

03



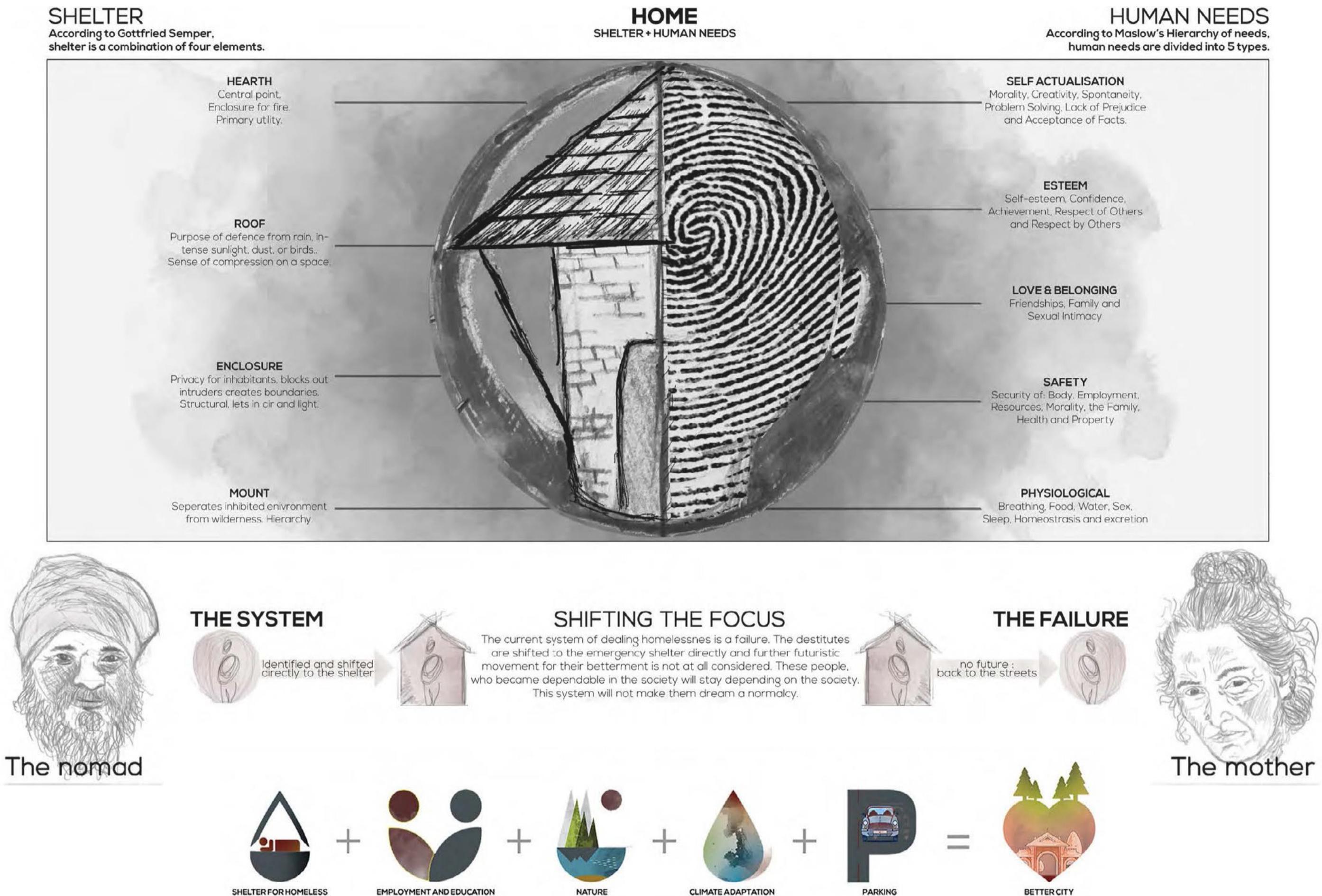
shelter for urban homeless.

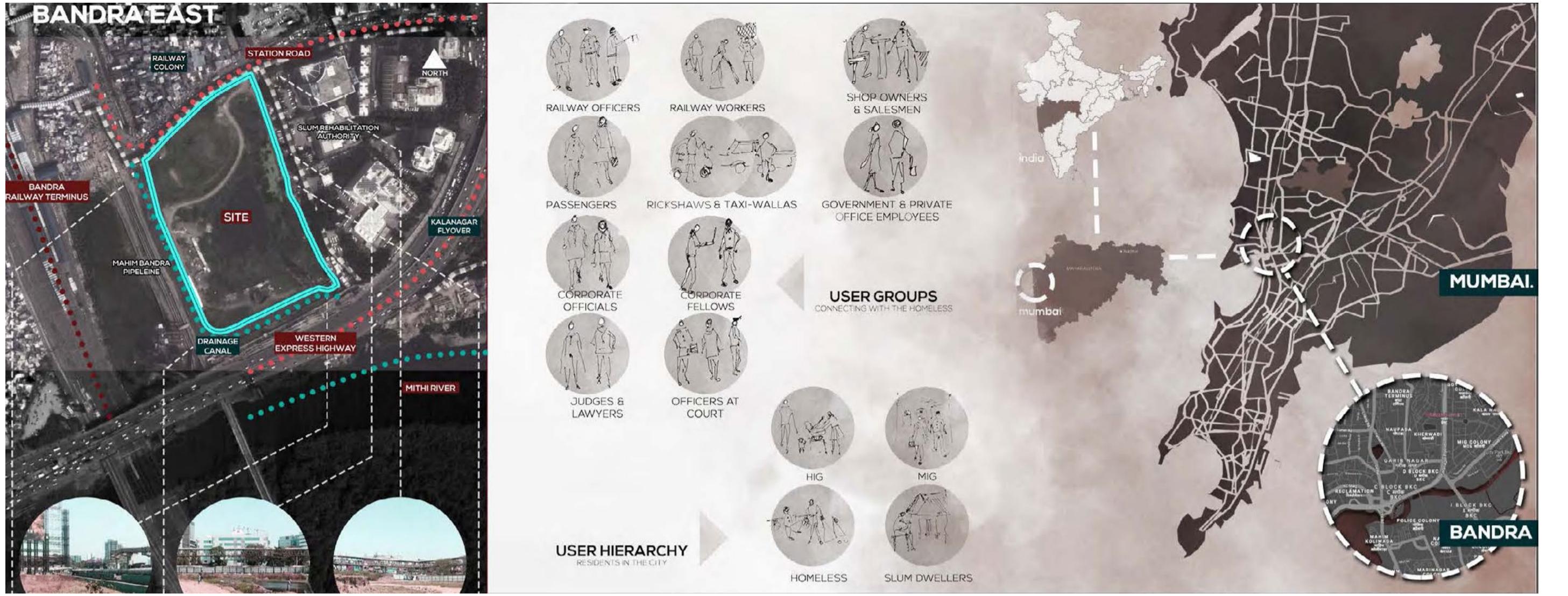
Project : Anti-Urban, Co-housing in Urban Setting

Location: Liverpool, England

Project type: MA Design Sem02 Project

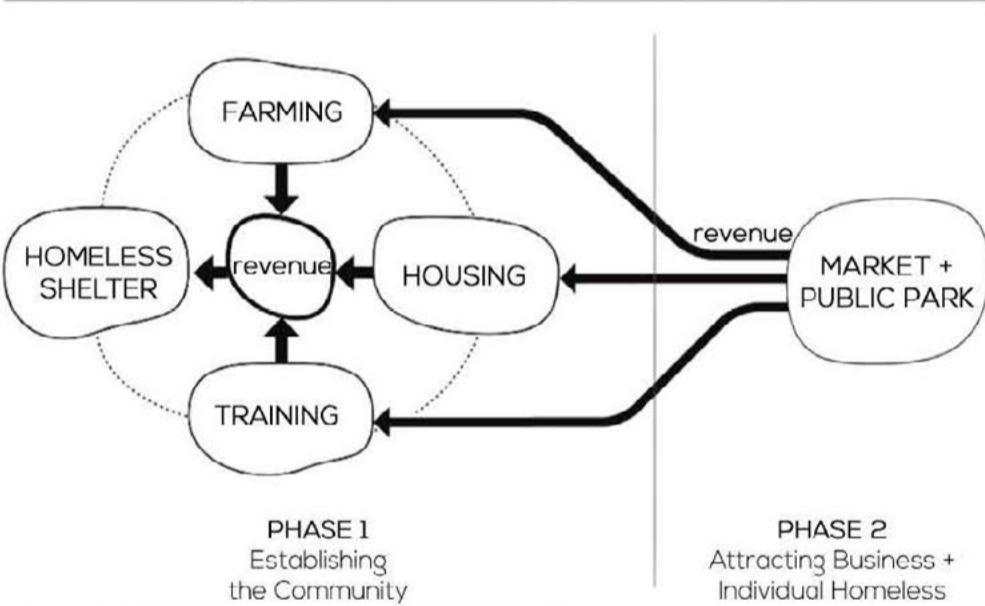
The project stands for the rights and needs of homeless people around the world. The courage, fortitude & sheer enterprise that allows the homeless to survive on the streets is not recognized. In placing homeless people outside the society of 'legitimate urban residents', we are in effect supressing a large, vulnerable population. Changes are urgently needed.





PROGRAMME

Phase 1 - Establishing the Community Phase 2 - Attracting Business + Individual Homeless



FUNDING + SUPPORT



THE AUTHORITY

MC - BrihanMumbai Municipal Corporation
chan - NGO empowering homeless citizens

BMC

Pehchar
NGO, a community-based non-organisation, serves to empower the homeless, will be supporting system for the whole project, working for the Primary uplifting of the Homeless people. They will work together with community to develop each phases of the programme. A ground to earth movement to motivate the homeless

thought.

PROSPECT & REFUGE

KEY CONCEPT

Prospect - Refuge is a theory of Landscape Aesthetics proposed by Human Geographer 'Jay Appleton' win his wider thesis called 'Habitat Theory'.

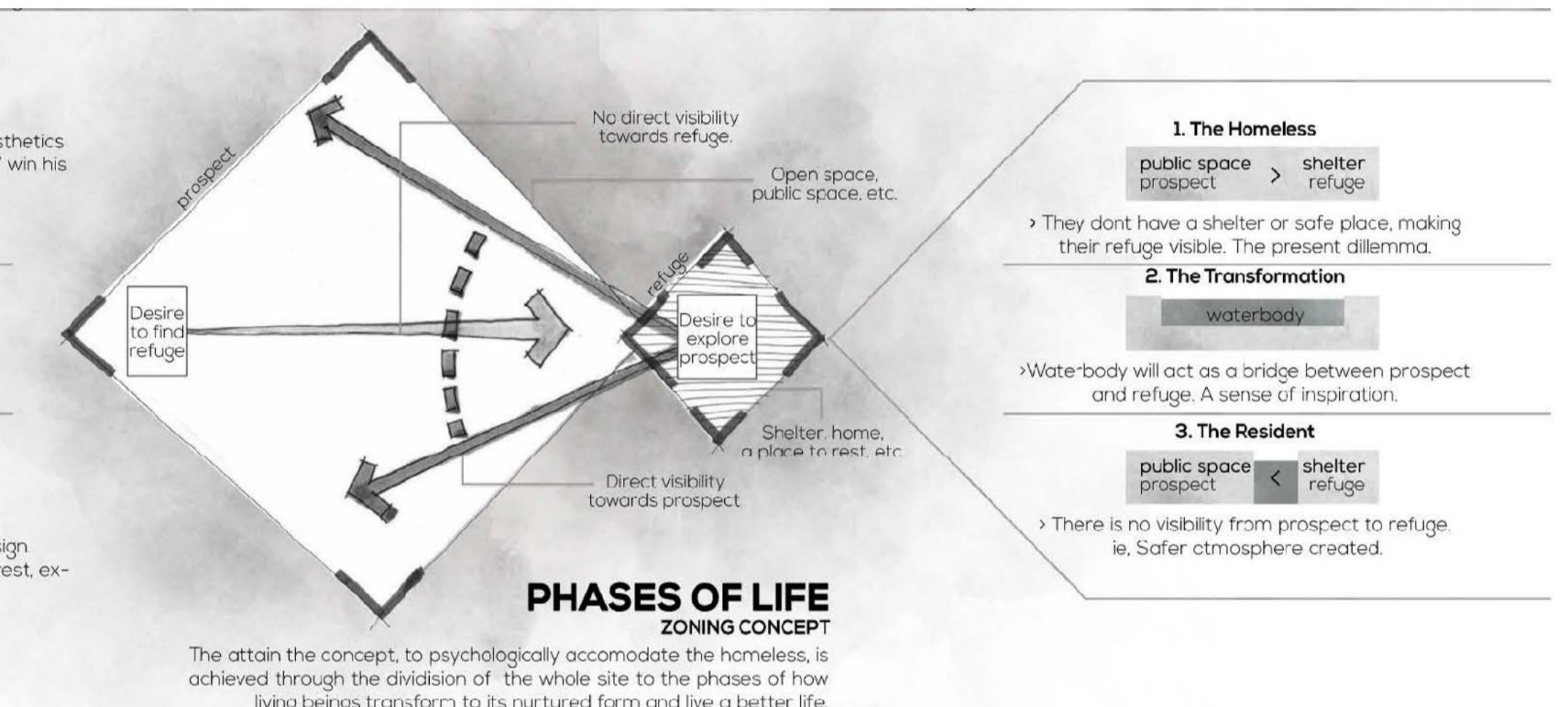
Prospectus

- Seek out opportunities.
 - To perceive or acquire visual information.
 - To explore environments.
 - To see without being seen.

Refugee

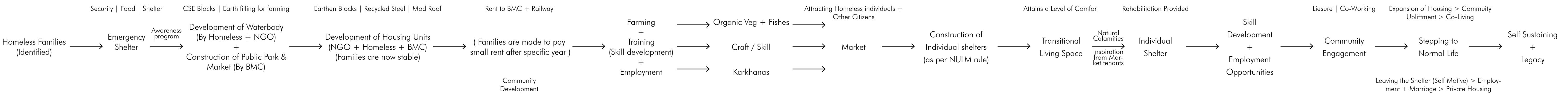
- To seek out shelter.
 - In search of protection.
 - Environments for hide away.
 - Desire to be comfortably safe.

The theory will act as the key concept in the design. The homeless, who are in need a safe place to rest, exploring the outer environments.

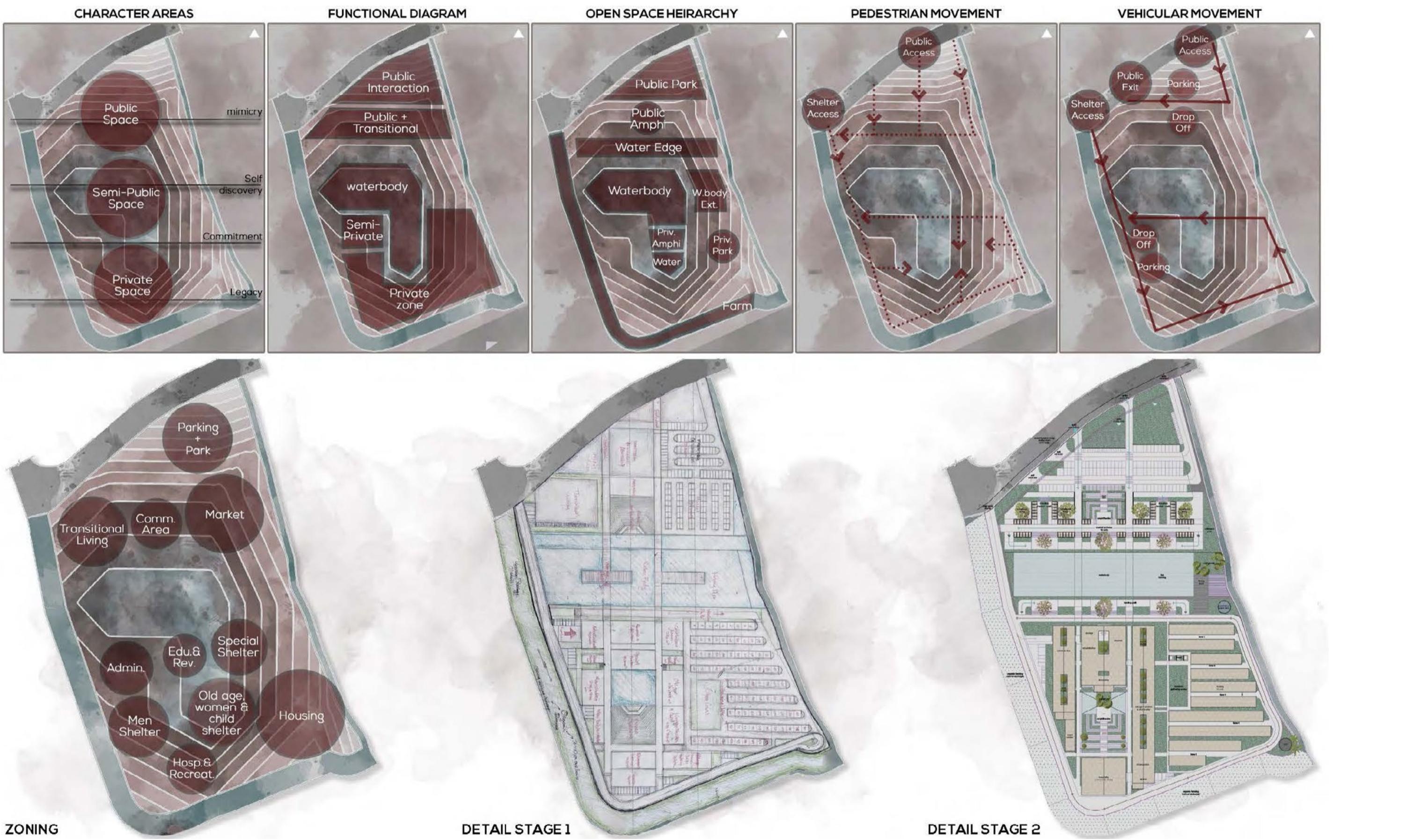


PROGRAMME TIMELINE

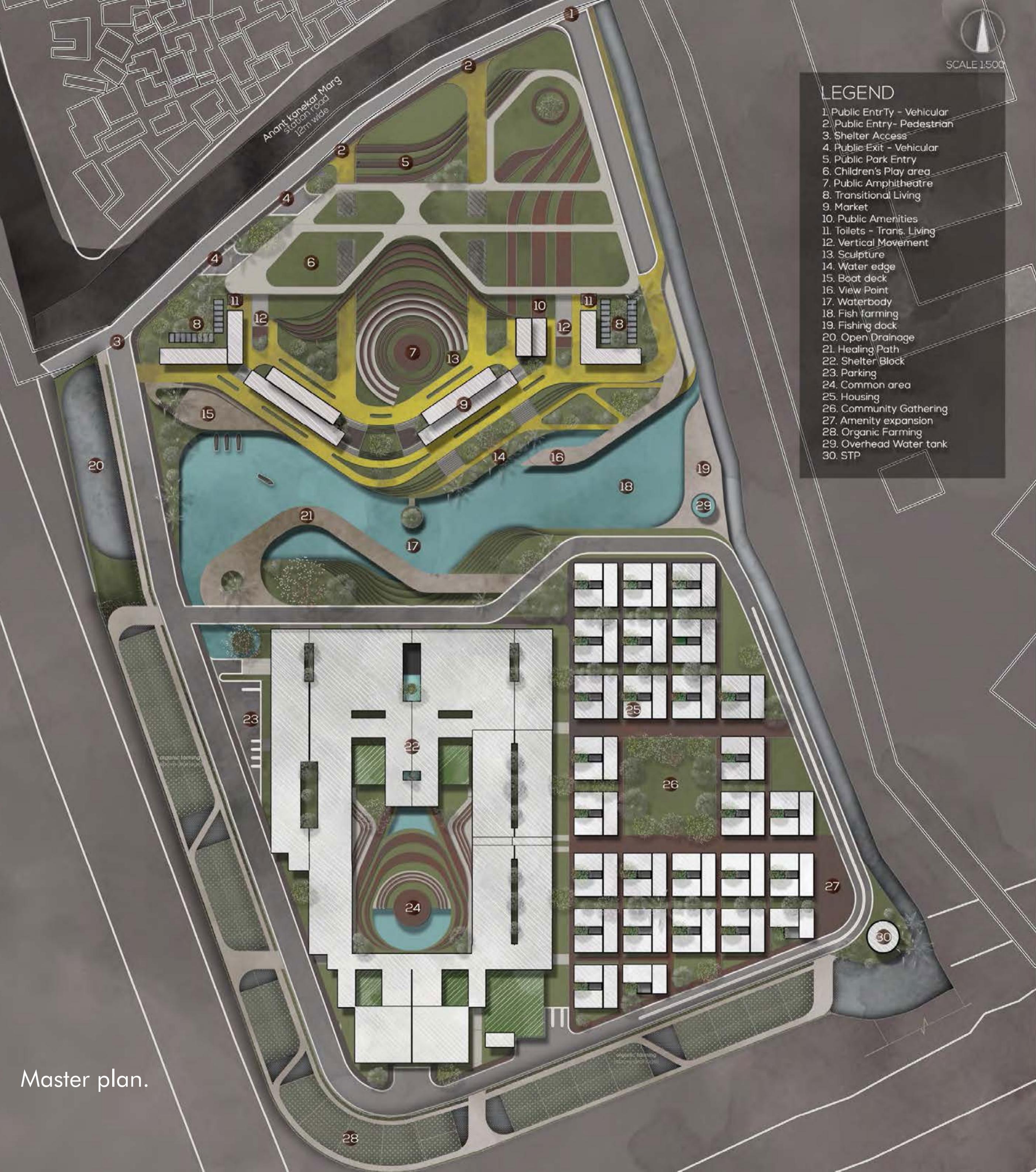
USER JOURNEY



design development.



Master plan.

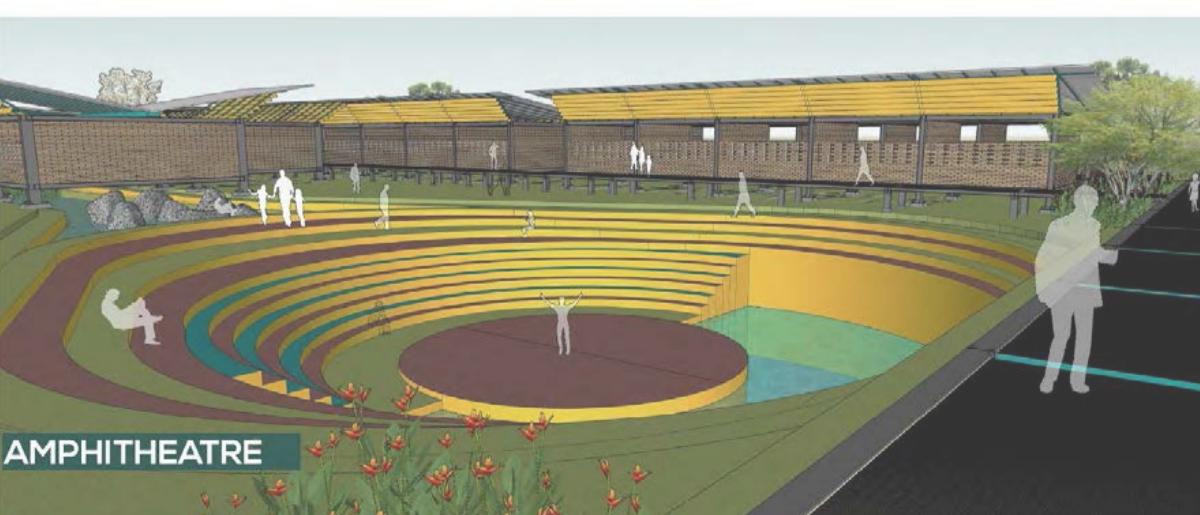
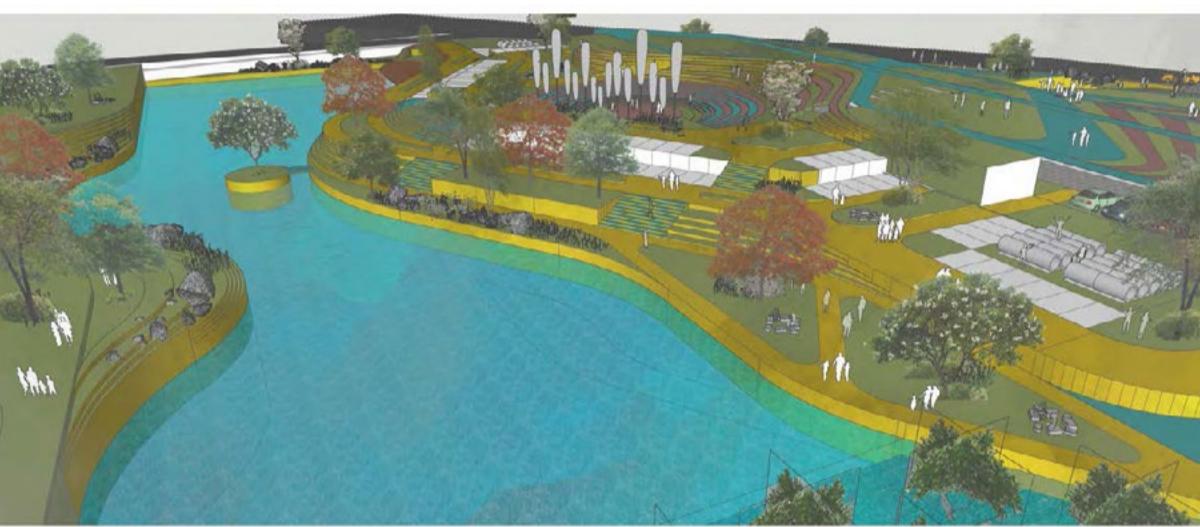


TRANSITIONAL LIVING CONCRETE PODS

Recycled from unused concrete pipelines. This pods could accommodate the transitional homeless people who comes to market and park. The transitional living layouts are perfectly planned to position near the amenity area of the public space. Separate toilets are provided for the privacy and proper maintenance of the public area. This Transitional Living area will be the first level of comfort for these homeless people.



TRANSITION MEDIUM THE WATERBODY



तीन THREE-SHARED CLUSTER



THREE-SHARED CLUSTER
Unit Area : 31 sqm
Total area : 90 sqm

Cluster contains 3 basic units comprising a kitchen, sleeping area, wash, toilet and a multi-purpose room which can be used as the living cum dining space in the day time and as sleeping area for the older ones in the night time. **The common spaces**

- Common Area : The cluster contains a common area for community development. This area will be used as a workspace for the production of garments, art & crafts, tools, etc.
- Garden / Crops : Residents can grow reed crops or can be used for gardening or plantations.
- The Attic : Attic will be used as a common clothes drying area, storage space for productions, etc.
- Parking area : Common parking space for parking cycles, kiosks, etc.
- Community space : A tropical space given for gatherings and children's play area.
- Basement : Basement is considered for the free-flow of excess water which arise while flooding happens. This space will then act as a space for storage of waste disposal bin, equipments and tools for the organic farming, rag picked items, etc.



Cluster Expansion

Is provided with stair room that acts as a study room that can be expanded later to a complete room by lifting the roof. Three shared cluster can be later expanded to a four-shared cluster or can be expanded to contain co-living space. The area above the parking and common foyer space is used for the same



WEST ELEVATION



SOUTH ELEVATION

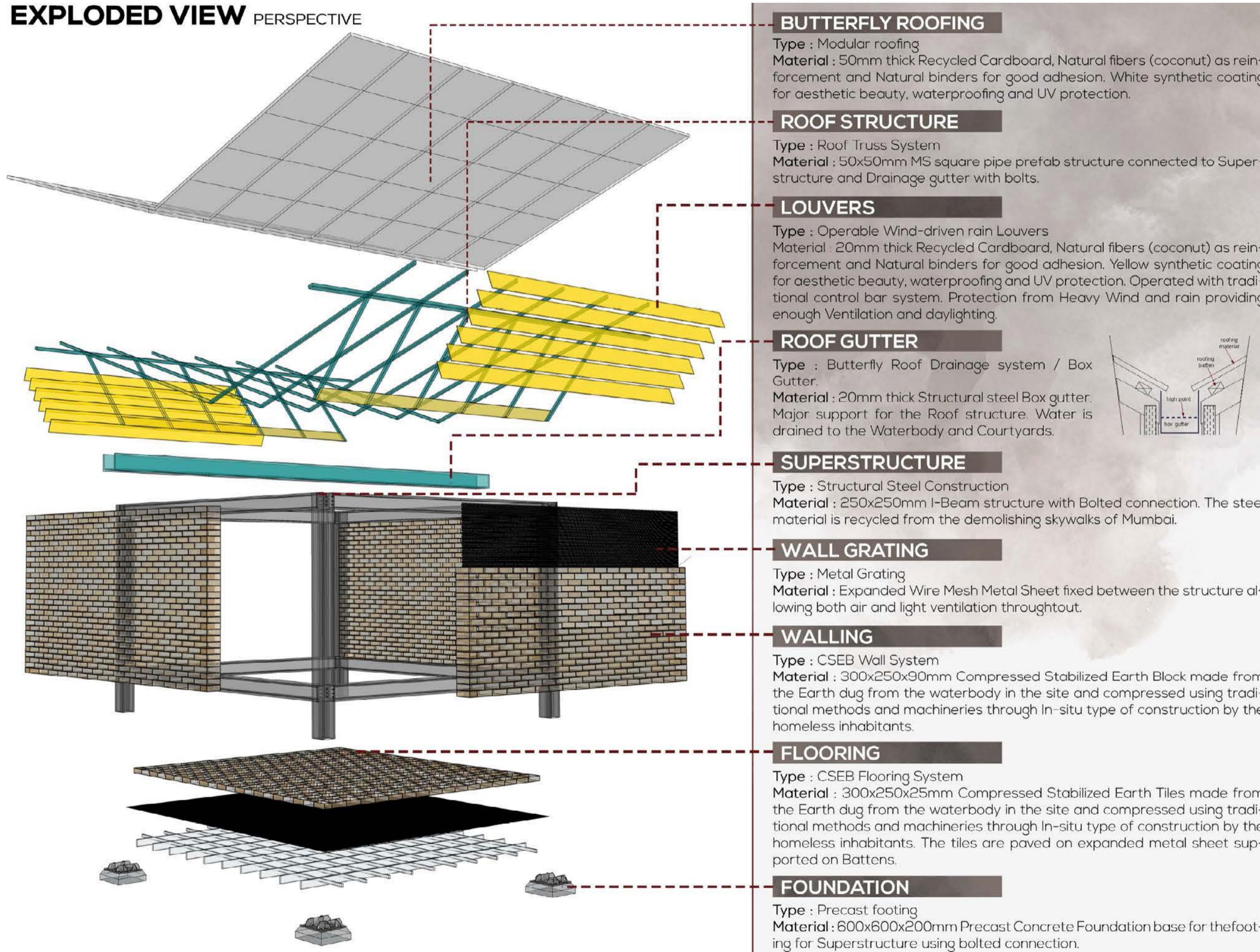


AA SECTION

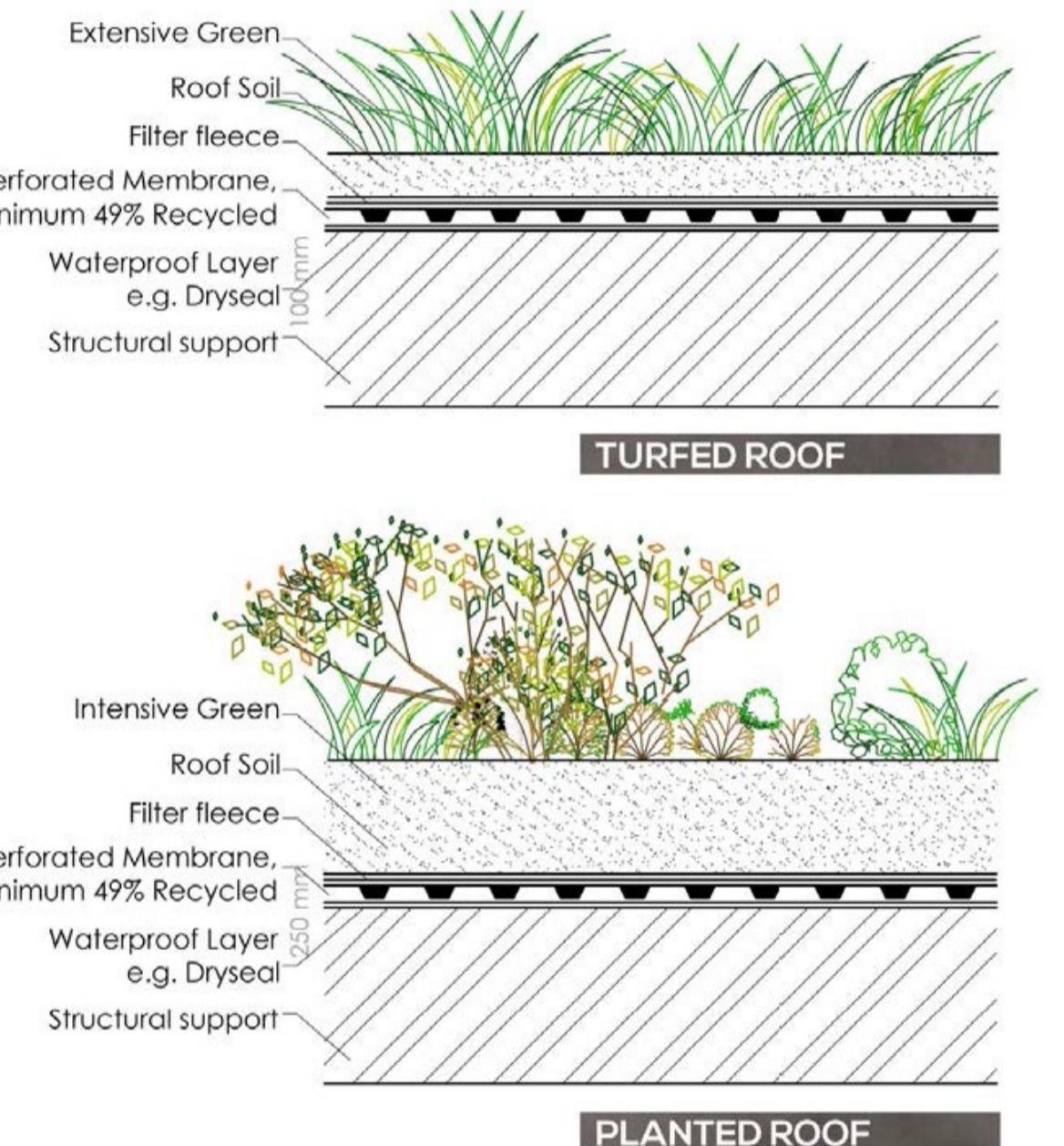


BB SECTION

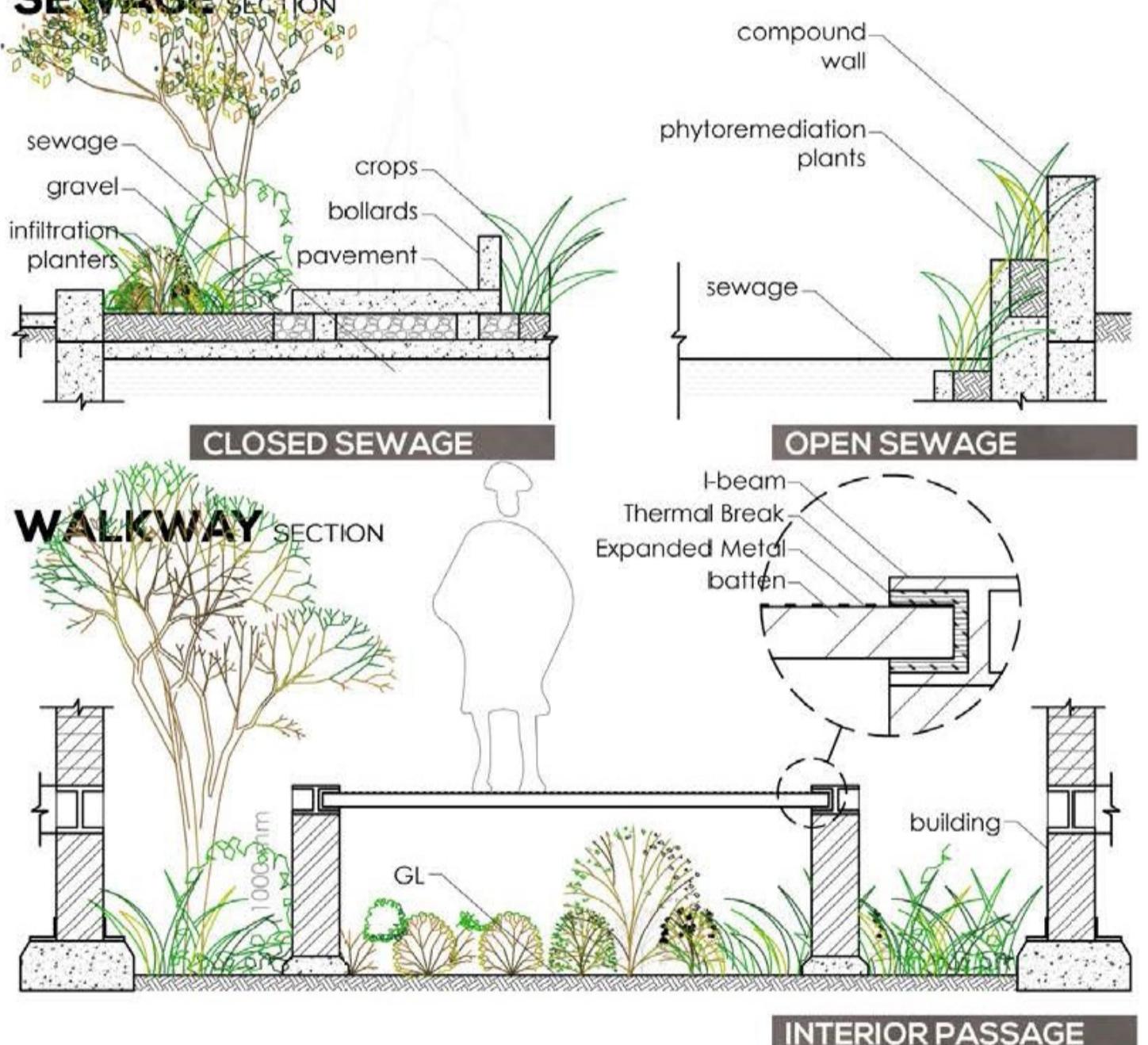
EXPLODED VIEW PERSPECTIVE



GREEN ROOF SECTION



SEWAGE SECTION



04

*how do we address
homelessness in this
digital world?*



ARCH 722

Research by Design Thesis on Portraying
Homelessness in Urban India.

Sabiq Ali Karuvally Pathikkal
201672955 | University of Liverpool

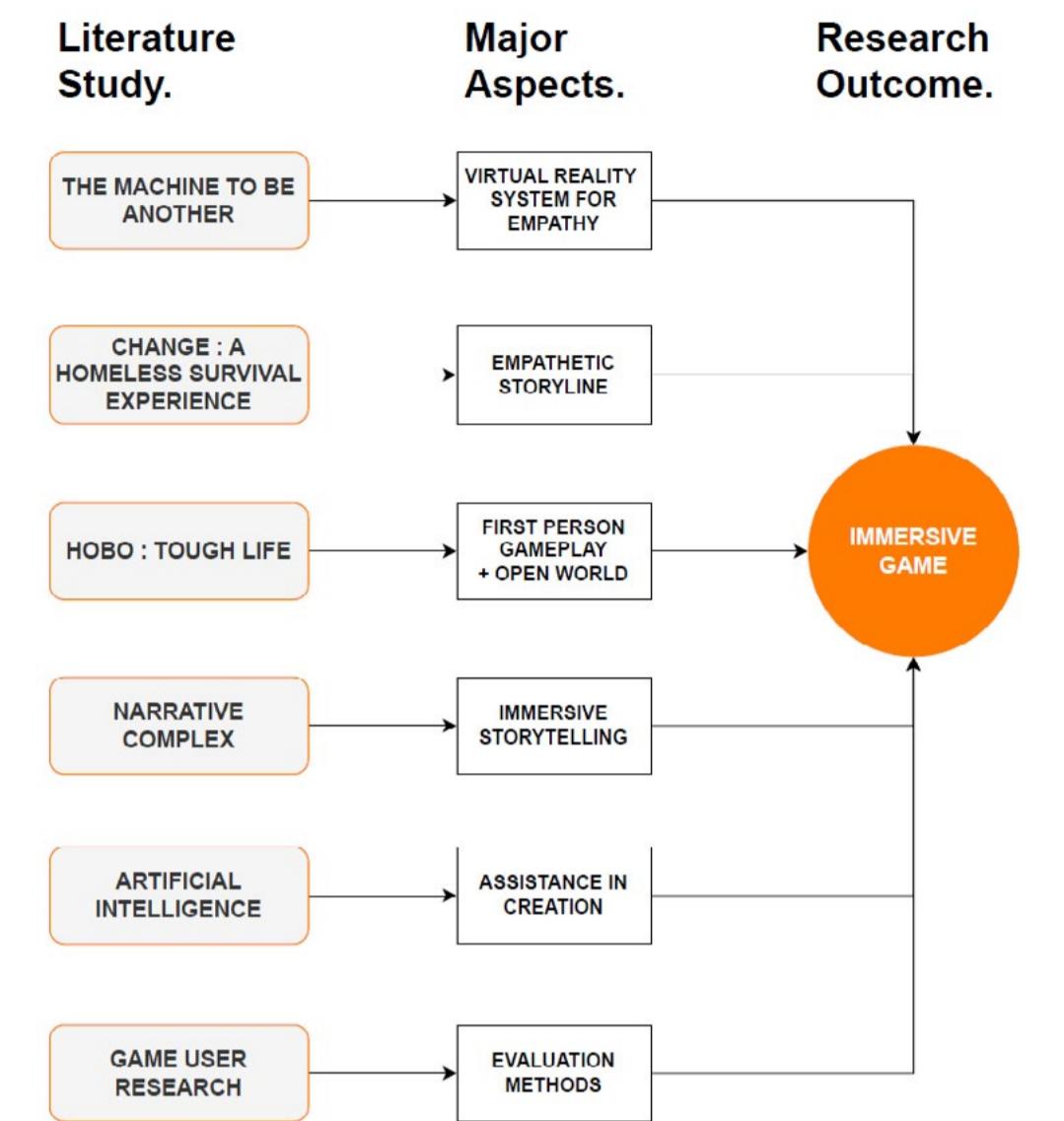
product development.

storyline + storyboard creation (AI).

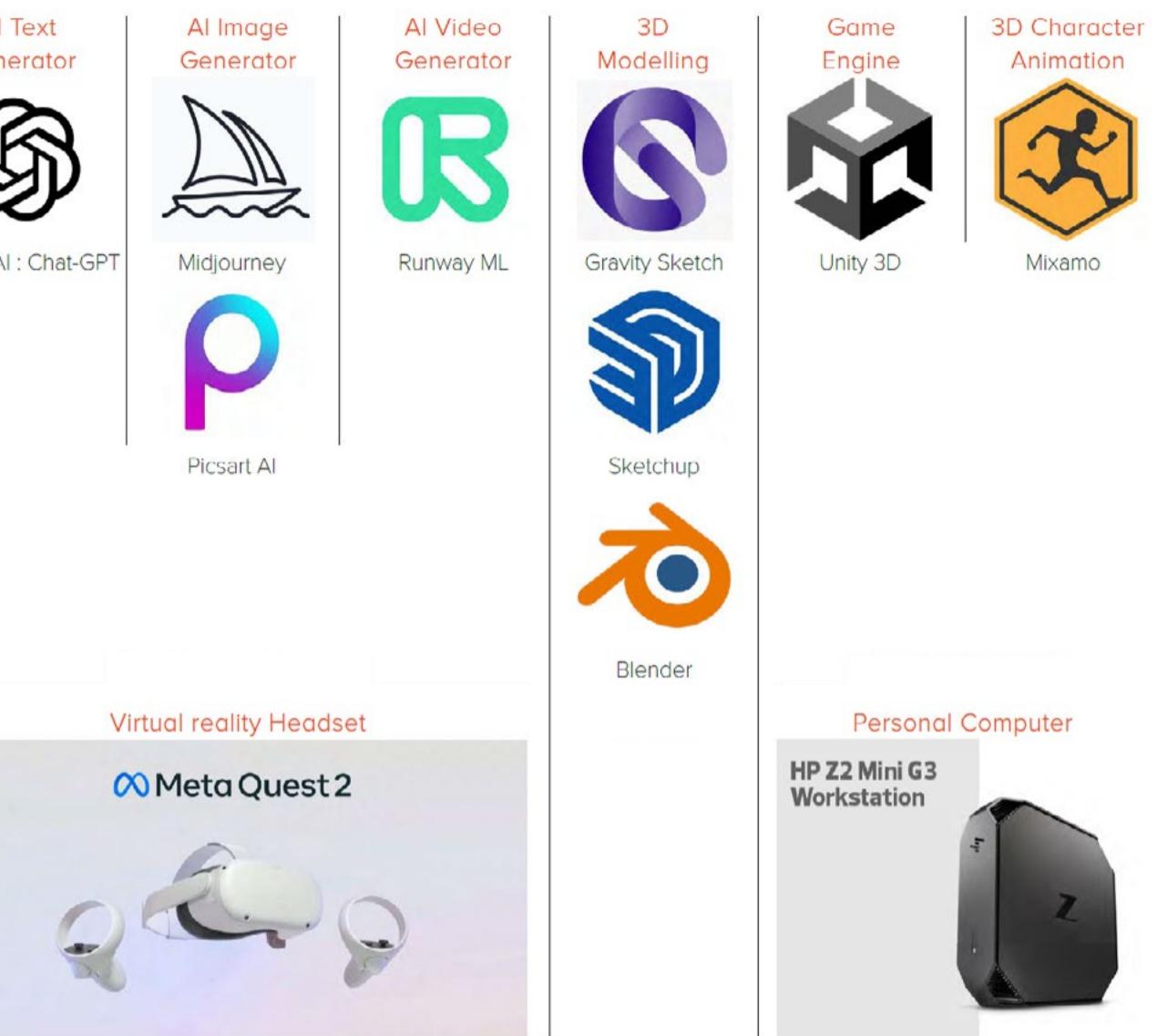
research questions.

- How can a virtual reality game be designed with an effective storyline assisted by modern technologies to portray homelessness?
- How can architects and designers incorporate usercentric design principles to create more empathetic and inclusive built environments?
- How can immersive storytelling be used to create empathy and how effective is virtual reality and gamification as a tool to address social issues?

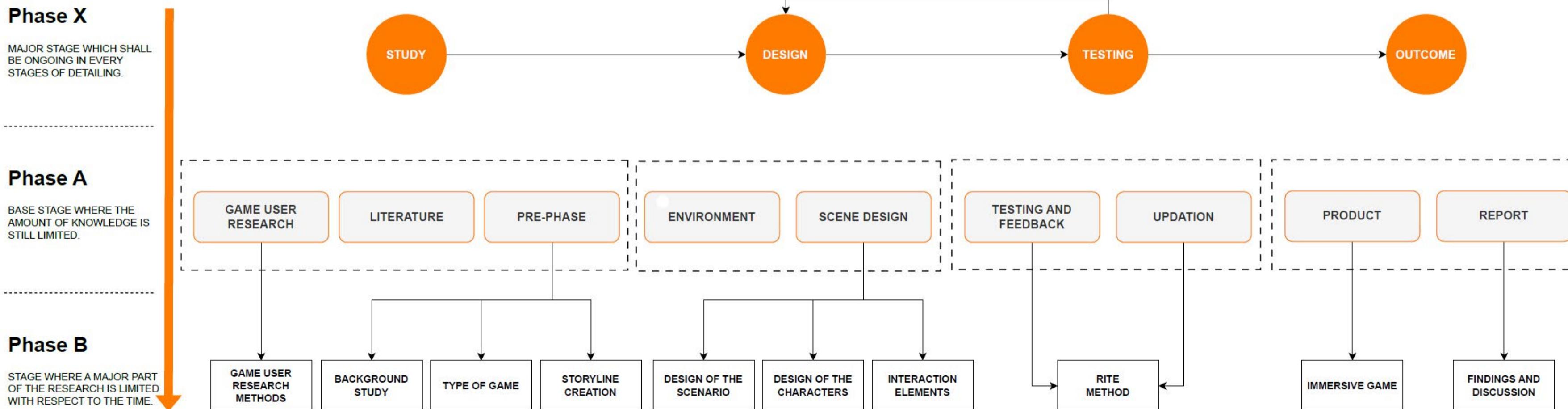
literature review outcome.



toolkit introduction.



research methodology.



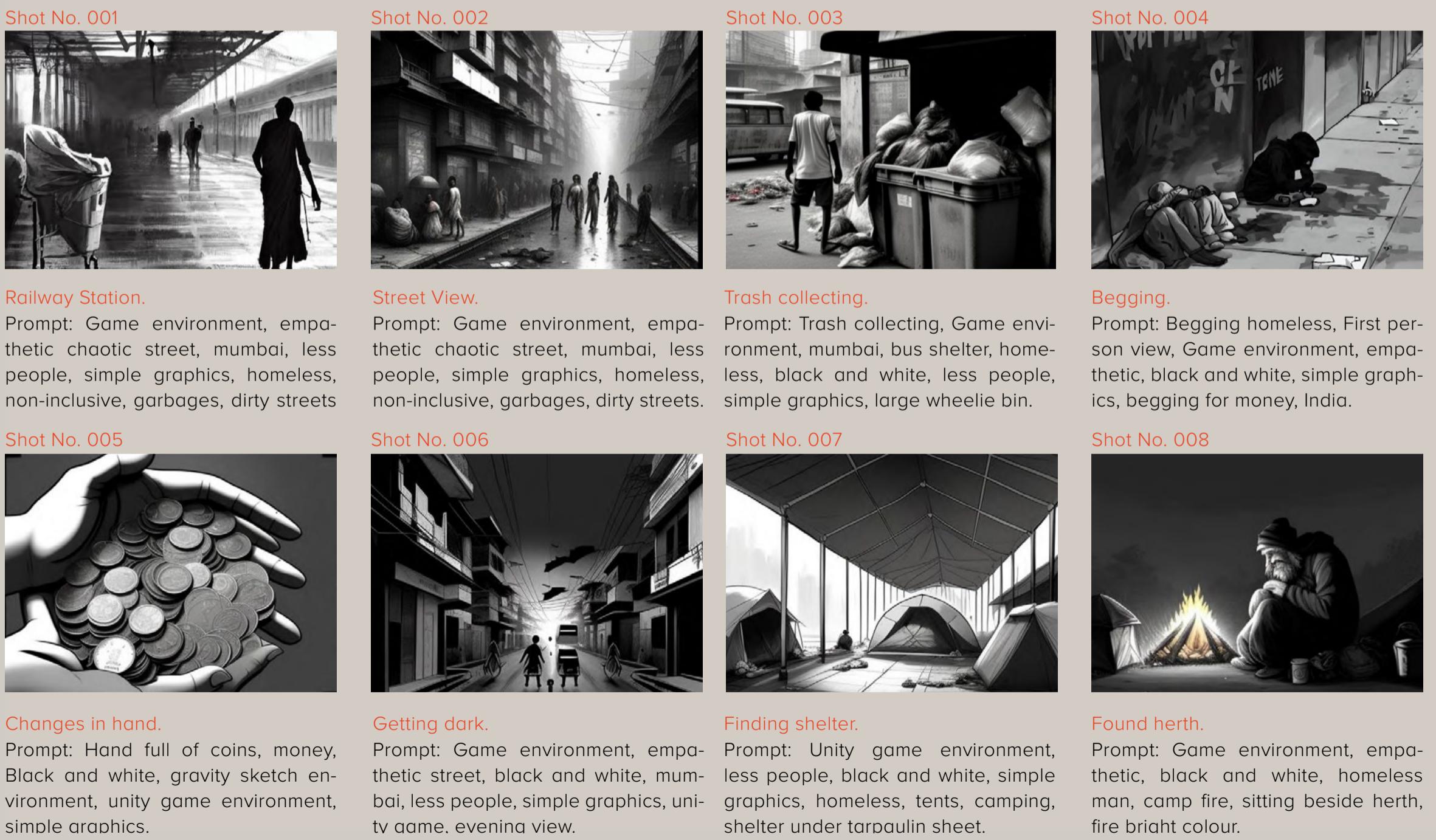
product development.

1. Context identification.
2. Storyline creation.
3. Storyboard - conceptualization.
4. Storyboarding using AI image generation.
5. Referencing game 3D environment using AI.
6. 3D Environment design using Sketchup & Gravity sketch.
7. Real-time 3D development in unity3D.
8. Continuous VR Playtesting.
9. Continuous PC Playtesting.
10. Final VR Game.

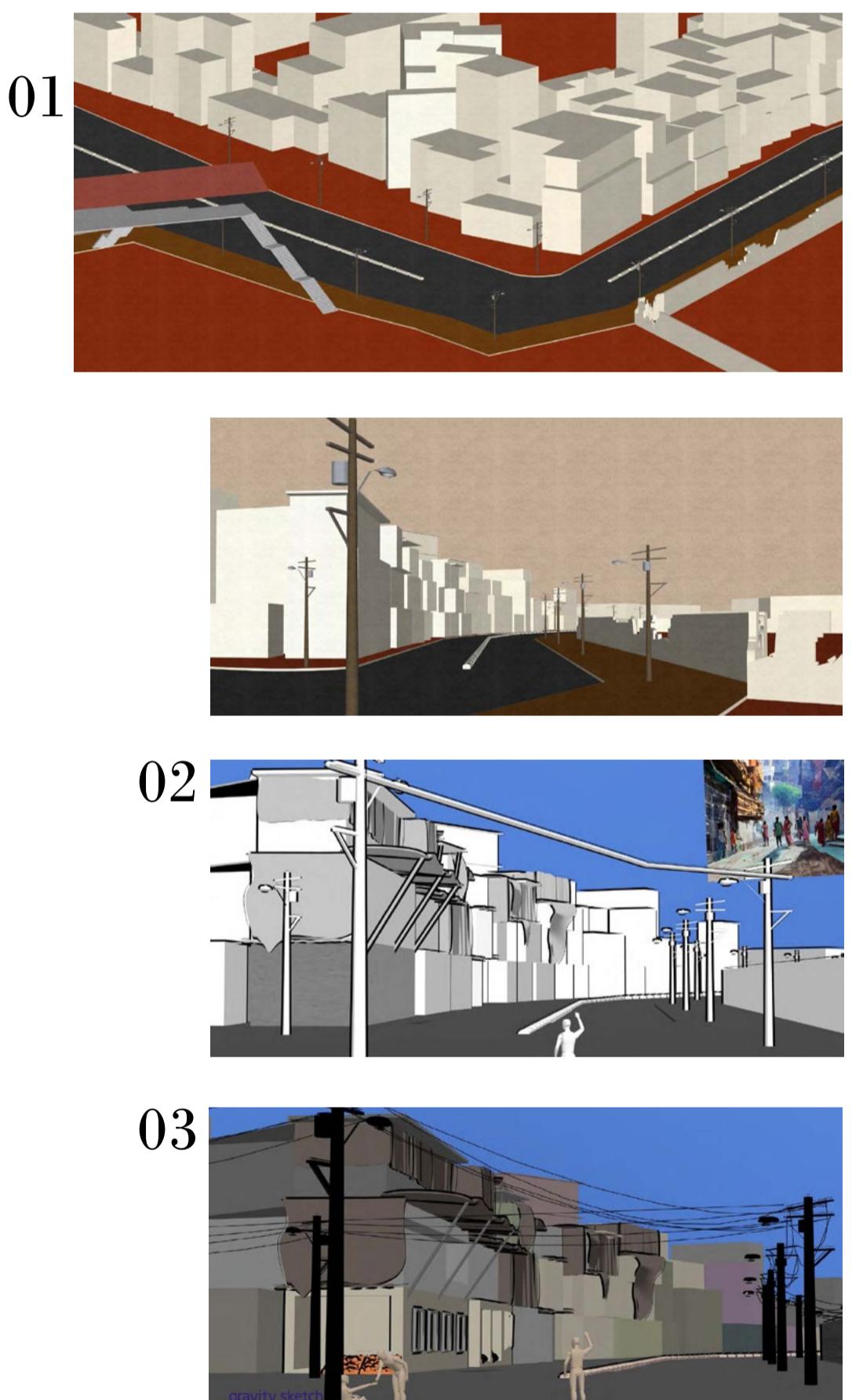
context.



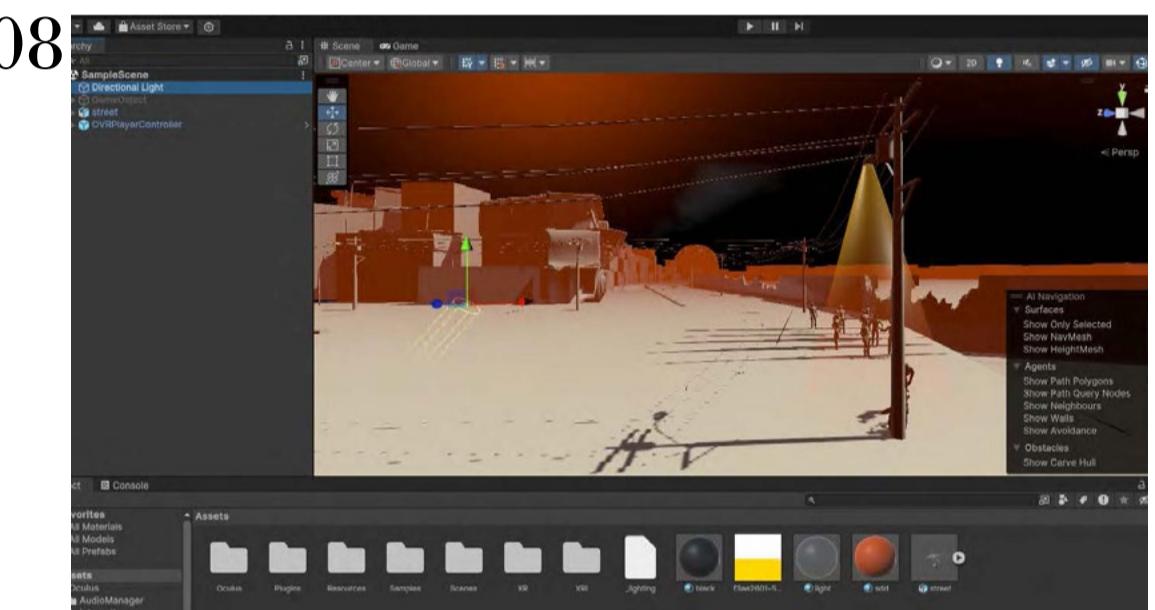
story board.



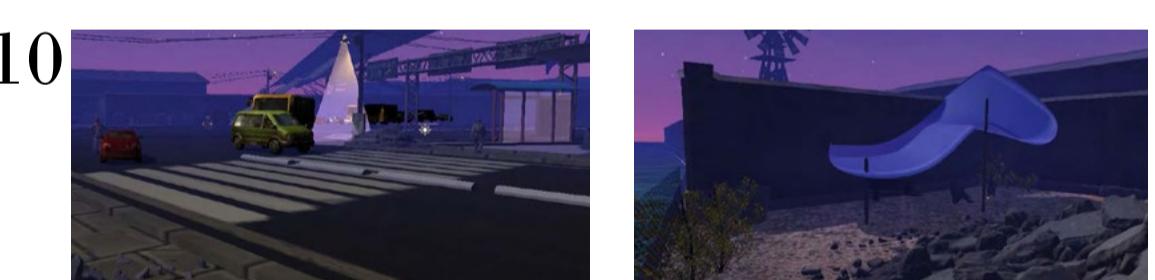
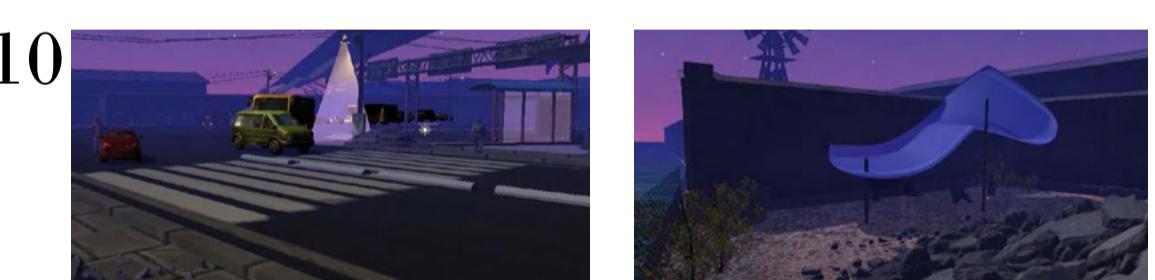
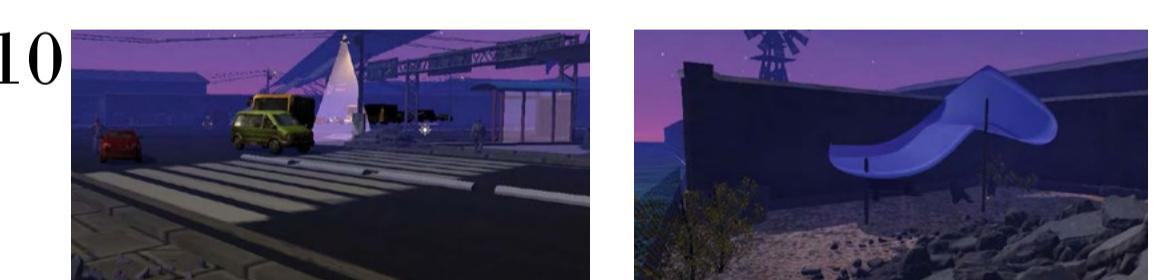
3D environment development.



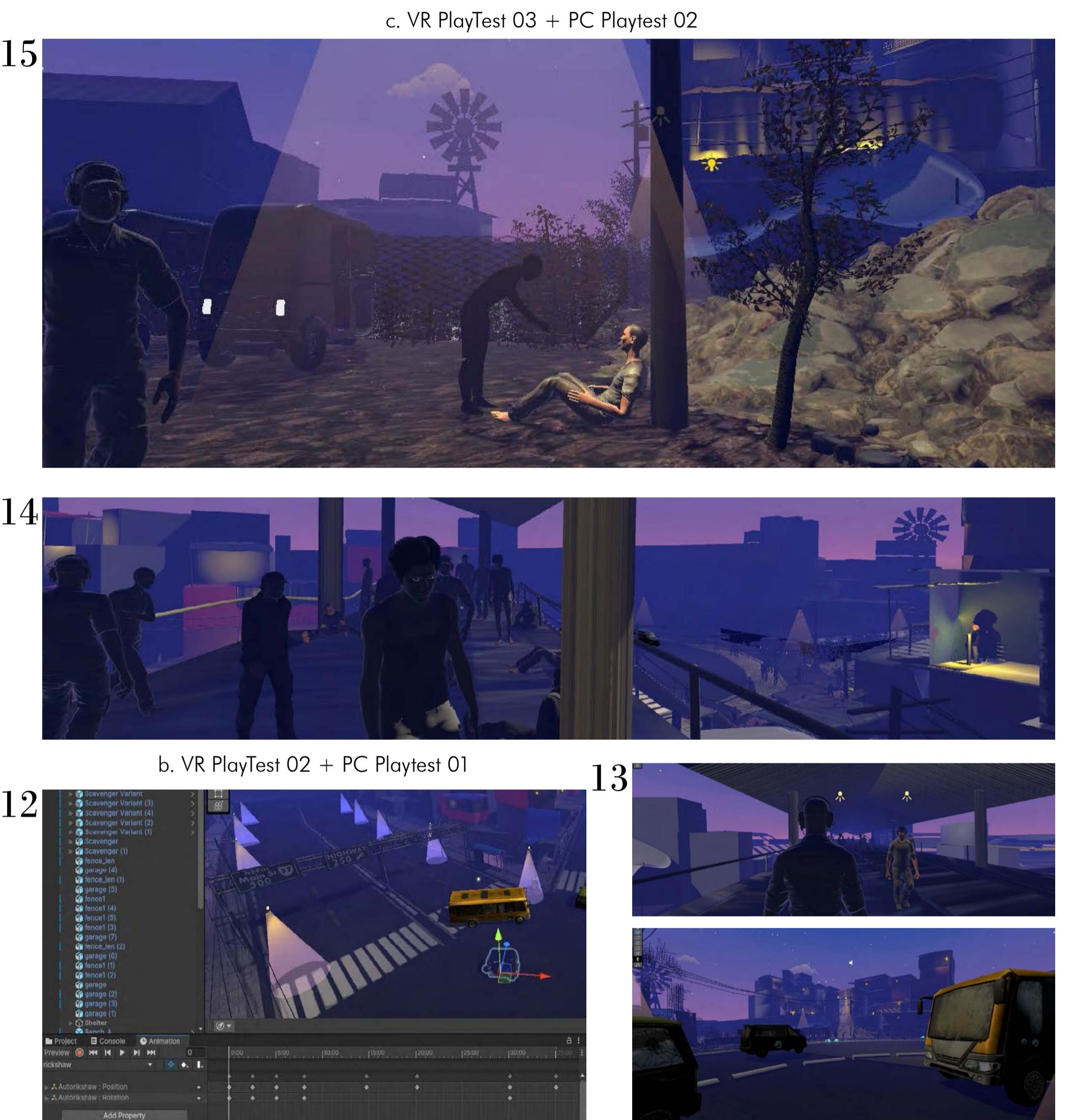
1. Base model in Sketchup.
2. Detailing in Gravity Sketch - Phase I.
3. Detailing in Gravity Sketch - Phase II.
4. Midjourney image experiment.
5. Detailing in Gravity Sketch - Phase III.
6. Addition of boundary for limiting access.
7. Basic refinement in Blender.
8. Real-time 3D development.



9. Improving colour grading.
10. Updating materiality to add detail.
11. Addition of realistic NPCs and objects.
12. Animating movement for objects.
13. Basic Post-processing effects.
14. Populating 3D environment.
15. Empathy driven interactions.



Gravity Sketch x Midjourney x Blender



Oculus Meta VR x Unity 3d

Oculus Meta VR x HP Z2 Mini Workstation x Unity 3d

a)

VR 01 playtest

The research project involves practical testing using the 'VREmpathy.apk' file on the Oculus Quest 2 via the Meta Quest Developer Hub and Quest-Link connection to the PC. It assesses immersion, storyline and storyboard effectiveness, 3D environment quality, empathy communication, VR adaptation, headset experience, and playability.



Feedback

1. Improving Color Grading and 3D Environment.
2. Detailed Atmosphere for Empathy.
3. Incorporating People and Real-World Objects.
4. Aligning Spaces with Storyboard Images.
5. Animating Vehicles, NPCs, etc
6. Incorporating Weather conditions like rain, etc.
7. Extending export options for comparison.

b)

VR 02 playtest

The same self-playtesting process of playtest 01 is conducted with the refined build which assesses immersion, storyline and storyboard effectiveness, 3D environment quality, empathy communication, VR adaptation, headset experience, and playability.



Feedback

1. Detailing empty spaces for chaotic environment.
2. Populating further with people and vehicles.
3. Incorporating more empathy-driven interaction with NPCs.
4. Post-processing to improve the visuals.
5. Background sound like people communicating & vehicle horns can increase immersiveness level.

c)

VR 03 playtest

For the comparison of platforms and immersiveness, a practical testing is conducted using the 'PCEmpathy.exe' file on the PC via .exe build. Like VR Playtest, it assesses immersion, storyline and storyboard effectiveness, 3D environment quality, empathy communication, VR adaptation, PC gaming experience, and playability.



Feedback

1. When comparing with VR experience, the PC version could only achieve a very slight level of immersiveness.
2. Self adaption is no longer valid in this specific PC experience scenario but might improve if more empathy-driven interactions are included.
3. Post-processing could improve the visuals in PC.

PC 02 playtest

Same process of PC playtesting 01 is conducted with the updated build of the game. This test also assesses immersion, storyline and storyboard effectiveness, 3D environment quality, empathy communication, PC adaptation, PC gaming experience, and playability.



Feedback

1. Slight improvement is seen in immersiveness after refining. But still, when compared with the VR experience, the PC version is not able to achieve a certain minimum level of immersion.
2. Self-adaption and empathy communication are still very poor since proper interaction is not happening directly in the PC version.

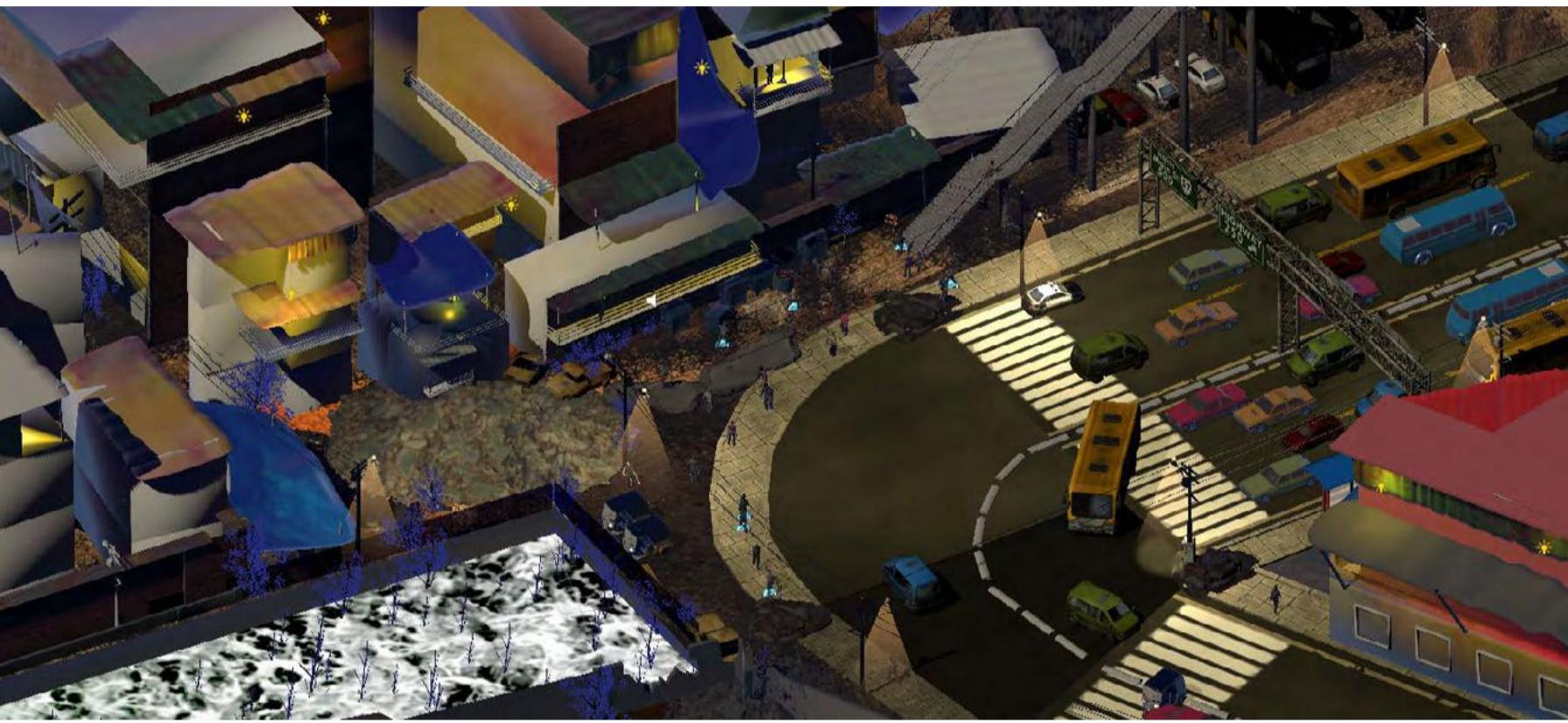
findings.

The research project aimed to explore the potential of virtual reality (VR) game design, modern technologies, and immersive storytelling to portray homelessness effectively while fostering empathy. The findings from the playtests, conducted at various stages of development, provide crucial insights into the project's progression and its impact on users' empathy levels.

Playtests	VR Playtest01	VR Playtest02	PC Playtest01	VR Playtest03	PC Playtest02
Immersiveness Level	Below Average	Above Average	Very Poor	Excellent	Below Average
Storyline Establishment	Very Poor	Above Average	Above Average	Above Average	Above Average
Storyboard Establishment	Very Poor	Average	Average	Above Average	Average
3D Environment	Below Average	Average	Average	Excellent	Excellent
Empathy Communication	Very Poor	Below Average	Very Poor	Average	Very Poor
Self-Adaptation	Below Average	Below Average	Very Poor	Average	Very Poor
PC Experience Level	Above Average	Above Average	Excellent	Above Average	Excellent
Playability	Below Average	Excellent	Excellent	Excellent	Excellent

A day without.

Homeless survival game.



Isometric view of the whole environment



Trying out "A day without"



Gameplay



concusion.

In summary, this research by design produced an immersive virtual reality video game offering a first-person gameplay experience that sensitively and accurately depicts the struggles faced by homeless individuals. It's crucial to acknowledge the resilience and resourcefulness of the homeless community, often overlooked and undervalued. While the game cannot provide a comprehensive solution to homelessness, its potential impact lies in captivating society's attention and fostering empathy towards the homeless.