DLUX MEDIA ARTS

Project overview

Codes are a puzzle. A game,
just like any other game.
Alan Turing

THINKING MACHINES

Mixing analogue and digital making techniques to design and create a machine.

This program of creative learning is designed to foster ideas, critical thinking and problem solving through visualisation, design and making. Working across materials and technology, and in response to participant interests, each workshop will design and develop a creative machine. By utilising a variety of technical and creative skills to build a working machine, students will generate and respond to an idea or design problem with a focus on a particular form of creative outcome.

Creative workshops in design, technology and animation: two afternoons per week for three weeks across the academic year. In each project, working with ideas, materials and technology students will:

Conceptualise a machine:
By asking and answering questions like: What is important to you? What do you want to do? What materials do you like working with? How can you communicate this idea in visual and physical form?

Design and realise the machine:
Through planning, drawing, testing, making, building, and refining projects.

Refine and present the machine:
By completing, reviewing, presenting and filming the machine in action.

THREE INTERRELATED PROJECTS
Tuesday and Thursday afternoons May 17-20, August 1-5, October 24-28.
Facilitator: Annie McKinnon

Thinking Machines

Workshop 1

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Kinetic machines

Building on the design thinking introduction, students will work in groups to create a Rube Goldberg machine. Each group of students makes a section that has to receive kinetic force from the preceding group and pass kinetic force to the next groups 'machine'. Repeat. Video. Great for team building, problem solving, integrating 3D design and sculpture. Working with ideas about function, energy and re-use.

Preparation: Collect materials, view videos on YouTube (links below)

Ideation:

Students work together to design a movement machine using found materials. Begin with a review of materials, sketching a design plan, and developing a task sheet. Teams then designate tasks - preparing elements, manipulating materials, working back from plan drawings to materials, then working forward to create defined elements. This will involve: planning, measuring, negotiating, and assembly.

Format
(a) Rube Goldberg Machine: Ideation and Planning
(b) Rube Goldberg Machine: Realisation and filming of the end product

Outcomes
(a) Ideation booklet and skills
(b) Rube Goldberg Machine parts + the opportunity to present the machine in October.

Production:

Students work together to assemble and trial their moving machine sections, and to refine and problem solve to get a consistent outcome. Students then bring all the elements together so that each teams' project connects into a continuous kinetic sculpture. To complete the work, video using digital devices.

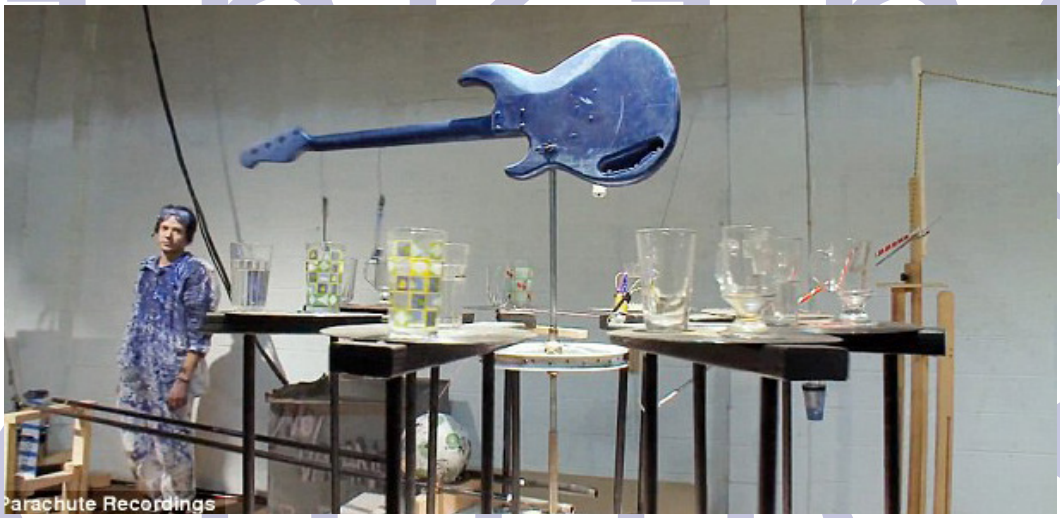
To extend and refine the project think about sound: what sounds do the machines make? How might you add sound or music to frame the work?

Suggestion: start a blog for your group(s) and share images of work in progress, and your finished video online. Individually, or as a group, write about your creative process, and how you might apply what you have learnt to other forms of research.

Research references:

OK GO this too shall pass https://www.youtube.com/watch?v=qybUFnY7Y8w
Rube Goldberg
Honda advertisement https://www.youtube.com/watch?v=DUk5SHUIlU8

Suggested materials: cardboard tubes, marbles, tyres, balls of any kind, small pieces of timber, umbrellas, glasses, pipes, cardboard boxes, string, rope, bulldog clips, electric fans (if you are indoors), anything else you can think of!



Th i n k i n g
Ma c h i n e s

Workshop 2

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(a) 1nstructions for an artwork

This is a conceptual art project that can have many processes and applications through the design of a set of 'digital instructions'. For example, taking out the garbage; or for creating a drawing.

Preparation: What do you do everyday? What would you like to do but have never tried?

Bring a list of 10 - 20 things you want to do in the world by the time you are 20.

Ideation Project 2:

How can you program a machine to communicate? Students will use coding to create a visual language of communication. They will then generate a set of instructions using this code, via a digital device. Each student will conceptualise their own set of instructions to undertake actions in the world: this might give someone directions to a place, instructions for a drawing, or tell them to empty the garbage!
Research references Sol Le Witt, Duchamp, Yoko Ono, Louise Bourgeois, John Cage, Claire Fontaine, Gilbert & George, Douglas Coupland.

Format
(a) Coding for action research (Tues)
(b) Coding for walk past in national park (Thurs)

Outcomes
(a) Taking home a folder of code and online tutorial exercises + the realisation of the code uploaded to the Arduino
(b) Walk in the national parks, the collection of data and the creation of the Arduino project.

(b) Ideation Project 3:

Preparation: Visit the National Parks and look at the number of walking tracks and learn from staff at the visitors centre.
Using an Arduino and a PIR sensor, students will write and upload a code to their micro-controllers that can count whenever someone walks past their device. This electronic duo (Arduino + PIR) works in the same way as an automatic spotlight, however instead of controlling light the PIR tells the Arduino to +1 to its visitor count.
Students will then make a waterproof casing for their creations and install them somewhere at school or at home for testing. Try it in a busy hallway! We will then install them in the National Park. (Or Annie will one day after school.) After a week or two (or a month) of being in the park, we can then collect the data and use that data as inspiration to create data visualisations.
Research: Students will look at different kinds of maps and infographics, researching ways that a person's journey can be traced through space. We will use the Crazy8's technique to draw maps of how each of the students get from home to school and collect the maps that we already have available to us of the walking tracks. Each student will collate their own pinterest board collection of infographics.
Suggestion: Document your work from the start of the process, to your final 'action' art works and add them to your blog.
Materials: paper and drawing kit, computer lab, video recording devices, studio

http://dominicwilcox.com/portfolio/gpsshoe/

Workshop 3

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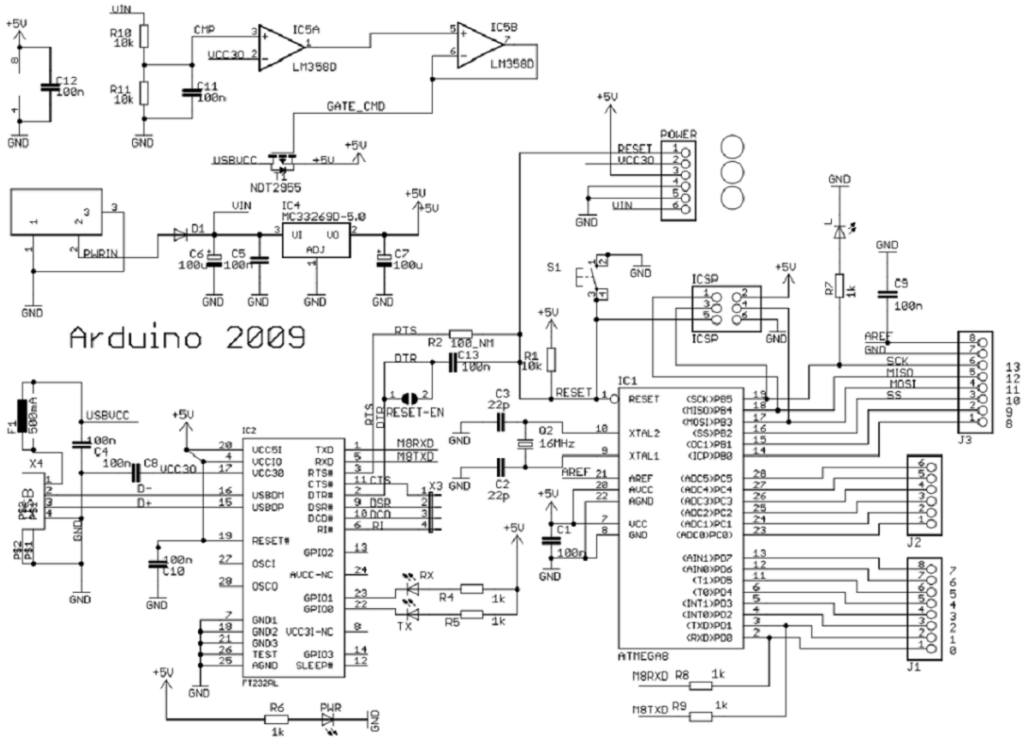

Arduino circuit 2009

Format
(a) Actions and recording (Tues)
(b) Translating data into animation (Thurs)

Outcomes
(a) The translation of data and learning the skills to collate data and visualise it in an effective way. Coming home with a book of examples and their own research and observations. Collating and presenting the data in a professional and innovative .pdf document.
(b) Learning to animate with free Pencil software. Going home with a copy of the software and their own animation projects.

(a) Production Project 2:

Students will follow the instructions of each other's coded messages to realise the work - either as a set of actions, outcomes or performances in the world. If all students follow each set of instructions in unison you will have a flash mob! After a few practices, film each other following the instructions and juxtapose with the machine you have used to create them.

To extend and refine your project think about complexity and repetition: what happens when you undertake the same action over and over? What does the repetition add to the meaning? Think about how the meaning is put into code - and then translated out of code - through visual language, and your own actions. How do you work with the machine?

(b) Creating a work from data:

This project extends our practical approach to digital art creation through data collection. By collecting the number of visitors who walk passed a particular point on a track in the National Parks, we will turn this data into a digital artwork using GoogleMaps and 'Pencil' animation software.

Production Project 3:

After looking at GoogleMaps and other geographical mappings of the walking track and the area, using 'Pencil' you will then work on a 60sec video each, using stop motion techniques and rapid drawing/prototyping skills to piece together an animation that is your own individual interpretation of the data collected from the National Parks walking tracks.