chuan khoo

artist, designer, educator

khoo.chuan@gmail.com
www.chuank.com
+61 477 883 350

2A Albert Street
Brunswick East
VIC 3057
Australia

Chuan Khoo is a multi-disciplinary digital media artist, interaction designer and educator.

His passion and expertise converges in the inter-disciplinary media landscape, where the dynamic, possibilities of digital media culture gives him inspiration and satisfaction.

As an artist, Chuan manipulates electronic contraptions and machine intelligence to investigate flawed logic and everyday assumptions. Using a combination of digital media, microcontrollers, hacked appliances and traditional media such as print and repurposed objects, his art elicits a mechanical, even robotic aesthetic, while intentionally inhabiting human traits of individualism, emotion and social interaction.

With many years of design and development experience in the creative media industry, Chuan delivers digital media design/ development services and consultation across interactive media, web, and experiential installations.

As a designer, Chuan works to influence and heighten the best that digital media has to offer to create a meaningful experience for people. And as an artist, he explores and questions the darker side of the speed of change and the ethereal nature of these new ties that may not bind.

An educator at heart, Chuan has extensive teaching experience in the areas of Interaction and Experience Design, espousing his core values towards developing balanced designers with sound critical thinking, good practical design and all necessary technical skillsets. He previously headed the Diploma in Interaction Design programme at the School of Interactive & Digital Media, Nanyang Polytechnic, Singapore.

Chuan is now an artist, user experience / interaction designer and educator based in Melbourne, Australia.

■

Born: 1979
Singaporean

Left-handed
Flat-footed
Married with children

chuan khoo

artist, designer, educator

khoo.chuan@gmail.com
www.chuank.com
+61 477 883 350

2A Albert Street
Brunswick East
VIC 3057
Australia

Employment History

Since 2014 — Royal Melbourne Institute of Technology
Sessional Lecturer

School of Architecture & Design, teaching the Make Things Interactive elective. This elective covers the basics of physical computing and how it can be extended to various academic fields, particularly Industrial Design. I also supervised a group of 5 Ba. Design (Industrial Design) students for their Honours Project in 2014.

2013 — Digimagic Communications
Experiential Architect

My role, as a member of the senior management and the head of the Experiential Media (ExM) department and consultant, involves the spearheading of ExM technologies, and the establishment of relevant design methodologies necessary to embrace new digital media experiences.

This establishment and championing of ExM extends towards client outreach.

Headquartered in Singapore, with branch offices in Bangkok and Kuala Lumpur, my ExM responsibilities covers these countries, including the necessary cross-team management and R&D direction in ExM matters.

2009–2013 — Nanyang Polytechnic
School of Interactive & Digital Media
Interaction Design Group
Group Head / Course Manager

I led the team of Interaction Design lecturers in refining the Diploma in Interaction Design curriculum and pedagogy, emphasizing the need for a holistic, experiential design base. I have introduced three-dimensional form and space design studies, set up a mini metal and wood-working workshop for the programme, and was both the author and teacher of our new physical computing subjects.

From end-2011, I led the transition in the senior management's direction towards mobile and screen-based interactivity, identifying the need for responsive web design as a key skill for our students to master, and increasing the emphasis on having students explore mobile app interface and interaction design.

I also authored and presented several modules on media studies. While this is an area that tends to be under-valued by many Singapore design institutions, I believe these subjects provide the foundation that fledgling designers need to bring life and meaning to their work.

My other roles included overseeing programme operations, ground and management-level decision making, student management and mentorship, exhibitions, equipment acquisition, client project collaborations, overseas presentations and student exchanges, as well as handling administrative matters related to the continued development and support of the diploma.

chuan khoo

artist, designer, educator

khoo.chuan@gmail.com
www.chuank.com
+61 477 883 350

2A Albert Street
Brunswick East
VIC 3057
Australia

Employment History

2006–2008 Nanyang Polytechnic
School of Design
Interactive Media Group

Designer / Lecturer

Delivered subjects in web design and Final Year project supervision. During this period, I was also selected and awarded a bonded scholarship to attend an educational institution of my preference. I applied for the Rhode Island School of Design, in Providence, USA, where I received my MFA in Digital + Media.

2003–2005 Multimedia People

Senior Designer

As an interactive media designer and developer, I took on various production roles on our digital interactivity and motion graphics projects.

Together with other designers and producers in the team, we created interactive media works using digital illustrations, videography, photography and programming, integrating them into screen-based kiosks/ CDROMs or presenting them as installations.

2001–2002 Osmosis Interactive

Designer

This was my first job as a designer and developer, and I worked on a wide variety of screen-based design and development jobs for several high-profile clients. Screen-based interactive media included websites and CDROM applications. It is here that I picked up my core technical skills in Flash and ActionScript, designing and developing an entire series of cutting-edge (at the time), interactive Flash-based microsites.

chuan
khoo
artist, designer, educator

khoo.chuan@gmail.com
www.chuank.com
+61 477 883 350

2A Albert Street
Brunswick East
VIC 3057
Australia

Teaching & Pedagogy

2008 – 2013 Nanyang Polytechnic
School of Interactive & Digital Media
Interaction Design Group

Author & Lecturer in:
Design & Society, Media & Social Psychology,
Cognition, Communication & Interaction,
Physical Computing,
Realtime Interactivity (Max/MSP/Jitter),
Introduction to Responsive Web Design,
Final Year Project development & supervision

2007 Rhode Island School of Design
MFA Digital + Media

Co-teacher/author, winter session BFA class:
Vision, Space, Performance

Co-researcher & developer:
Lepton Digital Media Discourse &
Information Visualization Tool

2006 Nanyang Polytechnic
School of Design
Interactive Media Group

Tutor in:
Web Design
Final Year Project development & supervision

chuan khoo

artist, designer, educator

khoo.chuan@gmail.com
www.chuank.com
+61 477 883 350

2A Albert Street
Brunswick East
VIC 3057
Australia

Education

2006 – 2008 Rhode Island School of Design, USA
Master of Fine Arts in Digital + Media, Honors

2007 Brown University, USA
Electronc Writing, Literature (RISD-Brown cross-registration)

1996 – 1999 Nanyang Polytechnic, Singapore
Diploma in Digital Media Design with Merit

Publications

2011 **Lepton, Digital Media Discourse & Information Visualization tool**

Published in the book Visual Complexity: Mapping Patterns of Information by Manuel Lima

http://www.visualcomplexity.com/vc/project.cfm?id=535

2008 **Within Complexity Lies Truth**

MFA thesis

International Workshops & Symposiums

2012, 2011 Visiting Lecturer
Guangzhou Academy of Fine Arts

2008 Speaker, International Symposium on Electronic Art (ISEA) 2008
The Lepton Project

Awards & Honours

2013 **Crowbar Awards 2013 SILVER – Experimental Interactive***

Hujang Kacang (Raining Beans)

*My student, Azmira Bte Amin, clinched this award for which I was her module teacher, FYPJ mentor and technical supervisor

2011 **Crowbar Awards 2011 GOLD – Best in Experimental Interactive***

Simplicity in Complexity

*My student, Tan Guan Wei, clinched this award for which I was his FYPJ mentor and technical supervisor

1999 **Economic Development Board** (Singapore) Silver Medal Award for the Diploma in Digital Media Design course

1997 **iDN Awards – 101 Finalist**

The Door & The Crow

Exhibitions

2013 **Luck, Chance, Accident**
The Substation, Singapore

Carthatic Machine for Personal Events
All We Wish Is To See The Stars
To Our Beloved Prisons

2013 **Of People, Progress, Technology & Heart**
Chanhampe Galleries, Singapore

2008 **Welcome to the Conversation**
Rhode Island School of Design
Providence, RI USA

Mother, Lala & Me

2007 **Micromediations**
Sol Koffler Gallery
Providence, RI USA

All We Wish Is To See The Stars

2007 **Pixilerations [v.4]**
70 Eddy St, Providence, RI USA

All We Wish Is To See The Stars

chuan khoo

artist, designer, educator

khoo.chuan@gmail.com
www.chuank.com
+61 477 883 350

2A Albert Street
Brunswick East
VIC 3057
Australia

Skillsets

Cross-disciplinary Bridging & Direction	Multimedia Design & Development
Creative Direction	Physical Computing
Art Direction	Web Design & Development
Team Management	Motion Graphics
Interaction Design / UX	Digital Imaging & Photography
Experiential / Interactive Installation	Audio Production

Technical Skillsets

Scripting/Programming	**Flash (ActionScript 2+3)**	●●●
	C (Arduino)	●●●
	C++ (OpenFrameworks)	●○○
	Java (Processing)	●○○
	JavaScript/JQuery (HTML5)	●○○
	PHP/mySQL	●●○
	Python	●○○
	Max/MSP/Jitter	●●●
	Unity3D	●●○
Design Production	**Photoshop**	●●●
	Illustrator	●●●
	Flash	●●●
	Dreamweaver	●●○
	InDesign	●●○
Motion Graphics	**AfterEffects**	●●●
Physical Computing	**Arduino**	●●●
	Propeller	●●○
	Raspberry Pi	●●○
	Electronic Engineering	●●○
Audio Production	**Sound Forge**	●●●
	Ableton Live	●○○
3D Printing (RepRap)	Autodesk Inventor	●○○
	OpenSCAD	●●○

Languages

English	Fluent
Mandarin	Conversational, basic reading and writing
Hokkien	Conversational

chuan khoo

artist, designer, educator

khoo.chuan@gmail.com
www.chuank.com
+61 477 883 350

2A Albert Street
Brunswick East
VIC 3057
Australia

portfolio

art
electronic sculpture
digital media
traditional media

education
media studies
interaction design
interactive art

design
interactive media
motion graphics
photography

tinker
3d printing
making things

portfolio

art
electronic sculpture
digital media
traditional media

All We Wish Is To See The Stars

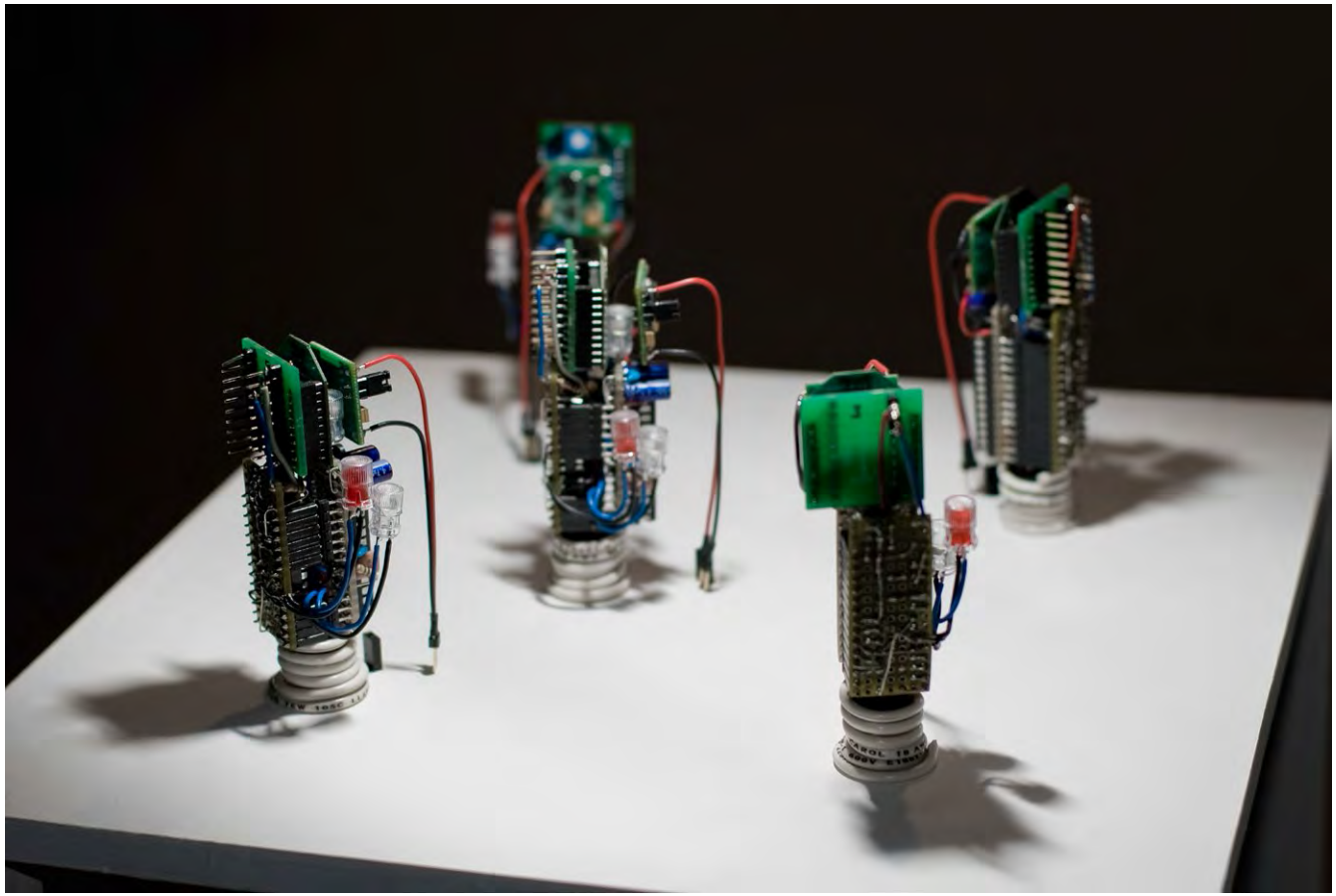
Artificial Intelligence Sculpture
2007

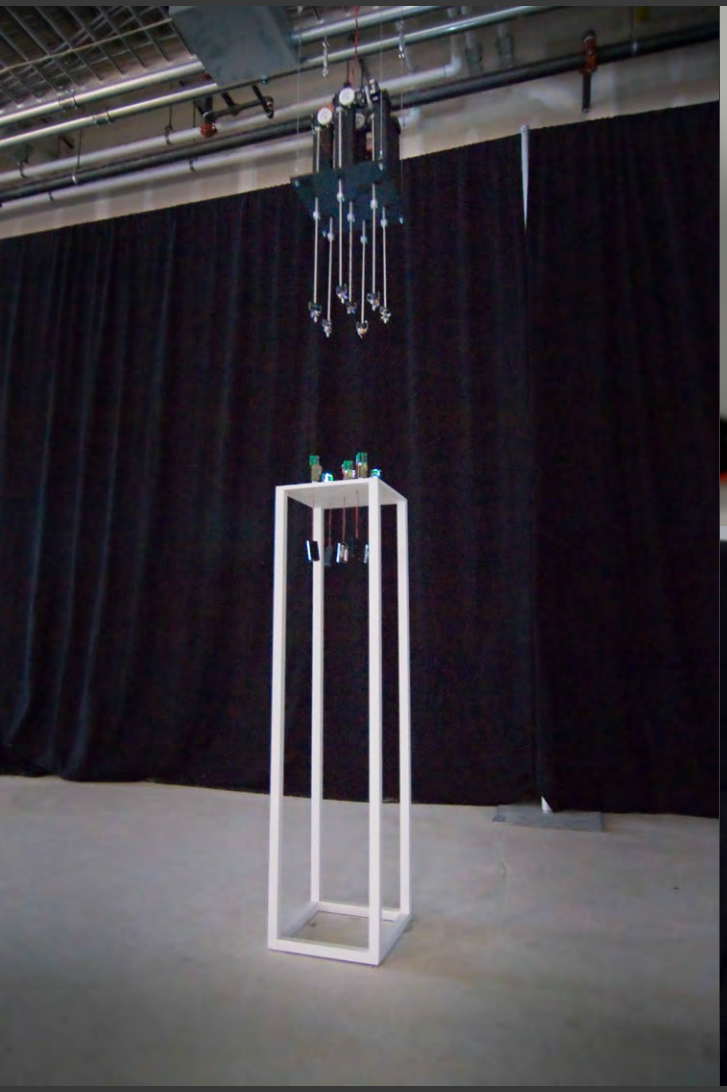
Pixilerations v.4 – 70 Eddy St, Providece, RI USA
Micromediations – Sol Koffler Gallery, Providence, RI USA
Chance, Luck & Accident – The Substation, Singapore

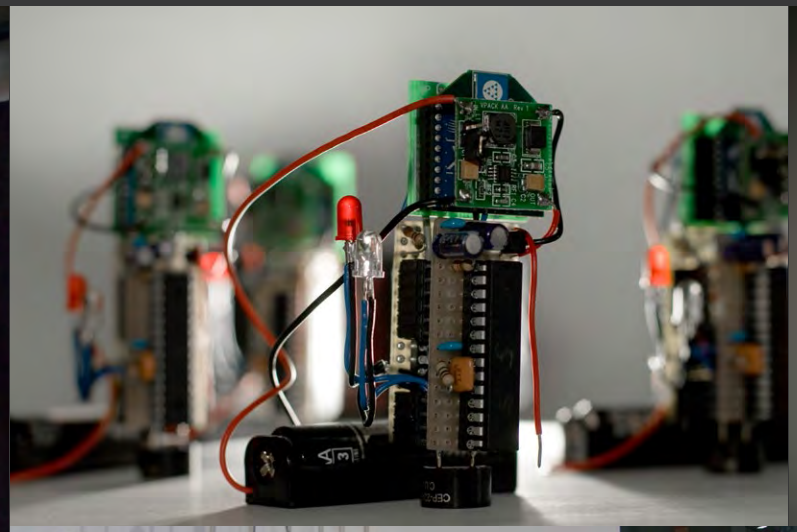
Why do we yearn for anything? Why do we remain entrenched in structures and systems, believing in the eventuality that all will be well, hoping for change, and yet lulled – worshipping comfort and ritual?

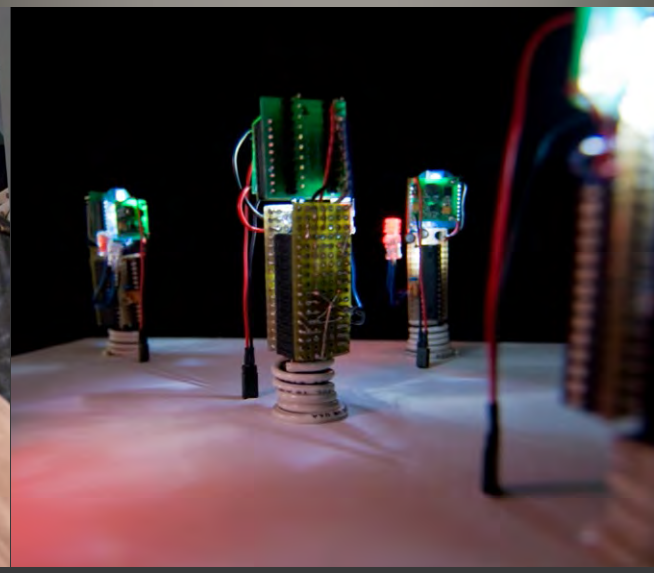
Five miniature machines sit on top of their world, pining for the stars (a constellation of co-dependent mechanical lights suspended above their world). The machines are programmed with one objective in mind; they yearn for the stars to light up and provide them with a brief moment of bliss and happiness. But they must sing out their worship to be heard by the heavens, and it is not easy to work together.

Eventually, by calculated chance, all the machines sing in unison and are granted their wish as the stars descend and twinkle upon them, only to have the brief moment of joy extinguished. The cycle restarts, and no machine knows when the stars will come out again.









Mother, Lala & Me

Robot, digital media
2008

2008 Rhode Island School of Design
MFA Graduation Show

Lala is an inquisitive robot. Decked out with a wide array of sensors, but not able to figure out any meaning in what the sensors detect, Lala relies on Mother to learn new things. Lala asks Mother questions about everything it encounters.

Mother looks like a nondescript box, but has access to the online repository of human-contributed content, known as Wikipedia.

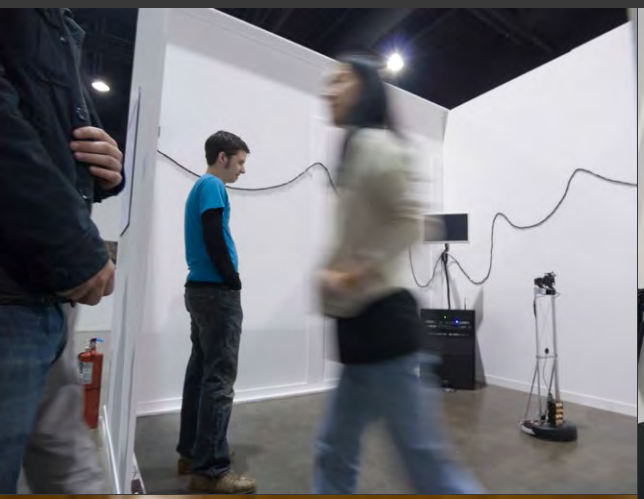
Lala spends its day locating people in its room and taking snapshots of them, then beaming those images wirelessly to Mother. Lala listens to the explanations from Mother, and carefully remembers everything Mother says.

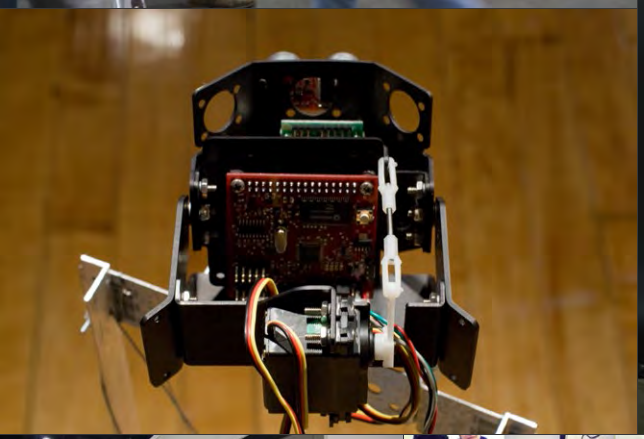
Mother earnestly answers Lala with information that is accessed on the fly from Wikipedia, and within the human-designed algorithms that have been programmed into Mother. These designs and algorithms define the 'rule book' mother abides by.

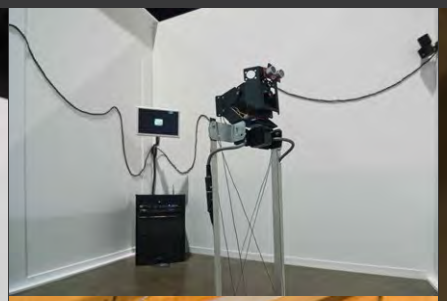
When Lala runs low on battery, Mother calls out for Lala and guides Lala to dock at Mother's charging station. While the restless Lala recharges, Mother sings soothing lullabies.

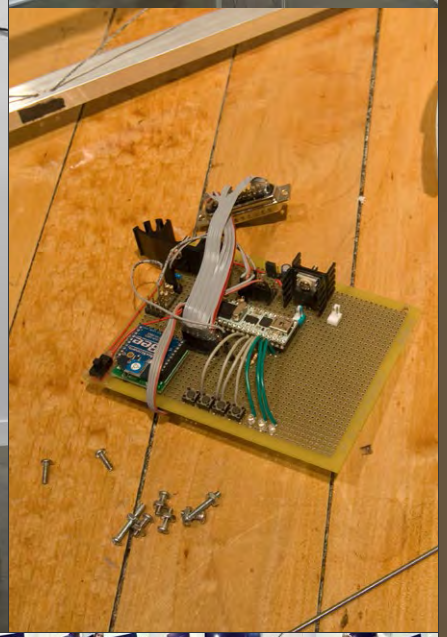
The viewer (or participant) is invited to observe the results of their interactions through Mother's view port, via a monitor suspended in a corner of the room. What Lala 'learns' can be utterly asinine, or exhibit a form of pseudo-intelligence that comes about more by accident than anything else.

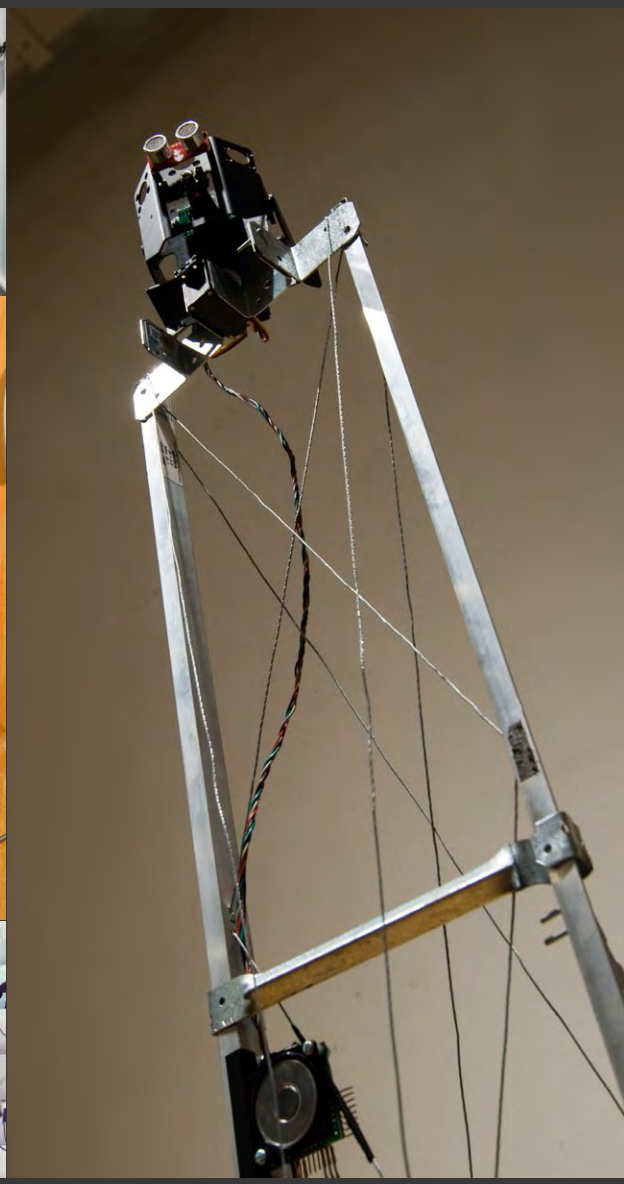
But for Lala, Mother knows best.

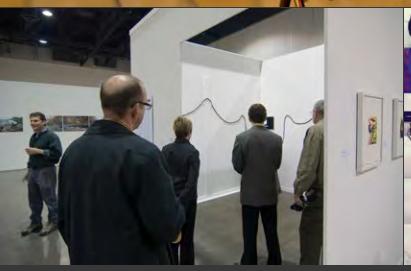


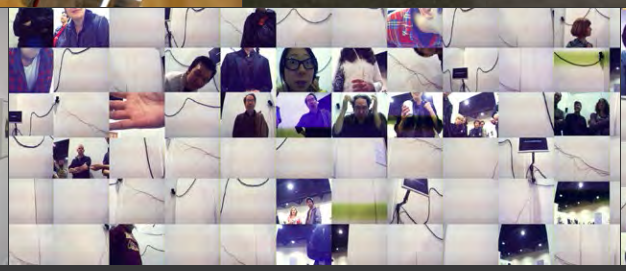


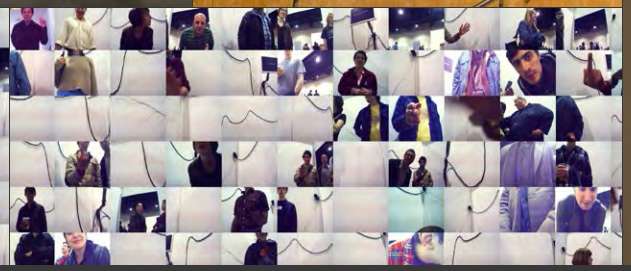


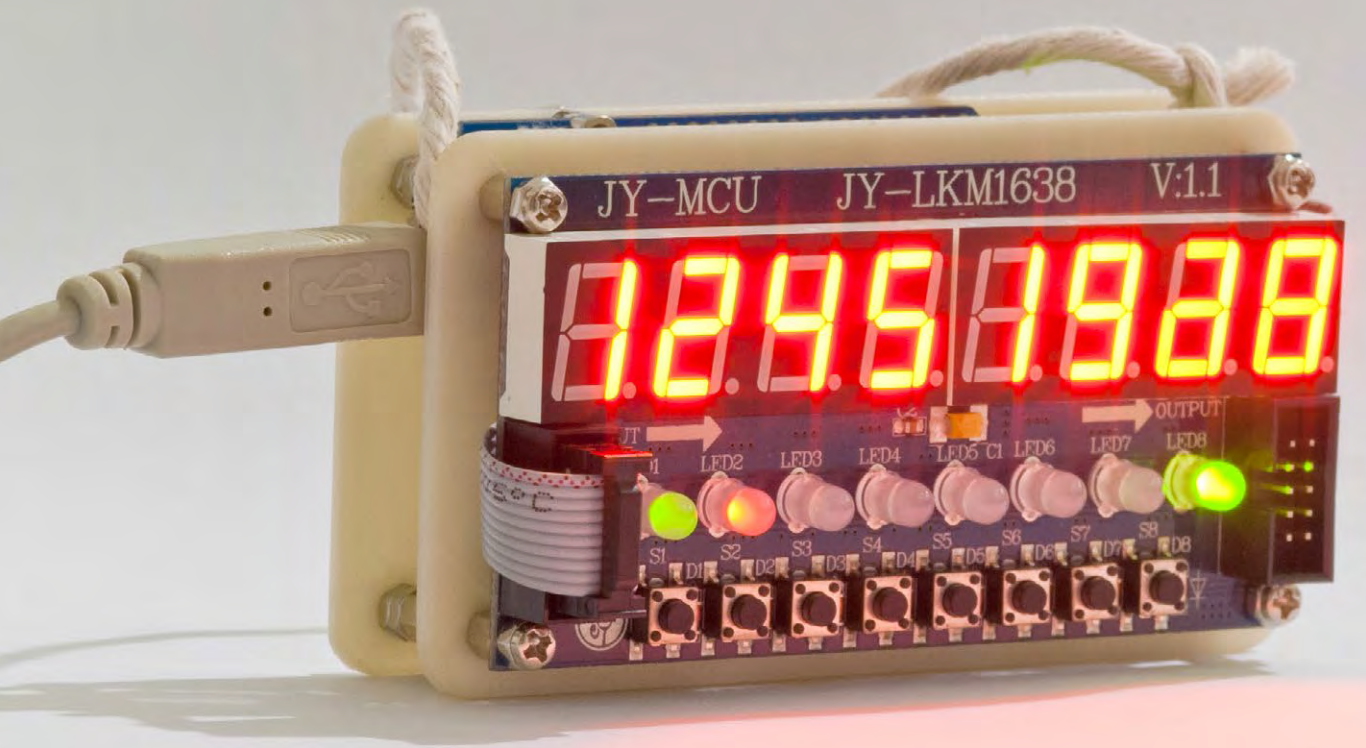












Cathartic Machine for Personal Events

Electronics, 3D-printed material
2012

Chance, Luck & Accident
The Substation, Singapore

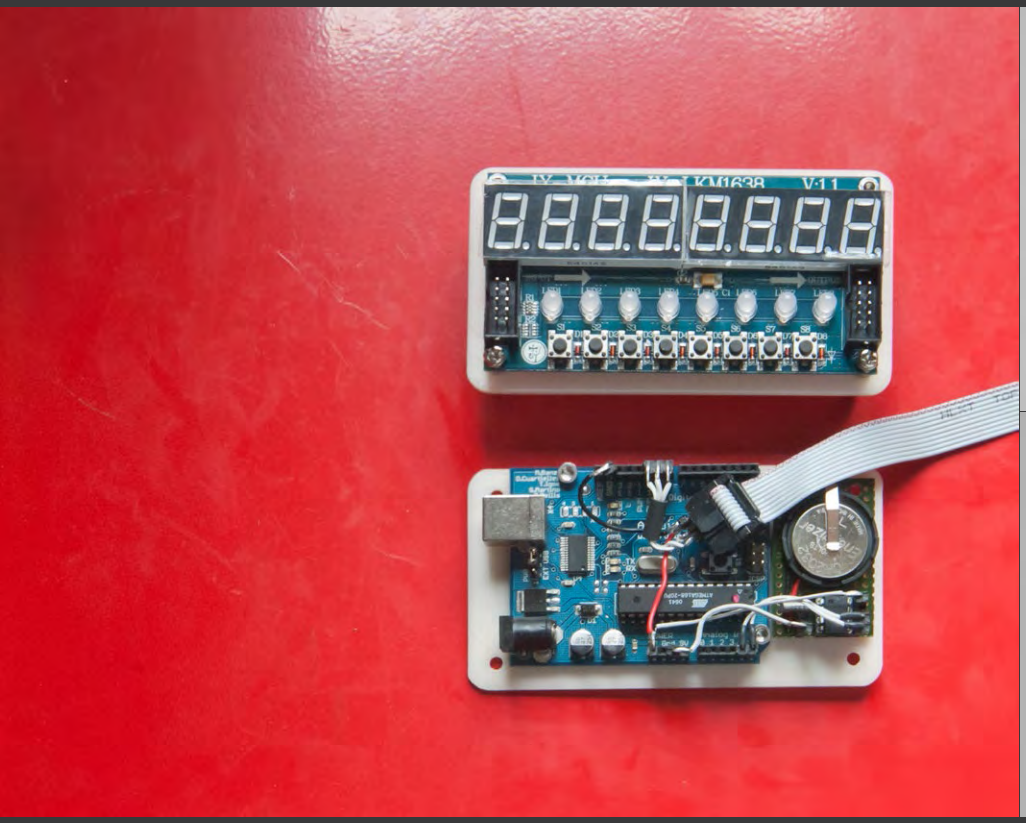
We all wait for things we want. Or things we really want to be over. A moment that changes everything. An event that will mean something, or everything, that follows will be different to how it was before. Is time passing, or just standing still?

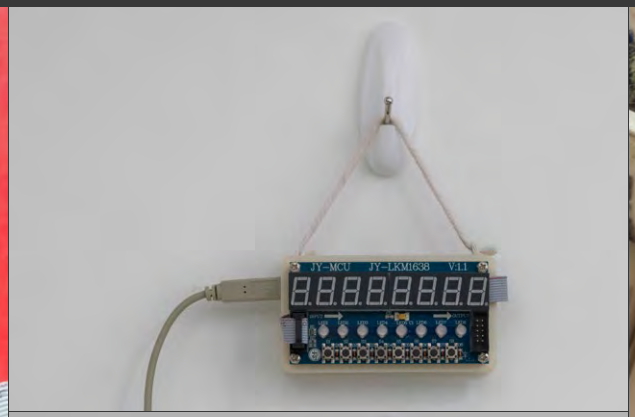
The Cathartic Machine for Personal Events consists of a real-time clock, integrated with custom-written code on a micro-controller, and an LED display.

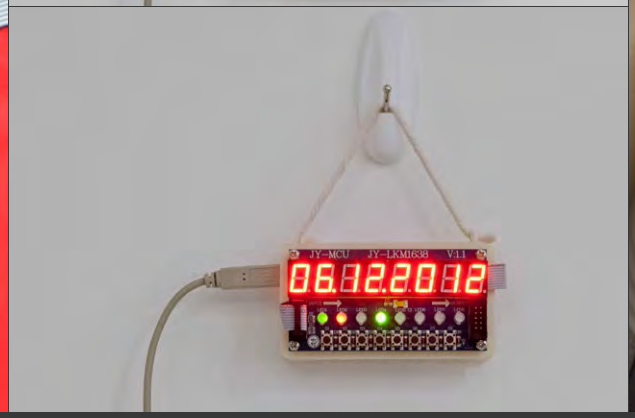
Powered by a single cable, the calm, rugged and naked appearance of the machine belies its semiotics of urgency, order and violence, stamping its authority of time marching as it ticks off the seconds to zero.

Designed to operate like a regular home appliance, the Cathartic Machine for Personal Events allows the individual to set the date to count down to, and via the buttons, inter-actively allows a countdown mode to be chosen; seconds, days, or weeks.

It also quietly pulls double duty as a date and clock machine.




JY-MCU JY-LKM1638 V1.1


JY-MCU JY-LKM1638 V1.1

Of People, Progress, Technology & Heart

Corrugated Board and Electronics
2013

Chanhampe Galleries, Singapore
with Vanessa Yeo

Can today's digital media and technology really provide an alternative to the fast disappearing physical manifestations of our origins and history?

During the debates on the loss of Singapore's Bidadari and Bukit Brown cemeteries, KTM railway, the Capitol Building, the Cathay – among many other local non-gazetted monuments – the solution of digitising images of these locations as an online repository was brought up as a way of preserving Singapore's history.

Some spoke against this approach. Supporters were viewed as real estate opportunists who would gladly welcome the wrecking ball of potential profit and relentless progress.

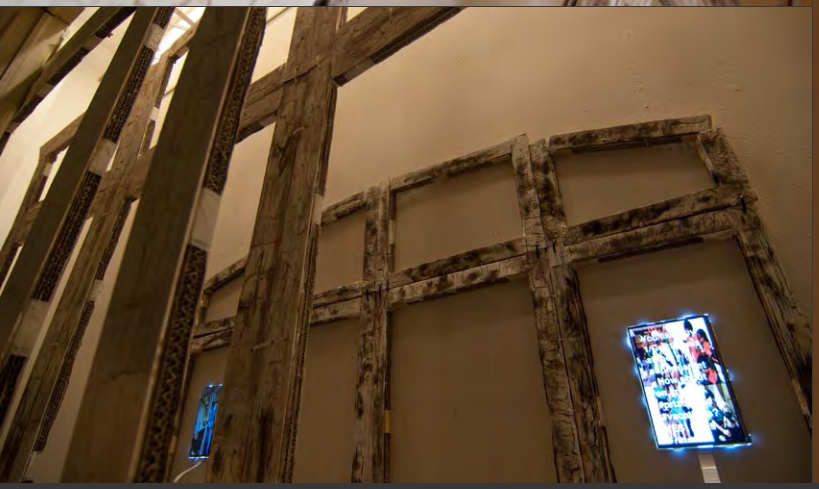
In the media, Singaporeans lament our lack of culture, while letting it lie crippled in the shallow, comfortable waters of carefully manufactured fiction and commercially-driven agendas.

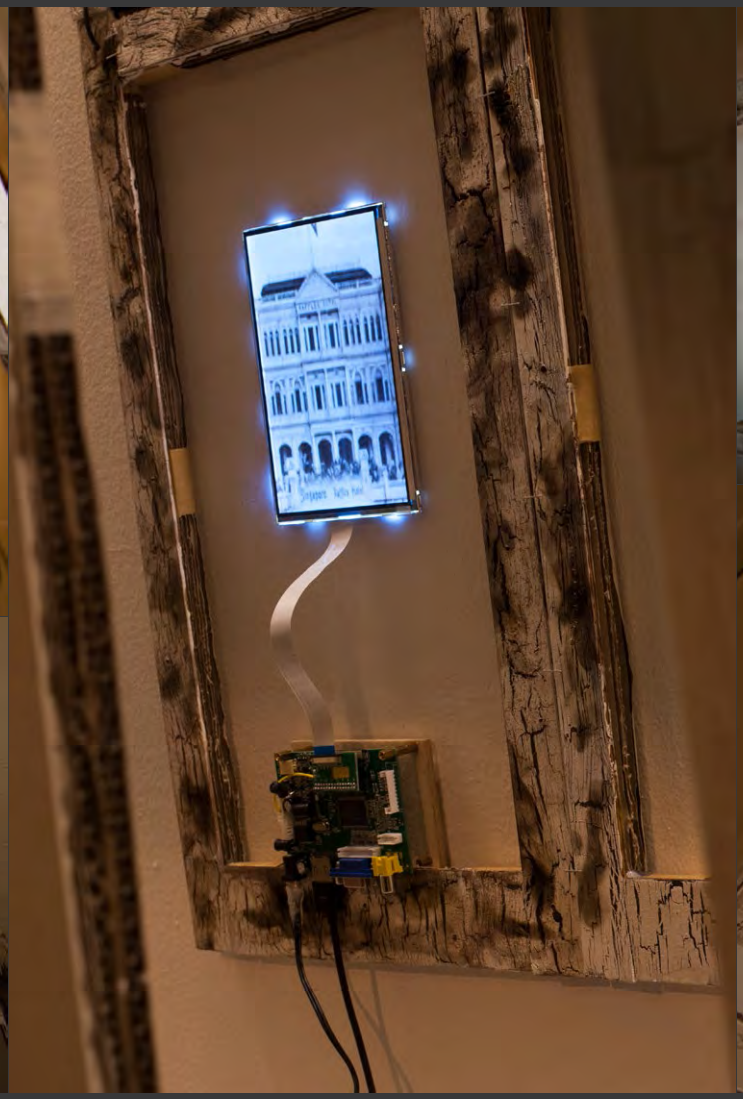
If the Raffles Hotel was not gazetted as a national monument in 1987, what would have become of it, and more importantly, can digital media work as a manifestation and memory for future generations to look back on?

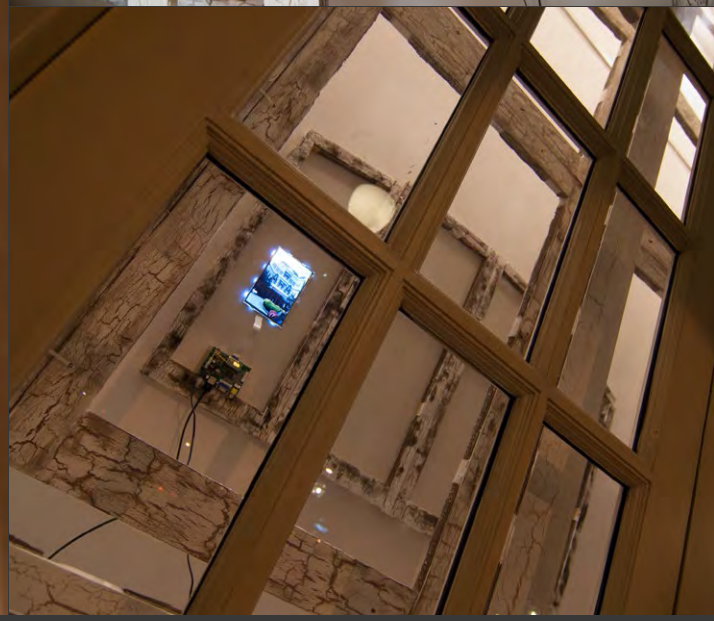
A set of 3 window frames, of exact shape and design matching the Gallery's windows but decreasing in size each time, are suspended within the narrow confines of the exhibition area.

Each frame shows increasing levels of age, wear and tear, leading the viewers to the middle, where 2 tiny screens flash images of present-day Raffles Hotel incessantly.

Whenever someone posts a Twitter tweet with the #raffles hashtag, the screen pauses and displays the tweet, completely ignorant of the tweet's context and relation to this site.







To Our Beloved Prisons

Electronics, industrial automation hardware, 3D-printed material
2013

Chance, Luck & Accident
The Substation, Singapore

There are times when well-intended systems and processes bring about massive improvements in efficiency.

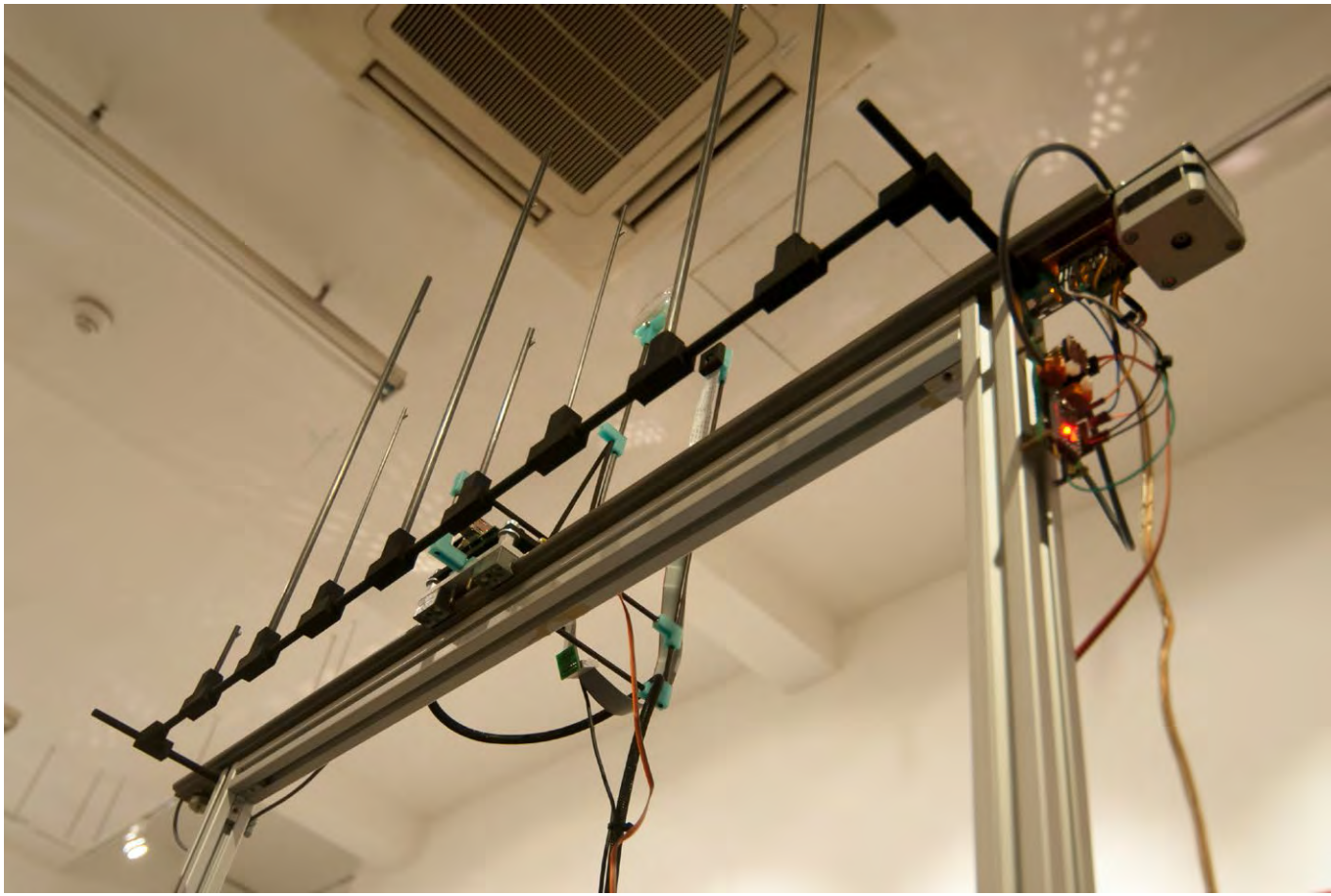
There are also times – regardless of whether we have a choice or not – when we ignore our empathy for others, and forget how to live with messy emotions and other side-effects of social interactions that some cultures and societies prefer not to deal with.

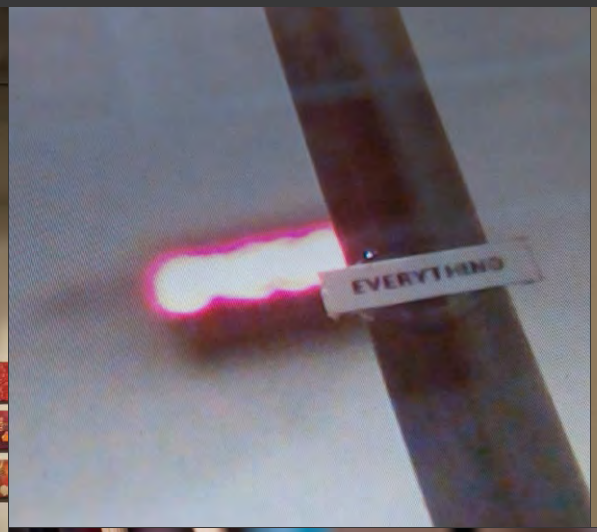
Our self-constructed prisons rise up, corrupting our thoughts as our society answers the calls for a new era of Taylorism, fuelled by the evergreen promise of pure economic progress.

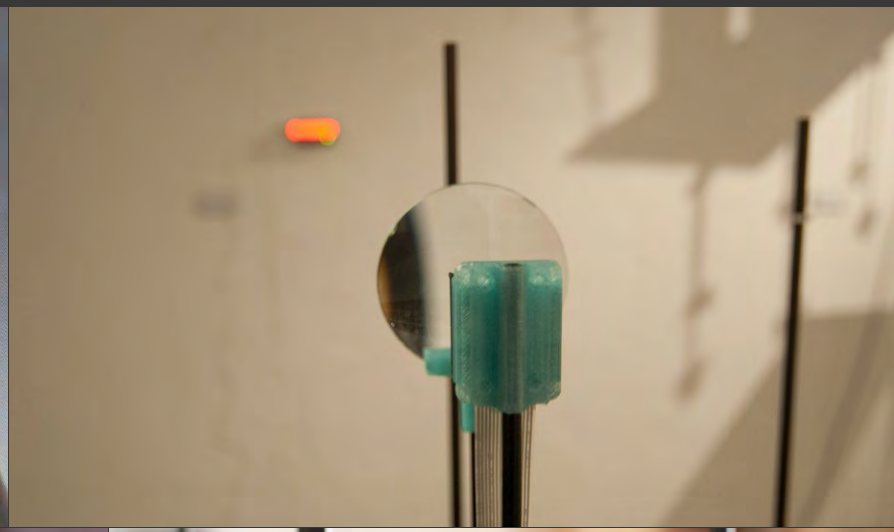
To Our Beloved Prisons tells a story of a machine, programmed to endlessly travel back and forth on a fixed rail. The machine is equipped with a camera, and with the help of a magnifying lens, is instructed, through its code, to read only the following three words stuck on vertical rods alongside the entire length of the rail: “Everything Is Fine”.

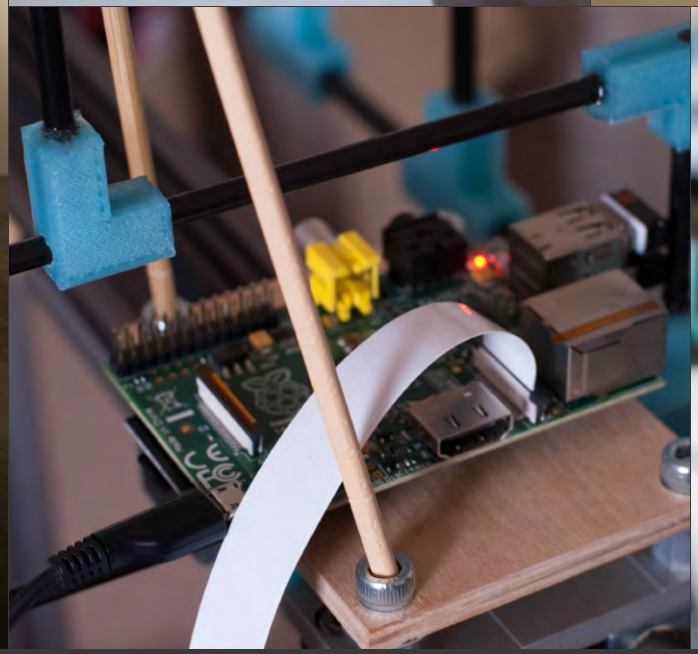
However, it fails to read the other words along other rods, as the machine was never designed to be capable of reading these words: fear, longing, hubris, hope.

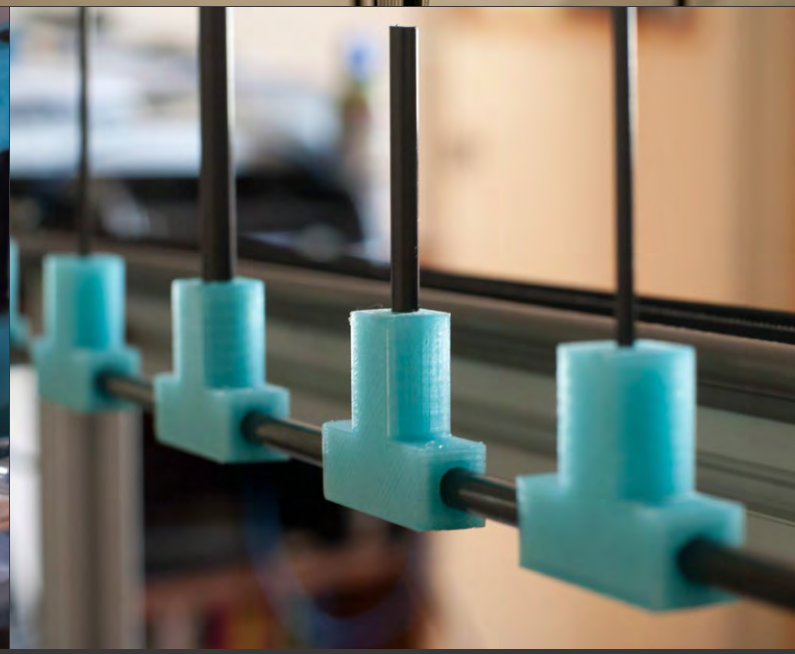
The choice of using industrial automation hardware juxtaposes modern civilisation’s progress and technological advancements with our cold, calculative approach of achieving highly efficient throughput.




EVERYTHING







portfolio

art
electronic sculpture
digital media
traditional media

Happiness Index

RSS feeds, interactive database visualisation
2006

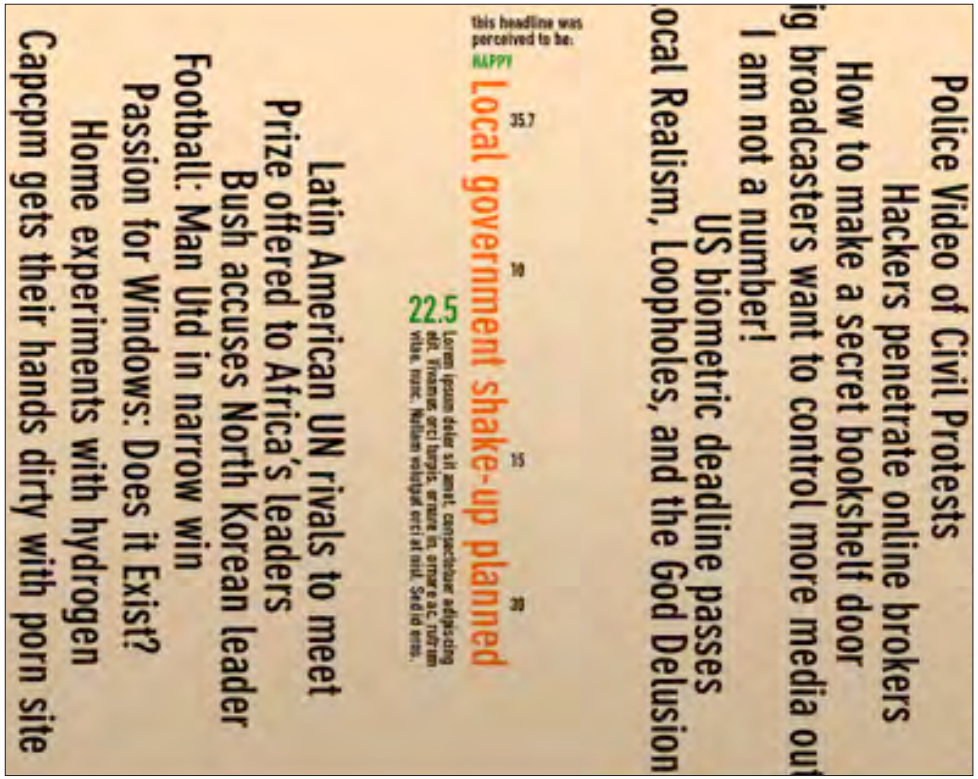
The Happiness Index, or HI, is a critique on modern society's manic obsession with quantitative analysis of a myriad of human states, such as IQ, EQ, and yes, happiness.

The base application trawls through the internet's various RSS feeds of news headlines from around the world. A search algorithm finds and breaks up the verbs in each headline, storing them in a database for further judgement and allocation.

A keyword analysis application, known as HI-KAP (Happiness Index Keyword Analysis Program), presents each stripped keyword as individual elements, requesting that they each be granted an arbitrary value of happiness: -100 being extremely unhappy, to +100 being ecstatic. Both the artist and invited demographics spend time assigning these arbitrary values.

Finally, a presentation application reveals each day's happiness, dependent on the combined wealth of headlines gathered across all daily online news feeds.

The Happiness Index is thus derived from a compounded, non-associative nor context-aware set of happiness indicators stored within each headline, but ironically throws up the occasional startling revelation, or perhaps half-truth, revealing the actual mood of a headline.



portfolio

art
electronic sculpture
digital media
traditional media

Folded Meanings

Origami
2007

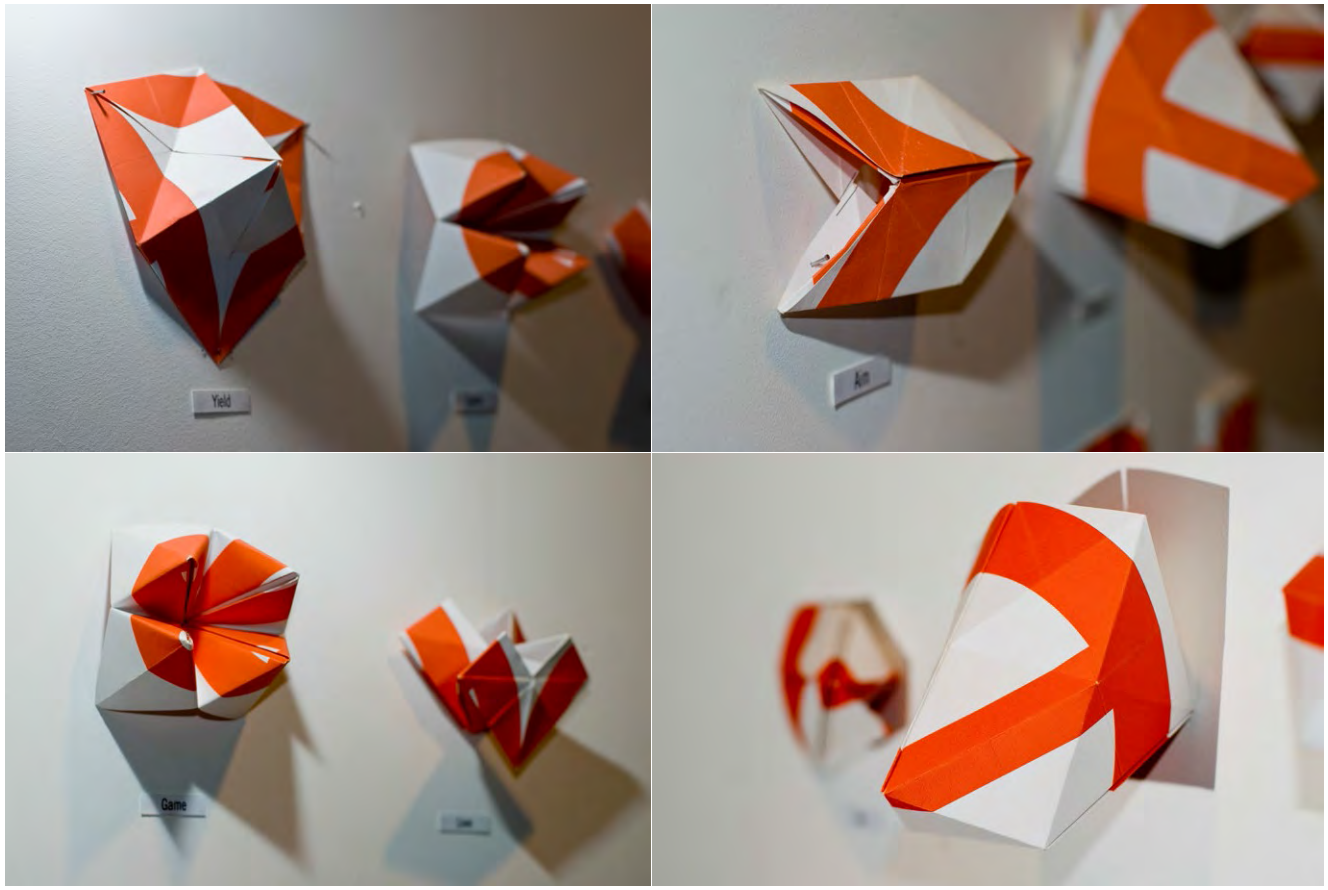
This work is a critique of society's sometimes seemingly arbitrary, rules-based blanket approach to decision-making and institutionalization.

Just as the 'NO' sign effectively communicates the suppression of an activity – symbolized by a pictogram – an empty 'NO' sign without context symbolizes a blind rule-making culture that suppresses and withholds social progress.

Part performance, part origami art, Folded Meanings involves me sitting in front of a stack of printed stock of the ubiquitous NO sign, a simple red outlined circle dissected by the authoritative, diagonal slash.

Through strictly geometric folds, I proceed to fold each NO sign until it transforms, three-dimensionally or otherwise, into something else.

Each item is then labelled and pinned to the wall as its new incarnation, a folded meaning.



portfolio

design
interactive media
motion graphics
photography

Lepton

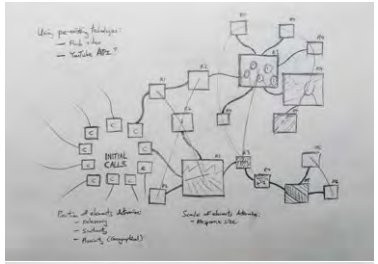
Digital media discourse & information visualization
2007

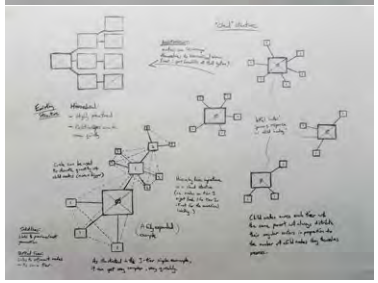
Published online and in the book Visual Complexity: Mapping Patterns of Information, Manuel Lima, 2011

http://www.visualcomplexity.com/vc/project.cfm?id=535

Lepton is a set of video collaboration tools developed by the Lepton Group, comprised by Dennis Hlynksy, Chuan Khoo and Daniel Peltz, that provide the means to create and visualize non-linear works in which the interconnections between submissions are visually emphasized.

The visualization and tracking of how ideas are related across and within cultures of media makers is the focus of our initial explorations. Lepton's interface provides a framework for dialogue through web-based video production, where people can communicate through 30-second videos and create a new note in response to someone's video. Using video as a language establishes a means for cross-cultural, multinational dialogue that does not depend on a common spoken or written language.





Harmony Circle

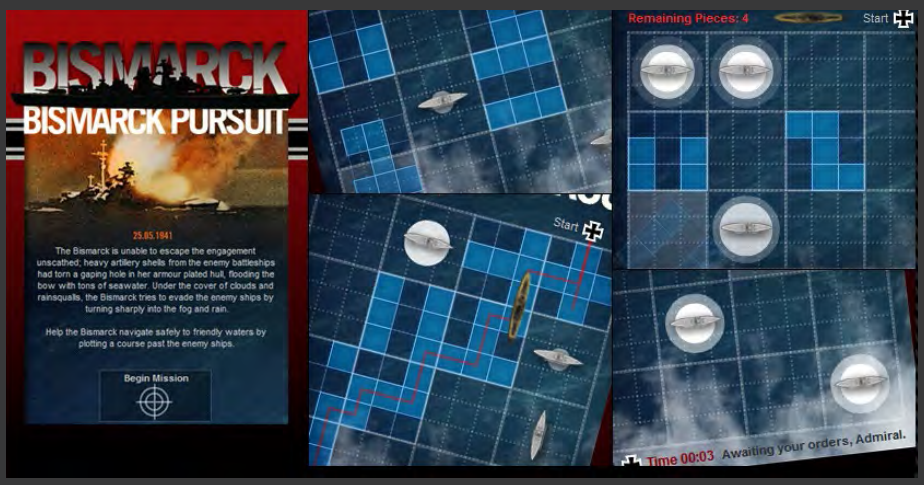
Singapore Discovery Centre
Experiential Multiplayer Trivia
Installation
2005

Art direction, interface design,
multi-player programming,
motion graphics

Discovery Channel

Flash Microsites
2001-2002

BISMARCK PURSUIT
Interface design,
styling, scripting,
game AI programming



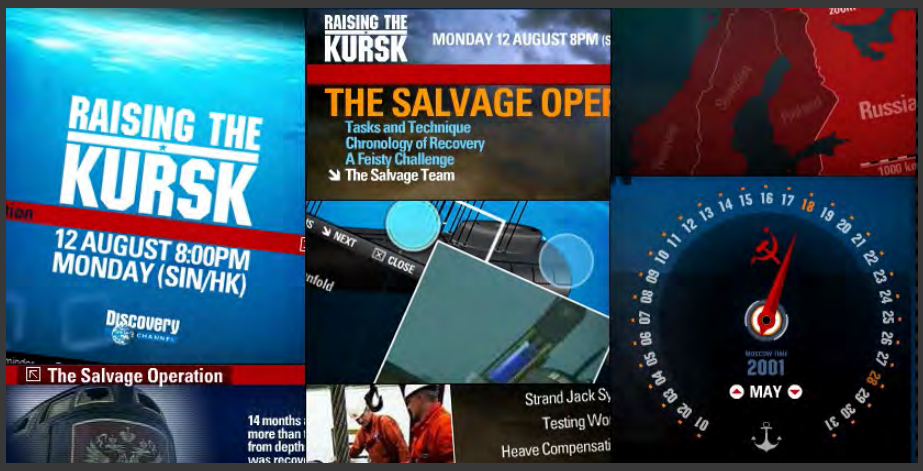
CUBAN MISSILE CRISIS
Interface design,
illustration, DI, scripting

EXTREME DISCOVERY
Interface design,
scripting

Discovery Channel

Flash Microsites
2001-2002

RAISING THE KURSK
Interface & interaction design, styling, scripting, audio design



Starhub

Flash Microsite
2002

SNAKES & LADDERS
Interface design, animation, scripting, game AI programming

Trizone Graphic Photo

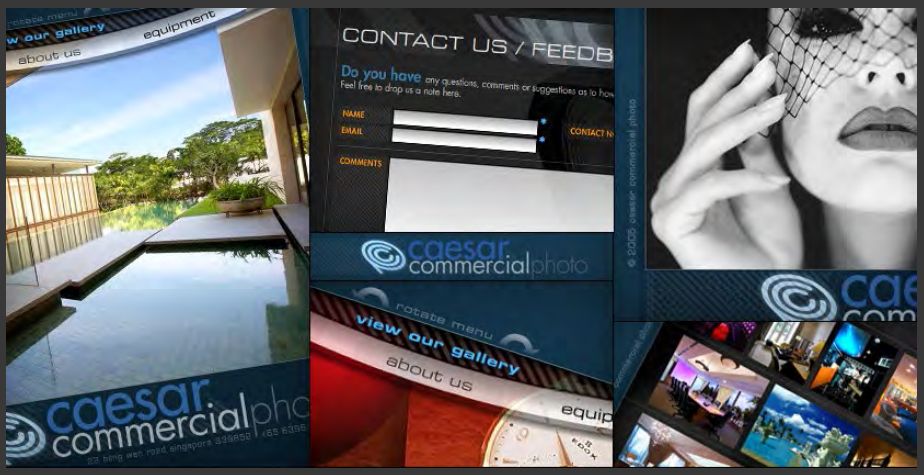
Flash Microsite
2002

Art & Creative direction, interface design, scripting

Caesar Commercial Photo

Flash Microsite
2002

Art & Creative direction, interface design, scripting



NUS Faculty of Arts and Social Sciences

Interactive
CDROM
2005

Art direction, design, illustration, photography, scripting

portfolio

design
interactive media
motion graphics
photography

National Day 2004 Singapore

Motion Graphics
2004

Motion graphics, illustrator, visual effects

A*Star Data Storage Institute

Motion Graphics
2004

Motion graphics, illustrator, visual effects

portfolio

design
interactive media
motion graphics
photography

portfolio

education
media studies
interaction design
interactive art

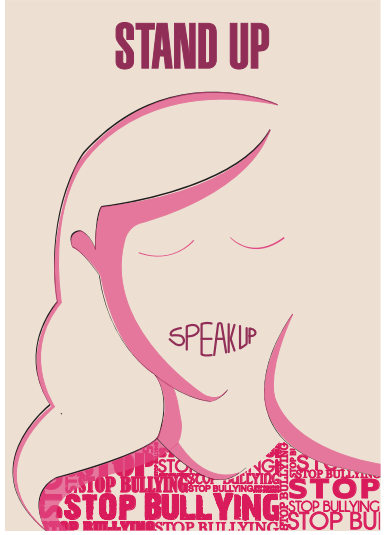
NOTE: the projects shown in the education section were done by my students. I played various roles on these projects, such as project supervisor, art, creative and/or technical direction and support.

Media Studies

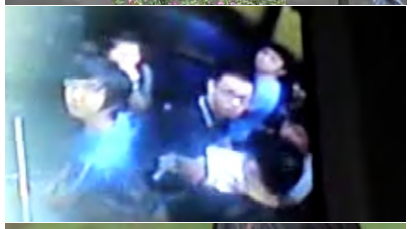
I consider media studies and literacy to be a critical component and foundation of a designer's education.

Not only should a digital media designer be equipped with sound technical and aesthetic skills, they should possess a strong understanding of media, of how we as humans perceive and interact with media, and how design should always be considered with a balance of ethics and creativity.

NOTE: these are works done by my students, of which I have had direct supervision/input.

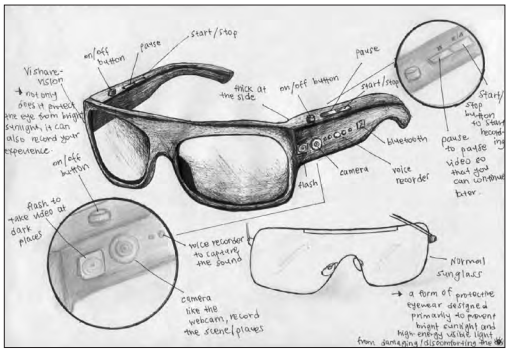


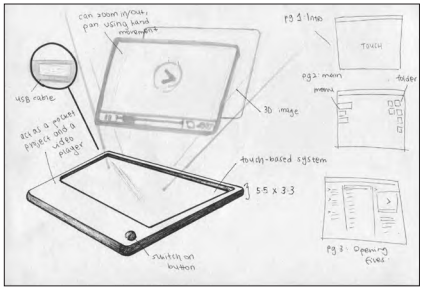
Public Service Announcements
An assignment in understanding how mass media – in this case posters – are designed for maximum impact.



In my Media & Social Psychology class, topics such as semiotics, peer pressure, conformity, and other social behavior and triggers are delivered with an emphasis on students experiencing these phenomena.

The objective of the class was to challenge the students' preconceived understanding of how mass media affects its audience, and to have the students experience or witness actual reactions from members of the public to their designed messages.





The Cognition, Communication & Interaction module focussed on developing new ideas and engagement with interactivity, working with and beyond traditional screen-based devices.

portfolio

education
media studies
interaction design
interactive art

NOTE: the projects shown in the education section were done by my students. I played various roles on these projects, such as project supervisor, art, creative and/or technical direction and support.

Bunny Wonderland

Digital Experiential Interactive Installations

Singapore Philatelic Museum

1 February 2011 – 4 January 2012

Students involved:
Anastasia Lim
Priscilla Poon
Koh Xiao Min
Wenny Budiwanto

IxD Class of 2011

NOTE: these are works done by my students, of which I have had direct supervision/input.

Together with a colleague, we supervised a group of 4 students on our very first project with the Singapore Philatelic Museum (SPM), and delivered 2 digital interactive installations for their Bunny Wonderland exhibition, a celebration of the zodiac year of the rabbit in 2011.

In this project, I served as the technical consultant, working with my colleague and the curators on the required interactivity, and oversaw the art and technical direction of one of the installations – a multi-touch interactive table.

Spice is Nice

Digital Experiential Interactive Installations

Singapore Philatelic Museum

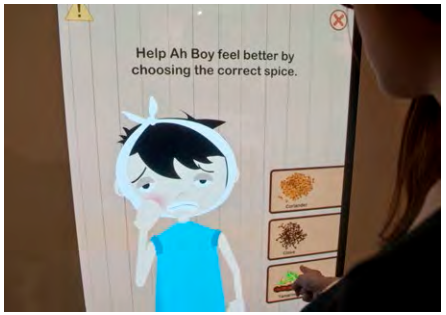
22 August 2012 – May 2014

Student involved:
Toh Lay Siong
IxD Class of 2013

For this collaboration with the Singapore Philatelic Museum (SPM), my students worked with the museum curators to deliver 4 digital interactive installations, to support the rest of the museum's thematic exhibition, inspired by the spice trade of 19th century Singapore.

I served as a consultant for the museum, and oversaw the art and technical direction for the projects, which also included on-the-ground design and development support on the installations with the students.

NOTE: these are works done by my students, of which I have had direct supervision/input.



REMEDIES FOR AH-BOY TOUCHSCREEN KIOSK

A 60-inch plasma screen mounted as a portrait window depicts a local boy, seemingly distressed by a physical illness.

The boy calls out to visitors to help him. By selecting the right combination of spices and the most appropriate preparation to relieve his symptoms, visitors were able to treat him for a range of complaints, from a cough, to rashes or stomach trouble.

Executed in Flash, this interactive kiosk required the student to develop an effective interface using good interaction design methodology and despite its simplistic nature, required a re-think of such large-format touchscreens and their usability.

Roles I played:
Curatorial liaision
Art direction
Animation supervision
Scripting supervision
Touchscreen hardware coordination

Spice is Nice

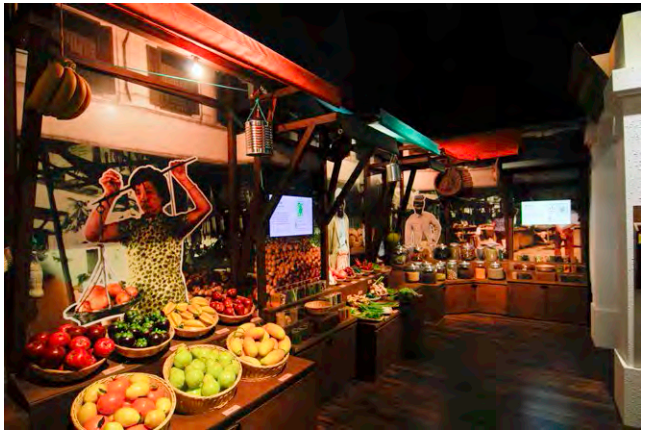
Digital Experiential
Interactive Installations

Singapore Philatelic
Museum

22 August 2012 –
May 2014

Student involved:
Kenneth Ho
IxD Class of 2013

NOTE: these are works done by my students, of which I have had direct supervision/input.

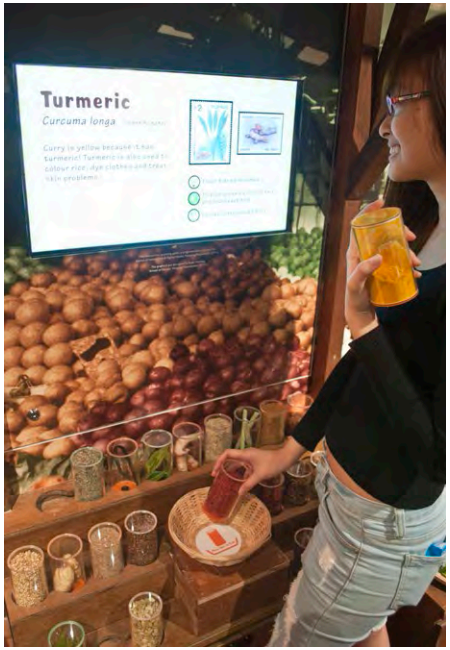


SCAN-A-SPICE – RFID SCANNER

Tactile interaction in museums brings the exhibits to life, by giving visitors a more visceral experience.

The Scan-A-Spice installation employed a commonly-available technology: RFID (Radio Frequency Identification). While most Singaporeans use this technology frequently, to ride public transport, or perhaps to borrow a book or video from the library, for Scan-A-Spice we tapped this same technology to enable a novel interaction between visitors and the exhibit.

Tiny RFID tokens were contained in sealed vials of real spices that were read when held above a wicker basket with a concealed RFID reader hidden beneath it. The display then updated to give visitors botanical information on the spice, as well as drawing on philatelic records to discover if that spice has ever been featured in a stamp design.



Roles I played:
Curatorial liaision
Technical direction
Scripting supervision

Spice is Nice

Digital Experiential
Interactive Installations

Singapore Philatelic
Museum

22 August 2012 –
May 2014

Students involved:
Alson Gan (illustration)
Ong Hwee Jie (illustration)
Kenneth Ho (scripting)

IxD Class of 2013

NOTE: these are works done by my students, of which I have had direct supervision/input.

MAMA'S KITCHEN – MULTITOUCH TABLE

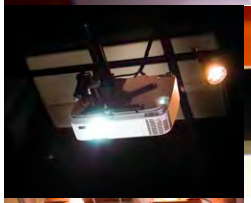
A multi-touch imaging and illumination system, first used in an earlier SPM project, was given new life through Mama's Kitchen.

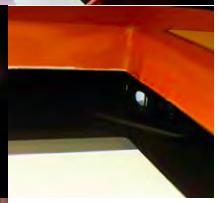
An interactive game affording multiple visitors to play the game simultaneously, Mama's Kitchen introduces visitors to the variety of local spices that contribute to a wide range of local and regional dishes.

Through a simple interaction of dragging and dropping correct ingredients into a cooking pot/wok, visitors learn how spices contribute to our culinary culture.

I provided technical consultation to the client, and sourced improved software to better take advantage of the existing hardware imaging system.

Technical execution was done by my student, after I showed him how to use computer vision (CV), as well as supporting frameworks (OSC) to allow for multi-touch data to be communicated between the CV application and Flash.





Roles I played:
Curatorial liaision
Art direction
Technical direction
Scripting supervision
Hardware consultant

Spice is Nice

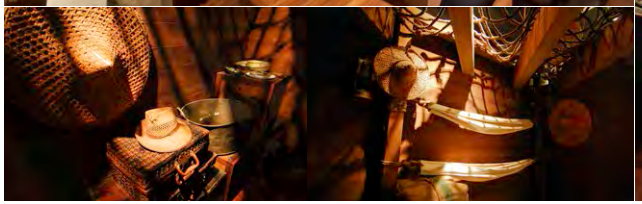
Digital Experiential Interactive Installations

Singapore Philatelic Museum

22 August 2012 – May 2014

Students involved:
Anesa Bte Dharosam (audio design)

IxD Class of 2012



CARGO HOLD – SONIC INTERACTIVE INSTALLATION

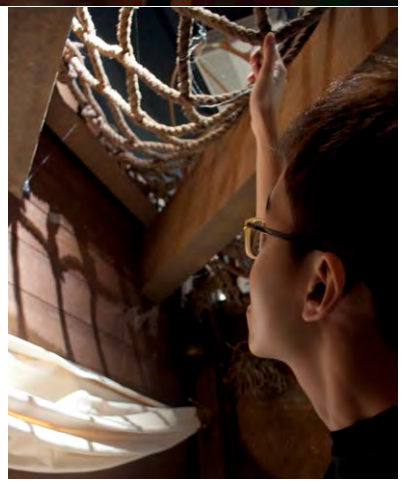
One of the first interactive audio soundscapes to be used in a local museum, Cargo Hold is a re-creation of 19th Century Chinese junks that sailed from China to Singapore on the South China Sea.

To create an immersive experience that was close (but still comfortable) to the real thing, we proposed and delivered an interactive soundscape able to detect the proximity of visitors in various areas of the 'cargo hold' – a corner of the exhibition boarded up and furnished to look like the inside of a Chinese junk. Soundtracks are then played through concealed induction speakers hidden throughout the installation.

The sonic layering created rich textures that reacted to the presence of visitors in the small space, and gave visitors a new way of experiencing museum installations – through sound.

I acted as the artistic and technical director of the deployment, including, technical consultation with SPM on the appropriate multi-channel audio hardware to use, as well as the right sensors (IR rangefinders) and microcontroller (Arduino) to use.

Software was developed by guiding the student on the use of Max/MSP/Jitter, so she could learn and apply it for the first time in her work.



Roles I played:
Curatorial liaision
Art direction
Technical direction
Scripting supervision
Hardware consultant

NOTE: these are works done by my students, of which I have had direct supervision/input.

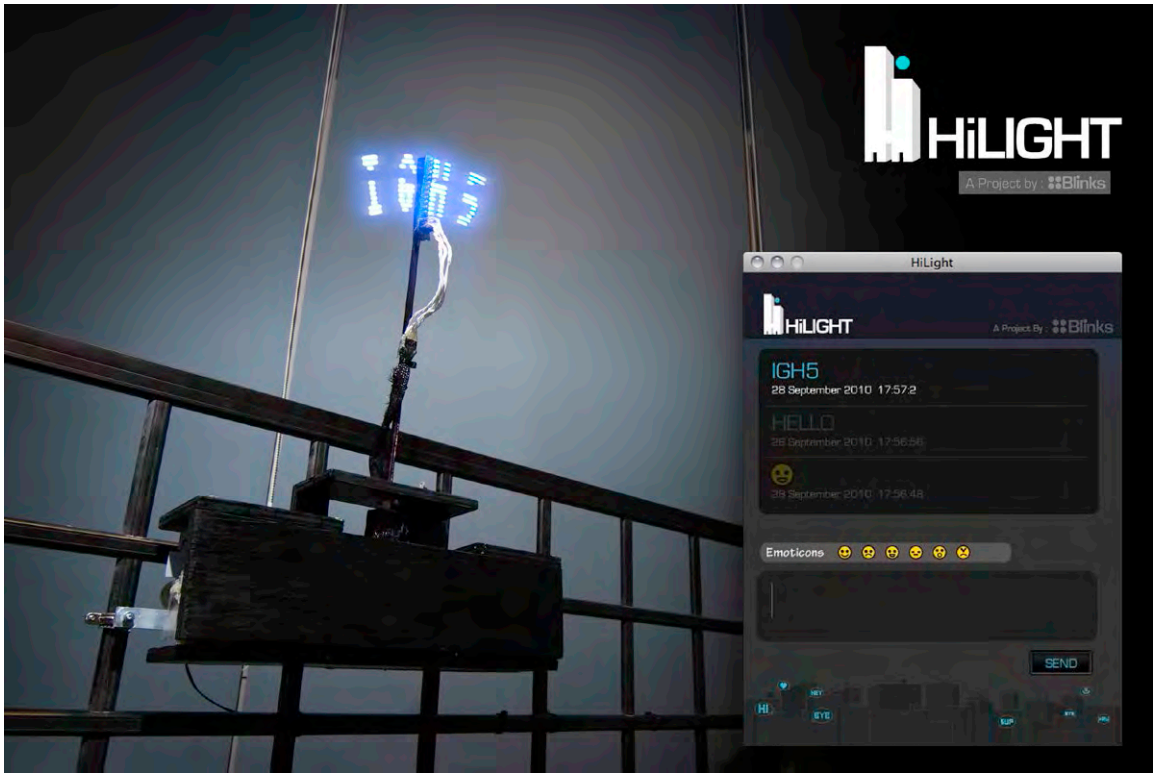
HiLight

Communication
beacon for lonely urban
apartment dwellers
2010

Students involved:
Hazel Tan
Hu Xuanrui
Kenneth Tay
Liang Shiyi

IxD Class of 2011

NOTE: these are works done by my students, of which I have had direct supervision/input.



Roles I played:
Art direction
Technical direction
Scripting supervision
Hardware hacking

The brief asked 4 students to combine what they understood as a combination of a) a network, and b) lights. They developed a whimsical messaging beacon that does not require a digital social media account to work, designed specifically for lonely HDB (Housing Development Board apartments in which 80% of Singaporeans live) dwellers that enables individuals to beam short messages of light out of their grilled windows to neighboring residents at night.

The beacon makes use of the phenomenon known as persistence of vision (POV) to communicate their short messages, and is connected to the user's computer using a software interface that the students designed and produced.

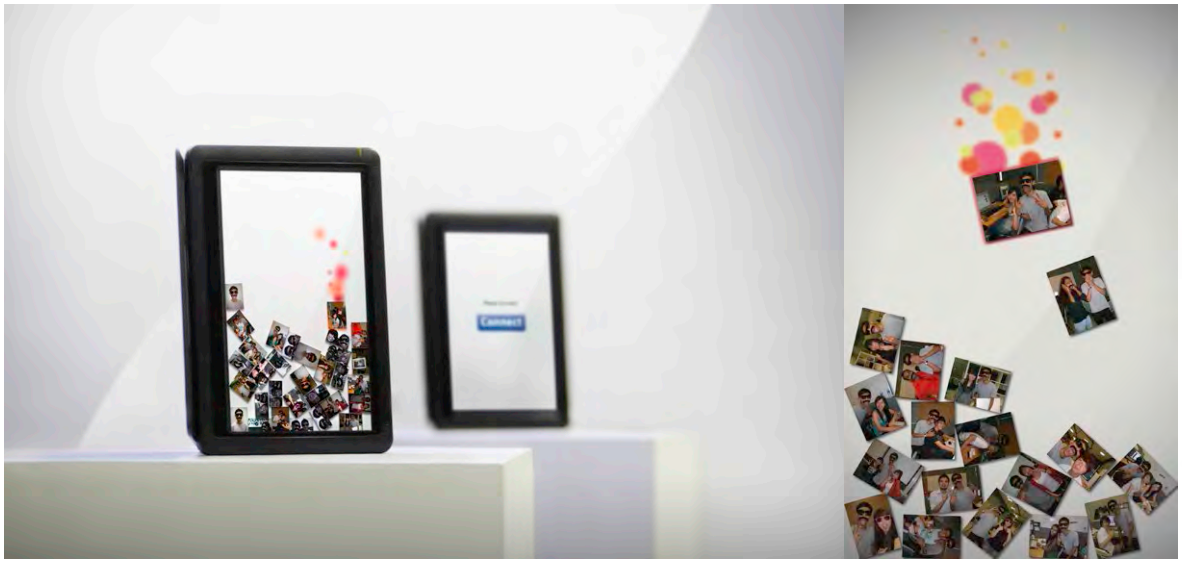
I was the supervisor for this project, and provided the mentorship, refinement of the original concept, as well sharing with the students ways to hack and repurpose old hardware (an old inkjet printer, window grilles and a POV light wand).

Futoe

Facebook-connected interactive photo frame
2010

Students involved:
Edwiana Gan
Lok Kwok Leong
Muhammad Khairul
Janice Tan

IxD Class of 2011



NOTE: these are works done by my students, of which I have had direct supervision/input.

Part of the program's shift towards a more holistic understanding of Interaction Design included the push for novel, experimental projects that push the envelope of digital interactivity. With this in mind, 4 students were briefed to create a new, engaging and meaningful physical interaction for their Final Year Project.

Futoe is a digital photo frame application that connects seamlessly to the user's Facebook photo collection, displaying all the user's Facebook photos in a touch-enabled digital photo frame.

The innovation here comes in an elegant hourglass concept as a metaphor for its interaction – turn the frame over to refresh your photo collection, and at the same time, through that interaction, send your Facebook photographs to another Futoe friend as a simple gesture of saying, "I'm thinking of you!".

Users can also see, at a glance, new photos added to their Facebook photo albums.

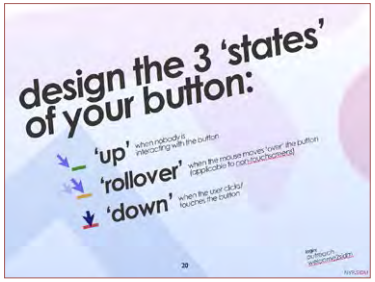
Roles I played:
Art direction
Technical direction
Scripting supervision
Hardware hacking

Interaction Design

Outreach programmes
2013

Besides the regular lesson plans for enrolled students, I was also responsible for crafting and delivering workshops for prospective students considering enrolling in the Interaction Design program.

These are slides from the Button Pow-Wow workshop, a 4-hour session, introducing secondary school students to the concept of interactive affordances and how it impacts button design in the physical world, as well as in digital media.



portfolio

education
media studies
interaction design
interactive art

NOTE: the projects shown in the education section were done by my students. I played various roles on these projects, such as project supervisor, art, creative and/or technical direction and support.

Simplicity in Complexity

Interactive Installation
2010

GOLD Award
Experimental
Interactive category
Crowbar Awards 2011

Student involved:

Tan Guan Wei
IxD Class of 2011

NOTE: these are works done by my students, of which I have had direct supervision/input.

How complicated can life be?

What we know, for sure, is uncertainty and surprises await us at every turn. Simplicity in Complexity expresses the simultaneously simple and complex poetic relationships of life.

A simple drop of black ink diffuses in clear water, resulting in an intricate pattern as the pigments dissolve, but in this installation, through the use of visual effects, the diffusing ink drop magically converges and recombines back into a drop of ink, finally landing as a droplet onto the bottom of the physical installation, thereby completing the abstract narrative. As the main project supervisor, I supported the student through the conceptual phase, and provided technical support to integrate both digital and physical media.

This installation was accomplished by the student through a combination of an Arduino microcontroller board, hobby servos, india ink and a milk bottle.

Roles I played:
Art & Creative direction
Technical direction
Hardware hacking

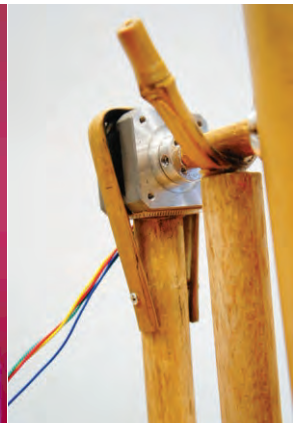
Hujan Kacang

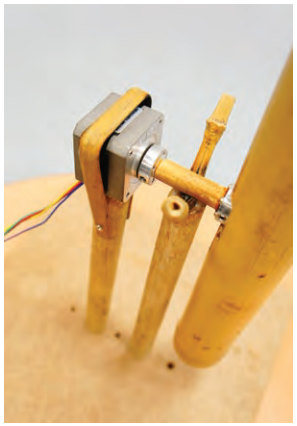
Reactive Installation
2013

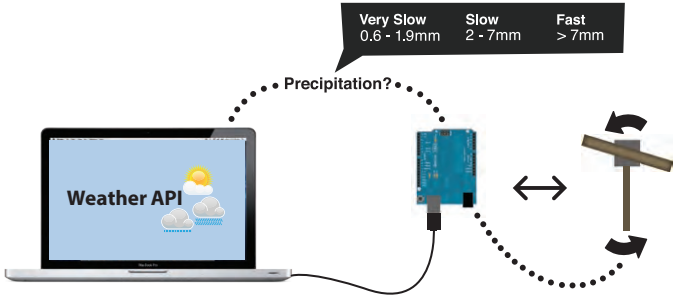
SILVER Award
Experimental
Interactive category
Crowbar Awards 2013

Student involved:
Azmira Bte Amin
IxD Class of 2013

NOTE: these are works done by my students, of which I have had direct supervision/input.







Hujan Kacang, or "raining beans", is a visualizer and a sonic rain indicator.

As a reactive sculpture, this installation creates both a fun, whimsical interpretation of rainfall, as well as a poetic, abstract reflection of our attachment to this naturally occurring phenomenon.

Started in my Physical Computing class, the student continued to refine and rework this project, distilling it down to a simple bamboo tube, filled with beans she got from the market.

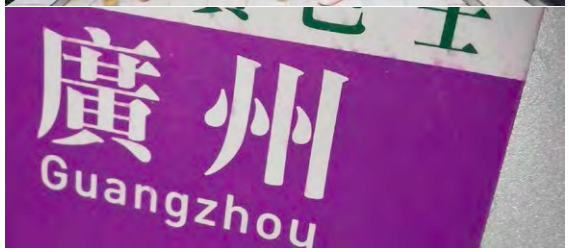
The sound of beans cascading within the bamboo tube is reminiscent of the sound of rain falling on old zinc rooftops in the early days of Singapore, back when most people lived in kampongs and life was simpler.

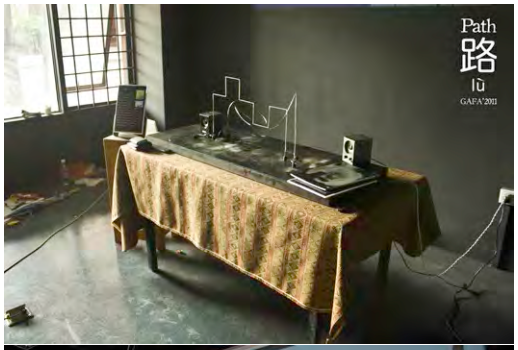
As her supervisor, I guided her on the conceptual and technical aspects of the project, and through many iterations as she tried different methods of turning the bamboo tube, as well as hardware revisions, and software development using Max/MSP/Jitter.

Roles I played:
Art & Creative direction
Technical direction
Hardware hacking

Guangzhou Academy of Fine Arts

Visiting Lecturer & Project Collaboration
2011, 2012





In both 2011 and 2012, a colleague and myself led 10 students from our Interaction Design program, for month-long stays at the Guangzhou Academy of Fine Arts (GAFA).

As group head and course manager of the program, my role was to foster closer cooperation, exchange of ideas and cultural immersion between our program, and that of GAFA's Media Arts & Design BFA program.

These collaborations culminated in a final exhibition of interactive art, created by combined groups of students from both faculties.

With the GAFA faculty, I contributed to the conceptual development and technical production of the projects by the students, and laid the groundwork in arranging exhibition spaces for the project groups to hold and exhibit their work.

I also introduced Max/MSP/Jitter and related computer vision software to their faculty and championed the use of the software for faster prototyping and realization of ideas, especially for non-technical art practitioners.

During free time on the 2012 trip I taught myself how to use the Kinect sensor for interactive art, and shared this knowledge with my students.

I continue to remain in close contact with the GAFA faculty as friends and peers in the field of digital media arts.

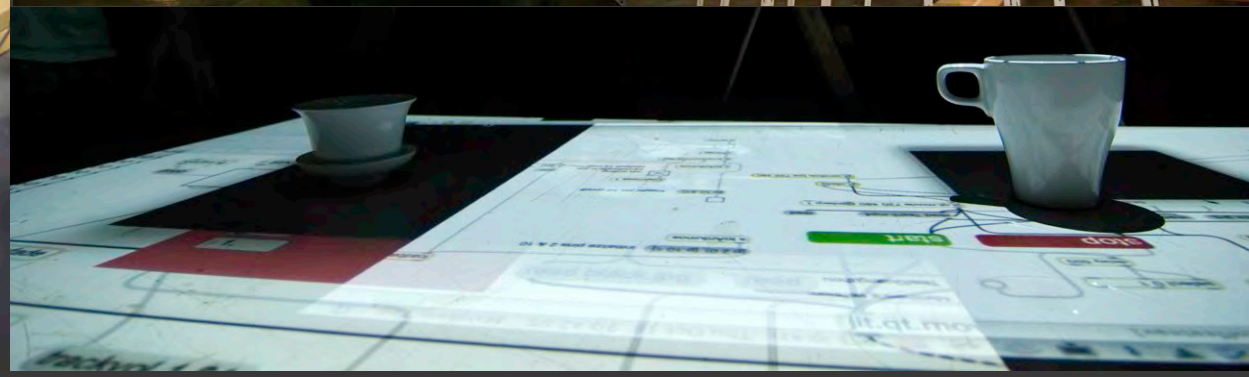
Roles I played:

Exchange liaision
Student caretaker
Creative direction
Art direction
Technical direction
Hardware hacking


THEATRE FOR THE ARTS


TRE FOR THE ARTS


Try talking
to them and
observe
their reactions!

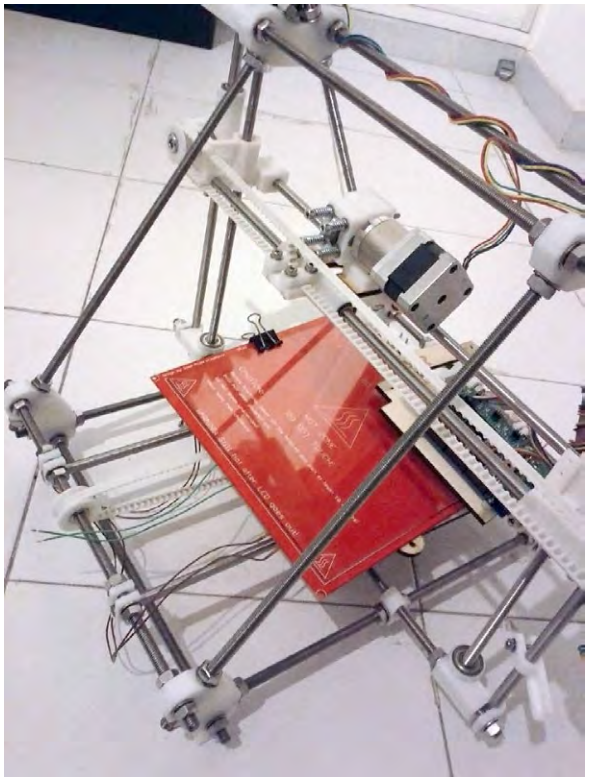


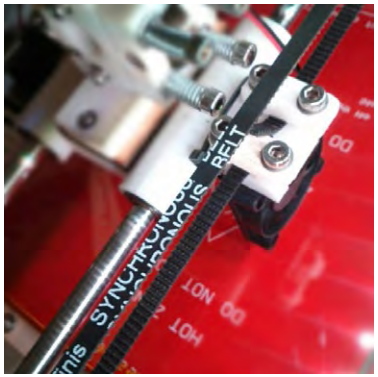
portfolio

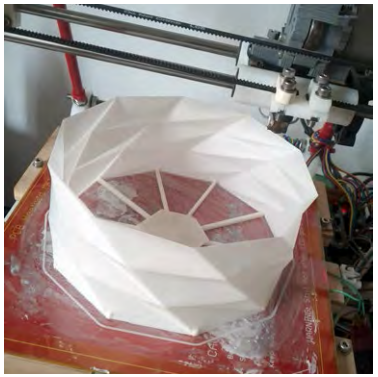
tinker
3d printing
making things

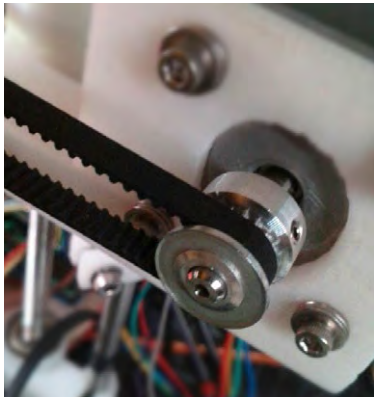
3D Printing

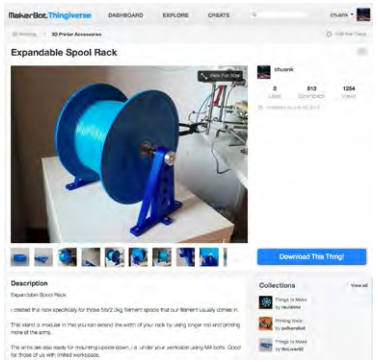
2012–present

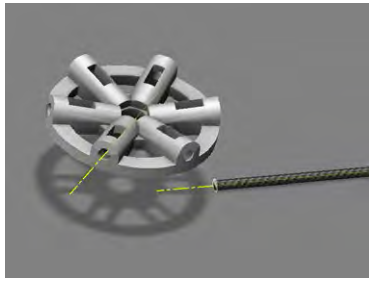












I enjoy fixing things, and although my fixing time involves a lot of deconstruction and the occasional destruction, I find great joy in learning how things work.

My personal 3D printer is a Prusa Mendel derivative built from scratch, and is set up to print with either ABS or PLA plastic filament. It started off as a base kit of printed parts ordered online, and I then searched many of Singapore's hardware stores for the components to complete Version 1.

Over time, the printer has evolved into a customized build as I print more improvements for it and add locally sourced components.

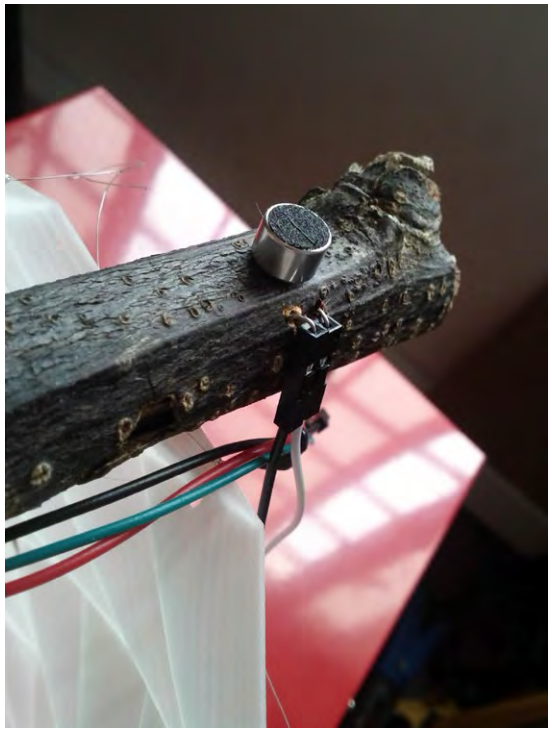
With the free time I have, I've been trying to give back to the community by sharing my 3D designs for download, off Thingiverse (my handle: *chuank*)

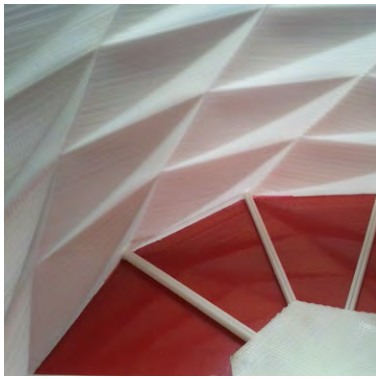
Besides sharing my created objects online, my intent with 3D printing is to use it in conjunction in my electronic sculpture practice, as the relatively lower cost, faster prototype/production process, and the relative environmental friendliness of PLA plastic allows for quick design development and a more exact expression of my artistic practice.

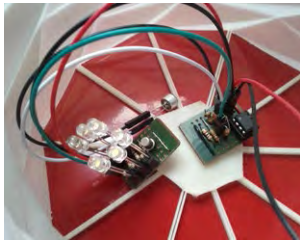
Reactive Lantern

3D printed shell,
electronics,
tree branch

2012







The Reactive Lantern started off as an idea for an audio-reactive lantern that my then four year-old son could take to a night event in the park during the 2012 Mid-Autumn Festival.

The tessellated shell was designed in OpenSCAD modeling software, and then printed on my scratchbuilt 3D printer. And the tree branch was contributed by my son.

The reactive element of the lantern was accomplished using a simple audio op-amp circuit, with a tiny electret microphone implanted on the end of the tree branch. This circuitry allowed the LEDs mounted inside the lantern to flicker and pulse to the ambient sound of the surroundings. It is powered by a 9V battery.

The event organiser saw the lantern and let my son lead the lantern procession, which made him very happy.

He lost interest in the lantern soon after the procession, but I am still hopeful that a 2013 update can rekindle his excitement.

portfolio

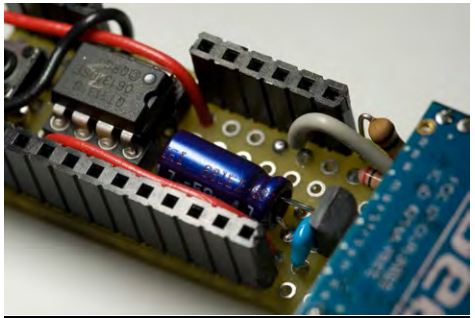
tinker
3d printing
making things

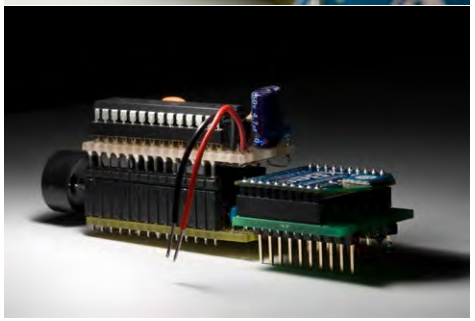
Making to Learn

Since 2006, right around the time I started my MFA, my appreciation of the richness of craft grew greatly, despite already having a keen interest in physical, hands-on work since I was a boy.

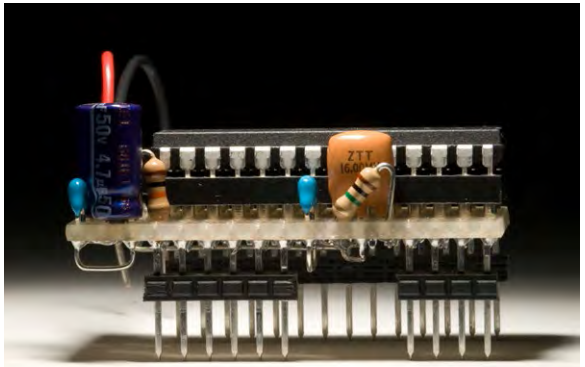
Perhaps it was the need to create more than what can seem intangible, digital documents as a digital designer, but as I continue to develop my artistic expression, the journey back to the physical world keeps me connected to the real world.

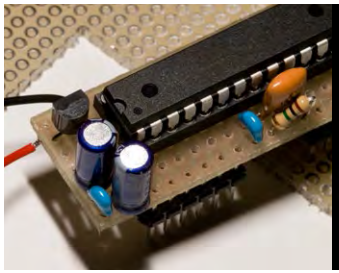
My experiments have often ended up with failures of varying magnitude, but each making experience delivers up mistakes and offers lessons to learn. I persevere, and my understanding of the range of options often turns out to be useful the next time round.





2007 Self-made custom Arduino, with built-in capacitance touch sensor, buzzer and XBee wireless RF chip. The design was meant to fit Arduinos into small spaces that a full-size original Arduino board would not.





Shortly thereafter, Arduino manufacturers also started rolling out similarly-sized Arduino 'sticks', simply due to the need expressed by Arduino users for more compact configurations – the same reason why I created mine for a specific project.

Today, my custom design will look like an elephant compared to purpose-built compact Arduinos with SMD electronics...

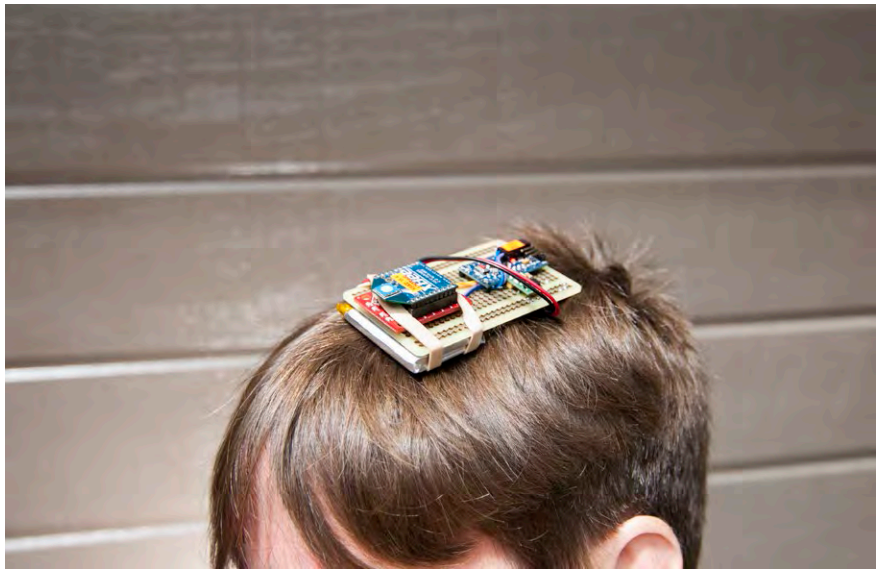
2008 Glass 'bottles' blown and formed by myself. I made these 3 bottles when I took a class with the Glass faculty at RISD while doing my MFA in Digital + Media. While these bottles are far from perfect, their wobbly lines and kinks continue to retell the inexperience of my hands as I wielded the blowpipe.

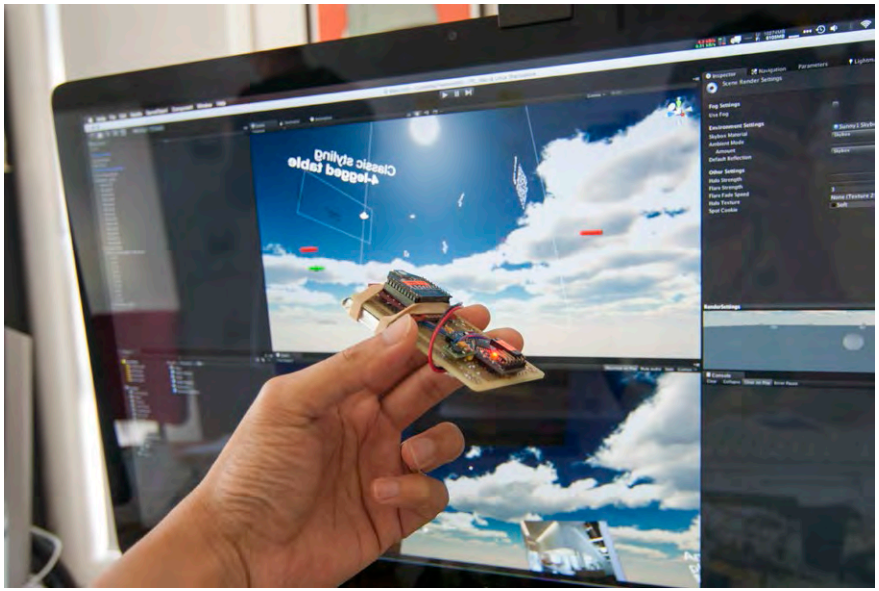
HeadTracker

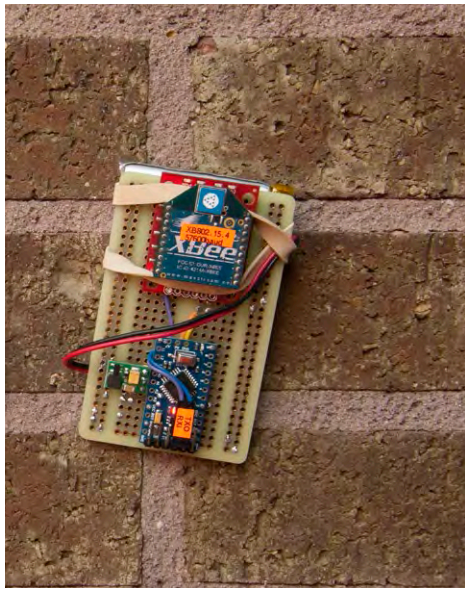
Electronics & Code
2014

The HeadTracker prototype was borne from a client's initial need to produce a wireless head-tracking orientation sensor. Essentially a wearable, but more importantly, the self-contained nature of the device allows it to be an extremely extensible orientation-sensing device. The device is comprised of an IMU (inertial measurement unit), an Arduino running sensor fusion and filtering code, and a XBee wireless transceiver.

The device is powered via a 3.7V lithium-polymer battery, providing a completely wireless solution for motion tracking.







WeatherNode

Electronics & Code
2014

The WeatherNode prototype is an early experiment in home sensing for temperature and humidity. The device is designed to operate as a network of sensing 'nodes' that report back to a small central server connected to the dwelling's WiFi network. It was also a foray into small-scale PCB layout, etching and manufacture.