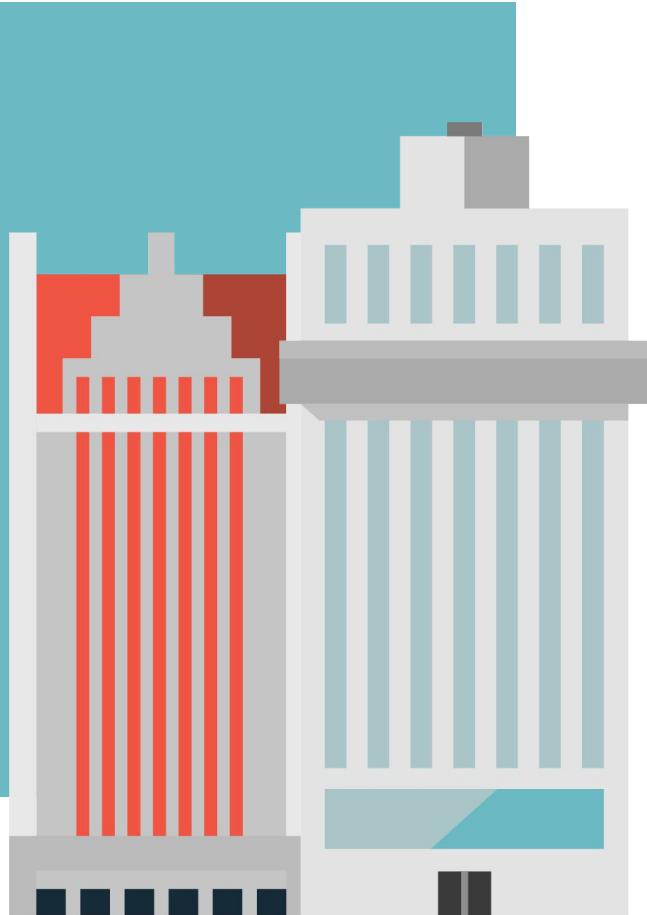


# Augmenting Urban Experiences

DECO3200 - Assessment 2

Jodie Clothier | Miriam Green | Mikkel Astrom | Taha Kanj



# PROBLEM STATEMENT

## NOISE POLLUTION

**Noise pollution in cities** increases stress, decreases productivity and negatively affects sleep.

By testing varying concepts targeting a range of city spaces to address the problem area: city centres, residential areas and green spaces **the most valuable solution can be identified.**



## CONCEPTS

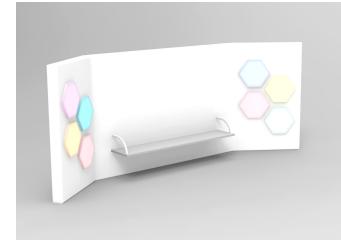
### PAINTING WITH NOISE



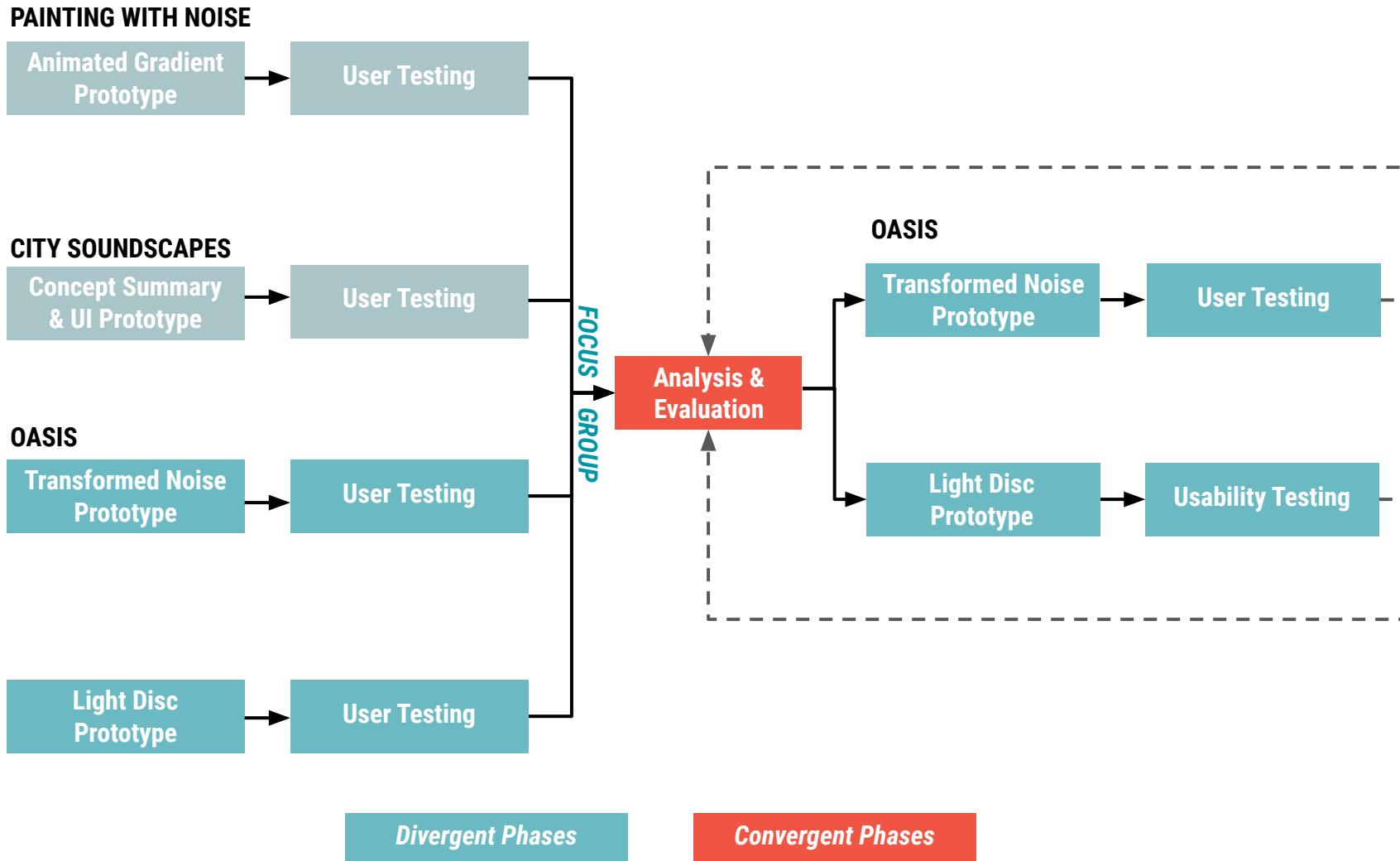
### CITY SOUNDSCAPES



### OASIS



# **PROCESS OVERVIEW**



# PAINTING WITH NOISE

## LO-FI PROTOTYPE + USER TESTING

Contextual Walkthroughs | Observations |  
Questionnaires | Post-Interaction Interview

5 Participants  
Random Sampling

Criteria: Anyone who lives, works or studies in the city and has encountered construction sites before.



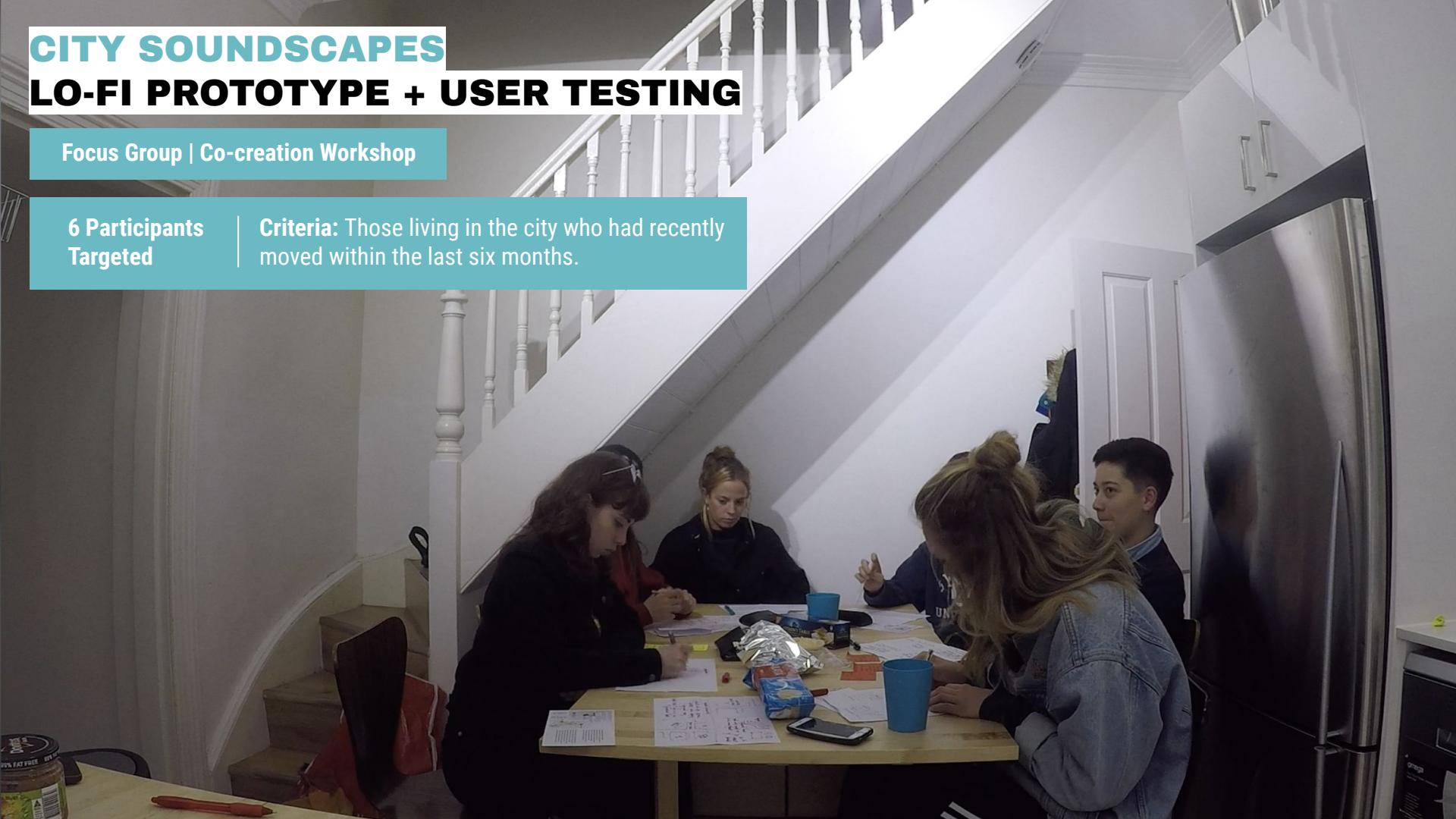
# CITY SOUNDSCAPES

## LO-FI PROTOTYPE + USER TESTING

Focus Group | Co-creation Workshop

6 Participants  
Targeted

Criteria: Those living in the city who had recently moved within the last six months.



# OASIS (NOISE TRANSFORMATION) LO-FI PROTOTYPE + USER TESTING

Usability Testing | Post-Interaction Interview | Observations

5 Participants  
Random Sampling

Criteria: Anyone who lives, works or studies in the city and has used a green-space before.



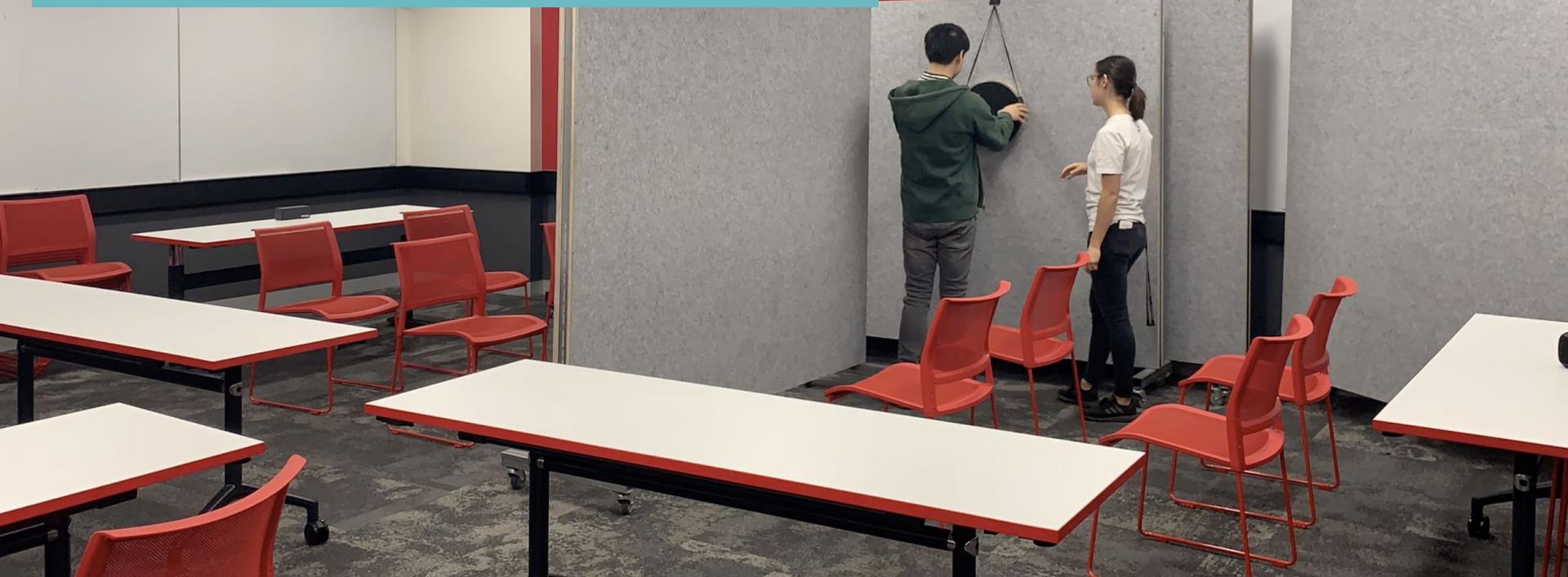
# OASIS (LIGHT DISC)

## LO-FI PROTOTYPE + USER TESTING

Think Aloud | Post-Interaction Interview | Observations

5 Participants  
Random Sampling

Criteria: Anyone who lives, works or studies in the city and has used a green-space before.



# ALL CONCEPTS

## USER TESTING

### Focus group

6 Participants  
Random Sampling

Criteria: Anyone who lives or works in the city and has experienced noise pollution.



# PAINTING WITH NOISE (PwN) FINDINGS

## INSIGHTS

---

PwN improves the experience of construction sites, but only marginally.

PwN is only engaging the first time users experience it.

PwN is not an effective solution as it doesn't address the noise factor.

PwN's gradient distracted from the noise but wasn't captivating.

## SOLUTIONS

---

Incorporate soundproofing elements to reduce noise pollution and have greater positive impact.

Redesign the visualisation to be less abstract and more engaging. Also have multiple versions to cycle through to prevent boredom.

# CITY SOUNDSCAPES

## FINDINGS

### INSIGHTS

---

City Soundscapes is not an inclusive product.

City Soundscapes should offer greater user control and customisation.

City Soundscapes only has limited use cases.

City Soundscapes has the potential to be used misused.

### SOLUTIONS

---

Shift the focus of the product to be more community focused by introducing a localised newsfeed and user input.

Include noise level filters and sound profiles, including options for disabled individuals who are noise sensitive.

# OASIS FINDINGS

## INSIGHTS

---

The transformed noise is more desirable than traffic noise.

The ambience of the transformed noise directly affects the users emotional state.

The light disc's intended interaction model is not intuitive.

The light disc's functionality is desirable.

## SOLUTIONS

---

Create samples of the transformed noise with varying moods to test emotional responses and find the most suitable ambience.

Make clearer the affordance of turning or spinning, test the effectiveness of arrows, signage or light indicators.

## KEY FINDINGS

---

### PAINTING WITH NOISE

01

PwN improves the experience of construction sites, but only marginally as it does not directly address the noise pollution.

### CITY SOUNDSCAPES

02

City Soundscapes needs to become community focused and increase its customizability to be desirable or viable.

### OASIS

03

Oasis' core functions are desirable but must be refined to be user friendly.

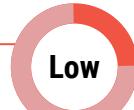
**transformed noise:** ambience more emotionally conscious  
**light disc:** more intuitive interaction

# DECISION MATRIX

## PAINTING WITH NOISE

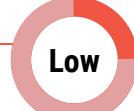
### DESIRABILITY

Users didn't engage much with PwN.



### VIABILITY

PwN only distracts from problem of noise pollution.



### FEASIBILITY

PwN requires minimal components and coding.



## CITY SOUNDSCAPES

### DESIRABILITY

Users didn't engage much with City Soundscapes.



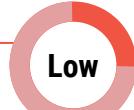
### VIABILITY

City Soundscapes helps manage exposure to noise pollution.



### FEASIBILITY

City Soundscapes requires a complex network of components and coding.



## OASIS

### DESIRABILITY

Users were very engaged with Oasis.



### VIABILITY

Oasis reduces noise pollution to an extent.



### FEASIBILITY

Oasis requires multiple components but isn't overly complex to build or code.



### BEST CONCEPT

Region: Oasis\_9#01 Edit Functions View ▶️ 🔍

# OASIS V2 (NOISE TRANSFORMATION) LO-FI PROTOTYPE + USER TESTING

A/B Testing | Questionnaire

Track: AM5

22 Participants  
Random Sampling

Criteria: Anyone who lives, works or studies in the city and has used a green-space before.

The DAW interface displays several tracks: AM2, AM4, AM5, Audio 10, and Audio 11. The AM5 track is selected, showing its waveform and volume fader. The Automation pane shows pan and volume automation for the tracks. The Channel Strip pane shows detailed controls for each track, including faders, knobs, and meters. On the far left, a vertical column of buttons and sliders provides global control over various DAW functions like Input 1, Channel EQ, Tape Delay, and SilverVerb.

# OASIS V2 (LIGHT DISC)

## PHYSICAL PROTOTYPE + USABILITY TESTING

Roleplaying | Heuristic Evaluation

Participants | Design Experts



## INSIGHTS

### SOUND

The transformed noise sample #3 is most desirable.

The preferred qualities were calming, atmospheric and musical.

### LIGHT

Internal components of the light disc need to be redesigned to diffuse the light correctly.

The need to balance minimalist design with clear documentation for the light disc.

## NEXT STEPS

Test transformed noise sample #3 in a green-space then develop sound customisation of light discs.

Test using light indicators in the light disc to see if it's effective in conveying the intended interaction model.

OASIS

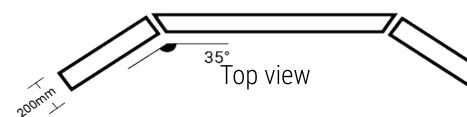
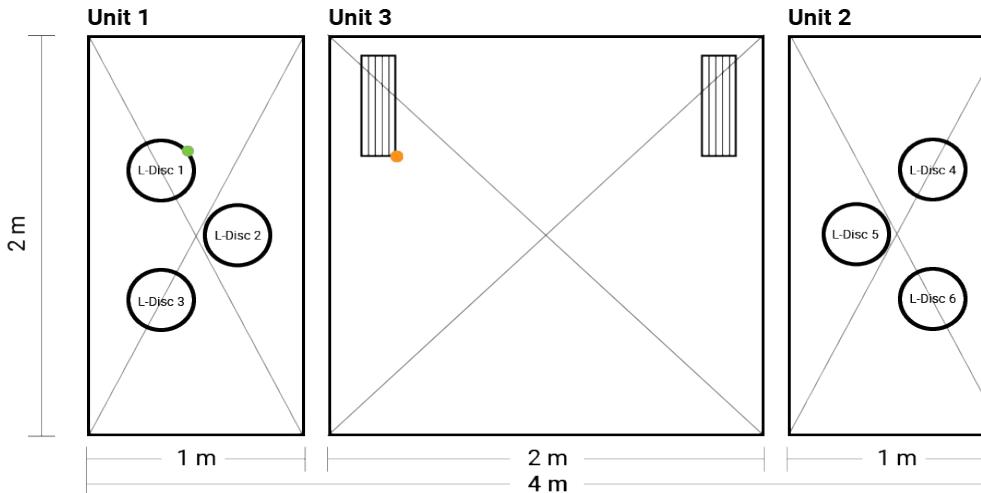
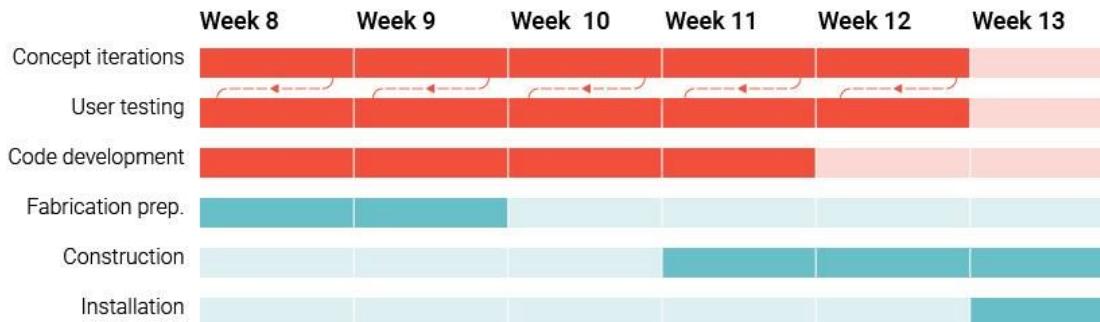
VISUALISATION





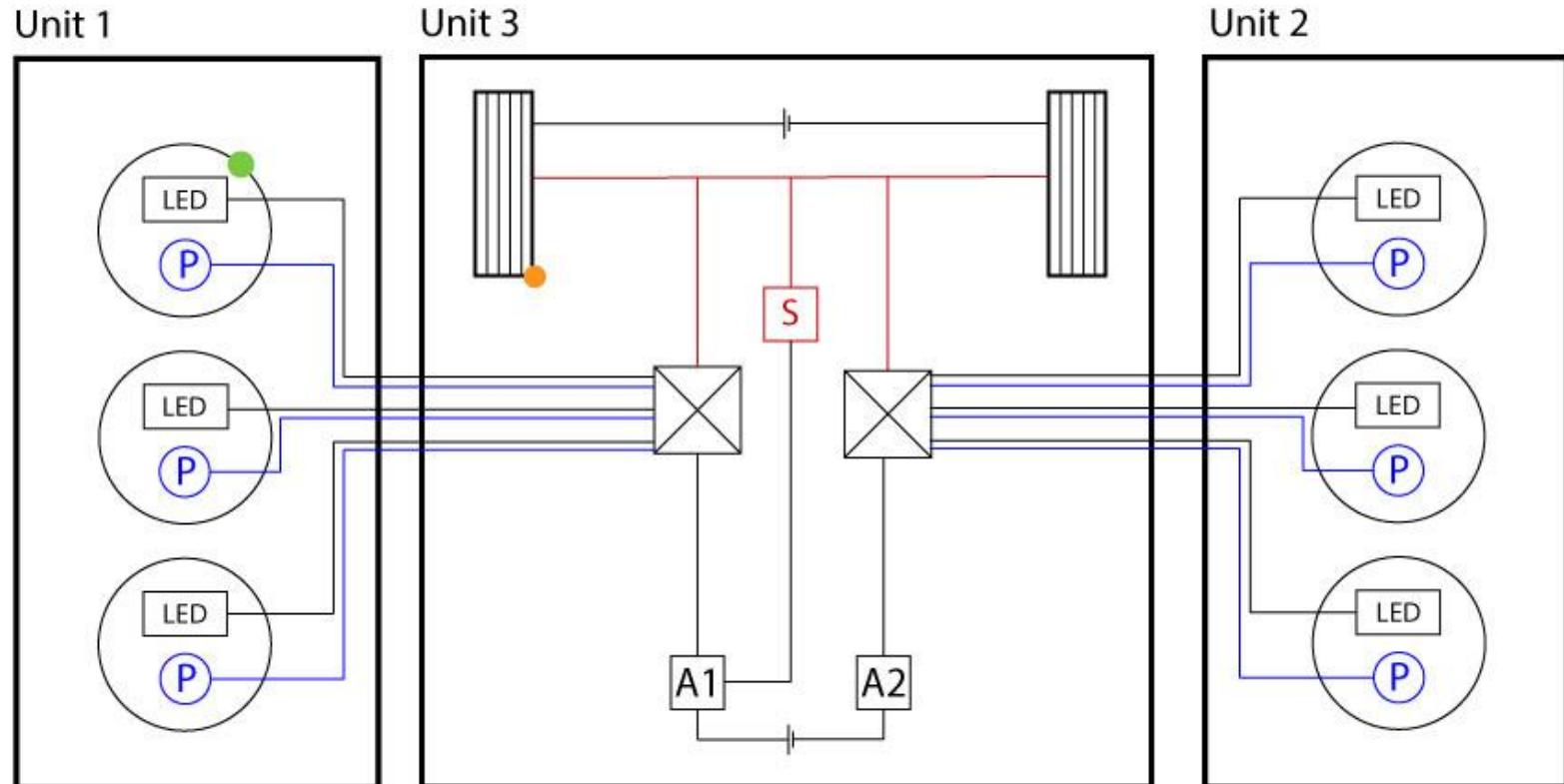
# OASIS IMPLEMENTATION PLAN

■ Research and development ■ Fabrication



# OASIS

## TECHNICAL IMPLEMENTATION PLAN



Light disc ●



Speaker ●



Potentiometer



Arduino 1 and 2



Breadboard



Soundboard



**VIDEO**

