

XVI | NOTTINGHAM TRENT
DESIGN INDUSTRIES

BSc PRODUCT DESIGN

FOREWORD

BY ALAN R CRISP

One of the privileges, perhaps the greatest, of working at a university is to be asked to pen the foreword to an anthology of student work. It prompts reflection and comparison on their work and mine and that of my colleagues against the performance of all in past years. The standard of design and realisation, that is manufacture, I am confident remains first class, indeed the standard increases year on year and this class of 2015-2016 is no exception, I congratulate you all.

I take this opportunity to congratulate the staff, both academic and technical, who with joint and parallel purpose have educated this class scholastically and vocationally for the past four years making my headship relatively easy and most enjoyable. This degree show emphasises the holistic nature of design and its methodologies. The Arts and Crafts movement and its place in contemporary design is clearly evidenced by some of the exhibits, particularly from Furniture and Product Design students; the embracing of new technologies and materials is exemplified by the work of Product Design and the influence of sustainability and world issues is illustrated through the design solutions of BSc Product Design, composing for all a truly encompassing exposition.

My reflection, spanning 37 years here at NTU, is tinged with sadness, as in all probability this will be the last foreword I author. However, I wish to

remind the class of 2015-16 of some sentiments to take with them on their lives path. As they know I am much influenced by D H Lawrence, R L Frost and H Cartier-Bresson. Photographer and philosopher, Cartier-Bresson changed our view of photography and film. His philosophy on life in general, particularly for Designers, is well worth remembering; in 1952, Cartier-Bresson published his book *Images à la Sauvette* [The Decisive Moment], a portfolio of 126 of his photographs, the cover drawn by Henri Matisse. His philosophical preface, was based on a text from the 17th century Cardinal de Retz, "Il n'y a rien dans ce monde qui n'ait un moment décisif" "There is nothing in this world that does not have a decisive moment". This departure from academia to the commercial world is your moment, may good fortune follow you, *dei auxilio faber est quis que fortunae suae.*

Head of Product Design

A handwritten signature in black ink that reads "Alan R Crisp". The signature is written in a cursive style and is underlined with a single horizontal line.

A WORD

BY Dr. Matthew Watkins

This brochure presents the culmination of the BSc Product Design students' learning and knowledge. The projects presented here are a consideration of the breadth of work these students have undertaken in their final year, which includes live technological projects with SAPA, PepsiCo and Zephlinear and an individually chosen and driven Major Study Project. Thus demonstrating the character and desire of this cohort of students through real world, innovative, technologically designed solutions that are intended to make a positive impact on the world around them.

Having taught this cohort over the past 4 years, I have seen each of the students mature and follow their diverse interests culminating in their final year Major Study Project. But whilst this cohort is made up of numerous individuals, they share many similarities. All of the individual projects and interests that the students share have one core aim; to improve the lives and wellbeing of the users or stakeholders involved. Since their teaching on User-Centred Design in 1st year, these students have continued to follow and explore a design approach that focusses on addressing the true needs of individuals, taking the form of a final year project that is user focussed, whether this is addressing disability or impairment, education, medical, sportswear, transportation or sustainability.

This focus is further evidenced by the group of students within this cohort who were crowned the 2014 Engineers Without Borders champions.

This importance of the individual has also been adopted and reflected through the strength of relationships in the 2016 cohort of students who are a tight knit community who excel whether they are working together or alone. The ability and willingness to help and support one another throughout their studies has been inspiring, and as they go forward from their time here at NTU, I know that they will take firmly rooted friendships and a commitment to shared professional practice that will be of great benefit to their working lives.

Therefore, I implore all the BSc Product Design graduates to never lose sight of the importance of character and community, with my very best regards and hopes for your futures.

"One can acquire everything in solitude except character." - Henri-Marie Beyle (Stendhal)

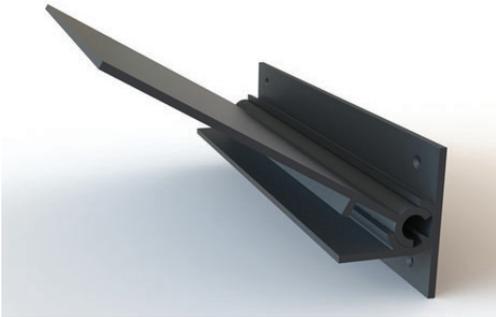
Dr Matthew Watkins MSc, PGCE, FHEA
Course Leader, BSc Product Design



PORTFOLIO OF WORK

BSc PRODUCT DESIGN



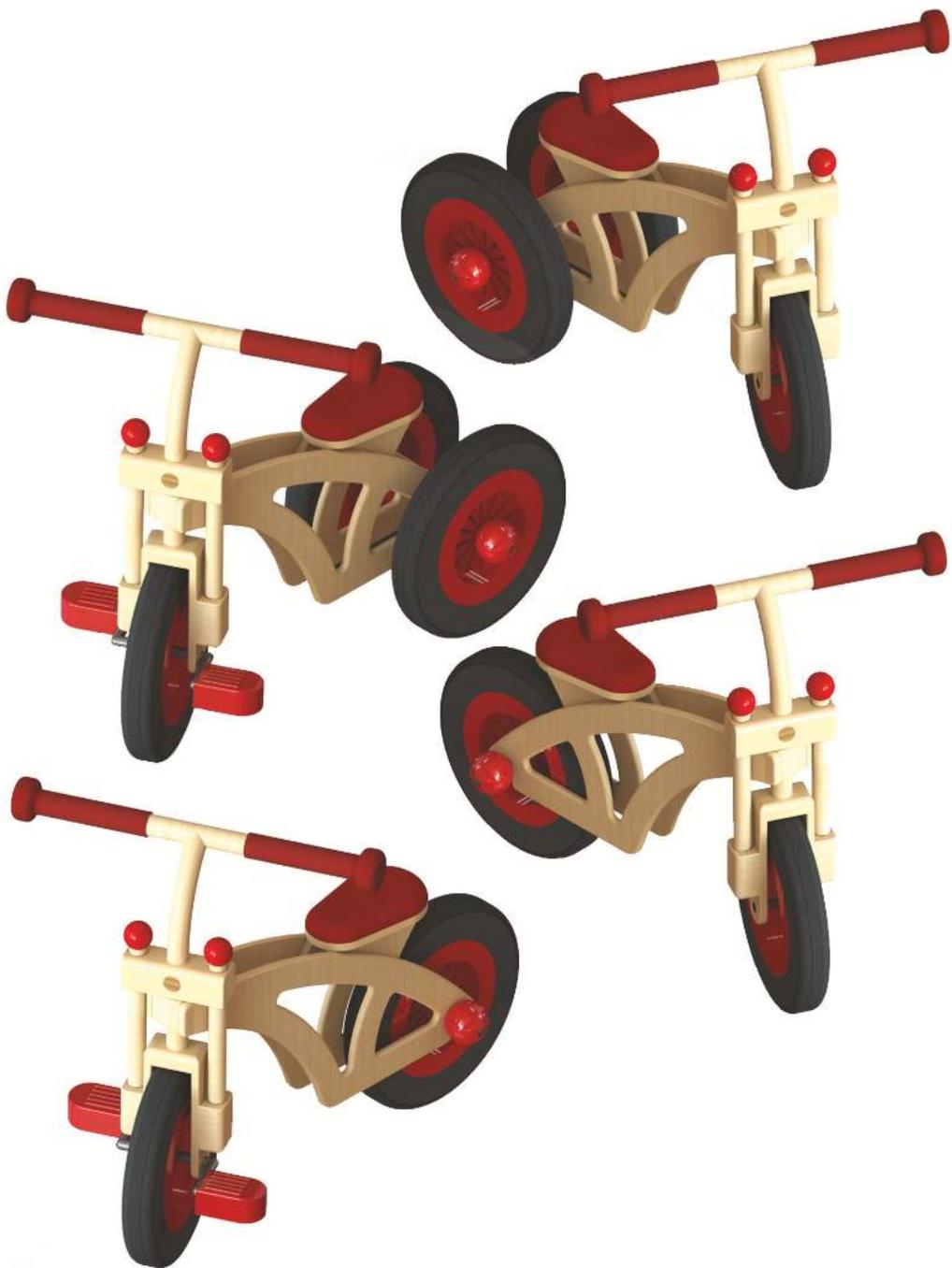


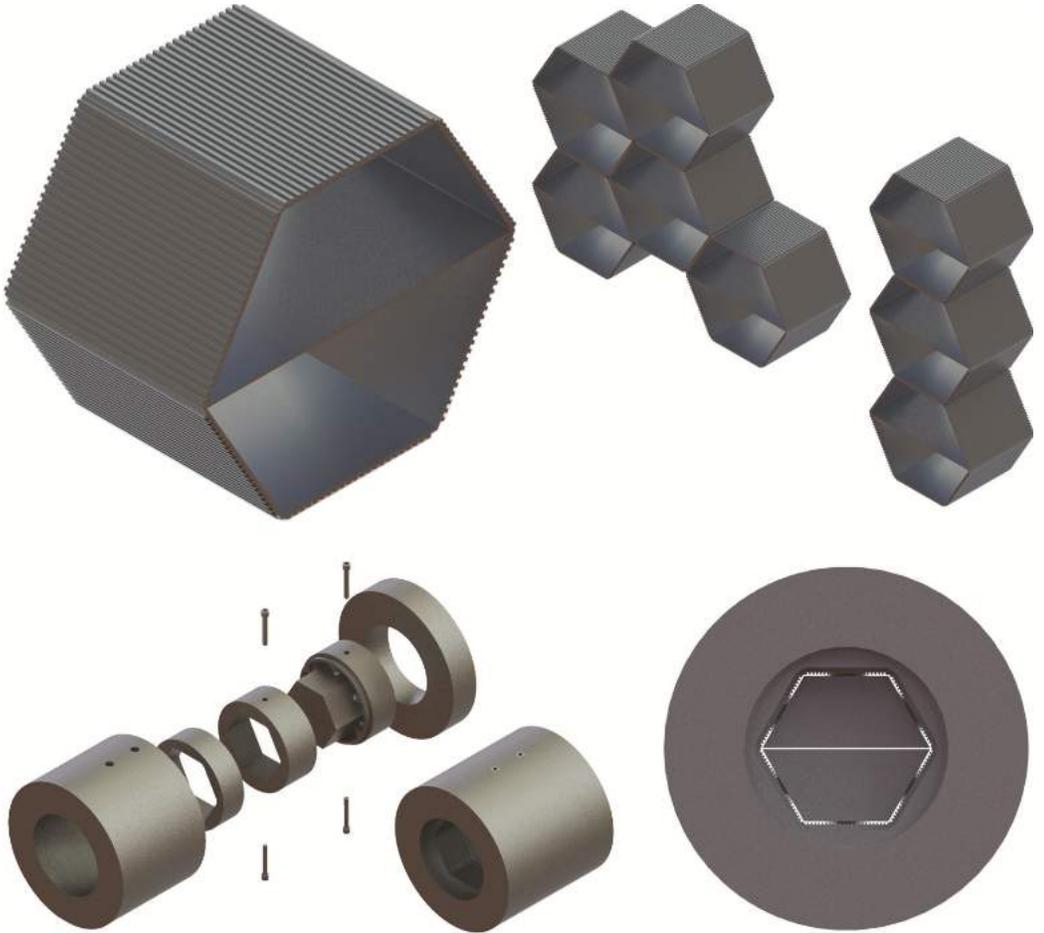
William Ash

william_ash@hotmail.co.uk

An affordable medication dispenser (*left*) that reminds the user when to take their medication; the device will continue to remind the user until the medication has been removed from the reloadable 'cartridge'.

A high-end, space-saving shelving unit and magnetic notice board (*above*) constructed entirely from aluminium extrusion that is available in a range of anodised colours.



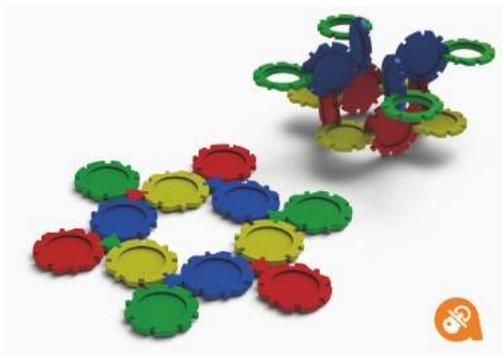


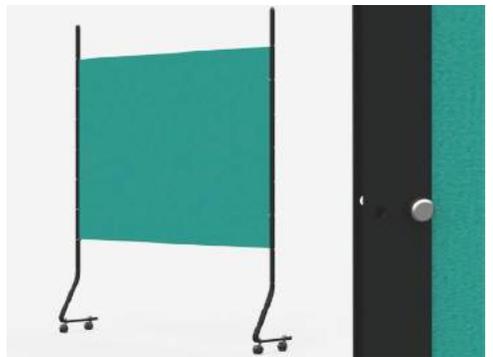
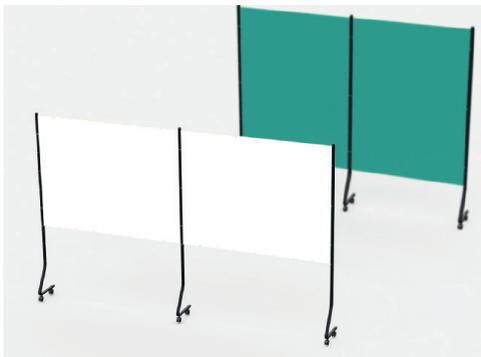
Marlon Bent

marlonbent202@gmail.com

My-Cycle (*left*) evolves alongside the user through the upgrade of modular components. Each stage allows you to learn the necessary skills in order to achieve the milestone goal of learning how to ride a bike.

A modular piece of furniture (*above*) which can be assembled to suit the end user's personal requirements, whether it be for seating, a book stow or shelving.





Chi Tang Chan

chanchitangtang@gmail.com | www.behance.net/chanchitan4622

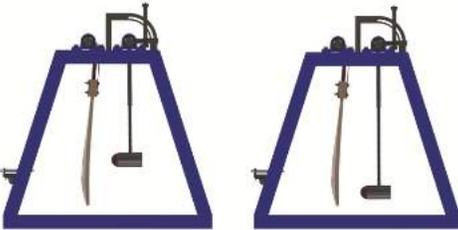
Una (*left*) is a constructional toy designed for 3-to-6-year-old autistic children to learn facial expressions and turn-taking through play. Una includes 5 games and constructional play for individual and group play to fit different preferences.

Workstep (*above*) is a furniture system designed mainly for office hoteling to allow users to redefine their working spaces based on their needs. Its light weight increases its mobility and total number of components is reduced by 25%.

ANGLE ADJUSTMENT



HEIGHT ADJUSTMENT



GUNN & MOORE CRICKET BATTTEST RIG



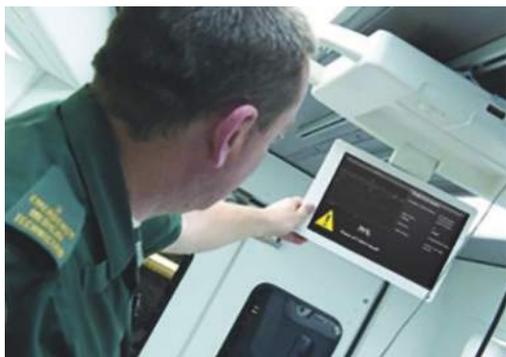


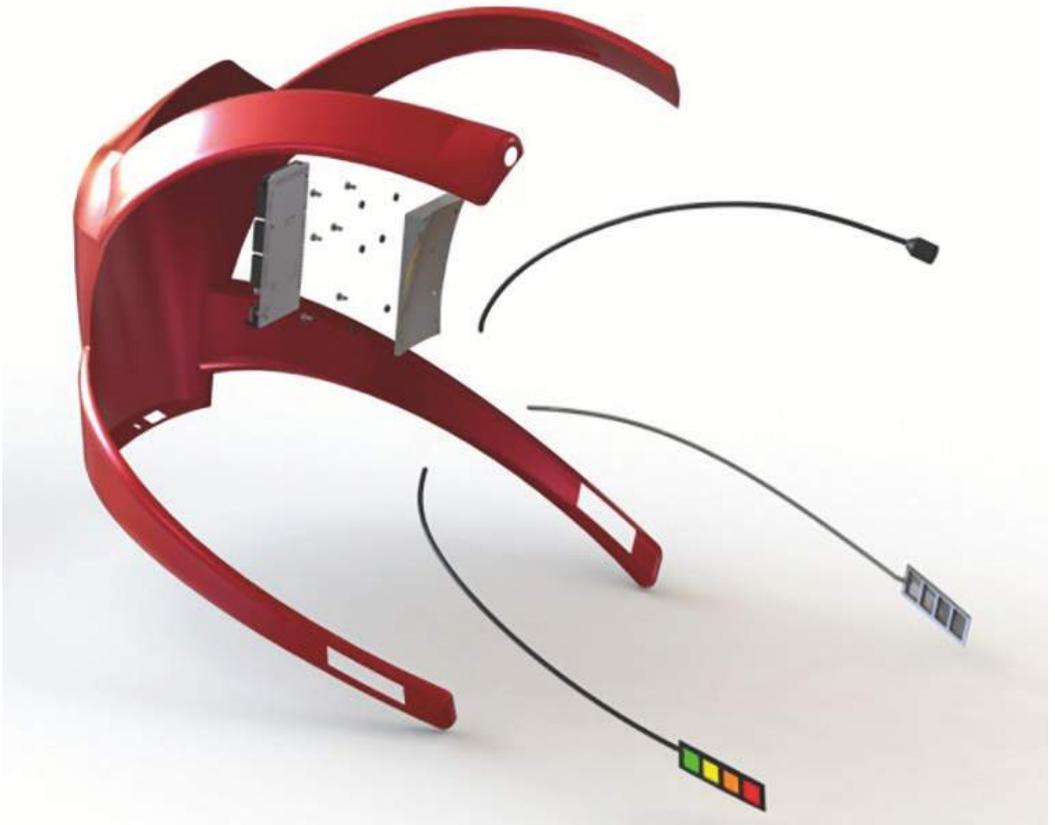
Callum Clayton

callumclayton@live.com

Desk Lamp (*above*) is designed around the aluminium extrusion process. The base and head are made from the same extrusion and the lamp is battery powered with use of LED's and touch sensitivity.

Gunn & Moore Test Rig (*left*). The rig was designed to test the force exerted onto a cricket bat. Height and angle adjustments were designed for multiple testing scenarios. Data is collected by an optical encoder and recorded via a computer so that further analysis can be undertaken.



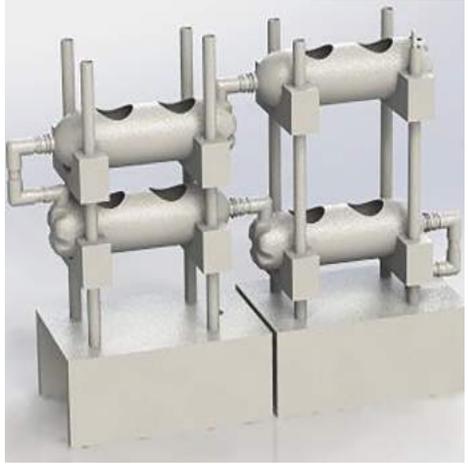
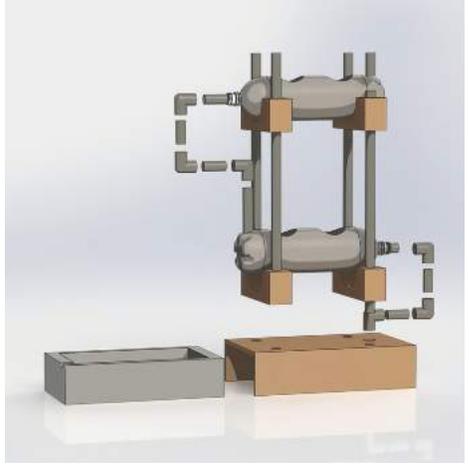


Thomas Davies

davies_t@hotmail.co.uk

The NeroX is a helmet designed to aid with injury detection in the event of an accident. Using a MEMS accelerometer-gyro chip, forces incurred by the head and neck during an impact can be obtained.

Using the helmet's on-board LED system and via Bluetooth, the data can be transferred rapidly and easily understood.




Nourish



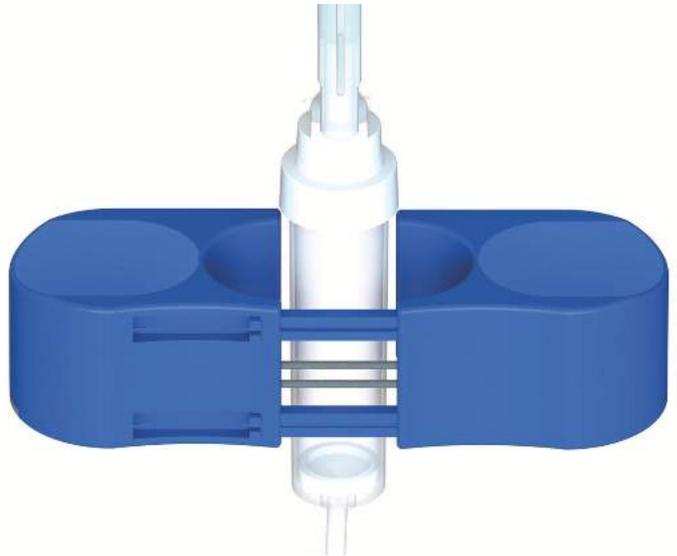
Temitayo Fajobi

tfajobi0@gmail.com

Nourish (*left*) is a small-scale, modular hydroponics system made from low cost, up-cycled and sustainable materials; designed to empower people living in urban areas to grow some of their own produce and improve their access to fresh and healthy food.

Three simple aluminium extrusions and two wooden shelves (*above*) comprise this contemporary and adaptable wall bracket system for use indoors and out.





Benjamin Frost

ben_frost_@hotmail.com

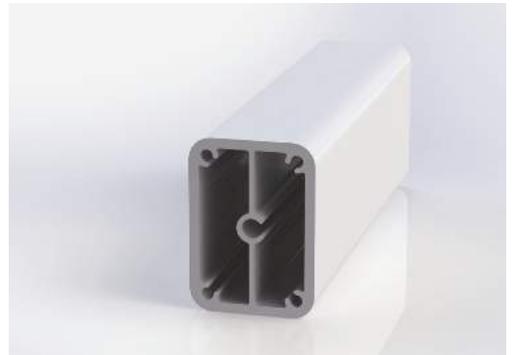
The portable IV Stand enables mobile healthcare professionals to perform IV therapy outside of the hospital in the community. The stand is a lightweight, telescopic design making it easily assembled and transported from patient to patient.

The stand is accompanied by the drip

monitor which makes it possible to electronically calculate the infusion rate and time interval of IV therapy.



The Water Project

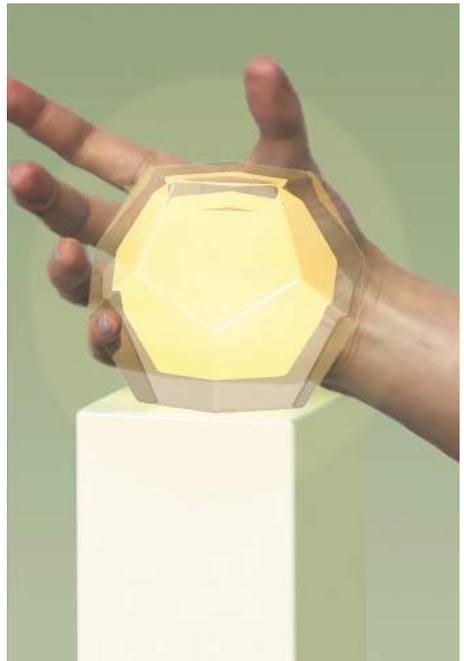
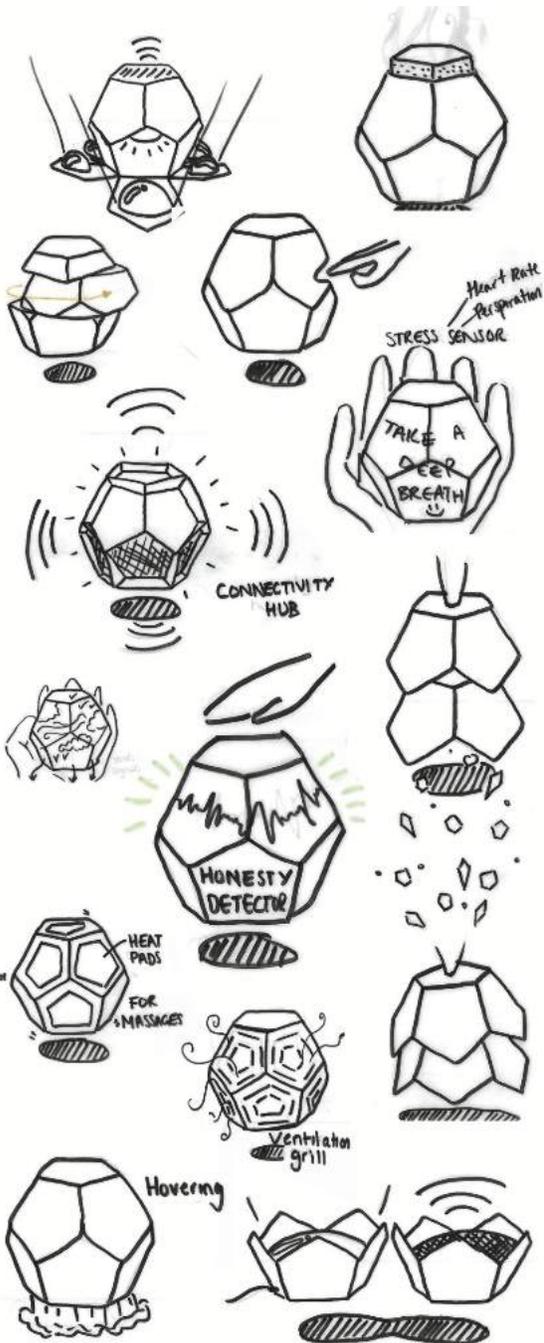


Samuel Gale

samgale93@gmail.com

Major Study Brief (left): This project tackles the issue of water consumption while showering by encouraging users to monitor their shower usage and actively modify their shower habits.

Design for Aluminium extrusion (above): For this project I designed a range of exercise equipment to be manufactured using the same extrusion profiles.





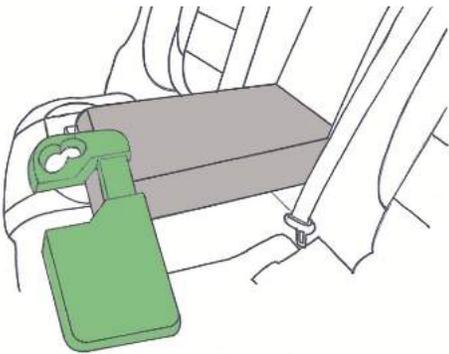
Leanne George

l.george@live.co.uk

Serēnus are sensory devices to help people cope with modern day stress. Using some of the most cutting edge technologies and manufacturing methods, these products have been designed ergonomically for a wide audience range.

Focusing on the cognitive senses, each

device will have a unique interactive behaviour. This project shows my passion for interactive design.





Jake Gibbons

jake_gibbons50@hotmail.co.uk

The brief set by Jaguar Land Rover focused on developing car seat armrests to enhance the feature offering to the user (*left*). It was redesigned to incorporate new cupholders and a deployable tray/tablet holder.

This product (*above*) utilises three stacked containers that enable the storing and serving of tea, coffee and sugar from one device that can “fan out” to reveal the contents.





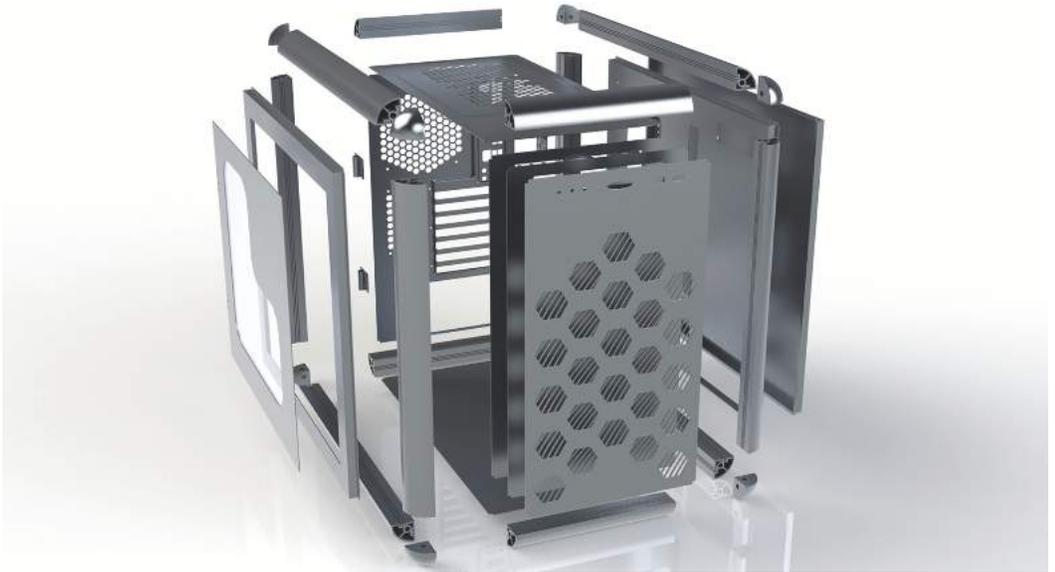
James Green

green,jl@hotmail.com

Some of the challenges faced over the past year include the redesign of a cricket helmet (*left*) to improve safety, performance, visibility, and to reduce weight.

Other projects included designing a security barrier (*above*) using aluminium extrusion. A good knowledge of materials, manufacture and research methods was needed for both projects to ensure a successful and effective final design was reached.



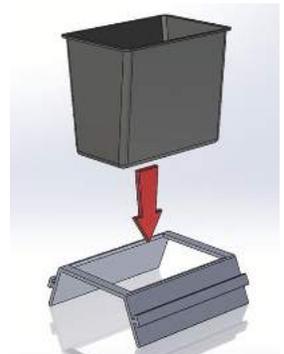
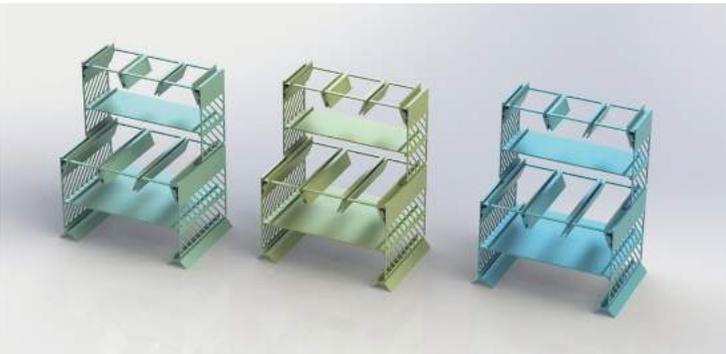


Max Hopperton

maxhopperton@gmail.com

This computer case is designed using an extruded aluminium frame with integrated slots, which secure the required panels into place. Benefits of producing the computer case in this method include the ability to manufacture multiple sized cases using a single extrusion based on customer needs. Additionally, the total weight

of the case was reduced to less than 6kg due to aluminium's lightweight properties.



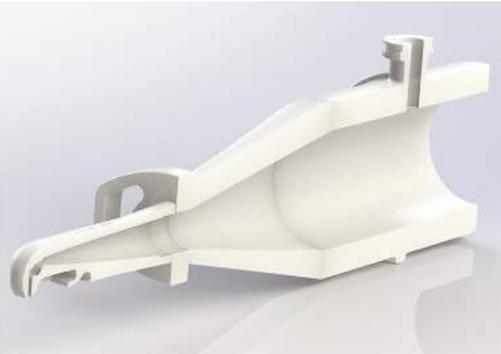


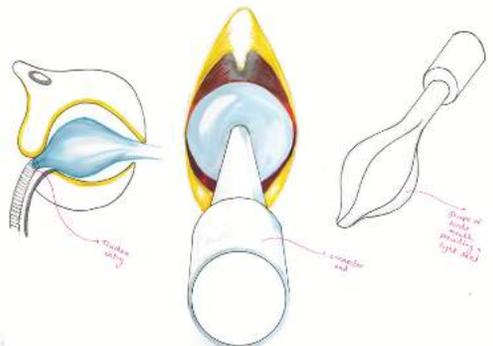
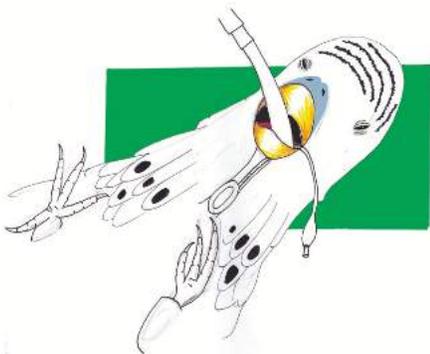
Thomas James

thomas.matthew.james@gmail.com

The Seedling Stacking System (*left*) aims to maximize the space available on a window sill to grow seeds and herbs. An adaptable, modular design is achieved through the use of aluminium extrusions.

The McGee Cyclist Safety Barrier (*above*) is a retrofit system aiming to increase cyclist safety in urban areas, whilst adapting to maintain the functionality of McGee's tipper fleet off road.





Holly Anastasia Jones

holly.anastasia.jones@gmail.com

The Psittacine Laryngeal Mask shown is an avian veterinary medical device that is designed to sit comfortably and securely over the trachea entry, resulting in a means of keeping the patient's airway open during anaesthesia or unconsciousness.

The device allows for maintenance

and monitoring of the birds airways, consequently offering an apparatus for administration of the gaseous ethers isoflurane, sevoflurane or desflurane.





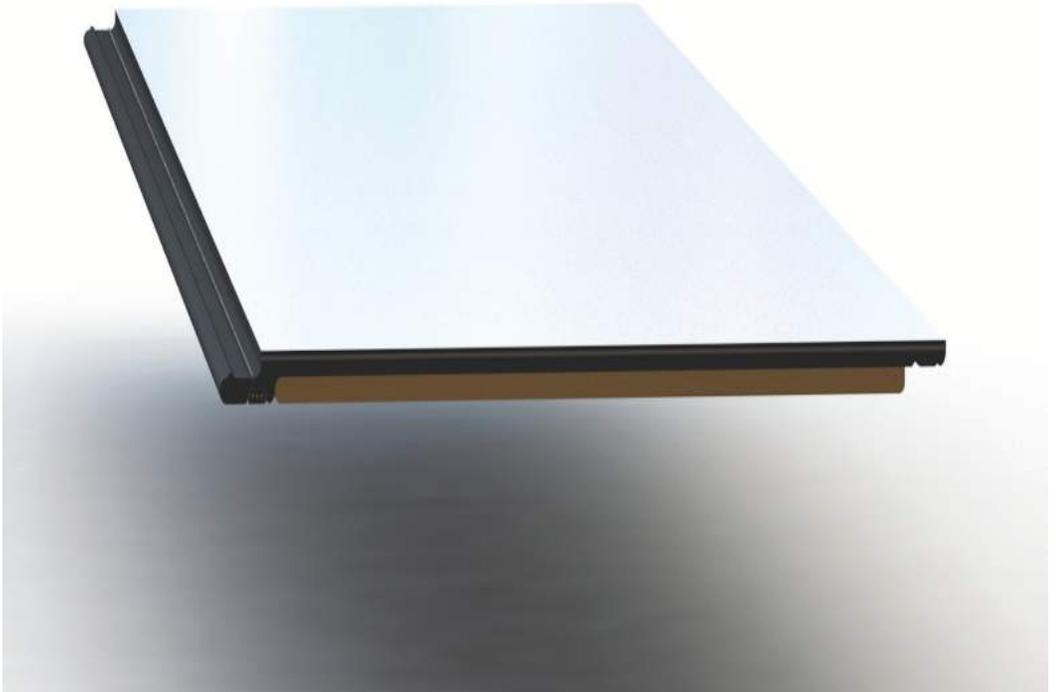
Moheeb Khan

mo-khan@hotmail.com

This pram is designed to be universal and can attach to a large variety of self-propelled wheelchairs, whilst being adjustable from various positions to fulfil individual user preferences.

It features a quick release joint to ensure it is fast and easy to attach and detach from the wheelchair.



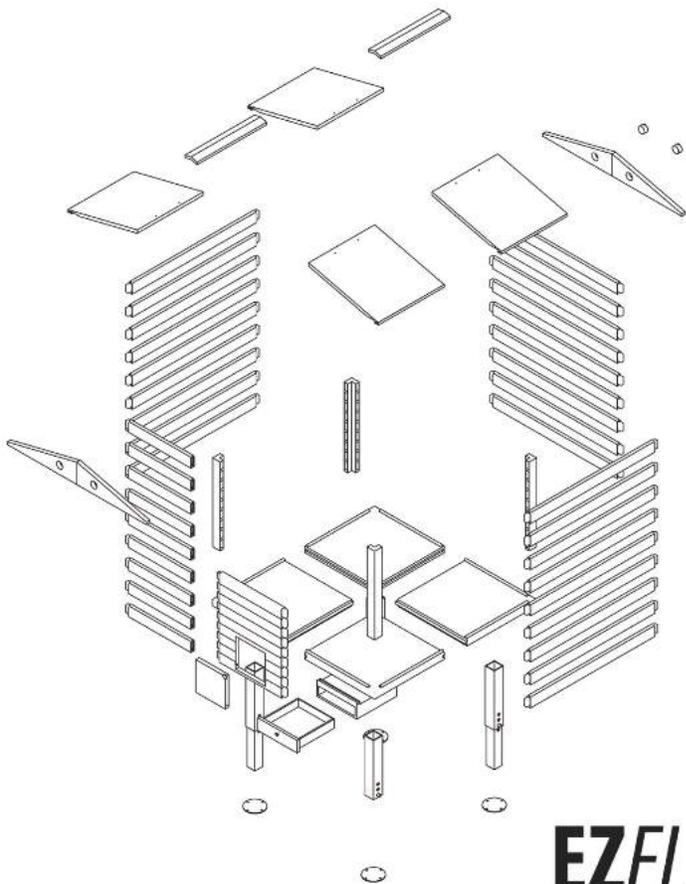


Anurag Kumar

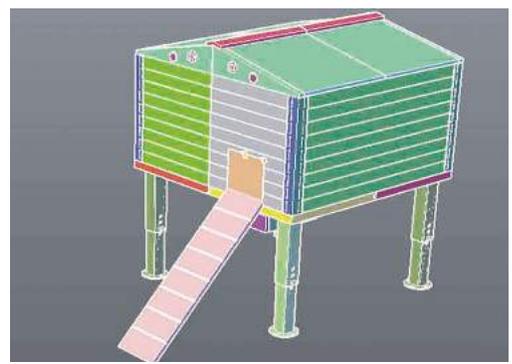
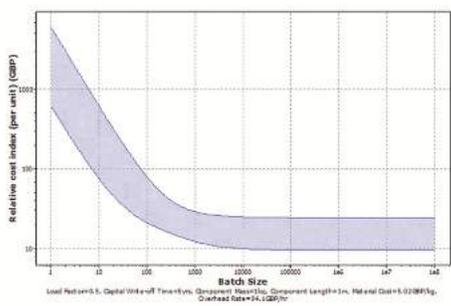
anurag.a.k153@gmail.com | www.anuragarvindkumar.com

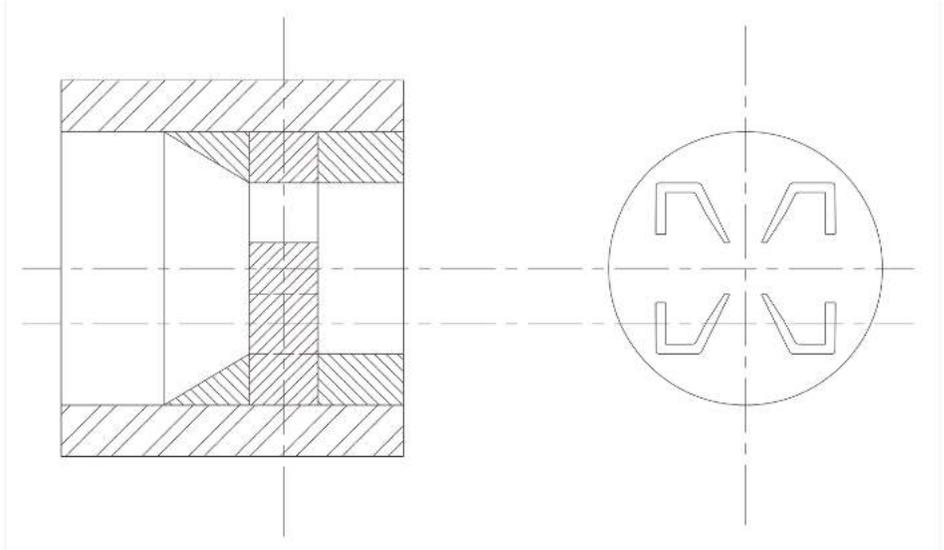
Spinal Model (*left*): A mechanically accurate and affordable model of the spine for medical training, the model includes vertebrae with a spongy bone core and realistic intervertebral disks.

Under Floor Heating (*above*): A modular under floor heating network that capitalises on the thermal properties of aluminium. Each panel can be heated individually to adapt to any room.



EZFLEX





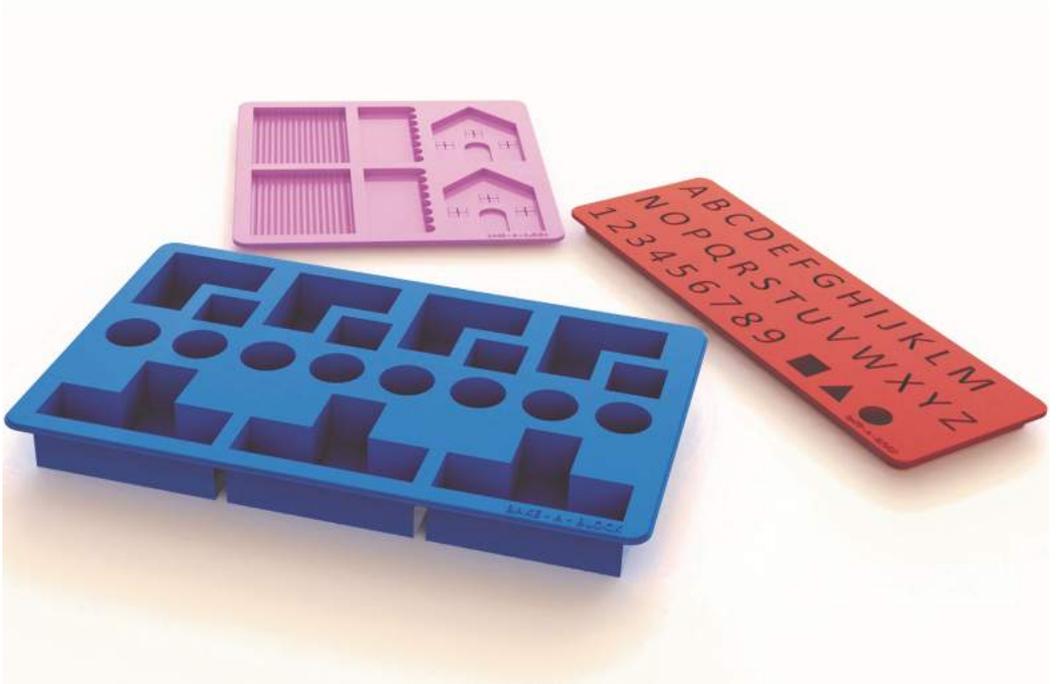
Francine Lorriman

francine.lorriman@gmail.com

The major project (*left*) was to design a contemporary chicken coop. The final design is a simple shape, constructed similarly to a flatpack shed, meaning the user has maximum flexibility of the size.

The second project (*above*) was from SAPA Profiles. The brief was to design a commercial product that is extruded aluminium, and to draw the tooling for an extruded product.



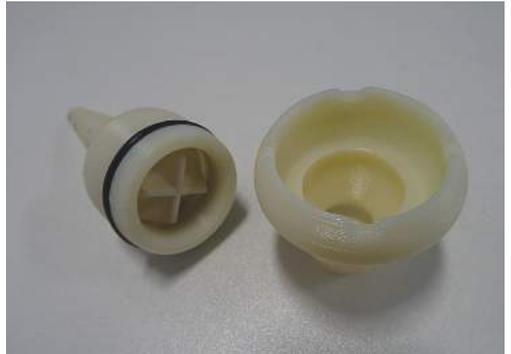
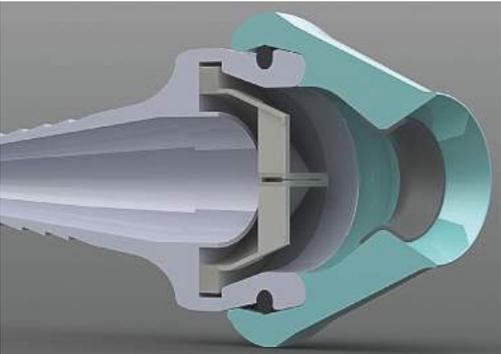
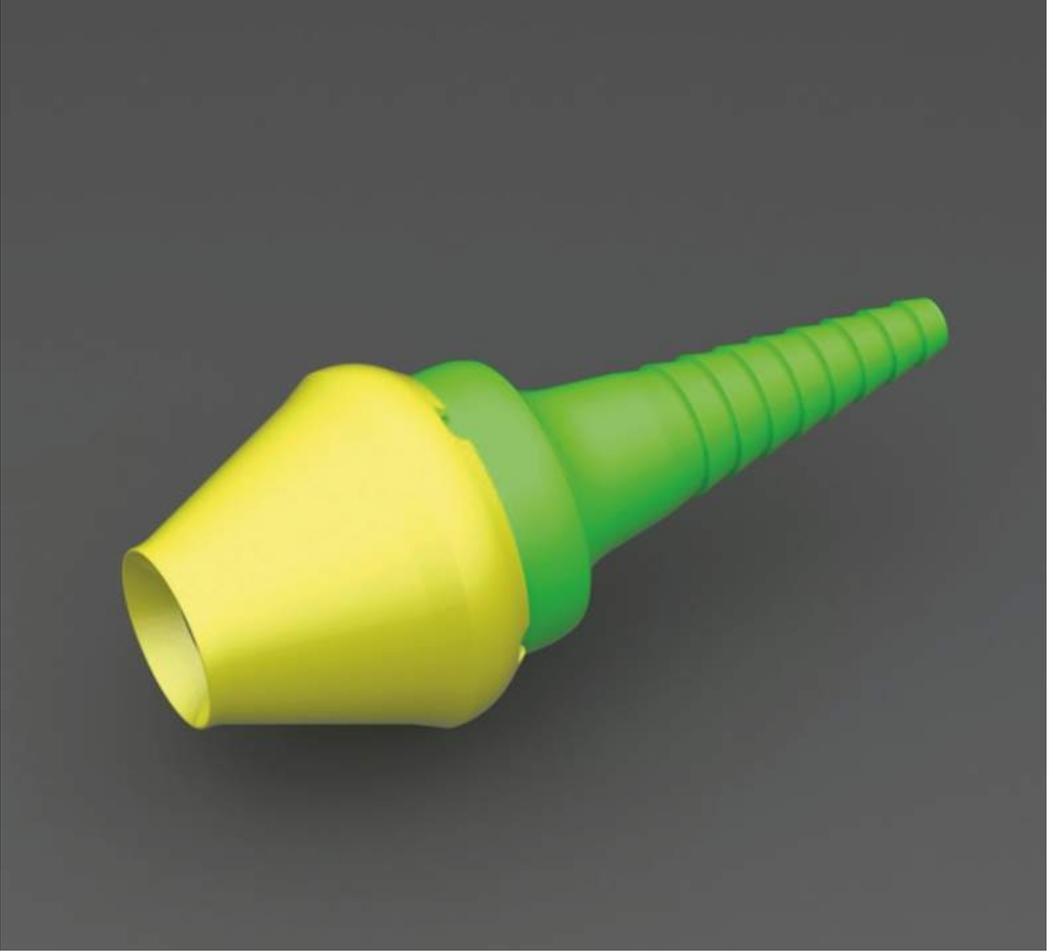


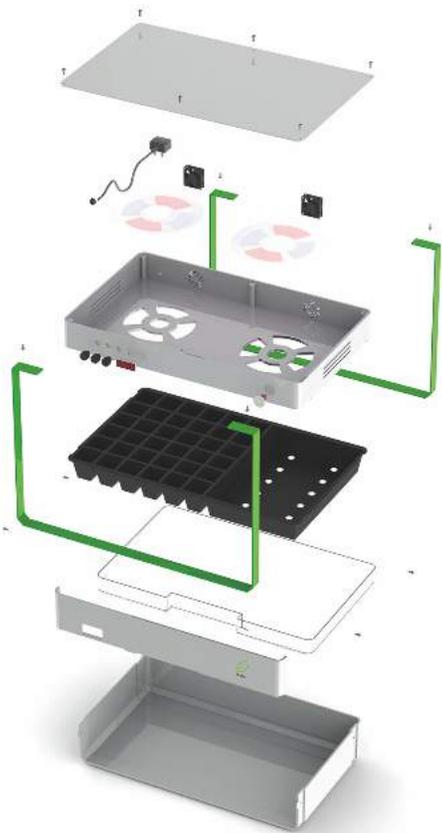
Conor McBreen

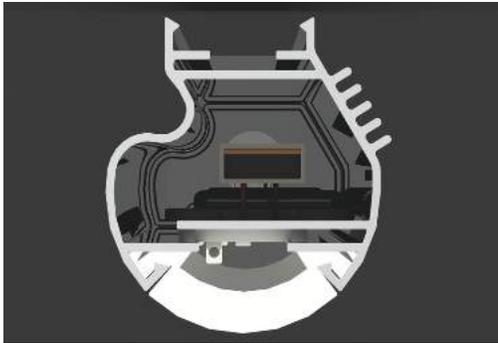
conormcbreen@sky.com

EasyFold (*left*) is a unique folding bed which has a considerably smaller footprint than existing products on the market. It is extremely lightweight, easily foldable and provides a pleasant and comfortable sleep.

Bake-A-Block (*above*) is an educational toy that encourages parent-child bonding whilst also offering longevity through an increase in the complexity of the toy. The parent and child bake different edible building blocks together, play with them and then eat them.





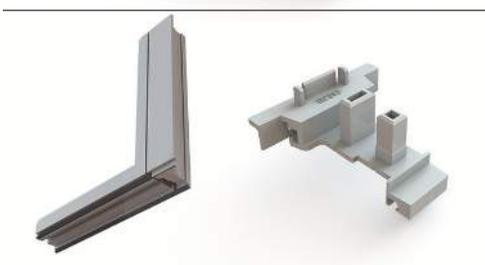
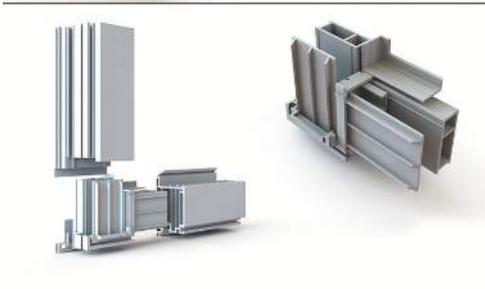
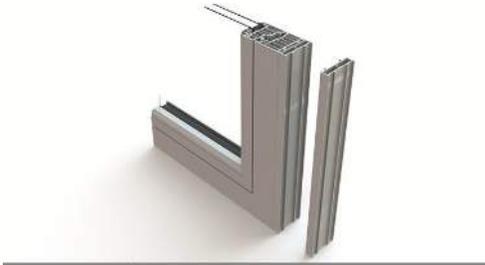


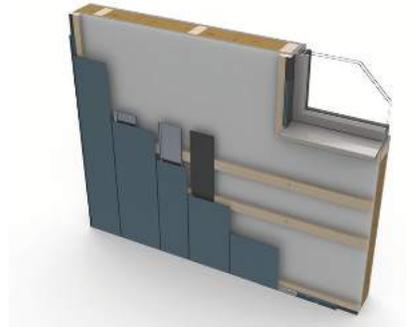
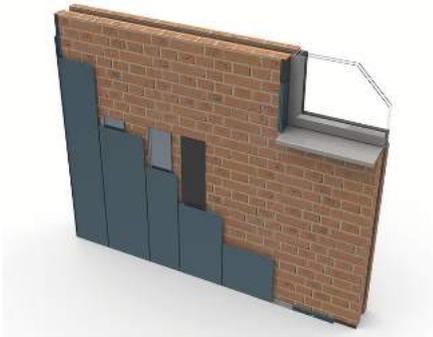
Olufunmi Odeyemi

funmiutd@yahoo.co.uk | www.olufunmiodeyemi.com

Edulight (*left*) is a simple and functionally effective table-top sized unit which utilises LED lighting technology to grow plants in order to aid the demonstration of horticulture and food education in indoor learning environments. Sponsored by Thorn Lighting Ltd.

Alexis (*above*) is a versatile, contemporary, and commercially appealing LED luminaire. Made from an extruded aluminium housing and minimal components, this eco-friendly, USB rechargeable lamp can easily be mounted in a variety of positions, and is available in a range of finishes.



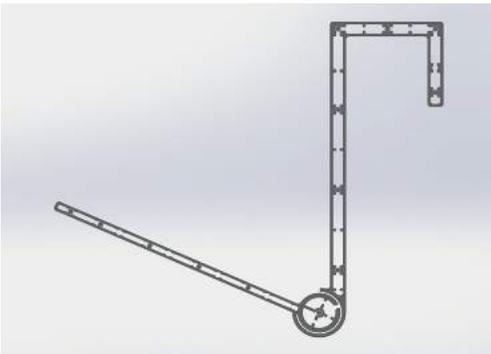
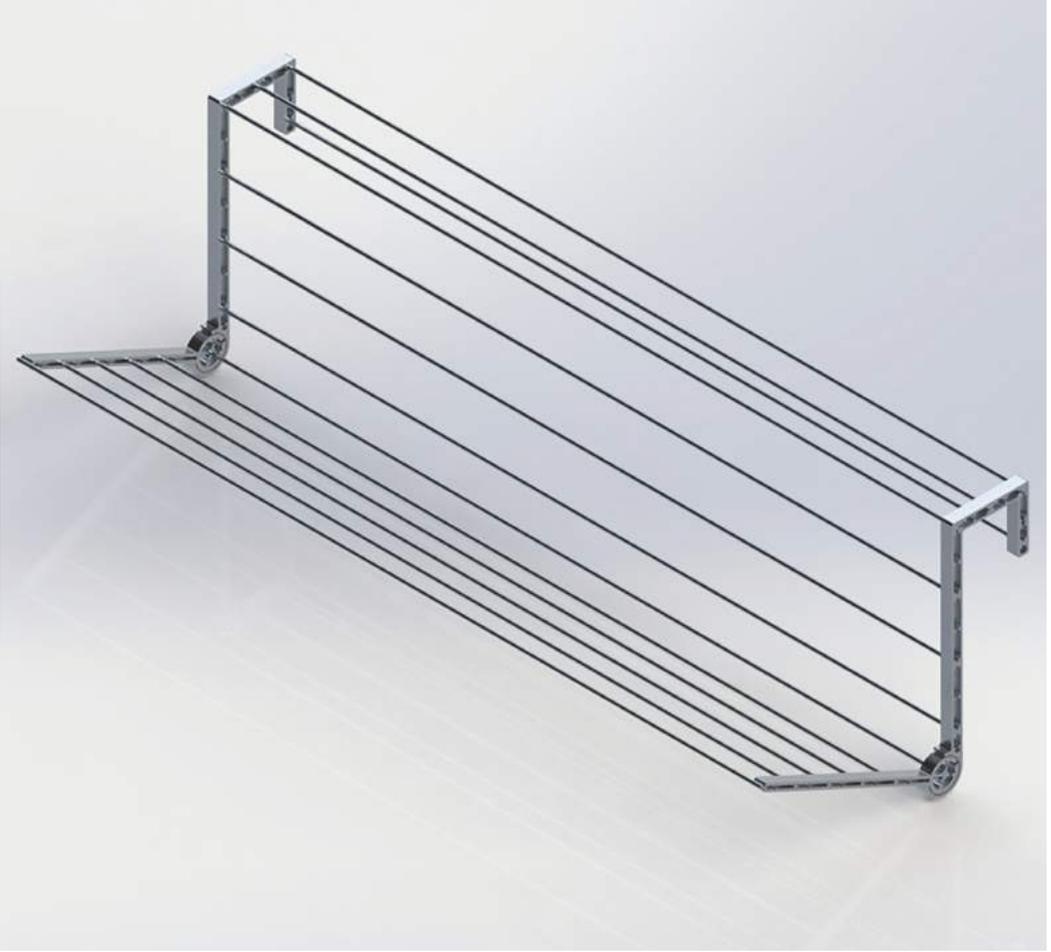


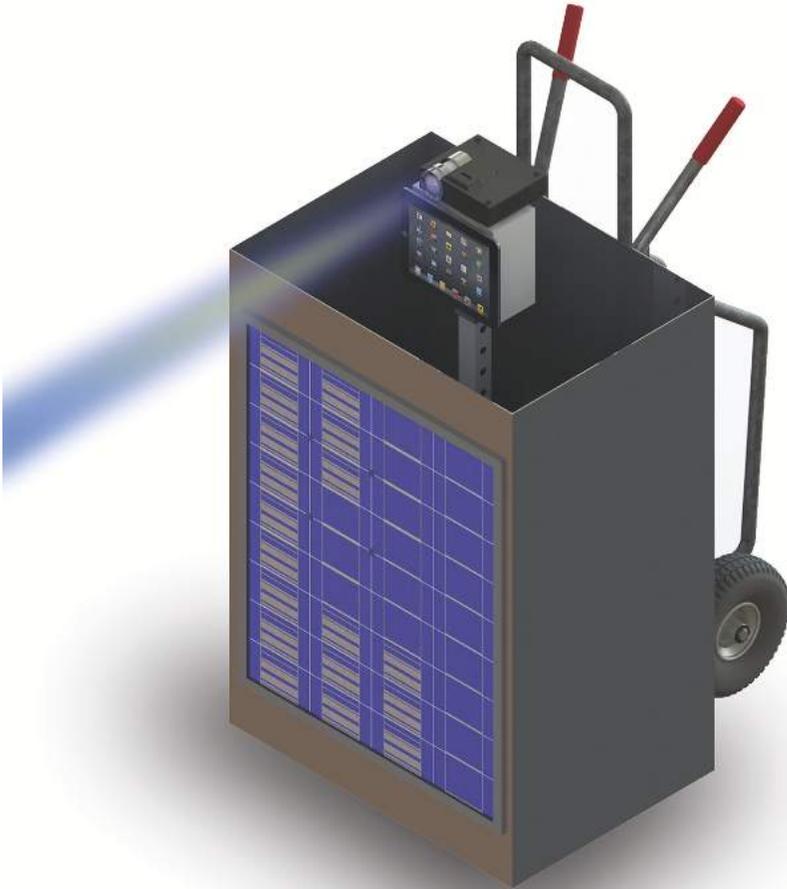
Jacob Parkinson

jacob.parko@hotmail.co.uk

Project R (*left*) is a component development project, set by Window Widgets. All parts shown were designed for the expansion of the Residence window system. Components include ancillaries, structural couplers and reinforcements.

ezClad (*above*) is an easy to install, extruded aluminium, external cladding system. The slim design incorporates thermal breaks to improve thermal efficiency within the adjacent building.



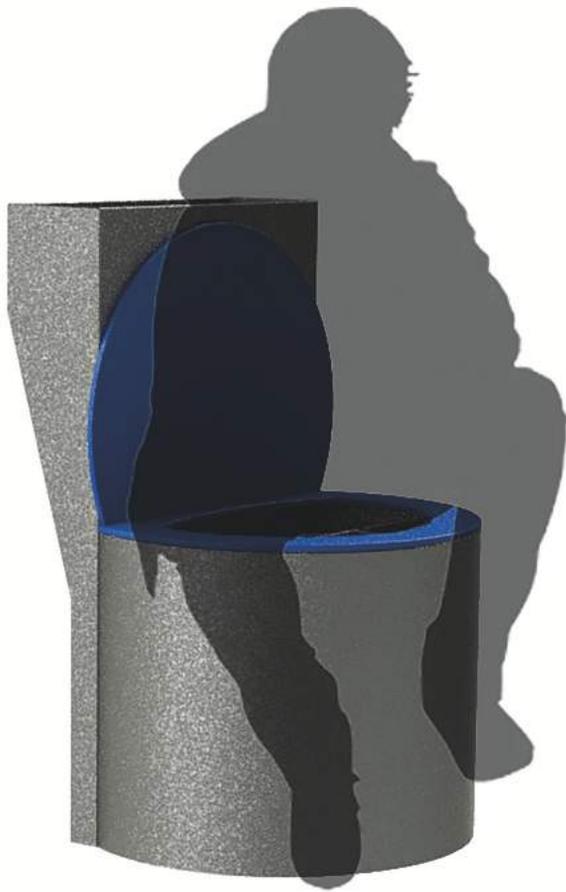


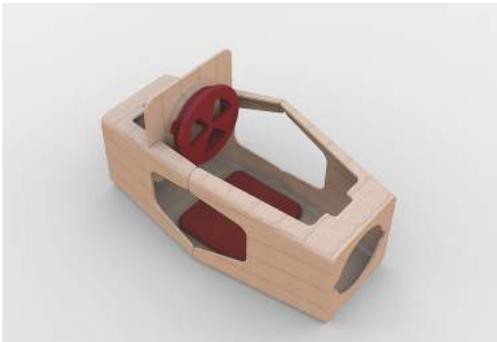
Priyank Patel

p.patel1994@yahoo.com

Sapa Project (*left*): An aluminium extruded radiator drying rack. Featuring an innovative and space efficient folding design, embodying contemporary aesthetics.

Major Project (*above*): A solar powered projector unit that uses free educational apps to deliver an education to the places that need it most.



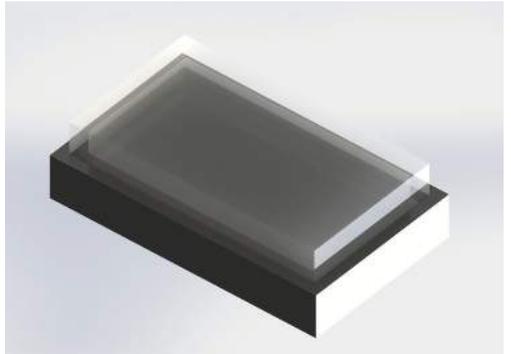


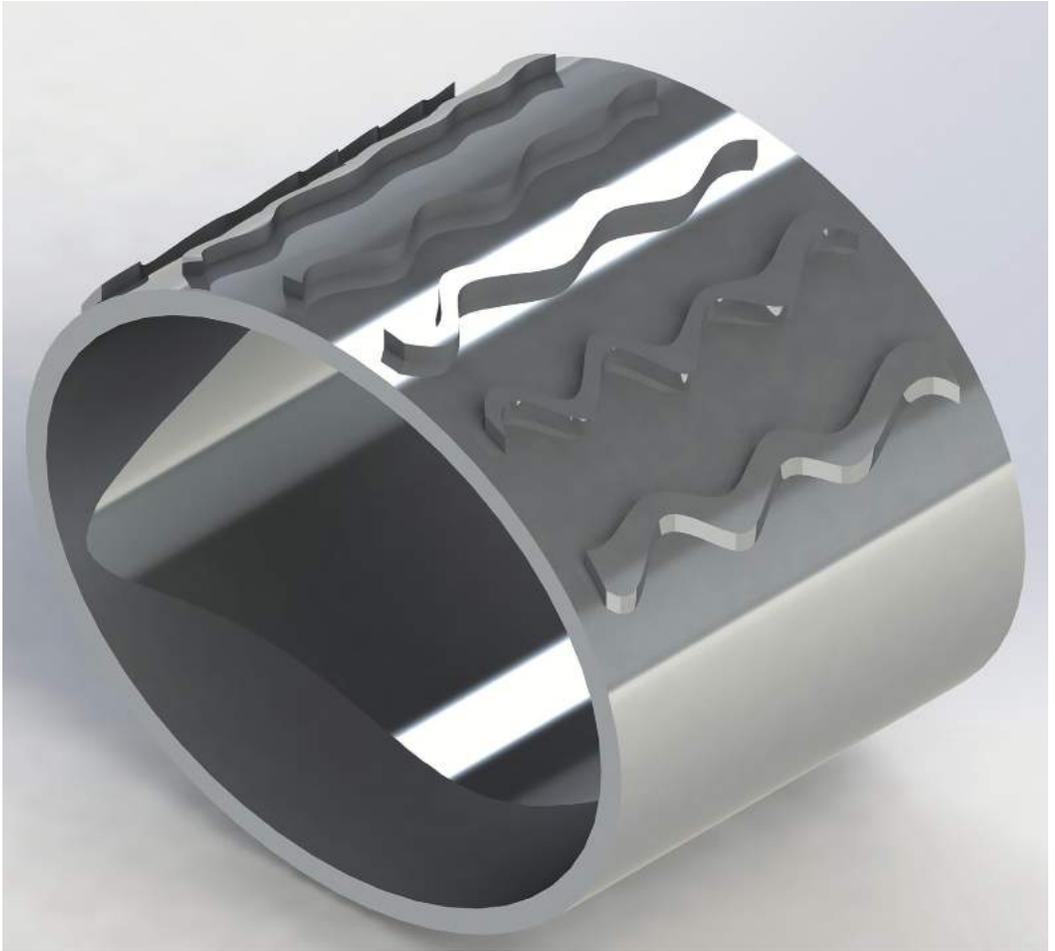
Matthew Peck

mattipeck@hotmail.com

The aim of this project (*left*) was to tackle the issue of sanitation in Uganda in the most economical and efficient way possible. The product is comprised of materials easily found in Uganda and facilitates the sanitary disposal of waste in a hygienic manner through a 3-level filter housed in the drum section.

This group project (*above*) was produced whilst in Valencia on the EPS program. The design is a multifunctional piece of children's furniture that grows with the child, whilst maintaining a desirable aesthetic for the parent.'



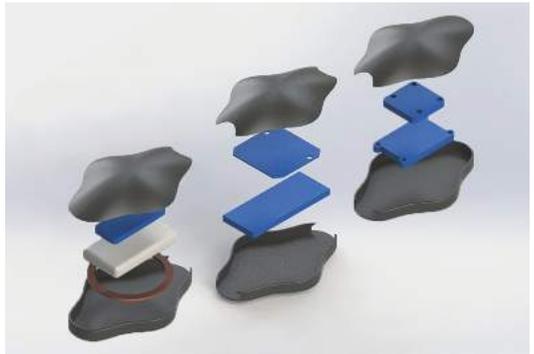


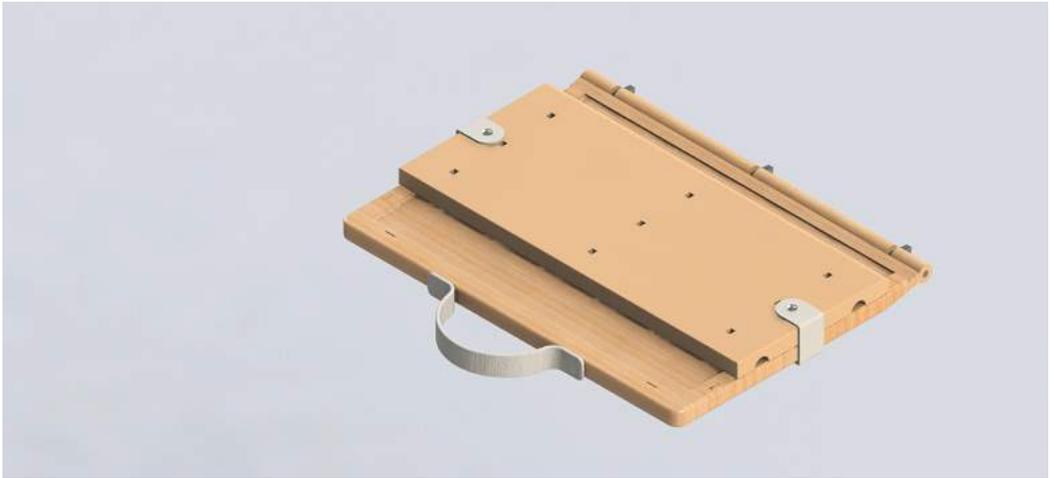
Hannah Rodger

hannah.rodger@yahoo.co.uk

Assistaphone (*left*) will give people with Dementia the ability to communicate with fiends and family without compromising the user's safety.

By extruding costume jewellery using aluminium (*above*), the user will not experience the green staining to the skin that current costume jewellery usually causes. The manufacturing process will also be sped up by not using multiple techniques to achieve the finished product.





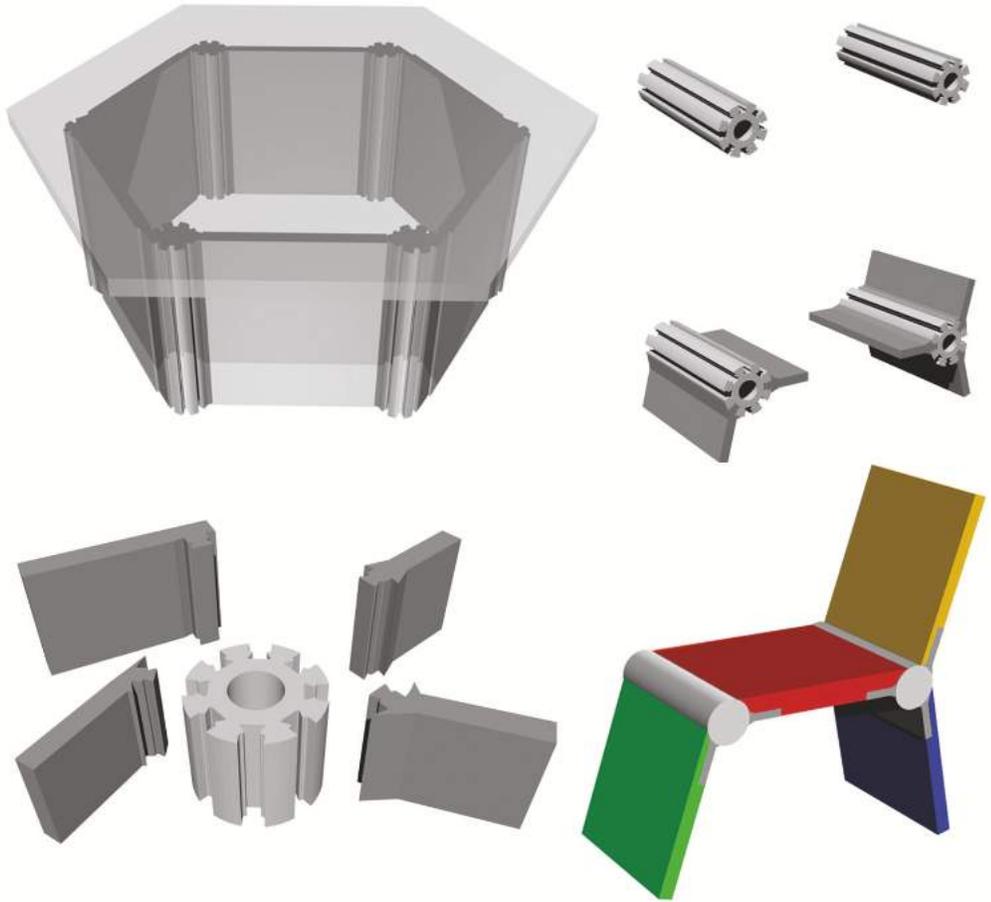
George Russell

georgerussell1994@gmail.com

Here are two pieces of work that I feel best represent me as a designer. The first (*left*) is a concussion detection device for rugby players. It would be strapped behind the ear and run around to the back of the neck.

The second (*above*) is a simplistic and very portable laptop tray that can be adjusted to suit the user.





David Tregidgo

dtregidgo@mac.com

Surgical tool change system for the UR5 robot (*left*) allows it to pick up standard instruments from a rack. Tools are encased in jacket grips for safety and accuracy of use.

Alex (*above*) is a system of contemporary modular furniture using an extruded aluminium connector and angled plates to allow construction of a variety of tables, chairs and bookcases. Inspired by K'NEX!



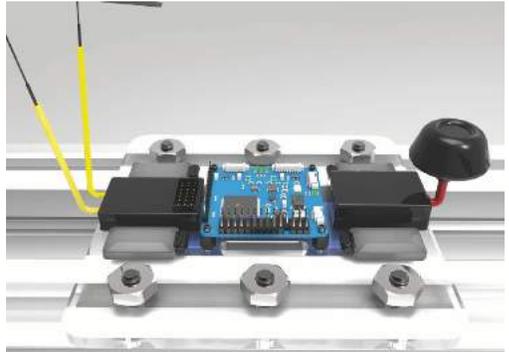
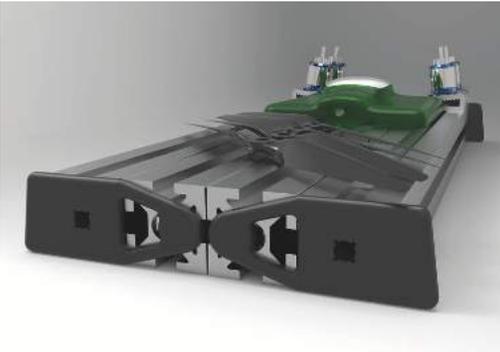
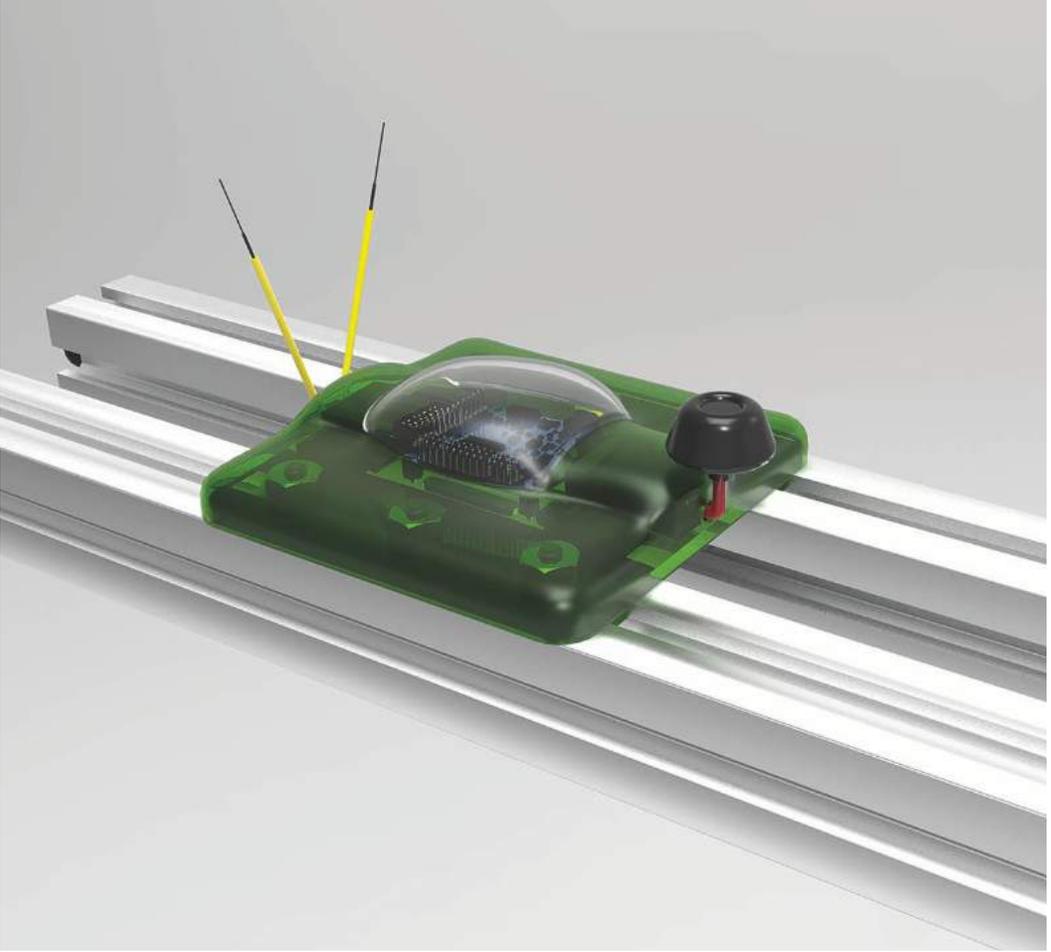


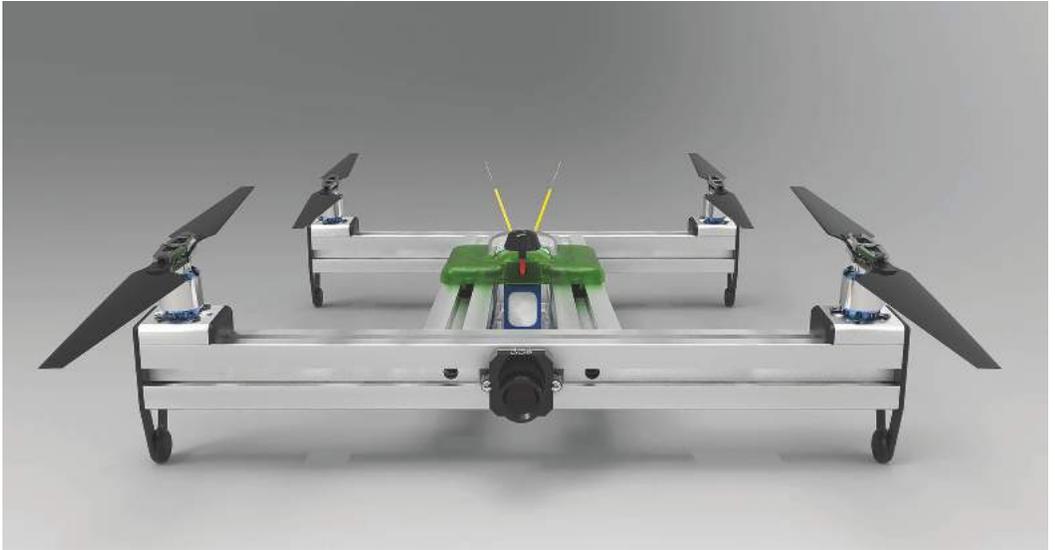
Nicholas Turner

nickj.turner@ntlworld.com | www.snapttechhelmets.weebly.com

Snaptec Helmets (*left*) provides the user with a helmet for multiple sports. Utilising magnetic locking technology, the helmet can be customised with attachments for multiple sports.

An extruded aluminium weight lifting system (*above*). Customisable for use above a door frame for pull ups, or with weight disks for lifting exercises.



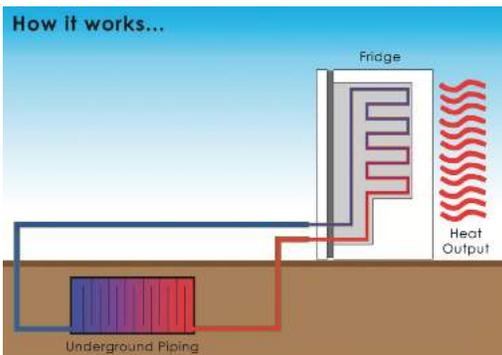


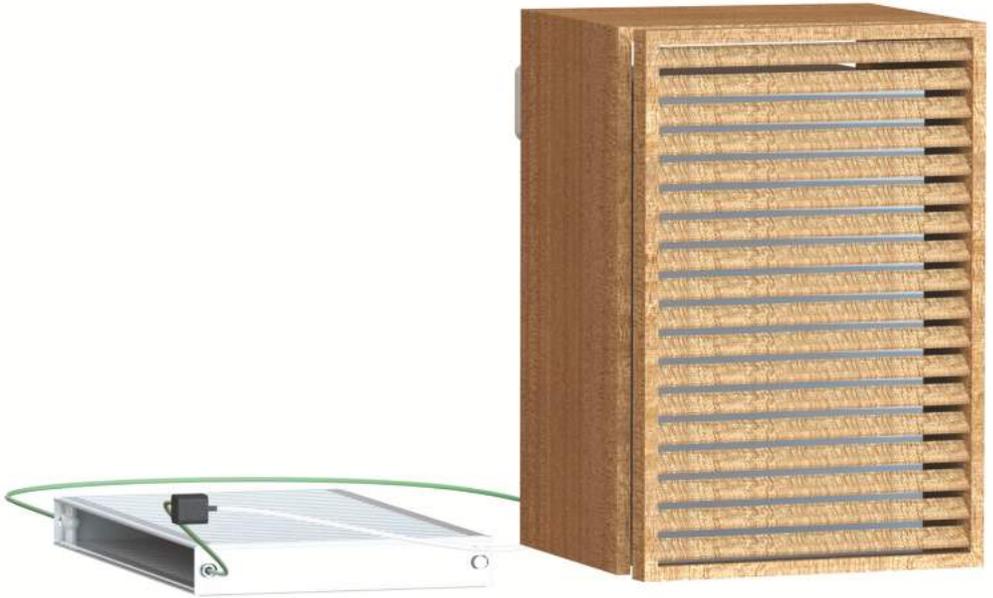
Wouter Van Goey

wouter@vangoeys.be

Alucopter is a lightweight, durable, modular and affordable extruded aluminium multirotor frame.

For ease of transport the frame can be (dis)assembled in under a minute using only an Allen key.





Liam Walker

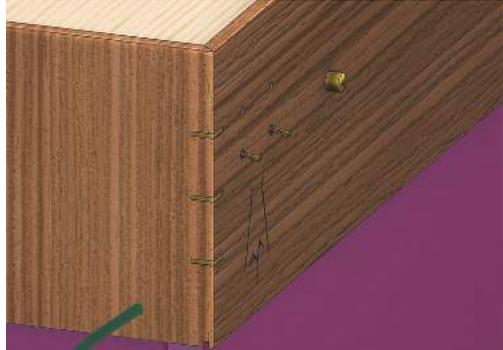
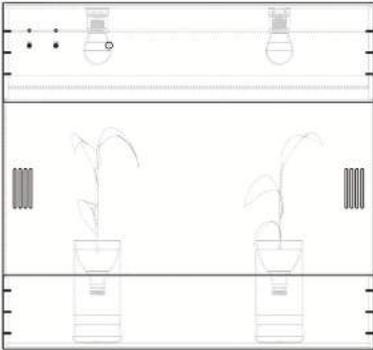
liam.walker19@gmail.com

Major Study Project: Design of a Ground Source Heat Pump using recycled fridges.

I have designed a ground source heat pump using recycled components to create a cheap alternative to provide sustainable heat.

The system uses a closed loop system where water runs through the recycled radiator underground to gather heat.

The fridge located inside the house then extracts the heat from the copper pipe and the extracted heat is then released via the rear grill of the fridge.





Joshua Wall

Joshwall94@hotmail.co.uk

Home hydroponics system (*left*) which makes use of recycled plastic bottles. Users construct their own soilless, passive grow systems and are able to grow plants indoors all year round.

Guitar capo (*above*) is manufactured out of a single section of extruded aluminium. This single piece design reduces production costs whilst maintaining the performance of budget guitar capos.





Frank Worcester

fr.worcester@gmail.com | uk.linkedin.com/in/frankworcester | www.frankworcester.com

Mushroom Growing Kit (*left*) is a piece of smart furniture that allows the user to grow oyster mushrooms with little input, using an automatic condition monitoring system.

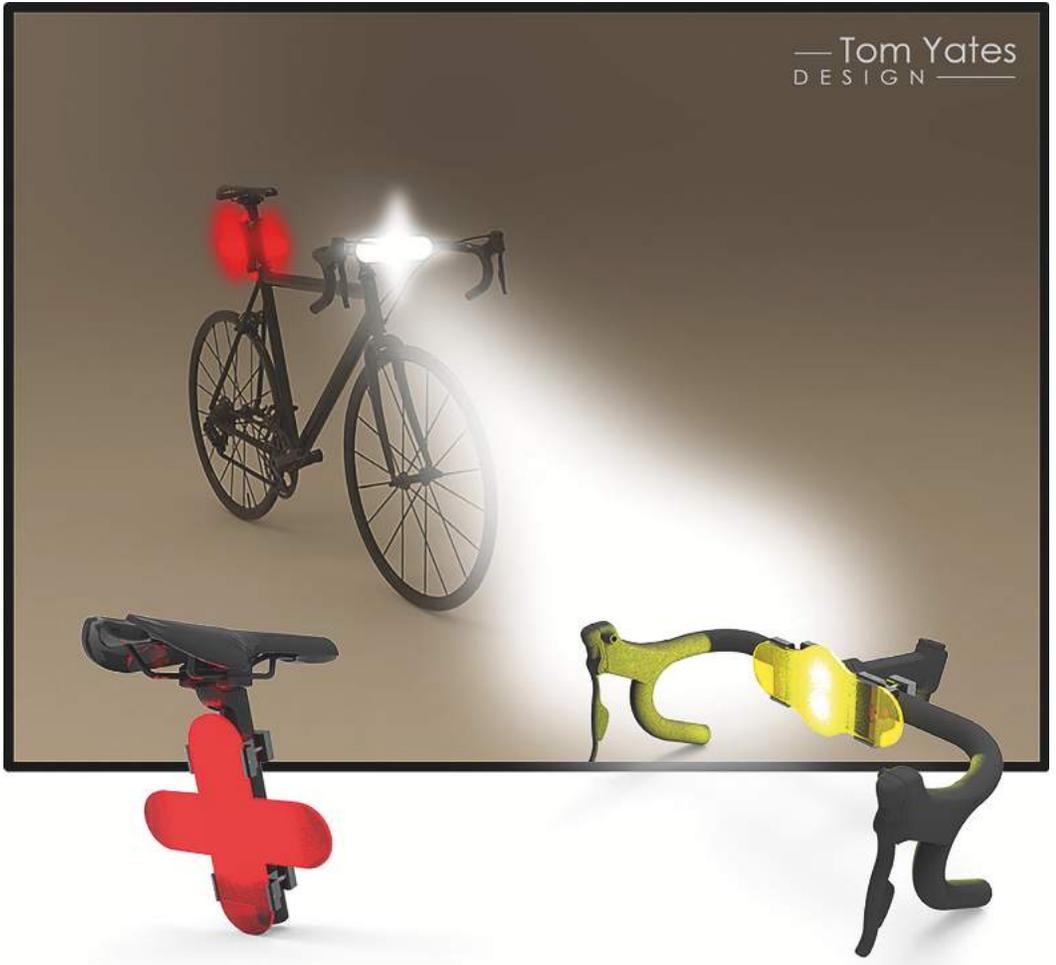
Kompakt Toiletry Unit (*above*) combines the toilet roll and brush holder with a dispenser, in response to users living in increasingly compact living spaces.



Giving Time & Navigation
to the blind community



— Tom Yates
DESIGN —



Thomas Yates

tomyates9@gmail.com

The inclusively designed 'Squash Watch' product (left) combines compass navigation with time keeping. The product encourages independence and is predominantly aimed at the blind community.

'LAMP' product (above) is a fully customisable bike light, boasting enhanced visibility, improved durability and exceptional security against theft.

NTUDESIGNINDUSTRIES.COM

BSc PRODUCT DESIGN

2 0 1 6

THANK YOU

The degree show and brochure wouldn't have been made possible without:

Course Managers

Dr. Pippa Marsh

Chris Lamerton

James Dale

All Individual Tutors

Course Leaders

Dr. Joseph Stewart

Chris Lamerton

Dr. Matthew Watkins

Photography

Annie Lewis

Printers

Steve Seddon at Hickling and Squires



A special thanks to the workshop and technical staff for their expert knowledge and supportive guidance.

THE BROCHURE TEAM

Hannah Catton
Andrew Marsh
Francesca Auld
Abbey Sheffield

Funmi Odeyemi
Frank Worcester
Tom Farmery

Luke Tomkinson
Tom Oakes
Kate Oldfield
Rob Turton

THE EXHIBITION TEAM

Suzannah Hayes
Emily Borton
Annie Lewis
Nina Thomas
Zoe Nurney
Richard Nelson

Tiff Chau
Matt Cole
Funmi Odeyemi
Frank Worcester
Francine Lorriman
David Tregidgo

Charlotte Telfer
Claire Darmody
Ryan Overton
Stuart Underwood
Charlie Hudson
Temi Edun

SHOW DATES

DEGREE SHOW 2016

Private Viewing | 3rd June 2016
Public Viewing | 4th June - 10th June 2016

Nottingham Trent University
Newton Building
Burton Street
Nottingham NG1 4BU

+44 (0)115 941 8418

NEW DESIGNERS 2016

Part 2: Product Design
6th July - 9th July 2016

Business Design Centre
Islington
London
N1 0QH

+44 (0)20 7288 6738

