Strategic Promotion of Ageing Research Capacity

Package Opening

Packaging | Biomechanics | Ergonomic data | Inclusive design

Generating Design-relevant Biomechanical Data

Avril Thomson, Ben Stansfield & Bruce Carse

University of Strathclyde

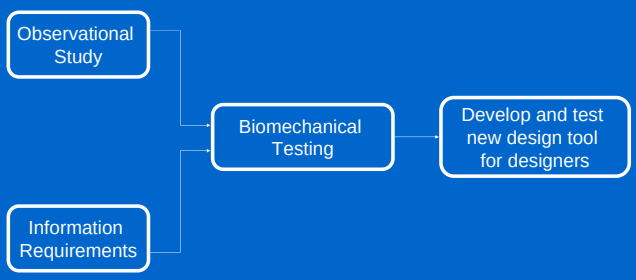
The Investigation

Objectives

This project represents a novel attempt to use biomechanical principles and testing to generate new data which designers can utilise at a suitable point in the design process[1-3]. The project will achieve this specifically through the in-depth study of various package opening activities. Key objectives are:

- Capture the specific information requirements of packaging designers
- Investigate the various grip styles and hand postures used while opening 6 types of packaging through an observational study
- Conduct a comprehensive biomechanical analysis of the forces, moments and joint angles used by older adults during package opening and compare them with a control group
- Ultimately, add to the designer's Inclusive Design toolkit
- Enhance the body of knowledge surrounding older adults hand and upper limb abilities and inabilities

Plan



References

1. Clarkson, J. (2003) *Inclusive design : design for the whole population*
2. DTI (1999) *Use and misuse of packaging opening tools* (URN 99/619)
3. Langley, J. et al. (2005) 'Inclusive' design for containers: Improving openability. *Packaging Technology and Science,* 18, 285-293

Potential Benefits

For older people

The problem of providing older adults with products that suit their physical abilities represents a significant challenge for the design community. In the short term, this project will help improve the openability of packaging, contributing to extended independent living for older adults. In the long-term it is anticipated that this approach will be adaptable for use by designers working in a broad range of disciplines.

For society

Through the use of biomechanical principles and data to improve the design of everyday products, this work should help bring Inclusive Design into the mainstream.

For designers

The research will generate novel data that can be applied to the design activity improve designers understanding of older adults abilities and inabilities

Contact Details

Principal Investigator
Dr Avril Thomson
avril.thomson@strath.ac.uk
DMEM
University of Strathclyde
75 Montrose Street
Glasgow G1 1XJ

Co-Investigator
Dr Ben Stansfield
benedict.stansfield@strath.ac.uk
+44 (0) 141 548 3780

Researcher
Bruce Carse
bruce.carse@strath.ac.uk
+44 (0) 141 548 4374