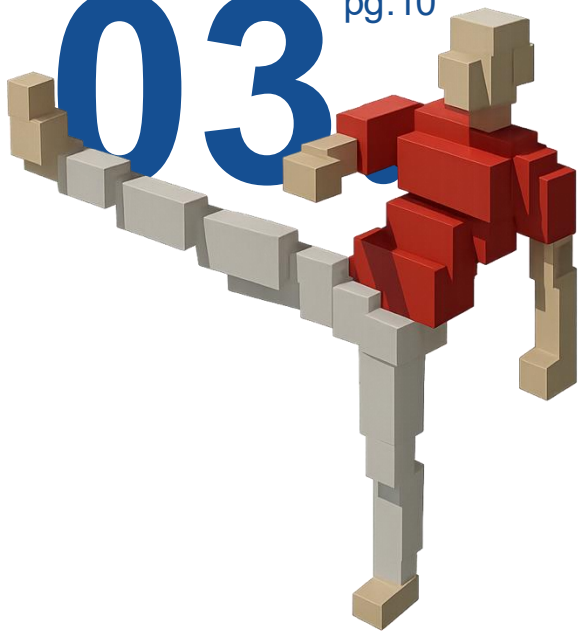
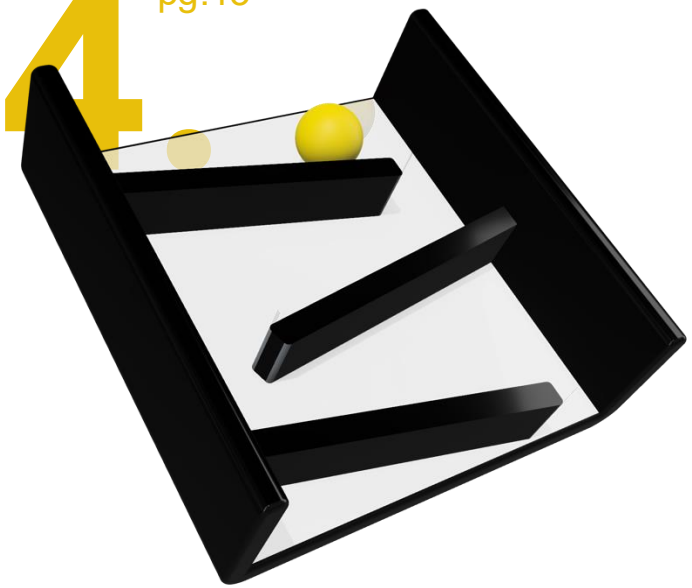
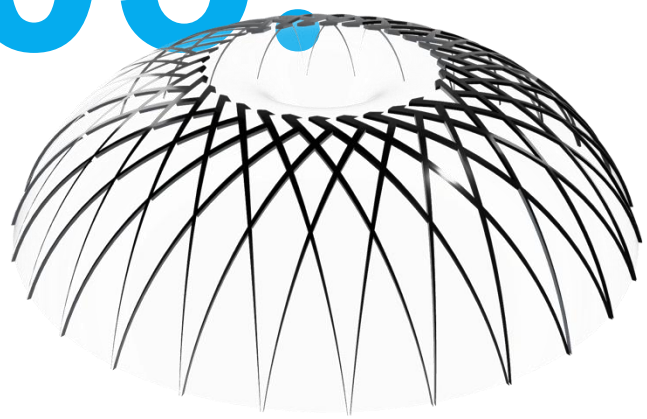
Nicole Kirk

Design Portfolio 2024 – 2025

nicole.rita.kirk@gmail.com





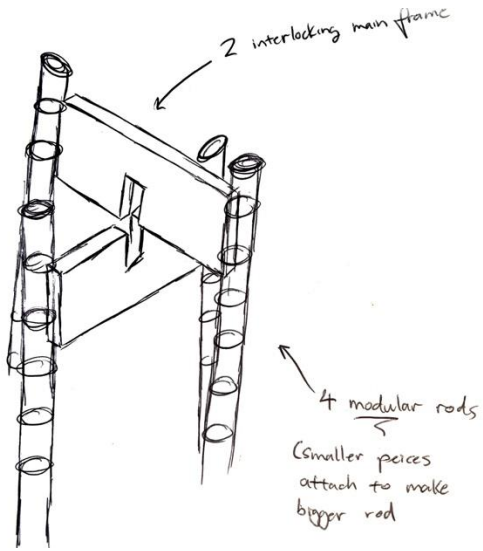


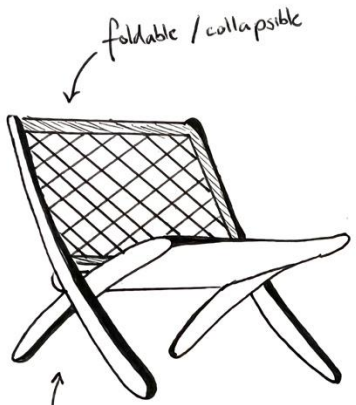
01. *SnapSeat*

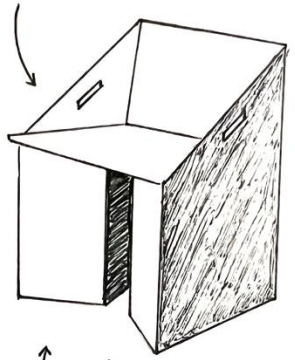
Brief

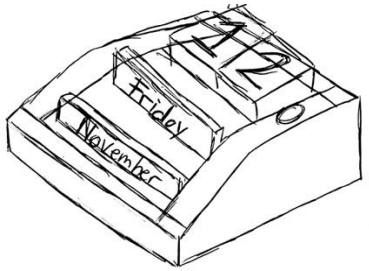
Product must fit the theme of ‘Office’ and fit through a slot of 175*35mm (the average size of a UK/European domestic letterbox); the recipient must be able to assemble the artefact without any tools, glue or tape.

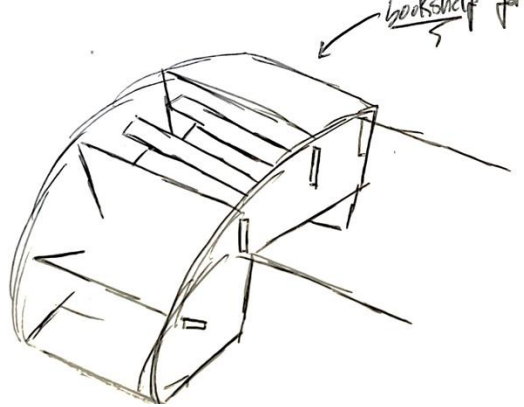
Concept Development

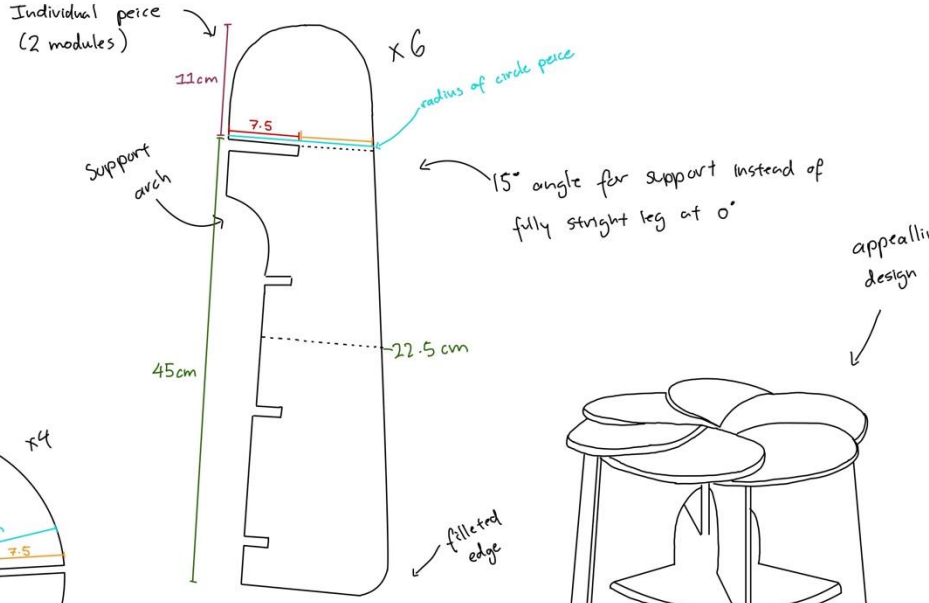


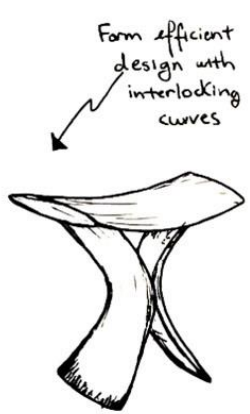


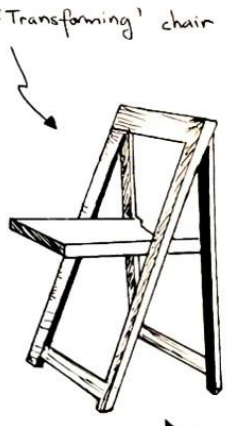


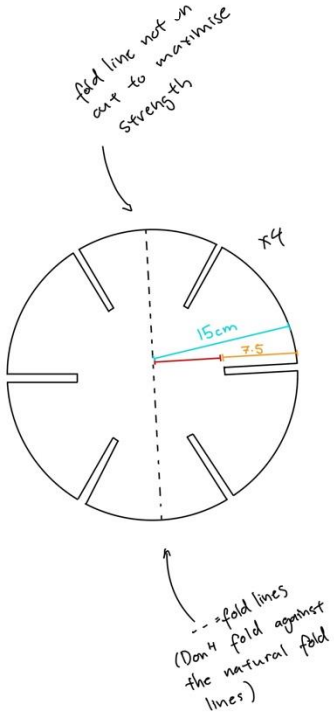




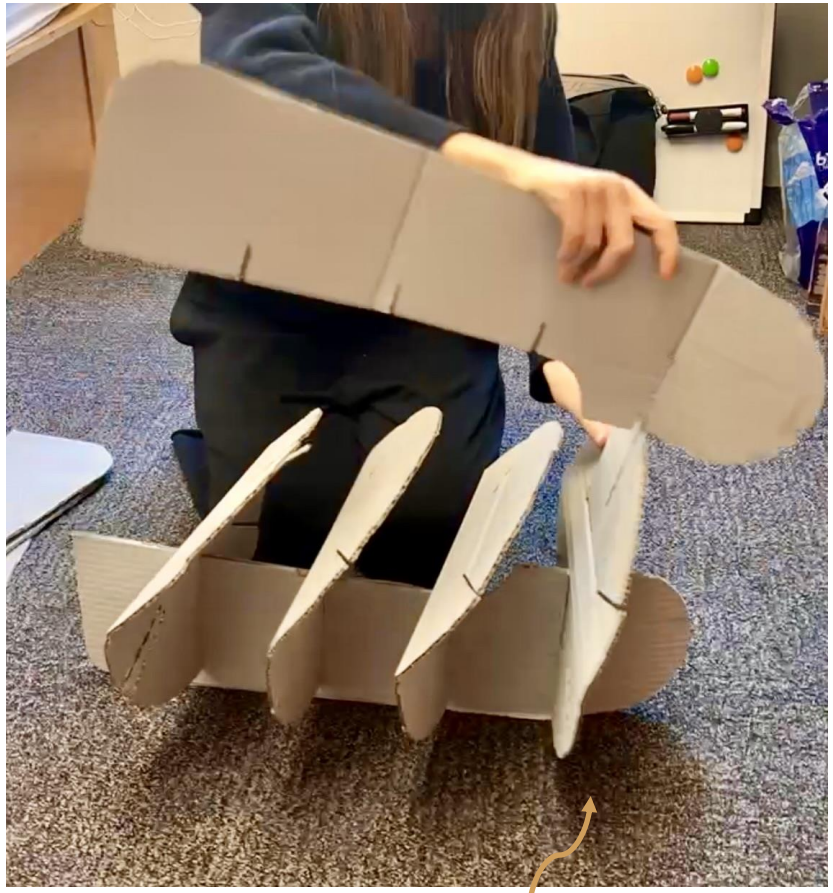


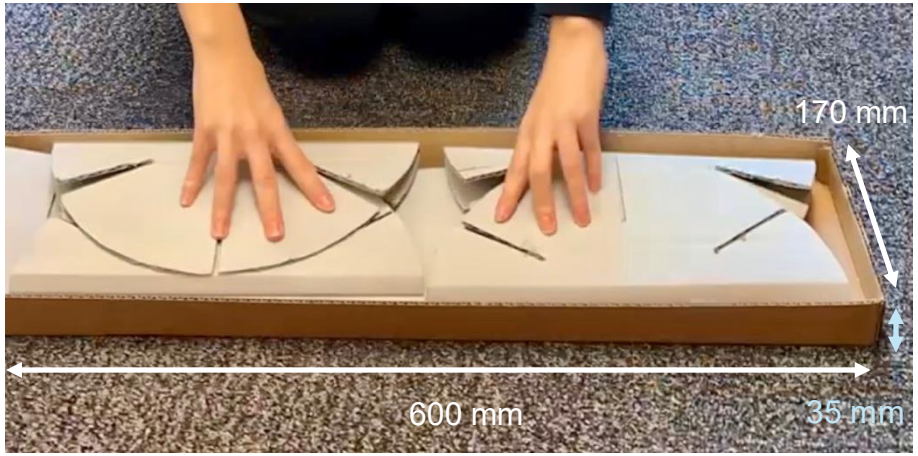






Modelling





No tools, just hands to fit slits against slits

Target audience: temporary pop-up office spaces, children's study stool.

Letter box dimensions - fold circular parts in half and lay legs flat

Flat packed - an incredibly large volume to fit in a shipping crate.

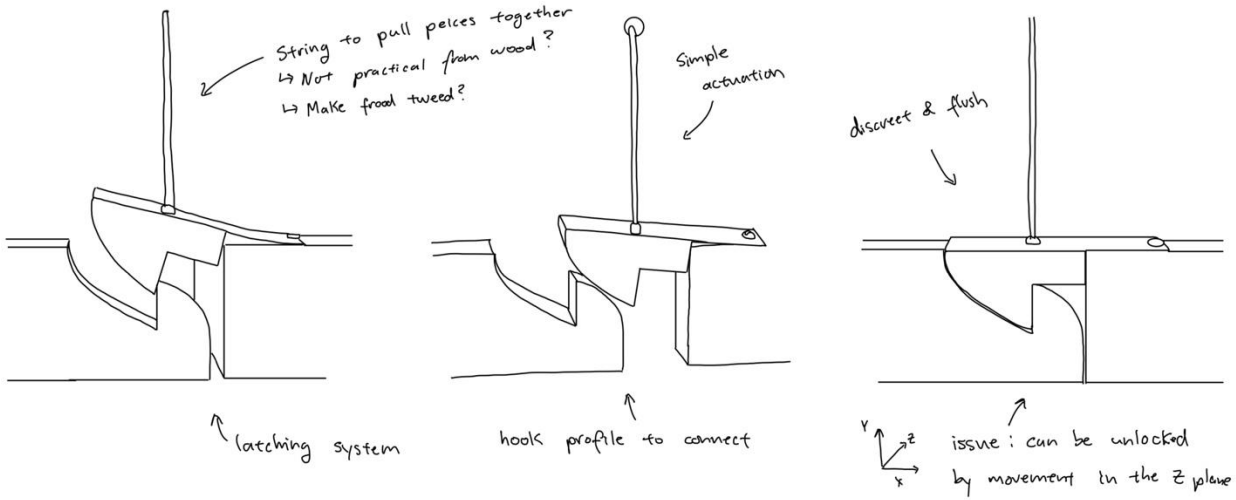
Chair Assembly Tutorial

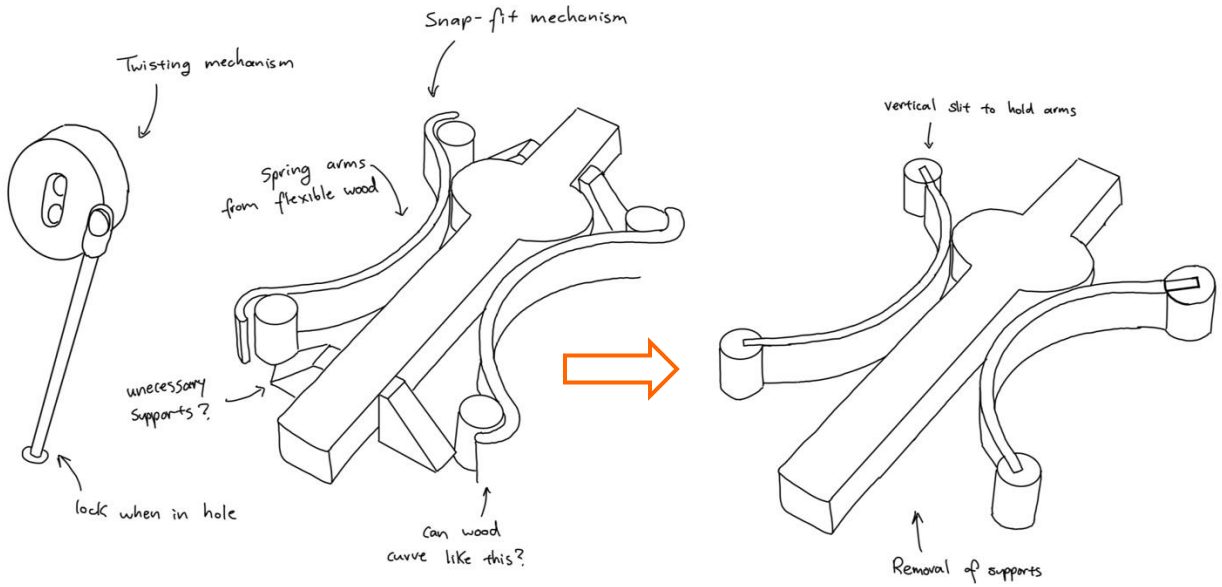
02.
DICE

Brief

Design an engaging object which uses an interlocking mechanism (system designed to physically engage with one another in a way that prevents unintended movement or separation unless a specific action is taken to unlock or disengage them), which only utilises wood.

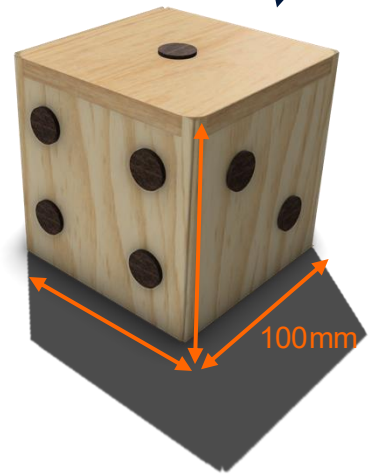
Interlocking Development



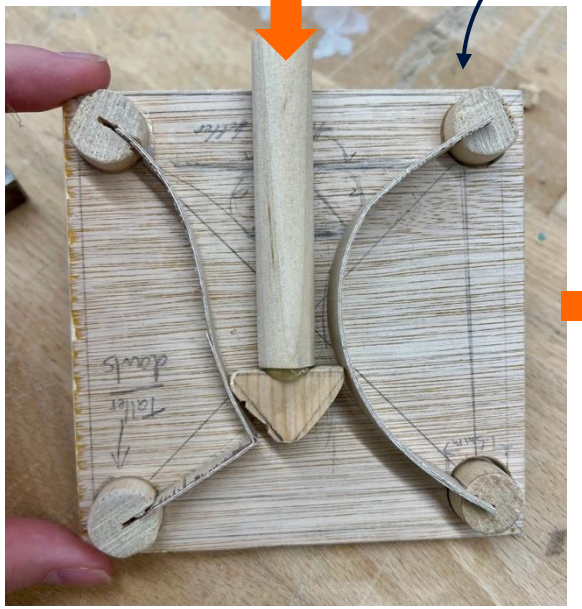


Iterative testing to optimise shape of least pressure

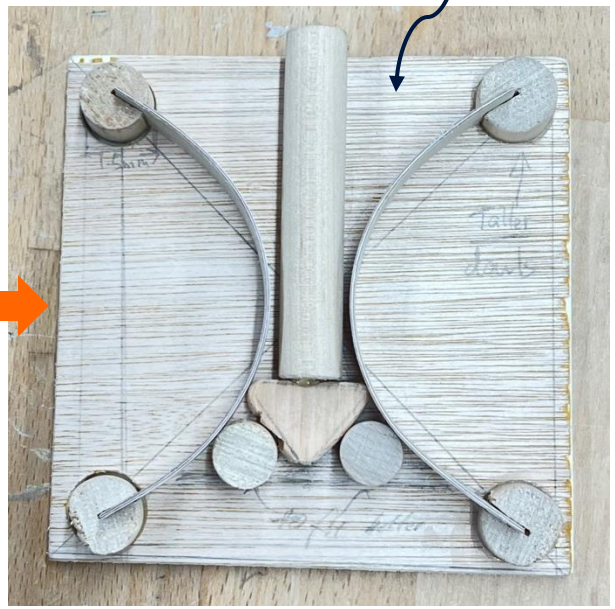
Mitre joint for flush look



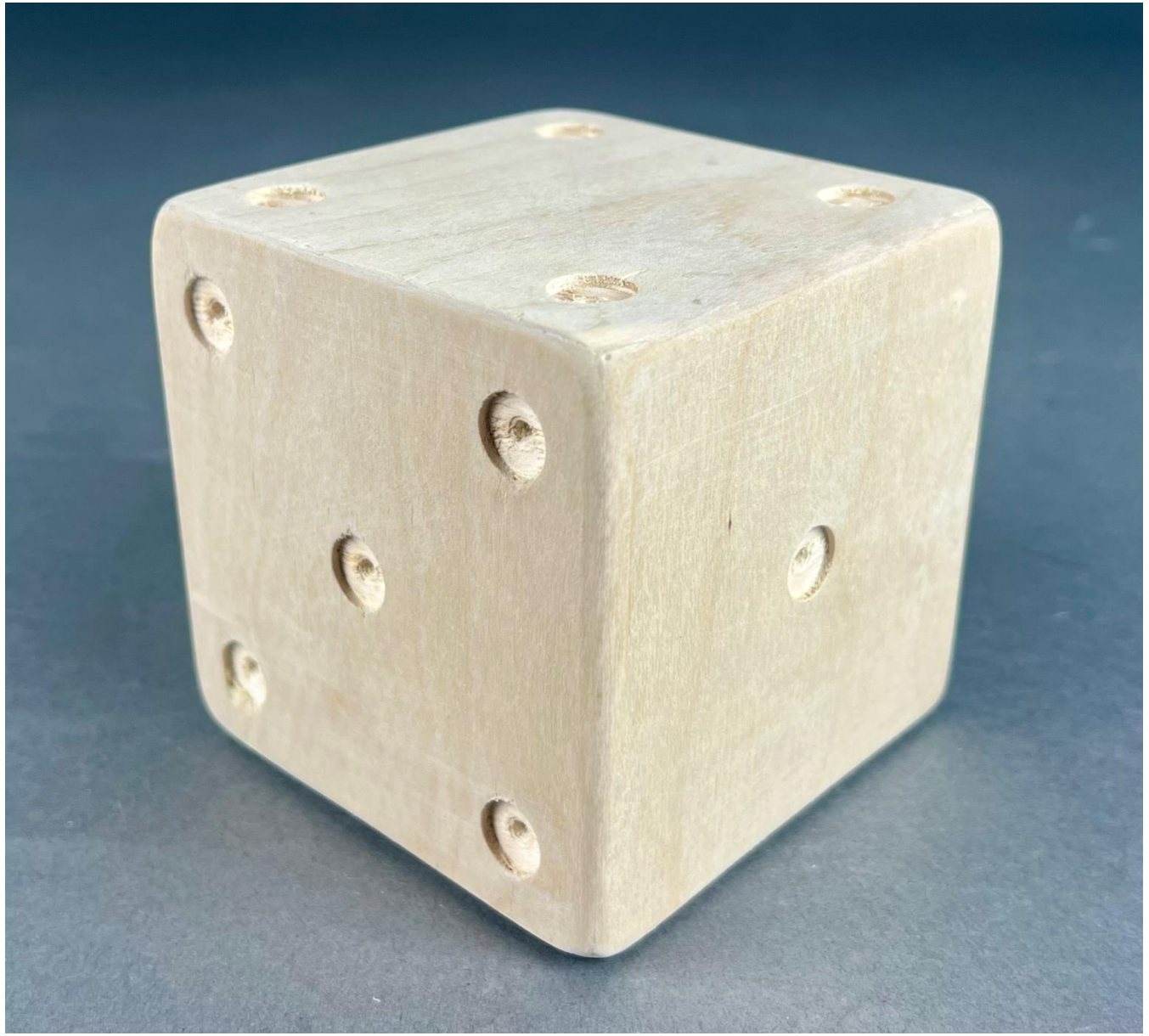
Snap-fit mechanism using airply wood

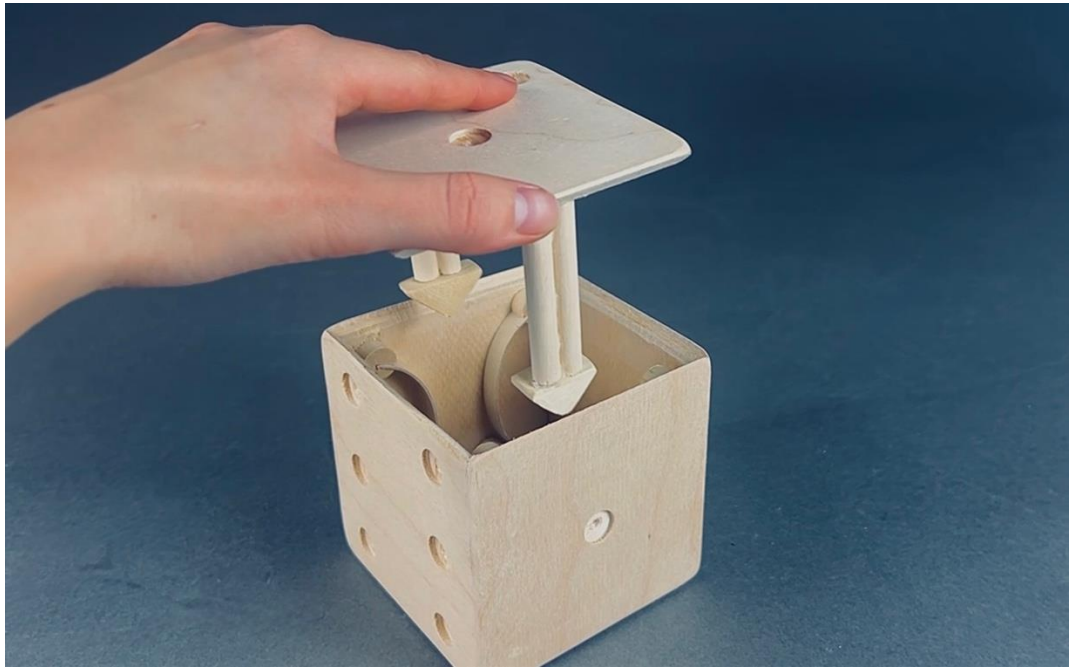


Adding stoppers for satisfying click



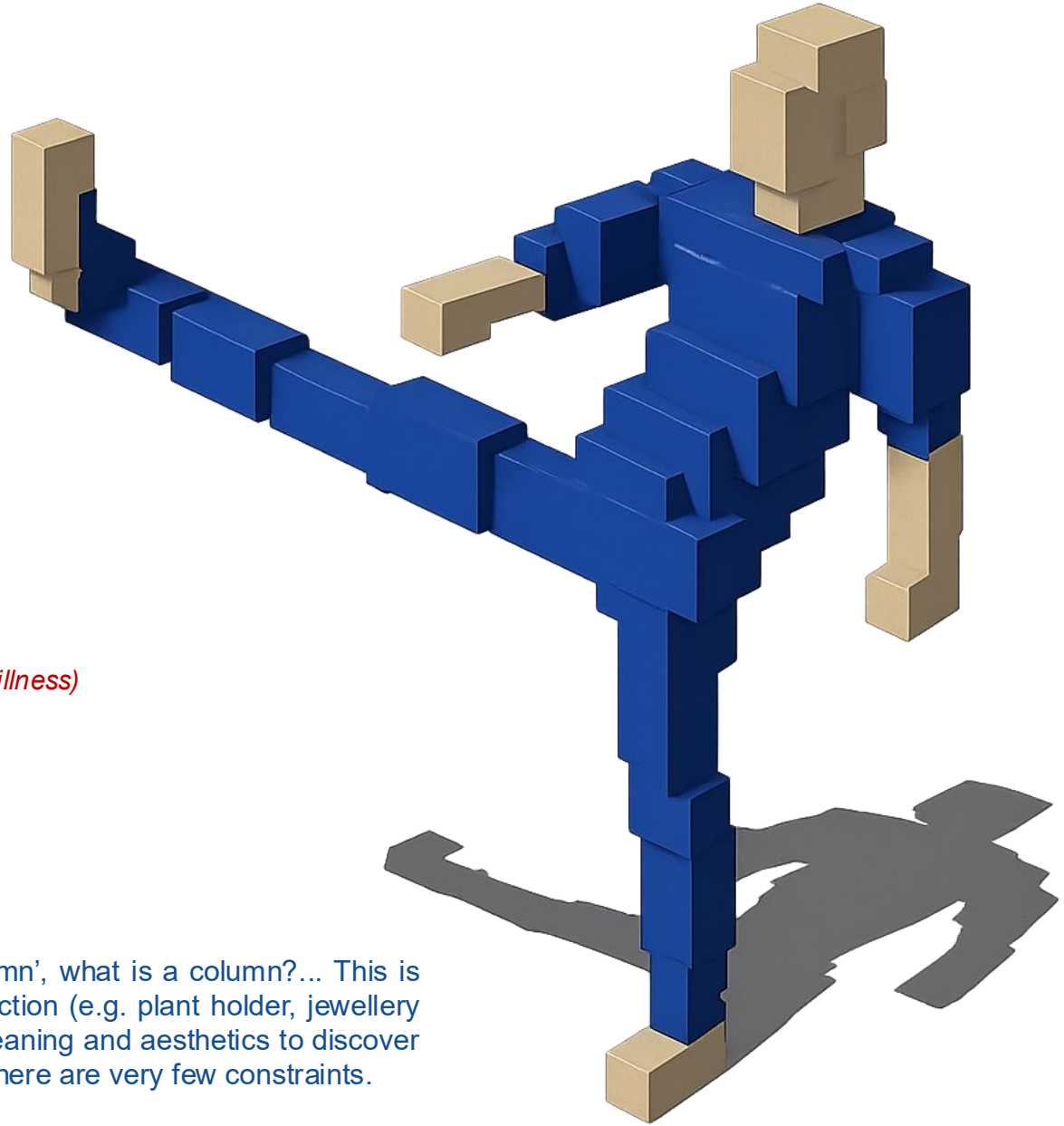
Handcrafted wooden Die - decorative conversation piece, desk object and fidget piece with a hidden inner chamber component for keeping small valuables.





03.
静の動

(motion within stillness)



Brief

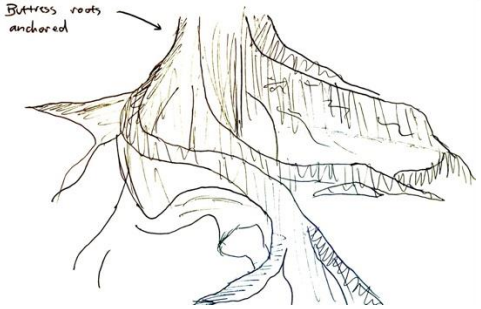
A personal response to expressing the idea of ‘column’, what is a column?... This is not a design product, i.e. this should not have a function (e.g. plant holder, jewellery stand, pen pot etc.). The aim is for you to explore meaning and aesthetics to discover your decision-making and fabrication process when there are very few constraints.

Concept Development

rotating columns of wind and energy

Architectural columns connect the foundations of a building to its roof, tornadoes connect the earth to its clouds

Just as columns bear loads and transfer forces in architecture, tornadoes transfer energy & momentum between earth & atmosphere



power & scale akin to viewing a colossal column
↳ similar emotional response

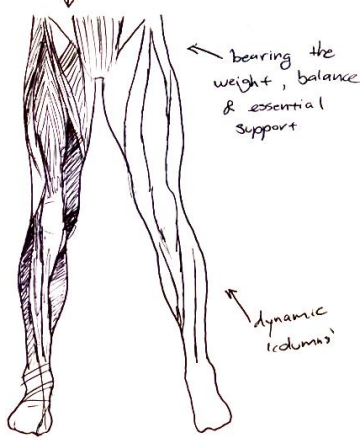
↳ esp when well executed = impressive like viewing impressive structure

Judo flip-thrower acts like a column, using body ~~to stab~~ as a stabilising pivoting structure

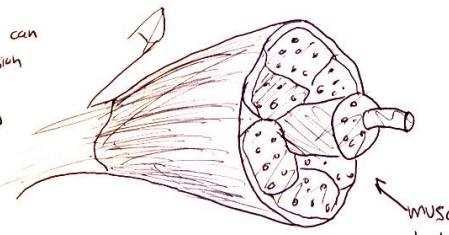
temporary column; fluid to become an the axis around which the opponent spins & flips

traditional 'column'

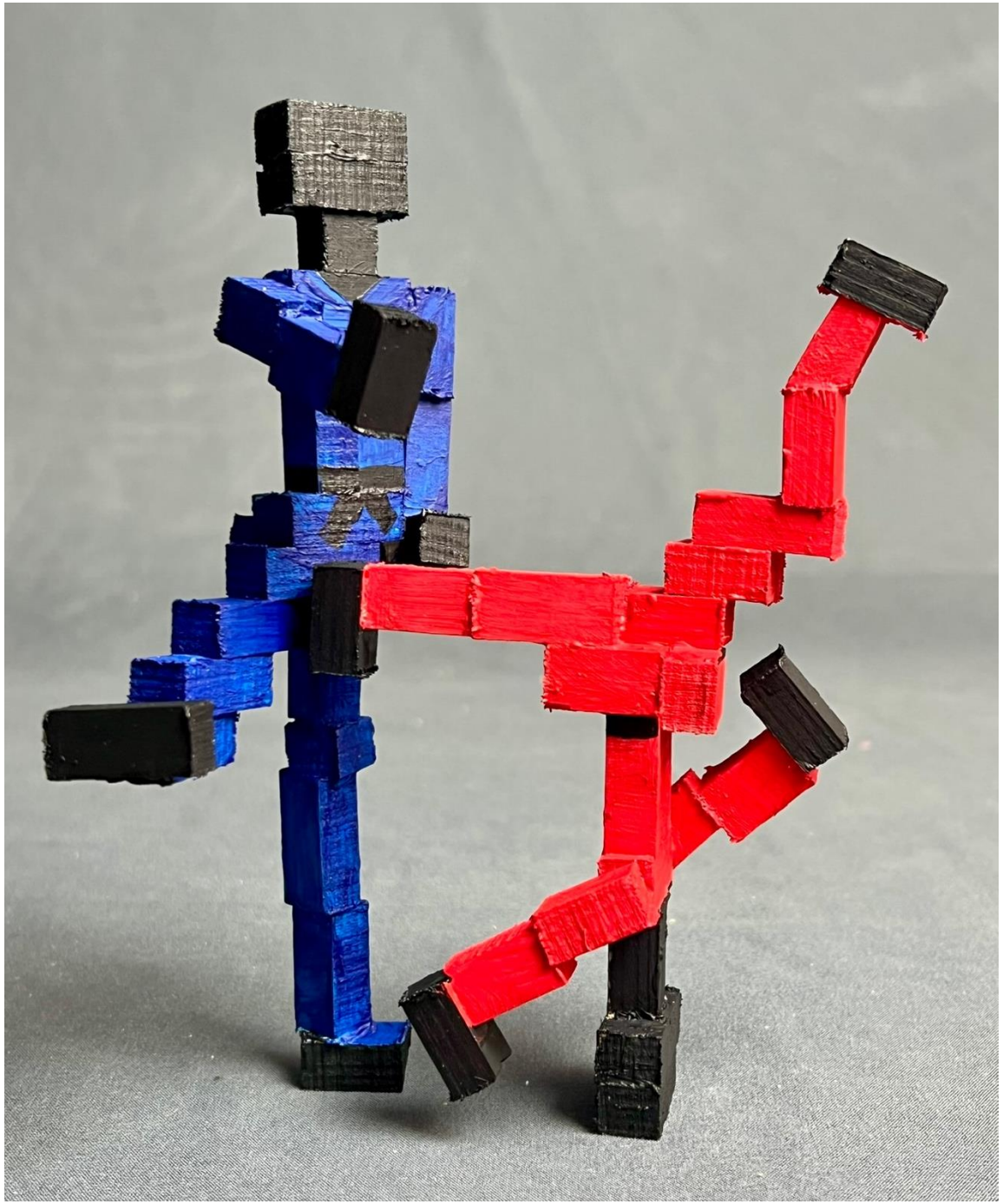
columns of the body = legs

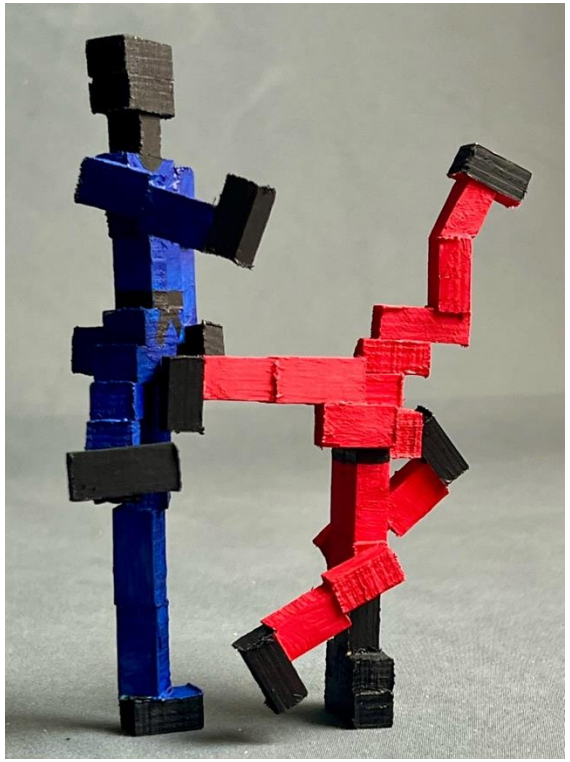


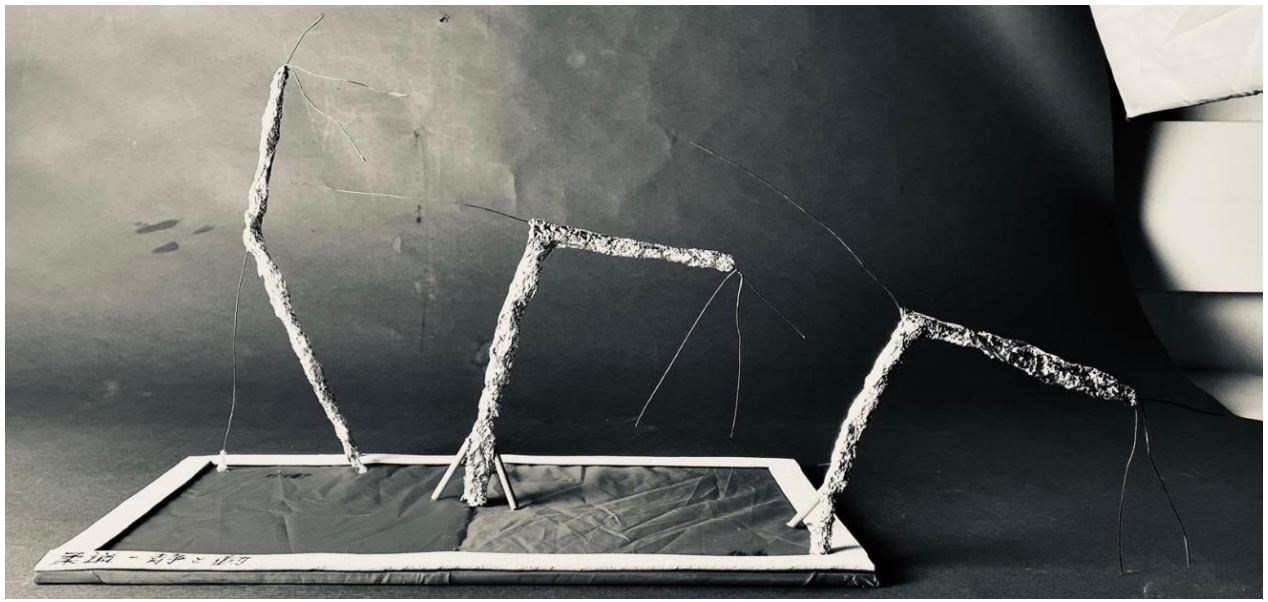
strong, unified structure that can withstand tension + force



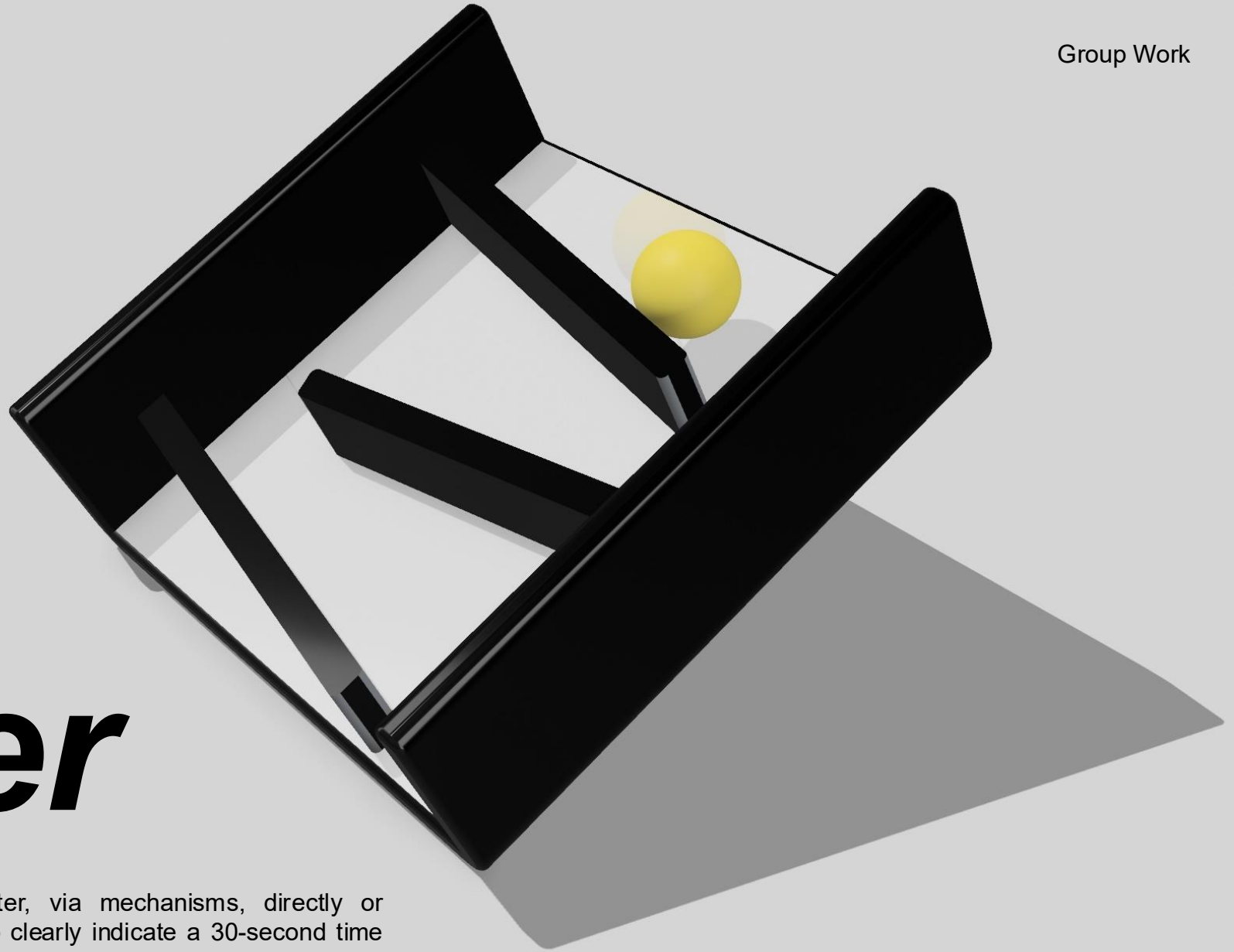
muscle fibre - miniture columns within the body (each fibre = mini column)







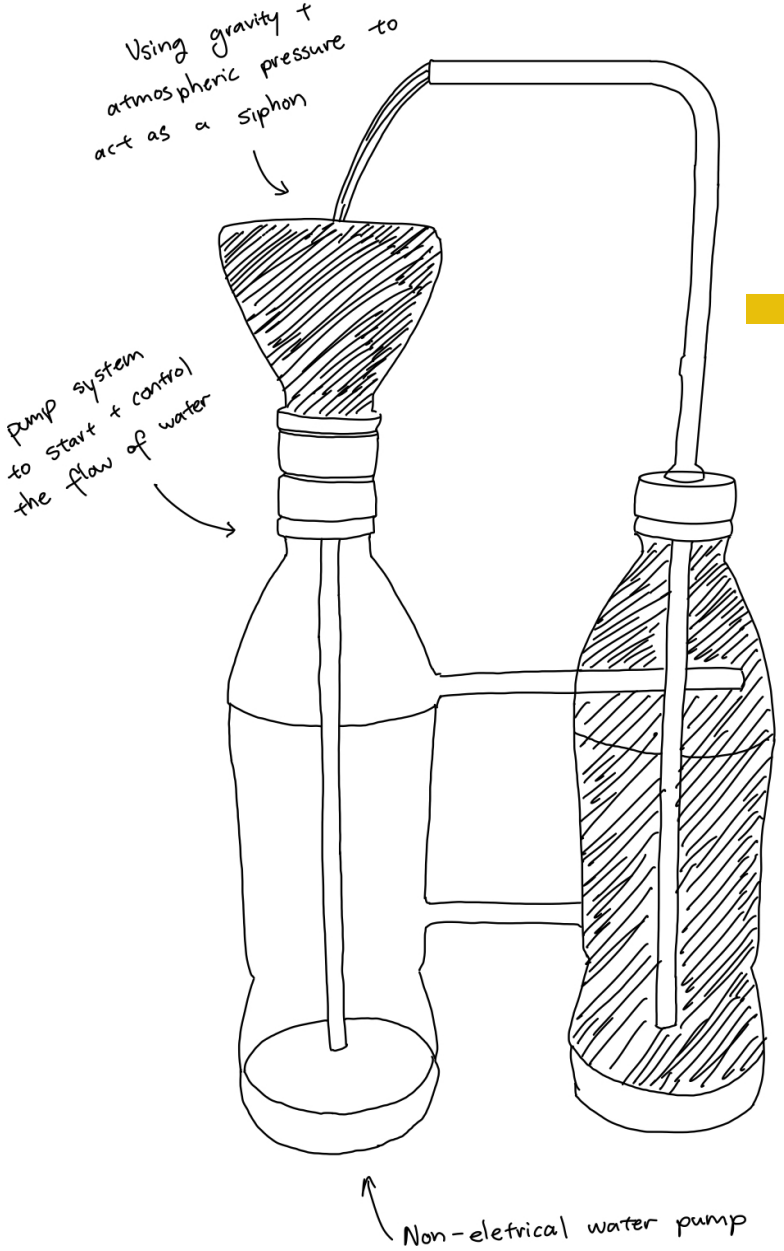
04. Timed by Water

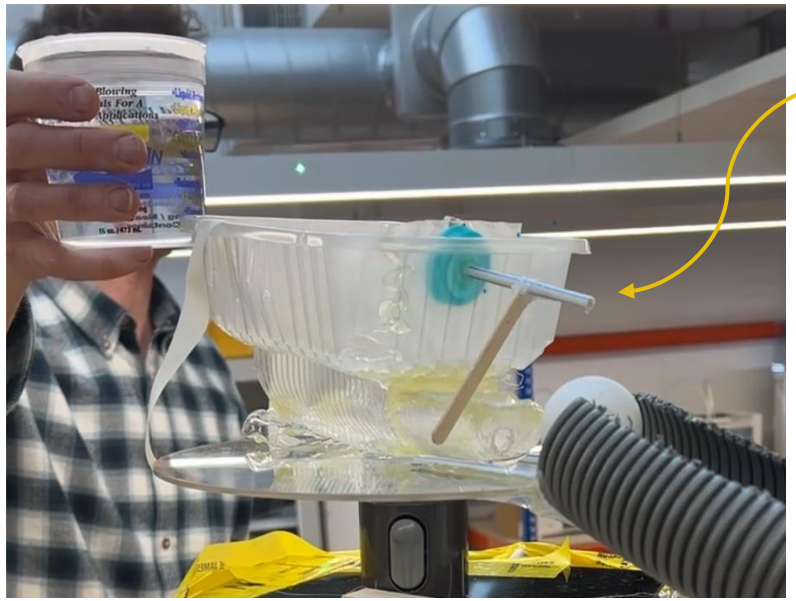


Brief

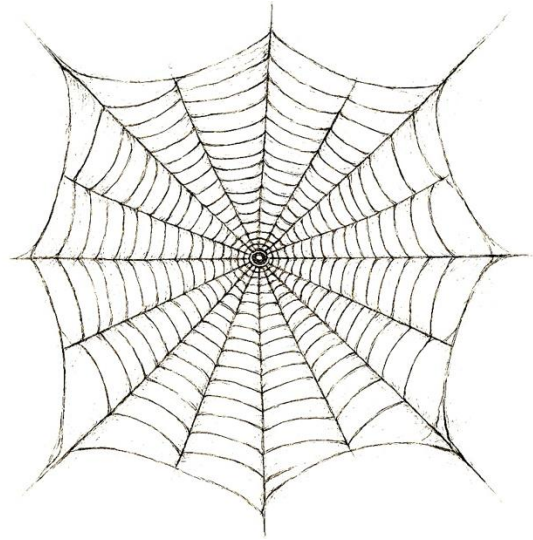
Your solution must incorporate water, via mechanisms, directly or indirectly to move a ping-pong ball to clearly indicate a 30-second time lapse.

Concept Development

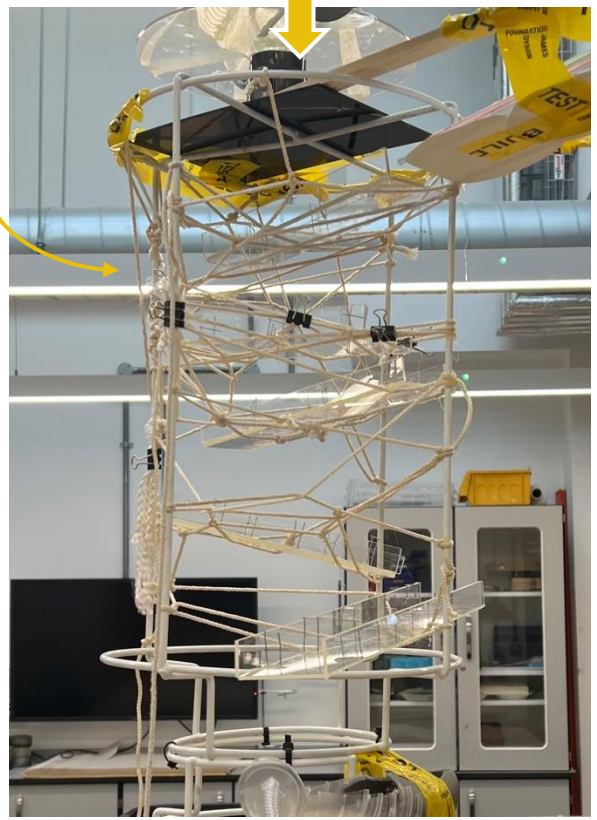


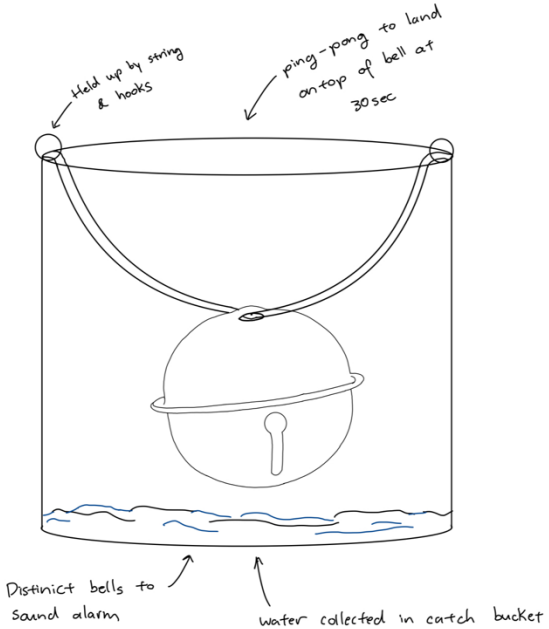


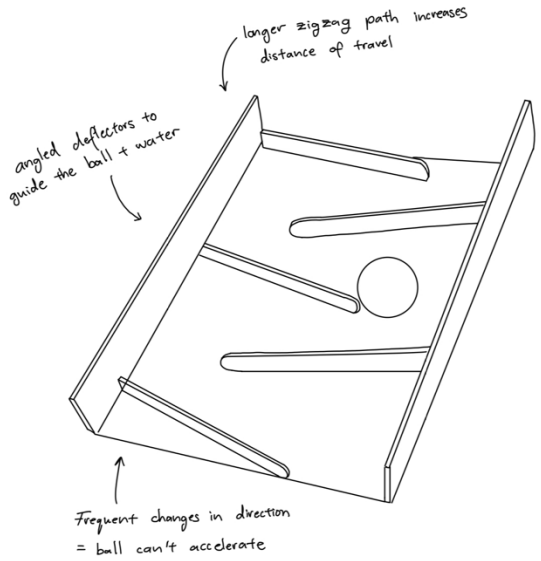
On / Off lever



Rope centre piece – acrylic ramps held with no adhesive just rope

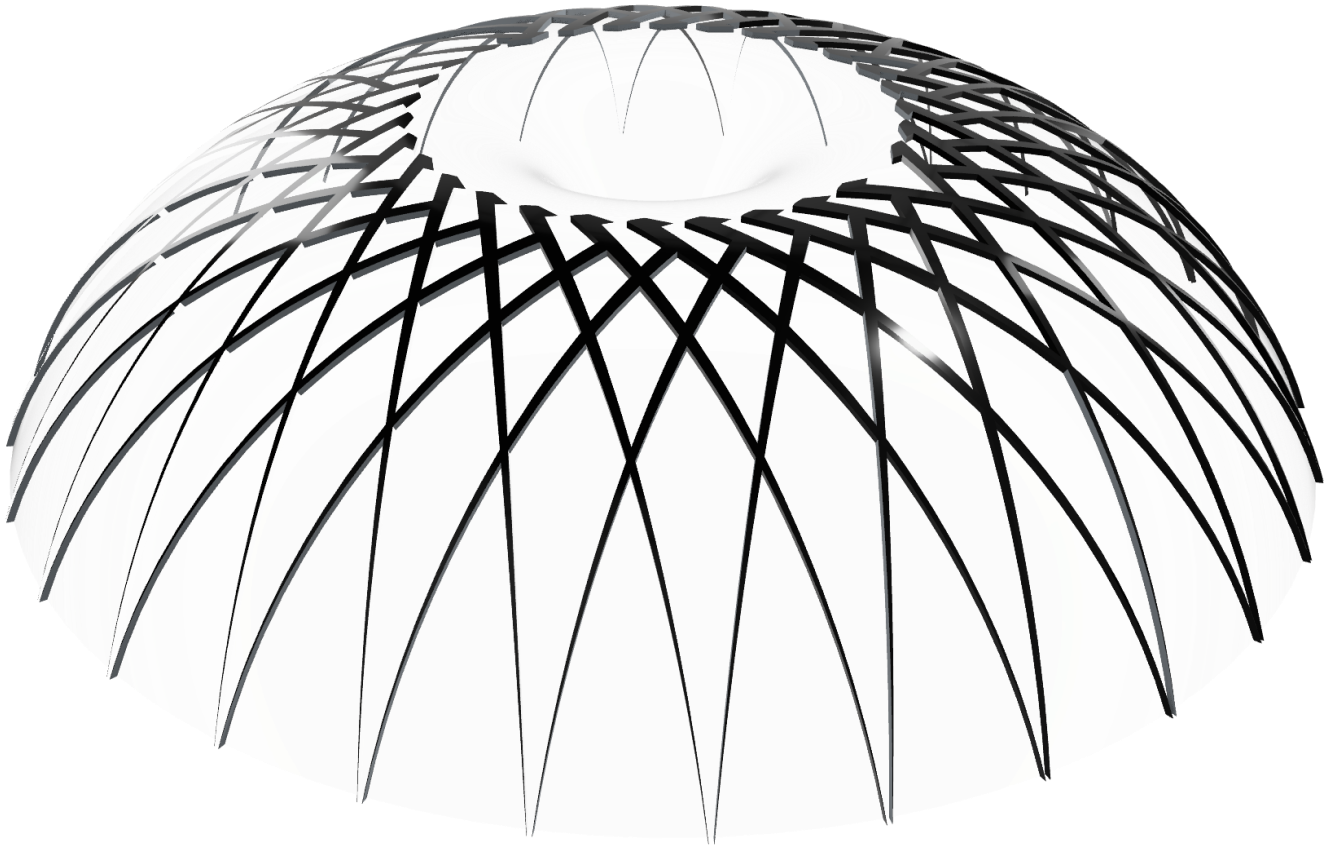






Team: Dinusha Aravinthan, Leonie Faulkner, Nicole Kirk, Yasar Syed

05. Project Manila

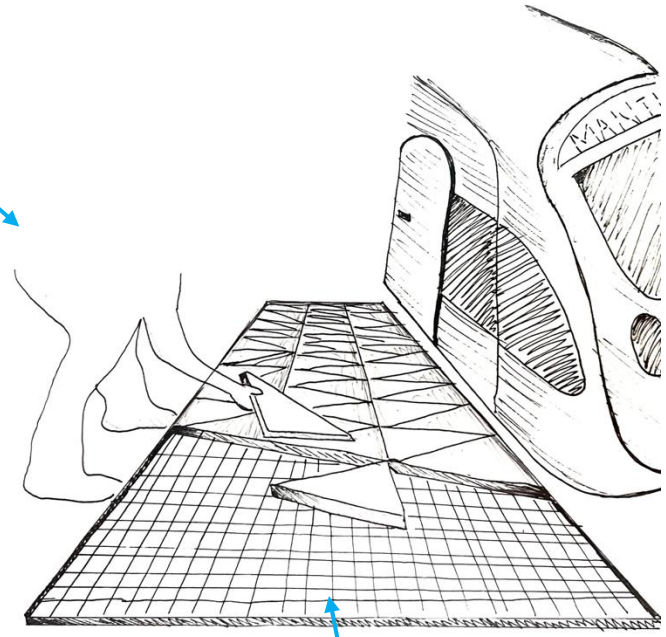


Brief

Redesign and/or retrofit buildings to reduce greenhouse gas emissions with the aim of achieving net zero; pick any country and any context.

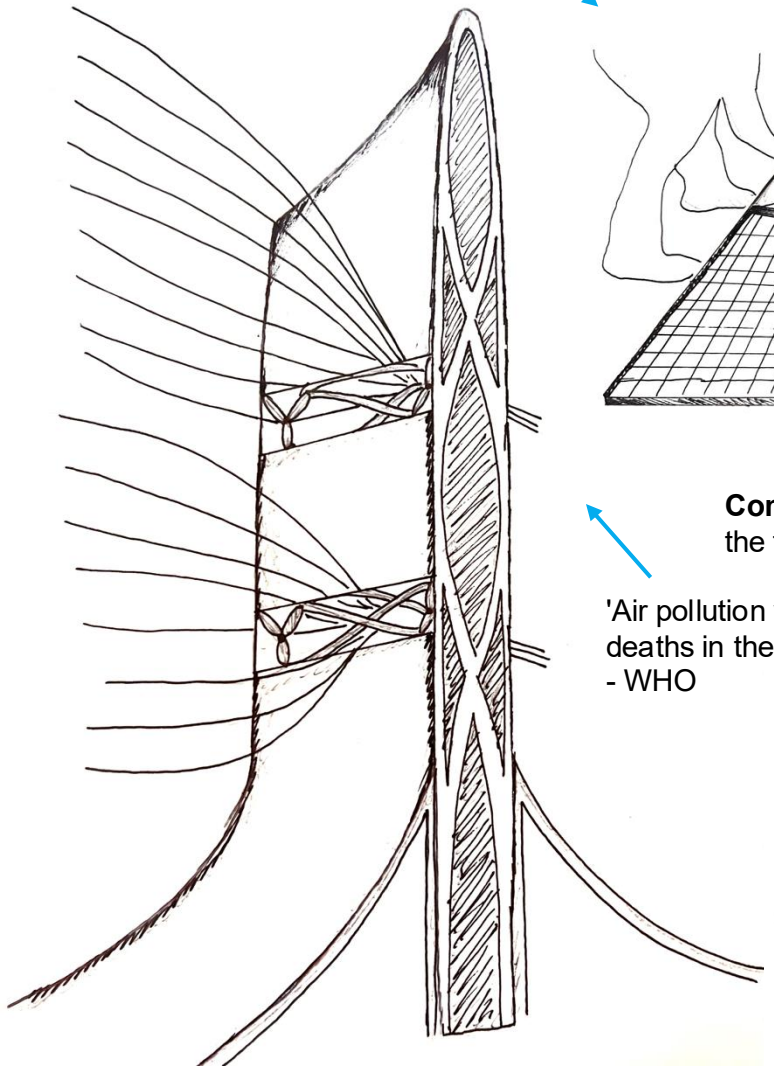
Concept Development

Piezo electric tiles - energy generated by passengers can be harnessed and converted

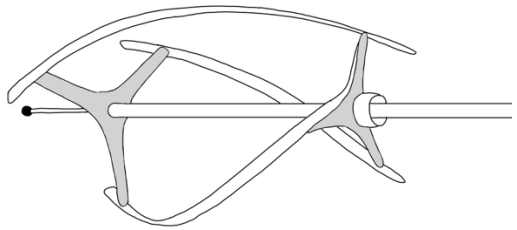


Community Engagement: passengers see the tangible impact of there movements

'Air pollution was responsible for 66,230 deaths in the Philippines in 2019 alone'
- WHO

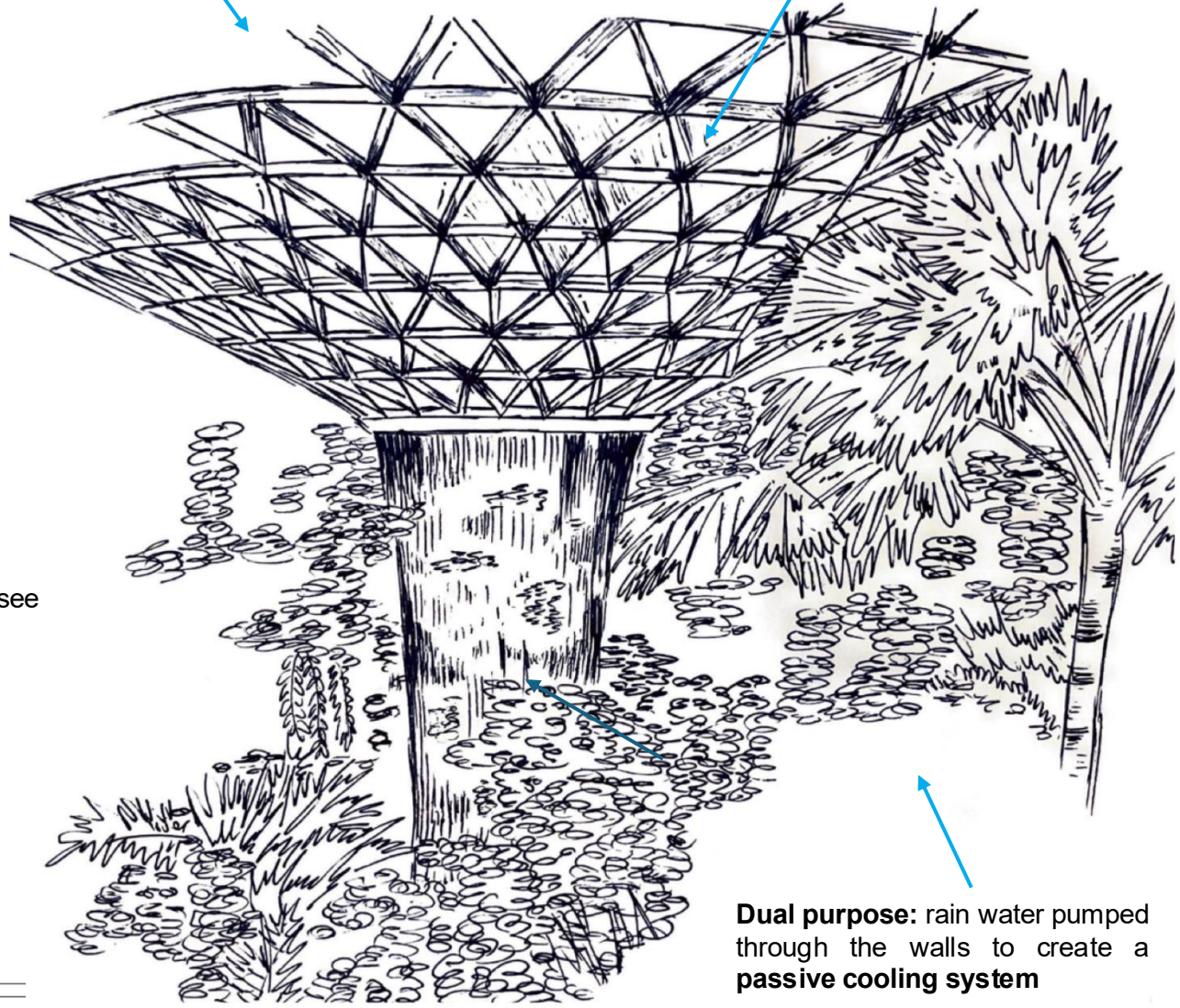


Maximising the use of prevailing breeze



Rainwater Harvesting: Reused for irrigation + toilet flushing – Eliminating need for potable water

Glass Roof of triangular celled **transparent solar panel**



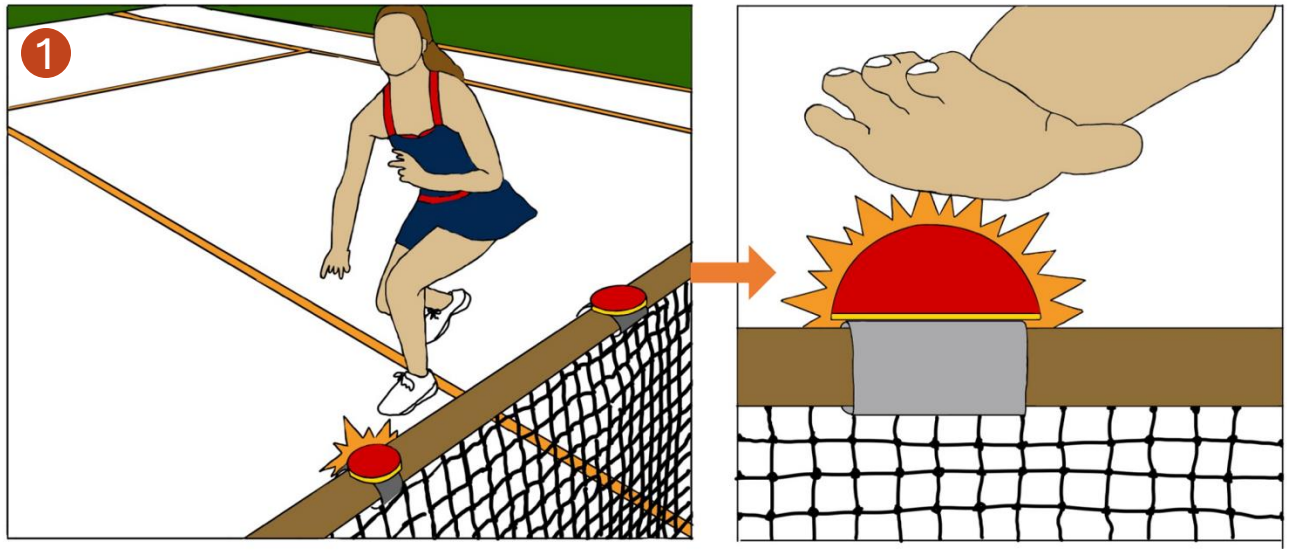
Dual purpose: rain water pumped through the walls to create a **passive cooling system**

Maximizing the natural climate (Manila = yearly avg 2000m rainfall)

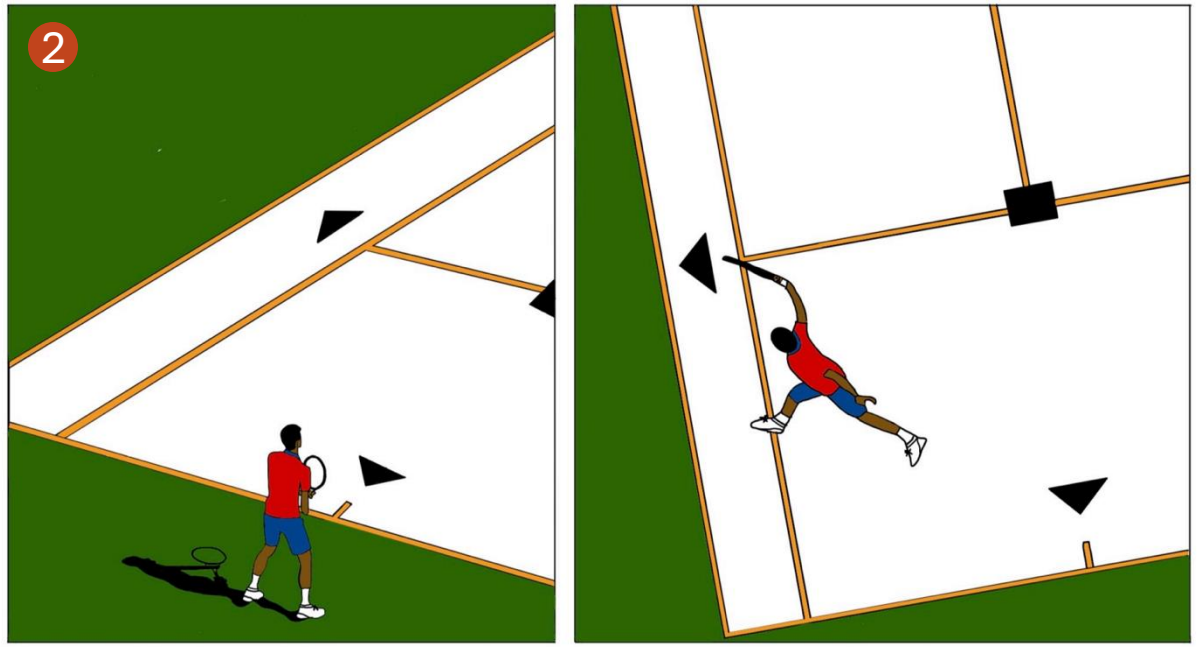
06. Touch Tiles

Brief | Design a product that can aid or improve healthy lifestyle

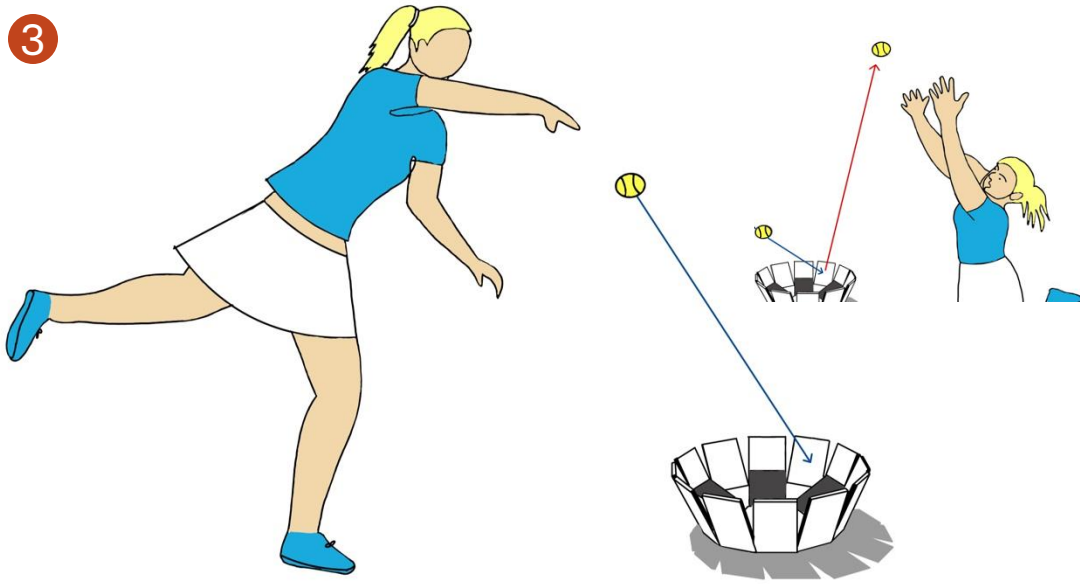
Concept Development



1. Buttons are attached across the length of the tennis net.
2. User runs and taps lit up button.
3. User runs and taps next lit up button.
4. Time between flashes decreases to force player's speed to increase.



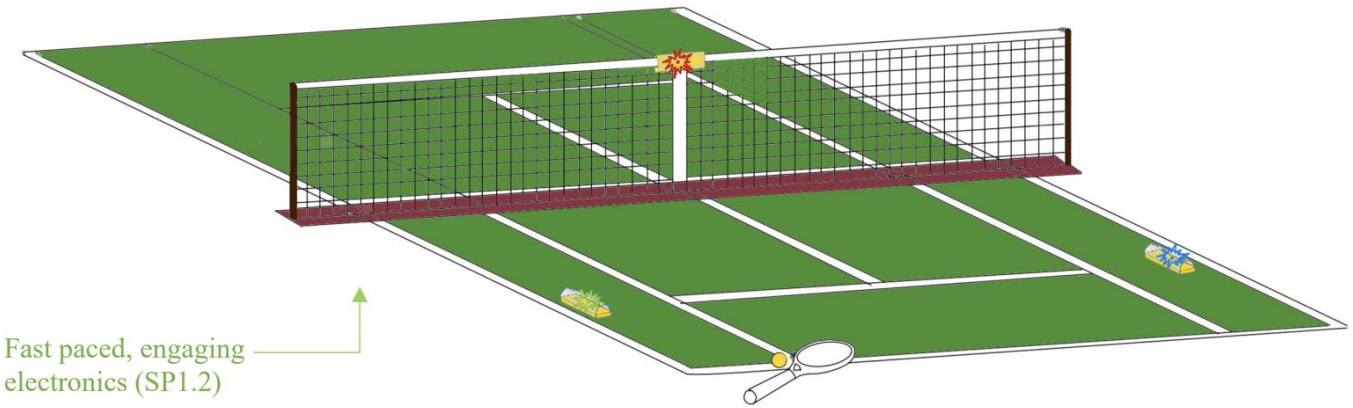
1. User sets up tiles on the court
2. The tiles will light up in a random sequence
3. Forcing the user to run across the entire court
4. Overtime - the time between light changes will decrease.
5. Forcing user to run faster with more agility on court



Concept 1+2 combined:

3 Tiles – 3 minimum to make a random sequence, due to time constraints I do not have time to do 4 tiles

LED lights are clearly visible from across the court

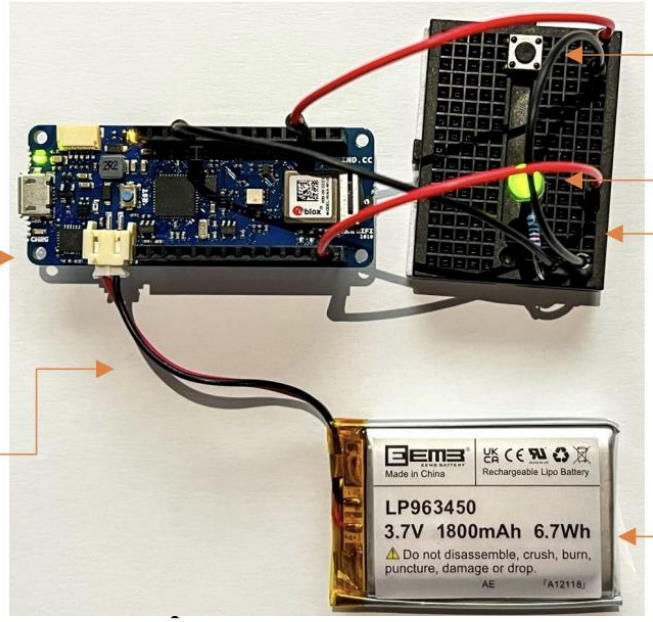


Fast paced, engaging electronics (SP1.2)

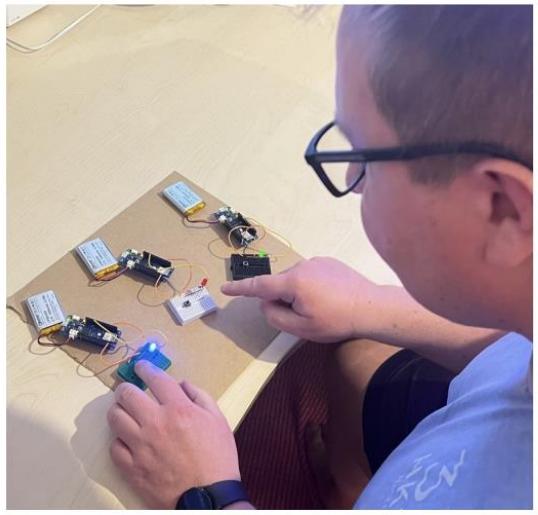
Modelling

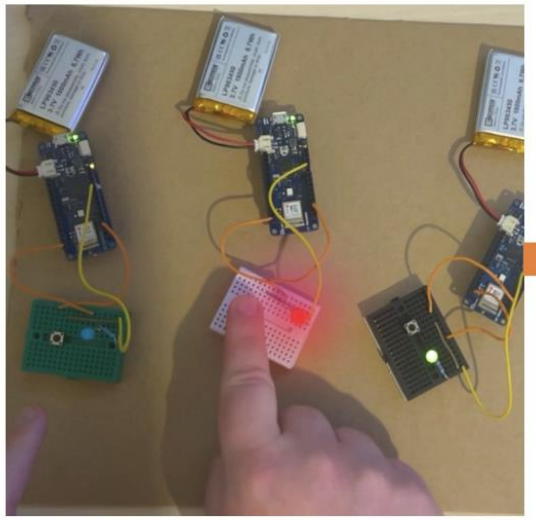
Electronics layout:

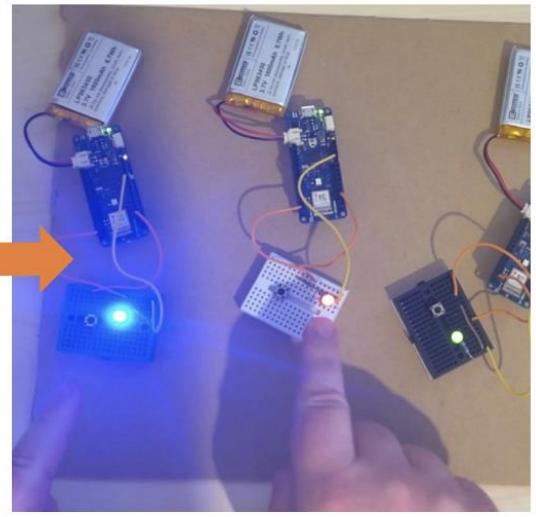
Arduino MKR – essentially a basic computer that is able to communicate protocols wirelessly in a cost-efficient manner (£17)



Size + Material testing:







User testing the electronic component – scaled down not in a sports setting

Red button flashes -> user presses red button -> new light is randomly set off (blue light) -> user moves to press blue button

Intuitive set up

Easily portable – Taking up minimal space in tennis bag

App concept designed in Figma