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PRODUCT SCOTLAND: BRINGING DESIGNERS, ANTHROPOLOGISTS, ARTISTS AND ENGINEERS TOGETHER

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ABSTRACT

This paper describes the work of Product Scotland, a collaborative network of product designers, anthropologists, artists and engineers based in Scotland. One of the key aims of the Product Scotland network is to achieve research excellence through knowledge sharing mechanisms. Scotland's product design network is spread over a large geographical area, across many organisations and institutes, and there lacks a practical, effective platform for pooling knowledge together to enable the creation of collaborative product design research strategies. This knowledge pooling, amongst a group of like-minded researchers, educators and practitioners with diverse backgrounds, experiences and skills including design, engineering, business, anthropology, and fine art will focus Scotland's product design network to become one of international importance. In this respect, Product Scotland goes a long way in attempting to address one of the key recommendations of the Cox Review [1] in that it wishes to establish (in the long term) a national multidisciplinary centre for design and the creative industries. Backed by funding from the Arts and Humanities Research Council (AHRC), Product Scotland developed and ran a series of workshops in Glasgow (Design Creativity), Edinburgh (Design Ethnography), Dundee (Digital Product Design), and Aberdeen (3D Scanning and Rapid Prototyping). The paper reports on these four workshops held between November and December 2007 and will describe the motivations, outcomes and initial results. Based on the results of the four Product Scotland workshops the paper will propose working practices and methods for contemporary, collaborative product design networks of the future.

Keywords: Collaboration, Network, Product Design, Knowledge Sharing.

1 INTRODUCTION

Product Scotland is a collaborative group of product design researchers, educators and practitioners based in and amongst the Higher Education establishments of Scotland. In recent years at product design conferences, such as the Design Research Society[1], the European Academy of Design[2], and the Engineering and Product Design Education[3] events, a critical mass of product designers in Scotland has emerged who share a common research vision of design practice, design education and design research in, for, and through the wide ranging activity of contemporary product design. The aim of the Product Scotland network is to achieve research excellence through knowledge pooling. Scotland's product design network is spread over a large geographical area and across many organisations and institutes. Currently there is a lack of a practical, effective platform for pooling knowledge together to enable the creation of collaborative research strategies. This knowledge pooling will focus Scotland's product design network to become one of international importance. In this respect, Product Scotland goes a long way in attempting to address one of the key recommendations of the Cox Review [1] in that it wishes to establish (in the long term) a national multidisciplinary centre for design and the creative industries. One of the key objectives of this national Product Scotland centre would be to bring together a range of like-minded individuals from a diverse set of backgrounds to share and develop their experiences and skills such as designers, engineers, entrepreneurs, social scientists, and artists. In the short term, however, we want to create a network that is primarily, though not exclusively, open to Scottish based product designers drawn from a combination of academic and industrial backgrounds. An important objective of this project is to establish a network for enabling the advancement of product design research and industry, through a series of workshops that build a knowledge base of current thinking and future projections around the central issue of modern product design practice. Backed by funding from the Arts and Humanities Research Council (AHRC) Product Scotland have recently developed and run workshops distributed across four of Scotland's main cities (*i.e.* Glasgow, Edinburgh, Dundee, and Aberdeen). Each workshop has focussed on an important issue surrounding modern day product design practice including Creativity (Glasgow), Research Methods in Design Practice (Edinburgh), Digital Product Design (Dundee), and Rapid Prototyping (Aberdeen). This paper will report on the four individual workshops held between November and December 2007 and detail the initial findings. Based on the results of the four Product Scotland workshops the paper will propose working practices and methods for contemporary, collaborative product design practices of the future.

2 DESIGN NETWORKS

Networks, in general, are intended to encourage and enable the discussion and development of ideas by researchers across and between disciplines, either through establishing new research networks or through running workshops, seminars or similar events. Product Scotland is a recently formed network of academics, practitioners and industrialists from areas including product design, anthropology, architecture, engineering, fine art, advertising, and branding. We have recently (December 2007) completed an initial network to share and seed the methods we use across our

[1] http://www.designresearchsociety.org/
[2] http://www.ead.lancs.ac.uk
[3] http://www.designsociety.org/

disciplines. This network has formed through four workshops funded through the Arts and Humanities Research Council's (AHRC)[4] ICT Methods Network scheme. The workshops were extremely successful and a second longer term iteration of network meetings to cement and grow this relationship into a potentially financially sustainable community of practice spanning research, enterprise and public awareness is being considered.

3 KNOWLEDGE POOLING

In the short term Product Scotland want to create a network that is primarily, though not exclusively, open to Scottish based product designers drawn from academic and industrial backgrounds. In recent years, a critical mass of product designers in Scotland has emerged who share a common research vision of technology in, for, and through product design. The aim of this network is also one to achieve research excellence through knowledge pooling. Scotland's product design network is spread over a large geographical area and across many institutes. Currently there is a lack of a practical, effective platform for pooling knowledge together to enable the creation of collaborative research strategies. This knowledge pooling will focus Scotland's product design network to become one of international importance. The Product Scotland network initially held a number of workshops as an approach to enable skills and knowledge sharing in, and around, product design and development. Each workshop facilitated the communicating and advancing of knowledge and skills in product design. The 4 workshops, held between November and December 2007, are described in more detail in the next sections.

4 EDINBURGH WORKSHOP

The first of the four workshops, held at Napier University, Edinburgh, covered new and emerging research methods for product design practice (Figure 1).

Figure 1 Design Ethnography Workshop, Edinburgh

In particular, the workshop covered the knowledge and skills required to undertake ethnographically-oriented research as part of the development of a product design

[4] www.ahrc.ac.uk

project. The workshop involved the participants undertaking a one-day research investigation within the context of a product design project. At the end of the workshop each participant analysed, interpreted and presented, using a combination of quantitative and qualitative approaches, a research "case" which included the findings of their research investigation. Each research "case" was constructed using a number of mediums including film, photography, sketch, and textual data. The main focus of this workshop was to observe how people engage, exploit, adapt, react, and interact with the designed world of products, spaces, and services.

5 DUNDEE WORKSHOP

The second workshop, held in Dundee, was concerned with emerging digital product design techniques. Digital Product Design is the design of products using embedded digital technology. In this workshop, participants explored the notion of Digital Product Design, as described by Rogers and Hulbert [2]. Central to Digital Product Design is embedded programmable technology using microcontrollers, sensors and actuators (Figure 2).

Figure 2 Digital Product Design Workshop, Dundee

The workshop described the landscape and vocabulary of this emerging discipline through a series of practical demonstrations that took a "Hands-In" approach to designing future digital products.

6 ABERDEEN WORKSHOP

Workshop number three covered the area of 3D Scanning and Rapid Prototyping technologies. The workshop was designed to introduce the principles of 3D scanning technology and the developmental role object 'sampling' might play in producing new creative opportunities for the designer. The workshop participants exploited these technologies in questioning the relationship between prototype and mass-produced designed object (Figure 3).

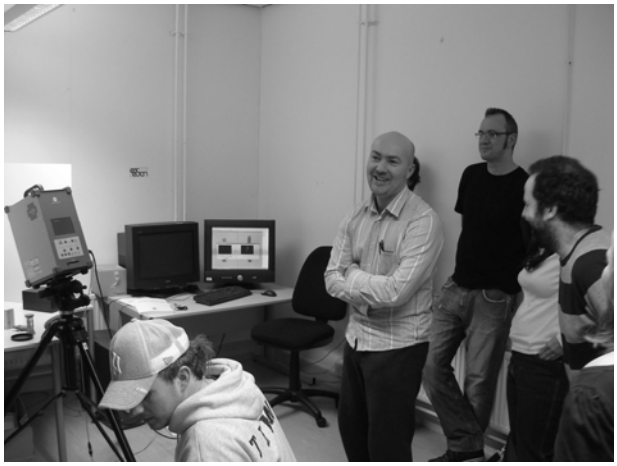

Figure 3 3D Scanning and Rapid Prototyping Workshop, Aberdeen

The technologies' potential to '3D sample' and '3D print' was explored in relation to new production paradigms, design vocabularies and methodologies. The workshop's focus looked towards new opportunities that exist for the product designer in developing a playful 'logistics of iteration' in contrast to the more quantitative, 'reverse-engineering' approaches of the past.

7 GLASGOW WORKSHOP

The final workshop, held at The Lighthouse in Glasgow was designed to introduce and explore the notion of creative narrative strategies in product design. Design and the telling of stories are practices that are not often thought of in the same category; but together this workshop explored the relationship between these two creative practices (Figure 4).

Figure 4 Design Creativity Workshop, Glasgow

Through the workshop participants experimented with the scripting of products and lifestyles, products as props, plot devices, and dramatic product genres, and investigated how Product Designers might embed future narratives in the products they design. The

idea being to challenge the old stories that are told about design, in which more deterministic conception of programme, function, or construction might hold sway. The workshop aimed to construct new narratives and notions of design process (and product) that engage more fully with creative outcomes as we actually experience and make them.

8 PRODUCT DESIGN EDUCATION IMPLICATIONS

The on-going pressures faced by Higher Education Institutions (HEIs) in the UK in relation to increasing competition from overseas, greater financial constraints, and pressures on space and resources means that we, as design educators, will have to look at forging even greater formal collaboration agreements and networks to help share and pool our resources. To this end, Product Scotland is an excellent start. A number of extant collaborative networks already thrive within the context of product design education. Most notably, these include the formal collaboration between Imperial College, London, the Tanaka Business School and the Royal College of Art into Design London, the formal collaboration of Glasgow University and Glasgow School of Art in their successful BEng/Eng Product Design Engineering programme, and INSEAD, France and Art Centre, Pasadena, USA where MBA and product design students develop a new product collaboratively and present their ideas to investors [3]. It is likely that the future will witness many more formal collaborations between UK HEIs, industry and overseas academic and industrial partners involved in product design and development.

9 CONCLUSIONS

The key conclusions of this project are that product design networks can be very effective. A number of very exciting developments have occurred as a consequence of this collaborative network. First, a second proposal to AHRC has been submitted that will see the Product Scotland network funded for a further two years. Second, a number of smaller spin-off networks have been created by members of Product Scotland in areas such as design ethnography and digital product design. Finally, a number of smaller, less formal product design networks have evolved with the aim of sharing and exchanging knowledge and resources with a view to creating new product ideas.

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