

Design laboratory
«humaniteam»:
Designing relationship
for accessibility

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Humaniteam – Design & Healthcare is a design agency, focused on accessibility and healthcare. We design with the users services and products of the future. We help companies and public agencies to create accessible services and products. We teach a creative methodology to help people to conceive accessible devices and services. We are three members of a multidisciplinary team: a designer, an occupational therapist and a social analyst.

Abstract

Humaniteam is a young French design laboratory, aiming at accessibility by presenting innovating propositions (products and services). It is a collaborative project, which brings together theoretical and practical knowledge. Our multidisciplinary team includes two designers, an occupational therapist and a social analyst. We have developed a specific research process, cross-functional as well as firmly established on the ground. Our working principle is to develop solutions for challenged people with users at every step of the research, focusing on their capabilities for adaptive and collaborative conception. This text gives a presentation and describes our methodology.

Keywords: design for all, accessibility, inclusive design, collaborative conception, cross-functional process

Resumen

Humaniteam es un laboratorio de diseño francés, que presenta soluciones innovadoras (objetos y servicios) para la accesibilidad. Este proyecto de colaboración reúne diferentes tipos de conocimientos teóricos y prácticos. Nuestro equipo multidisciplinario está compuesto por dos diseñadores, una terapeuta ocupacional y una analista social. Hemos desarrollado un proceso específico de investigación, transversal e interdisciplinar que trabaja sobre el terreno. Nuestro principio de trabajo es la construcción de una estructura organizativa que utiliza las habilidades y puntos de vista individuales para el diseño colaborativo y adaptativo.

Palabras clave: diseño para todos, accesibilidad, diseño incluyente, diseño colaborativo, proceso transversal.

We created the laboratory Humaniteam, in October 2014, because we wanted to act for accessibility. We are aware, personally or professionally, of issues that raise from the situation of disability. We emphasise an emancipatory approach¹: it means our work focuses on persons as human beings and their abilities. This way of taking care of disability has been developed for instance in Namur, Belgium, by the CRETH (Centre de Ressource et d'Evaluation des Technologies pour les personnes Handicapées—Resources and Evaluation of Technologies for Disabled people Center).

We will first expose the reasons why we decided to place our laboratory under the aegis of design for all: we promote equality, diversity, and dignity of challenged people. We focus thus on people's activities and how we could build a safe, comfortable and non-stigmatizing environment for a good life.

But design for all raises some issues, that the projects we developed answer. In particular, the main issue is: how do we design solutions both diverse and for all? We will then expose our projects and our research process. We will show how they give an answer to the problems previously pointed out.

1. Disability and design for all

There isn't any consensus on a conclusive definition of disability. In 2001, the International Classification of Functioning, Disability and Health (ICF) defined disability as *“the umbrella term for impairments, activity limitations and participation restrictions, referring to the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors)”*². This definition is interesting as it points out the problem of the environment. It also explains that disability is not only the problem of a person, but of the relations a per-

son has to his or her environment. It also focuses on activity and participation: a person is disabled as she/he is not able to accomplish some usual tasks in a standardized environment (activity), or in real life environment (participation).

Some researchers, as Patrick Fougeyrollas, have criticized this conception as confusing and normative. ICF definition does not precisely explain what an activity and participation are: there is *“a lack of clarity in these concepts of “activity and participation”*³. Is being disabled not to be able to accomplish a task in a standardized environment, but to be able to perform it in a social environment? For instance, a blind person can't discern colours in a standardized situation. But, with the help of a friend, of a tool, he/she is able to make a distinction and to choose clothes. Is disability only an abstract incapacity? And is there any meaning to perform an activity without any social or cultural background? The lack of clarity implies that ICF definition might have forgotten the anthropological and the situational aspect of disability, and of human activity in general.)

The Quebec Classification: Disability Creation Process (QCDCP) makes a distinction between capability defined as *“the potential of a person to accomplish physical or mental activity”* and life habit as a *“daily activity or social role valued by the person or his/her context according to his/her characteristics (age, sex, sociocultural identity, values), which ensure his/her survival and well-being in his/her society throughout their lifetime”*⁴. That is to say disability is a process, the result of an interaction between impairments, abilities and environment, that render activities possible or not, easy or not. Disability is thus defined by a situation and not by the ability or the disability to perform a task.

All characterisations of disability point out the fundamental role of environment. Designers are just to take this in charge, insofar as their task is building environments that may give meaning, pleasure and intensity to

1 Mercier M. (2004), «Introduction au débat». In Mercier M. (dir.), *L'identité handicapée*. Namur: Presses Universitaires de Namur. P.26

2 World Health Organisation (WHO). (2011). *World Report on Disability*,

3 Fougeyrollas P. (2010). «Social Participation». In J. H. Stone, M. Blouin (dir.), *International Encyclopedia of Rehabilitation*. Center for International Rehabilitation Research Information and Exchange (CIRRIE)

4 Fougeyrollas P., Cloutier R., Bergeron H., Côte J., St Michel G. (1998). *Classification québécoise: Processus de production du handicap*. Québec: RIPPH/SCCIDH.

experiences that people make. More precisely, those definitions of disability imply several things for design.

First, it means that each disability is unique and results from the original interaction between a person, his/her environment. So there is no disabled person, but situations of disability; there is no disability per se, but lived experiences and situations. Disability means a great challenge for designers: create environments, objects and services that fit diverse kind of situations.

Secondly, every situation may evolve: a person might face a situation of disability in a country, but not in another, because he/she have different life habits; or accomplish them differently, because of a more accessible environment. As the architect Louis-Pierre Grosbois said: “A person with a disability in an accessible setting is an able-bodied person and its corollary: an able-bodied person in an inaccessible setting is a person with disability”⁵ Designers have to take that into account, and to build accessibility as universally as they can.

Thirdly, that means all people may be considered as disabled in a situation that creates obstacles. It is a part of the definition of design for all, says Josyane Franc, a member of Executive Board of IEDD design for all Europe in an interview: “The definition of design for all supports the idea that disability can be found at any stage of life—childhood, motherhood, old age or temporarily, when for example, someone breaks a leg. The difference between one person and another is not only sensory, cognitive or physical, but can be economic, social or cultural.”⁶

Design for all is a consistent proposition for building an accessible environment. Its principles were stated in the Declaration of Stockholm in 2004: “Design for All is design for human diversity, social inclusion and equality... De-

sign for All aims to enable all people to have equal opportunities to participate in every aspect of society. To achieve this, the built environment, everyday objects, services, culture and information—in short, everything that is designed and made by people to be used by people—must be accessible, convenient for everyone in society to use and responsive to evolving human diversity”⁷ Design is apprehended as an emancipatory process at the service of citizens as human beings.

Design for all has been defined several times⁸, but its main principles are:

- promoting diversity, equity, non stigmatisation, dignity of all human beings
- building an accessible environment
- designing for all is designing with all, and “requires the involvement of end users at every stage in the design process”⁹

But the realisation of design for all projects raises some fundamental issues, that come through our activity, and that we hope sorting out with our projects. These issues are:

- How can we conceive objects and services for “all”? Is it realising projects for as many people as possible? Is it realising projects for little communities of challenged people that have a special impairment?
- How could we conciliate diversity and design for all, which might mean average objects and services?
- Should our projects be developed at a local or a global level?

We have met these issues at each step of our work.

5 Louis-Pierre Brosbois (2003). *Handicap et Construction*. Paris: Le Moniteur. P.21

6 EPCC Cité du design (2015). *When Design makes for all*. Saint-Etienne: La Cité du design. P.86.

7 European Institute for Design and Disability (EIDD). (2004). *Stockholm Declaration*. available on http://dfeaurope.eu/wp-content/uploads/2014/05/stockholm-declaration_english.pdf

8 For instance, Ginnerup S. (2009), *Achieving full participation trough Universal Design*, Strasbourg: Editions du Conseil de l'Europe; The Center for Universal Design (CUD), North Carolina State University. (1997). *Principles of Universal Design*. available on http://www.ncsu.edu/ncsu/design/cud/about_ud/udprinciplestext.htm

9 EIDD (2004)

We have mostly worked with handisport associations. Doing sport means taking care of oneself, and its therapeutic and social virtues for challenged people have been widely recognized¹⁰. It is both a challenge and a game. It is also a lifestyle, taking place in a life's project. Finally, sport focuses on capabilities, and not on disabilities. We will expose our two main projects, and explain how they deal with issues we have highlighted.

2. Two examples of what Humaniteam has designed

2.1. The equitherapy project

Equitherapy is a therapeutic activity that uses horse as a complementary partner of medical care. Horses can provide self-confidence. They help an injured body to feel movement of a warming impressive body. They implement relations that could help people to reintegrate into society. And, of course, horse may let riders experiment the pleasure of riding. Equitherapy has also psychological benefits, and considers the person as an integrated whole. The most famous center of equitherapy is in Vienna, in the university hospital Otto-Wagner.

To profit from this activity, challenged people need to be accompanied. They are, naturally, by therapists. But they are sometimes afraid, they can't properly take care of their animal because of impairment, can't stand on the saddle, etc. Yet the horse is supposed to be a facilitator: the main point in equitherapy is to build relationship with it.

We have worked with a little riding center near Reims (France), which works with an association for rehabilitation (Centre de rééducation motrice de Reims) through riding. They needed devices to help challenged people to actually create a relation with the horse. Moreover, that riding center, as most of them in France, is not specifically dedicated to challenged people. There isn't any place for dedicated saddlers; they needed to design space in order to be acces-

sible.

Humaniteam develops propositions in four working steps: observation, conceptualization, formalization, development. *Comment intégrer moment de l'équithérapie dans l'activité générale du centre équestre?*

The **observation** step is dedicated to the ground. We build confident and strong relationship with each stakeholder of the future project. We meet users, the head of the association, the financial institution, specific analysts etc. We visit workplaces, ask people to understand expectations. We aim at understanding the scope of each stakeholder: what are their interests, their relation with disability, their needs, their values, etc. We note from observation many items for requirements specification.

In the equitherapy center, Claire Fauchille, our object designer, and Clothilde Capois, our occupational therapist, recorded interviews of the users, their parents, therapists. They noted that to be therapeutic, the equitherapy session must initiate a relation, stimulate senses, develop autonomy, motricity, connect people to environment. So the issue is: how to make the session having the more positive impact? There must be obstacles between the users and the horse, because they are afraid of the animal, and they need to be protected. They can't be directly in relation with it. But the obstacle has to be an help, a catalyst, and not constraint. So how to let the users build relationship with the horse? Help them to saddle up by taking them in arms? A specific saddler? Without any saddler, how to stand persons on the horse? We had to help challenged people to create a warm contact, instead of the technical environment they are used to.

Then, we formulated a **conceptualization**. It is the step by which we define the main ideas of our proposition. We asked how equitherapy (and challenged users) could take place in the riding center? They ride with valid riders, and their can't stay in their bubble: the main point, we re-

10 Marcellini A. (2005). «Un sport de haut niveau accessible ? Jeux séparés, jeux parallèles et jeux à handicap». *Reliance*, 2005/1 no 15, 48-54. doi : 10.3917/reli.015.0048; Marcellini A. et al. (2003). «L'intégration sociale par le sport des personnes handicapées». *Revue internationale de psychosociologie*, 1X(20), 59-72. doi : 10.3917/rips.020.0059

member, is building relationship. Furthermore, feeling safe is essential for beginners or persons affected by psychomotor disease. Our propositions had to help two main activities: taking care of the horse in the arena; standing on the saddle in order to experiment autonomy.

What psychological, physical impact will have the device on users? What constraints does it bring to therapist and environment?

Finally, one specific problem rose: how not to feel left out but autonomous in a riding center?

Formalization is the step with which we define the problems that design may shape a proposition in relation with the users and former steps. The design brief then comprised products which realize and simplify relationship between horse and challenged riders. Is the device produced for single use? Must it be washable? How could it be carried and stored? Is it personal or for a shared utilization?

It considered the riding activity space. In the riding arena, the persons should have adequate means of settling and taking care of their horse in a safe and quiet space. Installation needs to be discrete and elegant in order to be well included in the arena. Claire imagined units as spaces in the space of the riding arena. They create a slight separation, but keep relationship alive. The rider or his therapist can remove it as he wants—see fig. 3-4.

In the saddler, people need help to take care of the horse properly: which brush use first, where to brush the horse, what action comes first, etc. An adaptable structure initiates an order and invites the user to take place near the horse safely and efficiently—see fig. 1-2.

On the saddle, beginners or challenged persons benefit from a direct contact with the horse. They may feel his body, his warmth, but need help to stand correctly. The saddle layers help the rider to seat on the horse and to keep his body well. It ensures good sensations for a better therapy benefit. The saddle layers can be adapted to different impairments, or requirements of the rider or the therapist—see fig. 5-6.

Development is time to prototyping, and restituting of the proposition. It is the first experience users would have of the product or service. Therefore it is a crucial step: will users adopt the proposition? We collected

feedbacks from riders, their family, their therapists. We needed a long time, because users have to take time to be familiar to something new, that reconfigures the space in an innovative way. They were mostly satisfied, particularly moved by the fact they used a device specifically designed for them, with them.

All those proposals won the special price by jury at Innovation Award in December 2012 at Horse Salon Paris. The jury liked the way we thought accessibility: for all (beginners and challenged people); by designing space and not only objects; as the creation of relationship between people and between people and horses.

2.2. The boccia project

The second experience we want to share built a partnership with a sport association in Reims (France), Aventure Boccia. Boccia is a Paralympic sport since 1984, related to bocce and bowling, especially dedicated to athletes with severe physical disabilities. The director asked Claire for a ball-carrier that could be adapted on every kind of wheelchair, no matter of the size or shape of the armrest. It had to cost less than 100 euros. The director of the association received funding from a social institution (Caisse Primaire d'Assurance Maladie—CPAM—de la Marne) for developing the device for players. This association is dedicated to young players, for leisure and competition. We also worked with another association in Paris, with elderly players, who played only for their own pleasure.

There were an interesting relationship to build between the association, the financial partner, users and us.

During the observation step, Claire and Elodie Cardinaud, who is service designer, met players there, an occupational therapist, and social workers. Players needed a device to hold balls easily and stylishly. They wanted something they could be proud of, something original and specially designed for them. They also wanted it light-weight but stable; easy to carry, stackable to take little place; easy to put on and off the wheelchair, resistant.

The requirements specification was really specific and clear.

But the association needed a dozen ball carriers, and we were not able to make them at an industrial scale.

So we pondered the matter carefully and decided the project needed to develop an object and his product lifecycle. The question was: how to make one original device for different persons? How could it be at lower price, but customized, adaptable and adequate? The small cost requested the object would be produced at a local level, by shaping an original relationship between local associations, users and the social institution—see fig. 10. Claire and Elodie succeeded in designing a shape—see fig. 7-8, and producing a prototype—see fig. 9-11.

The service side of the development was unable to work properly: we haven't clearly explain we will design an object and its lifecycle.

There were also technical problems: the ball carrier was not stable enough. In addition, users' helpers found the ball carrier hard to slip on the armrest: they were afraid to damage an expensive wheelchair.

Nevertheless, tests were quite positive: ten players used it in competition. They were proud to use the ball carrier as it has a sportive and profiled shape. They enjoyed choosing colors: making choice is an essential dimension of liberty, even if it is limited to choose color. Many tools for disabled people are average, as if they should not have the right to customize them. They were proud we focused attention on their abilities and not only their impairment. And they were pleased that we didn't only talk to their coach, but with them, as experts.

Our approach is different than usual ones. All people are integrated in the project. They are engaged, and it necessarily works: we find solutions because everyone has an idea, and make a priceless contribution.

A designer also collects ideas and makes iterations. He is creative, but needs to be feed with suggestions, pictures, questions.

We promote a collaborative work, in a climate of confidence with all stakeholders. So it is a part of our job to design it at the outset of the collaboration. We sell researches, empowerment by shaping constructive relationship between all stakeholders, and not only a product or the scheme of an organization chart.

The boccia project is presently still explored.

3. How do our projects answer some issues of inclusive conception

3.1. How can we conceive objects and services for “all”?

Those projects help mainly challenged people. Installation in the saddler helps visually impaired persons and guides them to the different tools for taking care of the horse. It also helps autistic persons to come nearby the animal in a safe place, close to the therapist, but separated from him. The person could experiment an autonomy, symbolic, but essential. The saddle helps psychomotor affected people to sit properly on the horse; it is also useful for autistic children in order to let them experiment otherness, through animal's warmth. They are directly in contact with the horse, but protected by covers if needed.

Therapists noted that work sessions were more efficient using the saddle. As the saddle facilitates stability and interaction with the horse, the patients could concentrate on exercises and perform more difficult ones. Users said the riding is easier and more comfortable, so the experience of riding is much more pleasant.

Similarly, the ball carrier for boccia is dedicated to athletes in wheelchair, and helps them to carry the balls of the game, and to launch them during the play.

But these projects are not only dedicated to challenged people. In a saddler, a beginner may be afraid of ignoring the way to brush a horse. Likewise, the same beginner will find a valuable help in a saddle, which helps him to stand on the horse. As we have said, we all might be challenged, and being a beginner is a challenge, especially when you have to meet a big and impressive animal like a horse. Using the same device than impaired persons is also an experience of equality: it helps people to sympathize with others, to feel how much a human being is weak, and how much she/he is strong with the caring presence of fellows.

The ball carrier might be differently used for all. It helps performing at boccia. But it is also a nice object that allows new insights to handisport: it is well-profiled, compact, easy to make, easy to put on and off the armrest of the wheelchair. Disability may be less associated with ugliness of technical devices, or with pain. Using beautiful objects helps self-confidence, and personal recognition. Using gratifying objects has an incidence on the way people judge you at the first sight. Erwin Goffman¹¹ exposed clearly how disability lies first in the visibility of stigma and in stig-

ma symbol (hearing devices, white cane, scars, etc.) Playing boccia might be a symbol of stigma. But it is also a way to feel member of a group, and a device helps that feeling. In addition, a stigma symbol might become “cool”, as the rainbow flag for gays. Finally, if a device is well-designed, it may be no longer a stigma symbol but only an invisible technical tool. As Goffman said: “*The normal and the stigmatized are not persons but rather perspectives*”¹² It is the designer's task to help all people to change perspectives. So, even if the ball carrier is only designed for boccia players, it offers them a way to be seen as full athletes, using a specific device that is needed for the sport, and not only for their disability.

3.2. How could we conciliate diversity and design for all?

The saddle and the installation of the saddler are adaptable to the specific impairment of the user. If someone experiences difficulties to stand because she/he fall backward or forward, the person accompanying just have to put more blankets in front of and behind the rider.

The installation in the saddler could be placed in the arena, if the user needs space to turn around the animal, or if she/he wants to stay with the other riders. It could also be installed in a stable

Of course, we cannot anticipate every kind of impairment, or every kind of need. But working in collaboration with users guarantees the efficiency of our proposition for them. We also can appreciate real needs, representations, and diversity of issues. As we work under design for all principles, we don't want to create average propositions. All are designed specifically for the users we meet. But we are in position to adapt our proposition to other users, other cultures: that is why observation stage and dialog with users are so important in our process.

The ball carrier is also adaptable to several situations. The users can customize it: they can choose colours; they can write on it, integrate pictures on the structure. We

also want it to fit any kind of armrests. For the moment, it fits the armrests of the members of Reims association. We have to think over a fastening system that is universal. In a way, constraints are positive.

What is less adaptable is the idiosyncratic relationship we built with all stakeholders: association, users, social institution, and manufacturers. But we could export the model everywhere. In every project like that, there is a financial sponsor, manufacturers, users, and eventually an association. We just have to find them, and to design the specific relationship needed to make the project available and sustainable.

Where is diversity when we design a proposition? In customization, in the openness the projects proposes to different public, but it always lies in diversity of living experiences of the users. An object may be average; each person has a different way to use it, to make it meaningful. What we try to do is giving opportunity to our users to experiment autonomy in their own way with the objects and services we design.

3.3. Should our projects be developed at a local or a global level?

We have seen how local level is essential for observation, building a confident relationship with stakeholders, analysing their feedback. There can't be any project without full participation of users, at any stage of the collaboration. It is an essential condition for tailored propositions. Moreover, there are obvious cultural differences between countries or communities. So, if we don't make any enquiry nearby our future users, our work is useless and will never fit well.

Another important point is the cost of our deliverables. It must be as lower as possible, considering many challenged people have meagre resources. A local manufacturing, decided with other associations might be an answer.

But, in order to act correctly at a local level, we need global knowledge and tools: it gives us a reading grid of local issues. That's why we quickly gave an interna-

11 Goffman E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, N.J., Prentice-Hall. P.63-67.

12 Goffman E. (1963), p.162-163.

tional perspective to our team. Moreover, our users travel, for leisure or for work. So accessibility can't be only a national preoccupation. Building relations between different conceptions of accessibility is also a matter of accessibility, and that is what we have learned by meeting people from different countries and backgrounds.

It brought us to consider the importance of participating to international and general meetings. They help us to use concepts, to name our practice, to question our work. They give ideas of new ways of thinking and building relationship. And they give us the opportunity to share our experiences, and to test the conceptual value of our productions.

Finally, local and global level can't be separated. Great principles of design for all have to be realized by local projects and devices. Otherwise, they will only remain words. Our work needs leading principles to have meaning. Otherwise, it will be useful, but meaningless.

4. Conclusion

Designing for all has become obviousness and an obligation for designers. An obviousness because we are more and more aware of the issues of diversity, equality and so-

cial justice. An obligation because almost all countries in the world have passed legislation for accessibility and protection of social rights, according to the recommendations of UNO¹³. That means many countries nowadays deal with the issue of accessibility for all, and design for all. India, Bangladesh, for instance, recently passed severe legislation about it. North European countries, United-States and Canada have a longer history with inclusive design and accessibility. The first law in USA for the rights of disabled people, named Rehabilitation Act, has been passed in 1973.

But, as obvious and obligatory it is, accessibility needs to build specific relationship with users. They are experts, and we have to focus on their capabilities, not only their disability. We always ask ourselves: how could we give people, with objects, services, and designing other relationship with their environment, the opportunity to use their capacities to live an autonomous and decent life?

That is why we aim at designing an environment and not only objects and services. We thus propose an ecosystem of deliverables, in order to build, with people, a fulfilling life's project.

13 United Nations Organisation (UNO). (2006). Convention on the Rights of Persons with Disabilities. available on <http://www.un.org/disabilities/convention/conventionfull.shtml>