The Relevance and Importance of Designing Out Crime to Design Schools and Design Companies in Australia

A Report for the
Office of Crime Prevention, Western Australia

2009

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Investigating the Relevance and Importance of Designing Out Crime to Design Schools and Design Companies in Australia

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The research investigated the levels of awareness of design companies and design schools in Australia of Designing Out Crime in the product design process. As part of this project, the authors also organised the 2008 inaugural national Design Out Crime Awards and exhibition to showcase the winning entries and international product designs developed to reduce opportunities for crime.

This research was conducted by Dr Paul Cozens, Dr Terence Love and Mr Martin Trevor of the Design Out Crime Research Centre[1] located at Curtin University of Technology and Edith Cowan University.

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[1] www.designoutcrime.org
[2] www.crimeprevention.wa.gov.au

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1   Introduction

The Office of Crime Prevention (OCP) of Western Australia (WA) has developed the State Community Safety and Crime Prevention Strategy: *Preventing Crime* (OCP, 2004). Within this overall crime prevention framework is located the State's Designing Out Crime Strategy (OCP, 2007). A significant component of the State's Designing Out Crime Strategy is to apply Designing Out Crime approaches to product design for crime reduction (see Goal 5 below).

The State's Designing Out Crime Strategy (OCP, 2007) provides a plan of action to achieve five goals;

1. To embed Designing Out Crime within local and state planning polices both make a commitment to reduce crime through the use of product design and technology;

2. To manage the built and landscaped environment to reduce crime;

3. To increase understanding of Designing Out Crime;

4. To apply Designing Out Crime in a multi-agency approach, and;

5. To use product design and technology to reduce crime.

Specifically, the aim of Goal 5 is;

> ***To establish policy frameworks to ensure that product designers eliminate the 'crime potential' of their products to reduce opportunities for crime.***

The State's Community Safety and Crime Prevention Strategy (OCP, 2004) and the Designing Out Crime Strategy (OCP, 2007) both make a commitment to reduce crime through the use of product design and technology. However, very little has been known prior to this research about the use of Designing Out Crime strategies in product design practice in industrial and commercial settings and in the education of product designers.

1.1   Objectives

This research was an enquiry into 'the state of play' concerning the knowledge and use of product design in Australia to reduce crime via Designing Out Crime approaches.

The objectives of the research were to:

*   evaluate current knowledge and awareness of Designing Out Crime ideas in the product design arena in Australian product design companies and design schools to establish background information on which future work could be based, and;
*   organise a national design competition in which participants designed products to reduce crime using Designing Out Crime principles to gain understanding of the cutting edge of Designing Out Crime activity, and to promote Designing Out Crime and the work of the WA Office of Crime Prevention in reducing crime via product design.

1.2   Research approach

The research involved four stages:

1. A literature review involving the collection and analysis of published information about the status of Designing Out Crime policies, projects and programs in Australia and the UK. This provides a resource and basis for comparative assessment of DOC understanding and skills in Australia using the UK as a reference.
2. A survey questionnaire was developed and distributed to design companies identified by their web presence, the Yellow Pages and the Design Institute of Australia. The survey was also distributed to University design schools across Australia. The questionnaire was used to investigate the level of awareness, practice and enthusiasm for DOC in Australia.
3. A brief analysis of products vulnerable to theft and vandalism.
4. A design competition (the Design Out Crime Awards'08) and website (www.docawards.org) were created to gather some examples of the current 'state of play' in DOC, to manage the entry process and to promote Designing Out Crime approaches across Australia.

The research adds to the body of knowledge by investigating whether Designing Out Crime is known, understood, practiced and taught to any meaningful extent in Australia. The findings are significant because they provide the Office of Crime Prevention with an overview of the current state of play to guide crime prevention strategies, policy and practice and future research. They help target the best opportunities for funding research to reduce crime, for example, for reducing the opportunities for crime for specific products.

1.3   Terminology

Currently, the terminology in this area comprises several relatively similar terms used in the literature interchangeably to address the same issues, with different levels of use in different constituencies. The main terms are:

*   Designing Out Crime (DOC)
*   Design Out Crime (DOC)
*   Design Against Crime (DAC)
*   Crime Prevention through Environmental Design (CPTED)

CPTED is often regarded as being focused on traditional 'place-based' approach to crime prevention via target hardening etc. The terms Designing Out Crime and Design Out Crime are regarded as including any designed approaches to crime prevention. Design Against Crime (DAC) was originally the 'brand' name of crime prevention research undertaken at Central St Martins College of Art and Design in London. It has become increasingly used across other UK tertiary research groups to indicate a UK approach to Designing Out Crime characterised by view of design of the UK Design Council. For a more detailed review of the origins, concepts, current status and future directions of Designing Out Crime (DOC) and CPTED see Cozens (2008a).

1.4   Funding

The focus of product design in Designing Out Crime is relatively new to Australia. The research and findings described in this report were commissioned by the Office of Crime Prevention of Western Australia, and jointly funded by Curtin University of Technology.

2   Designing Out Crime: A Review of the Literature

In recent years, there has been a shift in the focus of criminologists from the *offender* to the *circumstances of the offence,* such as the criminogenic potential of products, technologies and the built environment (Design Council, 2000a).

2.1   Designing Out Crime in terms of products and technology

Designing Out Crime "uses the tools, processes and products of design to work in partnership with agencies, companies, individuals and communities to prevent all kinds of criminal events – including anti-social behaviour, drug abuse / dealing and terrorism – and to promote quality of life and sustainable living through enhanced community safety" (Ekblom, 2008, p198). Products are therefore anything that has been designed – including objects, places, systems, organisations, processes and communications.

Globally, crime prevention is increasingly seen as no longer the sole responsibility of the police. It is recognised that multiple approaches (e.g. tertiary, primary and secondary) to the prevention of crime increases the potential for success. Tertiary crime prevention focuses on the operation of the CJS and deals with offending after it has happened and is therefore reactionary. The primary focus is on intervention in the lives of known offenders in an attempt to prevent them re-offending. Examples include incarceration, community youth conferencing schemes, and individual deterrence through community-based sanctions and treatment interventions.

Primary crime prevention is more proactive and is directed at stopping the problem before it happens. This involves strengthening community and social structures by focusing on social factors that influence an individual's likelihood of committing a crime, such as poverty and unemployment, poor health and low educational performance. Examples of prevention include school-based programs (for example, truancy initiatives) as well as community-based programs (for example, local resident action groups which promote shared community ownership and guardianship). Primary crime prevention also focuses on situational measures for reducing opportunities for crime using the effective design, management and use of urban space and the products society uses.

Secondary crime prevention seeks to change people, typically those at high risk of embarking on a criminal career. The focus can be on rapid and effective early interventions (for example, youth programs) and high-risk neighbourhoods (for example, neighbourhood dispute centres).

During the last thirty-years, crime and security analysts have developed crime prevention and awareness programmes helping society become more aware of environments, situations and settings where crime may happen. More recently, attention has been focused on 'Designing Out Crime' (DOC). Proactive (primary) programs such as DOC attempt to 'anticipate' criminal opportunities and develop strategies to reduce such opportunities at the design stage. In its initial forms, DOC as CPTED tended to focus primarily on the built environment. Starting in the UK, from the 1990s onwards, there has been an additional focus on the use of product design to reduce opportunities for crime.

Undoubtedly, societal norms and related processes of socialisation define the behaviours appropriate to particular environmental setting. People who ignore or flout such socio-culturally defined 'rules' may be said to 'abuse' or 'mis-use' space. The careful use of spatial

and product design can promote preferred behavioural usages by considering design 'dysfunction' and 'abuse', proactively, in the design processes. For example, products can be made less attractive to thieves by reducing their desirability as stolen goods, such as a phone that no longer works when stolen. This may be assisted through Designing Out Crime approaches, for example, by considering the relevant crime-related attributes in products via the 'CRAVED' model. This acronym helps product designers identify aspects of a design that make them more 'Concealable', 'Removable', 'Available', 'Valuable', 'Enjoyable' and 'Disposable' (Lester, 2001). Increased awareness of these issues help designers minimise them.

The WA government has recently developed Designing Out Crime Planning Guidelines and a Designing Out Crime Planning Bulletin (WAPC, 2006a, 2006b) which align with Goal 5 of the State's Community Safety and Crime Prevention Strategy (OCP, 2004). Goal 5 relates to using Designing Out Crime and technology to reduce crime. In parallel, is the Designing Out Crime Strategy of the Western Australian Office of Crime Prevention (OCP, 2007) which is committed to ensuring that the Western Australian planning system utilises Designing Out Crime approaches. One of the key objectives of the Designing Out Crime Strategy is to use product design to reduce opportunities for crime.

In Australia, little is known about the extent to which design schools and design companies understand and consider the criminogenic potential of new and existing products or use Designing Out Crime approaches to crime reduction. A study in the United Kingdom investigated such issues and found that 67% of designers did not design for resistance against crime and that there was 'low' or no awareness of Designing Out Crime expressed by design graduates (Design Council, 2000b).

Designing Out Crime has clear policy support as an integral part of Western Australia's Community Safety and Crime Prevention Strategy (OCP, 2004) and the Office of Crime Prevention's Designing Out Crime Strategy (OCP, 2007). In addition, there is national commitment to this broad and relatively new area, which is also known as Crime Prevention Through Environmental Design (CPTED). The Australian and New Zealand Crime Prevention Ministerial Forum have developed guidelines and codes, and each of the States is implementing these ideas to various degrees and at different time-scales.

Furthermore, the links between crime prevention and sustainability have been recently highlighted (e.g. see Cozens, 2002; Cozens, 2008b) and the proactive use of design to reduce crime will undoubtedly support the well-being and health of future generations.

There is, however, little knowledge of existing projects, programs or research to suggest how these policies and strategies might be most effectively implemented. This research project has gathered knowledge about the use of Design Out Crime in Australian Product Design to provide policy support and generate further collaboration and research.

2.2   History of 'Designing Out Crime' relating to Products

There is a long history of designing products against crime.

The evolution of money provides on starting point. Some examples of 'Designing Out Crime' approaches over the ages include:

- Around the year 600 BC, the Greeks introduced silver coinage. Criminologically, this was soon followed by silver-plated bronze forgeries. 'Clipping' of the edges of coins was combated by a 'Designing Out Crime' strategy involving the introduction of milled edged coins and harsh punishments for counterfeiting coinage. As another strategy to

Design Out Crime, the silver in coins were eventually removed and further reduced the risk, costs and effort associated with counterfeiting.

- The design of early fortified settlements and the continuing design and redesign of castles and walled cities used designed features to protect citizens and valuables from 'others'.

- The design and manufacture of safes and locks is part of an ongoing and continuously evolving battle between those seeking to 'secure' valuable items and those seeking to somehow defeat the security measures.

- In Victorian England, an increase in the incidence of female garroting (strangulation with a cord or wire) caused a moral panic. The 'Designing Out Crime' response was iron neck-ware woven under dresses designed to thwart this highly specific type of offence.

- The Penny Black postage stamp introduced in 1840 was superseded in 1841 by the Penny Red, because red franking ink (used to cancel the Penny Black) was water soluble, leading to the washing and re-use of the stamp. Black franking ink (usable to cancel the Penny Red) was not water-soluble.

- Early pocket watches were fastened to owners' waistcoats by a rigid circular eye around the winder. This was a boon for cutpurses, who could simply snap the rigid eye and make off with the watch. The Designing Out Crime response involved making the circular eye rotate thus rendering it more difficult to break and hence make the watch more difficult to steal.

- To combat the theft of silver ingots from stagecoaches serving California's mines in the 19th century, an innovative design modification cast the silver into a single 400lb cannonball mould, making it too heavy to steal.

- Early transport laws decreed that vehicles should remain unlocked, so they could be moved if necessary. As vehicle-related crimes increased, the Designing Out Crime response has seen the development of cars locks, alarms and immobilizers. Steering column locks (Mayhew et al, 1976) are a specific example. In the UK, research on the applicability of the mass-market for vehicle security was stimulated by a range of mechanisms and events including the publication of the car theft index (Houghton, 1992), attempts to name and shame non-responsive manufacturers and the polices of insurance companies, who increased premiums for insecure models.

The recent focus on reducing crime through the design of products has an irregular development. It was included as a component of Jeffrey's seminal work in 1971 and clearly from the examples above is a longstanding element of crime reduction via product design. From 1971 until around 2000, however, strategic interest and activity in designing products against crime was overshadowed by Crime Prevention Through Environmental Design (CPTED) with its primary focus on situations.

In the UK, various initiatives under the UK's Crime Reduction Program changed this state of affairs. These included the publication of Clarke's seminal 'Hot Products' concept (Clarke, 1999) which identified those products which were at greatest risk of theft. UK research in this area was conducted under the rubric of "Designing Against Crime" (Design Council, 2000) and further case studies and guidance materials were subsequently developed (Design Council, 2003). The Royal Society of Arts coordinated student design competitions in designing against crime and significantly, an interest in products was established by the UK Foresight Program's Crime Prevention Panel (Department of Trade and Industry, 2001).

In 1999, researchers from Sheffield Hallam University, the University of Salford and the Judge Institute of Management Studies began exploring the use of design best practice to reduce crime in a project for the UK Design Council. Building on these research findings, the UK Home Office funded the Design Council to develop a range of activities and resources to raise awareness of crime issues amongst designers and design educators including a

collection of case studies, a national community-based design competition, a range of teaching resources and a professional development programme (see, for example, *Cracking Crime Through Design*, Pease, 2001). More information about these UK initiatives being developed by the Design Policy Partnership can be found at www.designagainstcrime.org.uk.

Lester (2001, p1) referred to designing out crime using products as "crime reduction through product design (CRPD), defined as;

> *Integrating protective features into products in order to reduce their potential to become targets of criminal activity (such as theft, fraud and damage), as well as preventing their use as instruments of crime. The term "product" encompasses any physical property and forms of currency, as well as electronic information and computer software.*

There are two dimensions to Designing out Crime in products. Criminogenically-aware design processes can assist in reducing the potential for products to become targets of crime (Cozens and Hills, 2003; Ekblom, 2008). They can also reduce the opportunity for products to be the instruments of crime. In many cases, these are interlinked and mutually support reductions in crime overall.

Products can to become targets of property offences such as theft, fraud, counterfeiting and copyright infringements, tampering, and graffiti and vandalism. Designs which reduce the attractiveness of products may also reduce potential violent confrontations associated with robbery or home invasions.

As instruments of crime, products can also impact on personal and property crimes. For example, technology that renders firearms inoperable by anyone other than their intended user(s) can reduce the occurrence of a range of offences, including homicide, robbery, hostage-taking, sieges, gang warfare and suicide. It can also prevent the use of police officers' weapons against them (Grabosky, 1998). Another example is the improved management of motor vehicles. Motor vehicles can used for a range of illegitimate activities, such as anonymous and disposable transport to and from crime scenes, ram raids, drive-by shootings and joyriding.

Limiting the potential for illegal use of products helps reduce the occurrence of offences. Counter-measures that reduce the market for all stolen goods can contribute to general reductions in the level of criminal activity. Protection against misuse such as product tampering can also reduce offending. For example, anti-tampering measures can indirectly prevent crimes with political (such as terrorism), financial (such as extortion) or personal (such as revenge) motivations. In the recent panadol poisoning extortion bid, in which the headache pill's manufacturer, SmithKline Beecham, suffered a loss of $90 million following a massive product recall (Chulov 2000) clearly demonstrates the need for effective protection against tampering.

Property theft is the most common offence reported to police in Australia (Australian Institute of Criminology 1999), and because its reduction can prevent further offences, it is appropriate to consider many designs in terms of the acronym "CRAVED" (Clarke, 1999). This states that some items are attractive as targets of theft because they are Concealable, Removable, Available, Valuable, Enjoyable and Disposable. It is suggested that protective features that decrease or negate any of these product characteristics would significantly lessen its likelihood of being stolen. A review of the most commonly stolen items (see Tables 2 and 3 below) appears to support this theory.

2.3   Designing Against Crime in the Context of the Criminal Justice System (CJS)

Crime prevention is typically regarded primarily as being located on the spectrum between offender-based or placed-based (see Figure 1). Design Out Crime (and CPTED) is usually regarded as a 'situational', placed-based crime prevention approach. "Designing Out Crime" targeting products adds an additional dimension.

Offender-Based   *Place-based*

<u>Social</u> ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ <u>Situational</u>

Dispositional   Designing out crime
                                                and CPTED

Figure 1. Crime Prevention Approaches

The Criminal Justice System (CJS) provides sanctions and punishments for offending as a deterrent, while social programmes target groups which are more 'at risk' of becoming offenders. Although the CJS is fundamental to most Western societies, including Australia, it is largely reactionary, and responds to crime *after* it has occurred.

In contrast, Designing Out Crime, CPTED and Design Against Crime are proactive, and can be applied to reduce opportunities for crime *before* crime takes place. Those responsible for design (of products, buildings and urban space) can therefore contribute to reducing opportunities for crime, including architects, landscape architects, product designers, town planners, transport planners and urban designers.

CJS is a vital component to the maintenance of social order, however, it is "increasingly understood to have only the modest effects on the rates and patterns of crime" (Design Council, 2000a, p2). For every 100 crimes committed, it has been estimated that less than 1% result in a custodial sentence (Home Office, 1999). Table 1 illustrates the attrition of crime by which the total number of criminal offences is reduced because of under-reporting, under-recording, police clear up rates and the mechanisms of legal processes.
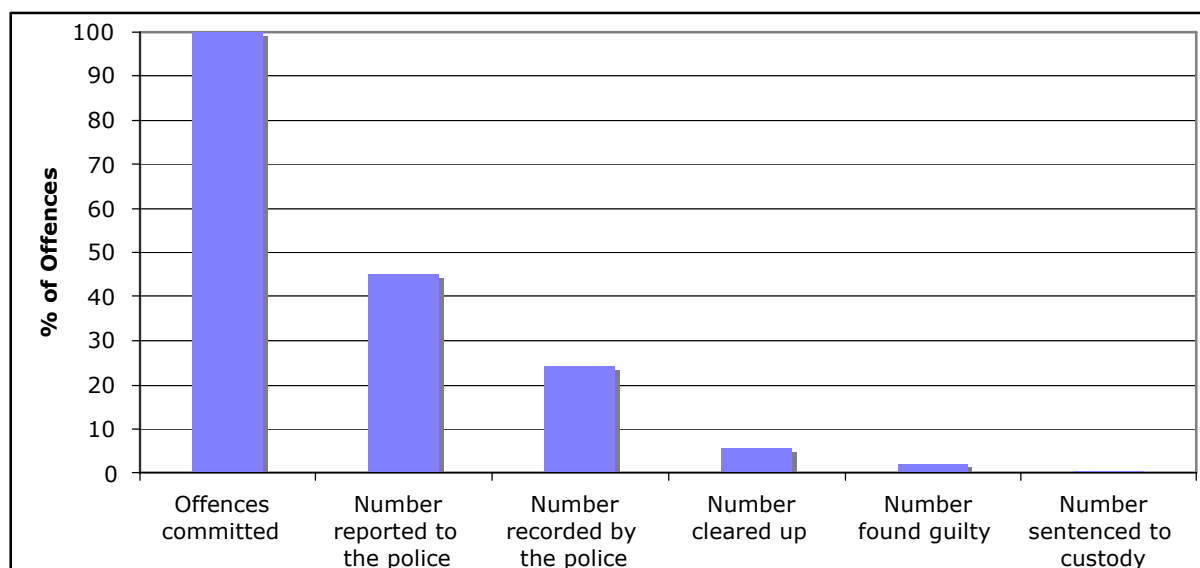

Figure 2: Attrition in the UK Criminal Justice System Source: Home Office (1999) Criminal Statistics, England & Wales and Mirrlees-Black *et al.,* (1998), The 1998 British Crime Survey.

3   A Brief Review of Criminogenic Products

A UK study highlighted that different products had varying levels of vulnerability to crime claiming 'most product design sectors are susceptible to crime' (Design Council, 2000b, p9) and the most vulnerable included products such as; mobile phones, PDA's, personal music players, PCs, printers, zip drives, scanners, laptops, palmtops, stereos, televisions, DVDs and game systems. Other vulnerable products include luggage, bags, street furniture, public telephones, bus shelters, cars, buses and trains. Interestingly, a 'Sold Secure' incentive offers attack testing of products. In some cases, the product itself it's the instrument of crime. For example, within licensed premises, the continued use of glass that can easily been manipulated into a sharp weapon for violent 'glassing' is a case in point which accident and emergency wards across the world would be all too aware. This UK study concluded "designing products to reduce crime involves making legitimate use as straightforward as possible, and discouraging misuse and abuse" (Design Council, 2000b, p10).

Stealing is the largest crime reported to police (Ferrante *et al.,* 2005). Ferrante and Clare (2007) reported that following a burglary, various types of goods are stolen and traded, largely for money or drugs. The most common is the theft of jewellery (17%), followed by televisions (9%), cameras (8%), computers (8%), VCR / DVD players (8%) and mobile phones / PALMs (7%) among others.

There are a range of products which tend to be stolen more than others. Table 1 lists the items stolen in burglaries, according to a British Crime Survey (Budd, 1999). In relation to retail theft, cash is by far the most commonly stolen item (Clare and Ferrante, 2007a). Table 2 provides a break down of the ten most commonly stolen items in retail settings.

Table 1. Items Stolen in Burglaries (UK)

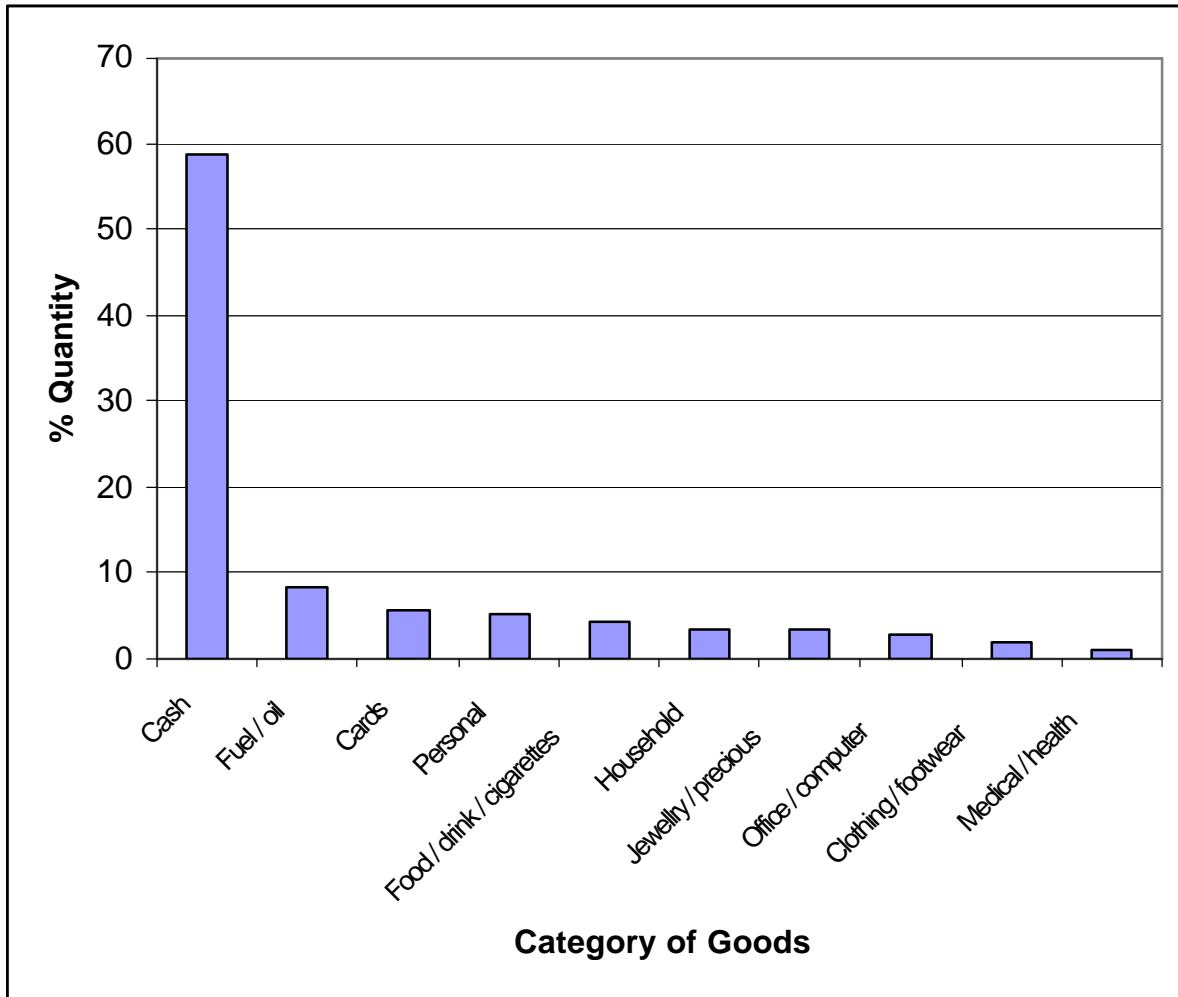| Item	% of Incidents
Cash	41
Video	35
Jewellery	34
Stereo / hi-fi equipment	25
Television	16
Purse / wallet	16
Camera	13
Credit cards	13
Clothes	9
Computer equipment	9
Tools	7
Documents	6
Briefcase / bag	5
Cheque book	5
Bicycle	3
Mobile phone	2
Car / van	1
Car / van accessories	<1

Source: Budd (1999).

Figure 3: Top 10 Types of Goods Stolen from Retail Outlets by Quantity. Source: Clare and Ferrante (2007a).

4   Findings of Survey of Design Schools and Companies:

A survey questionnaire was distributed to 214 design companies in Australia (see Appendix 2). This Design Out Crime survey of Product Design companies and design schools in Australia gave the following results. Figures are rounded to the nearest 5%. In some cases figures will add to more than 100% due to rounding or to multiple overlapping answers.

The response rate was 25%. After removing forms that were compromised, the valid response rate was 17%. Six companies went out of their way to include promotional material with their returned survey.

Each sub-section below aligns with one of the questions in the survey. For the full questions please see the copy of the survey in Appendix 1..

4.1   Main design activities of participant's organisation

The dominant design activity reported by participants was Product Design (80%). This is expected because the organizations that questionnaires were sent had indicated on their websites that they undertook product design. Of those that undertook product design, 5% specified their focus as Medical and 5% as product approvals.

Other design activities reported by participants included Environmental/Urban Design (5%), Graphic Design-New Media (5%), Other/Piping Design (5%), Other, Packaging Design /Helping inventors (5%), Other /unspecified (5%), Other/Point of Sale [security] (5%),

Figure 4: Distribution of Design fields of participants

4.2   Awareness of State Government's Design Out Crime strategy

15% of Design organisations surveyed were aware off a State Government Design Out Crime Strategy. In part, this outcome results from extending the survey to Product Design organizations across Australia who would not necessarily be aware of the WA Design Out Crime strategy initiative and may not have a similar strategy in their home State.

4.3   Has the participant designed anything to reduce crime

Of the organisations surveyed, 45% of participants indicated they had already designed products whose purpose was the reduction in crime. These varied from products with incidental functioning that had a crime reduction angle to products whose primary purpose was crime reduction, e.g. in the security market.

Products to reduce crime that participants identified they had designed included:

- Antitheft handbag with alarm.
- Walking stick with pepper spray
- Although as a former police officer I consider packaging requirements and security
- Retail point of sale security devices to be used with mobile phones and cameras
- Security camera for security personnel

- Tables seating and parts for trains and buses; keypads for financial transactions.
- Door locks
- Bags
- Barcode readers
- Tracking devices.
- Alarms for luggage
- High security door locks
- Vandal resistant enclosures.
- RJ45 Ethernet cable lock
- Remote electronic lock systems
- Lock condition sensing and reporting.
- Gaming machines – great emphasis is placed on security to prevent entry into the machines' CPUs for fraud and into coin hoppers and banknote stackers
- Tests to approve Crimesafe Window meshing
- Locks
- Anti-theft device for peg hooks used in shop fitting
- Anti-theft device used in shop fitting for sunglasses
- Permanent folded picnic table mounted on side of caravans.
- Car anti-theft device
- Consistently applied CPTED principles (urban design firm).
- Anti-theft device for handbags.
- Security phone system.
- Security locks and code entry to company building.
- Ferry wing station and wheelhouse
- Cashbox anti-theft door
- Damage/graffiti resistant coin operated products
- Bus shelter concept.
- Window/door/ security screen locks
- Internet security devices
- Security token devices (number generators).
- Police prisoner wagons for NSW Police
- Lockable roof racks.
- Access control systems
- Blister packaging
- Robust products that allow for abuse loads.
- Anti sweep devices for grocery
- Security covers for drug cabinets in pharmacy.

4.4   Do clients request crime reduction features

Only 5% of respondents specified that they were always asked for crime reduction features and that was for their work on the design of gaming machines, otherwise they reported that for electronic/electrical appliance design they were only occasionally asked for crime reduction features. 10% of participants reported that they were 'usually' asked for crime reduction features. 35% of participants reported being occasionally asked to provide crime reduction input. A different 35% of participants reported being very infrequently asked for

crime reduction features sin their designs. 20% of participants reported that they were never asked for crime reduction features in their design work.
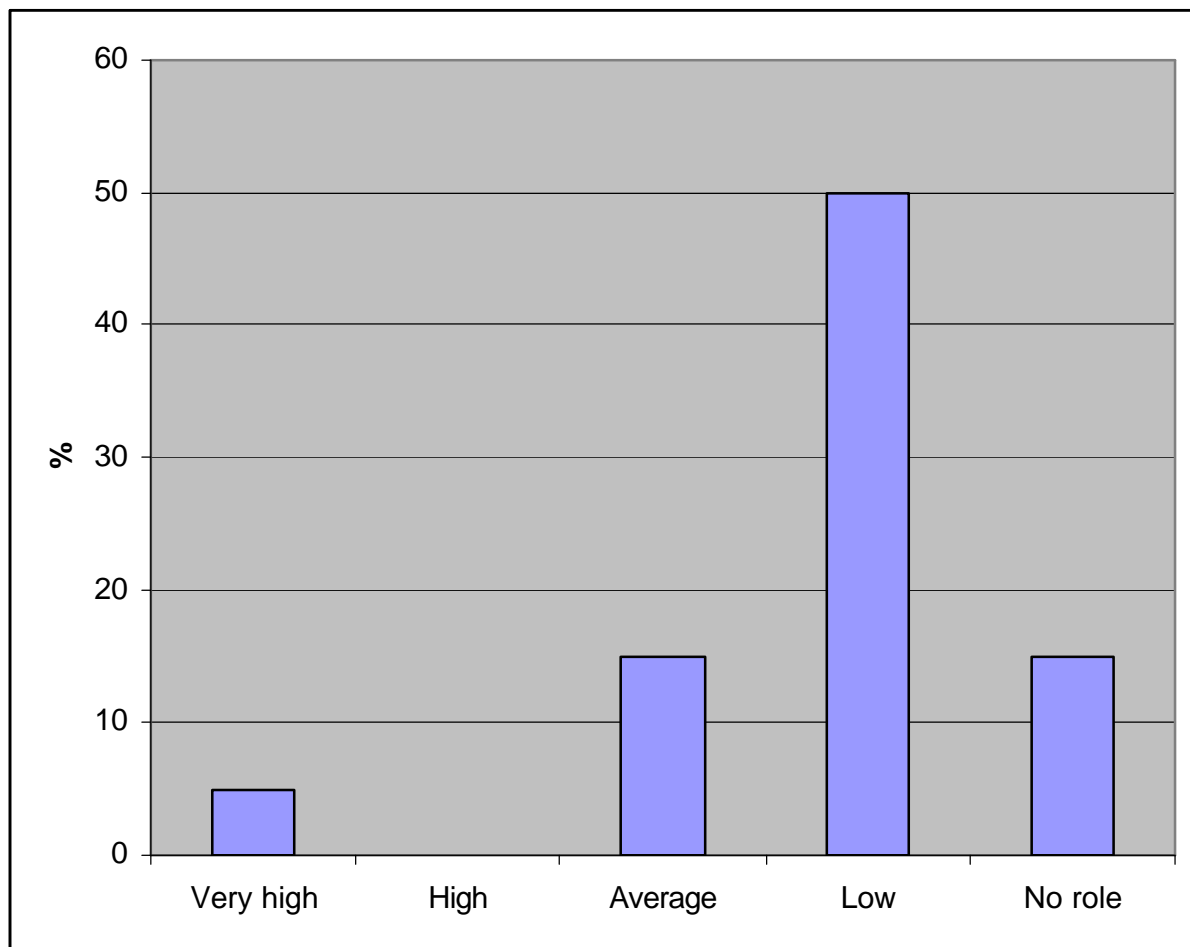

Figure 5: Do clients request crime reduction features?

This distribution suggests client interest and attitudes towards including crime reducing aspects of design is low and hovering around 'very infrequently'.

4.5   Crime reduction in participant's product design process

5% participants indicated that crime reduction played a 'very high' role in their normal design process. None (0%) of the participants indicated that crime reduction played a 'high' role. 15% of participants claimed crime reduction played an 'average' role in their design process. 50% of participants reported that crime reduction played a 'low' role in their design process. 15% of participants reported crime reduction played NO role in their design process. In addition, two participants found the question confusing (it contained a typographic error). One organisation pointed out that it was difficult to answer because it radically depended on the product being designed. For example, they commented that they could score "Nil for a baby soother and high for a public enclosure for electronic equipment".

4.6   The level of awareness of Design Out Crime in the participant's design field

No respondents reported DOC awareness as being 'very high'. 5% of participants reported that the level of awareness of DOC in the product design field was 'high'. 25% of participants

reported 'average' awareness of DOC in the field. 50% of participants regarded the level of awareness of DOC in the product design field as 'low' and 15% of survey participants regarded the level of awareness in the product design field to be 'nil'.
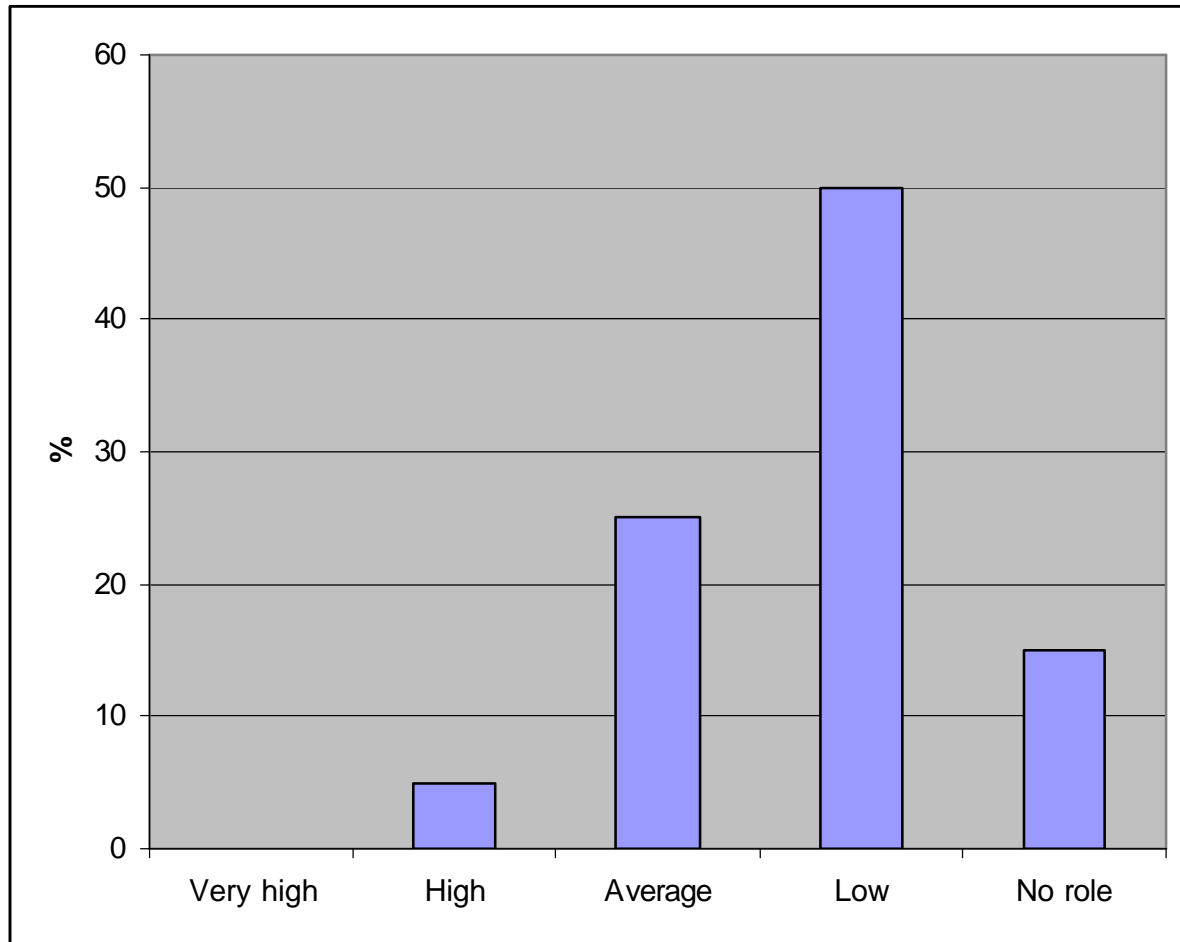
Figure 6: Level of awareness of Design Out Crime in participants' design field

4.7   Level of awareness of Design Out Crime in recent graduates

In general, participants regarded the level of awareness of Design Out Crime in recent graduates to be low. No participants regarded the level of DOC awareness to be 'very high' or 'high'. 25% of participants regarded graduates' awareness of DOC to be 'average'. 35% of participants regarded graduate DOC awareness to be 'low' and 30% of participants regarded graduates' DOC awareness to be 'nil'. Three participants reported either 'N/A' or 'do not know'.
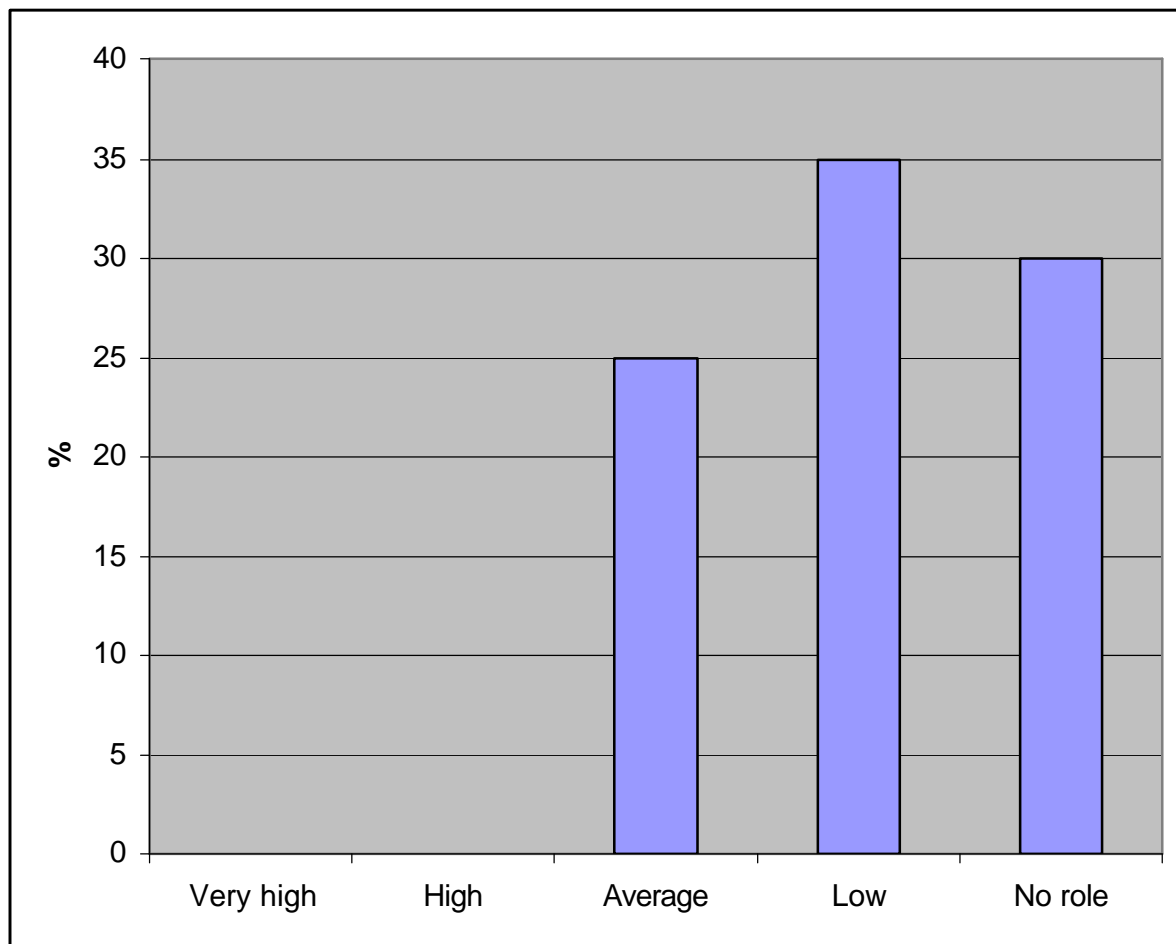
Figure 7: Level of awareness of Design Out Crime in recent graduates

4.8   Articles read in the last 12 months about crime and design

The responses here were surprising to the researchers. The responses from participants about their reading of information relating to crime and design indicated very low levels of reading of DOC and CPTED material by the product design industry in Australia over the last 12 months. This is extremely significant for engaging the Product Design profession in crime prevention. It strongly indicates that an engagement strategy will need to be developed rather than simply providing DOC informative material (regardless of whether this is provided as documentation, web-based resources or information provided in emails etc).

75% of participants reported they had read NO crime and design publications, and the reading of the other 25% of participants comprised only:

- Householder booklet from Office of Crime Prevention
- Newspaper articles on promoting legal graffiti and anti-graffiti
- 1 or 2 can't remember exact topic
- Scientific American
- N/A
- Daily newspapers, NRMA magazine
- Taser article, ID magazine

4.9   Membership of a professional body

Just half the participants (50%)) were members of a professional body, with 15% having a membership with two or three professional bodies.

Membership was dominated by the Design Institute of Australia (35%). Other professional bodies included:

- Australian Graphic Design Association
- Australian Institute of Packaging
- Australian Toy Association (www.austoy.com.au)
- INPAA
- AIDN National
- Engineers Australia
- Soc Auto Engineers Australia
- AI Group
- Standards Australia
- AMTIL
- Association of Engineers

4.10   Government Design Out Crime guidance for products less vulnerable to crime?

Interestingly, 70% of participants felt that Design Out Crime guidance from government would help them design products that were less vulnerable to crime. The responses to Q8, however, indicate that 'how the product design field is engaged' and 'how the material is presented' are likely to make or break the success of any DOC guidelines rather than their content

4.11   Can designers design products that are less vulnerable to crime?

Also interestingly, there was significant optimism (90%) by participants that designers in their design field could design products that would be less vulnerable to crime. This suggests there is significant potential for crime reduction through product design if the product design community can be engaged in ways that Designing Out Crime information can be effectively provided and used.

Participants' additional comments included that they needed to be asked by clients, and that the opportunities for designers in creating designs for products that are less vulnerable to crime was limited by costs and client awareness.

4.12   Would the participants organisation participate in a DOC competition

40% of participants were in favour of being involved in a Designing Out Crime competition. Participants' comments suggested there was some confusion as to whether they were being asked to participate as competitors, sponsors or managers of the competition, and pointed to some concerns about ownership of intellectual property (IP):

- Depends on requirements/prize

- Design competitions' should not be used to rob designers and students of their ideas. Contributors must retain I.P. or it is stealing in my opinion.
- Perhaps we could offer a free evaluation to inventors- saving of $5000
- Advisory only
- Maybe (2)

4.13   A Design Out Crime testing and accreditation process for 'secure products'?

There appears strong support for participation in the development of a testing and accreditation process for 'secure products' (80%). Though this may be being seen as a work opportunity for which design companies would expect to be paid.

4.14   Joint development of guidance, training and 'best practice' in DOC?

Again, there was potentially strong support for collaboration in development of guidance, training and 'best practice' in Design Out Crime with 50% of participants in favour. As in the responses to some earlier questions, some participants may, however, be regarding this as potential work for which they expect to be paid. This is echoed in the comments when asked how they would envisage this collaboration best being undertaken. Comments included:

- If time permits. Creative input from me via phone and email etc. I have an associate who is a consulting chemist and physicist with experience also in forensics who might also assist.
- Give me a call (name and phone number supplied)
- Advice on how to achieve the desired outcomes in the products
- Provide specific resources and methods that identify risks and different means of reducing this.
- Email (email address supplied)
- Feedback on draft policy?
- Consulting on how best to design products
- No idea
- Specialist groups within Police service. Small Business Development Corporation (possibly!)
- Offer a call for tender or provide a brief s that we may quote
- Consultation
- Yes, but no idea how!
- Would require training
- Workshops/events between schools and industry
- Set standards for display of high cost multistock devices such as hang sell[?], set standards for in front of the counter drug display
- Contact by email -> initial concepts and thoughts.
- Telephone conversation to discuss ideas

4.15   What agencies should be on a reference group for Design Out Crime?

The most common proposal was for the Design Institute of Australia (35%), followed closely by various Police organisations (25%), then Standards Australia (15%) including Australian Design Awards which Standards Australia administers, and Insurance organisations (15%).

- AFP
- Australian Design Awards
- Building Association
- Corrective services
- Criminology Depts. - Universities
- CSIRO
- Department of Transport/TransPerth
- Dept of Fair Trading
- Design Institute of Australia (10)
- DIA WA Chapter
- PIA
- Emergency services
- Engineers Australia (2)
- Fair Trading Dept
- Fire and ambulance
- HIA
- Hotels and Clubs
- Institute of Design
- Institute of Engineers
- Insurance companies (4)
- Justice Departments
- LGPA
- Local governments
- Neo Industrial Design
- Office of Crime Prevention
- Police Departments (4)
- Public transport police
- RAIA
- Retail Groups
- Retailers
- Standards Australia(4)
- Federal Police
- State Police (3)
- Crime Stoppers
- Taxi Operators

5   Results of the DOCAwards'08 Design Against Crime Competition.

The 2008 Design Out Crime Awards were developed to raise awareness of Design Out Crime and to showcase the winning entries and other international Design Out Crime products.

The research team distributed details of the Designing Out Crime competition (DOCAwards'08) to 40 design schools across all Universities in Australia and 214 Australian design companies. This initial contact was by sending potential competitors a hard copy invitation that included details of the competition. This initial invitation was later followed up by email.

5.1   Website

A website was established for the competition (www.docawards.org). The website provided information about the competition and provided the means for participants to submit their entries. In addition, the website acted as a repository for all information about the competition and a contact point between participants and organisers. Figure 1 below, is a screenshot from the website:
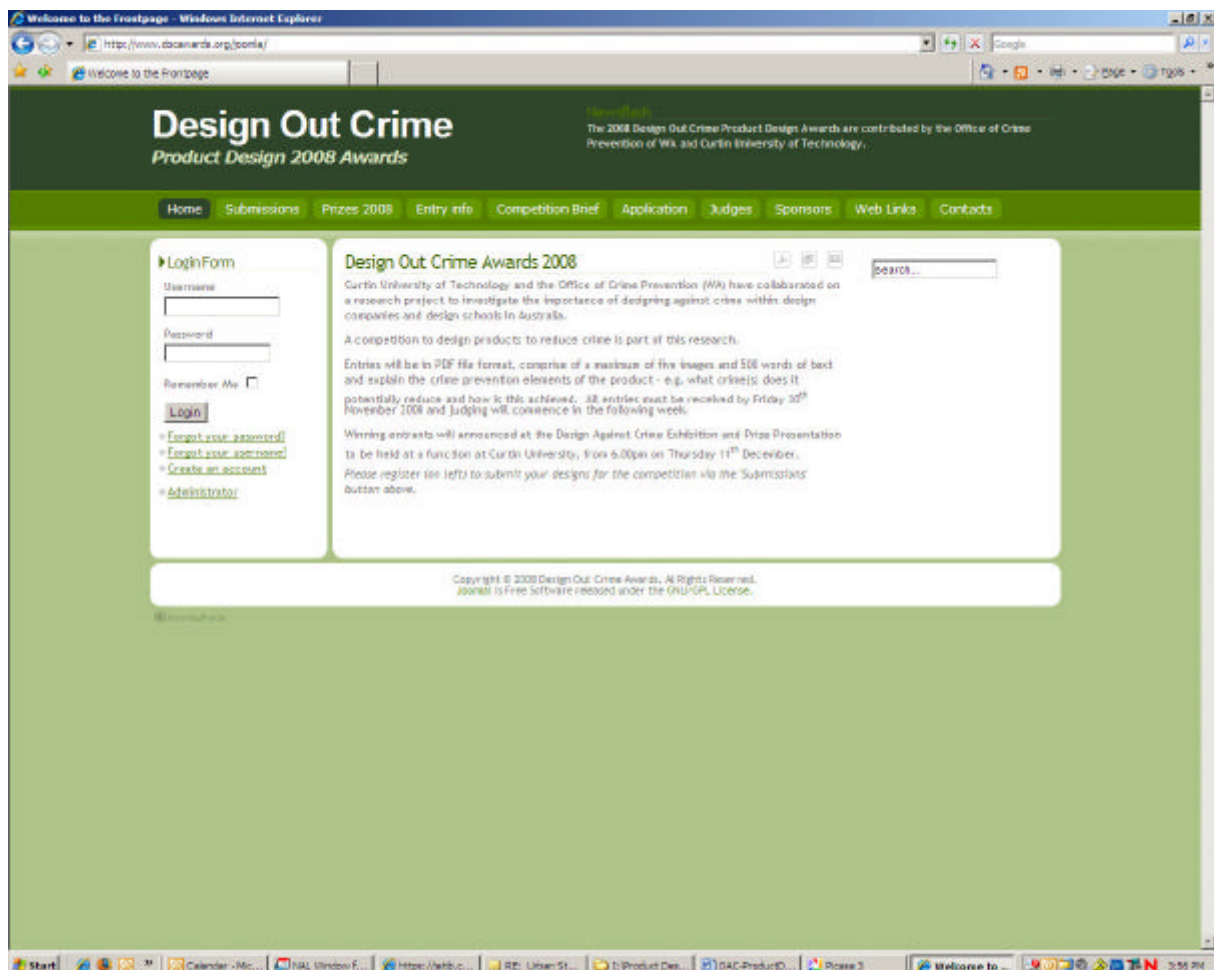

Figure: Website of the Design Out Crime Awards, www.docawards.org

5.2   Judges

A team of five experts were invited to act as judges for the competition. These were:

- **Dr Joe Clare**, Research Fellow, Crime Research Centre, University of Western Australia.
- **Mr Bill Bailey**, Lecturer in Security Science, School of Engineering, Edith Cowan University, Western Australia.
- **Mr Cliff Green**, Cliff Green Design Western Australia 6056.
- **Mr Bernie Durkin,** Executive Manager Special Projects, Office of Crime Prevention, Western Australia.
- **Mr Michael Dixon**, Dixon Design and Development, Perth, Western Australia

The criteria for judging included the following categories (see Appendix 3):

- the expected effectiveness of design to reduce crime
- the significance of the crime being reduced
- manufacturability
- ease of use
- innovation and aesthetics / attractiveness.

5.3   Winners

All of the submissions to the competition were of high standard. The following competitors were singled out by the judges for designs for products with significant 'Design Out Crime' properties:

- $1,250 and 1st Prize to the Park Friend by Asa Jonasson of Griffith University.
- $500 and 2nd place to the Tagless Automatic Graffiti Detection System by Tele Tan of Curtin University of Technology
- $250 for 3rd place to the No Climb Bin by Jenny Loqvist, also of Griffith University.

These prizes were distributed to winners at an event on Tuesday 10th February 2009 at Curtin University of Technology. The prizes were awarded to the winners by Mr Michael Coe, Executive Manager of the WA Office of Crime Prevention. The function was opened by Pro Vice Chancellor David Wood of Curtin University of technology and also included a Designing Out Crime Exhibition of the entries and other international product designs developed to reduce opportunities for crime.

6   Discussion

Broadly, the survey findings indicate that understanding and knowledge of Design Out Crime approaches is poorly integrated into the Product Design field. This is indicated by the low levels of awareness of the State's Designing Out Crime policy initiatives and strategies and the minimal levels of awareness of Design Out Crime in both design practitioners of the product design field and in new graduates, and a lack of awareness by clients concerning the opportunities for designing products to reduce crime.

The Design Out Crime competition, DOCAwards'08 and its website, www.docawards.org, attracted a reasonable level of interest but less than expected from the number of organisation that were contacted.

Taken together, the survey and the DOCAwards'08 competition indicated a lack of awareness of Designing Out Crime. This lack of awareness of Designing Out Crime is somewhat surprising given the relatively extensive amount of products with a significant crime reduction dimension that are designed by the survey participants, and the almost universal sentiment that product designers can do much better at designing products to reduce crime.

Of particular surprise was the almost complete lack of reading of written material about crime and design. This highlights specific and potentially significant difficulties in disseminating material to the product design field.

In combination, the above factors highlight significant difficulties with any attempt to disseminate information on Designing Out Crime to the Product Design field. It suggests it needs improved levels of engagement with the Product Design field for the promotion of crime prevention via effective design and Design Out Crime by the Office of Crime Prevention.

This strongly suggests the next step is to develop further research which seeks to gather information from representatives from the Product Design field concerning the most appropriate ways of building engagement. An appropriate engagement process will be necessary in order to devise an effective Design Out Crime promotional strategy, including well-defined and appropriate Design Out Crime information.

7   Recommendations

Six recommendations emerged from this research project, the review of the survey data and the reflections on the DOCAwards08' competition:

7.1   Recommendation 1:

Undertake research to identify the best approach to improve engagement with the Product Design field. It is envisaged that this could comprise a small number of triangulated interviews with representatives of key constituencies. This provides an opportunity for further support and funding by the OCP and this research could be developed and undertaken by the Design Out Crime Research Centre.

7.2   Recommendation 2:

Develop appropriate and improved contact databases of all organisations that would benefit from the use of Design Out Crime approaches to significantly reduce crime. Preferably these databases would use a Customer Relationship Management or similar software to identify material distributed to them and outcomes. This provides an opportunity for further support and funding by the OCP and this research could be developed and undertaken by the Design Out Crime Research Centre.

7.3   Recommendation 3:

Research and develop clear, concise and appropriate Design Out Crime information packages to align with the findings of Recommendation 1 to be more effectively distributed via the improved contact databases referred to in Recommendation 2. This provides an opportunity for further support and funding by the OCP and this research and information could be developed and undertaken by the Design Out Crime Research Centre.

7.4   Recommendation 4:

Organise and deliver the Design Out Crime Awards'09 (DOCAwards'09) with a significantly increased public profile and potential sponsorship. The DOCAwards'08 illustrated the potential and the future viability of this competition and the opportunity to use it as a powerful promotional tool for Design Out Crime in Australian contexts. This also provides an opportunity for further support and funding by the OCP, Curtin University of Technology and the University of Technology Sydney's Design Out Crime Research Centre. In addition, there is also the potential for approaching WA's Attorney General's Office for further support and funding.

7.5   Recommendation 5:

Discussions with participants and colleagues in Designing Out Crime in the eastern States at the University of Technology Sydney suggests that there are potential benefits from extending this basis for collaboration and Designing Out Crime research funding, for example, to establish links with the WA Attorney General's Office, the Design Institute of Australia, insurance companies, the WA Police and the RAC, for example.

7.6   Recommendation 6:

Develop frameworks for progressing the design concepts received in the DOCAwards'08 and DOCAwards'09, along the design process and to support and fund the manufacture and testing of early prototypes.

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9   Appendix 1: Survey Questionnaire

Curtin
University of Technology

OFFICE OF | **CRIME PREVENTION**

DOC (Design Out Crime) Questionnaire

Introduction: Crime prevention is increasingly being considered as the responsibility of government, business and the community, rather than just the police. Many products are used as tools for crime or as targets for crime (e.g. theft). The WA State Designing Out Crime Strategy encourages the use of product design to reduce opportunities for crime. Increasing the effort and risk of offending and reducing the rewards, excuses and provocations are the main aims for reducing crime in product design.

This study seeks to investigate current awareness on this topic. Table 1 below, provides some examples of product design to reduce opportunities for crime. After reading the examples in the table, please answer the questionnaire below.

Table 1: Examples of Crime Reduction in Product Design

Type of Crime	Products designed to reduce opportunities for crime
Assault / violence	Personal alarms, repellent devices, more secure bags / rucksacks, shatter-proof glasses
Burglary	More secure doors, security screens, locks, alarms, lighting
Car crime	Immobilizers, steering locks, property marking and engine identification numbers
Drugs	Limit to sale of products containing Pseudo-ephedrine
Sexual assault / rape	Personal alarms, repellent devices, more secure bags / rucksacks
Suicide	Removal of poisonous gases from the UK's supply to customers
Theft (virtual)	Internet security, credit card security
Theft from commercial premises (shop-lifting)	Location of expensive items, locking devices, electronic tagging, property marking
Theft from the person / robbery	Personal alarms, repellent devices, more secure bags / rucksacks
Terrorism	Baggage scanners, metal detectors
Vandalism / graffiti	Robust materials, anti-vandalism lighting, bus shelter design, designs that promote surveillance and visibility

DOC Questionnaire

Please click on checkboxes to tick them if you are filling in the form electronically.

1. Please select which of the below best represents your company's design activities.

Advertising ☐   Environment ☐   Graphic design ☐   New-media ☐
Package design ☐   Product design ☐   Other ☐

2. Are you aware of State government's Designing Out Crime Strategy, which promotes the use of product design to reduce crime?

Yes ☐
No ☐

3. Have you designed anything for the purpose of reducing crime?

Yes ☐
No ☐

If yes, please state briefly:

4. Do clients request that crime reduction features be incorporated into designs?
(1: Always, 2: Usually, 3: Occasionally, 4: Very infrequently, 5: Never)

1 ☐   2 ☐   3 ☐   4 ☐   5 ☐

5. As part of your normal design process, what impact does crime reduction plays and changes the response categories to?
(1: Very high, 2: High, 3: Average, 4: Low, 5: Nil)

1 ☐   2 ☐   3 ☐   4 ☐   5 ☐

6. What level of 'design out crime' awareness do you see within your design field? (1: Very high, 2: High, 3: Average, 4: Low, 5: Nil)

1 ☐   2 ☐   3 ☐   4 ☐   5 ☐

7. What level of 'design out crime' awareness do you perceive in recent graduates? (1: Very high, 2: High, 3: Average, 4: Low, 5: Nil)

1 ☐   2 ☐   3 ☐   4 ☐   5 ☐

8. Which articles or publications (within the last twelve months) have you seen that address the issue of crime and design?

Please specify:

1. Is your company a member of a professional body?

Yes ☐
No ☐

Please list:

2. Would clear 'design out crime' guidance from government help you to design products which were potentially less vulnerable to crime?

Yes ☐
No ☐

3. Could designers in your field design products which were less vulnerable to crime?

Yes ☐
No ☐

4. Would your company / school like to participate in a 'design out crime' competition?

Yes ☐
No ☐

5. Will you support the development of a 'design out crime' testing and accreditation process for a specification for 'secure products'?

Yes ☐
No ☐

6. Would your school / company collaborate with us in the development of guidance, training and 'best practice' in Designing Out Crime?

Yes ☐
No ☐

If yes, what would be the best ways to do this?

7. If there was to be a reference group for designing out crime, what agencies / bodies would you like to see on it?

Please list:

10   Appendix 2: Letter to Participants

DESIGN AGAINST CRIME COMPETITION
Create a product that reduces the potential for crime

Sponsored by Curtin University of Technology and the Office of Crime Prevention in Western Australia as part of a broader research project.

Background

Crime prevention is increasingly seen as the responsibility of government, business and the community, rather than being solely the domain of policing. This provides new opportunities for design, as currently many products can be used as a target or tools for committing crime. Design can reduce these opportunities by protecting, immobilising, securing or dissuading potential criminals. The aim of this competition is to raise awareness and encourage the design industry to consider the potential for design to reduce crime and its consequences, and is supported by the State government's *Designing Out Crime Strategy* (2007).

Design brief

The Design Against Crime (DAC) competition invites submissions from professional designers, undergraduate and postgraduate students. The design problem we would like you to consider is:

How could you design to reduce the potential for crime?

This could be in one of the following areas, or any area you consider has the potential to reduce crime:

- Civic furniture that resists vandalism or theft.
- Personal alarms, repellent devices, more secure bags / rucksacks.
- Shop-lifting prevention.
- Immobilising electrical, electronic products, motor vehicles or other 'hot' products.
- Improvements in door & window security.
- Methods for securing prescription pharmaceuticals.
- Drink tampering.

Submissions should be in the form of a creative solution that realistically tackles the problem and meets the user's needs. Your concept should explain:

- The crime(s) that it potentially reduces or makes unattractive.
- The design features that enhance its crime prevention capability.

Method of submission:

Entries must be received on the website by close of business on Friday 30th November 2008 (see http://www.docawards.org for further details or alternative contacts below*). Entries should be in PDF file format with a maximum of five images and 500 words of text. Images should not exceed 800 / 600 pixels and the total file size is limited to 2 megabytes.

Winning entrants will be requested to submit print copies of their submissions for exhibition at the DAC Exhibition and Prize Presentation to be held at Curtin University, 6.00pm on Thursday 11th December 2008. Total prize money of $2,000 will be awarded by a panel of experts:

1st **prize: $1 250**
2nd **prize: $ 500**
3rd **prize: $ 250**

Please forward any queries via *email: p.cozens@curtin.edu.au or by letter to The Design Out Crime Research Group, Building 201:609. Curtin University of Technology, GPO Box 1987, Perth WA, 6845. A Final report will disseminate the findings to interested parties and will be available on the website www.docawards.org.

Sincerely

Dr Paul Cozens, Dr Terry Love and Martin Trevor
(Curtin University)

11   Appendix 3: Judging Sheet

Submission: New DOC device by Jane Designer
http://www.docawards.org/joomla/index.php/submissions.html?func=fileinfo&id=12

Criteria	Max Score	Score
Expected effectiveness of design to reduce crime	30	
Significance of the crime being reduced	15	
Manufacturability	15	
Ease of Use	15	
Innovation	15	
Aesthetics / attractiveness	10	
Total score	**100**	

Comments: