IASDR 2019

DESIGN REVOLUTIONS

IASDR 2019 CONFERENCE PROCEEDINGS | **VOLUME 2**

LIVING | MAKING | VALUE

EDITORS Professor Martyn Evans, Dr Annie Shaw, Dr Jea Hoo Na

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MANCHESTER SCHOOL OF ART

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About IASDR

The International Association of Societies of Design Research (IASDR) is an international, nongovernmental, non-profit-making, charitable organisation, and is comprised of member societies of design research from around the world. Established on 01 November 2005, its purpose is to promote research or study into or about the activity of design in all its many fields of application, through encouraging collaboration on an international level between independent societies of design research. IASDR members include the Chinese Institute of Design (CID), the Design Research Society (DRS), the Design Society (DS), the Japanese Society for the Science of Design (JSSD) and the Korean Society for Design Science (KSDS).

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DESIGN REVOLUTIONS

As the cradle of the industrial revolution, Manchester is known for its radical thinking. Through heritage, culture and innovations, it is a city that embraces revolution. As Tony Wilson famously claimed, "This is Manchester, we do things differently here"…

Design Revolutions explored how design drives and responds to revolutionary thinking through questioning the norm, probing the now and embracing the new. For the first time IASDR conference was held in the UK and fostered new thinking towards a compelling, meaningful and radical dialogue regarding the role that design plays in addressing societal and organisational issues.

The biannual conference enables academics, practitioners and students join together to explore contemporary agendas, emerging directions and future challenges that are at the forefront of design research. IASDR 2019 will provide opportunities for the presentation and publication of a collection of high-quality peer reviewed research papers alongside the space to discuss and debate the evolution and revolution of design.

Editorial

In September 2019 Manchester School of Art at Manchester Metropolitan University was honoured to host the bi-annual conference of the International Association of Societies of Design Research (IASDR) under the unifying theme of DESIGN REVOLUTIONS. This was the first time the conference had been held in the UK. Through key research themes across nine conference tracks – Change, Learning, Living, Making, People, Technology, Thinking, Value and Voices – the conference opened up compelling, meaningful and radical dialogue of the role of design in addressing societal and organisational challenges. The conference was a truly international gathering of the key thinkers in design research from 28 countries. 215 papers were presented and 13 workshops delivered alongside two exhibitions. RADICAL RESPONSES was a peer-reviewed exhibition of the research-informed design practice from academic design staffs from Manchester School of Art. This was complemented by an engaging display of design artefacts from the MATERIAL AND PROCESS INNOVATION COLLECTION curated by University's Special Collections. Such diversity enriched the exchange of ideas at presentations, workshops and social events for the duration of the innovative and dynamic event.

Support and contributions from the design research community have made this conference possible. Our thanks go to each one of our 488 authors for the papers and workshops that provided a rich source of inspiration, all 162 reviewers for ensuring quality and rigour and the 44 session chairs for ensuring the effective flow of ideas and discussion throughout the sessions. We also extend our sincere gratitude to all delegates of the conference who questioned the norm, probed the now and embraced the new. We hope you enjoyed your experience of Manchester and look forward to welcoming you to our city once again.

IASDR 2019 was a part of the design revolution in progress. We are excited to see how these proceedings fuel on-going discourse and debate at IASDR 2021 and beyond.

Martyn Evans, Annie Shaw and Jea Hoo Na

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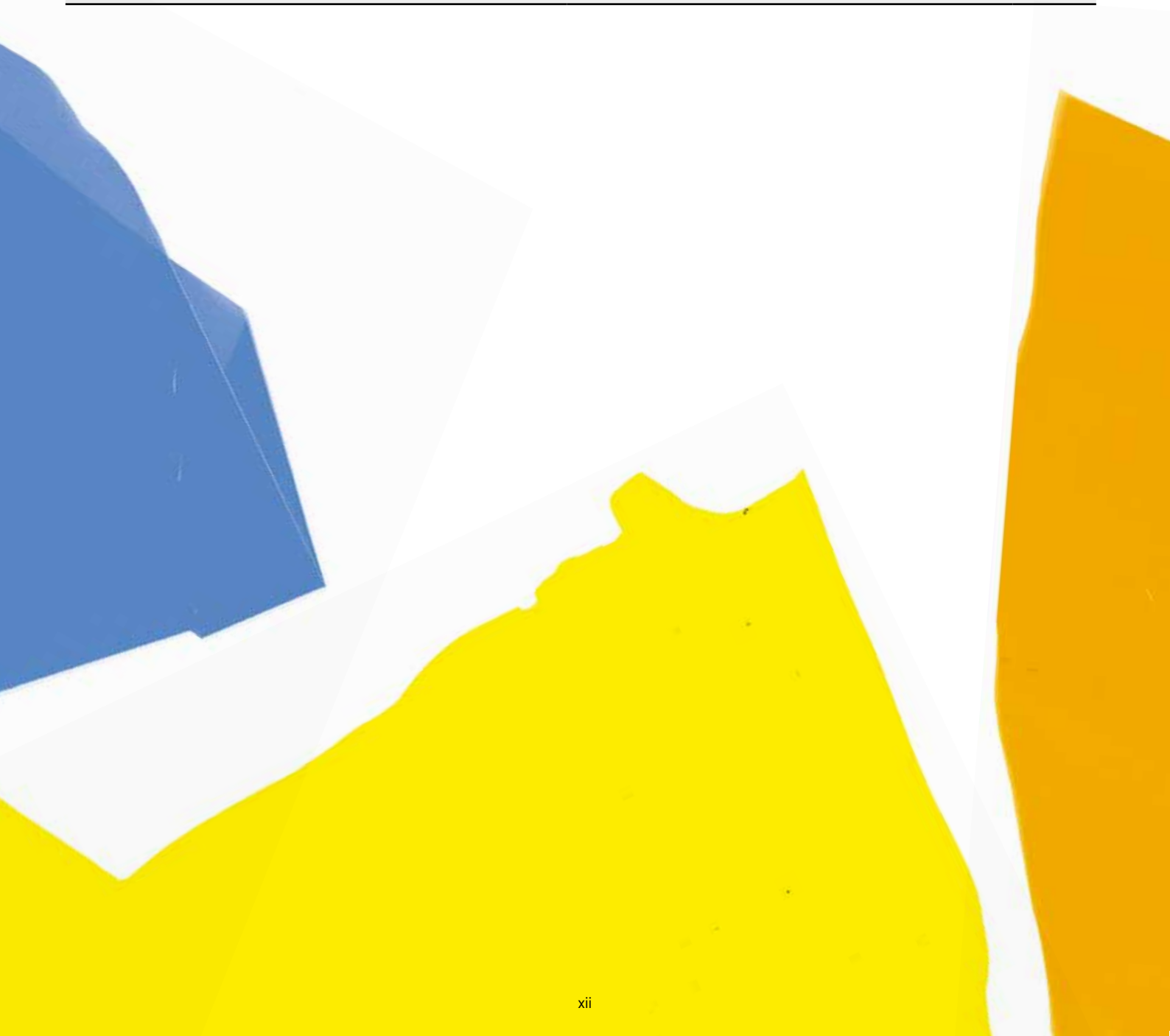

LIVING

DESIGN SURROUNDS US BY SHAPING THE WAY WE LIVE THROUGH OUR CONSUMPTION OF PRODUCTS, THE SERVICES WE USE AND THE CITIES WE INHABIT. IT IMPACTS THE ENVIRONMENT, HEALTH AND WELLBEING OF ALL. WHAT VISION OF LIVING SHOULD DESIGN SUGGEST? HOW SHOULD DESIGN BE USED TO ENHANCE OUR LIVES AND THE ENVIRONMENT? HOW SHOULD DESIGN IMPROVE THE WAY WE APPROACH SUSTAINABILITY AND THE CIRCULAR ECONOMY? HOW CAN DESIGN ENHANCE THE URBAN ENVIRONMENT?

Systemic Home Handbook: towards a more healthy and sustainable living

Pier Paolo Peruccio; Alessandra Savina*; Viglioglia, Massimiliano

Politecnico di Torino, Turin, Italy
* alessandra.savina@polito.it

Generally, most products sold on the market come with a short paper or digital guide, aimed at facilitating use, maintenance and, in some cases, the assembly of the object purchased. However, these guides aren't always interesting and easy to understand. Consequently, they are often forgotten about or consulted only when strictly necessary. But what happens when an instruction manual accompanies the use of an apartment and all the elements within it? The purpose of this article is to describe a real case of the design of a *Home Handbook*, conceived as a complete tool to help solve frequent daily problems related to the use of products, components and spaces within the average home. Using a typical *Systemic Design approach*, the project aims to encourage the adoption of a more sustainable lifestyle at environmental, social and economic level, providing useful advice to change incorrect daily behaviour with a high impact. The aim is to make users act spontaneously and consciously, in order to promote more sustainable living which is more attentive to the environmental and social dynamics that are currently devastating the planet. The project is being applied in Milan, Italy, particularly in the recently developed Smart Uptown District and will be initially distribution in the apartments of the housing complex in question.

Keywords: Home Handbook, Systemic Design, Holistic Approach, Behavioural Change, Healthy and Sustainable Living

1 Introduction to the Home Handbook project for the Smart Uptown District (Milan, Italy)

Nowadays, almost every object on the market is accompanied by an instruction manual. Whether it is a single sheet of paper, a booklet or a digital guide, in most cases it is ignored or glanced at briefly after purchase or when a fault occurs. Therefore, the design of everyday objects is combined with the design of practical guides to facilitate their use. There are currently technical handbooks for the use and assembly of household appliances, technological devices and cars, or simpler guides for interaction with very different product categories, from detergents to furniture. Rarely, however, has an effort been made to design a handbook to guide users in the interaction with their homes, understood as systems of interdependent components, which exchange flows and matter with the surrounding world. Yet, the economic outlay required to buy an apartment outweighs that of most everyday objects. And unlike other things, a home is an element with which the user wishes to interact comfortably and safely on a daily basis, for prolonged periods or even for an entire lifetime.

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Inside their homes, users perform multiple actions and interfaces with increasingly technological components and complex systems, which can often only be understood by designers and technical professionals. The complexity hidden within the elements that fill our homes today, aimed at making our lives easier, often emerges in the event of failures and malfunctions that are hard to manage without help. This puts the individual in a situation of uncertainty about the best behaviour to adopt to solve the problem or makes them want to take the easy way out. This highlights the absence of a form of prolonged assistance[1] by construction companies or sales agencies, which translates primarily into a failure to communicate the way to solve the most frequent domestic problems and the most efficient and durable action to take (Goffin, 1998; Goffin e New, 2001).

On this basis, a research project on the *Home HandBook* has been carried out at *Politecnico di Torino*, in order to accompany users in the use of domestic spaces and the elements within them, guiding them in the understanding of the most technical systems, supporting them with correct maintenance and encouraging them to adopt sustainable practices at environmental, social and economic level. This project involved cooperation with *Euromilano SpA*, a leading company in the real estate sector, which enabled the design team to interface with a real case, that of a *Smart Uptown District*[2] (Milan, Italy). A building project was developed, providing users not only with accommodation but also with a series of services to implement the living experience, with a view to increasing the level of wellbeing of the tenants.

The aim of the Home Handbook project is to improve the quality of the services offered, representing a long-term tool. The purpose of this article, using an existing case study, is to explain how design can guide users through their daily lives at home, providing helpful tools and know-how to solve seemingly complex problems, along with advice aimed at encouraging more sustainable practices at environmental, social and economic level.

2 Methodology and Guidelines

A precise methodology was used to design a handbook that can offer a holistic home assistance service while also offering qualitative suggestions for more conscious and sustainable living (*Figure 1*). The first step was to identify the initial goals, which can be summarised in three groups, as follows:

- the simplification of solving problems related to the use of new technologies with which the user interfaces inside Uptown apartments;
- the facilitation of the understanding of domestic technical systems, such as the climate system, the energy system and the one related to water flows, for a more efficient use of the home;
- the development of more environmentally, socially and economically sustainable housing and the achievement of a broader overall standard of living.

[1] The importance of a form of prolonged assistance after the purchase of a product, a service or a space was investigated by K. Goffin, who developed a kit of guidelines related to the design and success of innovative products. In particular, he has theorized the need to design after-sales services able to positively affect the customer's general satisfaction. Please, see Goffin,1998.

[2] The *Euromilano project* for the apartments located in the *Smart Uptown Distric*t has provided for numerous partnerships with suppliers of furnishing elements, engineering companies and specific operators for professional interventions within the homes. See the official website: www.euromilano.net

A Desk Research phase and a Field Research phase were subsequently carried out, both of which were essential to the drafting of a precise set of guidelines for the initial elaboration of the Home Han*dbook concept.*

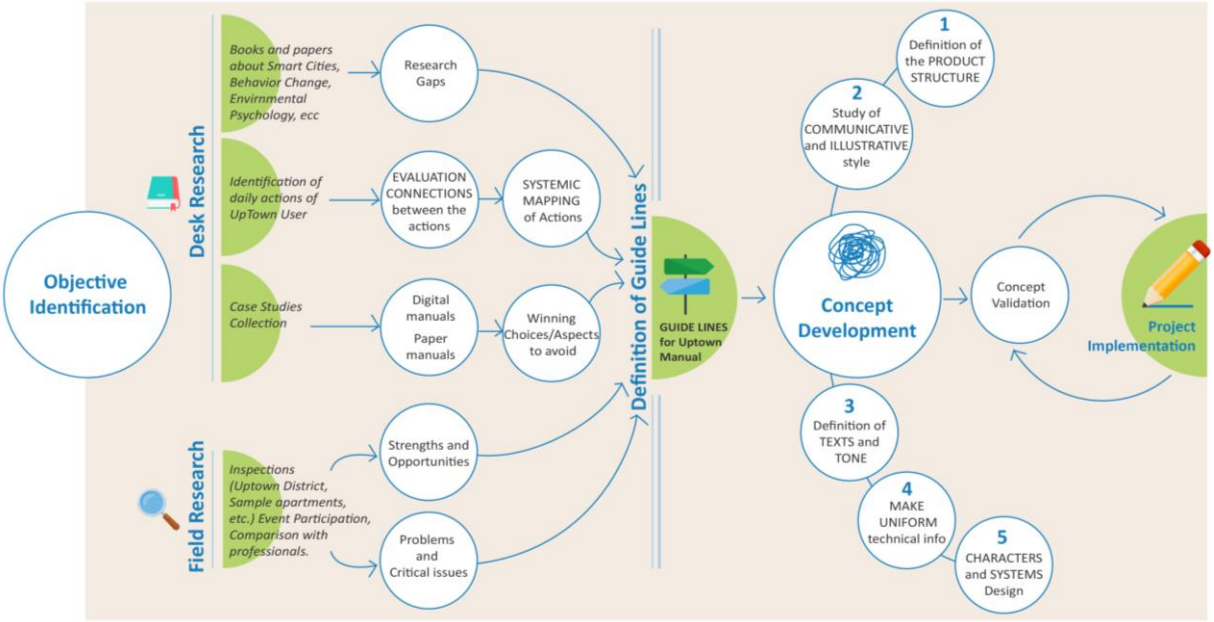

Figure 1. Methodology followed for the design of the Home Handbook. (by Authors)

Throughout the design process, the typical *Systemic Design* approach was adopted, starting with a holistic analysis aimed at understanding even the most complex domestic dynamics, with a view to developing communication that is as clear and complete as possible. This approach, based on the assessment of the relationships between the elements of the system, between the domestic components in this case, assigns extreme value to the properties emerging from them in order to capture the value of the entire organism (Capra, 2014). In this context, further analysis of input and output is fundamental, examining incoming and outgoing material and energy, in order to optimise the use of resources through the re-assessment and reuse of waste in activities other than the original ones. This involves reducing the ecological footprint of domestic actions, through the positive influence of everyday behaviour by users. In keeping with this approach, the analysis involved a territorial reading and consequent action ranging from micro to macro, starting from the apartments and extending to the condominium and then the entire district. The most noble objectives include enhancing the local culture, strengthening the sense of belonging to a territory (Bistagnino, 2011). In this case, dealing with a recently designed space, the adoption of a similar approach would allow the generation of a stronger sense of belonging and community among the residents of the neighbourhood, all of whom have different origins, cultures and backgrounds, giving rise to a lasting form of development and wellbeing.

2.1 Desk Research: from mapping daily actions to analysing existing case studies

Of course, this basic phase involved an initial consultation of the scientific literature on various topics, such as: living, the use of everyday objects, design for behavioural change and sustainability, cognitive ergonomics and environmental psychology. However, in line with the systemic approach adopted throughout the project, an accurate mapping of the

actions[3] (*Figure 2*) that the Uptown user carries out daily was carried out. This analysis examined not only the actions carried out within the individual apartment, but also those carried out in larger shared spaces, such as the condominium, the district, the neighbourhood. This made it possible to trace the relationships between different actions, between actions and specific places and those activities that involve different levels of interaction, collaboration and sharing between users. All actions, while related to one another, were grouped into very flexible categories, such as care, maintenance and cleaning of the home, family management, leisure management and much more.

Figure 2. Mapping of actions and services that characterize the everyday life of the Uptown User. (by Authors)

This was followed by a collection and subsequent analysis of 30 case studies of instruction and user manuals, selected from a wide range of very different contexts. For the sake of simplicity, these cases were divided into 15 paper products (dossiers, brochures, etc.) and 15 digital products (Websites, Applications, Digital Platforms, etc.). This collection initially included an analysis of the scenario in which each individual case was developed, highlighting its main objectives and functions. Subsequently, the main descriptive characteristics were identified, in order to recognize the winning aspects, useful elements for the research in progress, and the critical issues to be avoided for a successful product. One exemplary case study belonging to the category of paper products is the *Maintenance*

[3] The importance of mapping the actions performed by the user in the meta-design phase is highlighted by R.Jurin (Emeritus professor of Environmental and Sustainability Studies, University of Northern Colorado) in his book *Principles of Sustainable Living: A New Vision for Health, Happiness, and Prosperity* (2012). He defines this analysis phase as an indispensable step for a project aimed at inducing a positive and sustainable behavioral change in the users.

Manual of the *US Insurance Agency Bonded Builders Warranty Group*[4] (Florida, USA). The case study greatly simplifies the solving of utility system problems by providing a direct link between domestic problems and the range of possible solutions. It also provides useful information for maintenance by integrating textual insights that guide users through the necessary operations to be carried out and practical tools for monitoring them. In addition to this, it provides essential advice to ensure greater security in the home and provides a glossary to help understand terms that non-professionals may not be familiar with.

Among digital products, on the other hand, the most interesting case in terms of research is that of *Centriq*[5], a Mobile App and Website that allows the user to build a portable library of manuals for all the household products purchased. This is made possible by the camera recognition of the products in question. This gives the user simplified control over the products and quick access to information, anytime, anywhere.

However, most of the assistance services examined envisage solutions related to the individual component or a specific need, without contemplating living as an overall, complete experience. At the end of this analysis, the winning design choices that have increased the functionality and communication of some products and the inadequate aspects that prevented the success of others were identified. The critical points identified include:

- a lack of coordination between content and support,
- excessively technical communication, making it harder for the user to understand,
- a lack of qualitative and motivating instructions and advice for the actions proposed,
- offering content on a single reading level.

The strengths identified and potential ideas for the Home Handbook project, included:

- immediacy of information thanks to graphic representation,
- assistance with carrying out the actions,
- the construction of a story around the contents conveyed,
- details on the operation of the technological equipment,
- the development of communications customised for the individual user.

2.2 Field Research: from on-site inspections to discussions with the professionals involved

A second phase of Field Research involved numerous on-site inspections of the district, particularly inside the show-apartments shown to users at the time of purchase. These inspections allowed an in-depth analysis of the local neighbourhood (services offered, presence of shops, level of security, identification of gathering points) and of the individual domestic environments. As in the case studies, critical elements and potential were identified during this phase of the investigation too. A strong integration between components and

[4] Within the *Maintenance Manual* of *Bonded Builders Warranty Group* (Florida, United States), the resolution of malfunctions is dealt with in column diagrams that highlight the most common problems related to the use of components and potential solutions that can be adopted. Furthermore, for the maintenance actions there is a checklist in which to mark the operations carried out, described in detail in a more in-depth section. Please, see the official websites of the Company: www.bondedbuilders.com

[5] Specifically, the Mobile App of *Centriq* is able to search the required device manual in its library. In addition, it asks the user in which area of the house it is located, in order to categorize all manuals in separate sections for each area of the house. See the official website: www.mycentriq.com

systems was found in the apartments, which provide a coordinated response to user requirements. However, in the absence of specific and clear communication, this interdependence is hard for the end-user to understand.

Extending the analysis to condominium spaces, the presence of common areas and facilities capable of promoting social relations and sharing among residents was significant. However, in order for these spaces to be sufficiently and adequately exploited, it proved desirable to develop communication capable of conveying the values and benefits that can be generated by community life. Finally, by extending the scope of observation to the district, a number of neighbourhood services and meeting places emerged, representing potential poles of attraction for the surrounding areas, which are useful for increasing the interaction between residents and visitors from outside. If enhanced, these places would represent an excellent opportunity for integration and dissemination of the values of the district.

In conclusion, together with these on-site inspections, it was essential to organise individual and collective meetings and brainstorming sessions with designers and partner companies[6], in order to gather and define the information and distinctive aspects to be conveyed and verify, through a constant feedback process, the correctness of the contents developed. During this phase of dialogue and confrontation with other disciplines, particularly with different branches of engineering and economics, the importance of the role of designers as mediators of different languages and backgrounds emerged. The hardest challenge was to minimise the numerous communication obstacles in order to reach a sustainable design compromise, which would take into account different visions and priorities, without affecting the final quality of the work.

2.3 Development of the Project Guidelines

On the basis of these findings, together with the suggestions found within the case studies previously examined, it was possible to draw precise guidelines, essential for outlining the directions of the project. These guidelines can be summarised as follows:

- *extensive accessibility*, design of an immediate and easy to use document, accessible to users with different backgrounds;
- *simplification of technical content*, characterised by a high level of complexity and therefore hard to understand;
- *uniform content*, stylistic standardisation of all the information collected from different construction and technological partners, for the design of a complete and shared solution;
- *different methods of communication*, according to the type of message to be conveyed, e.g. suggestions and educational advice, using humorous storytelling approaches;
- *encouragement of social relations and sharing*, in order to create a sense of community and belonging to a group.

[6] *AI Group, Recchi and Review Spa* (Italy) were consulted for information regarding the building and urban planning of the Uptown Area. The partner suppliers involved are: *Comelit, Cisa, TreP & TrePiù, Itlas, Cott D'Este, Blustyle, Duravit, Villeroy & Boch, Zucchetti & Kos, Grohe (Italy).* These players have supported the creation of the Home Handbook through an accurate and constant sharing of information.

On the basis of the identified guidelines, it was possible to elaborate a first structure of the manual, which was perfected during the whole design phase. Following this step, a parallel study was conducted, focused on communicative, linguistic and illustrative styles, in order to select those that best fit the objectives of the manual. This allowed the homologation of all product sheets, technical data, qualitative information and textual inserts. Finally, functional schemes, explanatory images, infographics and guide characters were developed.

3 The Home Handbook Project

In the same way that objects suggest appropriate actions for their manipulation and use through their physical qualities (Norman, 1988), designed spaces also directly affect the behaviour of users within them (Costa, 2009). Consequently, the design of a domestic space conditions the daily life of the user[7], in the same way that the products inside it can lead the user to repeat behaviours, rituals and choices (Heimstra & McFarling 1974; Lang, 1987; Cassidy, 1997), This strong conditioning power can become a real opportunity, if spaces and everyday objects are used to educate and encourage the user to behave in a virtuous and sustainable way (Fogg, 2005) that could lead to the achievement of a much broader form of wellbeing. The same can be said of behaviour and of the choices to be made when a domestic fault or malfunction occurs. If the product does not inform the user of the correct action to be taken to repair the damage, the next step is usually to consult the instruction manual of the object in question and identify the problem. In more complex cases, the user will tend to turn directly to a specialised professional. Nowadays, with the help provided by the Internet, many users look for different solutions, through dedicated platforms or through the sharing and exchange of experiences and solutions. This mechanism stems from the absence of specific data and useful advice from manufacturers, who often fail to invest as much in the design of a comprehensive and communicative guide to their products as they do in advertising on the market. Therefore, the user can experience feelings of discouragement and disappointment in relation to the object and the space with which it interacts in this scenario. For this reason, the Home Handbook designed by the Politecnico di Torino, wants to offer users the best interaction with their domestic space, with its components and with their everyday objects, encouraging the adoption of sustainable practices, choices and actions for the achievement of individual and collective wellbeing. The Home Handbook is currently designed as a paper tool that every resident of the Uptown district (Milan, Italy) can consult inside their own home. It has been structured in three files (*Figure 3*), according to the three different types of content to be conveyed, but is presented as a single box, to help create a unified idea of the product (*Figure 4*). The project is divided into the following sections:

1. *Welcome Kit*, designed to accompany users as they enter their home for the first time, during the first interaction with their domestic space. It has been conceived as a starter pack, with a set of basic information on the residence, to gain an initial knowledge of the main aspects of the apartment and condominium.

[7] Around 1970 the concept of *Environmental Psychology* began to be explored in a growing way, in terms of the relationship between the behavior of individuals and the surrounding space. In 1997, it will be precisely T.Cassidy in his book *Environmental psychology: Behavior and experience in context to introduce the relationship of direct influence between behavior and designed space (Cassidy, 1997).*

2. *Conscious Living*, designed to help the user to fully understand the operation of the utilities in the residence and the relative components. For this reason, graphic maps have been designed to visually explain the operation of the micro-systems that make up the entire residential system and guarantee a high level of domestic comfort. They are identified in the *Electrical System*, Climate System, Water System and lastly, the Construction System. These illustrations have been extremely useful to communicate extremely complex concepts in a very simple way. Thus, it was possible to guarantee detailed knowledge of one's own home, to a broader range of users, characterized by very different backgrounds. The correct understanding of these systems has become a fundamental goal in further communicating the exact use of domestic components, with the will to simultaneously impart a greater level of awareness of the consumption of resources. The aim is to induce tenants to behave in a virtuous manner, leveraging their knowledge of the environmental, social and economic impact of the actions they carry out daily in their own homes. Consequently, this section is intended to encourage a conscious behavioural change, supported by the knowledge of the benefice of the benefits obtainable (Wendel, 2013) through the adoption of the sustainable principles recommended by the manual.

3. *Your Home*, designed to provide assistance during the use and customisation phases of the spaces. By simplifying and standardising the style of the various technical data sheets of products, furnishing components and finishes, this section aims to facilitate the use of different information on use and maintenance. Also in this case, specific indications aim to suggest the most appropriate actions to the user, those which have the least impact. These instructions not only guide the user to the correct use of the products, but also offer very useful information for the management of numerous aspects of daily life, such as domestic and personal hygiene, waste management, the preparation and consumption of meals and much more.

Figure 3. The three sections of the Home Handbook: Welcome Kit, Conscious Living and Your Home. (by Authors)

In its entirety, the main aim of the project is to guide the user to the spontaneous adoption of sustainable actions and behaviours, providing clear quantitative and qualitative information about the effects and benefits that can be obtained. It is important to note that each individual user will be strongly conditioned by additional factors: firstly, by their sensitivity to the subject of sustainability and current environmental and social challenges, and secondly by the possibility of tracing the behaviour suggested in others, in their neighbours, in their friends and even in the community to which they belong (Fogg, 2005). Although these factors are only partially controllable, the Home Handbook wants to convey a way of life and

living, rich in new and stronger values. Lastly, it aspires to lead users to a considerable level of wellbeing, achieved through the high quality of the social-physical spaces they inhabit (Bonnes and Secchiaroli, 1992; Bonnes and Carrus, 2004). This is why it is essential to preserve the perception of this quality, minimising the frustration caused by complex domestic problems and increasing opportunities for socialising, sharing and exchange in the belonging community[8].

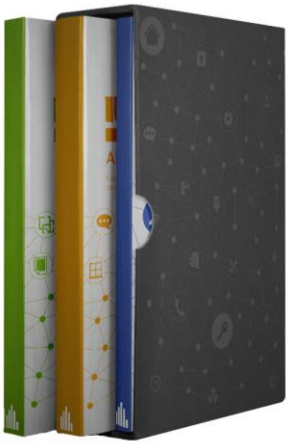

Figure 4. Home Handbook Slipcase designed for delivery to users. (by Authors)

4 A guide to a sustainable and conscious way of living

The Home Handbook project for apartments in the Smart Uptown District goes beyond the traditional single-product handbook model, which is merely theoretical, seldom consulted and consequently of limited use. It interprets the concept of home as a designed space, consisting of a system of connected components. For this reason, it offers users a single tool that helps ensure the correct use of the entire apartment, not only by collecting information about the individual domestic components, but also by describing their interaction. In order to guarantee easier and more pleasant use, an extremely friendly type of communication has been used: in this way, the user is encouraged to consult the manual more frequently. This measure has been adopted to make the product pleasant to read, so users will want to browse through it even during their spare time and not just when dealing with a malfunction. The project conveys content that focuses on achieving behavioural change by including people in the value chain generated, explaining how a sustainable lifestyle can directly affect the levels of comfort and wellbeing within the apartment and the district. Another means of achieving this goal was the inclusion of quantitative data relating to the impact of specific daily actions, highlighting the benefit obtainable by means of alternative virtuous behaviour (*Figure 5*). This made it possible to influence both the management of resources and the social mechanisms to be triggered in the district. This type of content, which is often not included in traditional manuals, could risk being ignored if portrayed with an arrogant and authoritarian tone. Consequently, it was essential to use a friendly language and give advice and suggestions that could encourage the user to perform a spontaneous and conscious

[8] Within the Home Handbook, a tangible example of incentive to share is that of the toolbox for housework. Through a specific in-depth analysis, each resident of the Uptown condominium is invited to share his own tools, in order to create a richer toolbox, available to the whole community. This would not only represent an opportunity for sharing economy, but also a constructive possibility of interaction.

action. The development of guide characters designed according to the type of content that they communicate was extremely useful. Gio, a child who pays attention to environmental sustainability, explains the meaning of content and expressions that revolve around the theme of environmental sustainability today. While Gaia, planet earth, describes a series of bad everyday habits that hinder the maintenance of the ecosystems. Therefore, the project is a complete assistance path that can provide practical help even during the development of small everyday actions and during the resolution of frequent apparently complex problems, which often create doubts and uncertainties in the individual.

Figure 5. The pages of the Conscious Living book. In detail, an example of communicating qualitative and quantitative data to increase the user's level of awareness. On the left, Gio and Gaia, the two leading figures. (by Authors)

Another strength of the Home Handbook was the development of systemic representations, extremely appropriate to facilitate the understanding of the relationships between the devices in the home, the incoming and outgoing flows of material and energy, their quality level[9] and the relationships between actions and components (*Figure 6*). As a whole, the aim of these graphic maps is to explain in an extremely simple way the overall operation of the home system[10] and its specific components, bringing the user closer to the concepts of Circular Economy and environmental sustainability. In this way, the possibility of

[9] The term *quality level* refers to the composition of the resource analysed. This type of information provides specific data about the characteristics of the resources. For example, in the case of the *Water System*, the manual illustrates how the quality of this resource changes according to the use made of it. It also provides useful information for the potential re-use of waste water, thus avoiding direct disposal in the sewer system.

[10] The effort to communicate the connections between a designed space and all of its features through a visual representation was also highlighted in the *Three material stories* project by the architect Lindsey Wikstrom, located in the *Broken Nature Exhibition* at the *Milan Triennial (1st March - 1st September, 2019. Curator: Paola Antonelli).* The project enhances all the visible and invisible agents of architecture which should be understood in relation to each other, thus overcoming the mere architectural representation in scale.

encouraging users to adopt sustainable behaviour is strengthened, by increasing awareness of the relationships between input and output within their living space.

Figure 6. The pages of the Conscious Living book. In detail, an example of systemic representation aimed at communicating the Plumbing System in an Uptown Residence. (by Authors)

Nowadays, entire communities are called upon to respond to impending major environmental challenges, but it is extremely difficult to achieve a daily behavioural change if individuals do not have tangible evidence of the impact of their behaviour within the place where they live (Davico, 2004). Consequently, providing this type of information would lead the user to perceive the extent of the problem more clearly, encouraging him to employ resources and energy to reduce or solve them (Camagni, 1996). Communicating the value of the Circular Economy and the potential still inherent in domestic outputs in a Home Handbook (*Figure 7*) becomes an element of fundamental importance to guide tenants in the district not only to the use of the spaces available but also, and above all, to a form of living that respects the environment and the community.
We are talking about a more extended and lasting form of wellbeing that starts with the individual and is subsequently triggered in the whole community. This is not just about domestic wellbeing but also, and above all, about social wellbeing, which makes the Uptown tenant part of a close-knit community that shares values and lifestyles. So the Uptown Home Handbook wants to suggest a conscious view of life and living, making the community more aware of the alternatives to an often short-sighted and high-impact way of living.

Figure 7. The pages of the Your Home book. In detail, the representation of the consequences and benefits generated by the different waste disposal methods chosen by the user. (by Authors)

5 Conclusion

The Home Handbook has been designed to be delivered when buying an apartment in the Uptown district (Milan, Italy), and particularly to accompany tenants throughout their lives inside the house. The first delivery of the product will take place in July 2019, after which it will be possible to gather useful feedback from the tenants. This operation will allow the implementation of targeted changes and useful product upgrades, in anticipation of further dissemination within the new residential complexes being built within the smart district. Originally conceived in paper format, to be present in all living spaces, it is now undergoing further digital development. The goal for the future is to digitally provide key content within a specific section of the Uptown mobile application. This new result would allow residents to consult the handbook at any time and in any place using their smartphone. The general aim is to achieve an increase in the level of engagement by using additional communication tools, such as videos and animated images, the possibility to engage in dialogue with other members of the community through exchange and sharing groups, providing real-time notification of actions to be taken and not to be forgotten and integration with the automated elements in the house. Nowadays, designers have much more responsibility: the design of products, services and systems has to fulfil an additional and more important task, which is to lead the user to adopt a more sustainable lifestyle, not only for living ecosystems, but also for the society in which they live. The purpose of this article is to lead the design community to explore the potential of a long-term domestic assistance project as an aid, a guide and, above all, a daily educational tool that can lead the residents of a place to become aware inhabitants and decision-makers, thereby improving their daily life and, above all, fostering harmony with the environment that nourishes and sustains mankind.

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About the Authors:

Pier Paolo Peruccio: Associate Professor in Design. Vice Head of the Design School at Politecnico di Torino, director of the SYDERE Center in Lyon. He is currently working on several research projects concerning design history, systems thinking and innovation in design education.

Alessandra Savina: PhD Student in *Management, Production and Design* at Politecnico di Torino. In her research path, she is currently working on several project concerning Systemic Design for Sustainable Living, crossing Health Systems and Food Networks.

Massimiliano Viglioglia: Temporary research fellow in Politecnico di Torino. In his academic and professional path he is studying the relations between city and society in order to design services able to inspire virtuous behavioural change based on sustainability and wellness.

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