Designing for the 21st Century

Report on Research Clusters Workshop
2nd February Workshop, Design Council, London

Introduction

This short report summarises presentations and discussions that took place on 2nd February 2005 at a workshop organised for members of Designing for the 21st Century research clusters. Over 50 representatives from these research clusters attended the event. An itinerary for the day is shown in Appendix 1.

Workshop Objectives

The workshop was structured to achieve the following objectives:

- To allow cluster participants to meet, the beginning of a 'community of practice'.
- To review the background of the designing for the 21st century initiative and its ambitions
- To refocus the minds of research cluster participants on the objectives of research cluster activity
- To communicate how the 'designing for the 21st Century' initiative will evolve

Presentation overview

Professor Tom Inns (*Designing for the 21st Century Initiative Director)* provided an introduction to the day's activities. He then reviewed how the Designing for the 21st Century initiative had evolved and what the vision for the initiative was in terms of research network building, developing research cultures, understanding modes of enquiry and establishing new design knowledge

Professor Stephen Scrivener, University of the Arts, London *(Designing for the 21st Century Scoping Workshop Participant and Cluster Proposal Panel Member)* Gave an overview of the workshops that had lead to the development of the Initiative. He then reviewed the criteria that had been used to select cluster proposals for funding. Over 129 proposals had been received. Stephen reviewed the originating departments for these bids and final breakdown of the 21 clusters that had been funded by department.

Images from morning presentations (Tom Inns & Sandy Black)

The Principal Investigators of 6 of the 21 research clusters gave short presentations. Each of these presentations provided:

- An overview of the focus of enquiry
- A summary of what the cluster hoped to achieve in 2005
- A review of the activities planned for 2005

- Dr Hilary Johnson, University of Bath, *Understanding and supporting Group Creativity in Design,*
- Dr Jacques Mizan, Kings College, London, *The Healing environment*
- Dr Jill MacBryde, University of Strathclyde, *Design Performance*
- Dr Calvin Taylor, Leeds University, *Design and Performance*
- Dr Andy Dearden, Sheffield Hallam University, *Technology and Social Action*
- Sandy Black, London College of Fashion, *Interrogating fashion, Practice, process and presentation*

Group activity

In the afternoon delegates worked through a two-stage group activity. The objectives of this were:

- To identify initial issues and research questions
- To explore common ground between research clusters

In *stage 1* of the Group Exercise delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt *might* emerge from discussions and debate within their own cluster over the next 12 months.

In *stage 2* of the Group Exercise representatives from three research clusters worked together to identify 5 generic research questions or issues that were common to each of the clusters (based on outputs generated during stage 1)

The results from both stages of activity were recorded on prepared charts, which were then displayed on the workshop room walls

Results from both stages of this activity are shown in the Appendix 2.

Concluding presentations

Professor Tom Inns (*Designing for the 21st Century Initiative Director)* summarised the results from the Group Activity. He then reviewed future activities associated with the Designing for the 21st Century Initiative.

Dr Andrew Clark (*EPSRC)* provided a Cluster Project Surgery for delegates with questions regarding budget, scope and operations of cluster activities.

Feedback

Feedback from the event was positive. Many useful suggestions for future activities were provided. A full summary of this feedback is provided in
Appendix 3.

Appendix 1 Workshop itinerary

10.30 **Register Tea / Coffee**

11.00 **Introduction: Past, Present and Future Vision**
Professor Tom Inns, Initiative Director, Designing for the 21st Century, University of Dundee

11.25 **Research Cluster Evolution**
Professor Stephen Scrivener, University of the Arts

11.45 **Research Cluster Examples**

- **Dr Hilary Johnson**, *University of Bath*
- **Dr Jacques Mizan**, *King's College, London*
- **Dr Jillian MacBryde**, *University of Strathclyde*
- **Dr Calvin Taylor**, *Leeds University*
- **Dr Andrew Dearden**, *Sheffield Hallam University*
- **Sandy Black**, *London College of Fashion*

12.30 **Lunch**

13.30 **Clusters Operating Principles**

13.45 **Group Activity**

Review Findings from Group Activity

14.45 **Tea/Coffee**

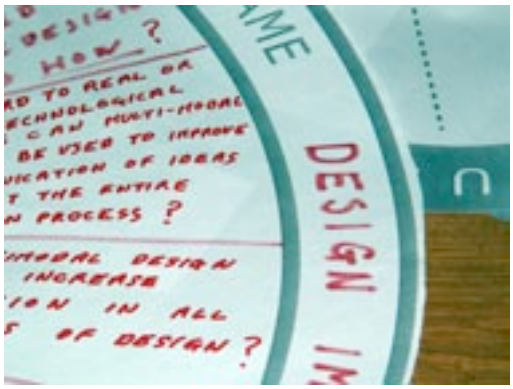
15.00 **Conclusions and Futures**

15.30 **Close**

Cluster Project Surgery 15.30 – 16.30
Dr Andrew Clark, EPSRC,
Andrew will be available to answer questions regarding the budget, scope and operations of cluster activities.

Appendix 2 Summary of Group Activity Findings

Images from workshop group activity



Results from Group Activity Stage 1
(Delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt might emerge from discussions and debate within their own cluster over the next 12 months)

Design & Performance

1. What tools & techniques of performance can be usefully developed in design?
2. What compositional practices are utilised across the disciplines in the cluster?
3. How might notions of empowerment, ownership and mediation be articulated through performance/design?
4. What is the underlying meta-knowledge at the performance/design interface?
5. How is creative knowledge effectively transferred?

Technology & Social Action

1. What kind of tools and ways of working can enable effective, inclusive organisations especially across different technical skill levels?
2. How can design be accountable and socially responsible in the 21st Century?
3. How can design performance/creativity be enhanced & shared in civil society?
4. What are the perceived priorities of social activists in relation to Information Communication Technologies?
5. How should the technology needs of social action be reflected in education?

Orientating the Future: Design Strategies for Non-Place

1. How to audit/map/represent the "semiosphere" (world of signs)?
2. How are individuals positioned/placed within generic space (non-place) (Something about contract)?
3. What forms of critique are possible (appropriate)?
4. How do people invent convivial spaces? – How can this be supplemented by design?
5. What is the relationship between these issues and design – digital, architectural, urban?]

Results from Group Activity Stage 2
(Representatives from the research clusters above worked together to identify 5 generic research questions or issues that were common to each of the clusters)

Role of design in society… social/empowerment/conviviality
Tools and techniques…knowledge flows/destinations…languages of design?...performance/process/play/ritual/ audition (metaphor)…situated knowledge

Results from Group Activity Stage 1
(Delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt might emerge from discussions and debate within their own cluster over the next 12 months)

Interrogating fashion: Practice, Process and Presentation: New Paradigms in Fashion Design for the 21st Century

1. Relevance of fashion to everyday life and its economic relevance to industry. How important is fashion?
2. The reconciliation of fashion excellence with sustainability: the fashion paradox. How to use design to facilitate this resolution?
3. 3D production link. How can emerging technologies help to resolve the paradox and create new, desirable and effective, efficient production?
4. What are the new approaches in materials and manufacturing and new functionalities for clothing that will enhance lives and reduce waste?
5. How can we use the inclusivity of fashion to enhance well being and engage people?

The view of the child: explorations of the visual culture of the made environment

1. What determines the visual culture of children – interdisciplinary approach?
2. What sort of visual environment can help make children sensitive to the designed world?
3. What are the implications of technology for the visual and learning environment of children?
4. How does the visual environment reflect cultural diversity and promote inclusivity?
5. How can we determine methodologies to understand how children interact with their environment?

Designing Physical Artefacts from Computational Simulations and Building Computational Simulations of Physical Systems

1. Recognising physical environments as central to behaviour. Exploring the inadequacy of simulation for designing 3D objects and space.
2. How to develop common conceptual frameworks in interdisciplinary collaborations. Principles for agreeing a language.
3. Understanding the qualitative differences in perception and response to 2D simulations Vs 3D objects. E.g. what can a medical researcher understand from a 3D object/space that is different from a 2D or similar image.
4. Developing selection criteria for choosing between multi-agent systems and cellular automata when modelling natural systems
5. How to make physical representations/versions of simulations based on different modelling techniques (MAS - multi-agent-systems - and cellular automata)

Results from Group Activity Stage 2
(Representatives from the research clusters above worked together to identify 5 generic research questions or issues that were common to each of the clusters)

1. 3D production/experience in relation to 2D representation/simulation and in relation to real space (experientiality)
2. How to build a common language
3. Flexibility/inclusivity

Results from Group Activity Stage 1
(Delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt might emerge from discussions and debate within their own cluster over the next 12 months)

Spatiality in design

1. What is qualitative space in architecture?
2. Using spatial metaphor in creative understanding
3. How do we spatialize cyberspace to enable communities?
4. Commonalities of spatial relations across different disciplines
5. How to develop spatial ontologies for knowledge representation in collaborative design.

The Emotional Wardrobe

1. Common way forward – building on existing interests and working across disciplines
2. Existing core knowledge re "human connectedness" - the network bringing the physical science and the "creatives" together – maybe!
3. A desire to step back from existing core research and use the group dynamic to re-examine and re-contextualise – maybe!
4. Beginning to reconcile the "positions" of the network players re the "use" of emotion ethical to technological and beyond
5. Fully questioning the original research questions

Nature Inspired Creative Design
n/a

Results from Group Activity Stage 2
(Representatives from the research clusters above worked together to identify 5 generic research questions or issues that were common to each of the clusters)

1. Understanding emotional space
2. Finding methods of accelerating common interest and enthusiasm
3. Representation as part of "process"
4. Negotiating a common understanding

Results from Group Activity Stage 1
(Delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt might emerge from discussions and debate within their own cluster over the next 12 months)

Design Imaging

1. Can existing and emerging imaging technologies be utilised to improve the design function and how?
2. Without regard to real or anticipated technological limitations can multi-modal images be used to improve communication of ideas throughout the entire design process?
3. Can multimodal design imaging increase inclusion in all aspects of design?
4. Will the use of multimodal/multi-sensory design imaging increase/enhance creativity?
5. Can multimodal design imaging assist in design education?

Discovery in Design: People-centred Computational Environments

1. Identification of synergies and peculiarities of design process across diverse domains
2. Identification of computational intelligence and enabling computational technologies re degree of fit and potential for emerging paradigms
3. Areas requiring research re human reasoning and above (2)
4. Changes required to current design practice to accommodate capabilities of envisaged future computational support.
5. A vision of people-centred computational design in 2020

Sensory Design

1. What is sensory design – searching to provide a cross-disciplinary definition (mapping)
2. What is sensory design in relation to food: its application (future scope)
3. How is the experience of food revealed through an exploration of the senses? (Data gathering)
4. What are the effects of ritual, cross-cultural experience, sense deprivation and the perception of what senses do (physiological/psychological)? (measurement of practice)
5. What contributions will sensory design make in the 21st Century? (innovation and enterprise)

Results from Group Activity Stage 2
(Representatives from the research clusters above worked together to identify 5 generic research questions or issues that were common to each of the clusters)

1. Future scoping?
2. Inclusion – people centred?
3. Enhancing user environment?
4. Enhancing innovation and creativity?
5. Discovery/IPR?

Results from Group Activity Stage 1
(Delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt might emerge from discussions and debate within their own cluster over the next 12 months)

Spatial Imagination in design

1. Harnessing long term plans (quantitative)
2. Sustaining flexible responsive learning goals
3. Managing expectations with goals
4. Appropriateness of outputs (reflect) goals and process
5. Issue of technical support/development

Understanding and supporting Group Creativity in Design

1. Common representation, language, notation, expression, means buy which people from different disciplines can work together
2. Technological support for (1)
3. Mechanisms for capturing learning (evolution) of cluster process (and feedback)
4. How do we manage cluster expectations and resources?
5. How do we harness long term plan?

The Healing Environment

1. What do users value in the primary care built environment? – healthcare professionals, patients, complementary health
2. Exploring the effect of the built environment on recruitment of retention on healthcare professionals in primary care
3. Effect of healthcare environment on clinical outcome in Primary Care
4. How to integrate technology (ICT) in a novel Primary Care environment to benefit/empowerment of patients

Results from Group Activity Stage 2
(Representatives from the research clusters above worked together to identify 5 generic research questions or issues that were common to each of the clusters)

1. Cross sectoral, bi-directional (multi) exchange
2. Generation of new paradigms
3. New user designer empowerment
4. Adaptive process: emergence, evolution and negotiation
5. Finding mechanisms for capture, export and disseminate

Results from Group Activity Stage 1
(Delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt might emerge from discussions and debate within their own cluster over the next 12 months)

Embracing Complexity in Design

1. How can we engineer emergence? Self organisation? Innovation?
2. New ways of expressing and communicating complexity in design
3. Multi level systems in design
4. Complex networks of design interactions
5. Designs of complex socio-technical systems

Designing Healthy and Inclusive Public Outdoor Spaces for Young People

1. How can design contribute/assist in counteracting children's' sedentary growing lifestyle?
2. How can deign promote physical activity and reduce children's obesity?
3. How can design promote lay and contribute to children's cognitive, physical and psychological development?
4. How can address safety issues to encourage a better use of public spaces
5. How can we address public attitudes towards play and the use of public spaces?

Ideal states: towards a joint knowledge and operating framework for design and medical practices

1. Will we have defined a joint knowledge and operating framework between design and medicine what would it look like?
2. What will a jointly derived model of the individual/population look like?
3. Practices of processes: what is common? What are creative differences? What are obstacles? For designers and medical practitioners?
4. Faced with an ageing demographic – how to influence policy and affect perception through jointness?
5. What is an ideal state of health, well-being of quality of life?

Results from Group Activity Stage 2
(Representatives from the research clusters above worked together to identify 5 generic research questions or issues that were common to each of the clusters)

1. How to respond to (demographic) change
2. Communication across boundaries
3. Designing towards ideal state
4. Complexity and uncertainty
5. Innovation

Results from Group Activity Stage 1
(Delegates worked within their own respective cluster teams and listed the 5 key research questions or issues that they felt might emerge from discussions and debate within their own cluster over the next 12 months)

Design Performance

1. What is the best modelling tool for Design Performance?
2. Understanding different definitions of Design performance
3. How to promote coherence in Design performance – congruency and alignment, efficiency and effectiveness
4. Learn Design and value generation
5. Design performance roadmap for UK Inc

Synergy Tools to Guide the Effective Development of a 'Meta-design' Methodology

1. (How) can (design) synergy be usefully defined as generic and shareable?
2. What is a helpful and specific practice of synergy in the context of truly sustainable practices?
3. What new/widened boundaries of intervention might designers need to work within in order to promote eco-synergies?
4. How can we use our knowledge to develop effective tools that help other designers to enhance eco-synergies?
5. How can we establish durable/desirable/reproducible/maintainable methods and networks of practice that disseminates good practice?

Digital Design, Representation, Communication and Interaction: Screens and Social landscape

1. What models of collaboration across different disciplines are effective for learning?
2. How can screen be used to navigate through information and learning experiences in learning contexts 'effectively'
3. How does the changing relationship between modes and representation beyond language re-mediate how people interact with the communicational landscape?
4. What ways do people's cultural assumptions/experiences about screen impact communication?
5. How can our understanding of people's interaction affect the design of screen as product?

Results from Group Activity Stage 2
(Representatives from the research clusters above worked together to identify 5 generic research questions or issues that were common to each of the clusters)

1. Design as situated practice that also grasps solutions at meta-level
2. Need o develop effective models that can (self) redraw existing boundaries
3. Developing and working across (to enhance) multiple perspectives and shareable understanding
4. How to define value in the context of multiple stakeholders etc
5. Reflect upon the concept and purpose/activity of design in light of the above

Appendix 3

Designing for the 21st Century
Clusters Workshop Report back questionnaire

Did the workshop fulfil your requirements?

1. Yes x 26
2. Was opened minded
3. Yes and beyond
4. Didn't have any
5. Very much
6. Yes, the workshop satisfied my expectations

What was the most satisfactory element of the event?

1. Workshop
2. A most informative, productive and pleasant day. Networking with like-minded innovators was helpful. Productive workshop helped in our (re) formulation of our clusters' agenda
3. The time to discuss the significant issues of our project in a group with other projects was a valuable exercise presented in a useful way. It would have been interesting to have this opportunity with other groups.
4. Discussions
5. A very stimulating and effective day! Opportunities to see, greet and meet very valuable.
6. Group activity
7. Meeting other cluster members – the workshop exercise
8. Informative insight to sample case studies
9. Meeting other groups and comparing our work with theirs. Richness of ideas.
10. Overview of scheme and its future. Detailed introduction to a few clusters was very interesting – to see the breadth.
11. Working groups
12. Networking
13. Having the opportunity to discuss ideas
14. Overview/presentations
15. Contact with others and cross-fertilisation of ideas
16. Meeting new people from different disciplines
17. Very useful workshop. Useful for finding out about the future of the Initiative. It was also useful for networking and finding areas of common interest with other clusters
18. Meeting other people, discussing ideas
19. Introduction and background were well covered. Presentations were good, from clusters. Roundtable breakouts were good
20. Learning more about the underlying imperatives of the initiative and the way the funded clusters are articulating those imperatives. I liked the mechanism for us locating those in groups
21. Interactivity and sharing
22. Opportunity to meet other PIs
23. Example clusters
24. Good to have the overview and history explained. Good to hear about other clusters

25. Information about the background to the initiative. Hearing the other talks. Meeting completely new people and making for new collaborations.
26. Meeting other cluster co-ordinators
27. Meeting and having overview
28. Now have a good overview of the whole programme
29. Meeting different people/disciplines/views/experiences
30. Display
31. Group exercise
32. Meeting others
33. Establishing community and context. Useful to contextualise the whole scheme and particularly to see the full range of clusters which have been funded – also interested in those 'almost funded'
34. Disseminating information re the scheme and networking exercise in the afternoon
35. The workshop was very useful and informative. Finding out what other clusters do and meeting and talking to people about the themes clusters are looking at
36. The overall format of the workshop and particularly the 'round table' discussions (exercise) worked very well
37. Good opportunity to see what other clusters are doing and think about our research questions. The group workshop/exercise was very interesting and useful.

What was the least satisfactory element of the event?

1. Introduction
2. Difficult to isolate negative aspects (absence of alcohol)
3. None
4. Better if synopses/summaries of each cluster bid. Daylight helps concentration levels
5. Cluster oral presentations
6. Needed more time to read the group work. Our group struggled to do the task as research questions had yet to be defined
7. Limited time
8. Group session
9. None
10. None
11. Activity
12. Would have liked to hear about all the clusters – but of course that would not be possible in the time
13. None was unsatisfactory, would have liked more workshop group activities
14. Nothing
15. The time devoted to the exercises was rather little
16. Catering

Was the location satisfactory?

1. Yes x 14
2. Yes, but warm
3. Yes: good space, good food, easy to reach from tube, 'design' venue
4. Yes but air con was rather fierce
5. Yes (except too much air con)
6. Yes, very central location
7. Very good
8. OK
9. A little cramped
10. A good venue
11. Excellent
12. Very
13. Very – great venue
14. Would have been perfect if room was not so cold and then so hot, but air conditioning has this affect
15. Perfect

16. Very

What would you like to have changed about the workshop?

1. Twice the time
2. Technologies dedicated to group work or archiving might have speeded up the process (or maybe not)
3. It would have been interesting to discuss projects with the whole room as a group as a conclusion to the exercise
4. More details about other clusters before the workshop
5. Longer time to do activities for slow writers/thinkers
6. Half day would have been more convenient; but ¾ day OK
7. Nothing. Good mix of break-out and presentations
8. Could have been shorter
9. Perhaps an idea/discussion of how the further funding will be decided – on what criteria would this influence planning from this stage on.
10. More time, cycle the groups, review the results more
11. Preparatory pack with summary of all projects so better prepared for group activity
12. The food, shorter introduction, more on the individual workshops, we need to find out what others are doing and learn from them. They have some great ideas and the exchange of these is expanding.
13. More time for interaction
14. A bit more time round table discussing common issues and quick verbal sum-up from each table
15. More opportunity to have plenary discussion, perhaps
16. Maybe more info from all clusters circulated via email before meeting – not full details of proposal but key objectives and methods…not sure….
17. More time for generic questions, but perhaps the limited time forced fast response
18. Bit more time to talk about activities and share ideas and discuss good practice
19. Could have discussed over the results of the activity
20. Given I can commit some time to the activity – a longer period for meeting other cluster members would have been good. More activities where groups were swapped around also would have been nice – also report back questions that were put on the wheels so a final discussion of these was possible. Also some view of whether these issues/activities were common – and their priority. – if that is possible at all.
21. A chance to mingle more with other cluster members – but imagine that will come later
22. Would have liked more time to discuss and cross fertilise ideas and methodologies. This will happen as the clusters develop I'm sure
23. Liked to have it closer (Glasgow!)
24. Nothing. A very good event
25. More 'active' events, less stand up and deliver a paper/presentation. Bigger font on name badges (?)
26. More ability to discuss with other clusters in a little depth
27. Provide summaries of each funded cluster to all, to facilitate networking. Mapping out key areas from the applications
28. More time for interaction and discussion of outcomes would have made the workshop more 'informative'
29. I would have liked to have more time for interaction with other participants in the group exercise. Also, some more time for 'structured' discussion – to explore the results of the exercise for example.
30. Add a tea break in the morning session

Were there any issues or themes you would wish to explore in this workshop that were not discussed?

1. Our professional backgrounds and their relationship to the project

2. The pressing context of climate change and fossil fuel depletion (imminent) and loss of bio-diversity would be a possible generic basis for any future discussion of how design might be re-designed
3. It would have been good to discuss our projects within the academic areas, architects speaking to architects and then to speak to other groups of other disciplines
4. The day was pretty comprehensive - Sufficient for purpose
5. Originality/degree of origination being undertaken
    - IPR issues consideration for 21st Century foresight
    - Relationship to research call – make clearer
    - Pacing of projects – more direct 'coaching' role to produce success rate for eventual research call
    - Provide link meeting for (a) principle investigators (b) administrators, at halfway stage (or over summer to exchange issues and concerns).
6. Many: but there was no discussion session. This would have been better than including oral presentations from selected clusters
7. There is a need for an interim event to exchange ideas again and enable the community to gain from each others insight.
8. Probably lots, but generally I thought that time was used well
9. Common research interests, future funding initiatives
10. No. Given the nature of the event and the early stages of the programme, it was fine
11. Suggestions of how to proceed with clusters. What kind of activities could be performed?
12. I thought it was excellent and very useful for me. I'm very happy with the day
13. Expectations from clusters/initiative coordinator about the level of activities that are acceptable – i.e. the level of commitment. But great day.
14. (Wish) Would love to see diagram/model showing likely/potential linkages between clusters based on content of proposal. Would help to prioritise networking opportunities
15. Emergence, adoptive systems, working group
16. Useful to explore 'workshopping' activities
17. Publicising of the research cluster more – how we can have a support for the advertising of the conferences/symposia? Whether or not will be any publications from the initiative, apart from the reports