ABSTRACT:
Universal Design is a concept that tries to make minorities’ life, especially persons with disabilities, better: not only by destroying physical barriers but also by trying to include them socially. Understanding the interpersonal communication process will serve for having ideas about how to develop it. The idea is to work on games and entertainment in order to see the possibilities of offering more social inclusion to people that are design excluded.

Key words:
Social Inclusion, Universal Design, games, entertainment, Participation.

1. INTRODUCTION:
The relational world of an individual is based overwhelmingly on communication with others. Indeed, we all seek to join a group, to express an idea, an intention or a feeling through diverse ways: language, gesture, tone, vision... However, communication is far from being obvious although it’s necessary for everybody. Indeed, it is very shrewd to harmonize communication when participants have different references (culture, norms, linguistic signs, dress forms and institutions...). Without having chances to express and interaction with others, people feel quickly excluded. This communication and interaction become a real challenge when it comes to persons with disability: their environment creates more barriers for them. Therefore, the risk of excluding them, physically and socially, increases. Especially when they are in an environment that doesn’t consider and respect their difference.

Terms such as “universal design” or “inclusive design” are inspiring change affecting people’s daily life; in particular those that have been design excluded. How can the Inclusive Design process bring these persons back to the social circle?

Inclusive design could adopt different ways to enable social inclusion. In this paper, choosing a subtle method that can create fun and enjoyable atmosphere interests us: games seem to be a good alternative and it’s well suited to the context. Before thinking about the role that universal design may have regarding social inclusion, let’s first try to understand what is it.

2. UNIVERSAL DESIGN (INCLUSIVE DESIGN)

2.1 What’s Universal Design:
From the begging, Universal Design was born as a philosophy and a way of conception creating a new movement in architecture as well as product development. It was a process and design concept for building as well as producing in order to be accommodating to all kind of users. Some people think that universal design is made specifically for people having handicap while others prefer saying that it’s a “Design for All” But can we really design for everybody?

Figure 1: who are the people that the design is made for.

This figure shows us three example, each one has a group of people to whom the design will be made for. The first one is for common people. Since it doesn’t consider any one from those that have a disability, design will be untolerant to any difference or error. That would be design excluding. In the second example, we focus only on a group having a specific disability; that could lead to useful products for that group but others will avoid it. Even if it’s really useful common people won’t use it sometimes espacilly if aesthetically it’s showing that it’s made for disabled. The third example seems to be the closest one to the concept of universal design since it aims to design product or space that can be used equally from common people and from others with some kinds of disabilities.

Ron Mace is the wheel chair user architect who was the leader working on the "universal design concept" his aim was to design products and built environment on an aesthetic and usable way for the largest extent possible by everyone, no
matter the age or ability... The works of Ron Mace shows his will to create an environment giving equal chances for the maximum categories of people. That’s what will prepare for social inclusion. Ron Mace says: "Universal design seeks to encourage attractive, marketable products that are more usable by everyone. It is design for the built environment and consumer products for a very broad definition of user." We can notice that what this pioneer starts by working on the notion of Barrier free and accessibility to go beyond it in order to reach social inclusion. Bill Moggridge, pioneer of interaction design, says: “The final level of design is designing for sociability; that aspect of a design that supports the social aspects of work or leisure.” [1]

2.2 Principles:
Advocates of Universal Design have compiled rules and principles of Universal Design in 1997. It was to draw a way of conception in order to ensure universality of creations. Those principles are the following:
- Equitable Use.
- Flexibility in Use.
- Simple, Intuitive Use.
- Perceptible Information.
- Tolerance for Error.
- Low Physical Effort.
- Size and Space for Approach & Use. [2]

Concretely, the universal design concept goes beyond the notion of Barrier free and accessibility. Its goal is to have an aesthetically pleasing and functional design that is meant to be used by the greatest number of people, including those with disabilities. The seven principles emphasize on how the interaction between the user and the design should be; but it doesn’t express explicitly the social inclusion approach. That’s the reason why we may use the term “inclusive design” since it’s more expressive especially when it comes to speak about social inclusion. But, for social inclusion we definitely have to establish a good interpersonal communication.

3.COMMUNICATION: INTERPERSONAL COMMUNICATION:

3.1 Definition:
The word “Communication” has more than one meaning. Nowadays, we are using it in very diverse topics. What we mean by “interpersonal communication” is: the communication as a factor connecting people so as a creative means of exchange, discussion, that creates and maintain relationships between human beings. That’s what we call: interpersonal communication. But even enshrined in the social, communication can’t be reduced to a single definition. Moreover, several researchers are trying to define it from their point of view. Overall, and as the linguist De Rosnay said: "Communication is the exchange and flow of information in a network between transmitters and receivers."[3] In a more specific to human being, Monique Cormier, specialist in communication science, defines it as "the exchange of information and meanings created and shared between two or more persons through verbal and nonverbal messages, according to a given context."[4] In these quotes, communication is defined as a means of exchanging information. However, Shannon and Weaver present it as a way to practice our skills and everything else that comes to mind in order to influence "communication" included in all processes by which a mind can influence another, "This includes not only the written or spoken language, but also music, art theater, dance, in fact, all human behavior"[5]

3.2 Communication and stages of getting the message:
There is an information science and communication. This science seeks primarily to find ways, in a rational way to make the transmission power of a concept and normalize it. The experts define this science transmission in a communication as an act of transferring a message from a sender to one or more receivers. This simplified illustration is inspired from the the way that Lasswell , expert of communication, sees the process of message transfer (1948)

![Figure 2: Schematic summary explaining the route of transmission of the message.]

This figure clearly shows that if any step is missing, there will be no communication or interaction anymore. For people having any kind of disability, this communication process could become hard to make and sometimes even impossible. For example, It would be impossible for a foreigner as well as for a hearing loss to understand what others are saying if they stuck on the spoken language as the only tool of communication. Let’s imagine the following situation: a Brazilian man in a Chinese restaurant everything is written in Chinese characters and menus don’t show pictures. In this situation, the man would feel disable to communicate; He would struggle to interact with people and with environment that doesn’t consider his difference. Therefore, persons with or with out disabilities, minorities having differences from what is common could feel the physical and social barriers that exclude them.

4. SOCIAL EXCLUSION AS A RELUST OF PHYSICAL EXCLUSION:
Social exclusion refers to an idea of socialization. A lot of sociologists and researchers worked on this topic; everyone has his own perception. Erving Goffman, a Canadian sociologist, prefers to use the word “stigma” to express exclusion while Serge Pau Gasum, Doctor in sociology, describes it as a "social devaluation"[6] but both express a lack of belonging to a circle or a social group. People with a disability are predisposed to this exclusion. This is because they don’t belong to the average group of people. This leads to consider the link between disability and exclusion.

So, we can say that social integration is the development of links between individuals that create relationships. In their book “Sociology sheets”, Béatrice Barbusse and Dominique Glaymann, describe the social integration as something that "can produce a membership feeling and the opportunity to find a place in order to live normally in society." This is known as social ties.[7] The relation between disability and social exclusion is obvious. Any person with disability could be the origin of
exclusion but as we know, disability can be present in several types and forms. Some cause inaccessibility to public places, difficulties to access the same educational or professional field, in some cases it bring on difficulties in the place where we live; but also it can cause a barriers to some leisure or certain group activities such as sports or games. In this paper, we want to focus on the entertainment and the importance that it could have for achieving social inclusion. So how can entertainment instigate interpersonal communication between average people and others with differences or disability for a better integration?

Every country or company is always trying to develop itself but ways of development are diverse. We can notice that in a lot of cases, conception of new areas, constructions or products seem to be convenient but doesn’t consider the universal design approach it becomes design exclusive: This brings more barriers to persons having disabilities. In fact, vertical buildings missing ropes, escalators or elevator makes life of certain people even harder then it used to be before. Also, uniform and identical constrictions or product with out marks make persons with visual disabilities more disoriented. To understand the situation of these people, let’s imagine our self’s as we are but in a different world. A world where the majority of humans has wings, so able to fly and they would develop their concepts, building and products according to their abilities.

Figure 3: What would a “Normal” person look like in our imaginary world

In this case, people wouldn’t even think that making stairs is necessary since only a minority can’t fly. In that world, every one of us would feel design excluded: not only because he would find difficulties in moving from a place to an other but also joining other flying persons in their activities would become a real challenge.

Figure 4: buildings without stairs

Until now, most of people are still not aware about what can persons with disability can suffer from and how much they are excluded. For some people, a lot of places are as accessible as this following house could be for us.

Figure 5: Inaccessible house

Imagining how we would feel in such kind of environment can make us aware about the importance of proving and working on offering accessibility to everybody. But accessibility is not only a challenge for those who have troubles in moving but also those having vision trouble.

5. INTERPERSONAL COMMUNICATION AND GAMES:

The relation between games and interpersonal communication is attractive since it can lead us to come up to a communicative game. We wonder how the game could have a social purpose. Admittedly, the game provides enjoyment through the risks, rules, symbols...

Roger Caillois, a sociologist, has demonstrated in his book that there’s many categories of the game, some have socialized aspects such as competition or show etc… but somehow, anyway Games end up having social purpose as long as there is a partnership between two people or a competition or even when spectators are present. The game becomes a means through which a social bond is created or maintained. Roger Caillois says: ”The games find their fulfillment only when they raise a resonance or accomplice.”[8]

Stanbakainsi and Wallonia, sociologists, have also given very much of their research to the social function of the game and sought a way that makes the game a player in building relationships. To develop their idea, they have been essentially based on the child’s behavior. In the book ”The babies between them", there have been several observations on the behavior of babies in places that allow them to attend such as nurseries, kindergartens...

These observations have led to understand that children, even when they sit relatively far from each other, first begin to play their separate ways, mimic, respectively, and move, move closer and try to coordinate and play together.

Sequences that have been well described in the book suggest that, for any activity separated initially, the game can bring together members participating to play together in a complementary manner at first and then in a coordinated manner. The merger boosted by the play leads to communication between participants. Although they can not speak properly, babies find a way to break barriers, communicate and play.

For psychoanalysts like Freud, Klein and Winnicott, the game
presents a medium through which the person can speak. This enables him to make associations between what the person at the game and what she wants to express deep. For example, games that use the drawings become a means of communication and expression than other forms of language. In fact, this is explained by the fact that the game brings an unconscious language. We can say that the game can sometimes take the form of a projective surface in which we can express our desires, our intentions, our deepest thoughts or even our conflicts.

How can we use the advantages that games offer in terms of interpersonal communication for social inclusion purposes?

Although the game is a free and flexible activity, it is always limited by the constraints and rules. However, the game keeps its entertainment value. In general, in the game as in any event, it is about winning or losing: it is either to go beyond the rules and meet the challenge, or fail to accomplish the mission. So we can say that without constraints, we eliminate the notion of victory in a game that's why we established these rules. Choosing the conditions and Setting up rules during the game design process, could be made in order to give equal chances to participants even if some of them have a disability. Putting conditions make the game more challenging and in some cases really exciting. Sometimes by prohibiting the use of one of the Senses or by prohibiting the use of one part of a body... For example, when we were young, playing blindfolded or in a dark room and trying to find each other’s, finding other objects or exploring the space, provides a lot of fun. In this case, a blind person would have equal chances. Speaking about persons having vision problems, Games could be based on using other senses such as the Hearing Taste Smell or Touch. One of the games for blind that I was thinking about has a simple principle: it’s inspired from the memory game identical cards: the aim of a game is to detect by vision every 2 identical cards. The following figure shows a tablet that has different squares. Whenever somebody touches one of them, it produces a sound. The challenge is to remember its position and find the square that produces the same sound. Two people or more can play together. Numbered Columns help to localize the place of squares (sound).

We can also thing about games requiring physical effort, team spirit, and strategy... trying to make a crossing between games and universal design can generate a multitude of possibilities and new game concepts.

Figure 4: Game: Bicycle race (including people having visual disabilities)

These bicycles a connected processors in order to make a group race game possible. In this game, there is a virtual circuit racing. Equipped with earphones, the bicycle gives the user useful information about the position in the race, the paths, the speed, the time left etc... Many options can be included in these bicycles such as vibrations (to make it more real) or the possibility to send different types of virtual weapons to the other players by pressing a bottom: this will increase the interaction between the players. Playing this racing game, people having visual disabilities will have equal chances than others.

6. CONCLUSION:

As we have seen, minorities and persons with disability could suffer not only from a difficult accessibility but also from lack of interpersonal communication and social integration. Games and fun present a very large platform from which we can think about many activities, programs and products that can have a very positive social impact if we consider differences of potential members even those presenting challenges. In game, the challenge has an important role: it becomes the stimulus for the participant or members seeking to win. In order to reinstate the culture of team play, communication and the notion of proximity for everybody, it is not enough just to design few games. Every disability or constraint could be the origin of creating a lot of game ideas.

7. REFERENCES

[8] Roger Caillois: “Games and Men” p97