Museum of Sound

An assistive and enriching soundscape experience for museum visitors with macular degeneration that helps ease transitions between bright and dark environments.

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RMIT UNIVERSITY

MELBOURNE MUSEUM

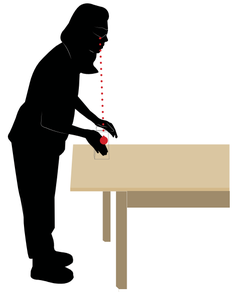
Macular Degeneration is an age related eye disease that causes loss of central (focal) vision. When left unchecked, it could lead to serious vision loss.

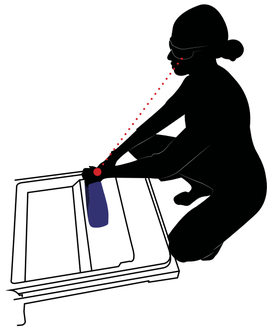
Preliminary desktop research helped us understand the nature of this disease and how it affects an elderly population (65yrs +).

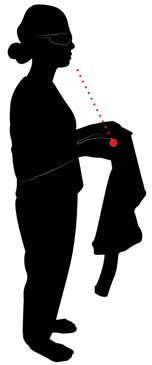
Loss of central vision leading to a blurred visual experience.

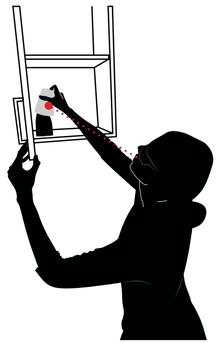
Based on this knowledge each researcher created a Low Vision Simulator using a pair of glasses and modifying them to replicate the condition.

Through the course of 2 weeks, our team wore LV simulators (while working on home chores) and maintained a log of our experience which helped us empathise with those that live with AMD.









Next, we used research techniques from mobility studies to investigate the spatial, sensorial and temporal experience of someone with AMD within the museum environment.

Some of the main methodologies utilised were transect walks and semi structured interviews.

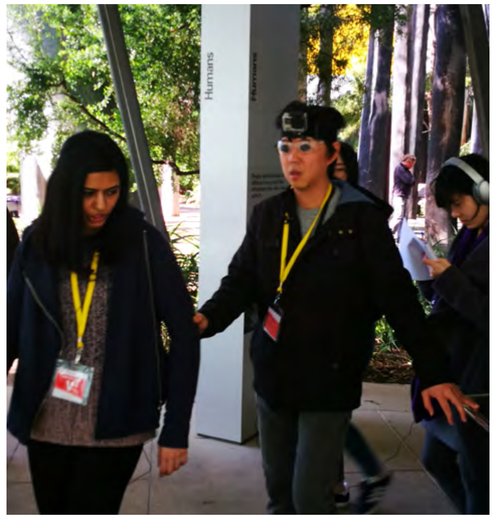
To begin with, a transect route was devised to collect qualitative data on participants' journey through different environments at the museum such as indoor, outdoor and transitional spaces.

We prepared task schedules where each researcher was assigned to take field notes, keep track of time stamps, or capture photos during the walks.

R1	P1
R2	Notes - Participant behaviour
R3	Notes - Participant speech
R4	Time
R5	Still images

Transect Walks

A total of 5 participants were then invited to a (15 minute) walk along the transect route while wearing low vision simulators.

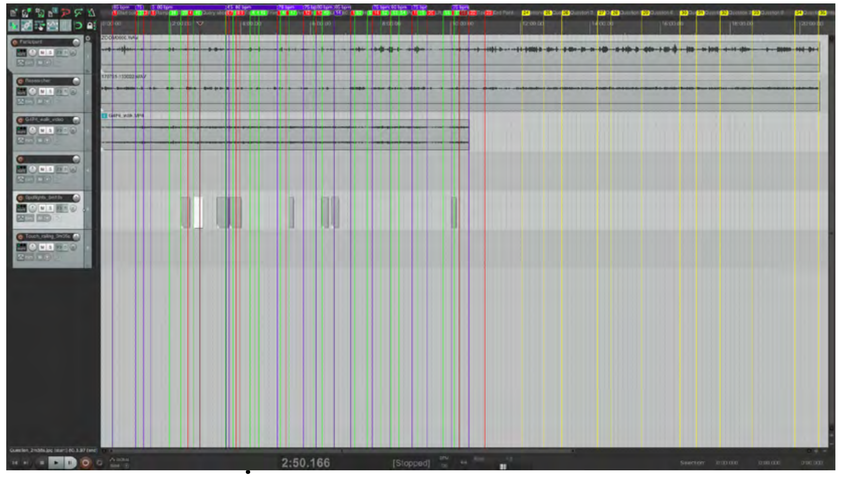


During the walk, we used tools such as Go-Pros, and Zoom recorders to document

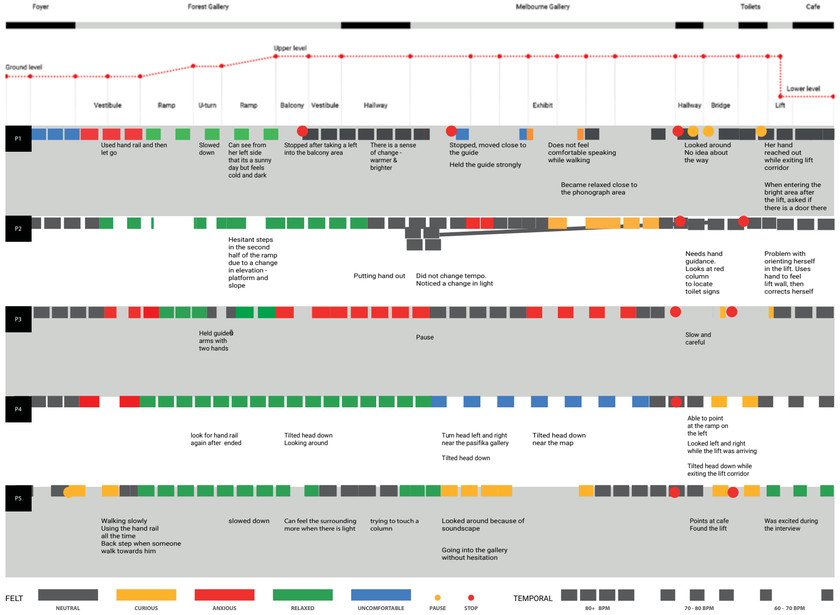
- Participants' Speech
- Participants' Behavior
- Video Recordings
- Audio Recordings

Semi Structured Interviews

After each transect walk, participants shared their spatial, sensorial and emotional experience through semi-structured interviews.



The data collected from the transect walks was imported into an audio production software called Reaper which served as a great way of aligning different layers of data along the participants' journey such as their pace, thoughts and behaviors along the transect path.



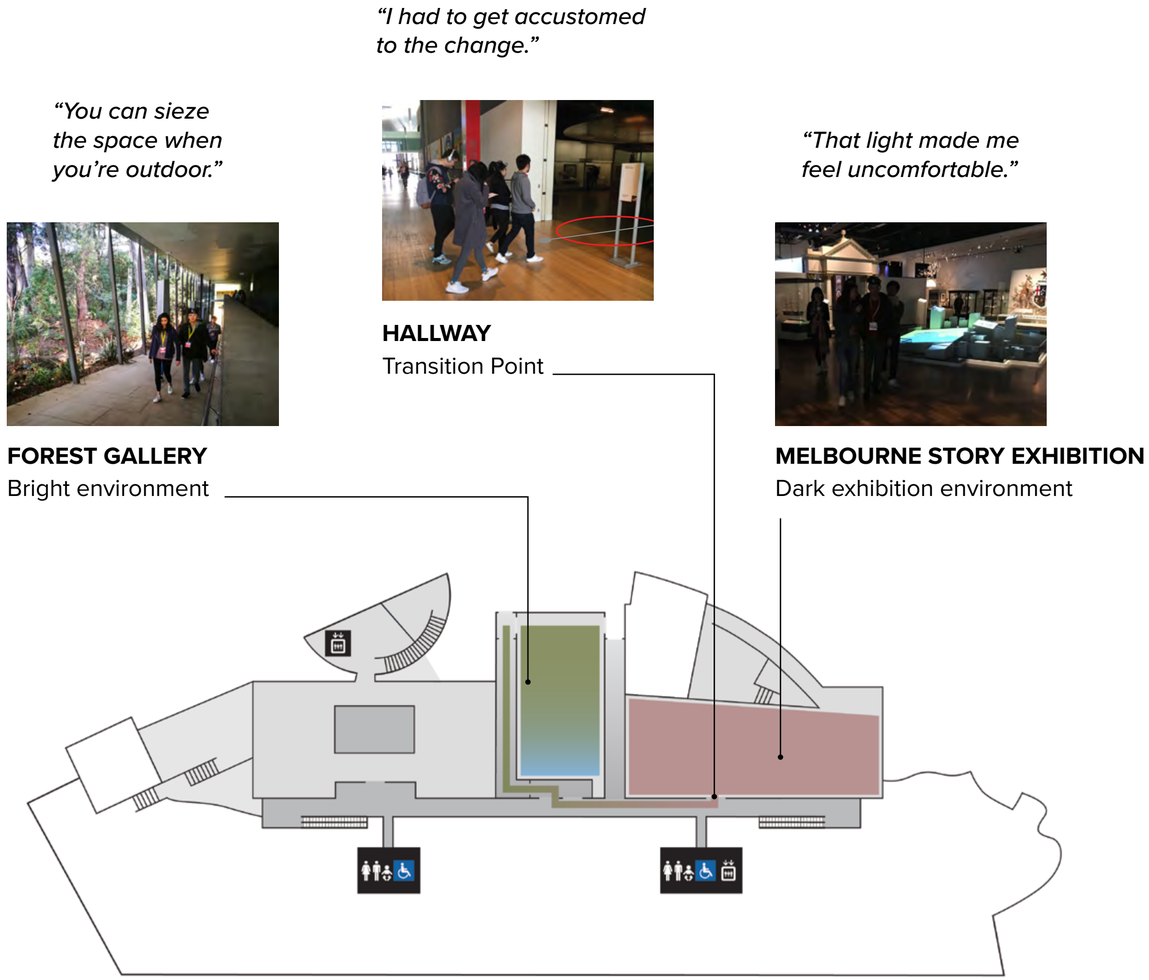
The interview transcript from each participant was individually coded and then group coded to identify emerging themes. These insights were then added to a chart for visualisation and analysis.

IC : Individual coding | Line by line GC: Group Coding | Block coding P : Probe

Yellow higlights : Done during group coding Blue highlights : Individual code agreed upon by the group

LEGEND

Q & A	IC	GC
Can you Compare walking indoor versus walking outdoor.		Q7
The temperature change…the outside is cooler, the inside is a bit more	Temperature change. Outside cooler	
warm, because of the heater probably.	Feels warmer inside	
The outside, the light its more, there's more light, like we were in the ex-	More light outside	Dark room-Bright spotlights-
hibit room was dark and it was quite difficult to walk with the lights in, up	Dark Room. Difficulty walking.	Hurt the eyes, causes
on the, the spotlights on your eyes.	Spotlights make it difficult to walk	difficulty navigating.
Can you compare the sounds indoor versus the sounds outdoor?		Q8
It's more noisy indoor, and you keep hearing the sound, like its vibrating,	Nosier indoor. Persistent sound vibration	
reverberating, but outside in the forest gallery it's quieter and the sound	Forest gallery is quieter	
is more diffused. You can't really hear people's voice but like more nature	Diffused sound. Nature sounds prevelant.	
sounds.		



Transect Route: Forest Gallery through to the Melbourne Story Exhibit

From mapping all of the research data, two main themes emerged.

1. We found that **AMD caused participants to experience stress and anxiety when transiting between bright and dark environments**. 4 out of 5 participants felt that they needed to adjust to the new light conditions upon entering the Melbourne Story Exhibition hall.

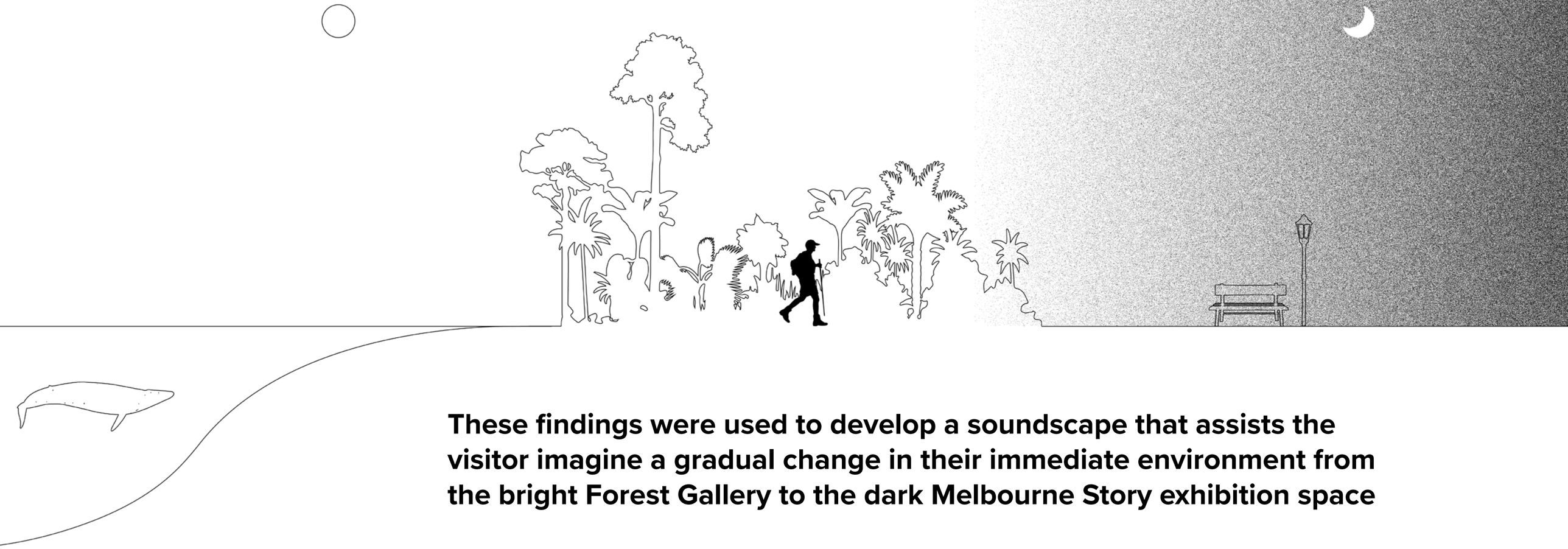
2. The sonic experience in the hallway was full of **echoes** and **caused participants to become disoriented**.

FOREST GALLERY

Forest soundscape
Bright environment

MELBOURNE STORY EXHIBITION

City soundscape
Dark exhibition environment



These findings were used to develop a soundscape that assists the visitor imagine a gradual change in their immediate environment from the bright Forest Gallery to the dark Melbourne Story exhibition space

00.00 min
Single Automatic Door

Ramp Entrance

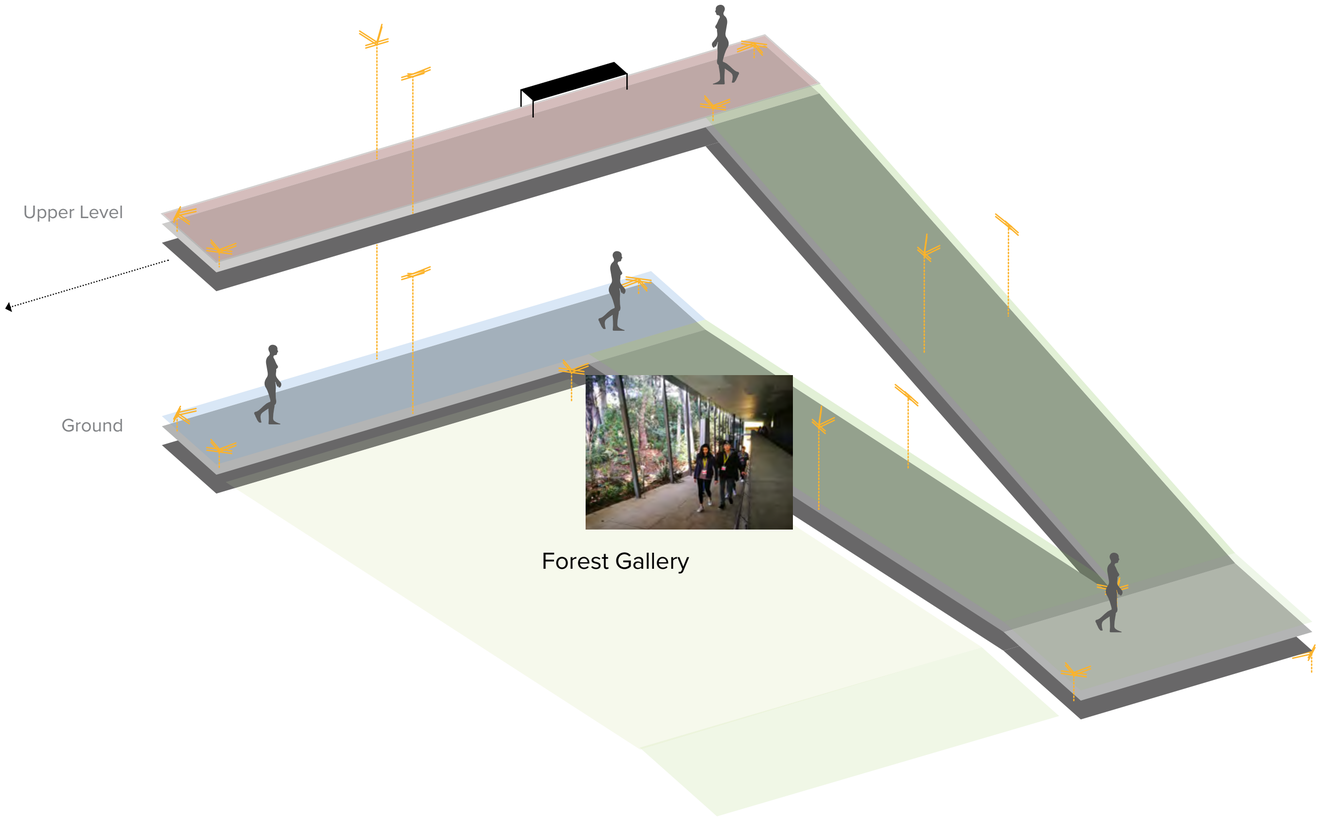
Platform

02.00 min

Balcony

04.00 min
Entrance to Melbourne Story Exhibit

Route to the
Melbourne Story Exhibit



Soundscape delivered
using strategically
positioned speakers

Speakers
Water
Forest
City