



SUPER FOWLST CONTROLLER

**This proposal will cover a brief of the
game, controller, research, design
rationale and instruction manual**

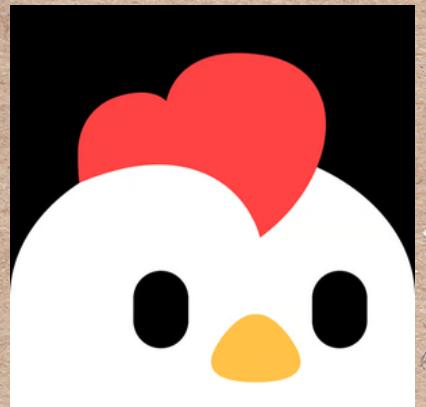
By Curtis Low Cheng En

ANALYST OF SUPERFOWLST //

- Super Fowlst (2018) is an action game created by Thomas K. Young. It is a sequel to Fowlst (2017) and has a sequel called Super Fowlst 2 (2020).
- The game was first released on IOS and Android platforms , followed by Poki.com
- It resembles a quirky arcade game with its vibrant yet modern Pixel Art visuals



MAIN CHARACTER IN GAME



- The game maintains simplicity with only 3 buttons to control
- The gameplay involves skillful dodging of enemies and obstacles while trying to eliminate them at the same time
- Players will have to balance and control the movement of the chicken continuously making it a challenge to dodge and eliminate enemies
- The levels are procedurally generated, ensuring a refreshing experience each playthrough with challenging boss fights
- The gameplay in Super Fowlst 1 and 2 is the same but with more power-ups and gimmicks such as the portals, cannons, pinball bumpers and slingers

SUPERFOWLST GAMEPLAY



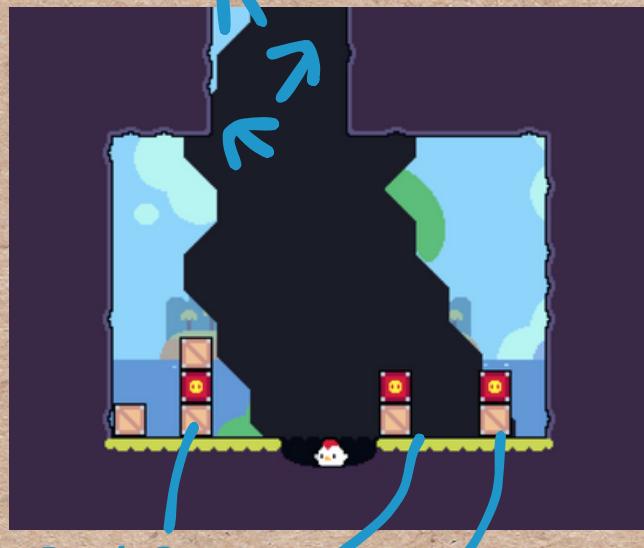
CORE MECHANICS

The core mechanic of the game revolves around pressing left(A) and right(D) to maintain a balance of the chicken's height and direction, while simultaneously dodging and eliminating enemies to proceed to the next level

For example, in this level, to fly upwards, the player will have to tap left and right constantly to gain height and also go through the small space

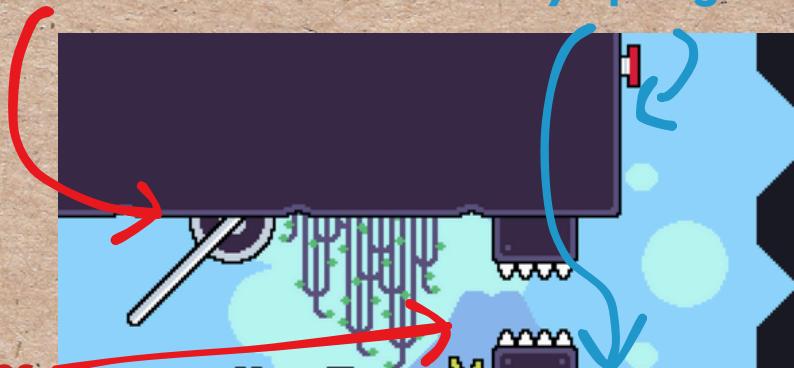
GAMEPLAY CHALLENGES

Players will have to avoid certain obstacles while also dodging and attacking enemies at the same time, making it a challenge to control the chicken's movement



Bomb Crates
(kills enemy)

Sawblades



Spikes

Bouncy Springs

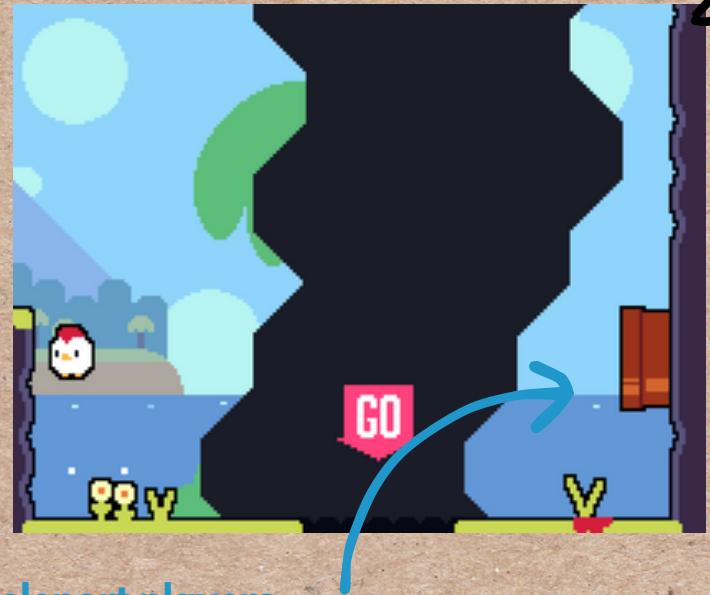


Power-Up

Hostile Enemy

SUPERFOWLST GAMEPLAY

Cannon which players can use to launch themselves in any direction



Portal which will teleport players to another portal in the same area

Special enemies that require players to aim for the head since there are spikes on its body



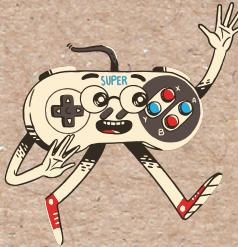
The player will have 3 hearts each playthrough and can collect coins scattered around the map from destroying crates, enemies, and special areas





SUPERFOWLST GAMEPLAY

Some of the power-ups the player can get in game from killing enemies and destroying crates (W to use power up)



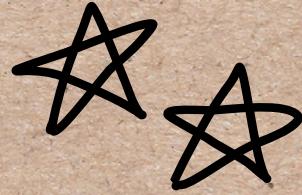
After a certain number of areas, the player will encounter a unique boss fight which will reward the player with more coins and a checkpoint to save their progress



And with the coins collected, after each playthrough, the player can use the coins to buy permanent unique abilities to upgrade their character



SUPERFOWLST LINKS



<https://poki.com/en/g/super-fowlst>

<https://poki.com/en/g/super-fowlst-2>

STRENGTHS AND WEAKNESS



Strengths

**Simplicity with only 3 buttons
straightforward controls and
accessible**

**Mechanics of movement in the
game can be translated to physical
controller's mechanics, moving
wing of the chicken to fly to the
direction**

**Pixel art aesthetic, making a
boxy/minecraft chicken fitting
with the theme**

**Procedurally generated levels,
offering replayability**

Weaknesses

**Simplicity with 3 buttons also
means not using the makey makey
to the fullest potential**

Risk of gameplay being repetitive

**Intrusive ads when dying for extra
life**

**Lack of storyline for game
(considering there's 2 parts)**





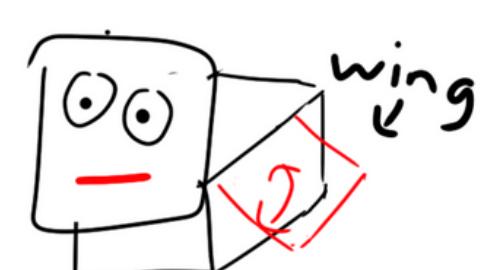
HOW TO IMPROVE USER EXPERIENCE

To further enhance the gameplay and user experience, a new set of controllers designed specifically for the game will make the experience much more immersive, personalized and unique.

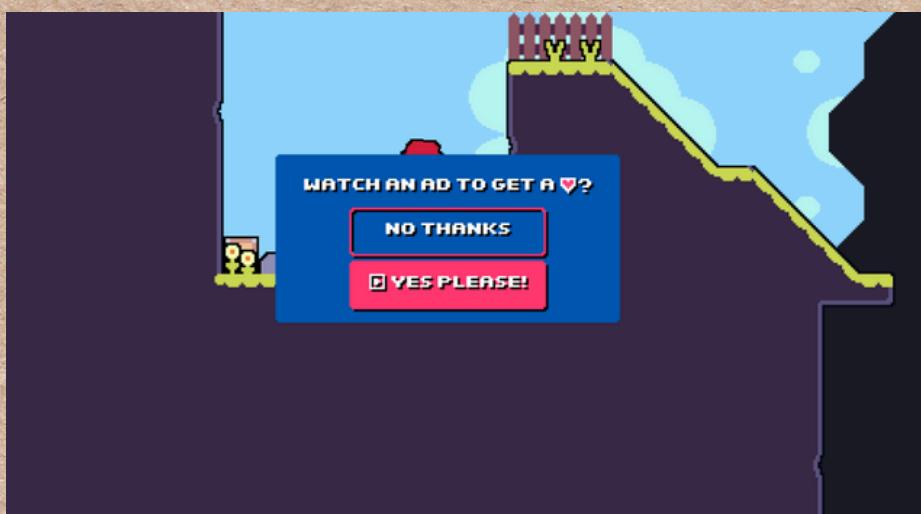
Rather than a traditional keyboard/mouse set-up, being able to control the chicken's movement physically will make the player feel more connected with the game and immersed



The wing of the chicken would be a separate piece with a strip of aluminum foil beneath it that can be flapped to come into contact with another piece of aluminum foil, triggering the makey makey buttons

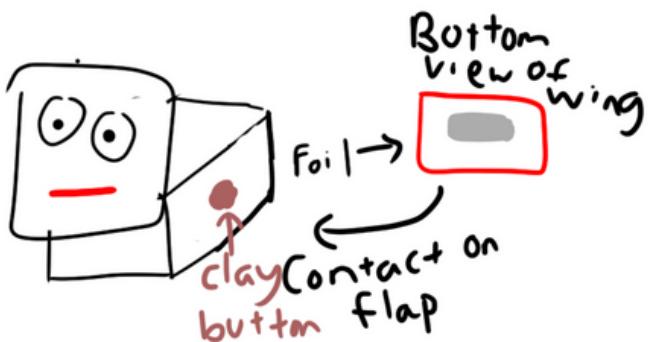
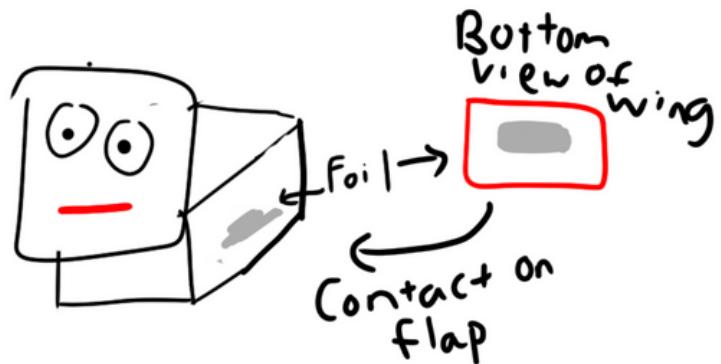
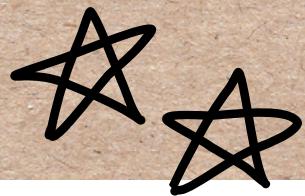


No more ads
(although understandably its a free game)



DESIGN CONSIDERATIONS

Rough sketch on implementation



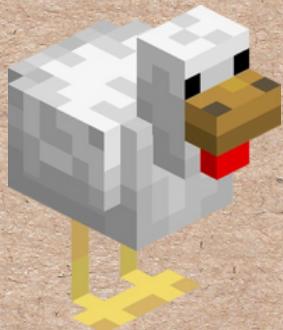
Another consideration was to use clay for the buttons so the feedback when the wing comes into contact would be better, but I have not played with clay before and wasn't sure if I could implement it well

Another consideration was how the user will be controlling the wings, I wanted to try attaching the wing to a string and go through the box of the body and out the back for the user to pull the strings for it to come into contact, this would make the game feel more unique but I felt it was too complicated for my level of skill

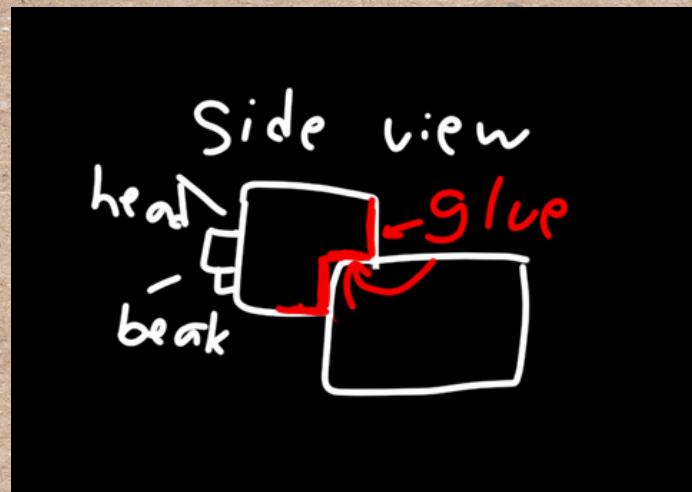
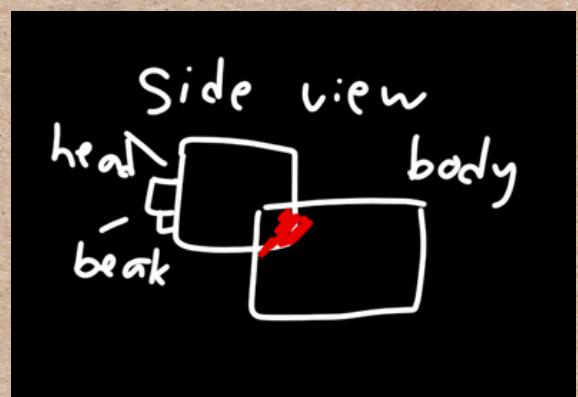
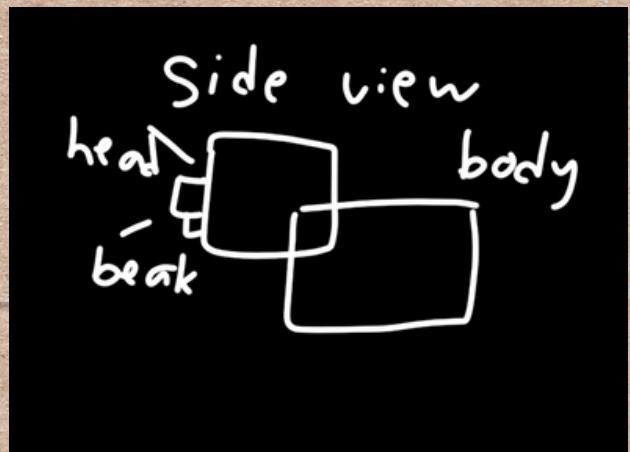


PLANNING

The main components for my controller would be two pieces of cardboard intersecting with each other to form the body and head similar to the minecraft chicken



Meaning I would have to cut out part of the boxed cardboard, but the cardboard box i was using was quite thin and wouldn't be able to stick onto the body



so I would have to cut out an additional layer of cardboard in that shape shown glue onto the remaining surface area of the head, in order to glue the head onto the body of the chicken

User Persona



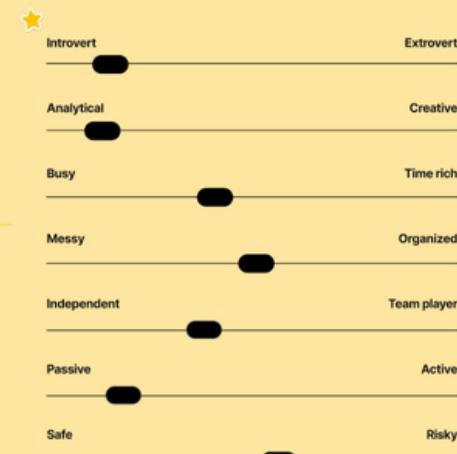
Cornelius Low

- 23 years old
- Student
- Bukit Batok
- Singapore

Bio

Cornelius is an avid gamer who has been playing games since his childhood. He fondly remembers going to the arcades during his childhood playing street fighter, racing games and claw machines. Now he prefers playing games at the comfort of his home on his pc.

Personality



Motivations about Cornelius

Interests

- Music
- Video Games
- Animals and Pets

Influences

- Family
- Friends
- Media
- Influencers

Goals

- Graduate with a degree from SIM
- Growing as a person
- Personal happiness and fulfilment



Needs and expectations

- Short breaks from work to play games
- Games that are fun and challenging at the same time

Motivations

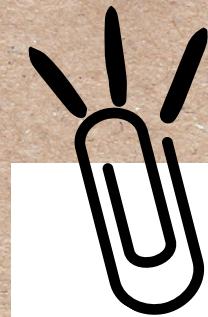
- Personal Growth
- Independence
- Achieving success (being good in studies,games,work)



Pain points and frustrations

- Time constraints due to his busy schedule, schooling and working at the same time
- Bad user experiences on early access games (unfinished/bugs)
- Game prices too high
- Repetitive games

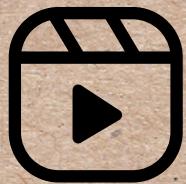
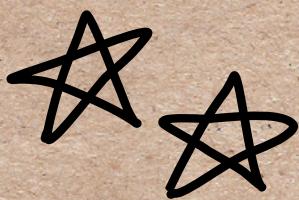
User Journey Map



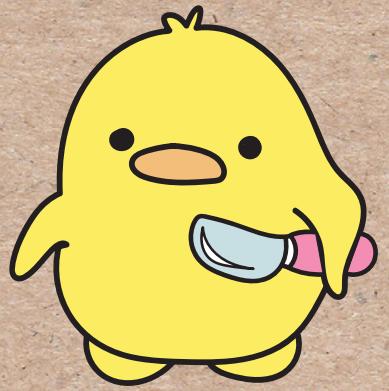
| | DISCOVERY | SETTING UP | PLAYING | THOUGHTS |
|---------------------|---|---|--|--|
| ACTIONS | Introduced to game and controller | setting up of makey makey controller | Playing with the chicken controller | Feedback on what to improve |
| TOUCHPOINTS | Starts game and learns about game mechanics | plugging of cables | Navigating around levels, enemies , boss fight, | Recall any negative experience while using the controller |
| EXPERIENCE/EMOTIONS | Intrigued | Intrigued | Eager and optimistic | Satisfied |
| PAIN POINTS | | Lack of instruction manual (not done at that point) | Controller abit flimsy and fragile (aluminum foil constantly tearing) Intrusive ads for free life after dying | |
| SOLUTIONS | | Me guiding through the process | | Taking feedback into considerations for next iteration of the controller |

Empathy Map





youtu.be/aA1xD15qOSQ



Instruction Manual

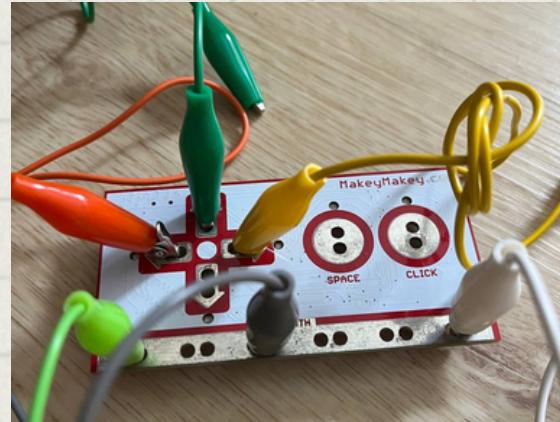
Setting Up the Makey Makey

Components required

- **Makey makey board**
- **Chicken Controller**
- **6 Alligator Clips**

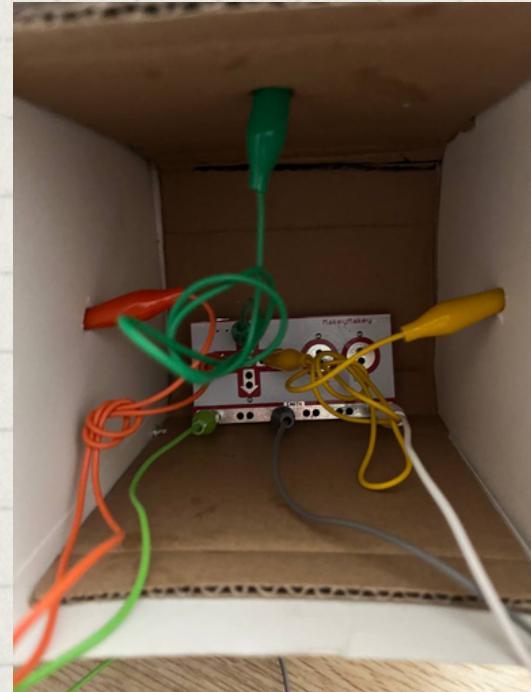
Plug Alligator Clips into makey makey

- Plug 2 alligator clips into the **left** and **right** input
- Plug 1 alligator clip into the **up** input
- Plug 3 alligator clips into the **earth** input



Connect the Alligator clips into Controller

- Plug the alligator clips for the **left** and **right** **input** into the holes on the **left** and **right** respectively (ensure the aluminium foil is being touched by the clips)
- Plug 1 alligator clip into the **up** input
- Plug 3 alligator clips into the **earth** input



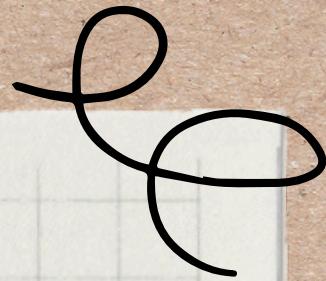
Instruction Manual



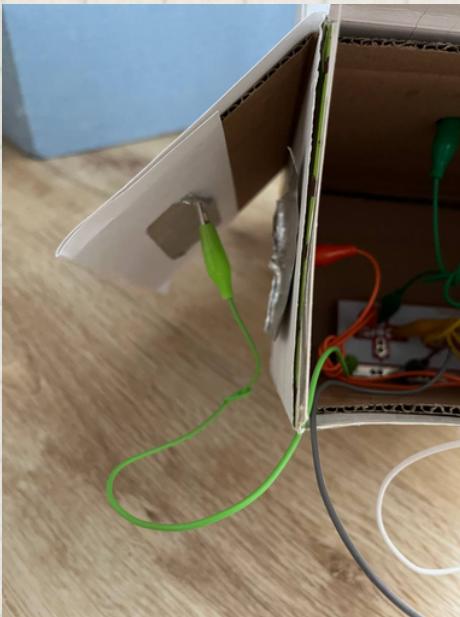
- **Plug the alligator clips for the up input into the holes above (ensure the heart aluminium foil is being touched by the clip)**
- **Connect 1 of the earth clips onto the cardboard ring(ensure aluminium foil is touched)**



Instruction Manual



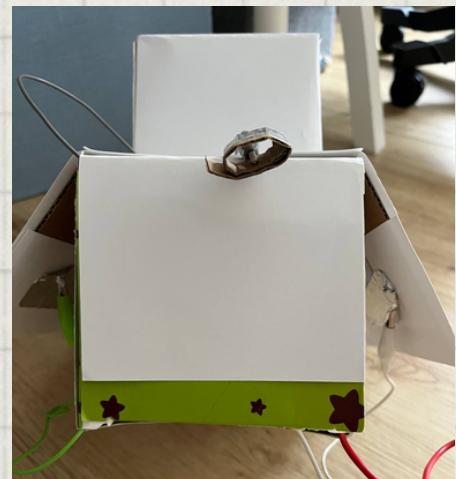
- Connect the last 2 earth clips onto the **left** and **right** wing respectively(ensure aluminium foil is touched)



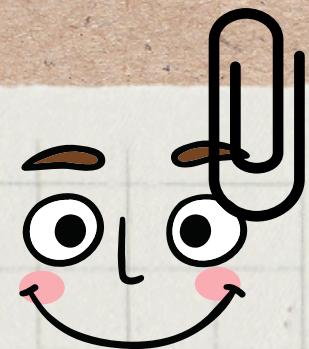
Plug the usb cable into the makey makey and connect to the PC

The final setup should look something like this

You can choose to leave the box open or closed



DESIGN RATIONALE



The controller was designed to enhance the gaming experience for the game Super Fowlst and can be used in both versions of the game

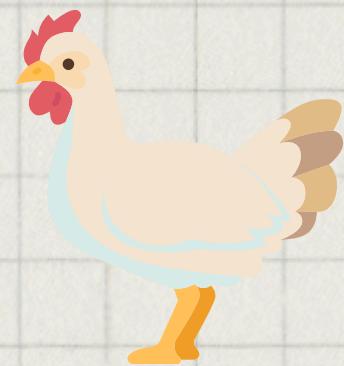


I designed it in a way that it would be intuitive to control and also provide a unique experience by incorporating gestures for the wing flapping with the gameplay

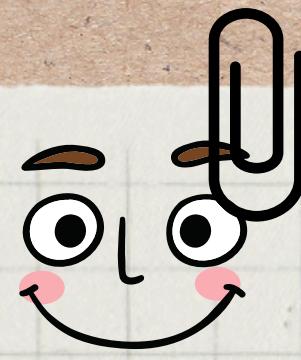
The concept was inspired from the game's core mechanics with the movement pattern of the chicken, bouncing/flying around, avoiding obstacles and enemies. Players should be able to control the chickens movement in real life through the wings and translate that movement into the game

I tried utilizing the makey makey to mimic the actions of a flapping chicken to introduce another interactive way to play the game

As for the physical design of the controller, since the game has a pixel art kind of aesthetic, and the chicken reminded me of the chicken from Minecraft so i decided to create a chicken from Minecraft with cardboard boxes, although they are 2 different games, I still went along with the idea and tried embedding the makey makey into the box



DESIGN RATIONALE



For the third button, i cut out a heart shape from aluminum foil and placed it on the back of the chicken to symbolize the life of the chicken in game



Execution on making the controller

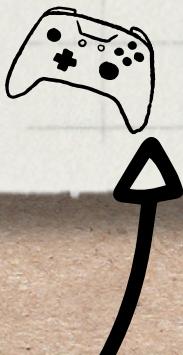
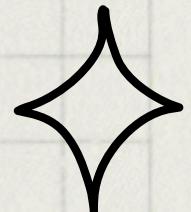


In hindsight, after building the chicken, I found quite a few problems with my current build, I thought building a boxy chicken would be easy enough but I guess not and also other technical parts of the build could have been improved on like the materials used, the aluminium foils were too fragile and kept getting torn easily after attaching the cables, which would provide a bad user experience

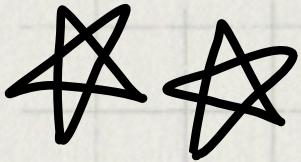
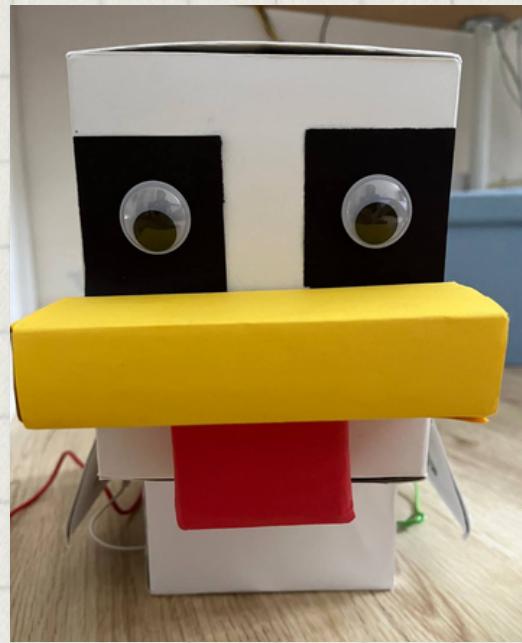
The two aluminium foils at the side of the body should have been connected along the body so only one earth wire would be required, making everything much neater



And instead of aluminium foil, the buttons on the chicken's body should have been made with something that would provide more feedback on contact, such as clay



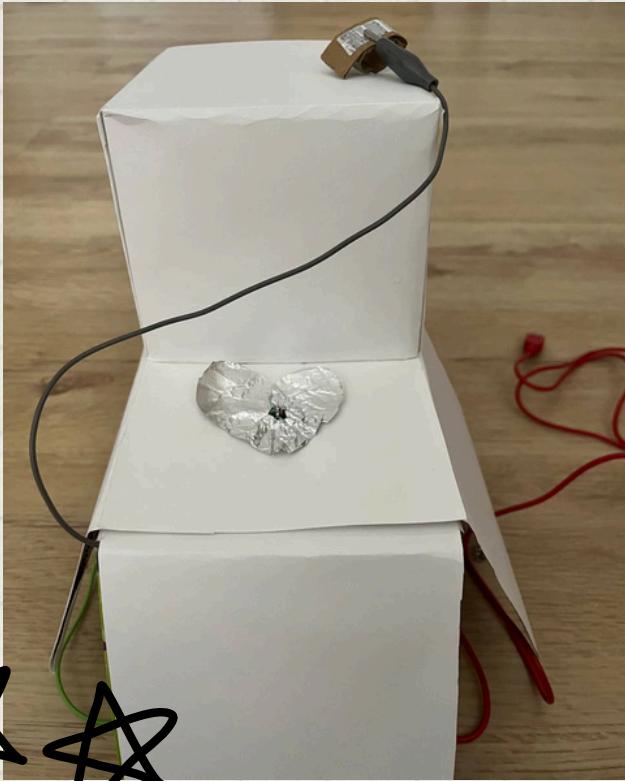
SCREENSHOTS



WITHOUT GOOGLY EYES



SCREENSHOTS



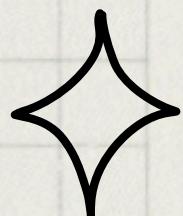


RESEARCH ON CONTROLLERS

- Arcades are still surviving around the world due to their **unique control setups**, **appearance** and the **atmosphere** from an arcade is not the same as playing video games from the PC even though it is more accessible
- Arcade controllers are typically designed for a specific type of gaming experience. The feedback from arcade machines and unique control setups in contribute significantly to the immersive gaming experience.
- From the HAL research document, it indicates that the more **skilled** the player is, the more likely they would find a **simple game boring** and users who considered the more **difficult** the game was, the more **excited** they were as well



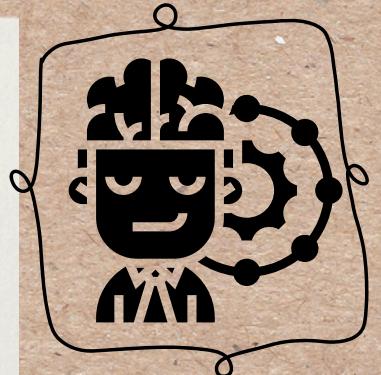
Guilherme Gonçalves, Érica Mourão, Leonardo Torok, Daniela Trevisan, Esteban Clua, et al.. Understanding User Experience with Game Controllers: A Case Study with an Adaptive Smart Controller and a Traditional Gamepad. 16th International Conference on Entertainment Computing (ICEC), Sep 2017, Tsukuba City, Japan. pp.59-71, ff10.1007/978-3-319-66715-7_7ff. fffhal-01771277f



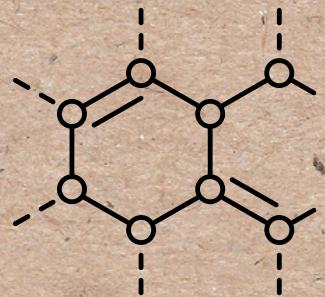
EXPERIENCE, USABILITY, FUNCTIONALITY



- The three-factor model introduced by McNamara and Kirakowski in 2006 encompasses functionality, experience and usability.



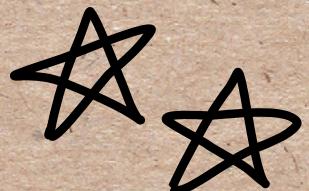
- Since controllers facilitate the interaction between the game and the user, assessing controller functionality involves considering input and feedback capabilities for the controller



- User experience extends beyond functionality to include how the user feels while using the controller and whether it is enjoyable or uncomfortable to use



- Usability is measured through how the user completes a task, in this case play the game, it measures the efficiency and satisfaction of the user while playing the game with a controller





CONTROLLER LAYOUTS

- Most game controllers consist of common elements such as the analog sticks, D-pads, buttons, triggers and shoulder buttons, however some companies believe that this layout is not the most optimized for the human hand

Razer Raiju Ultimate



Scuf Impact Controller



Microsoft Xbox Elite Controller



- Kirk Hamilton compares the standard game controller to the likes of music instruments, where players only use their index fingers for two buttons, and each thumb for 6 buttons, all while the other 6 fingers are just doing nothing, and musical instruments allow the most efficiency without changing their hand position drastically
- Razer, Scuf and Microsoft have explored adding “paddles” to the back of controllers to make it easier to press buttons more efficiently, but have not yet found the perfect iteration since each user has their own preference on what is comfortable and not.



ARTICLES

Articles for references

[https://www.researchgate.net/publication/227144881 Beyond the Gamepad HCI and Game Controller Design and Evaluation](https://www.researchgate.net/publication/227144881_Beyond_the_Gamepad_HCI_and_Game_Controller_Design_and_Evaluation)

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<https://www.channelnewsasia.com/singapore/focus-shifting-street-fighter-ii-battles-winning-tickets-toys-how-arcades-have-upped-their-game-stay-relevant-2595866>