is called user experience design which for the sake of simplicity we are going to refer with term *UX,* even though it is not the best and proper name for it. *"UX design is the process used to determine what the experience will be like when a user interacts with your product"* says Laura Klein, Author of *UX for Lean Startups* and *Build Better Products. (web-2/2019)*

THE DIFFERENCES BETWEEN UX AND ARCHITECTURE

Marcin Ukleja in one of his blogs *(web-3/2019)* mentions a series of differences between UX and Architecture, such as:

- *The maturity*
- *The product*
- *The process length*
- *The lifespan*
- *The research*
- *The authorship*

These are a series of obvious differences between the two fields. The maturity of each field is different, because architecture started a thousand years ago according to archaeological evidence, while UX Design started in the last century with the booming of computer use and smartphones mostly.

The final product of both is different because architecture reveals a physical built project in the end, while UX Design presents a user interface with buttons and interactions made for the user.

The process length is a subjective area, because the design of most of architecture projects can last for months until the last prototype while UX projects usually last for weeks. There are always exceptions and that is the reason why this is not a great comparison between the two sciences.

The lifespan of a building is 50 – 100 years and even more in some cases, while the lifespan of a user interface is a maximum of three years. The evolution of computer technology is the main reason why user interfaces change so rapidly in order to adjust their development to the latest trends. Architecture, on the other hand, is always strongly linked with construction technology and materials, which do not evolve as fast as computer technology.

The research of an architect before an architecture project is related to the context, passive lightning, environmental issues, as well as user requests. The UX research is based only on people and their needs in order to improve their experience with sites, software, and smartphones. The main focus of UX is the user, while in architecture is also nature, the environment, vital functions and investment besides what the user wants.

The authorship is linked to the overall style used in architecture which can be recognizable from people, while a user interface is very rarely unique in style and recognizable, because of the computer programming limitations and functional aspects.

THE CONCEPTUAL SIMILARITIES

Besides all the similarities between architecture and UX, the most important ones are the conceptual ones. The design process is similar because it goes within four main stages:

1. It begins with a research and analysis in both fields,
2. Continuing with strategy and functional program

definition, which means listing all the user stories of a site/software or main functions of a building and linking them,

3. Prototype design that if approved it will continue to the fourth stage that is
4. The final design and construction.

The same process is one of the main reasons why these fields are so similar to each other in the way they work for the user of the space or site/software. Working as a User Experience Designer for one year after graduating Architecture, has taught me a lot of things in the correlation between these two fields mostly linked to the users' orientation.
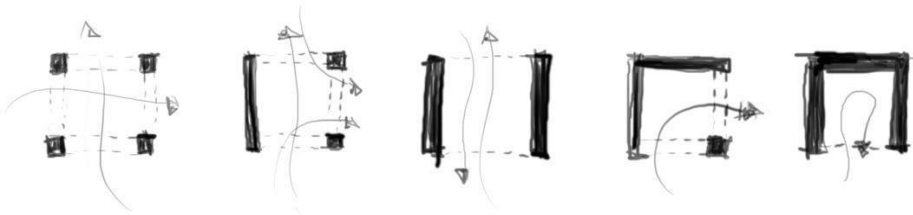
ORIENTATION

Figure 1. Defining physical space (digital sketch by Eduina Zekaj)
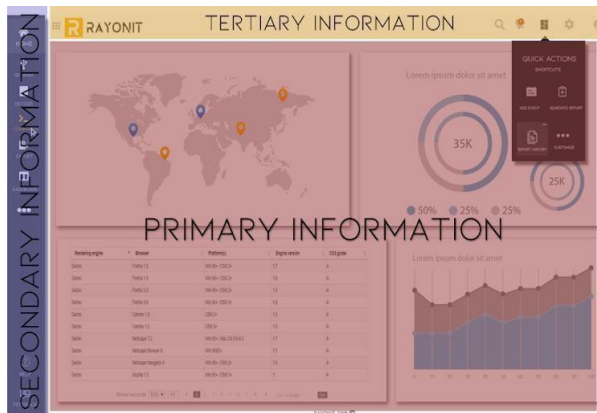

Figure 2. Defining UX interface space (by Eduina Zekaj)

In Architecture, space is defined by dots, lines, planes and volumes. Their different use can change the definition of space while

also the users' reaction towards it, providing him different experiences for each case. A square space layout can be created by four dots which would represent four columns in the three-dimensional world. It can be created by two dots and a line which would represent two columns and a wall. It can be created by two lines which would represent two walls, it can be created by two planes which would represent the floor and ceiling, or it can be created by a box that would be the real definition of a defined space. If we put one person to interact in each of these spaces, their reaction and movement would be different, because it is directly linked with human's feeling of freedom and imprisonment. The way the user would move in that space would be defined by the walls he would not want to hit, or the spaces he would want to get to out of.

This correlation is very similar to user interfaces, that can be created by a blank space with concentrated content in the middle that would concentrate all the user's attention in the middle of the interface, a blank space with a sidebar and top) navigation bar, while also concentrated content in the middle, which would make the user think of the actions he has to do with the content. It could be defined by a sidebar and spread content in the middle, unconsciously making the user navigate vertically using the scroll button or it could be defined by a top bar and the content in the middle, making the user navigate the interface horizontally.

These simple elements, as well as colors, sizes and proportions are a few of the tricks used in architecture and UX design to create the wanted results in the users' perception while guiding them through the project or software. Orientation is a major aspect in a man's life and if he has no directions he might get easily lost and uncomfortable. Architecture in the physical space and UX design in the digital one is the magicians behind our responsiveness towards what we see and where we walk at.

PROPORTIONS

Sizes and proportions are another major element that can change someone's navigation patterns or walk in the city. Everything surrounding us is in a certain proportion, vibrating and in relation to another object. If what we see is in harmony, we say that they are in good proportion, because our eyes do not get tired by looking at them.

The building sizes starting from villas and high rises are a great perception creator that deal directly with humans' ability to perceive the space. High rise buildings define a non- friendly space because of their height, and they are usually built for corporates, important buildings in order to manifest power and to make people feel small and fearful in front of them. In the contrary small villas can create a sense of home, or relevance, because of their small-scale difference with the human's one. High rise buildings are believed to have a great impact on people's lives by emphasizing the most important buildings of a city. The same parallelism works with UX design, where the most important contents that need the most attention and work to do take up the most space of the interfaces, making people feel like they cannot escape from what they need to do with that content. Even though the impact of a big card on an interface is not the same as the impact of a skyscraper the parallelism works in the spectrum of the user's attention.

COLORS

Different color combinations occurring in nature and cities can directly affect people's moods. The same thing happens inside the computer, where different colors can create different moods, leading to decision making, feeling trustful or simply entertaining the user. Everything related to color is closely connected to people's decision making. "*People decide whether or not they like a product in 90 seconds or less. 90% of that decision is based solely on colour*" *(De Fleur, M., Dennis, E., 1988).* The importance of studying colours in UX Design as well as in architecture has become a great challenge lately in their use on logos, web pages and buildings in order to make them attractive, unique, simple and sophisticated at the same time. If a great shaped building would not have the right colours the impact of a user would be totally different towards liking or not the building itself. In UX Design, colours are mostly linked to decision making, they can also create a link to users' aesthetic eye which is necessary in product/service selling.

CONCLUSIONS

I personally believe that there is a correlation in the way people behave inside an architecturally defined space and the interface of a

computer. People have a certain way of moving in space and moving through their thoughts and actions inside of a computer. UX designers have the power to change the way that users behave through colors, shapes and their position which is a great parallelism with architecture, since the defined space can change the visitors' behavior too. A building user's sight, as well as a software user's experience can be drastically improved or discomforted with the right tricks using orientation, proportions and colors. UX Design and Architecture will always be linked with each other as long as they stay on the track of aesthetics and functionality, differing from pure art and science and working as individual concepts.

"*So, what is Architecture about if not about designing (for) User Experience?*" This is a great rhetorical question, leading us to thinking what we can improve in our spaces design from UX design experience. There are a set of tests that UX designers make before releasing the final product online, starting from simple surveys, usability cases, user stories etc that create a whole new process of making the final product desirable, likeable, and very functional. This is what we can learn from UX design and use it in Architecture as a great way of testing people's reactions, their needs and functionality especially in the design process of public buildings.

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