sharpening 100% complete.

*industrial design graduand exhibition * UNSW 2000*

f|b|e
FACULTY OF THE
BUILT ENVIRONMENT

THE UNIVERSITY OF
NEW SOUTH WALES
SYDNEY · AUSTRALIA

"cutting plastic"

A collaboration of works from industrial design graduates at the University of New South Wales, "cutting plastic" aims to envision the future of this multi-disciplinary industry. However, this is not an exhibition that simply deals with plastics. Instead, plastics symbolise contemporary ideas that are being cut, formed and shaped in a variety of means. In essence, the results of this process are symbioses of marketing, science and engineering, manufacturing and business planning, which constitute the core of the university program. Design solutions in the exhibition ranges from household commodities to more specific articles or systems. They are not only responsive to our society and living environment, but also demonstrating a prognosticated view of the eclectic nature of industrial design.

Industrial design is so much a part of our daily life that most people have to be reminded that many items we use everyday are in fact designed. When these items fail, we curse the "designers". When they work well, we tend to take them for granted. Indeed, nothing should be taken for granted. All the items we encounter in our industrial society contribute or detract from our quality of life and, much more importantly, enhance or destroy our environment. In the Faculty of the Built Environment we are keenly aware that we are educating the next generation of custodians of the environment and excellence in industrial design is an integral part of that stewardship.

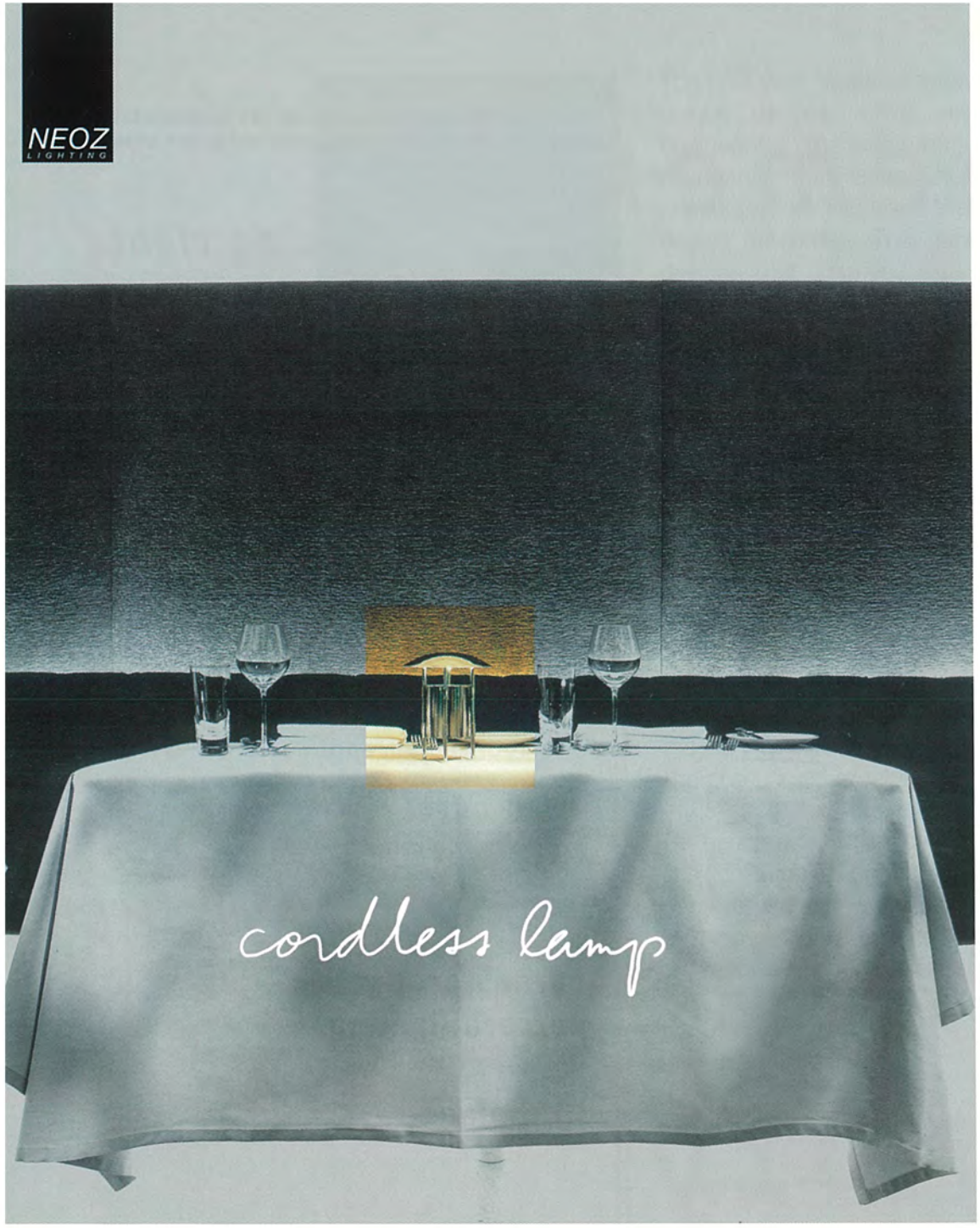
In the last few years, Industrial Design is one of the programs that has experienced significant increases. The program is also attracting international students from a broader range of countries. We are fortunate to have dedicated staff members who have succeeded remarkably well even under tremendous pressures. Universities in several other countries are also keen to develop links with us in order to develop their own programs, to further research links and to develop exchanges. For example, Lance Green is assisting the industrial design program in the National University of Singapore. These alliances expand our horizons, enhance our own program and create a wider network for our students and graduates.

All the courses in the Faculty have a close relationship with the relevant profession and industry and Industrial Design is no exception. Our staff members all have professional links with industry either as consultants or as active practitioners. We also have a number of active industrial designers who are part time teachers in the program. Through such involvement, we ensure that our students are in touch with those who are on the cutting edge of industrial design and are involved with the industry. The annual exhibition of the graduating class demonstrates well the benefits of these links.

On behalf of the Faculty, I want to thank the staff for their contributions. To the students, congratulations for an excellent job in mounting the exhibition and best wishes for the future.

professor Tong Wu

Dean of the Faculty of the Built Environment



Congratulations
to all
UNSW Design Graduands
2000

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student works

in first name alphabetical order of appearance.

alex antonpoulos
Babylon: injection molded polyurethane club chair

alex burmeister
X-ICE: water bottle refilling system

alex sharp
Lounge Lizard: bar ordering and lighting system

bazil tung
marsaa: personal marine safety aid for water-sports

ben tan
Indee: electronic travel guide for backpackers

craig burke
Ballistic retainer: tool retention device

daniel ng
MuseArt: audio lifestyle system

david liew
E-Wal: electronic wallet

doug buckle
Spine: flexible garden luminaire

emma huber
iota: cosmetics packaging system

eric lee
Seppi: streaming entertainment player

felicia yong
BUS:TA bus travel assistant

gareth jones
Cove: single person backpacking tent

gerard chevalier
Eliah: domestic medical monitoring for the elderly

gloria chuang
GoGoScooter: alternative personal urban commuter

han hwang
Scherzo: personal sound solution

jackie chan
Spine: apartment lighting system

jason man
TTA: Taekwondo training assistant

vanessa tam
Arthropod: personal shopping cart

john vanzella
INFRA: street installation

john van den nieuwenhuizen
internet @ home: tv web controller

josh park
Rockhopper: recreational wheelchair

kevin trinh
I-R-I-S: automated customs terminal

loredana petrella
Binstyle: sanitary napkin disposal unit

lucia kim
Rocco: dynamic seating

mark epton
Ontrak: bicycle courier dispatching unit

matthew hoolahan
1-2-P: male portable urinal

mavis chung
EyeQ: student PDA system

michael reid
Bar Tag: bar service sales system

michael wu
Ocotillo: multi-functional child vehicle

nigel poole
Schussboard: street snowboard

rowena stark
SeaRider: human powered watercycle

sam coopper

sebastian adams
Anyx: distributed interface system for home

stephen sleijpen
Generation Solar

tank teoh
Skoot: the urban transport vehicle

trent barrett
EVO: independent workspace

Australian furniture manufacturing techniques at present are not on par with the global market. Current techniques use low tech and out dated solutions. These methods of manufacture are very time consuming, inconsistent, and prevent standardization of products and components.

Introducing Babylon, a fully upholstered, injection moulded easy chair. A high quality, cost effective product which is easily manufactured. The Babylon begins as a piece of tubular steel which is bent into a series of forms to make up the seat, back and arms. Elastic webbing is applied to the seat and back. Polyurethane foam is injected and moulded onto all four tubular frames with the use of specific moulds.

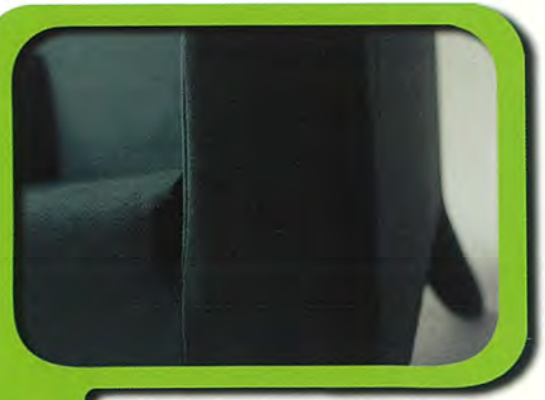
The moulded components are joined with mechanical fixings which are integrated into the frame to make up the final form. This bare chair is then upholstered with a single piece cover which is attached with velcro and zippers.

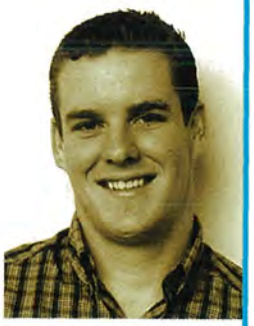
The design of the Babylon is superior to the current low tech solutions used in traditional manufacture. All components are standardized with the use of moulds and CNC technology. Production with the exception of a seamstress can be produced by a low skill workforce.

And finally, the Babylon can be produced inexpensively.

babylon - injection molded polyurethane club chair

alex antonpoulos





The X-ICE water refilling system has been designed specifically for music entertainment venues. Consisting of three products, the refilling station, the bottle and the bottle holster - the over system integration of these products provides financial savings for the venue operator, convenience and comfort for the patron and greener considerations for the environment.

Music events such as rock festivals and dance parties can attract crowds as large as sixty thousand people. The average amount of water consumed by each individual is 1.4litres. Believe it or not that's roughly 140,000 bottles of water.

The X-ICE system involves the patron purchasing only one bottle of water for the duration of the evening. The specifically designed X-ICE bottle has a thin spine at the rear of the bottle, which entitles the patron to ten refills at the X-ICE station. Due to hygiene reasons, the bottle must be disposed of after ten refills. The refilling station has been designed as a permanent fixture within the wall. The holster has been designed as a trendy, reusable accessory. It answers the loudly shouted question "How am I meant dance while I'm holding this bottle?"

x-ice - water bottle refilling system

alex burmeister

Designed to make ordering food and drinks fast, efficient and interactive, the 'Lounge Lizard' system is placed on each table within a hotel bar or cocktail lounge. The system allows ordering and payment via a smart-card from the table; while the bar receives the order and delivers the drinks via tray service.

Aimed at inner city business patrons, the system also has e-commerce functions such as basic web search, taxi reservations, and email. Also bar information such as upcoming events, restaurant bookings and drink ingredients (ie cocktails and shots) can be found on the systems intranet setup.

The design also makes use of a new Electro-Luminescent screen technology that allows the screen to be flexible and only 2mm thick. This technology allows the screen to act as both a touchscreen, and an attractive table light, through the use of its concealed hinges. The screen can then be programmed to change its illumination and color, thus being able to control the atmosphere of the entire bar all at once.

The design was based on the philosophy of "not resembling a computer screen" and therefore the form was drawn from the sculptural and organic shapes of a vase and flower. This lets the design be both subtle and yet interesting within its environment.

Screen to Light Transition with Smart Card Access

Back of Screen Detail

Hinge Detail

lounge lizard - bar ordering and lighting system

alex sharp

Australians enjoy the great outdoors - it is all too evident along the shorelines of this piece of dry brown land. Water-sports are statistically appreciated by all ranges of the population, yet effective prevention from drowning is the equivocal concern. It is simply because knowing safe only further improves enjoyment.

Existing life-jackets or floatation devices for water-sports have gained many derogatorical synonyms: bulky, inconvenient, and in some cases the competitive image is undervalued by these items. High levels of physical activity involved in water-sports such as wind-surfing, sailing and jet-skiing further question the usability of contemporary life-jackets. Despite fulfilling the mandatory standards requirement such as floatation for life-saving devices, life-saving features in existing designs often seize at this point.

As a result, implementations to floatation qualities in the new marine safety aid, Marsaa, include biomechanical considerations, revised aesthetics, strategic buoyancy distribution and above all, life-saving features. From maximising body movements with Teflon coated Lycra and neoprene, anatomically influenced visual and functional aesthetics, to a loop-handle that actively assists rescue operations when necessary - all are efforts of synthesising safety, aesthetics, and enjoyment with minimal compromise. In essence, Marsaa is the symbiosis of organic and geometrical elements, flexibility and protection, fun and safety.

MARSAA: marine safety aid for water-sports

bazil tung

This device is an electronic travel guide for backpackers. It provides a flexible and convenient way for them to obtain information like accommodation, transport entertainment etc. on their intended places of visit. This information can be downloaded from any computer terminal using wired or wireless interfaces prior to their backpacking. It is constantly updated using the latest 3 rd Generation (3G) wireless technology.

This device also incorporates Global Positioning System (GPS) technology to assist the backpackers to obtain their location status and navigate to their intended destinations. This will be extremely beneficial for novice backpackers as they might face difficulties in locating their positions using maps and compasses.

The design of the information device includes features that enable backpackers to retrieve information through the touch of the screen and dial control. Custom design visual display on the screen enables them to gain rapid access to the information. Another feature is the special design harness ensures that they can access and store away the device with ease. It also provides the flexibility to be attached according to their preferences.

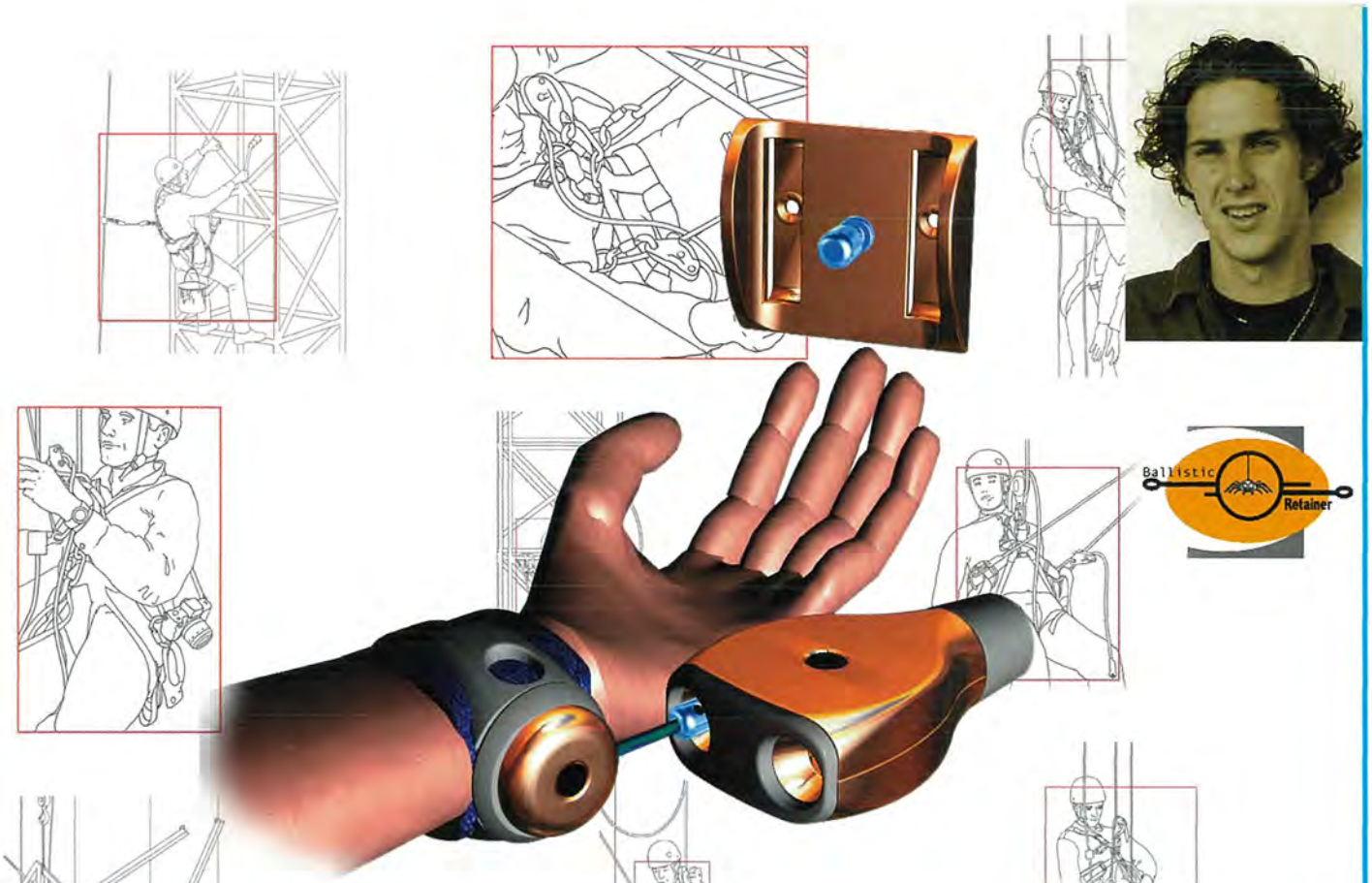
With ever increasing number and diversity of backpackers across the world, the usage of this device will compliment and greatly facilitate their travels.

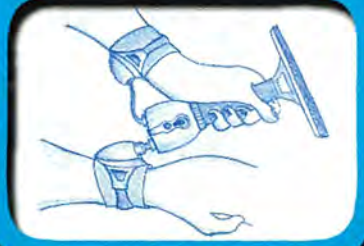
BENGEE

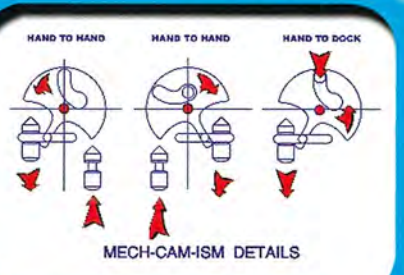
INDEE

indee - electronic travel guide for back packers

ben tan







The ballistic retainer is a system that has been designed specifically for high-rise building window cleaning via rope access (abseiling). Research has shown that there was a lack of specifically designed, safe tool holders in this market. Regulations state that people working on high structures must keep tools attached at all times for public and personal safety, this is a market need that the tool retention unit addresses.

The system works by allowing tools to change attachment points between the docking station and the right and left wrist connections. By facilitating changes of connection points the ballistic retainer alleviates the present problems of ropes becoming entangled. An oscillating locking cam makes the switch of connection fast and safe. The force applied on entry by the attachment plug actuates the mechanism making the device operable by one hand. Retractable cord units mounted on the user forearm for returning the attachment plug to the switch activation position. The locking mechanism is a safety affordance against possible misuse by keeping connection at all times.

The safety and efficiency of the ballistic retainer makes it suitable for the use in many outdoor adventure fields where security and speed are required.

ballistic retainer - tool retention device

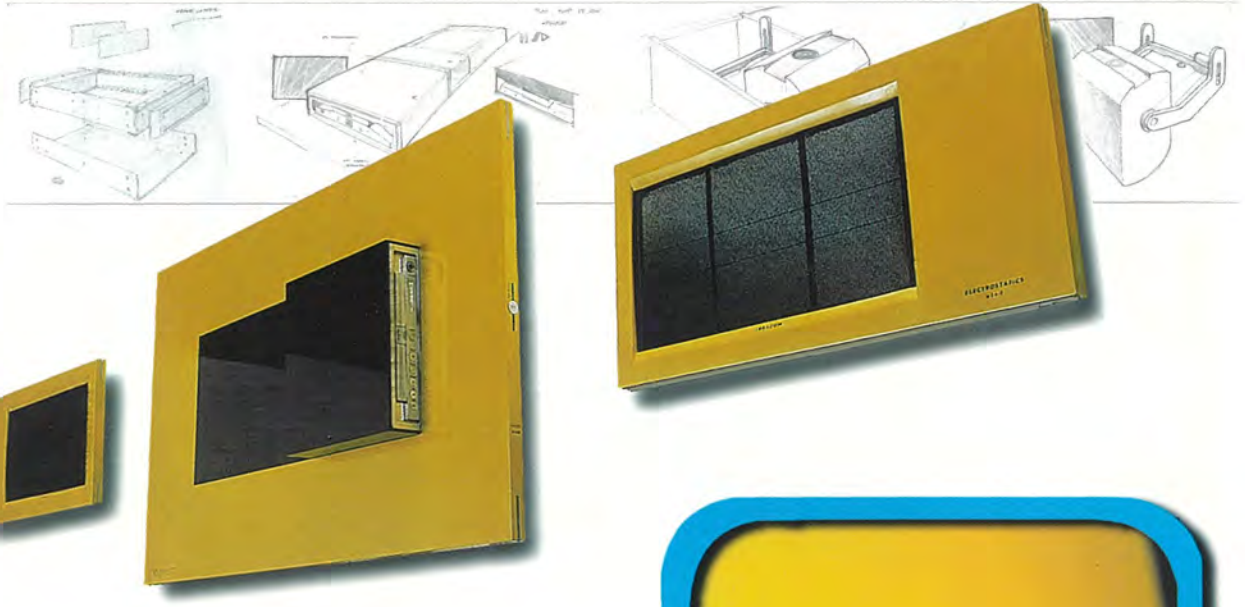
craig burke

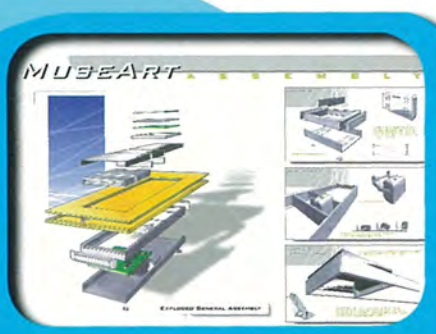
Listening and appreciating music plays an integral part of our everyday lives. This enjoyment however is hindered by complex music systems that both physically and visually dominate today's living environment.

MuseArt is integrated audio/visual system that seeks to reinvent the experience of listening to music. Suited for a contemporary and upmarket living environment, MuseArt is designed to mimic artwork that discreetly blends into the listener's surroundings. Depending on user preferences, the system can be wall or stand mountable and varied in colour selection. When activated, the system comes to life through a series of emerging panels that are triggered by the user. These panel allows access to the manipulation of the CD, projection or remote control technology.

To enhance the enjoyment of the music played, a visual element is incorporated into the system's features. An inbuilt projector provides images that correspond to the music, whether they are lighting effects or motion video. These visuals can be cast around the environment, creating an atmosphere, which adds an extra dimension to the audio experience.

MuseArt plays an essential component within a user's living space, brought on through its ease of use and systems integration.





museart - audio lifestyle system

daniel ng

With the advancement and adaptation of technology, payments methods have significantly changed. In the present competitive world, convenience and efficiency are the prime concern of the user nowadays.

Hence, the E-WAL aims to provide the market with higher efficiency by eliminating the use of cash, and catalyst the idea of "cashless" society. The E-WAL is design to display the achievement in technology, and allows user to accept the idea of cashless transaction by providing the user something that they can relate to, which in this case is the existing wallet.

It allows user to make payment and gain access to restricted area via I.R. (Infra Red) transmission. The unit is powered by 3.5 volt lithium polymer battery technology, but it will be able to step down to 3 volt which allows it to run on a readily 3 volt battery on the market. The use of leather is to celebrate this highly useful material, which is often forgotten. Due to the flexibility and stretch ability of leather, hinges are avoided and holding down the batteries and memory card is done without compromising aesthetic and additional components.

e-wal - electronic wallet

david liew

The spine garden light is a versatile outdoor garden luminaire specifically designed for medium density housing. The pleasure of setting up your courtyard for a special occasion is enhanced by the inherent flexibility of the light. Wrapping the spine around a trunk or nestling the light amongst the shrubs allows you to tailor the mood of your outdoor areas.

As inner city dwellings become smaller the courtyard garden becomes the ideal way to extend the living space. Spine extends and enhances the quality and usefulness of the outdoor space by making it more versatile. As a wall mounted light, it can illuminate the garden and remove the 'black mirror' effect of glass Œ so that even while inside at night the house opens into the garden and gives the feel of a larger living space.

Away from the base station, rechargeable lithium batteries power Spine for up to 7 hrs on an efficient 12v halogen light source. The base station operates both the bulb and recharges the batteries.

As technology surges forward, it remains important for us to have a personal relationship with the things that we deal with day to day. For me, light should be seen and svelte.

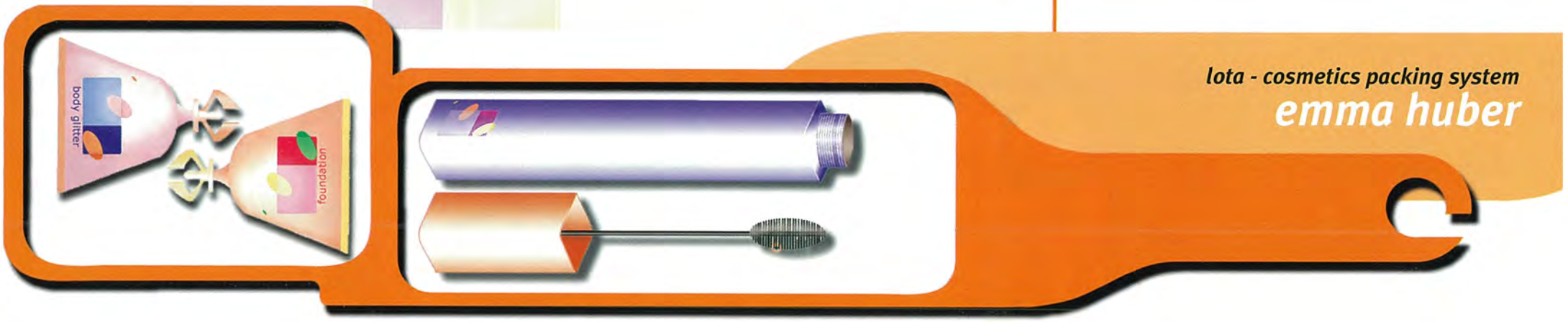
spine - flexible garden luminaire

doug buckle

The iota colour cosmetics packaging system aims to package make-up for the user rather than for the benefit of the cosmetics company. Increasingly, the way in which make-up is used reflects the way in which fashionable clothes are bought and sold; fast turn over and fast trends. A product is rarely used until it is finished; the fashion changes, one gets bored, it was bought on impulse, bought for a novelty party or the portion is just too big.

To answer a demand for greater versatility and easy fashion adaptability, iota offers small portions with minimal packaging so it is easy to throw out without the conventional over packaged permanence of other colour cosmetics. The minimisation of packaging is possible through the use of manufacturing and materials and allows a new approach to the ritual of make-up purchase and use.

New attitudes to colour cosmetics are enabled through small quantities of product in each pack. By purchasing a high quality lipstick for around $3, there is little risk involved for the consumer, as there is limited waste and small out-lay of money. This encourages more experimentation by the consumer. A product such as this has particular promise in areas such as internet shopping where the product is not tried before it is bought.



iota - cosmetics packing system

emma huber

With the prevalence of broadband Internet, an entire new world of truly digital electrical appliances will become realities over the next decade. 'Seppi' is one such appliance designed to be multifaceted, with ability to relay sound (music and telephony), vision (imagery) and knowledge (reading of text) from an online source library or another party to the user on demand. Crossing boundaries of traditional functionally specific devices in the home environment such as radio, television and newspaper.

Seppi consists of a handheld unit(s) wirelessly connected to a base station via Bluetooth technology, giving it an effective 30m radius range for roaming. The base unit is connected to a content service provider via broadband internet connection. Voice recognition and stylus input allows the user to access a collapsible menu interface and 'bookmarks' on the display. Data is then sent from the server to the base and then transmitted to the handheld on demand. Text and images are displayed, whilst sound is emitted from the transparent electrostatic front face.

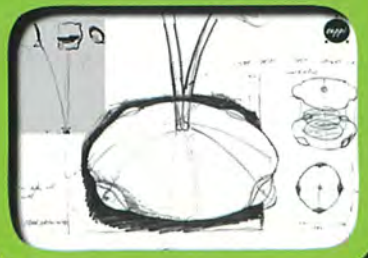
Designed with aesthetics, ergonomics and manufacturing in mind with soft material covering and use of fun and inviting colours makes this product easy and friendly to approach.

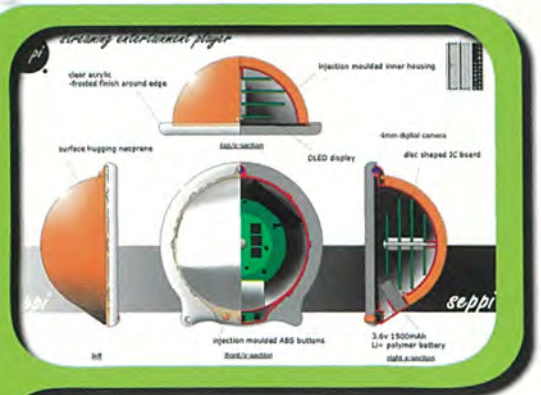
Product Development

seppi

seppi- streaming entertainment player

eric lee





BUS:TA

BUS:TA was developed in order to improve the bus system for vision impaired people, making timetabling information more accessible to them.

BUS:TA stands at 2.3m tall and consists of a LED screen to display bus route numbers only, and their estimated arrival time. This feature is useful for passengers who travel by bus frequently and know which bus they want. An LCD screen contains further information about bus routes such as their destinations, a map of the route, and timetable information. Pressing a button below, activates the LCD screen with accompanying vocals and will be useful for non-regular users, tourists, and the vision impaired.

It is evident that the use of public buses would increase if people knew the approximate waiting time for the next bus. With this is mind it was decided GPS technology would be used in the **BUS:TA** system. A central control station obtains information at regular intervals of time tracking the position of buses. The information is then released to **BUS:TA** units, therefore informing bus users of an estimated arrival time.

BUS:TA is adaptive and able to accommodate a large cross section of the population.

At quieter bus stops, with no bus shelter, then this "half" version is used.

In place of the LCD screen is a printed timetable.

The 'button' and 'speaker' features remain in the same place, and have the same function.

A screen saver of advertisements appear when system is not in use

- Text appears on screen as announcements are made, this aids hearing impaired users

Sequence of Screen Display

- Bus routes are displayed on a map after each announcement

bus:ta - bus travel assistant

felicia yong

The Cove Project aims to redefine portable bushwalking tents by examining the interaction between their internal and external spaces. The Cove acknowledges that a bushwalking tent is used in different ways depending on the weather and the time of day.

Research was conducted into all the different activities that bushwalkers carry out during a day's hike, ie, walking, cooking, sleeping. The Cove has been designed to facilitate all these activities in a way which available products currently cannot. For example, in heavy rain the shelter can be constructed from the inside out. Internal construction has three different stages that act like an airlock barrier against rainwater. This allows the user to change clothes, cook a meal, and stow gear without spoiling the pristine condition of the inner tent.

The Cove also has a unique pole construction that is free standing, (pictured left). Wind affects a normal tent when the user tries to peg it down. The cove shelter's pole design enables it to be fully pegged down before any wind-catching elements are taken out of their bags.

Special thanks to:
Mike Wilson, Macpac camping equipment: - technical assistance
- materials sponsorship
Anthony Harris (UNSW): - Wax deposition
John Kell, Hycast Metals: - Investment casting

cove

cove - single person backpacking tent

gareth jones

'Eliah' domestic medical monitoring for the elderly

As the world's population goes beyond the six million mark, we see that the 'baby boom' generation is getting older. Unlike previous stereotypes, they are opting to continue with their active lives well past retirement age. To the industrial designer, this brings about a new market with its own distinct needs.

'Eliah' is an ambulatory medical monitor for the elderly which looks at these needs to give the elderly a more independent lifestyle. Worn on the hip, the monitor can be used around the home to detect falls, serve as a panic alarm, and record electrocardiogram (ECG) readings. Immediate communication to assistance is available when required, with the monitor's base station attached to a standard telephone connection. By using the emerging wireless platform of Bluetooth, the **'Eliah'** system allows two-way communication as well as the potential to 'talk' to other products using the same technology.

Whilst not offering a device for complete dependence, **'Eliah'** provides additional support to medical practitioners and loved ones, as well as the elderly themselves. As a big step forward in the developing discipline of telemedicine, the system gives a sneak preview of what we may encounter in the future.

eliah - domestic medical monitoring for the elderly

gerard chevalier

The GoGo Scooter, an upscale, modern rendition of a classic kick scooter for adults. Perfect as a lightweight alternative transportation for the city dweller, transforming a children's toy into serious commuting fun for adults! GoGo is designed with greater sensitivity to adult aesthetic values as well as ergonomic considerations.

Shorter Learning Curve - GoGo is intuitive to learn, contrived from much improved stability and cornering. Mobile and stationary stability is provided with a three-wheeled board design of which is far superior to existing two-wheeled models. Pivoting left and right from a pin-joint at the front of the board gives GoGo the Mobility to turn tight circles and maneuver through busy city streets.

Safety, Comfort and Convenience - At Speed, GoGo is safe and comfortable to ride. The front axle is spring-loaded to take out the unexpected bumps and dips while Maple wood board flexes to dampen the shock of the road. Intuitive and responsive steering is controlled by a 65cm tall steering column formed from a single metal tube. The column also serves as carrying handle when folded back against the board.

Upscale ride, Unique design, Bargain price - The GoGo cost much less to manufacture than comparable "upscale" scooters by using off the shelf parts such as maple wood board, urethane wheels at the same time creating a unique, distinctive look that is destined to become a new urban fashion icon.

gogo scooter - alternative personal urban commuter

gloria chuang

With today's dynamic lifestyle people are spending more time on the move, and less time in their homes. So it is inevitable that many music lovers attempt to recreate the quality of home audio systems in their outside environments, both in-car and on the go.

The 'Scherzo' personal sound solution is designed to satisfy these music lovers. Scherzo has effectively merged two seperate remote environments by integrating personal portable audio with car audio systems.

Scherzo is comprised of an in-car stereo head-unit and a detachable, modular, solid-state media player. Incorporated within the head-unit is a removable 'Music Library', providing the equivalent of 300 CDs of music, which can be downloaded off the net, or recorded directly from any auxiliary source.

The detachable unit can be worn as a wristwatch, attached to neckband or clipped to the belt. Two hours worth of selected music can be uploaded to the portable unit from the Music Library as you leave the car. This unit also acts as the activation key to the car audio unit for added security.

An 'Analogue Instrument' styling approach has been taken in order to integrate into an analogue display dominated car interior. The resulting aesthetic is versatile and is equally appropriate for use in any standard, or car enthusiast's modified car.

scherzo - personal sound solution

han young hwang

'Spine' is the lighting system that responds to the needs of modern apartment living.

As our living style has become more dynamic and diversified; high maneuverability, ease of installation, personalization of space, and the ability to fit into an environments' limitations, have in turn become the modern design objectives.

Factors of the modern apartment environment contributing to this include, low ceiling heights, concrete and pre-fabricated building structures, preinstalled lighting fixtures and power sources.

There are 3 major parts of the system - the Pole, the Spine, and the Lamps. The Pole is a cylindrical body with telescopic feature which can be extended and pressurised, to form a temporary but solid support feature from ceiling to floor. This allows it to be self-standing with a small space saving stand. The Spine is a flexible light track, allowing attachment to any position along the pole. With its unique flexible nature, the user can customise the direction of lighting.

The strengths of the system lie in it's highly versatile, customisable and portable design. 'Spine' requires no permanent installation, thus providing the ideal lighting system for modern, metropolitan, apartment living.

Special Thanks to **NEOZ Lighting**

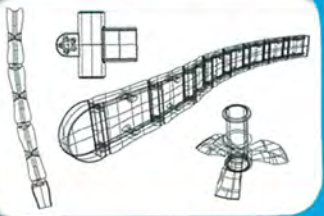
KEENDESIGN

NEOZ LIGHTING

Lighting System for Apartment

spine - apartment lighting system

jackie chan



TAEKWONDO
TRAINING ASSISTANT

Taekwondo is a traditional Korean martial art practiced by over 60 million people in the world. It's recent inclusion in the Olympic Games has drawn significant attention towards sport specific Taekwondo and methods of training. This project is targeted at multiple issues concerning training in general, but in particular the sporting facet.

The Taekwondo Training Assistant (TTA) is a system designed to improve kicking techniques through video analysis. Traditionally this technology was reserved for participants at an elite level, but is changing with rapidly decreasing hardware costs.

There are two parts to the TTA, the first being a specially designed kicking target. Unlike any other freestanding equipment on the marketplace, this design caters for the specific kicking motions and combinations of Taekwondo. It contains adjustable targets, and a central column that contains a spring system to deflect impact should the target be missed.

The second part is a computer and high-speed camera unit(s) that records the users' actions, and performs video analysis. It offers qualitative feedback through slow-motion replay of the performed actions, which in turn can be stored and retrieved for comparisons in the future. In addition, quantitative analysis is possible through overlaying motions of pupil with that of the instructor or a computer model. Both parts can also function independently.

tta - taekwondo training assistant

jason man

Doing your shopping is a primary activity of our everyday lives, a cornerstone of our very existence in this late capitalist free market society. The modern supermarket perhaps represents the penultimate incarnation of our consumer civilization and the vast majority of Australians would submit at least once a week to its joys and triumphs, but also to its humiliations.

The humble shopping trolley is a marvelous device, yet with one significant shortcoming. You can not wheel it home with you. Arthropod was born out of one too many torn plastic shopping bags and a desire not to simply be another back injury statistic.

Increased numbers of people living within the inner city and suburbs do not have access to the luxury of a supermarket to shopping trolley to car to house existence. If just one of these links is absent, their needs are currently very poorly catered for - and the perfect opportunity exists for a product such as the Arthropod to fill this burgeoning gap.

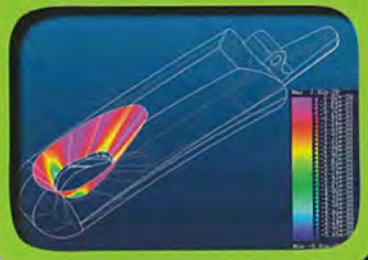
Broadly, Arthropod offers users a convenient, easily portable and unobtrusive device with which they can transport their groceries, books, clothing, equipment, etc. from one point to another, be they pedestrians or public transport users.

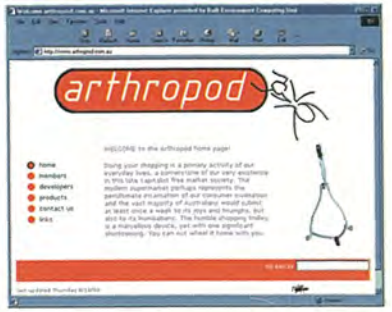
VTAM dsgn

arthropod

arthropod - personal shopping cart

vanessa tam





INFRA: what lies underground, beneath, the unseen or within.

Infra is the result of in-depth social research into a growing problem in urban areas. This problem is that of youth and their continual marginalisation, which expresses itself most prominently through the various sub-cultures that develop.

The conclusion of the research was to create an installation that catered to all users of public space and yet represented the youth and vitality of the growing skateboarding community. Skateboarding is a sub-culture that has existed within urban masses for several decades. This design encapsulates the way that skateboarders re-create urban spaces by challenging the way public spaces are used. It inverts that which is beneath the everyday life of the city, that which occurs outside the realm and timeframe of commerce and exchange, bringing to the surface the creativity and youthful expression of those that appropriate the rationalised architecture of the modern city.

The design combines the simplicity and modularity of modern street furniture with manufacturing innovation to create a solution to a social and spatial problem. Infra utilises large pre-cast concrete pipes, a material and scale that exemplifies the modern city and installations within, yet also refers to the skatepark, the other specialised realm of skateboarders.

Reinforcement Detail

Bike Rack and Slab Installation

infra - street installation

john vanzella

The Internet@home is a web-based product that allows household users to surf the Internet, send video and voice emails, watch interactive TV, watch videos on demand and play digital music files. The system's architecture enables users to access these activities through any TV within their household.

Each user in the household is equipped with a personal tag, that when plugged into one of the remote controls, allows all aspects of their experience to be personalised to their own needs and tastes.

The inspiration behind the design of this product stems from a philosophy that for such a rational electronic device to be accepted into the home it must convey emotion and feeling so that it becomes an integral part of the family unit. This has been primarily achieved by combining the set top box and remote control charger into an 'electronic fruit bowl'. This draws on the metaphor that as a traditional fruit bowl provides nourishment for the members of the family, the 'electronic fruit bowl' provides information nourishment by sending and receiving data to each remote control and also charging each device (via electromagnetic induction) by simply being placed in the bowl.

Acknowledgements:
Daniel Woo (Computer Engineering Dept. UNSW)
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Eric Wolinski (Swell Cast)
Ross Harland (Barnes Products)
Tony Harris (Mechanical Engineering Dept. UNSW)

internet@home

internet@home - tv web controller

john van den nieuwenhuizen

Perfect for the suburban dweller, Skoot is designed to take trips where the distance is too short to justify the use of a car or too long to walk for today's lifestyle.

Made from a combination of polycarbonate and aluminum alloys, while powered by a high torque electric motor, this scooter is made to take up to 150kg and still go the distance of up to 22km on a full charge. To further reduce weight and as well as to give the vehicle a futuristic look, the front wheel is spoke-free and is powered by a sophisticated gear mechanism.

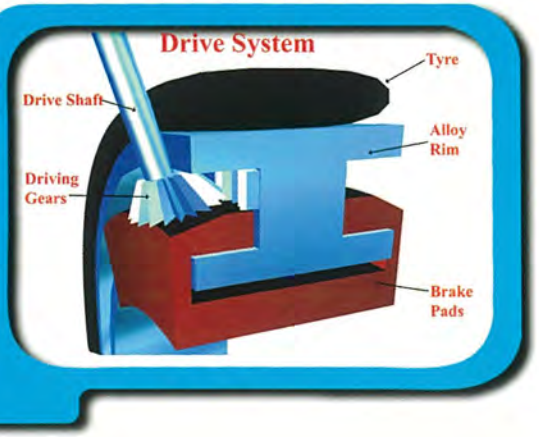
For safety and comfort, the steering incorporates a fork; thus only the upper most part of the scooter is turned during steering without moving the rest of the main body. Speed can be adjusted from 10 - 18 km/h depending on the zone of use. Brakes are applied to all 3 wheels to ensure optimum-stopping power when needed. There is a pair of knee guards for protection against oncoming objects. A street-smart backpack is also included as some cargo space.

X3 is a fun street scooter with practicality and safety in mind.

Skoot

skoot - the urban transport vehicle

tank teoh



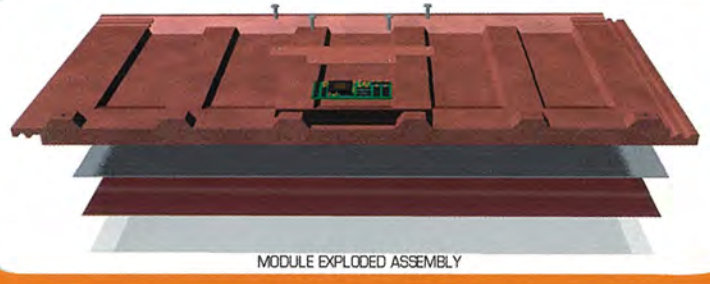
GENERATION

We live in a society totally dependent on massive uses of energy. Currently, the majority of this power is produced from the burning of fossil fuels, which produces harmful carbon gases, the main cause for air pollution and the greenhouse effect. There is a clear need for an alternative environmentally sound electricity supply that is also price competitive with existing supplies.

GENERATION is a fully integrated solar roof system that is designed to supply safe, reliable, renewable electricity. The system consists of three main components. Modular photovoltaic tiles incorporating advanced thin-film technology and an integrated inverter are fixed onto the roof replacing the need for a separate covering. The module connector is used to electrically connect the modules in addition to clamping the modules onto the roofing battens, securely fixing the modules onto the roof. The display panel reports on the operational status of the system, providing continuous metering and monitoring information.

This product produces energy where it is consumed, it is equally appropriate for remote areas and city use. The system may be grid connected, any excess solar power is exported to the utility grid and any shortfall is made up with grid electricity.

CONNECTOR DETAIL



MODULE EXPLODED ASSEMBLY

generation solar

stephen sleijpen

Anyx is an interface system for computers, home entertainment systems and virtually any electronic device in the home. It is integrated through a flexible network designed to distribute sound, video, information and control data via a standard wire or radio frequency network, allowing the users to interact with their products from where they want, when they want, in the way they want.

For example, the user could control a computer using an HDTV in a different room, be it while they are standing, sitting at a desk or on a couch. Utilising state of the art software the device learns about its users and their needs, actively helping to carry out tasks and train the user to access their resources in the way they feel most comfortable with.

The handheld remote control employs a unique 2D position/motion control with intelligent force feedback. An ideal replacement for a mouse, the controller adds whole new dimension to graphical interfaces, providing intuitive feedback to the user's movements and allowing the tactile simulation of a variety of controls such as buttons, knobs, dials, scroll-bars and switches. The ergonomics, force feedback and the 2D controller's unlimited horizontal motion provide a highly immersive interface for computer games, navigation through virtual environments and control of 3D objects.

anyx - distributed interface system for the home

sebastian adams

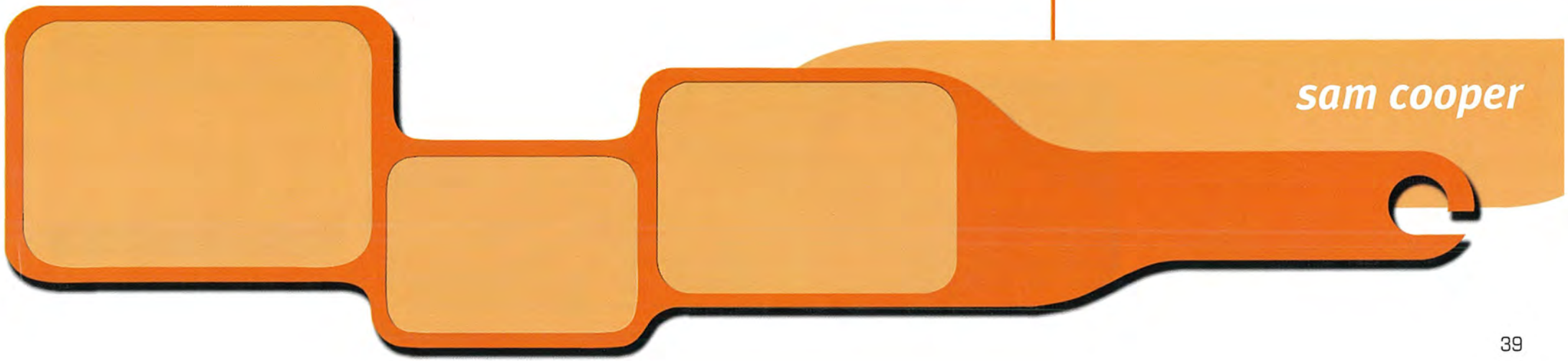
The final project involves the improvement of an existing system in the Alpine-sports product category.

The design process endeavoured to address factors such as interchangeability, practicality, and ease of use, whilst at the same time providing a product that could stand up to the demands of the alpine environment.

Done in association with industry, the final product solution, however, is unable to be disclosed publicly, due to patent restrictions regarding public disclosure – this being the reason for its absence from the UNSW Industrial Design Graduand Exhibition, and this accompanying catalogue page

cuttingPlastic

sharp design * UNSW ID 2000 exhibition



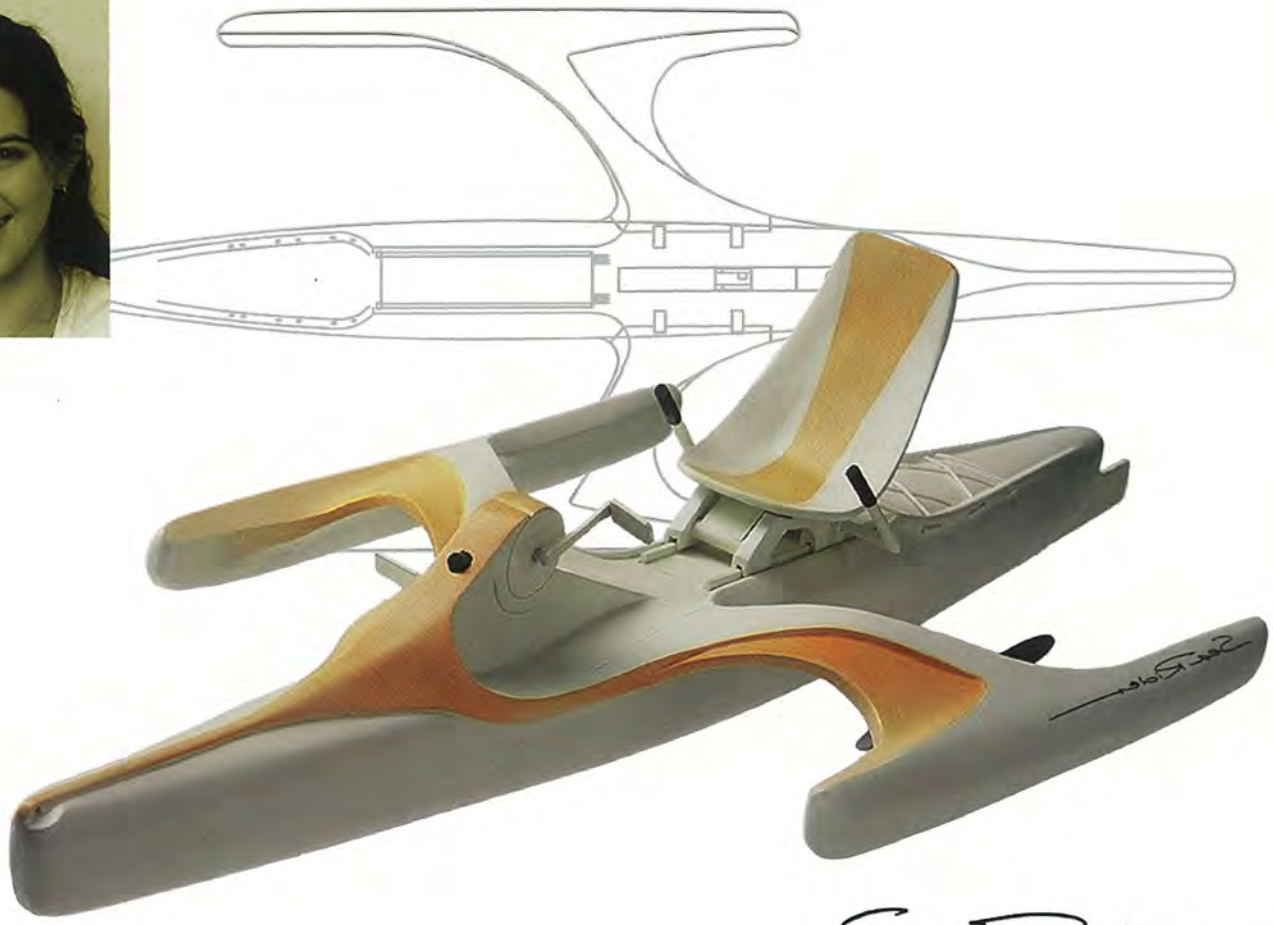
sam cooper

In recent years the advantages of human powered craft both as a means of gaining fitness and for ecological soundness, have become apparent. Cycling has increased in popularity. Australians, living on an island continent with a culture centered on water and beach activities should find cycling and watersports an exciting mix. Watercycling has the ability to become a recreational sporting activity without the dangers that cycling has such as traffic and pollution. On water cycling can become a truly off-road adventure sport.

The "Sea-Rider" is an innovative product designed for the active adult. Its defining feature is its high speed efficiency. Calculations show that for the same power input this product will allow a speed which is twice that of a kayak.

Portability is addressed as the outriggers hinge for compact storage and can be disassembled for lifting by one person. The seat also folds down, the propeller shaft slides up in shallow water, and the distance from the seat to the pedal is adjustable. The rotational molding process is used in the manufacture.

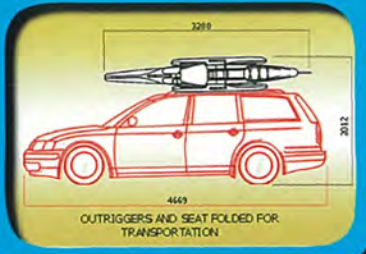
The "Sea Rider" is a product that encompasses consideration of marketing, aesthetics, ergonomics, biomechanics, engineering, material and manufacturing issues in providing a high performance, human powered watercraft.

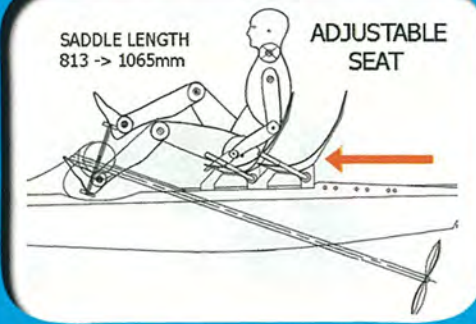


Sea Rider

sea rider - human powered watercycle

rowena stark





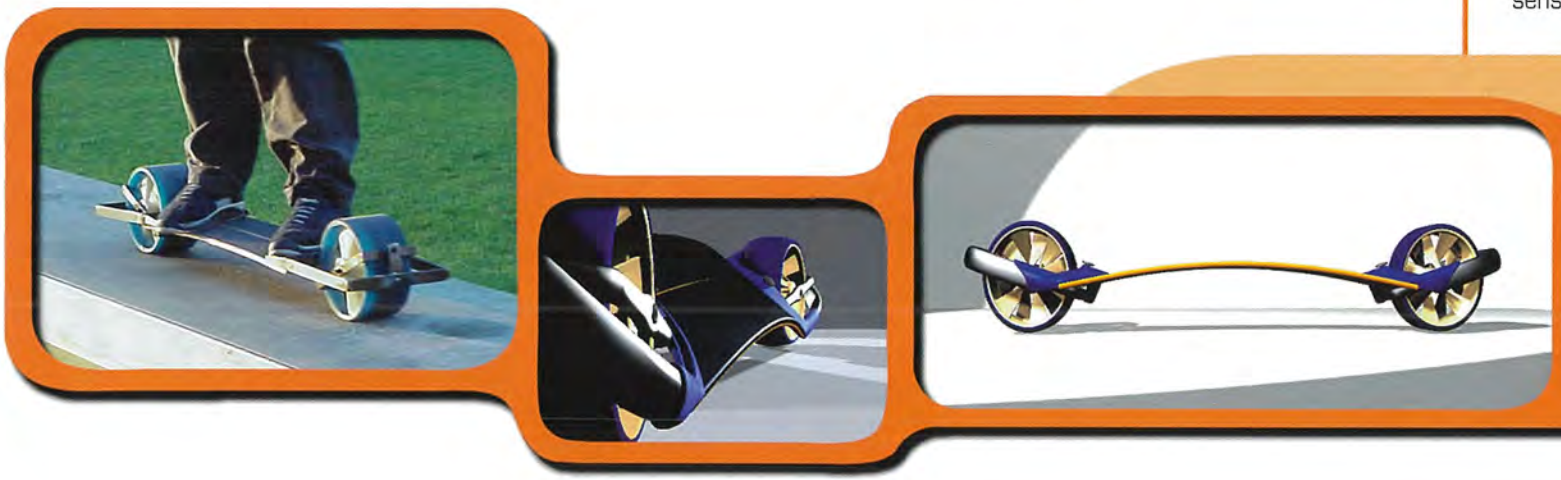
What does a snowboarder ride when there is no snow?

This is the question that inspired this project. It follows the same progressions that saw the skateboard and snowboard developed from surfing origins.

This product is designed for enthusiasts of any board sport such as surfing, snowboarding, skateboarding and wakeboarding. These people are highly skilled in sports that require balance, control and speed, and are motivated by the challenge these sports offer. The Schussboard is one of several designs that cater for this market, however it offers distinct riding characteristics from anything currently available.

The unique steering mechanism developed for the Schussboard facilitates large wheels. A circumference four times larger than that of a skateboard wheel ensures superior speed, smoothness, and conservation of momentum. The deck tilts side to side through a range of 90°, providing the rider with greater control and turning ability than skateboard trucks and mechanisms used in similar products. When travelling at high speed the rider can comfortably lean into the turns with this extra range of movement. The rider can control speed with a foot operated drum brake, and steering responsiveness can be altered by the way they distribute their weight along the flexible deck.

The rail-to-rail turning technique used to ride this board is close to that of snowboarding, and the resulting sensation is one of smooth, carving turns.



schussboards - street snowboard

nigel poole

In response to the continuing trend of work moving away from a fixed office, EVO is a totally mobile, collapsible workspace, designed to accommodate a diversity of users in a range of environments.

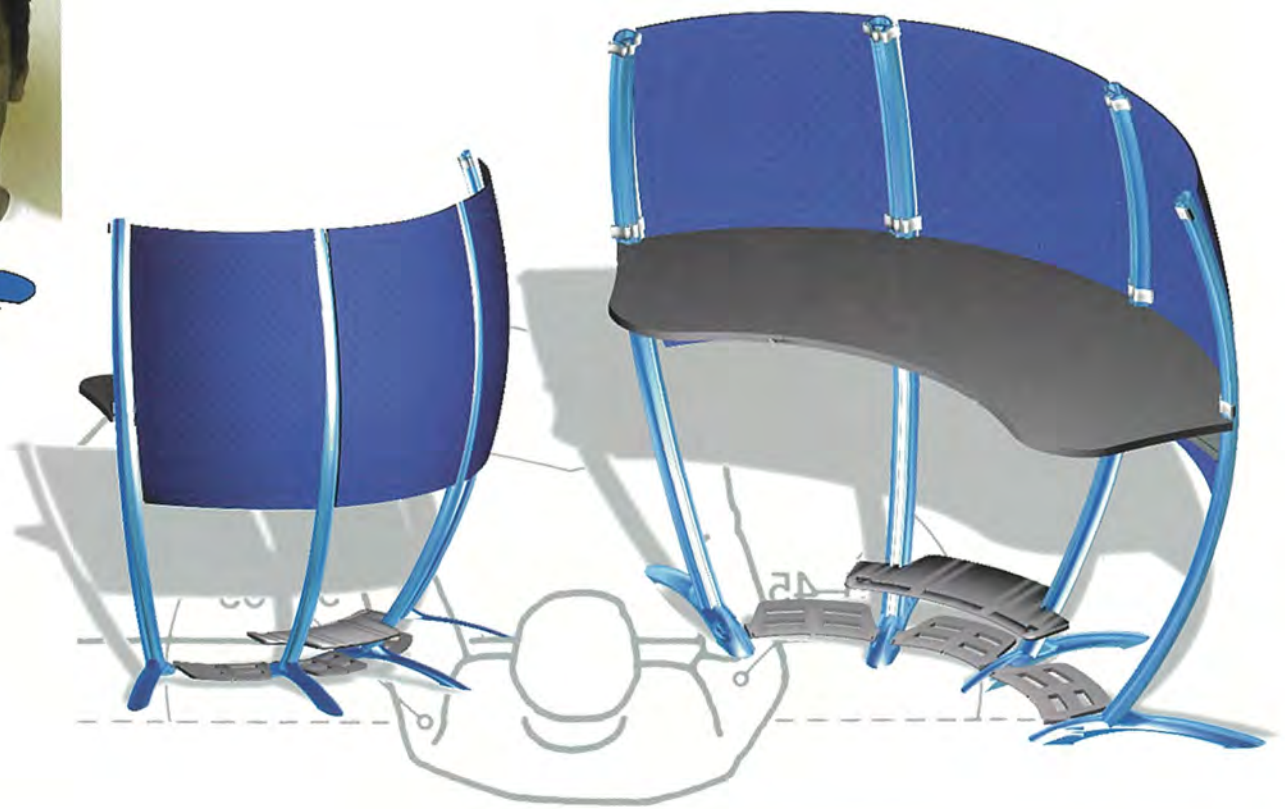
Accommodating lap-top and paper based work, EVO replaces the traditional office desk fitting comfortably into the professional new age 'office'– often with no fixed setting, be it open plan to convention centre, factory floor or home living room–. wherever the work is.

Easily set up and repacked, this independent workspace can be relocated with a minimum of fuss. This total mobility is the result of compact, lightweight construction throughout all components in the system.

Ergonomic design is no longer considered a luxury, it is a requirement, particularly in the workplace. Appropriately, EVO has a strong ergonomic focus, addressing issues of convenient reach, work height and posture.

EVO is the solution to the mobile office, creating privacy, independence, and transportability in a product designed to minimize the down time of consulting and mobile professionals from all industries.

EVO



evo - independant workspace

trent barrett

CENTRAL FOUNDRY PTY. LTD.
CASTINGS IN ALL NON-FERROUS METALS
(Special Thanks)

Ocotillo
CHILD VEHICLE

DESIGN

1-3 years old

I C sound

Tricycle

1 x 6 volts

1.5 ~ 2.5 km/hr

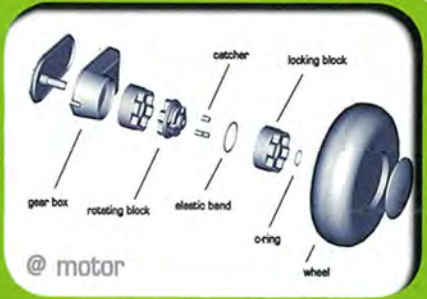
745(L)x395(W)x465mm(H)

During the first three years of a child development, interactive games are the most powerful form of learning medium. As we move to the new millennium, preparation for our children's future has become the priority. More considerations will be made before purchasing a product, hoping for a positive effect that will assist the growth of the children while they play with it.

Ocotillo is an innovative multi-functional child vehicle that is designed to encourage and assist physical play in a child growth. In Ocotillo I have combined the functions of a walker/push car, a tricycle, and a battery operated ride on, using a specially designed coupling drive electric motor. This electric motor is able to rotate freely with or without rotating force, such as battery power or electricity. Ocotillo is attractive in appearance, durable, safe, and ergonomically design for the needs of the child's growth. It is therefore designed to offer more options for the parents and child.

Using minimum tools, Ocotillo can be transformed into robust and unique features, which offers a wide range of entertaining practical and healthy activities. It also provides children with physical disabilities an opportunity to experience and perform activity plays.

Acknowledgments -
Thanks to TCV for the support throughout the whole project,
Delta Design for the assistance in the development of this project,
and Michael Lumley of Britax for the technical support.



octillo - multi-functional child vehicle

michael wu

Customer Service excellence has been consistently identified as the most important factor contributing to commercial success in the hospitality industry. The personal interaction between the bar attendant and the customer is at the heart of providing this service excellence at the bar. However, current Point-of-Sale (POS) systems poorly address issues surrounding the bar attendant's ability to provide efficient and effective service, and are aesthetically and ergonomically unsuitable for the bar environment. The BAR TAG system specifically targets the improvement of bar customer service.

The system individually identifies each customer through the use of RF tags, electronically storing information such as the last drink order, favourite drinks, membership details etc. The tag also allows the customer to set up an account at the bar, simply using their RF tag to deduct money from their account. The RF sensor strip automatically places customers in a "virtual" queue at the bar, and glow's to identify who is next to be served. Customer information is automatically displayed on the OLED display, requiring only that the bar attendant confirm the customers previous, or favourite order; or make alterations using the touch screen interface Œ greatly reducing the input time required.

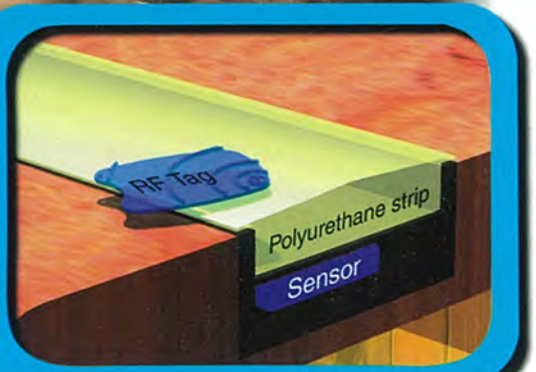
The BAR TAG system succeeds by using technology to enable a more effective and meaningful engagement for customers at the bar, increasing their level of satisfaction, and loyalty to the bar.

reidesign

BAR TAG
customer service system

bar tag - bar service sales system

michael reid



Based on research, it was found that the number one reason why students find lectures uninteresting was the amount of notetaking and stress it induces. This process requires much of student's precious time; it is also wasteful in resource and provides little benefits to learning. With the improvement of technology in the mobile network and computer designs, the integration with the education systems is going to provide more benefits to students than ever before.

EyeQ is a student personal digital assistant (PDA) which integrated the mobile and computer technology into user's lifestyle, making it easy to use and function specific. **EyeQ** is portable and features packed, specially designed with students' active lifestyle in mind. Its features include a large LCD touchscreen, an inbuilt scanner, web camera, inbuilt modem and many more. All features are all tied together in a cute little package, and specially designed shock absorbers means that this smart little device is not only portable but also highly durable. **EyeQ** targets students' interests in trends and fashion, and uses four colour schemes to match the user's personal taste and personality.

Cute, compact and feature packed; **EyeQ** will be the topic of the schoolyard, and shall change the way students think in the future.

eye-q - student pda system

mavis chung

The [1-2-P] is a response to a growing population forced to use public toilet facilities that are fewer in number, and exist in varying degrees of disrepair. Large outdoor events are growing in popularity and in patronage. Street festivals, dance parties and marathons are now commonly held on the streets or other areas with no existing toilet facilities.

The [1-2-P] will benefit males by vastly reducing queue times. The open nature will also eliminate odour problems associated with traditional portable toilet cubicles. Females will also stand to benefit through vastly reduced queues, and reduced chances of encountering a soiled toilet seat.

The [1-2-P] is manufactured primarily by the rotational moulding process, using High Density Polyethylene (HDPE) which has excellent UV protection, bacterial resistance, durability and toughness to withstand the tortures of repeated use and rough transportation.

The modular nature of the units allows it to be rotated and reconfigured to suit the differing environments of the contemporary venue. The urinal itself is set at a height ergonomically determined to satisfy a broad range of the population. Two steps are integrated into the product, the lower step for children approximately seven years of age, and the second to enables toddlers to conveniently access the product with the assistance of a parent. Adults simply stand at floor level.

1-2-p - male portable urinal

mathew hoolahan

'Ontrak' is a dispatching and tracking system designed specifically for use by bicycle couriers, enabling a new level of order efficiency and time management. The 'ontrak' system consists of a cordless bluetooth headset and a PDA, replacing the traditionally used two way radio system.

'Ontrak' operates off the existing analog radio network, whilst taking full advantage of the networks ability to send information in 'packets'. The PDA is used as the central unit to the system displaying the current status of deliveries, and can be attached either to the strap of the courier bag, or the handlebars of the bicycle. When the courier arrives at the intended destination the PDA can be easily detached from its cradle through the quick release buttons located on the side, and then used for order or delivery confirmation. Confirmation is achieved through the smartcard reader located at the base of the PDA. The function of the headset is to allow verbal communication between the courier, the dispatcher and the other couriers within the team.

The advantages of the 'ontrak' system is that it provides bicycle couriers with increased efficiency and time management, through order confirmation, decreased courier back track and increased sequence deliveries.

ontrak - bicycle courier dispatching unit

mark epton

The incidence of back problems in our society is high and the evidence shows that most of it is attributable to poor sitting posture such SLUMPING. We sit down for the most of our day; in the car, bus, train, at the school and office and at the end of the day, at home! An ordinary chair signals a clear message: "Sit still!". However, human bodies are not intended for this daily "sitting marathon", but for movement and activity.

Rocco is based on the philosophy of "Movement and Balance". It is designed to aid long period tasks at the desk. The movement of the chair is enabled by the change of balance as the sitter shifts his/her weight from leaning forward to backward or vice versa.

Rocco incorporates two posture variations; perching for serious work and rocking for movement and relaxation. Perching is achieved by 15 degree forward tilted seat and adjustable height system. This encourages the user to sit up more straight and open up the diaphragm to allow full breathing function and help blood circulation, which in turn keeps the user more alert. Also, rocking moves different parts of the body and settles it into 'a natural rhythm that harnesses incredible powers of recuperation and regeneration,'

rocco - dynamic seating

lucia kim

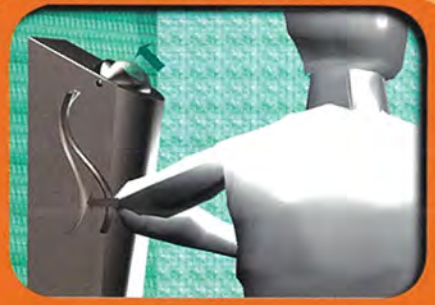
Loredana design

Binstyle

Binstyle is an innovative and stylish Sanitary Napkin disposal unit, which allows interior designers to "be-in-style", whilst satisfying bathroom needs. The product's design encourages safe disposal of sanitary protection, therefore reducing plumbing problems and waste in our waterways.

The stainless steel wall mounting conceals a rigid recycled LDPE liner. Pulling a pin on the side of the unit closes the liner's lid and the front face of the unit slides up for liner replacement. Sixteen liners stack into a 240L (household) bin, facilitating direct transport to incineration. This novel disposal process eliminates the use of service companies such as Rentokil, and saves money, as there are no contract fees. The product is totally serviceable by resident cleaners. Liners are simply purchased when needed and come with a sachet of freeze-dried bacteria, which safely neutralises germs and odours on contact.

An LED on the side of the unit informs users and cleaners that the bin is full, thus users know to use another cubicle and cleaners are advised that it is time for liner replacement. The problem of pads sticking to the lid has been alleviated by the elegant elliptical opening, which rotates 360° past another surface on activation by a user-friendly elbow lever. The mechanism ensures, hygienic and efficient disposal every time.



binstyle - sanitary napkin disposal unit

loredana petrella

International air travel ranks as one of the fastest growing sectors of the travelling industry. Not only is there a steady upward trend in air traffic, but the number of passengers travelling is also on an increase as well.

Improved strategy operations will need to be considered to cater for smooth operations of airport services such as check-in, customs and baggage control.

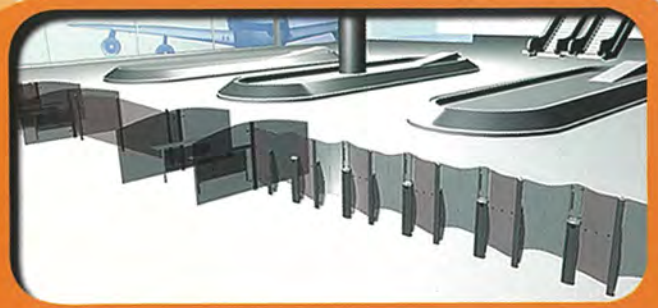
Airport research have indicated that time taken for passengers at airports to disembark from the meeting gates can take up to 40 minutes. To reduce this time and improve the flow of check-in, the I.R.I.S (Iris Recognition Implemented Smartcard) terminal has been developed, taking advantages of the latest technology of the digital world in Biometric and Smartcard technology.

Careful considerations of ethical, environmental and ergonomic issues relating to human needs have been amalgamated and designed together to form this solution.

i·r·i·s

i-r-i-s - automated customs terminal

kevin trinh



ROCK HOPPER

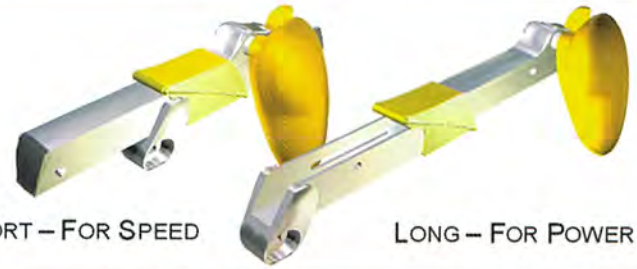
The Sydney 2000 Paralympic Games showcased just some of the active pursuits people living with a disability undertake. The 'Rockhopper' is a recreational wheelchair designed to bring the experience of bushwalking to people with lower limb disabilities. A need exists because standard wheelchairs do not perform well on typical bushwalking tracks.

The 'Rockhopper' affords mechanical advantage by unique telescopic hand cranks. These cranks can be extended or retracted through three different 'throw' lengths. This action changes the amount of mechanical leverage the user receives and eliminates the need for bulky gears, derailleurs, shifting devices and associated cabling. Cyclical hand motion is ergonomically superior to the back-and-forth action required when using conventional push rims.

On flat ground select the middle position for optimum efficiency. When you wish to go faster drop down to the shortest crank length then when conditions get demanding extend each crank to the longest position and that hill will be no sweat!

The chair is steered simply by turning one crank faster than the other. When coasting downhill the user can steer and brake via the handle bar. Three wheel configuration means all wheels will be in constant contact with the ground and suspension coils ensure a comfortable ride.

ERGONOMICS OF CYCLICAL HAND MOTION



SHORT – FOR SPEED

LONG – FOR POWER

rockhopper - recreational wheelchair

joshua park

course outline

year 1

session 1

Design Fundamentals: Studio 1
Computers & Information Technology
Workshop Technology
General Mathematics 1B
Geometrical & Mechanical Drawing A

session 2

Industrial Design Studio 1
Engineering Design Mechanics
Geometrical & Mechanical Drawing B
General Mathematics 1C
Physics (Industrial Design)

year 2

session 1

Industrial Design Studio 2 A
Introduction to Accounting Prinicples
History of Industrial Design
Ergonomics
Perspective & Rendering Techniques

session 2

Industrial Design Studio 2 B
Computer Aided Design
Materials & Manufacturing Processes for Industrial Design A
Statistics SM
Marketing Fundamentals

year 3

session 1

Industrial Design Studio 3 A
Materials & Manufacturing Processes for Industrial Design B
Computer Graphic Applications
Consumer Behaviour
Design Methodology

session 2

Industrial Design Studio 3 B
Electrical Engineering for Industrial Design
Production Design and Technology for Industrial Design
Graphic Design
General Education

year 4

session 1

Industrial Design Studio 4
Project Research
New Product and New Service Development
General Education

session 2

Project
Design Management for Industrial Design
Environmental and Interior Design
Elective

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cuttingPlastic

sharp design * UNSW ID 2000 exhibition

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