

A New Visual Aid For Designing

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Abstract: In 2002 the American Design consultancy IDEO developed a set of method cards to assist designers and others in selecting the appropriate process on a design project. The Designing Out Crime Research Centre (DOC) has customized the concept of design process cards basing the form and content on a new design thinking philosophy. Originally designed to assist the Centre's consultancy stream working on crime related issues the new cards have also been shown to aid design students gain insight into design process in general and in selecting the appropriate tool for the specific design task they are undertaking. The new design thinking approach, which forms the framework for the cards, was developed by Dorst following an investigative process including the review of many DOC design projects and extensive work with leading designers. The approach contains nine steps – archaeology, paradox, context, field, themes, frames, futures, transformation, and integration [1]. The cards serve a number of purposes. While assisting the design team in planning new assignments the cards also help the team engage with clients in both determining the tools to employ and the sequence in which they occur. The playful nature of the cards and the informative details contained on the backside assist in demystifying the process to those less familiar with designing. This paper describes the cards and how they relate to the new thinking philosophy. Also included is a demonstration on how the cards can be used in a variety of design projects.

Key words: *Frame creation, designing out crime, education, process, design aids, design tools*

1. Introduction

One of the first tasks for a consultancy engaging with a new client is to explain the process leading to what will hopefully be a successful project outcome. Usually this explanation consists of outlining a number of stages; typically along the lines of background investigation, idea generation, design development and prototyping. While some further details might be forthcoming it is unusual for clients to gain insight into how designers actually execute these steps and the tools they have available to extract the information and outcomes required. It is equally uncommon for clients to go one step further and work with consultants in determining the methodology best suited for the project in question. The Designing Out Crime Research

Centre (DOC) reasons that positive outcomes are more likely when clients are involved in this early method decision-making phase. With this engagement clients are better equipped to support the design process with relevant information and, in some cases, participate actively in the project. Design method cards developed by DOC have been created to facilitate this client designer interaction. This is an important development. In the field of crime prevention the relationship between designer and client is not always one of collaboration [2].

2. Background

2.1 Design method cards

To our knowledge design method cards were first developed by the Californian based design consultancy IDEO in the 1990's and published in 2003 [3], they were initially seen as a means by which designers working in the company could record their ways of working and share them with their colleagues. Ultimately the cards were made available to the design community at large and can now be purchased as a pack on line. The cards (140*90mm) show a graphic image representing the design method and on the reverse the process is named with descriptions of why and how they are used.

2.2 DOC adoption of method cards

DOC evolved this method card concept to assist in engaging clients in a newly developed design model developed by the Centre's director Professor Kees Dorst. Dorst formulated the Frame Creation model by examining the methods used in past DOC projects and from previous studies researching the ways leading designers around the world arrive at innovative solutions [4,5] While the processes described in the new cards have been employed in designing out crime projects, the frame creation method, along with the process cards, has wider application for problem solving.

2.3 The DOC team

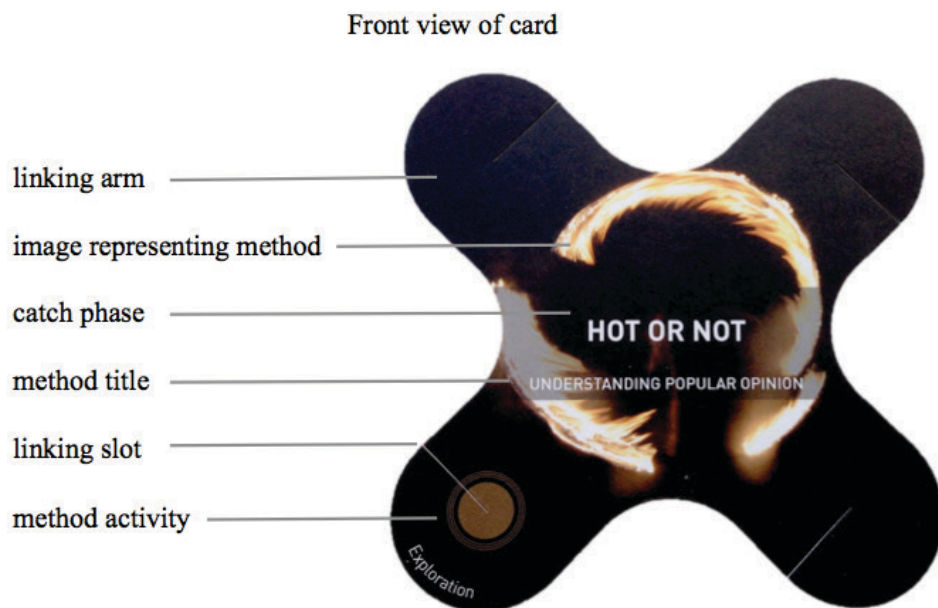
A central working principle for DOC is a multi disciplinary approach to projects including engagement with clients at all project stages. Team members in the Centre come from the academic and practice backgrounds of: Architecture, Arts, Business, Computer Science, Criminology, Design, History, Industrial Design, Philosophy, Psychology, Urban Planning, and Visual Communications. Each of these disciplines has certain methods and practices that inform and drive their application and have been absorbed into the Frame Creation model. Many of these methods are represented in the cards.

3. Description of the method cards

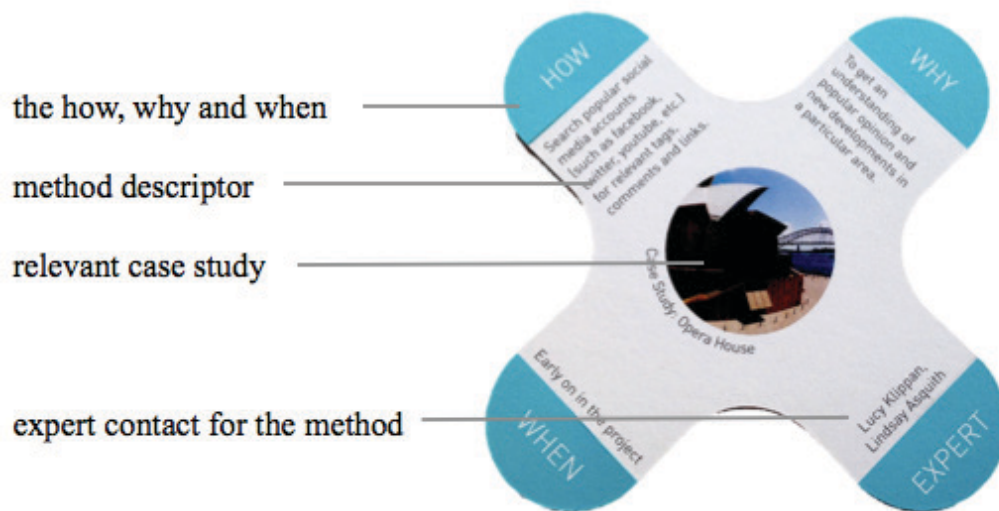
3.1 Size and shape

The cards are in the shape of a cross with full radii at the end of the “arms” and at intersections. The cards measure 150mm*150mm. On one face is a catch phrase and title representing a design process accompanied by an image illustrating the process, often with a comical edge. The activity the method aligns with is noted on the card. The reverse provides the user with information on how, when and why to engage with the process and names the experts in DOC who can give further advice. At the centre is an image referring to a DOC case study that represents the process and the title of the project. On each arm of the card a slot allows cards to be linked so providing the user with the ability to arrive at and record a process sequence.

3.2 Views of a typical method card



Back view of card



4 The frame creation process model

4.1 A Nine-step process

The frame creation design process provides the structure for the methods exemplified in the cards. While the cards can be used independently it is the frame creation model that informed the selection of the methods to be included.

The nine-step frame creation process has the following stages:

Archaeology > Paradox > Context > Field > Themes > Frames > Futures > Transformation > Integration [1]. Attaining each of the nine steps calls for a different approach, and different types of methods.

5 Creating the cards

5.1 Multidisciplinary team

DOC staff, (representing over ten disciplines) all contributed to the methods and their description on the cards. DOC designer Jessica Wong created the overall design of the card and selected the images.

5.2 A broad variety of methods

To date over thirty methods have been represented on cards. Some of the methods will be familiar to designers and problem solvers such as “qualitative data research”, “scenario building” and “surveys/questionnaires”. Others represent techniques that have provided valuable knowledge for one or more of the nine-step process (above) and might be less

familiar but still appropriate to many generic design problems. Examples of these cards include, “identifying paradoxes”, “underlying agendas” and “stakeholder mapping”. A further group of cards relate specifically to design and crime issues, such as “crime stat analysis” and “think like a criminal”.

6 Using the cards

6.1 Introducing the cards to the client

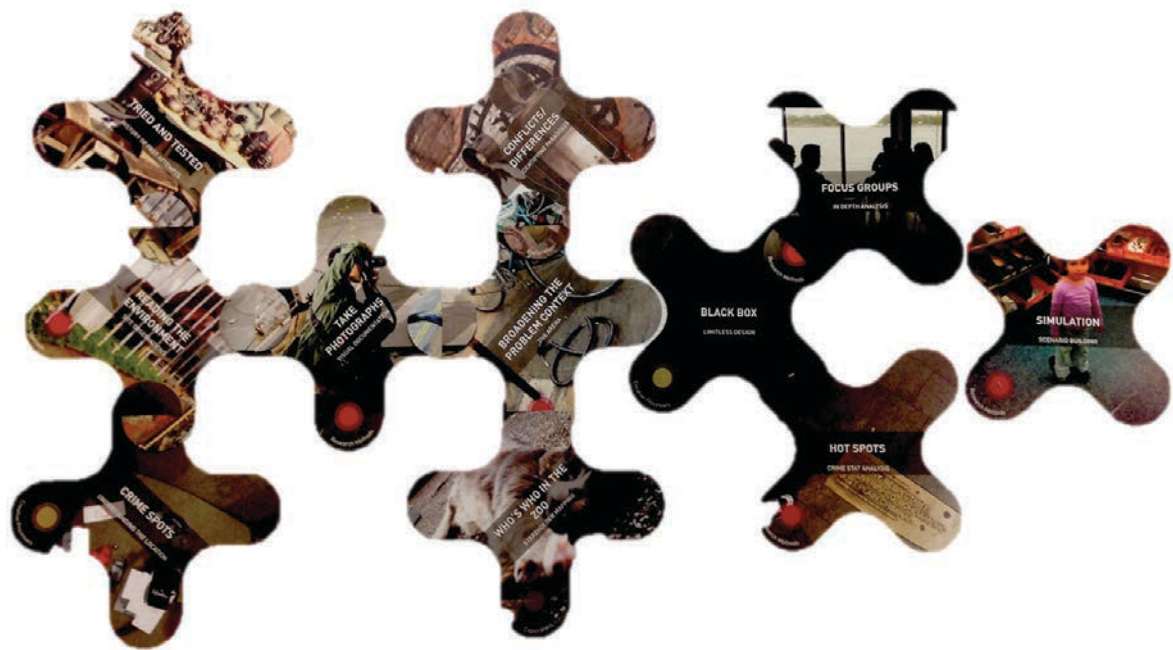
Preferably the cards are introduced during an early client meeting prior to final agreement on the major parameters of project scope, timelines, projected outcomes and expenditure. At this preliminary stage the client can engage with the project team on selecting the methods best suited to meet both the objectives and any constraints such as time and cost.

6.2 A case study example.

A client seeking to reduce the number of “drive offs” at service stations approached DOC for solutions. Drive offs refer to drivers filling their tank then leaving the pump without paying. Following a general discussion of the issues the DOC team selected a number of process cards that represented methods that could be employed on the task. The cards were then placed in groups representing the project stages - Research > Initiation > Renewed Framing > Design Exploration > Handover [6]. In the research stage five methods were suggested. They were: “literature review”, “surveys”, history of past attempts”, “site observations” and “in depth analysis”. The cards enabled the client to understand the crucial elements of each of these but more importantly participate in determining the structure and detail of the study. In this instance “history of past attempts” and “site observations” were viewed as key research activities for stage one. A similar process was conducted for the remaining stages. The cards gave the client insight to the variety of approaches possible in problem solving and how each method related to the steps in the project. Not least the activity of working through the options built a firm foundation for ongoing collaboration throughout the project.

6.3 Planning timelines

The cards are also a valuable tool when determining timelines and relationships of project activities. Slots in the arms of the cards enable them to be linked horizontally, vertically and diagonally. The cards can be arranged to represent a process map indicating tasks to performed simultaneously, in sequence or in isolation.



A process map using the method cards

7. A selection of design methods represented on the cards

7.1 Methods within a process

Cards have been developed to represent methods at every stage in the design and development process. The following examples represent one method at each point in the nine-step frame creation model

7.2 First stage - Archaeology

Method card – “Tried and Tested” A history of past attempts



This card is about understanding what has gone before, what has and hasn't worked and why.

It normally involves some historical investigation preferably with a range of previous stakeholders. The key is to learn from history, build on what works without repeating mistakes from the past.

7.3 Second stage – Paradox

Method card - “Conflicts & Differences” Identifying Paradoxes



Providing insight on where real conflicts exist in relation to a project is essential to developing acceptable outcomes. This method requires background investigation and interviews with the main protagonists. Complex problems usually involve resolving paradoxes.

7.4 Third stage – Context

Method card – “Invite an Expert to go on a Site Visit” Expert Insight



Visiting a site that is the focus of a design problem without the support of those in the know can easily lead to false assumptions or missed opportunities. Select the appropriate expert(s) from the stakeholders and if necessary visit the site separately with each.

7.5 Fourth stage – Field

Method card – “User Profiling” Demographics



Demographics and social influences are key to gaining insight into the context of a project and providing appropriate solutions. Who are the primary users, what are their backgrounds and attributes? Some profiles are found in census data.

7.6 Fifth stage – Themes

Method card – “Picture This” Info Graphics



Developing a new theme for a problem is a crucial element in breaking away from existing formulas. This method aids the process by condensing information into a graphic highlighting where relationships occur.

7.7 Sixth stage – Frames

Method card – “Think Outside the Box” Frame Creation



Perhaps this is the most creative challenging phase of any project. A new “frame” is the virtual glue bonding project outcomes. This method entails viewing the same problem in different ways; for example reframing a disorderly nightlife precinct as a music festival. With a new frame potential solutions become clearer.

7.8 Seventh stage – Futures

Method card - “Write a narrative” Storytelling



The future success of projects relies on a holistic picture that is real, engaging and complex. A narrative detailing the progression of events, outcomes and positive perspectives are proposed in this method.

7.9 Eighth stage – Transformation

Method card – “Conduct a Trial” User testing



Trials and pilots are a common, if not essential method to test new products or systems. Organizing trials that are informative and economical require careful planning and stakeholder cooperation

7.10 Ninth stage – Integration

Method card – “Power and Passion” Find a champion



Without individuals championing a project the chance of implementation is slim. Finding and engaging these persons can occur at any stage in the project. However it is the period following development when a champion can be most effective.

8 Discussion and conclusions

8.1 Situated within crime prevention

While the cards are based on a new nine-step process model, each discrete process was selected in the context of resolving issues to do with crime prevention. Within this context is the cards have been successful in facilitating a multi discipline approach to a field normally dominated by one profession; criminologists. This experience suggests the cards, perhaps modified, have application elsewhere.

8.2 Broader applicability as an education tool

The cards have had some limited application outside a consultancy context. Students in the Design and Architecture Schools at the University of Technology Sydney have taken up the cards to assist in studio assignments. Feedback has been positive although at the time of writing a formal evaluation as a teaching aid has not been conducted.

8.3 Communicating design to a wider audience

All professions have their subscribed work methods and designers are no different. There is however a common view that the design process is intuitive and relates more to the creative powers of the individual involved rather than systematic logical study. These cards help to demystify the design process and introduce new and existing tools to a wider audience.

9. References

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