# THE BRUNSWICK BALL

#### A PLAYABLE CITIES BRUNSWICK PROJECT

**BY: CARLO TOLENTINO** s3759278 | PROFESSIONAL PRE-PRODUCTION FOLIO 1 | SEM 01, 2020 MASTERS OF ANIMATION, GAMES, AND INTERACTIVITY RMIT | MELBOURNE AUSTRALIA

### **THE BRUNSWICK WHAT?**

The objective for our team in the Playable Cities Brunswick walking tour is to develop and produce prototype projects towards how urban play can reconnect us to the lived experience of our cities. The walking tour is located in the Brunswick design district, and spans 4 interactive projects that lead into each other through a time-travel journey. *The Brunswick Ball* is an outdoor interactive-projection installation and is one of the parts of the Playable Cities Brunswick walking tour.

The Brunswick Ball is a 1950's-present themed outdoor interactive-projection prototype, focused on movement and music making through environmental interaction and motion capture. Players that interact with their environment generate sounds/music that also creates visual projections. Players may also choose to move or dance in a designated area that captures their motions which adds to the projections.

The physical environment (rocks) is used as sound & visuals generating input (the band). Motion tracking is used to capture people's movements that is projected on the windows (the dancers).

The projected visuals on the windows intends to suggest the visual silhouettes of people inside the Library having a ball.



THE BRUNSWICK BALL AIMS TO CONNECT MEMBERS OF THE COMMUNITY WITH THE ENVIRONMENT, THROUGH THE UNIVERSALITY OF MUSIC, MOVEMENT, AND NATURE.

### THE WHY, WHO, & HOW?

#### **PURPOSE AND AUDIENCE**

- This interactive work is one segment of the Playable Cities Brunswick project's walking tour.
- It aims to engage the community with the concept of Play and Place.
- To encourage collaboration through environmental interactivity through music and movement.
- Audience is the general public and local community, people curious to explore and discover.

#### **PROJECT SCOPE**

- 1-5 persons interaction.
- 1 day installation (dusk to evening).
- Located along Saxon St./Brunswick Library.
- 2-3 projectors, and a sufficient sound-system
- The rocks in the space are used as an input using Makey-makey.
- The players' movements are captured using computer vision (in collaboration with Sahaj Garg)









#### MOOD BOARD





Borderless

One Beat, One Tree - Naziha Mestaoui 20

One Beat, One Tree - Naziha Mestaoui 201

Floral light projections, Argyle Cut, The Rocks, Vivid Sydne



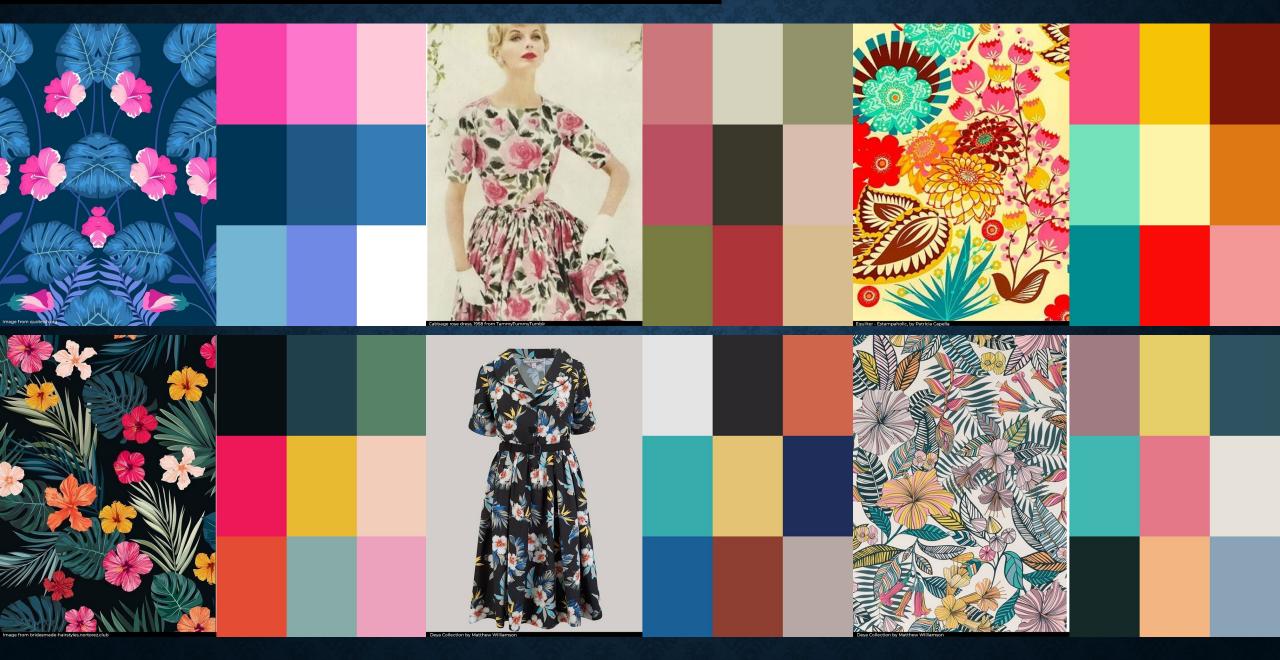
Vivid Sydney

Teamlab 2018

A Forest Where Gods Live – TeamLab 20

L'Atelier des Lumières

#### COLOR PALETTE IDEATIONS - 1950's INSPIRED PATTERNS





### **PINTEREST INSPIRATION RESEARCH**

Pinterest has been a valuable resource for gathering inspiration for 1950's prints and fashion design. This would prove useful when developing the art direction and the color palette of The Brunswick Ball's visual assets during production.

### THE BRUNSWICK BALL PRODUCTION PHASE

#### ASSETS & PROTOTYPING

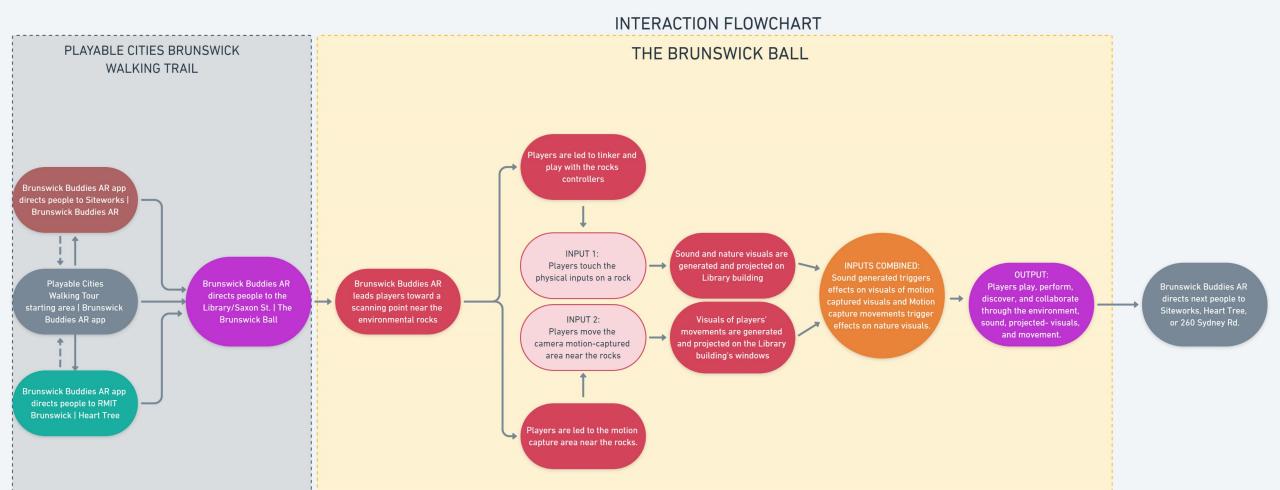
- Makey-makey inputs and triggers
- **Unity** –Motion Capture inputs and audio trigger (in collaboration with Sahaj)
- Adobe Audition- Audio and music assets (in collaboration with Sahaj)
- Harmony/ Photoshop / After Effects/Cinema 4d Nature and floral elements visual assets
- **Resolume Arena** Projection-Mapping and interactions
- SPOUT & NDI Bridging applications
- Connecting solutions to other Playable Cities Brunswick projects

## SITE PLANNING, PIAY-TEST & LOGISTICS

- SketchUp 3D / Cinema 4D / Photoshop Site planning and layout
- Equipment list and budgeting
- Event day setup timetable and itinerary
- Playtesting schedule and feedback
- Contingency setup plans

	MARCH					APRIL				MAY			JUNE			
PLAYABLE CITIES BRUNSWICK SCHEDULE	1	2	3	4	5	6	7	8	9	10	11	12	5	6	7	8
PLANNING & RESEARCH																
Introduction to Playable Cities																
Brunswick Site Visit																
Initial project ideas & planning																
Interviews with the Community																
Project Pitch to Moreland Council																
Revision of Project Ideas & Planning																0
Pre-Prod Plan for Designated Project																
Revised Project Pitch																
Project Pitch Approval																
PROJECT PRE-PRODUCTION																
Mood Board and References																
Draft Research Poster																
Interactive Flowchart																
Proof of Concept / Prototype																
Site Planning																
Studio 3 Folio 1 Submission																
PROJECT PRODUCTION																
Iterative Prototyping																
Assets Development																
Prototype Playtesting																
Makey-Makey prototyping (inputs)																
Motion-Tracking prototyping (inputs)																
Working Prototype																
Bug-Fixing																
Site Playtesting																
Playable Cities Event logistics planning																
Playable Cities Event																
Studio 3 Folio 2 Submissions																
Mentor Consultations																
													1	1		

Team Meetings



### **INITIAL FLOWCHART AND PLANNING**

The next challenge is to connect each other's works in the interest of a cohesive user experience and visual language. This development flowchart will be expanded upon in the production weeks as we finalize within our team how each of the projects in the walking tour lead into each other for a more cohesive walking tour experience.

### SITE PLAN

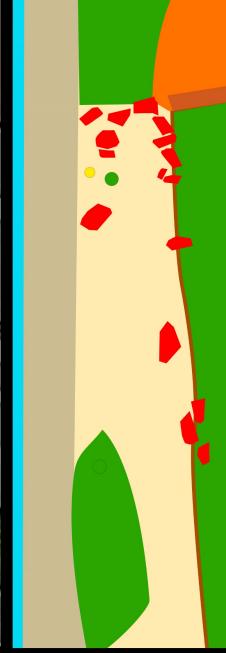
To effectively plan out the site without physically being there, I had to make use of the photos we have taken from the site visits. Google earth was also useful to get a sense of accurate distancing between environmental elements.

A potential direction for this site plan is to create a 3D walkthrough of the project, to better visualize and plan the project.

This site planning would also be fundamental in assessing the project's requirements in equipment, budget logistics, and coordination between collaborators.

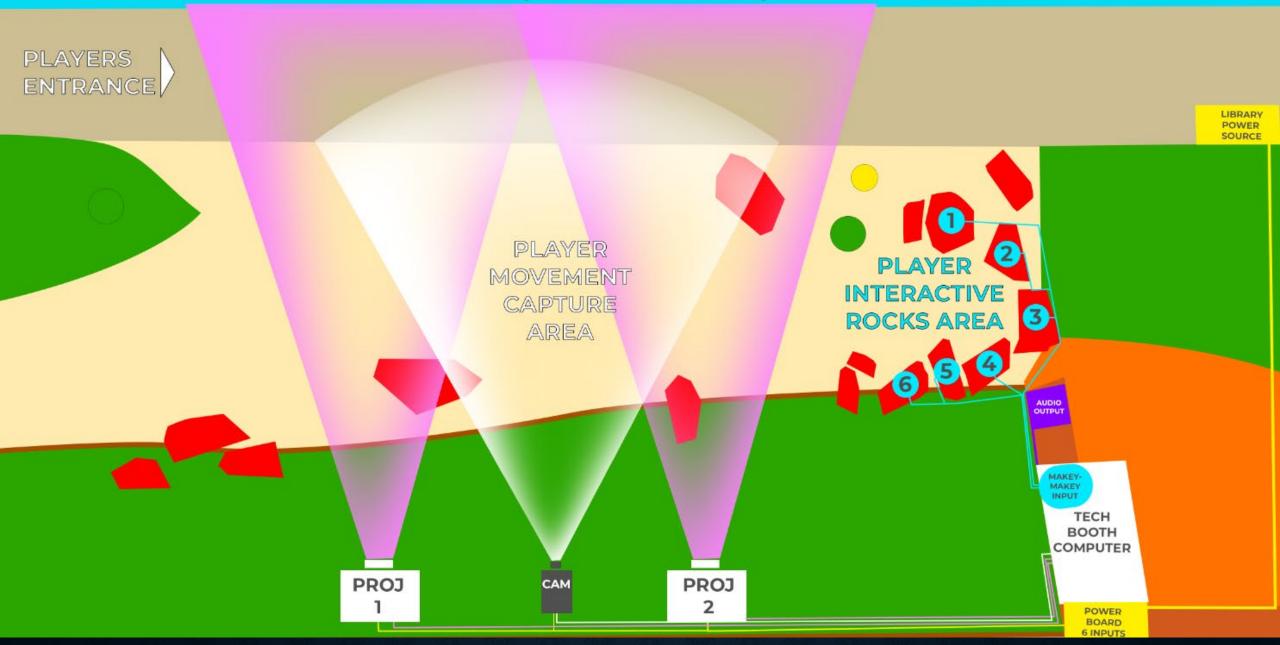


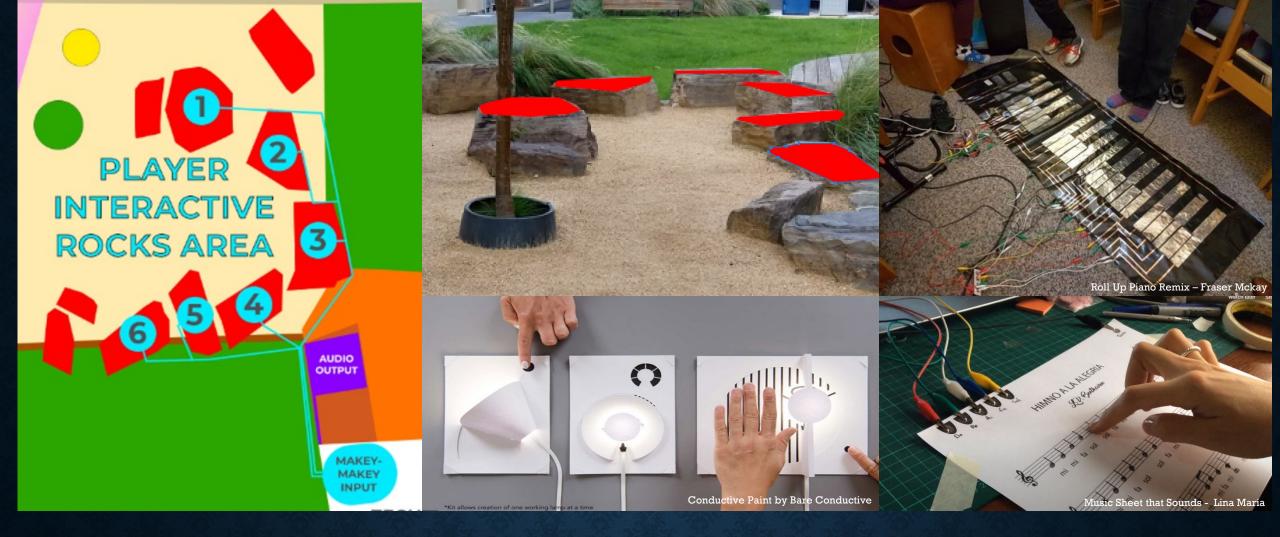
#### **GOOGLE EARTH PHOTO**



SITE PLANNING

#### **PROJECTED SPACE (LIBRARY BUILDING)**





### **INTERACTIVE ITERATION**

This is the first time I am developing a project using Makey-makey as a form of input. The initial small-scale prototype I am developing aims to visualize the minimum trigger requirement for the Makey-makey. In the site-project itself, the rocks would be the object that would have the trigger using the Makey-makey hardware. In the production weeks to come, I will iterate on the touch points wherein the players interact with the rocks. Ideas involve the use of conductive paint, pencil/graphite drawings, water, or the potential of human-to-human touch as the trigger (seen in initial The Brunswick Beats 2 concept page). As we narrow down and polish the interconnectivity of our projects in Playable Cities Brunswick, I am keen to see how my environmental interactive iterations would evolve.











### SITE VISITS & COMMUNITY ENGAGEMENT

The Playable Cities RMIT MAGI team conducted site visits and community interviews around the Brunswick design district to plan out and conceptualize projects for the walking tour. The Site visits gave us the opportunity to assess the locations we are tasked to conceptualize projects on the walking tour.



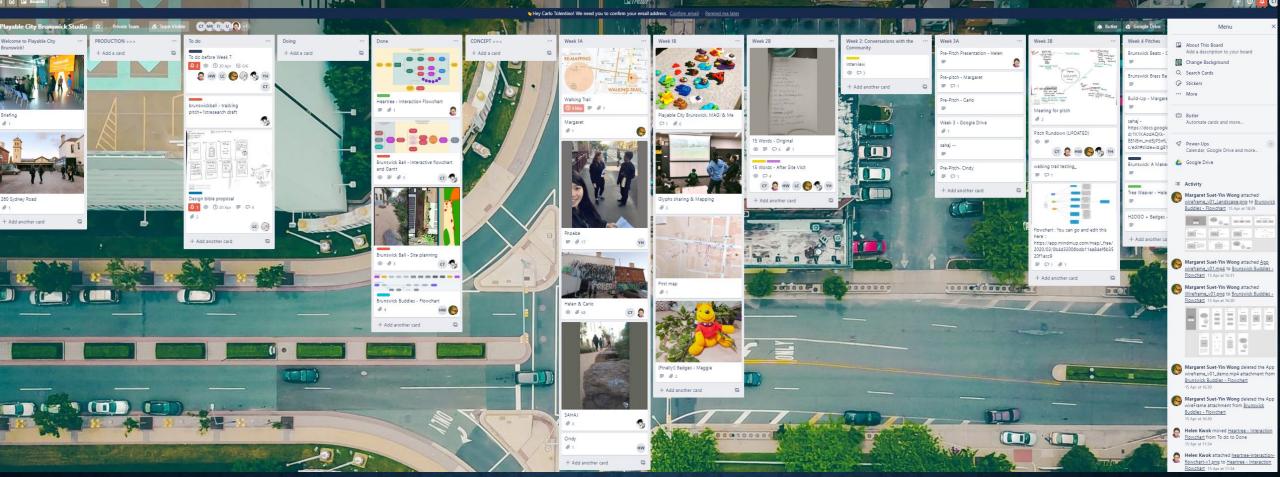
PHOTS BY CARLO TOLENTINO

### **COLLABORATION & BRAIN-STORMING**

In the Playable Cities MAGI studio, we would consistently collaborate and brain-storm ideas and solutions to address the design brief.

Our sessions would involve continuous iterations on interactive ideas, and working towards developing projects towards a cohesive and well thought out experience for a walking-tour. The Playable Cities Project has a different schedule from our Studio 3 project. In Playable Cities, our first 5-6 weeks are spent on pre-production planning for the whole project's direction, as well as conceptualizing collaborative projects for the walking tour.

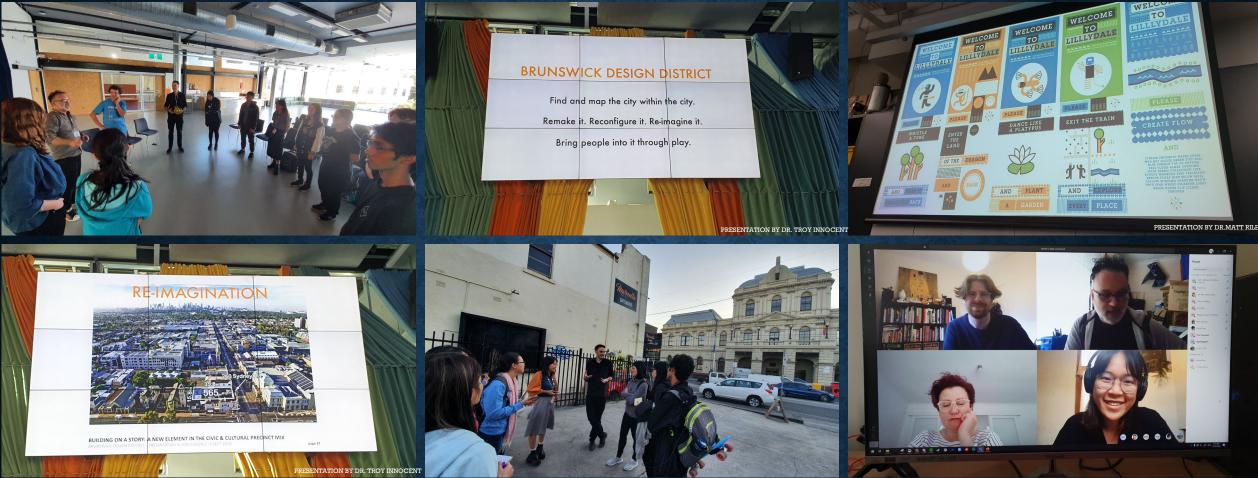
The Playable Cities MAGI team: Carlo, Cindy, Helen, Margaret, Sahaj, and Phoebe Undergraduate Media and Design members: Renda, and Maggie



Playable Cities Brunswick Trello Board

### **COORDINATION AND UPDATES**

During our production process, the Playable Cities team have and will use Trello and MS Teams to share, collaborate, update, and check-off milestones in our project. The primary goal is to create a walking tour experience that is seamless, cohesive, and involves interactive works that share a consistent visual language and narrative.



PHOTOS BY CARLO TOLENTINO

### **CLASSES, CONSULTATIONS & PITCHES**

Our team would share ideas, solutions, and developments to our project lead, Dr Troy Innocent, and guided by our studio mentors Matt, Max, and Uyen. A significant milestone for the team was receiving a good response and feedback when we presented each of our final project ideas, and overall project theme and direction to the Council of Moreland and RMIT industry engagement.

#### FINAL PITCH TO THE COUNCIL THE BRUNSWICK BALL

THE BRUNSWICK BALL is a projection-mapped music and movement interactive public artwork. It allows players to move and interact with the urban environment to transform the space through music and projected visuals.

The physical environment (rocks) is used as sound & visuals generating input (the band).

Motion tracking is used to capture people's movements that is projected on the windows (the dancers).

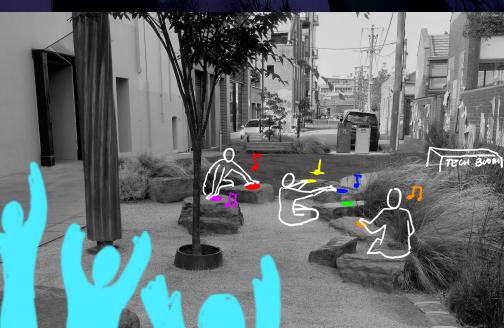
The projected visuals on the windows intends to suggest the visual silhouettes of people inside the Library having a ball.

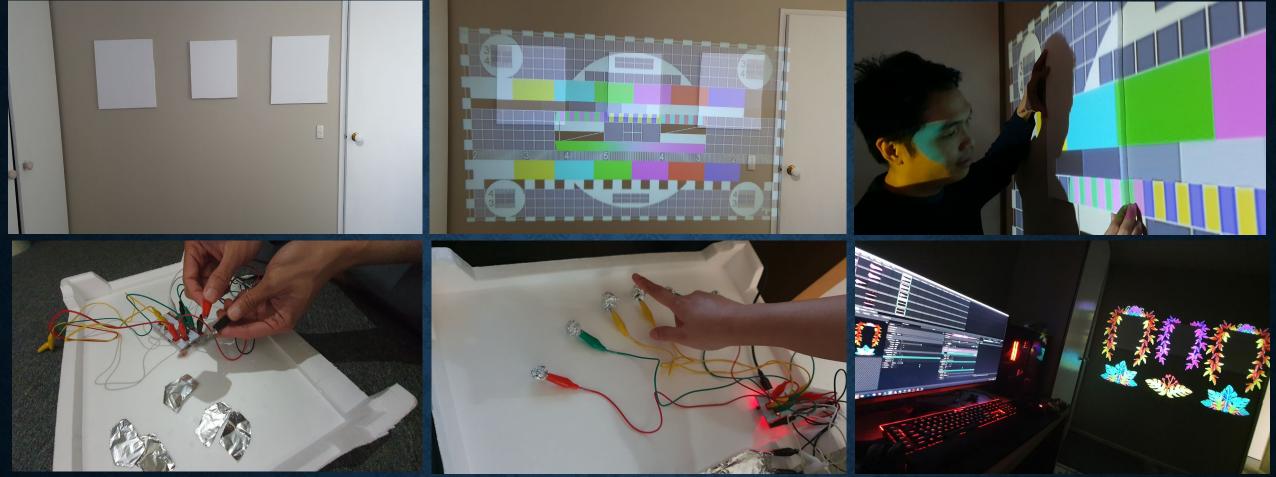
Final Pitch Video: The Brunswick Ball Pitch

#### The Dance Hall as Library

BRAR







PHOTOS BY CARLO TOLENTINO

### **INDOOR PROTOTYPING**

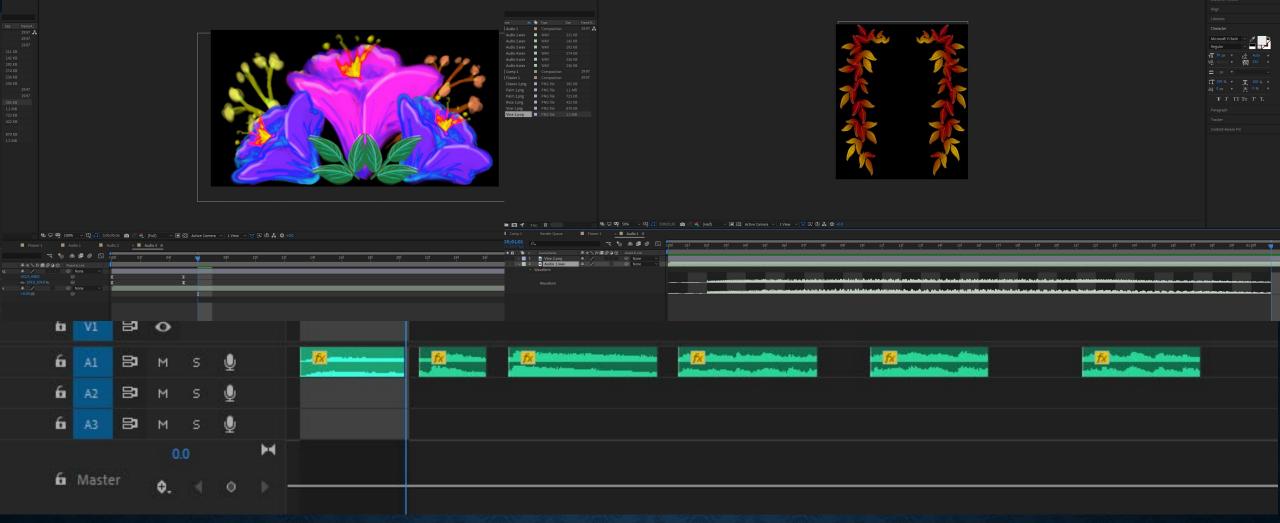
As part of my individual pre-production, it was a fundamental first step to create a working proof-of-concept prototype of The Brunswick Ball. Using a small indoor projector, polystyrene foam boards for the windows, and aluminum foil for the rocks. Tweaking and using a few of my previously made hand-drawn assets as placeholders, the goal was to create a faithful visualization and prototype of The Brunswick Ball indoors and of a smaller scale. Creating this would allow me to develop the triggers for the Makey-makey, its interactions, the audio, and a map of where Sahaj's motion capture visuals will be placed.



### **INITIAL ASSET PLACEHOLDERS FOR PROTOTYPE**

We are currently in the process of narrowing down our visual language and color palette options for the whole Playable Cities Brunswick Project. For the purposes of initial project visualization, these hand-drawn initial assets have been redesigned to suit The Brunswick Ball prototype. I liked the idea that my previous drawings for Floral Beats, a previous project in MAGI Advanced Play Design, are being used to visualize The Brunswick Ball. I significantly enhanced these drawings and used my inspiration color palettes for the prototype.

Floral Beats has also been the primary inspiration in The Brunswick Ball (See Reference and Context page)



#### **INITIAL SOUND PLACEHOLDERS FOR PROTOTYPE**

The audio for the The Brunswick Ball prototype is splices of a 1950's inspired royalty free soundtrack. I placed each sound to match the minimal prototype transition animations. During development, we can potentially collaborate with a sound designer, or as directors of our own work, we can curate the sounds to suit the final output.



PHOTOS BY CARLO TOLENTING

### **INDOOR PROTOTYE 1**

This prototype of The Brunswick Ball was using Resolume Arena, a VJ software and includes placeholder sounds, visuals, animations, and the makey-makey triggers in action. During the next few weeks of production, me and Sahaj will collaborate our work-processes to combine everything in Unity, and use Resolume Arena to to funnel everything to the output projectors for projection-mapping. This proof-of-concept will also inform my interactive and art direction decisions moving forward.

MAGI studio site link: The Brunswick Ball elevator pitch and prototype

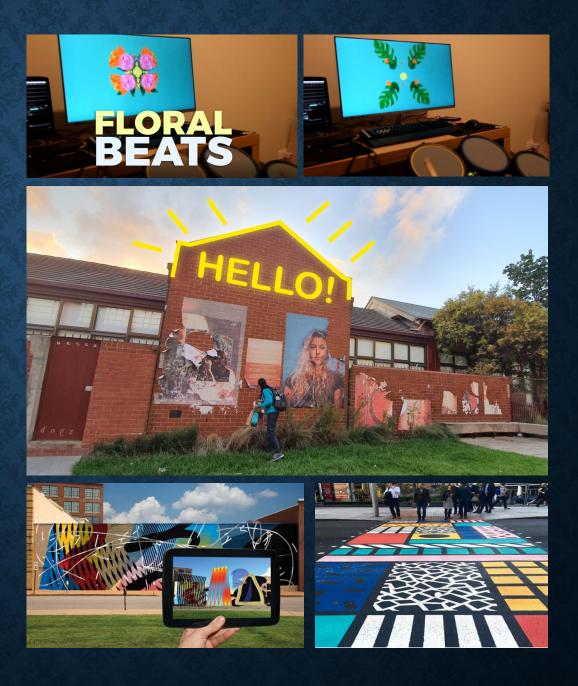
#### **PRE-PITCH**

Before The Brunswick Ball's concept came to be, I conceptualized 3 initial project ideas for the Playable Cities walking tour. The team would have a pre-pitch of multiple ideas to narrow down projects to suit the design brief, and assess scale and feasibility.

•Interactive-projection and sound – FLORAL BEATS is an interactive projection-mapped music creation game that allows players to interact with music game controllers to generate sounds that create nature elements projection- mapped on a building's surface.

•AR exploration and discovery - HEADS UP! Is an AR mobile app game that takes players through an explorative journey of clue-solving and discovery. HEADS UP! Intends to utilize the unique characteristics of an urban environment's skyline and silhouettes with players looking up from street level. *This concept's ideation has since been adopted in part* of the current Brunswick Buddies AR project for the walking tour.

•Creative Wayfinding - NEVERLOST is a wayfinding creation game played in both analog and mobile AR. The game enables people to produce creative wayfinding stickers/posters to help others navigate an urban environment. NEVERLOST hopes to build connections to people and place through the art and directions of strangers. *This concept's ideation has informed the ideations in creating the current walking tour's visual language and user experience design.* 



#### PREVIOUS ITERATION 1 - LIBRARY BRUNSWICK BEATS 1

BRUNSWICK BEATS is the first iteration of the idea for an interactive projection-mapped music creation game. Stemming from the idea of FLORAL BEATS, It allows players to interact with game controllers/drums/guitar to generate sounds that also create floral and nature elements projected onto the environment. I have since deviated from the concept of bringing pre-made game controllers to hone-in on the objective of play with the environment.

The Saxon St. Library building's surface is the chosen site for *The Brunswick Beats* to hark back to its previous history of being a dance hall.

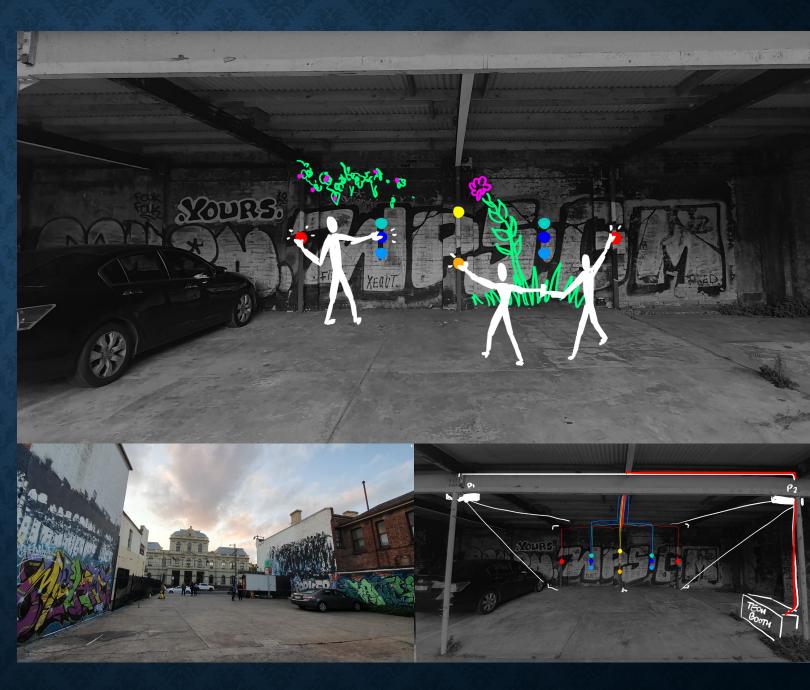


#### PREVIOUS ITERATION 2 – 260 SYDNEY RD. BRUNSWICK BEATS 2

260 Sydney Road's roofed over garage is the chosen site for Brunswick Beats second iteration. Sydney Road is known for the annual Sydney Road Street Party wherein people come together as a prelude to the Brunswick Music Festival.

*BRUNSWICK BEATS* is an interactive projectionmapped music and connection experience.

It allows players to interact with the urban environment, and themselves, to generate sounds and projected nature elements onto the environment. This would be one of the interactive ideations that may leverage the user experience in The Brunswick Ball.



#### PLAYABLE CITIES MEETINGS AND PRESENTATION NOTES

Aside from video recording our online presentations and meetings for reference and documentation, I would also take down notes and highlight ideas and priorities for the Playable Cities project as a whole, and our individual responsibilities.

> · MAY DAA BOUR CUMPT → STREET PLAY → ANM OG + DIGTAR PLAY → PUBLIC SPACE + PLAY

· spratt

- Jun valley trat? - UREREY XUNVITION / INTOLNOUTIN

Section States

-Tuniformy the built environent through play. \*Then storming the Built Emvironent

- Brownell ( A marky phe) [TADONTAMAN PLANE

	PUNABLE CATLES GAUNSWICK	[MAPOR MEME] EYE Mak	PITCH MODETING MICHOSOFT POBETS BUILDENCE 2303-20
S AND	THEMS TELMND(Day 5 IDEASI UNIC   -CHERENT -REMND(Day 1) INTIDAL   +ONDARTING -REMND(Day 1) INTIDAL   +ONDARTING -REMND(Day 1) INTIDAL   +ONDARTING -REMND(Day 1) INTIDAL   +ONDARTING -REMND(Day 1) INTIDAL   +DECAREN -A.R. 2) FATTONTES (OTHER   +DECAREN -REMINICA 2) TOTAL   *MARE -REMND(AND 2) RATE   *MARE -REMOVER 2) TOTAL   *MARE -REMOVER 2) TOTAL   *MARE -REMOVER 2) RESERVE   *MARE -REMOVER 2) RESERVE   *MARE -REMOVER 2) RESERVE   *MARE -REMOVER 2) RESERVE	WITTING BULDEN MUSICIAN WITTING BULDEN MUSICIAN BO -3 TEAMS - Dict Game Main - D	PANERSUS CAST MORENS SOLT MORE SOLT MORENS SOLLAWS PANERSUS CAST BALLENS CAST BALLENS CAST BALLENS CAST BALLENS BULLENS CONTRACTOR BALLENS CAST MOLENT CAST MOLENT C
ct as	2 Stylet for wears (2 work) 3 AR SILLIANTE TRANSFAM DULDINGS 9 UPpet LONEL MARKER 5 SECRET MORI (POT FORCET) PREK SMM MOLADS A.R. While I CARE FRAN: UPper Humand Isla - normet, lice a meant 0 bit. SCALONGER/DIPENING + STMT FRAN Me END/RadERSE 7 Nowe VAR ON BUILDING ARE + Vejelan 8. Raie to Coppe ? Offet the shall swate <u>Plant</u> <u>Plant</u> <u>MARG</u> - <u>UPPET</u>	They. 34.03 1. First (Arlas 2. Collepto Rapic (Clance) on consumple 3. Shaket withome Region Bill: collect to Region R. (Count, yet (2)) 1. Compile the bills to mate. (Smooth 3. How a negle (Rodry) - Compile (Porty) - Compile (Porty)	Charge the portunation of space of the
	Land Bar Land B	- AD - Water - Children - Childre	2. The of Der 3. Apply Fielder ( 4. Re-border / Constraint and r 4. Re-border / Constraint and r (Gyr to the consequent) 5. IDENTIFY -> PICODYPE FERMINE 4. Re-border / Constraint and (for part show 2) 1. Allow SOULD - constraint (or part show 2) FERMINE 2. Soul for constraint (or part show 2) 1. Allow SOULD - constraint (or part show 2) 1. Allow SOULD - constraint (or part show 2) 1. Allow SOULD - constraint (or part show 2) 1. Allow Call of Call 3. July Call of Call of Call 3. July Call of Call o
24 WAY UPER PLAY? · correlia to play · montal welling. · play to make the CAY a perty play to be · correction to be	They connect - reserved Fundamental (Way to Connect) 1. Olin a Connect - connection Fundamental (Ar Goner Wa) - Might Art. 1. Split is the connect Antip (Ar Goner Wa) - Might Art. 1. Following a thread they be space (Arght Intel ) Polichiu Alght Intel ) Polichiu Connection for thread (Connect Way of the Connect Marker Theorem (Connection)) 1. Connection for thread (Connect Way of the Connect Marker Theorem (Connect Walk + Hum))	(p/c Marry) 24.3 Photoppe in the end. Is some prefer Schedul Walk 4 45 - 0 pitch (pit) Sould of polyhing) (rebus walls of polyhing) 24.3 1 - endrug 1 - endrug AR: Soil all lak the Sould of polyhing)	Plannels control "Colvesine Project
HW2 - Constra People + Place - Constrainty People + Place - Constrainty - Constrainty - Constrainty - Constrainty - Free Analy Play. - Play with Infrastration - Play with Infrastration - Play with Infrastration - Play with Infrastration - City as Martinal [DANSON Sto] MAR PARMER / CHESTRE - Can IT BOC HERMINE - Marak Falture (Scalphing chestration - Marak Falture) - Marak Falture - Chester Constraints - Marak Falture - Mar	BUNDANG STREAMERS [240 Sylaw Red]   1. Thur & Day I. Therefore call be small   2. Cheor, you a durch to I. Therefore call be small   1. Marked Karley I. Therefore call be small   1. Streament Streament   2. Streament Stre	SDDELOS April 8 - Elio 1 June 3 - Final / Fold 2 - June 3 - Final / Fold 2 - June 3 - Final / Fold 2 - Make a poper to the foldendies - Kale a poper to - Kal	Mutt: C Multiple Billy 2005-2009 Papti C Bulliple Billy 2005-2009 Papti Pisc of Subsection Make Pisc of Pisc of Subsection Make Pisc of Subse
h Jonn experime cross cultural - Experime Brann A Carcley Brann A Carcley Bran	Metal Bor at andmat	Dichard is Stand failed and the Grad Other (Batantis on the Grad) produs (or 101) produs	Kor canon mad not constrained restriction Regint (1.800 durt INN restriction Regint (1.800 durt INN

### THE BRUNSWICK BALL REFERENCES AND CONTEXT



#### The Hangout (THE URBAN CONGA 2017)

The Hangout focuses on sight, sound, and touch to spark creativity, exploration, and free-choice learning.

The playable environment uses touch sensor technology to trigger sounds when one touches the tops of the cylinders. At night the installation illuminates the block with sequenced lighting, The space was designed as a place for the community to gather and simply hangout.

(THE URBAN CONGA 2017)



#### PLAYDODO (Raonsquare 2016)

Projection Mapping, Conductive Ink, Interacitve Art Music Playing Wall, a fun Interactive touch wall painted with instruments recognizes hand touch, plays the sound of instruments and maps colors. Children can easily play various kinds of instrument without physical constraints.

(RAONSQUARE 2016)

#### Forest of Flowers and People: Lost, Immersed and Reborn (TEAMLAB 2017)

The seasons change gradually across the installation space. A seasonal year of flowers blossom according to the changing seasons, and the place where they grow gradually moves.

If a person stays still, the flowers surrounding them grow and bloom more abundantly. If viewers touch or step on the flowers, they shed their petals, wither, and die all at once.

The interaction between people and the installation causes continuous change in the artwork: previous visual states can never be replicated, and will never reoccur. The picture at this moment can never be seen again.

(TEAMLAB 2017)



#### FLORAL BEATS (TOLENTINO 2019)

Flower Beats is an audio-visual interactive animated flowers and plants growing prototype using a Rock Band Drum Kit (input controller), Resolume Arena (animation, interactions), rb2midi (Rock Band Drums kit bridge to pc), loopbel(music output as midi inputs).

The eventual idea of making flowers and plants move and react to inputs and music is from a research suggesting that sound, music, and its vibrations stimulate plant growth. I wanted to play with the information on these findings, and see how I can translate it through my process of rhythmic music created by a person in real-time. Floral Beats can be found in magistudio.net.

(TOLENTINO 2019)

### **REFLECTIONS, CHALLENGES & PLAYABLE CITIES TEAM DYNAMICS**

- Playing to each other's strengths and skill sets
- Synergize project ideas and iterations
- Consistent and comprehensive sharing
- Connections and cohesiveness of projects
- Thoughtful and considerate user and interactive experience design
- Identifying roles and anticipating production issues
- A collective but singular project and goal
- Considerations for how remote online dynamics affect production
- Designing for a space without current access to the said space
- Unique opportunity to celebrate the community and the outdoors
- A Plan B is currently being talked about by the team, and how we can present and promote the Playable Cities Brunswick walking tour in case we are unable to mount the event on the target date and venue.
- The Brunswick Ball may alternatively be presented as an indoor smallscale prototype, complemented by a 3D rendition of the site to further communicate the concept visually.

