

Lumia

art | light | motion

Lumia: art/light/motion is an exhibition of interactive, electronic creatures and installations at the State Library of Queensland. All pieces have been individually hand-crafted by a team of artists led by contemporary new media artists Priscilla Bracks and Gavin Sade who collaboratively direct Kuuki – an art, design and media production collective.

Themes

Each piece has a strong environmental and/or social theme which prompts the audience to reflect on their impact in both areas.

Contents

Five interactive, installation pieces your students are encouraged to manipulate and play with.

Date

9 April – 5 June 2011, open daily 10am–5pm

Venue

slq Gallery, Level 2
State Library of Queensland
Cultural Centre, Stanley Place, South Bank

Entry

Free

Bookings

This exhibition is self-guided. To assist staff, please email public.programs@slq.qld.gov.au to advise the date and time of your visit and the number of students and teachers in your group.

Duration

Suggested time 30 to 45 minutes

Maximum group size

30 students

Education links

Suitable for years 3 – 12

Class themes

Biodiversity, sustainability, climate change, global citizenship

The exhibition lends itself nicely to generating discussion about different environmental and social issues and humanity's role within them. A great exhibition for stimulating children's imaginations and for acting as a springboard for the following: writing, research, discussions about the environment, global citizenship, emerging art media and how technology can be used not only for practical applications but for expressing ideas and conveying messages.

Curriculum links

The following information has been taken from the Queensland Curriculum.

Years 3 – 9

SOSE

- Place and space

Arts

- Media

Technology

- Technology as a human endeavour
- Information, materials and systems

English

- Speaking and listening
- Writing and designing

Senior

Film, television and new media

Visual art

English

Pre-visit activities

Discuss the following:

- What is art? How do we define it?
- How is contemporary art different from art forms of the past? (consider tools, process, motives, subjects)
- How is art related to social activism?

Additional activities can also be found in the background notes of each artwork.

At the exhibition

Allow your students to explore each piece.

Discuss the following questions:

- What message do you think the artists are trying to convey with this piece? The title might give you a clue. Support your answer with evidence.
- Why do you think the artists are trying to convey this message?
- Do you think this message is important? Why/why not?
- How do you think this piece works?
- What materials have the artists used for this piece?
- Why do you think they chose these materials?
- Why did the artists use sound?

Post-visit activities

- Do you think the artists were successful in delivering their message? Why/why not? If not, how do you think this could be improved?
- Investigate contemporary artists who are employing modern tools, materials and processes to design art works that inspire thought on current political, social or environmental topics.
- Have students create their own contemporary art piece which portrays their thoughts on a current political, social or environmental issue. Ensure their choice of materials and design support their intended message.

Follow the links under 'Supporting information' for more activities linked directly to each piece.

Supporting information

Background notes

Following are detailed background notes about the exhibition and specific artworks.

1. Lumia – Art for the modern world
2. e. Menura superba
3. Charmed
4. Distracted
5. Flower Animals
6. Suzumushi – The Silent Swarm

Websites

For background information about Kuuki, the team behind *Lumia*, and each of the installation pieces visit

www.kuuki.com.au

The Global Learning Centre, Brisbane, supports teachers and students in their study of social justice, peace and ecological sustainability.

www.glc.edu.au

This document from Education Queensland (pdf) lists an extensive number of web sites which would be useful for schools studying the following topics: Sustainability, biodiversity, climate change, energy, gardening, waste, water use, water and catchment health.

www.tinarooeec.eq.edu.au/wcms/images/ess_onlineschoolresources.pdf

1 Lumia – Art for the modern world

For hundreds of years art was essentially static and quiet; a painted picture or an aesthetically pleasing sculpture. Audiences were passive observers in the experience. However in a world where people demand to be entertained and learn through interactions both human and technological, artworks have been forced to change to accommodate these needs.

For the past two decades technology has had an enormous impact on our everyday lives reshaping the way we live and learn. Contemporary artists have taken note and have developed art pieces which reflect these changes. Whether it is an image or film projected onto a wall or a sculpture that employs modern technology to run, contemporary art pieces are often interactive and engage the audiences in ways that were previously impossible.

Art through the centuries has often represented the world in which it was created and the interests, needs and desires of people at that time. Contemporary art is no different with modern technological, political, social and environmental issues reflected in many works.

The artworks in *Lumia*, are typical of the contemporary, 21st century art often seen in galleries today. They are interactive, technologically based and highlight social and ecological issues that affect people living in the 21st century. They prompt us to consider how we as humans share the earth with each other and other species and our impacts upon the planet and its inhabitants.

The process undertaken to complete each *Lumia* piece is also specific to 21st century art. One artist can no longer produce the varied, sometimes massive art installations found in galleries today. It often requires a team of specialised craftsmen and women to complete each piece. The following roughly outlines the process undertaken by Kuuki to complete each of the installation pieces in *Lumia*.

1. Priscilla Bracks and Gavin Sade, the principal visual artists, developed an idea for each piece. They considered what message(s) they wanted each piece to convey.
2. Priscilla and Gavin then began the process by developing sketches, models and reference images from which they had drawn inspiration for each piece.
3. Priscilla and Gavin then took these to fellow artists such as Matt Dwyer (jeweller and sculptor), Richard Vaughan (wood worker) and Dayatmainda Rajapatirana (metal worker) to create parts of each artwork. Each craftsperson worked closely with Priscilla who later finished off each piece by putting it all together and adding the pieces she had created.
4. Once the outside design (sculpture) was completed Gavin and Priscilla decided how the sculpture should respond to its audience (ie. How the audience could interact with the piece. Gavin then worked with Matt Petoe (electronic engineer) and/or Glen Wetherall (programmer) to design how each piece would work on the inside. During this stage Gavin, Glenn and Matt programmed how each piece would interact with the audience and its own individual parts.
5. Each piece was tested and refined.
6. Once everything was tested and refined each piece was now ready for display.



2 e. *Menura superba*

e. *Menura superba* was selected and exhibited in the International Symposium of Electronic Arts Juried exhibition in Belfast August 2009.

For images and video documentation of e. *Menura superba* please refer to:

www.kuuki.com.au/emenustrasuperba/

Message

This piece asks the audience to consider our fascination with fauna and flora and the impact our fascination might have upon them. It also asks us to consider a future devoid of many plant and animal species that have become extinct through loss of habitat, or perhaps because we have 'loved them to death' (e.g. hunting animals for their beautiful skins until they are extinct). As the lyrebird is well known for its acoustic accomplishments, this piece also encourages the audience to consider the impact of noise pollution on the natural world.

About the artwork

Subject(s)

Endangered species, noise pollution, human impacts upon flora and fauna.

The Australian Lyrebird (initially labelled *Menura superba*) is the subject of this piece. Lyrebirds are known for their ability to mimic natural and human sounds in their environments. Their vocal range, combined with their attractive plumage, made them the most highly prized, nineteenth century, taxidermy specimens of all Australian birds. Like many other exotic taxidermy specimens from 'the new world', they were collected and displayed as symbols of wealth and curiosities by noble and/or wealthy members of society. Practices such as this have diminished populations of many exotic animals. The e. at the beginning of the title is a symbol used by author Philip K Dick to denote extinct animals in his fictitious work *Do Androids Dream of Electric Sheep?* This popular book is also known as *Blade Runner*.

What it looks like

e. *Menura Superba* is essentially an interactive, robotic sculpture of an Australian lyrebird. The artists modelled their lyrebird from John Gould's depiction of the lyrebird in his seven volume *Birds of Australia*. The State Library acquired an entire set in 1938, of which only 250 copies were made.

It is made from recycled stainless steel, brass, polycarbonate plastic, second hand furniture and new electronic parts.

How it works

Facial recognition and tracking software allows the lyrebird to respond to the audience by moving its head up and down and from side to side. At other times the bird will look directly into an observer's eye. This gives the impression of intelligence as the bird appears to recognise faces. When a person wearing colourful clothing attracts the lyrebird's attention, the bird changes the colour of its plumage to mimic its target. The bird also makes various calls to attract an audience. Over time it builds up a repertoire of calls and plumage colours that it remembers from its interactions with audience members.

At times the lyrebird appears to mimic human behaviours becoming nervous, distant or moody. These behaviours create a sense of endearment and interest for audience members provoking similar emotions to those experienced by the early taxonomic collectors.

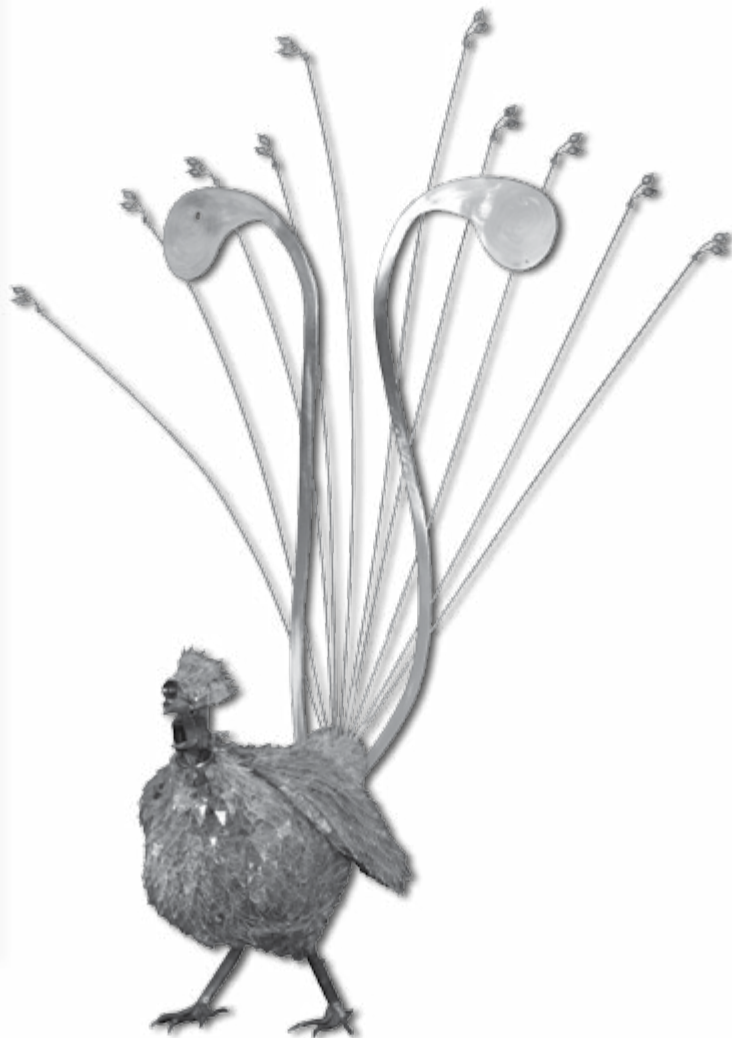
Materials

For this piece recycled materials were deliberately chosen as the artists wanted to draw direct links between the lyrebird and its cousin the bowerbird which recycles human waste products to build its bower. By using recycled materials, the artists are attempting to redirect their practice to be more sustainable, taking materials that would have been thrown away, and refashioning them into something beautiful. This practice prompts us to think about our throw-away society and about how this impacts plants and animals.

This sculpture is largely made from post consumer waste materials including stainless steel, brass, polycarbonate plastic off cuts and aluminium mesh as well as various electronics. Its plumage is made from polycarbonate plastic and is illuminated by an array of 34 tri-colour LEDs.

THE TEAM

Original concept: Priscilla Bracks & Gavin Sade (Kuuki)
Sculptural design and modelling for skeleton: Priscilla Bracks
Interaction design and programming: Gavin Sade
Programming: Glen Wetherall
Wood work (screen): Richard Vaughan
Metal work (bird skeleton, feet and beak): Dayataminda Rajpatarina
Sculptural finishes (feathers & ornamentation): Priscilla Bracks



Education activities

Pre-visit activities

Discuss the Australian Lyrebird highlighting its unique mimic qualities.

Explore how exotic animals from the 'new worlds' were often highly prized by the nobility as taxidermy specimens. Explore endangered species.

During visit

Engage in the piece through discussion and exploration. Consider focus questions (see *Education Links – At the Exhibition*, on page 2).

Post-visit activities

Research – Research endangered species, highlighting how humans have contributed to their predicament. Write a proposal to the environmental sector of Queensland Government highlighting how Australians can protect and nurture endangered species

Write – Imagine life without plants and animals. Write a story about this new world.

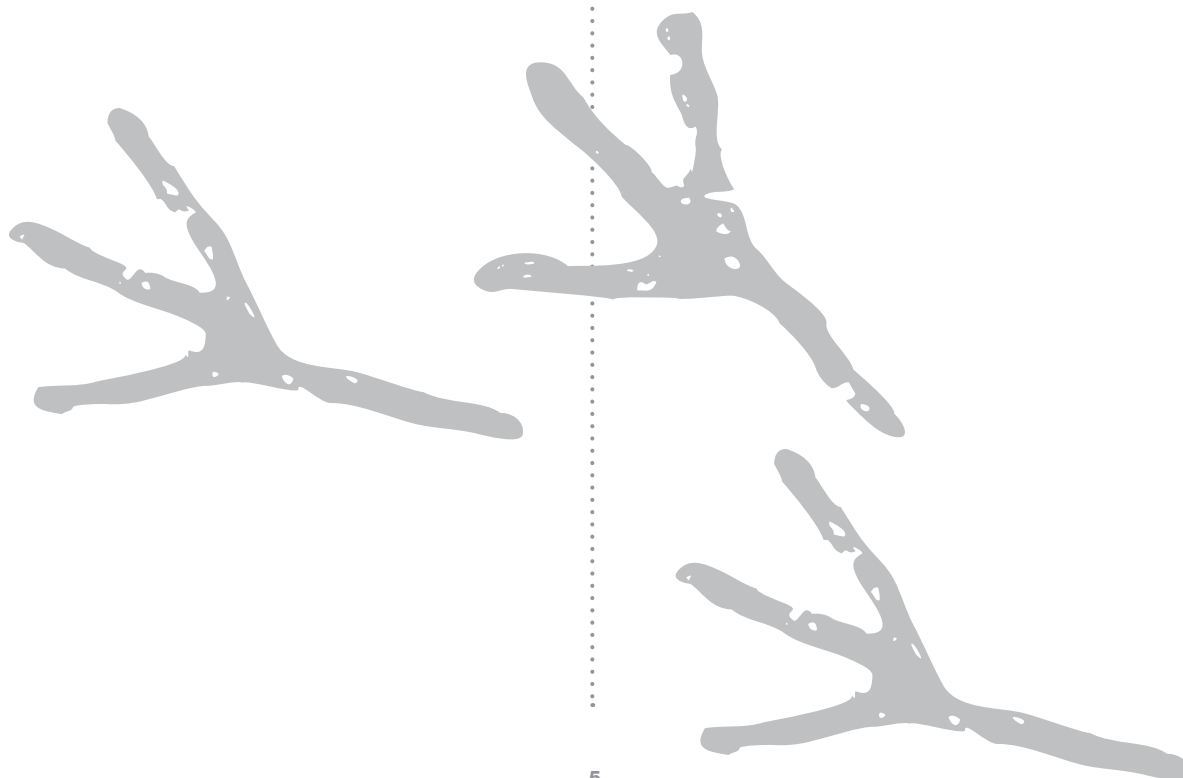
Explore the role of Sea World and Australia Zoo as Queensland's largest animal conservation centres.

(Year 3) Create – Create your own endangered animal from throw away products.

(Year 3–12) Create – Create and film an advertising campaign about the importance of biodiversity.

Connect with Cedar Creek State School as they focus on saving Orangutans from their classroom:

www.education.orangutan.org.au/2010/03



3 Charmed

Charmed is an Experimenta New Visions Commission.

For images and video documentation of *Charmed* please refer to:

www.kuuki.com.au/charmed

Message

Are we really in control?
Do we really live in a charmed world?

About the artwork

Subject(s)

Urban environments, social control, social structures

What it looks like

The artwork *Charmed* consists of three separate, yet physically connected, glowing, resin pods. The interactive panels on each pod depict different urban environments. Inhabitants in this virtual world live in suburban neighbourhoods, blocks of units and various other city spaces and they perform the everyday mundane tasks that living in urban environments requires.

How it works

Each pod contains a number of images which have been brought to life through animation and the use of sound. These images are displayed on integrated touch screens which are used to interact with the inhabitants of the *Charmed* world. By touching and tapping the screens the audience gets to 'play God' as they seemingly control the lives of the animated characters depicted within each pod.

When visitors tap and touch each screen they ostensibly affect or manipulate the lives of the animated figures. Tapping or touching the screen not only effects change but sometimes causes chaos for these figures by forcing computers to malfunction, traffic accidents to occur, the cutting down of trees or even forcing an animated man to drink so much that he wets his pants.

Each pod contains several scenes, with each scene able to be accessed by moving the pod across the surface of the translucent table it sits upon.

Materials

Table – plantation hoop pine and perspex

Pods – polyurethane resin, touch screen, LEDs, and custom made circuit boards including an Arduino board.

Other electronics inside table – video camera, 3 computers, speakers.

THE TEAM

Based on the series *Refugee from the Human State* by Priscilla Bracks
Original concept for interactive work: Priscilla Bracks & Gavin Sade with input from Matt Dwyer and Experimenta
Sculptural design and pod modelling: Priscilla Bracks
Interaction design and programming: Gavin Sade
Programming: Glen Wetherall
Resin pod casting: Matt Dwyer
Wood work (table): Richard Vaughan
Electrical engineering: Matt Petoe

Education links

Pre-visit activities

Explore different environments and consider how humans impact them.

Define urban environments; take photos of what they might look like to create a photo story that encapsulates your definition.

During visit

Explore the piece and consider focus questions (see *Education Links – At the Exhibition*, on page 2).

Post-visit activities

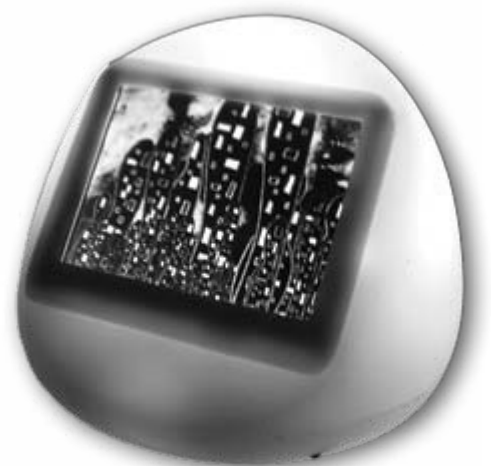
Research – Create a list of resources, objects or systems which we take for granted but which are necessary for the stability of urban life today. These may include electricity, petrol, transport systems etc. Research this resource, object or system and its impact upon our lives.

There is a mission to take humans to Mars: ask your classmates and other peers to choose only 5 of these items they would take with them if they were going to another planet. Tally the results to see what your classmates and peers value the most.

Write – Imagine you are living in an urban environment where access to these resources, objects and systems is restricted. Create a podcast that shares your thoughts as you live in this life – how do you feel, how are people surviving?

Write – Play computer games such as *Sims* or *Second Life* where you have the power to control things. If you had the chance to control the world what would your world be like? Use images to illustrate your writing and create a photo story that shares your world.

Create – Create an art piece that represents a scene unique to urban life today. When considering your subject, imagine that your piece will be displayed in a gallery 500 years from now. What would the people who view it learn about life today?



4 Distracted

Distracted was produced with support from the Australian Government through the Australia Council, its arts funding and advisory body, and Queensland University of Technology.

For images and video documentation of *Distracted* please refer to:

www.kuuki.com.au/distracted/

Message

Every day we are bombarded with messages of environmental and social subjugation and ruination. Without immediate access to these events, it is difficult to gather accurate information about what exactly is occurring. Also, unless we are directly impacted, our motivation to respond to such events can be impeded. *Distracted* was created in response to the ways technology, entertainment and other aspects of our culture distract us from the wonder and beauty of our environment, and the perilous state of many ecosystems. The form of the work was inspired by Antarctic ice-core samples which store information about the earth's climate history and document human impact.

About the artwork

Subject(s)

Global warming

Ice core samples taken from glaciers and large ice sheets such as Antarctica give scientists an indication of the temperature at the time the ice was deposited as snow. Measuring the different layers in an ice core sample gives an indication of the mixture of gases in the atmosphere over several thousand years. This information offers an indication of the temperature range at different times, and helps us better understand what is happening with temperatures in our world today.

What it looks like

The work is an installation. Its size can be varied to suit the gallery in which it is displayed. In the centre of the installation there are three vertical translucent columns, asymmetrically arranged on a plinth. Visually the columns represent ice core samples. These columns change in colour, pattern, intensity and frequency of illumination, as software written for the artwork cycles through different gases found in the Vostok ice core sample over a period of about 300,000 years. Dust storms can be seen in particle patterns in the light display and an increase in atmospheric carbon dioxide results in colour change away from the cool blue spectrum. The outer parts of the installation are chandelier cores made from 4000 tiny mirrors tied to fishing line. As these mirrors gently move, they cast patterns of light on the walls which 'wink' in and out of existence. This part of this installation was inspired by the effect of leaves falling from deciduous trees. An increase in atmospheric carbon can be detected in our atmosphere each year during the northern hemisphere winter as deciduous trees lose their leaves and are no longer able to convert carbon dioxide to oxygen. This pattern is mapped by a graph called the Keeling Curve. A soundscape, representative of ice melting and evoking feelings of Antarctic isolation, also accompanies this piece.

How it works

Distracted uses data taken directly from ice core samples and weather stations to generate its visual and sound displays. Instead of using the data didactically through numbers and words, the artists have chosen to display the information abstractly through light and sound. Sensors embedded within the piece respond to audience proximity creating changes in colour, sound and display.

Materials

Each tube or core is made from acrylic and contains individually controlled LEDs and resin bubbles. The bubbles in turn encase organic matter just as ice core samples do. The bubbles are suspended on fibre-optic cabling. In all there are 700 LEDs, and more than 1500 resin bubbles. The work also contains 6 proximity sensors that detect presence. The work's visual effects are operated by a computer software, built-in processing, and custom made electronic circuitry.

THE TEAM

Original concept: Priscilla Bracks & Gavin Sade
Sculptural design and assembly: Priscilla Bracks
Interaction design and electronics: Gavin Sade
Programming: Glen Wetherall & Gavin Sade
Sound design: Greg Jenkins, Gavin Sade, Matt Peteo
Lead art assistant (sculptural assembly): Nicole Gillard
Art assistants: Athena Thebus, Rosie Atwell, Jess Lenton, Tarin Stewart, Sam Kretchmann & Dane Tennant

Education links

Pre-visit activities

Research what an ice core sample is and what they are used to find.

Explore and discuss global warming and climate change with reference to current global activity

During visit

Explore the piece and consider focus questions (see *Education Links – At the Exhibition*, on page 2).

Post-visit activities

Research – Research the effects of climate change on different environments then present your findings through a presentation. Provide recommendations on how you and your classmates could contribute to 'saving the environment'.

Watch – *An Inconvenient Truth*

Write – Some scientists dispute that global warming is actually occurring. Research this issue, decide on a position and write a persuasive essay to present your point. You must present your thoughts to your classmates with valid references as a means to convince them of your view point.

Create – Paint for the Planet was a United Nations' Initiative to unite children on the topic of climate change. Have your students create their own piece of art which reflects their hopes and dreams for the planet.

www.unep.org/Paint4Planet

5 Flower Animals

Flower Animals was made specifically for Lumia and supported by Arts Queensland

For images and video documentation of *Flower Animals* please refer to:

www.kuuki.com.au/floweranimals

Message

The world's coral reefs have developed in tropical oceans and are very sensitive to ocean temperatures and conditions. It is this sensitivity that makes corals an excellent indicator of ocean temperature changes. The thought that we may lose the Great Barrier Reef to global warming is difficult to comprehend. However if we are to save it, we need to face facts. Through showing the beauty of coral, this piece forces us to consider what we may lose as a result of global warming and hopefully inspire us to take action while we still can.

About the artwork

Subject(s)

Global warming

In particular the effects of global warming on our oceans and reefs. A small rise in global temperatures of 1.5 – 2 degrees Celsius which lasts for 6 – 8 weeks can trigger coral bleaching. When these higher temperatures persist for more than 8 weeks corals can begin to die. Increased sedimentation, pollutants and salinity are also bleaching triggers. Projected rises in global temperatures will place future stress on our coral reefs and may lead to further bleaching and mass die off.

What it looks like

Flower Animals is a cluster of fluffy felt brain coral sculptures.

How it works

Flower Animals is an interactive piece that responds to the proximity of the audience. When people move close the *Flower Animals* blush in colour and make sounds indicative of coral reefs. In addition, the brain coral sculptures are connected to real time data which reveals changes in the sea temperature at Heron Reef, one of the 2,900 reefs that together form the Great Barrier Reef. The sculptures change colour in response to this data. The spectrum ranges from cool hues which indicates cool temperatures through to warm tones which indicate higher temperatures. Bright white appears when the temperature exceeds that which tropical corals are able to tolerate over sustained periods, resulting in bleaching episodes.

Materials

Materials include wool, silk, blow-moulded perspex & LEDs

THE TEAM

Original concept: Priscilla Bracks & Gavin Sade (Kuuki)
Sculptural design: Priscilla Bracks & Gavin Sade
Interaction design and programming: Gavin Sade
Programming: Glen Wetherall
Felting: Priscilla Bracks
Art assistant: Nicole Gillard

Education links

Pre-visit activities

Research coral bleaching – its causes and its effects.

Research global warming and its effect on ocean temperatures.

Watch the videos found at

www.reefed.edu.au/home/reefbeat/climate_change_and_our_great_barrier_reef

During visit

Explore the piece and consider focus questions (see *Education Links – At the Exhibition*, on page 2).

Post-visit activities

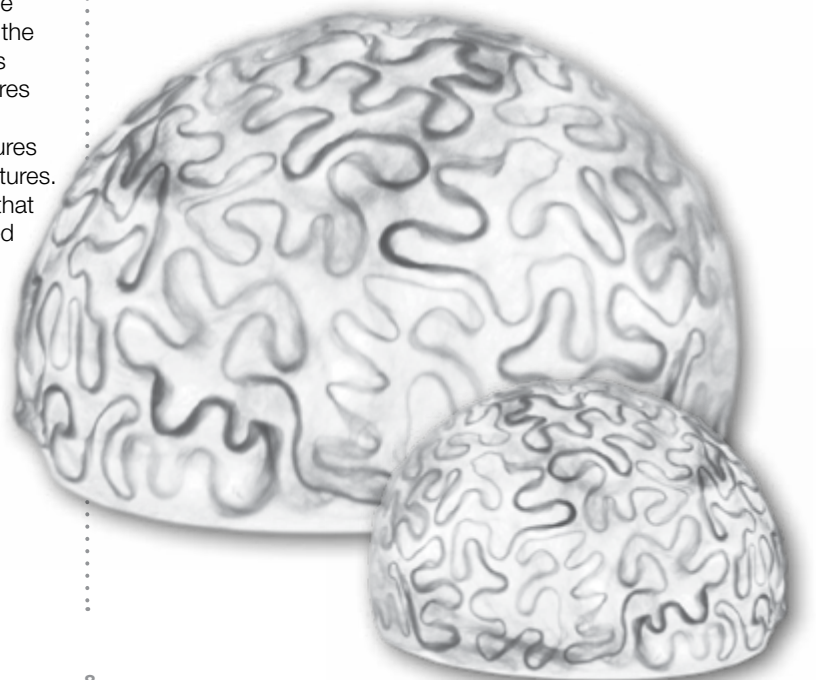
Research – Complete one of the research activities found at the Australian Marine Environment Protection Association (AUSMEPA) curriculum materials webpage.

www.ausmepa.org.au/effects-of-climate-change-on-coral-bleaching

Identify all the stakeholders involved in or affected by global warming and in particular the events happening in the Great Barrier Reef. In a group of 5, you must each adopt a role, research this topic from your perspective and together create a WebQuest that you can then use with your other peers to demonstrate the full picture of the effects global warming is having on the Great Barrier Reef.

Write – Chose a writing or communication project from the AUSMEPA website. www.ausmepa.org.au

Create – Create a class coral reef. Use plaster of paris, playdough, paper mache, etc. Create a healthy coral reef and one affected by coral bleaching. Consider the differences.



6 Suzumushi – The Silent Swarm

Suzumushi: The Silent Swarm was made specially for Lumia and supported by Arts Queensland

For images and video documentation of *Suzumushi – The Silent Swarm* please refer to:

www.kuuki.com.au/suzumushi

Message

Humans generate a significant amount of noise in their urban environments, sometimes making it difficult to hear natural sounds such as crickets and birds. This jumble of sound is often called white noise. White noise is essentially 'collective noise' that is created when sounds of all different frequencies are combined together. The brain's inability to distinguish between a large number of frequencies means that it cannot pick up individual sounds within the spectrum. The sounds then combine to form 'white noise'. Ordinarily crickets make sound to attract a mate and are dependent upon finding their own acoustic niche to survive.

Suzumushi prompts the audience to think about the effect of 'white noise' on other creatures, and in particular to consider how animals and ourselves adapt to this.

About the artwork

Subject(s)

Suzumushi is the Japanese name for the bell cricket. Bell crickets are native to western Japan and are noted for the beautiful trilling or bell like sound they make.

Unfortunately, due to urban development bell crickets have been driven out of towns and cities and their sound is not often heard today in their natural state. The crickets displayed in *Suzumushi* are hypothetical. They represent the artists' interpretation of how crickets might evolve to communicate if their ability to do so sonically was removed. *Suzumushi* was inspired by R Murray Schafer's study into acoustic ecology, a discipline which looks at how animals and humans are affected by natural and artificial sounds and in turn 'white noise'.

What it looks like

A swarm of 55 stylised crickets, each with an LED display on their backs. The crickets have been laser cut from stainless steel sheets. The pattern on their backs was drawn from a pattern crickets have on their wings.

How it works

Instead of communicating through song, the *Suzumushi* swarm communicate through radio frequency chips. These chips enable them to download real-time data from catalogue and internet searches being conducted at the State Library of Queensland. The searches are displayed via screens upon their backs. The chips also enable the crickets to communicate with each other and when commonly found searches are located these spread throughout the swarm. When one cricket calls the others, the swarm may respond by displaying the same text. The crickets also interact with the audience. While they cannot produce sound they respond to noises the audience makes by displaying onomatopoeia on their backs. The audience is encouraged to talk to the crickets, blow on

their backs or produce other sounds for them to interpret. They also produce onomatopoeia when internet traffic is slow.

Materials

Laser cut stainless steel, polycarbonate plastic, various electronics

THE TEAM

Original Concept: Priscilla Bracks & Gavin Sade (Kuuki)
Sculptural design and drawings: Priscilla Bracks
Conversion to CAD: Jess Lenton
Interaction design and programming: Gavin Sade
Programming: Glen Wetherall
Metal bending: Remo Vallance
Art assistant: Nicole Gillard
Sculptural finishes & final assembly: Priscilla Bracks & Gavin Sade

Education links

Pre-visit activities

Explain onomatopoeia and create examples to model around the school

Investigate your local environment – identify crickets and how and why they make noise.

Discuss sonic pollution and 'white noise'. Listen to some examples.

Follow this link to hear the bell cricket –

www.timwerx.net/misc/suzumushi/index.htm

During visit

Explore the piece and consider focus questions (see *Education Links – At the Exhibition*, on page 2).

Post-visit activities

Research – Research other animals which use sound to communicate. Create a mash up of these sounds into a song.

Create – From your research consider what would happen if animals reliant upon sound for communication could no longer communicate through traditional forms because of environmental 'white noise'. How would they adapt? Create a piece that represents your animal's adaptations to a 'noisy world'.

