The revitalization of an urban center: quality of life as part of the converged design of service

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Abstract

The purpose of this project was to undertake actions with innovative and distinctive approaches that are: holistic, disciplined, interdisciplinary, multiple and integrative. The project sought not only to develop products and services to their complete magnitude, but also services that provide new recreational experiences. It is being undertaken by the Nucleus for a Systemic Approach to Design (NASDESIGN) in partnership with the municipal government of Trombudo Central, in Santa Catarina, State, Brazil. The purpose is to revitalize the urban center of the city, by offering new experiences through the reconstruction of this space. The process was highlighted by the use of a material that is found in abundance in the region: slate, which was used to make various forms of outdoor furniture and equipment such as game tables and benches. Beyond the common elements, considerations were made to provide accessibility to this space, open-air gymnastics equipment for the elderly and for tree planting. In addition, through the reuse of the residue from the production of these facilities, lighting elements and sources of shade were produced from stones that would have been discarded. The results indicate that design of service made a clear and significant contribution and can assist in the development of cities and improved quality of life.

Keywords: Design of service, quality of life, Sustainability

Introduction

Design can be applied in a form that seeks not only to develop products, but also services that meet the needs of and provide accessibility to individuals, and as a consequence, improve quality of life. In the community of Trombudo Central, by developing products and services to improve recreational infrastructure for an urban area using slate, which is abundant in the region, design sought solutions that combined sustainability and accessibility for the population.

The concept of product design, according to Manzini (2002), should be understood in its broadest form, including not only the physical product of production, but also the services and

communication companies use to present themselves in the market. Based on this concept, it is possible to identify that design passes its focus of attention from the product to the system in which it is inserted. To speak of design that considers the entire system in which a product is inserted and not only the product itself, allows understanding a systemic approach. This, in turn, allows systemic design, in which it is possible to consider environmental, economic and social spectrums, seeking sustainability and, in the words of Vezzoli (2012), equity and social cohesion.

Communities and their local productions, traditions, identities and specific forms of organization can thus benefit from design, which intermediates networks of social actors and their beliefs and traditions, by developing communication projects, graphic interfaces and socio-environmental awareness. "The design perspective comes precisely to help in this complex task of mediating production and consumption, tradition and innovation, local qualities and global relations" (KRUCKEN, 2009, p.17).

Gains are found not only for the system and the people who constitute it, but also for the products they develop. After all, by considering all the steps of the productive process, designers "will certainly be contributing to a significant increase of added value to the product throughout the production chain" (KRUCKEN, 2009, p.10).

Nucleus for a Systemic Approach to Deisgn - NAS Design

The actions of the Nucleus for a System Approach to Design (NAS-Design), a design research center at the Federal University at Santa Catarina, in Florianópolis, Brazil, take place within this context. Its activities are part of the DESIS-Brasil group, which is linked to the DESIS-International network. Since 2006, this group has worked with creative communities to develop systemic projects that result in the development of graphic interfaces, the design of services, and the creation of networks and that strive for the sustainability of their processes.

The methodologies used by the laboratory with these communities are based on a bibliographic review, research-action and a strategy of systemic approach to design. The first step allows acquiring the knowledge of theoretical concepts and analyzing their applicability. The use of research-action, in turn, is justified by the active action of the research designers within the communities and by the attainment of intangible and tangible products of this action. Research-action, according to Dionne (2007, p. 24), "is, mainly, a process of collective intervention assumed by practical participants (*praticiens*) that is aimed at realizing social change that has implications for the actors in the situation." The contribution of the researchers, according to Dionne, is significant due to their direct association with members of the community and their contribution with scientific and technical knowledge.

The systemic design approach is strategic to the group because it considers the complex interactions realized by communities. In it, the focus is transferred from the product to the system. Thus, analysis is conducted of the factors that exercise significant influence on the productive initiatives being investigated. For the action of design in creative communities, Manzini (2008) proposes three forms of interaction: (a) bottom-up: by the active participation of interested parties; (b) top-down: by the intervention of external institutions; and (c) peer-to-peer: through the exchange of information among similar organizations. NASDESIGN used these guidelines to initiate its first interaction in a top-down manner, in which the group went to a community and expressed an interest to help and contribute with scientific knowledge. Soon after, it began a peer-to-peer process in which members of the NAS-DESIGN team directed themselves to the community to learn about the situation *in loco*.

This degree of interaction placed the community and the NAS-DESIGN team members on the same level. This allowed the exchange of information among the partners to be more direct and effective. New results were triggered by the third step in the interaction, which was bottom-up, through which the population of the region exercised influence on the outside entity (NAS-DESIGN). This involved an inversion of the trend to have the "global influence the local." The

results of the project and of the abilities of certain people of the creative community – who detain forms of knowing, doing and thinking that are different and that place alternative forms of organization in action – influence the organization that they are analyzing, establishing an innovative process, thus contributing to the creation of scientific knowledge and administrative tools.

Design of service for accessibility, leisure and quality of life

Design for accessibility seeks to allow projects to be used by individuals with various abilities, without a need for modifications or special adaptations, Lidwell (2010). History shows that accessibility must concentrate on accommodating users with deficiencies. To the degree that knowledge and experience with accessible design increase, it has become increasingly clear that many required "adaptations" can be designed to benefit all users. Accessible designs have four characteristics according to Lidwell (2010): perceptibility, operability, simplicity, and forgiveness.

Perceptibility is obtained when everyone is able to perceive the design regardless of their sensorial capacities. The basic guidelines for improving this characteristic are: presenting information with redundant methods of codification (for example, textual, iconic and tactile); to offer compatibility with technologies that provide sensorial support (for example, ALT tags for images on the internet); and position controls and information so that they can be perceived by users who are either sitting or standing up.

Operability is obtained when everyone is able to use the design regardless of their physical capacities. The basic guidelines for improving operability are: minimizing repetitive actions and the need for prolonged physical effort; facilitating the use of controls by means of affordances and high quality restrictions; offering compatibility with physical assistance technologies (for example, access to wheelchair users); and position controls and information so that they can be accessed by users who are sitting or standing.

Simplicity is obtained when everyone is able to understand and use design without difficulty, regardless of their levels of experience, literacy or concentration. The basic guidelines for improving simplicity are: to remove complexity and provide consistency; use a progressive relationship to present only relevant information and control; offer clear requests and feedback for all the actions; and guarantee that the standards for reading are adapted to various literacy levels.

Forgiveness is obtained when design decreases the occurrence and consequences of errors. The basic guidelines for improving this characteristic are: the use of high quality affordances and restrictions (for example, controls that can only be used correctly) to avoid errors; the use of confirmations and warnings to reduce the occurrence of failures; and the inclusion of reversible actions and security networks to minimize the consequence of the errors (for example, the capacity to undo an action).

In the community of Trombudo Central many design needs were identified to provide accessibility and improve quality of life. The identification of needs took place by means of an initial top-down approach undertaken with the municipal government of Trombudo Central, which was interested in revitalizing an abandoned public area, which could be transformed into a recreational space for the community. For the definition of the needs of the population, the peer-to-peer and bottom-up approaches were used.

The main objective was to revitalize the abandoned area and create an environment where the priority for services was aimed at recreation, accessibility and the quality of life of the local population.

The needs identified included that for recreational spaces for the population, which could be created by converting abandoned areas and public squares that were not providing services that serve the population, such as running paths, bicycle paths, game tables and open air exercise

spaces for the elderly. In addition to these needs, possibilities for the use of a natural resource from the region itself were also identified in the form of slate, a stone that is abundantly available in the region. Figure 1 shows a piece of this material.

Figure 1: Piece of slate.

Design with slate

Slate is stone formed during glacial periods. The region where the stone is extracted had been a large lake where rains deposited large quantities of clay and various types of minerals that formed a gelatinous layer that transformed over millennia into slate that is now extracted and sold in Brazil and abroad. The differentiated thickness of the overlapping layers causes the stone to be easy to be carved and cut for a wide variety of purposes, from the production of furniture to the creation of small and delicate items, such as jewelry.

In the community of Trombudo Central, the slate extraction was first done in a rudimentary manner, although advances were made with the use of tools that better define the lines of cut, providing a better finish. This allowed production to grow considerably and the material began to be used in construction, architecture, for street paving, pool construction, furniture, garden furniture and pool tables, increasingly exploring design with elegant, creative and sophisticated shapes and finishes.

Actions in Trombudo Central

The Trombudo Central municipal government sought to improve the quality of life of its inhabitants and visitors, and for this reason it took the initiative to begin the project together with NAS-Design, seeking the conversion of unused areas into recreational spaces, to create an urban center with better services for the quality of life of its citizens.

As an initial part of the project, NAS-Design focused on the creation of a square in a public space that was abandoned, not cared for and had no facilities that could be used by residents. Before the creation of the square, the design of the services that would be provided in the space began to be planned. The recreational environment needed to be accessible to a wide variety of publics. For this reason, principles of NBR 9050 were applied. This is a Brazilian norm that establishes guidelines about the accessibility conditions for people with special needs so that the public recreational space being created could be used with security and autonomy.

The need was identified to create an area that would have multiple uses, allowing entertainment, socialization, leisure, play and exercise. To create and implement the services that meet these demands, products and systems were conceived that provide an interface of interaction with the users of the urban recreational space.

To meet the needs for recreation, fun, socialization and entertainment, designs were made for

game tables, benches, gymnastic equipment, and tree planting to provide shade for users of the central neighborhood of the municipality. To meet the needs for physical activities, a running path, and a bicycle trail were installed, and open air gymnastic equipment was adapted for the elderly. To allow this urban recreational space to be used for as much time as possible, a lighting system was conceived for night use.

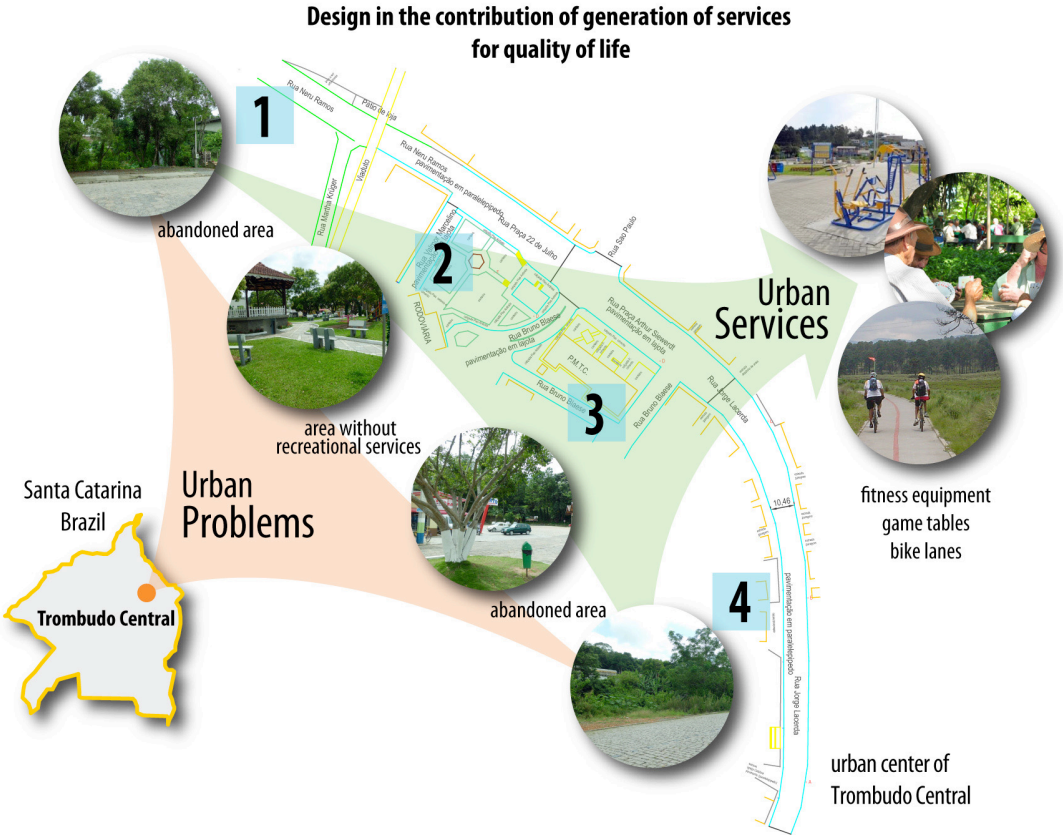

Figure 2: Design as a contribution to the generation of services for quality of life in Trombudo Central

Signage and information for visitors (tourists) and for people with reduced mobility, or that is, those who temporarily or permanently have their capacity to relate with the environment limited, were also designed for the square. People who are understood to have reduced mobility include disabled people, the elderly, the obese, pregnant women and others.

To create equipment for the square, as well as lighting, a focus was made on the need to create items that are resistant to floods and strong rains, which are common in the region that was recently hard hit by a natural disaster of this type. The material used was slate and solutions were adopted as seen in Figures 3, 4, 5, 6 and 7, developing urban facilities that are strong and resistant with design that makes good use of the space and seeks to integrate individuals with nature, by facilitating tree planting in the environment.

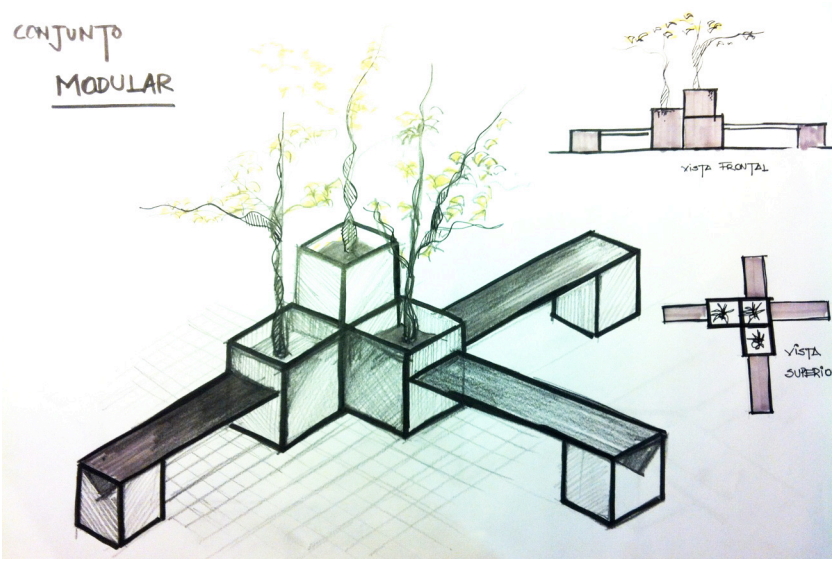

Figure 3: Design of urban equipment made from slate for squares in Trombudo Central.

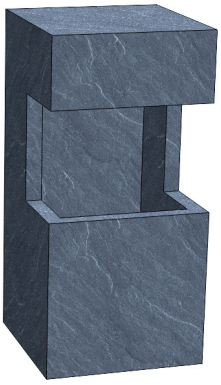

Figure 4: Design of urban lighting for the square in Trombudo Central, made with slate

Figure 5: Benches in the square in Trombudo Central, made with slate

Figure 6: Speedway in the square in Trombudo Central, made with slate

Figure 7: Byke lanes in the square in Trombudo Central, made with slate

To expand and develop services in public urban spaces in the community, the project used local materials and services, thus strengthening their identity. Because it is a material found in abundance, slate has important significance for the local population. The project helped residents see that their local resources can provide innovative solutions and have unexpected value.

Conclusion

The contribution of systemic design and of service in the search for sustainable design, which offers benefits to individuals, establishes references and improves the use of local resources, is a multifaceted response that produces positive changes resulting in effective development of the local community.

Design in this context promotes actions that remove the focus from the product and shifts it to service and the experience that is being designed. Because it is considered a tool for the translation of needs identified in services, and that consequently transform them in products designed to have multiple uses, design seeks to serve the needs of the population and the optimization of available natural resources, in addition to providing new experiences that had still been distant to the reality of the local population. That of the services identification is based on priorities identified by the community itself, which are perfected so that they become a new solution that contributes to the process of improving the quality of life of the population.

The case presented certainly shows that the results achieved are promising, because they focused on enhancing respect for the local identity, in a context of transition to economic, social and environmental sustainability. A cultural process of collective learning also took place that served as a platform to activate new services that offer quality of life in the community of Trombudo Central.

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