



# Design Requirements in Domestic Cooking and Heating Products for Older People

*Dr. P.J. White, DesignCORE Research Centre, Institute of Technology Carlow, Ireland*

## Background

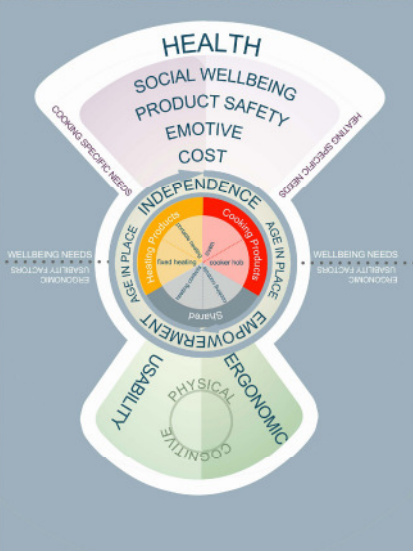
Domestic cooking and heating products fulfil fundamental needs within the home by purveying heat and food. For an ageing population, these products assume important health and wellbeing roles. Designers can create positive independent living experiences by redesigning features to meet the evolving requirements for older people. This research outlines design requirements to be considered for future domestic cooking and heating products.

## Methods

An ethnographic study of 40 older adults was conducted over a 12 month period to obtain deep insight into cooking and heating product requirement. Personas were used to synthesis this data, and design requirements compiled, screened and scored. A framework was generated to categorise these requirements. Following this, design concepts were created to embody these requirements



	Space Heating	Space Cooling	Space Drying	Shared Usability
<b>Health</b>				
<b>Requirements Features</b>				
Heating products that prevent older people living in one room of the house	+	+	+	+
Mobile heat product for all rooms of the house	+	+	+	+
Heat and cold filters for asthma relief	+	+	+	+
Provision of 'heat' blanket or cushion	+	+	+	+
Products that provide heat for partners	+	+	+	+
Features that provide heat for children	+	+	+	+
Features that provide heat to sofa	+	+	+	+
Products that provide localized heat	+	+	+	+
Provision of design information to cooking product	+	+	+	+
Provision of a culture center device	+	+	+	+
Products that provide healthy cooking for one	+	+	+	+
Provision for a simple, healthy cook book or recipe	+	+	+	+
Features that aid people with limited cooking knowledge	+	+	+	+
<b>Social</b>				
<b>Requirements Features</b>				
Localized heat for warm gathering points in the house	+	+	+	+
Provision of seats for social interactive family gathering	+	+	+	+
Products/features that enhance the safety of use	+	+	+	+
Family/Care shared controls	+	+	+	+
<b>Usability</b>				
<b>Requirements Features</b>				
Product signal to prevent collisions/accidents	+	+	+	+
Products that utilize all senses (light, smell, taste, touch/hearing)	+	+	+	+
A safety alert for fire and smoke	+	+	+	+
Products that aid hot item handling	+	+	+	+
Reusable bags	+	+	+	+
Care or family safety controls	+	+	+	+
Rechargeable products (no leads to fall over)	+	+	+	+
Safety controls for dementia sufferers	+	+	+	+
Products that consider child safety	+	+	+	+
Cooker hot safety devices	+	+	+	+
Safety off switch for hob	+	+	+	+
Improving Safety perception of autonomous built-in heating	+	+	+	+
<b>Economic</b>				
<b>Requirements Features</b>				
Energy alert to detect potential or multiple heat requirements	+	+	+	+
Personalisation of heating products	+	+	+	+
Warm aesthetics (e.g. traditional open fire)	+	+	+	+
Products/features that provide comfort in discomfort	+	+	+	+
Areas of cooking products that avoid personalise	+	+	+	+
Useful aesthetics	+	+	+	+
Traditional Non-heat aesthetics	+	+	+	+
Non-heat in cooking and heating	+	+	+	+
<b>Cost</b>				
<b>Requirements Features</b>				
Controls that show the cost of energy	+	+	+	+
Controls that show energy efficiency	+	+	+	+
Auto OFF switch to save energy	+	+	+	+
Small scale products to conserve energy	+	+	+	+
Sequential controls (Water/Heater controls)	+	+	+	+
Fixed cost menu, device or display	+	+	+	+



## Results

The results of this study demonstrate the importance and necessity of these products in the lives of older people. It suggests redesigned features of cooking and heating products to provide for the health needs of an ageing population. Furthermore results show that future designed products should engender a complex mix of wellbeing needs, namely: emotional, social, financial and safety requirements. Moreover, specific ergonomic and usability requirements. Additionally it was revealed that existing products fall short in meeting the needs of 'user extremes' in older populations.

## Conclusions

This research suggests that the domestic products directly and indirectly influence positive health and wellbeing of older adults. It presents requirements that can enhance emotional experience, independence and strengthen social bonds. Most importantly it offers designers opportunities and requirements to improve product offerings.