

Factory Wares:

an inclusive saucepan



DBA Inclusive Design Challenge 2003 (Winner)
Factory Design



inclusive design~
providing tools for
the design community
to address the needs of
the whole population

i~design case studies

This is one of a series of inclusive design case studies published as part of the i~design research programme. These case studies document inclusive design collaborations between the Helen Hamlyn Centre (HHC) and industry and voluntary sector partners, under the Helen Hamlyn Research Associates programme. They also document the results of the 'Inclusive Design Challenge', a design competition co-ordinated by the Helen Hamlyn Centre and the Design Business Association (DBA).

i~design is a multi-centre collaborative research programme funded by the Engineering and Physical Sciences Research Council (EPSRC). The purpose is to foster the adoption of inclusive design by business decision makers and professional designers, in particular by presenting the business case, developing tools and techniques, and building a network of researchers around the projects.

i~design partners

- **The Helen Hamlyn Centre** at the Royal College of Art, London, is a centre for inclusive design, with extensive contacts in industry and design professions.
- **The Engineering Design Centre** at the University of Cambridge has a strong reputation in the improvement of design process and development of design methodologies to address specific issues.
- **Applied Computing** at the University of Dundee develops information technology systems to support older and disabled people.
- **The HCI Group** at the University of York has a long history of inter-disciplinary research in the area of user centred design arising from collaboration between the departments of Psychology and Computer Science.
- **The Design Council** inspires and enables the basic use of design by business, education and government to improve prosperity and well-being.

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Abstract

The ability to live independently is the key to quality of life for many disabled people. The users with severe arthritis who advised Factory Design all loved cooking but their moment of truth came once the dish was ready and had to be lifted from the heat. It was then that the weight and design of the saucepan increased the pain of their condition and led to accidents.

According to the leading arthritis charity, Arthritis Care, nine million people of all ages in the UK are affected by arthritis and every one of them needs to eat. Visually-impaired cooks have a different set of issues, which relate more to safety and hygiene. Factory Design's challenge was to create a saucepan that would transform the pain of their cooking experience to one where pleasure is uppermost and where safety and hygiene are assured.

Keywords

Arthritis, product safety, cooking, ergonomics, product interaction, hygiene

Company: Factory Design

The Brief

Design a mainstream product, service, environment, print, on-line or other communication which deliberately includes the needs and aspirations of currently excluded groups of people.

Year: 2003 (Joint Winner)

Description

A project that returns to first principles in the design of an inclusive, commercially sensitive and aesthetic saucepan.

Background and Motivation

Factory Design had taken part in the first DBA Inclusive Design Challenge in 2000 with their proposal for a new footprint for the standard milk pack to replace the 'milk brick,' which has proved so difficult to open for many consumers. Named 'Milkman', it has been widely exhibited written about and was included in a Channel 4 TV documentary about inclusive design.

Their project this time was a first-principle redesign of a commonplace product used by everyone – the saucepan. As the lead designer explained "I think when we first started we had an

open mind. We didn't go in with any preconception, we purposefully kicked off the project, taking on board the feedback from the user groups. As we had demonstrated in some of our other ideas, we were looking at two-handed operation initially and realised to be truly inclusive we had to make it as effective with one hand and then identify secondary use with two hands."

User input

The team worked with users of different ages with severe arthritis and visual impairments who helped identify the areas most in need of attention. Each had been asked to bring saucepans or other items of cookware to the user group that they found easy to use or which presented particular problems.

(Figure 1)



Figure 1a: User session examining existing cookware



Figure 1b: Users demonstrate issues



Figure 2: Product testing with mockups

All desired a multipurpose pan that was lightweight, easy to handle and balance with built-in colander that eliminated the need to carry the saucepan to the sink for drainage.

One user with arthritis demonstrated the colander (Figure 1a) she routinely used which had been acquired at a garden centre for a different purpose but which she had adapted for use in the kitchen. The group mentioned the importance of the design of the handle noting that many saucepans have a painful split in the handle, are not heatproof or not designed according to ergonomic principles making them difficult to grip.



Figure 3: Final design features - the ergonomic handle, secondary handle, thick base and lid



Figure 4: Final design illustrating- the ergonomic handle

A visually impaired user for whom food hygiene was important noted that the radius at bottom of pans was often too tight, making them difficult to clean thoroughly.

Design solutions

The design team came up with a new footprint for the saucepan based on a universal pan size to accommodate different cooking methods. As the lead designer explained: “We would look to develop a whole range to include all the capacity sizes that are familiar in the cookware audience. However, we specifically took the universal pan size because of the feedback from the user group, acknowledging that not many people want to use more than one pan at any one time. However, the physical size of the one we have designed is not as big as a normal frying pan and we wouldn’t imagine having four pans of that size in the range.” The saucepan followed a traditional round shape but had conical sides for easy pouring and a large radius to facilitate cleaning. The body was made of aluminium body for lightness had a non-stick interior and a copper bottom to enhance cooking and cleaning. It also had an integrated aluminium colander for drainage and a two-part lid in transparent lightweight polycarbonate and aluminium with a hooped handle that is easy to lift. The lid upends to make stacking easy.

A major feature of the new design is the ergonomic two-part long handle which radically changes the way in which the user holds the pan. With a fuller cross-section to assist gripping, it is angled downward for intuitive use and the oval comfort

platform at the end shifts the weight of the pan to the arm from a single point at the wrist, ensuring greater balance, safety and less pain. The handle’s main structural shroud is made of lightweight heat-resistant material overlaid with tactile foam-filled polyurethane to enhance gripping and the design team envisage that this could be used for a variety of other products besides the saucepans in the range. A secondary hooped handle on the opposite side of the pan allows for two-handed use which would spread the weight.

The final design was produced as a display prototype, has been widely exhibited and aroused interest from a major manufacturer.

Judges’ evaluation

The judges were impressed by Factory Design’s courage in taking an everyday, unromantic object and, in the short time frame of the project, transforming it into one that would enhance independence and quality of life for those with reduced grip and strength.

Designers’ evaluation

“When we first started, we had an open mind. We didn’t go in with any preconceptions; we purposefully kicked off the project taking on board the feedback from the user groups. We were looking at two-handed operation initially and realised that, to be truly inclusive, we had to make it as effective with one hand and then identify secondary use with two hands.”

Gavin Thomson, Lead Designer, Factory Design

Resources

Websites

- www.dti.gov.uk/topics/safety.htm
DTI Consumer Safety
- www.dlf.org.uk www.dlf.org.uk
Disabled Living Foundation.
- www.saltoneurope.com
Salton Europe
- www.thecookingshop.com
The Cooking Shop
- www.surlatable.com
Cookware suppliers
- www.rnib.org.uk
RNIB (visual impairment)
- www.scope.org.uk
SCOPE (cerebral palsy + learning disability)
- www.arthritiscare.org.uk
Arthritis Care
- www.d-sceinlab.com/agetree
design guidance for considering older people's needs
- www.ricability.org.uk
Research Institute for consumer affairs -
Consumer testing & reports on goods and services

Publications

- DTI (2000), A study of the difficulties disabled people have when using everyday consumer products: London, Department of Trade & Industry
- Coleman, R (2000), Living longer – The new context for design, Design Council, London.
- 'Top Ten Saucepans', article from the Guardian Weekend magazine, October 4, 2003

The DBA Inclusive Design Challenge is an annual competition organized by the Helen Hamlyn Centre (HHC) and the Design Business Association (DBA). Mentored by the HHC, DBA member design firms work with expert users over four months to devise prototypes for a new generation of products and service with inbuilt functionality and mainstream styling. By providing beacon exemplars of inclusive design, the Challenge aims to highlight the potential for innovation and business opportunity in a growing but hitherto neglected field and underscore the key role design can play in improving quality of life for disabled and older people. The Challenge serves as a mechanism to provide designers with transferable inclusive design skills and methodologies.

Design Business Association

The Design Business Association (DBA) is the membership-based trade association for the UK design industry. It exists to promote professional excellence through productive partnerships between commerce and the design industry to champion effective design, which improves the quality of people's lives.

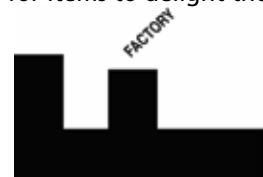
www.dba.org.uk

The logo for the Design Business Association (DBA) consists of the lowercase letters 'dba' in a bold, serif typeface.

Factory Design

Factory Design is an ideas-led design consultancy specialising in new product development, futures, transport, packaging, retail and environment design and strategic innovation. We challenge convention to create commercial solutions for items to delight the consumer.

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