

SENSE OF PLAY

A SENSORIAL PLAYGROUND



AGENDA

This project aims to redesign the outdoor children's play area of Trinity House Community Resource Centre. The new design will be based on the idea of "learning while playing" and will engage all senses in the act of play. Inclusivity will be the core of our design as Trinity House is the centre of a very diverse community.

SKILLS

The project will incorporate a variety of different skills, both analogue and digital, from hand sketching, collage and model making, to 3d modelling and rendering. If you are interested in learning new skills and tools that are not on the list, don't hesitate to join us, we will tailor our design workshops around the skills that you want to learn (this can include computational design, presentation and rendering skills, etc..).

Visit msa.ac.uk for more information

Team

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Partners

The Trinity House is located in the south-central area of Manchester and includes the 10% most deprived wards in Britain, Rusholme, Fallowfield, and Moss Side. Local residents who struggle with issues like subpar housing, gangs, drugs, anti-social behaviour, violence, crime, low self-esteem, truancy, school expulsion, low academic achievement at school, and subsequent difficulty finding employment are helped by Trinity House CRC, a local charity.

Since the Industrial Revolution, immigrants from Ireland and the West Indies have been drawn to the region. In the 1950s and 1960s, immigrants from the Indian Subcontinent, primarily from Bangladesh and Pakistan, followed. In more recent years, immigrants, particularly from Somalia, have come from Eastern Europe, the Middle East, and Africa. This number includes refugees and asylum seekers, the majority of whom are from Africa and the Middle East and for whom English is often a second language.

The Trinity House is among Manchester's most multicultural and vibrant because of the diversity of its cultures. However, this mixture of cultures also has a negative side of ethnic tensions, especially among young males, because of social depravity.

Trinity House strives to help kids, teens, families, and carers, and they are proud of our facility's cultural and racial diversity. There is no dominating ethnic group among the people involved in their programmes, which come from more than fifteen different ethnic backgrounds, including Bengali, African, Caribbean, Dual Heritage, Eastern European, Irish, Somali, Pakistani, Black British, and White British.



Agenda

Sense of Play

Exploring the theme of 'Sense of Play' in collaboration with Trinity House Community Resource Centre, this project seeks to re-create the children's play garden at Trinity House. It is used by children ages 2-12 and needs to establish a fun and safe sense of play! The goal is to design a new outdoor play area with a safer outdoor canopy, mud, sand and water play equipment, as well as a more interactive garden space for the children to get involved with. The area was initially in a dilapidated state and we felt that we could provide a more interesting outdoor space for the children through our design. You'll be given the chance to work on a project with creative opportunity as well as the ability to make an impact on the community of users.

We plan to respond to Partner's need to resurface part of the playground with safety surfacing, improve the appearance of the walls and fencing and create a sheltered area so that children can still play outside when it rains. In addition, we will incorporate facilities into the design process that will engage the children and enhance their fun play experience. These design considerations will help the children to interact and grow better.

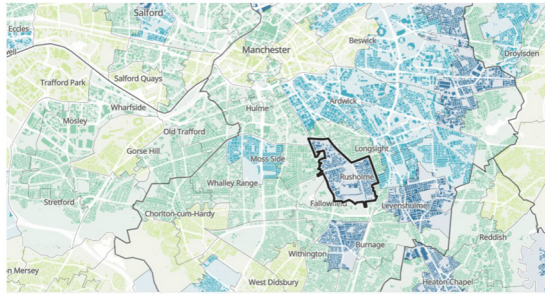
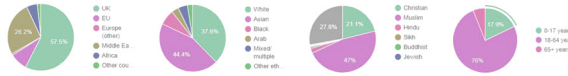
For many children, this may be the only safe outdoor play space they have access to. We will incorporate the concept of 'play as part of learning and development' into our design ideas to help children learn to socialise and develop a wide range of skills. The UN Convention on the Rights of the Child states that one of the core elements of a child's life is the right to play. Through site research, we learned that trinity house already has an indoor safe play area with lots of equipment to help children play. However, the playground could be better and we hope that we can design a sustainable and safe space for outdoor activities.

The project will incorporate a variety of different skills, both analogue and digital, from hand sketching, collage and model making, to 3d modelling and rendering. If you are interested in learning new skills and tools that are not on the list, don't hesitate to join us, we will tailor our design workshops around the skills that you want to learn (this can include computational design, presentation and rendering skills, etc..).

Site Analysis

Demographic

As seen in the pie charts, the majority of people in the Rusholme area are born in the UK, however over 40% of the rest of the population are from other countries. Middle Eastern countries have the second highest number of people in Rusholme having been born there. As a result, the project should consider cultural diversity. There is a diverse range of religious practice, which means many children at Trinity House will have diverse belief systems and cultural backgrounds.



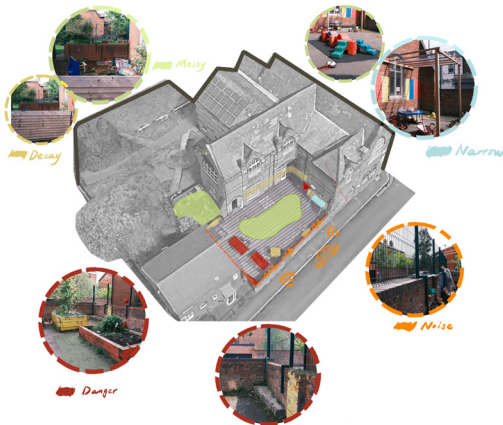
Deprivation Statistics

The three main wards that Trinity House provides support for include Rusholme, Fallowfield and Moss side. As shown in the map of Greater Manchester, the 3 main wards are seen to be deprived on some levels. This area of Manchester is one of the most deprived in the United Kingdom. For this project this means taking into consideration the importance of Trinity House and what they provide, particularly for the children.



Existing Conditions

The original site had a number of safety risks, such as the edges of the planting area and the steps at the corners being too sharp; the original recreational amenities were relatively old, and the paintings on the walls were messy and needed to be updated; the side near the road had noise problems and the existing fence might need to be replaced; also the canopy's roof was dripping.



Brainstorm & Conceptual Design

Brainstorm Sketch

On the first day, after briefing and introducing the agenda and outline of the project, all of the BA and MArch students started to make a brainstorm sketch together towards our topic 'SENSE OF PLAY'. Each member in the group share their memories of playground in their childhood and turn our memories into drawings, showing the narrative of playing from different countries and different culture background. In the brainstorm sketch, we also identified 5 key points about designing playground, including visual, sound, touch, smell and taste.



Concept Collage

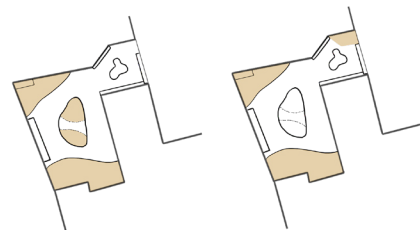
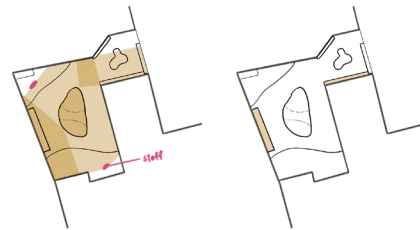
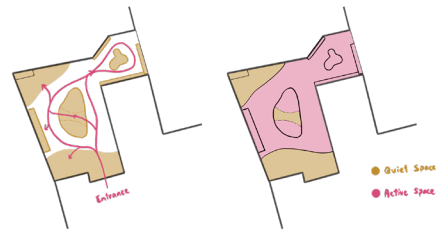
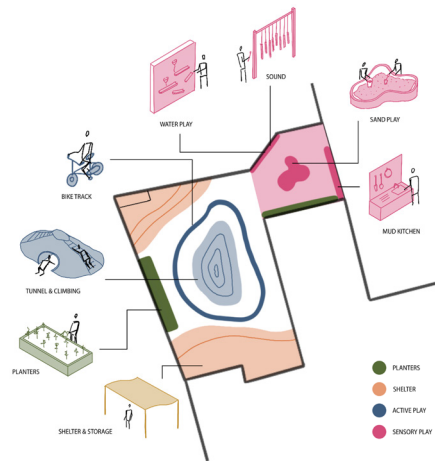
After the brainstorm, BA students started to make a concept collage to express their initial idea and concept to design a playground. Our main intervention is to create floating little hills in the landscape to create playful spaces for children both horizontally and vertically. The hill would be surrounded by a bicycle track which is popular for our targeting age group. Around the boundary, there are a set of planting pots for children to learn planting, which is aiming to create an eco-friendly, sustainable and green community.



Design Development

Programme Mapping

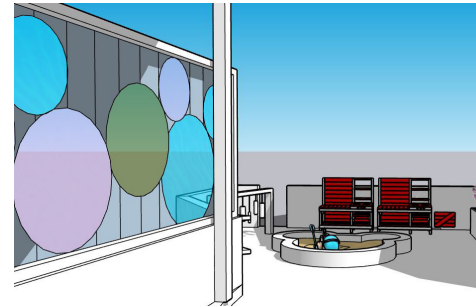
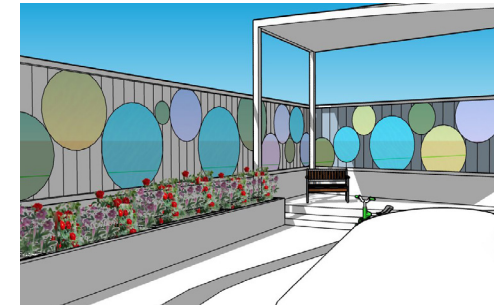
After the site analysis and conceptual design, we develop our proposal further into detail. The site is divided into several areas with different functions. The entrance and top-left corner of the playground would be the shelter area covered with a parametric roof, which is expected to be made of timber tectonics. The top-right corner would be designed as a sensory play area with mud kitchen, sand play, sound play and water play equipment. In the center of the playground, the landscape will be revised into a small floating hill with tunnel and climbing, which children can play and sit. The hill is surrounded by a bike track which is popular for our targeting age group (kids between two to four years old).



Initial Massing Diagram

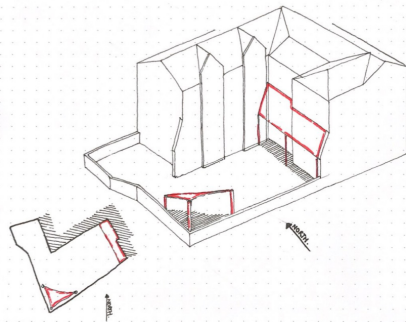
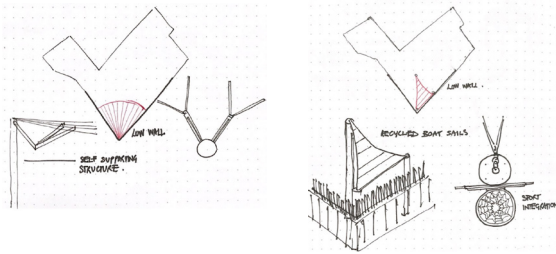
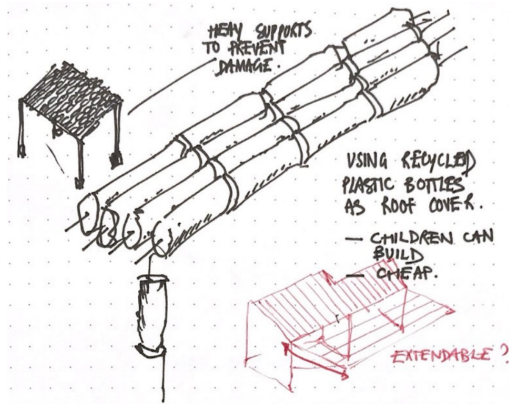
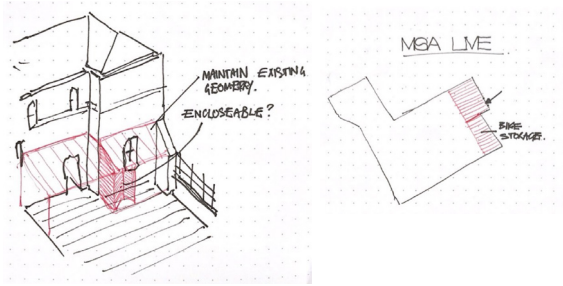
The proposal is further specified by diagraming. Since the intervention of the floating hill, the circulation of the site become more complex and playful, promoting more communication and interaction between children. The quiet and active space are clear identified as well, including playing and resting space in the site. Additionally, the proposal also provides a clear view for the staffs, enhancing the safety of the playground. Two planting pots are also installed in the playground to encourage children to plant vegetable and fruits. Besides, the storage equipments are mainly placed in the silent area of the site, which would not affect the sense of play in the site.

Initial Digital Model Exploration



Shading Exploration

The proposed solar shading is based on existing geometries around the site. The aim is to create a low cost, sustainable solution which adds to the playground. Intervention 1 will use a lightweight framework to support an overhead covering made of recycled plastic bottles, which the children can help to make. This will also mean there is a covered place to store the children's bikes. Intervention 2 will use a heavier construction due to the lack of supporting walls. This construction can facilitate additional games for the children such as a basketball hoop or tight rope between columns. Materials could include timber beams and a recycled tarp.



Planting Exploration

A Shared Vegetable/Fruit Garden

Having the opportunity to grow vegetables is a great way for children to get close to nature. There are also different planting experiences in different seasons. From sowing to watering, weeding and fertilizing, the fruits can be picked home when they are ripe, which is a new experience for children.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Strawberry												
Mulberry												
Cherry Tomato												
Blueberry												
Raspberry												



- KEY WORDS** GET CLOSE TO NATURE
- SMELL** Experience the different scents of different plants. Aromatic plants, fragrant plants (flowers, mint), etc.
 - TOUCH** Feel the touch of the different textures of the different plants. Smooth, rough, fuzzy, etc.
 - SIGHT** Observe the different colours of different plants in different seasons. Red, yellow, orange, blue, etc.
 - HEAR** The sound of stepping on fallen leaves, the sound of phoenixes passing through the leaves, the sound of rubbing dead leaves.
 - TASTE** Edible plants, fruits and vegetables. Sweet, sour, bitter, etc.

Sensory Design

Sensory design is important in early years development and also promotes inclusivity in playgrounds. It creates a more inclusive environment for those who are less physically able and for those with learning difficulties. Sensory aspects promote development through: hearing; balance; motor skills; touch; and visual aspects. Equipment and surfaces should include a range of tactility and colour vibrancy, and play equipment should include water, sand and mud play.

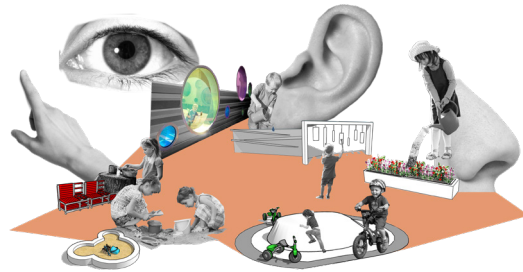
SENSORY DEVELOPMENT NEEDS					
TOUCH			SMELL		
Shape	Texture	Nature	Plants/Soil	Fresh Air	Herbs
SOUND			TASTE		
Music	Communication	Quiet Space	Fruit	Water	Vegetables
SIGHT			VESTIBULAR		
Layout	Pattern	Colour	Balance	Accessibility	Movement

Into the Final Design

The final design came from many days of collaborative work. The initial design started as a conversation between students and the collaborator during a site visit, discussing design ideas as a group and understanding the needs of both the children and staff. We then sketched ideas by hand through a collaborative drawing as well as individual tracing over plans. In order to understand our ideas further, the group created some collages and began to digitally design in 3D. This led to a cohesive design idea that we then brought forward to our collaborator during a presentation. At this stage, it was also important to consider the sensory experience of the garden, with our MLA students leading these details in the design through seasonal planting analysis and a design focused around sensory play.

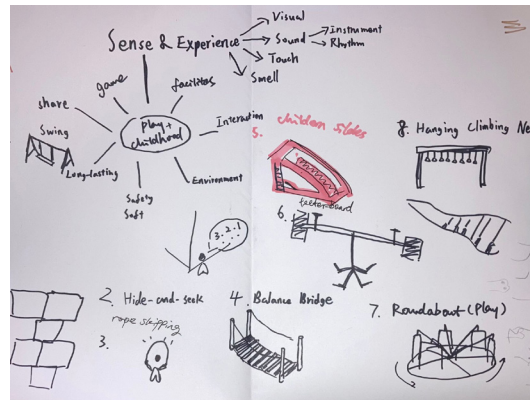


Final Iteration Sketch

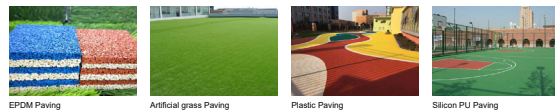


Five Sense Collage

After discussions with our collaborator, the design progressed further to include a flowing landscape that would include a space for children to ride their tricycles safely and freely. At this point it was useful for the group to create a physical model to test out this idea, whilst updating the digital model and continuously sketching any new interventions. The design was now cohesive and complete, with approval from our collaborator. The digital and physical model was updated to include a bike track and 'pit stop' (encouraging organisation through play), as well as planters, sand pits, mud kitchens, water features, climbing space and canopies. A stop-motion video using the physical model and lego figures was produced to convey the design in a playful way to our collaborator.



Five Sense Sketch



EPDM Paving
EPDM paving should be the most commonly used material for outdoor children's playgrounds. It is non-slip and silent, with a high coefficient of friction and moderate elasticity. It can also prevent children from falling and being injured. It is also safe and comfortable to run and jump on the ground.

Artificial grass Paving
Artificial grass is the best choice for outdoor activities in kindergartens, playgrounds and playgrounds.

Plastic Paving
Outdoors, in order to prevent children from falling and bumping, a layer of paving materials will be installed on the ground. The plastic floor is environmentally friendly, safe and soft to ensure the safety of children.

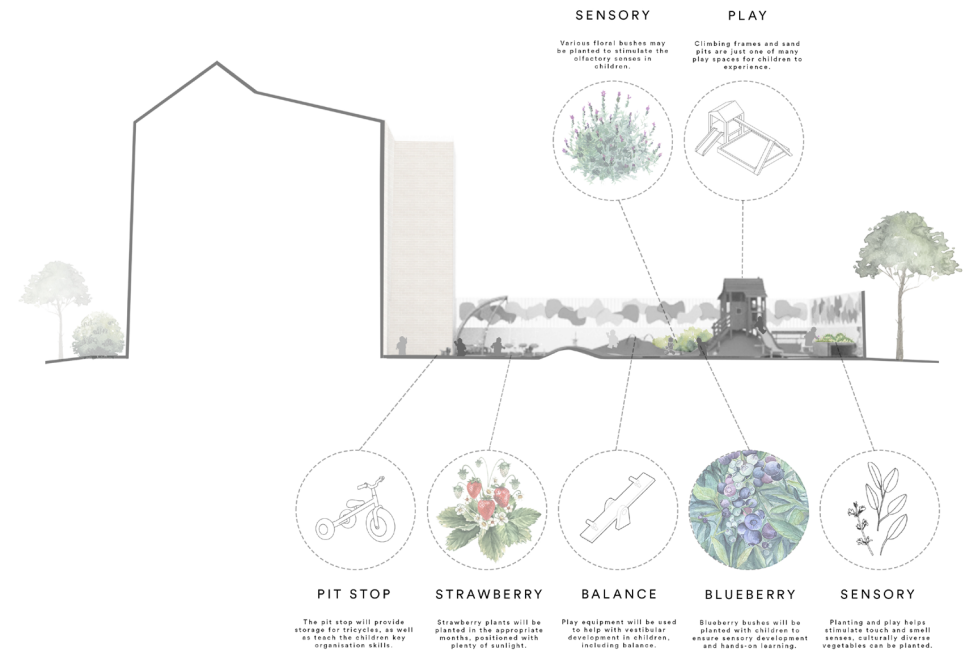
Silicon PU Paving
Outdoors, in order to prevent children from falling and bumping, a layer of paving materials will be installed on the ground. The plastic floor is environmentally friendly, safe and soft to ensure the safety of children.

Material Study



Final Plan

- 1- Bike Track
- 2- Bicycle Parking
- 3- Climbing Net
- 4- Play Frame
- 5- Sound Play Equipment
- 6- Planting Area
- 7- Mud Kitchen



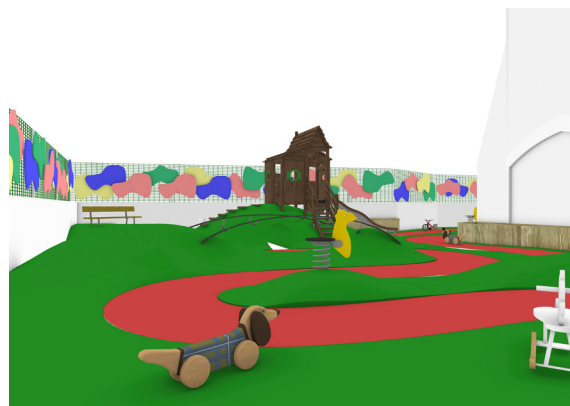
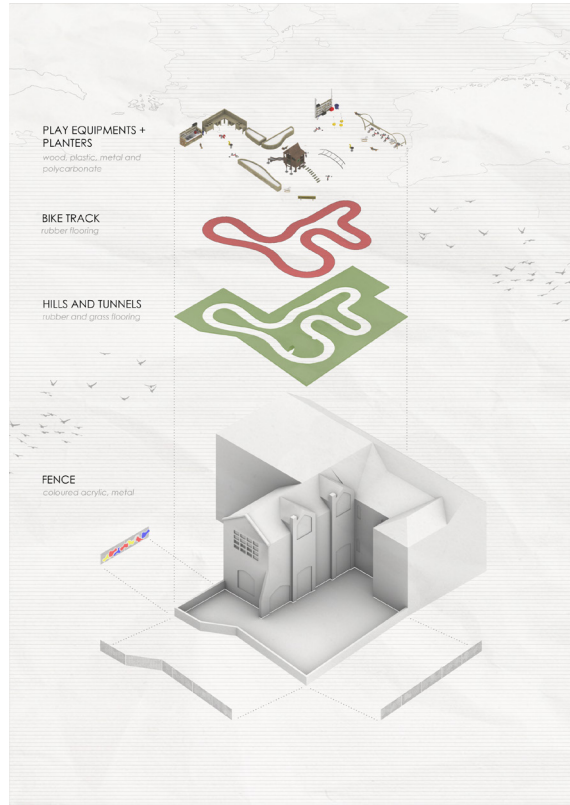
- PIT STOP**
The pit stop will provide storage for bicycles, as well as teach the children key organisation skills.
- STRAWBERRY**
Strawberry plants will be planted in the appropriate months, positioned with plenty of sunlight.
- BALANCE**
Play equipment will be used to help with vestibular development in children, including balance.
- BLUEBERRY**
Blueberry bushes will be planted with children to ensure sensory development and hands-on learning.
- SENSORY**
Planting and play helps stimulate touch and smell senses, culturally diverse vegetables can be planted.

Section

Digital Modeling

In order to produce a digital model the group divided into teams to create specific details within the design. Those who were interested in water play helped to create a funnel system that collected rain water to help water plants and provide sensory play, and those who were interested in the landscape itself helped to create hills to separate spaces and create a sense of diversity and fun. Dividing the work was very useful as it meant that while people worked on the model people were continuously sharing ideas on how to make the design more cohesive. Our team worked well to produce a digital design in Rhino to produce a digital design in Rhino that we could then use to create visuals from.

A few of our BA2 members of the group then utilised their skills in Rhino, Lumion and Photoshop to create renders and collages of our group's design. At this point materiality was questioned and discussed, and we consolidated our initial ideas into a final appropriate decision. This taught our group the role of the architect within community projects, to materialise collaborative ideas and convey them in a way our client can understand. It was particularly important to achieve visuals that a child could also understand, as they are our client too.

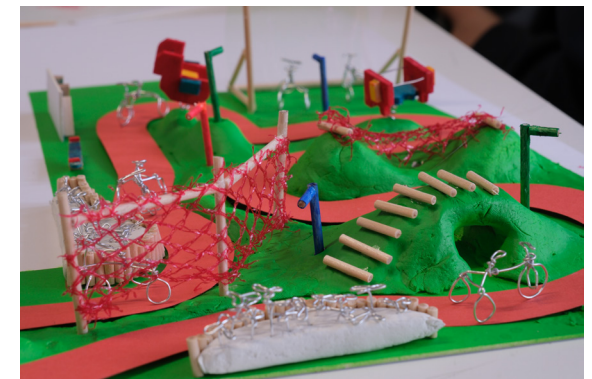
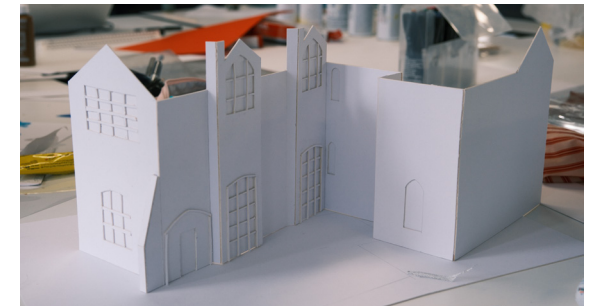
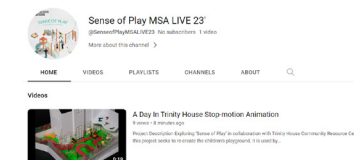


Physical Modeling

In a way, our physical model sums up the project. It provides a well thought out design response to a playground brief, whilst maintaining a level of fun and play that a child can respond to. A physical model also reflects the sensory aspect of our project, with a hands-on approach. The team worked hard together to hand make a model through playful materials, including play-dough and clay to create a detailed model to convey the space well. This was also an opportunity to test how light would react through our colourful screens above the brick perimeter. This was an intervention our collaborator wanted us to be playful with, and they told us all they wanted was to make it more fun and separate the children visually from the road.

After the model was made, we divided the group into teams, with three students working hard to create a stop-motion animation. The stop-motion animation was an outcome we decided would be important early in our discussions with the collaborator, helping the project to stand out in funding applications and to reflect the children who will be using it. We decided to use lego minifigures to act as scale people in the model, and use them to show how the playground could be used.

The link to our stop-motion animation: <https://youtu.be/uslrkAp-AEE>





Reflection

As a group we feel the project has been successful in creating a collaborative design response to the brief. Despite challenges in many students having ongoing deadlines, the team communicated extremely well to ensure everyone worked to create an outcome we are all proud of. Our relationship with Jane, our collaborator, was key to the success of our project as we needed to understand our users' needs. Having all students engage with presentations and discussions with Jane meant that we were all able to share creative ideas that could benefit Trinity House. The relationships formed throughout this project ensured communication and collaboration that led to an exciting and playful outcome, and enabled us to understand the role of an architect within a community project. We all particularly enjoyed the stop-motion animation and if we had the opportunity to work further on this project we would create more playful outcomes like this.



Render View (Bike Track)



Render View (Play Frame)

ABOUT

Each year the MSA LIVE programme unites Masters Architecture year 1 students with those in BA year 1 and year 2 and Masters Landscape Architecture 1 in mixed-year teams to undertake live projects with external partners to create social impact.

LIVE PROJECTS

All MSA LIVE projects are live. A live project is where an educational organisation and an external partner develop a brief, timescale, and outcome for their mutual benefit.

SOCIAL IMPACT

All MSA LIVE projects have social impact. Social impact is the effect an organization's actions have on the well-being of a community. Our agendas are set by our external collaborators.

EXTERNAL PARTNERS

MSA LIVE projects work with many organisations: charities, community groups, social enterprises, community interest companies, researchers, practitioners and educators.

STUDENT-LED

Our MSA masters students take the lead in the project conception, brief development, delivery and co-ordination of a small project. Other cohorts joined for an eventful 2 weeks of activities at the end of the academic year.

KNOWLEDGE TRANSFER

Working in teams within and across year groups and courses; MSA students participate in peer to peer learning. In addition, collaborators, participants and students engage in the transfer of tangible and intellectual property, expertise, learning and skills.

LARGE SCALE

This year approximately 650 students from 4 cohorts in MSA have worked on 42 projects with partners.

QUESTIONS

For questions about MSA LIVE please contact the MSA LIVE team:

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BLOG

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