

A Design & Decision Support System Proposal for Housing

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ABSTRACT

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The subject of this study is to develop an information management system integrating all the related specialists and sources of information virtually from all related fields in building sector (housing) of Turkey; including design, production, construction, marketing, research. The application field has been chosen as housing for having a contribution to the existing housing problem. Although the subject of architecture is one : "the building", the specialists taking place during the lifetime of a building (from design, to destruction) are numerous. Moreover the links between practitioners, academicians, industry are missing Conventional methods, technology are expensive, time consuming, and insufficient to establish and maintain a healthy coordination between these contributors (mainly the design team and all the other related persons, institutions etc.). This has a strong negative effect on the concepts of "wholeness " and "integrity". The result is a built environment which is lacking significant qualities, while the money has been spent is even much more than required for a proper result. This means the loss of a considerable amount of resources. Especially in a country, which has to build thousands of houses each year, for low income groups, the efficient use of the limited sources becomes more essential. Though the potential user range of the system may include constructors, contractors, building element / material producers and retailers, surveyors, institutions, universities, the main user is aimed to be the architect. The system is aimed to support designers to deal with "complexity" without neglecting the concept of "wholeness". Within the study, the problems which became a stimulus for the development of this system will be investigated. The philosophical base, structure and the possible advantages of the proposal will be discussed.

1 AIM

The practical aim is to contribute to the process of searching for a proper solution for housing problem of Turkey. The expected profit of this study is to involve the existing potential of information technology in to the above mentioned process. Due to my opinion in every single study, there should be a practical aim as well. This is true at least for the researchers, theoreticians, academicians of the developing or underdeveloped countries such as Turkey, where there are lots of practical problems to be solved as soon as possible. Housing problem is one of the most important ones which is a source of some other social, physical problems.

Another aim which is mainly related with the theory is to open a discussion on the changing or unchanging role of the architect in design process. A question related with this issue will also be discussed: Will the emerging technology support the architect to have a control on the design process?

A personal aim should also be mentioned I think. When I have been informed about the congress, it really pulled me and I have felt a strong enthusiasm. The main subject (DDSS) was in a way directly related with the field of my Ph.D. study. So I have decided to join and use the chance of having a real valuable feedback from experts coming from all around the world.

2 METHOD

This paper is based on my Ph. D. Study. Actually, particularly this paper is aimed to be a base for the discussion on the philosophical fundamentals of the main study. So it can easily be described as a speculative work, more than a methodically scientific work. Naturally all of the required activities (such as real and virtual library work, a survey done on chosen domains, and similar work, which are obvious to you) are included in the whole research process as well. However this paper is written under the influences of all the research process not any new research or study has been done particularly for this paper. I have written it with the knowledge I could build during the whole study process I have experienced till now. I didn't refer to any publication. I did not use my own notes even. The aim was to have a pure distilled personal knowledge as far it can be called "personal knowledge" .At least no information -or as less as possible- was meant to be included.

3 PHILOSOPHY

"Looking for the lost keys only under the street lamp"

Anonymous idiom

In theory, there is a cyclic procedural relation between the "theoretical work" and "practical work". Is this statement true for all cases? Absolutely not. Some theories will never have the chance to meet the real world and some realities, facts will never be studied theoretically. There are lots of reasons either pronounced or not. Lets remember some famous ones:

The nature of some subjects makes them difficult for research in terms of scientific method. Quality and the quantity of parameters makes it difficult to investigate all the related parameters. The process of the statement of the problem changes to the process of dividing the problem into manageable sub problems. The following step becomes choosing the most suitable problem to deal with (due to our possibilities such as time, material, money), and let other problems for other researchers who might be interested in. I suppose, all researchers who have been involved in the Ph.D. process either as a supervisor or as a candidate should have faced similar problems. Such comments may be familiar to them: *"The subject / the problem you have chosen is too general. Be more specific!"*.

There are a few question marks about this type of behavior: Will the other scientists agree in the way we have stated the problem, and the sub-problems? Will they be satisfied with the mission left for them?

When a problem is in the overlapping area of many fields another problem arises: "The borders of responsibility". You may have a strong hypothesis, but unfortunately you have to pass your borders. So what you should do? Find a partner from that field let him / her sign under your proposal to have a scientific approval? Or simply transform your proposal to a one which fits to your field. As a result, the main big problem is mostly lost because of our approach.

4 HOUSING PROBLEM in TURKEY

"I need a house! Now!"

Basically the need for accommodation is always there, it is already urgent, but when the possibility is there the urgency becomes even higher. In other words: Everybody is in need of a house: The homeless for sure, the renter naturally, the one who owns one but needs a better one, another one, for summer, for winter, for weekend, the kids are growing honey..I want to have my own space daddy....

One of the interesting aspects of human being is initiative. The funny thing about this is that while some are always eager to take the initiative; others (the majority) are ready to give it to them. Either conscious or not. So it is in housing. Speculation, squatters are formally disliked but informally gladly abused (guess by whom) realities.

If the politicians don't use their initiative in a right way and specialists - both practitioners and theoreticians- are too slow to act or not able to produce an urgent and adequate proposal because of some so called technical / methodical reasons, the situation we are now shouldn't be a surprise.

In Turkey estimated amount of the population who live in the informal parts of big cities (Istanbul, Ankara, Izmir) is nearly 60 %. It is clear how far you can talk about a man made environment quality in those areas

4.1. A Vicious Circuit

Everyone who is involved in this dilemma is accusing the others. One of our biggest excuse is a technical one and the obvious one. It is so obvious to be taken for granted and thought like "*Huh everybody already knows it so it is not so original to mention even*". A typical example of academic snobbery. We all laugh about "ancient scientist in the inquisition" fairy tales. We think as if the scientific fundamentalism was an attribute of medieval ages. Unfortunately as a young and maybe naive researcher I have seen, and still continue to see, enough examples of this kind of stochastic behavior around. Don't be happy maybe you are also one of those OWKB's (the One Who Knows The Best). The sad thing is that you even agree with the things you are reading now but don't even realize that you are one.

Shortly simple things, obvious looking things, common things are too easy to be ignored. They are dismissed and gradually accepted as they are. We get used to them. We take them for granted. Till we miss them or till they give a damage to us.

"The snake which doesn't attack me may live forever"

Anonymous idiom

Simply replace the word snake with terrorism and update the idiom to our age remember Bosnia, Middle East, Caucasia. Back to the subject. In our case some of the obvious facts for housing problem are as follows

- We commonly lack a sincere approach to problems.
(I really wonder how many of us came here only for the congress not for the Spa.)
- We are egocentric.

- We are searching for the lost keys mostly under the street lamps.
- We are so stuck on formats, patterns.

Actually these were some of the general ones which you can apply to any other subject.

To be more specific. A house or a housing block is a single reality. We all, who are involved in the housing field are looking from our own specific point of view and perceive something different. The architects, other specialist, the constructors, the contractors, financiers, the politicians, and finally the users. It is obvious isn't it? We all are trying to make the best profit out of it "individually". And we do. Surprisingly most of the time the result is never satisfying all of us as a "society". Especially in Turkey case, this can be observed so sharply.

5 FACTS

Man made environment quality is mainly shaped by the following factors

- Social
- Cultural
- Organizational, Administrative
- Political
- Legal
- Economical
- etc.

The role takers in the development process of the man made environment are as follows :

- Users
- Artists
- Architects
- Engineers
- Producers
- Investors
- Municipalities
- Government
- Illegal organizations

We can point out some facts about architecture as well:

- The place of the architecture in the world of complexities
- The nature of architecture: Oneness and complexity
- The interaction between architecture and the people

Above you have seen an ordinary sample of the well known analytical approach on architecture (as it is in most other complex fields). This approach can be described like : “Divide into pieces, loose the main point. The Whole” Generally when you are too much charmed by this approach or some of the points such as the ones (the bulleted lines) mentioned above during your study; you will loose the point with great probability.

There are enough excuses for this traditional attitude. The most famous one is the rapidly growing amount of information. The lack of possibility to deal with it as one person.

Solution: Specialization, in other words : “Divide into pieces give each piece to somebody who will take it, go and mostly never want to come back to the main point. Instead try to make that piece the main point”.

What about the whole? It will come out either like this or like that. No doubt!!! But when?!!

6 SPECIALIZATION

The knowledge has become an avalanche. Huge, fast almost impossible to handle. We should either.....blab blab blab. We all know the stories about the rapid growth of knowledge, information and specialization as a consequent. What really specialization is ? Division of labor? Or collaboration? Shouldn't it be both? Fields of research is divided like cells each new cell is divided continuously. And a new field is born. Here the analytical phase the division of labor is vital. But to bring the knowledge gained from scientific research into life by means of development of a new knowledge or a product, collaboration is needed. Because the effect of each single invention has such a complex set of effects that it is impossible to predict the result as one specialist.

So is for the building profession. Think of a chemical scientist inventing a formula as a side product, which is later going to be used in water insulation material production. The commercial value, by use of conventional media, add business will help the architect in a passive way to be informed about this event. But is it enough?

7 RESPONSIBILITY

For the majority the guilty ones are obvious for the settlement problems: The specialists: in the first place the architects, their schools, then contractors and so on. But nobody things about who made those laws, those budgets, who gave permission

for illegal buildings just before the election and who was the one who voted for them and build his or her partly or totally illegal building.

The image of Istanbul that is being mostly shaped by those illegally build or enlarged ugly blocks.

Lets forget about all the others and listen to the architects. They say "*The education was never good enough. The professors should be more strict on giving diplomas.*" (For sure not while they are studying). I am also involved in architectural education currently and now see what's wrong from both sides. Yes we lack lots of things in the universities, but I can claim that, the majority of those who blame the university were busy with everything except attending the classes during their school life. Probably if the professors were strict enough they would never have graduated.

What about professional life? They are always in shortage of time. The client comes to the architect, almost the day before he decided to start construction. They have to be really quick otherwise the job has gone. There are unfair competition conditions among architects, engineers, contractors. To win this game they have to sacrifice a lot most of the time. Price, quality, ethics, aesthetics, etc. This is true especially for the average ones (they are in majority as you guess). Corruption continues in the official platform as well and domino theory works here too. Unfortunately, it will work in the expected strong earthquake. (Nearly each century Istanbul confronted with an earthquake disaster. The specialists predicting a close time. Maybe this decade even.)

7.1 Mea Culpa

The conjuncture is more or less as described above. You may hear this story from an ordinary man on the street. With great probability he will have his own sophisticated solution: "*Hang a few of the responsible ones in Taksim square, and see if there will remain any..*" The grind is turning. We have to be quick. An instant solution is needed. Political power would be fine, but a technical improvement would help a lot. However as the highly responsible person, the architect, the one who gets both the compliments and the bad words, the one who signs under the design proposal, who is the only one in contact virtually with all other role takers, who decides, coordinates should also look for a solution. So I did.

7.2. The Initiator

The architectural design tradition is rapidly changing. The role of the architect and the other members of the design team and collaborators is also under a continuous change process. Some new tasks, specialist, members are involved while some are omitted or redefined.

But there are some things which have never changed since the beginning of the profession and won't change ever. The result of this process is one : the building. On the other hand there is another fact in terms of approach or perception: Every person who is involved in the life of a building perceives the building from his / her point of view. The engineers will look to structure or HVAC, while the contractor see it in a profit or loss context. The users concerned about their satisfaction.

In the overlap area of all these approaches the architects stands. To create, coordinate, demand, supply, Maybe the acoustical engineer of an auditorium will never meet the audience who enjoyed or hated the concert because of the acoustical conditions of the hall. But architect is always responsible.

Whether it is fair or not , whether we or the others like it or not; we are in the center of attraction. Both the positive and negative responses will be directed in the first place towards the architect: The initiator (though most of the clients perceives us as the draftsmen for their creations.)

8 THE ARCHITECT AND THE COMMUNICATION IN THE TECHNO-AGE

Maybe younger members of your family, or even you like the techno sound. A sort of music mainly created by sampled sounds (natural or artificial). Computers, the gift of the century have different contributions in all the fields. CAD is the most known related concept to architects. However this technology have a much bigger potential for the problems of architecture. To be able to use this potential we should do two things:

- Well state our problems
- Have an up to date information about the potential of existing technology.

To be an architect can be enough to formulate a problem but neither being only a computer specialist or only an architect is enough to involve the possibilities of this technology in to the field of architecture. There is a need for an interface person: Originally architect and specialized on computer technology. This interface can enable the integration of these two fields and lead to a probable solution.

There is a commonly used fashionable term, some use it to name our age: "Communication Age"; as if there was no communication before this time, or it is the only period which communication have been that important. Not only human beings, for all creatures communication is a basic function since the beginning. The emphasis of this age may be explained by the existence of new tools, or toys (such as TV, pocket mobile phones, internet). This possibilities may have changed the way

we communicate a lot. But the concept of communication have always been and will always be a basic activity of our lives.

As it is been mentioned above the problem of housing is a complex problem which involves many fields and specialists. An ideal solution can only be produced by the contribution of virtually all specialists coming from all the related fields. Till now may be the existing communication possibilities were not adequate for producing a proper solution. But I suppose today the situation have changed significantly. May be the problem is still the same but the possibilities aren't anymore. So we should reconsider the problem with the actual conditions.

The cyber-media a fashionable concept of our time is introduced as a new solution for many (mainly commercial) activities. This time, why it shouldn't be used for this purpose?

9 CONCLUSION : **A DECISION DESIGN SUPPORT SYSTEM FOR HOUSING**

The key concepts for this proposal have been complexity, wholeness and integrity. The aim of this system is to provide a vehicle with a proper navigation tool on the ocean of information for the architect. This vehicle is aimed for not only transportation on the surface. Underwater and over the surface, to the air even space should also be a possible destination for this vehicle.

We are living on a globe which is becoming virtually more accessible, to more people, in a much cheaper and easier way. A professor, Mr. Hamit Kemali Söylemezođlu, who I have assisted in architectural design studio and died last year at the age of 84 has told me ones, that there was only a few reach students who could have the possibility of obtaining architectural magazines when he was a student right before the Second World War. Actually there was not that much options of publication either. We were talking about the international style, vernacular architecture like subjects and the effect of communication on this issues during the time. Now the problem related with information has shifted from "reaching" to "choosing", "evaluating", or roughly "digesting" as Peter Eisenman says.

The architect is one person. The building is one object. But neither the architect, nor the building are that simple. The dimensions vary depending the point of view. There are many classifications: Psychological - social - physical or semantic - syntactic - pragmatic and so on. You can go back till Vitruvius : Venustas, firmistas, utilitas. Plural effect singular object.

In fact we know that each decision of an architect which ends up as an element, have all the impacts related with all the dimensions whether that dimension is already known or not. The problem is how much he / she was aware of that consequence in that or this particular dimension. Or if he / she was aware of it? Was the result the one which he /she planned? At least how close these two are : the planned intended one and the realized one? What about the role of the observer in this performance as a juror?

According to my opinion the relative success of a design should only be measured by the equivalency of the planned intended situation and the realized one. The absolute success ? Does it exist? Would we kill the stars of today with the hands, which we used to clap for them today, if we were living fifty years ago? Actually I am trying to explicify the value, goal system of the student while I am criticizing their designs instead of my own, as a tutor. Lets say I am shooting them with their guns.

Such a DDSS should not only provide required technical information. Yes may be the main point may look like economical for low cost housing. But, the main problem of housing have deeper roots: philosophical, ideological, political, ethical, social, cultural and so on.

The relation between micro and macro, local and global is so concrete that we should never concentrate on one only at a time. Lets take the design of a window (or a façade) of a low cost house in one of the historical neighborhoods of Istanbul. Where the site we are working on is surrounded by Ottoman period wooden houses. And let our brain surf on the world of thoughts, ideas, concepts: Ottoman Empire - Islamic architecture - the modest approach of Islam - no ornament - no figure - nothing will last forever - deadly material : wood - strong privacy - opaque ground floor - bay windows allowing the lady of the house to see the street without showing herself to outside - Oriental effect - Le Corbusier (why not? I have suddenly remembered his visit to Istanbul and his sketches) - Frank Lloyd Wright - Tadao Ando -Or should we have some schemes frames representing how the flow of the Ideas can be (should be) in the brain of the domain? Do you personally have an flowchart of thinking?

I think human brain or lets say NI (natural intelligence) does not need an Artificial contribution to the design process, in the way most of us think. May be there are cases which this will be vital (for handicapped, extremely dangerous jobs such as mine sweeping etc.). But not for creation instead of me. At least not for me. The only thing I would like to have by the help of artificial tools is to remove the borders, limits created by time and space restrictions and have more freedom and possibility to access all the available dimensions.

What is the result? Where is the model? I still don't have a crystallized solution. I am working on it and wish to be able to develop a computer model sample till the

conference for your review. I hope I will be able to manage it. Now I am trying to define the problem and develop a healthy fundament for it, in order to reach an efficient, realistic technical solution proposal. In other words I am still trying to answer some questions starting with why. In the mean time I am observing the development in all related fields (technological, social, cultural etc.).

The aim of writing this paper is the way I needed to reach the others who are sincerely concerned with the same issues, open a discussion, exchange ideas, and more important collaborate in order to develop a solution. The case for now (housing) is an important one but the philosophy behind is important as well. If this philosophical background can help us to solve this particular problem why it shouldn't help for others? So I will appreciate to have your responses during and after the conference.

10 REFERENCES

All publications, broadcasts, lectures, discussions, books, internet sites I could have the access. In other words yes maybe I did synthesize the piece of ideas above, but countless number of people / sources have helped the formation process of the theoretical structure for this work. I should spend a whole book for this reference section and still cannot put all the names. So I don't find it fair just to mention a few for this case in order to obey the rules. However, I have mentioned a few names, which had a direct influence on some specific points, in the text.