

The Seed

(CONCEPTUAL DESIGN STUDIO)

Course: Architecture of Algorithms

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Contribution: Computational Modelling |
Conceptual Designing |
Rendering | Fabrication |
Presentation

Abstract:

Urban growth often leaves behind neglected spaces, creating dead spots in the city's core. These voids lead to environmental and socio-economic challenges, such as poor living conditions and diminished community vitality. This project aims to transform these urban voids through civic participation and community-driven activities, developing a vibrant, energy-efficient community hub that fosters sustainable ecosystems.

Key objectives include enhancing living standards and encouraging community involvement. The project will implement urban agriculture initiatives, such as gardens, aquaponics, and hydroponics, with the sale of produce improving residents' financial stability. Additionally, educational and recreational facilities will support the personal and professional development of all age groups. By addressing these issues comprehensively, the project seeks to advance environmental sustainability, socio-economic growth, and community empowerment.



For more info:



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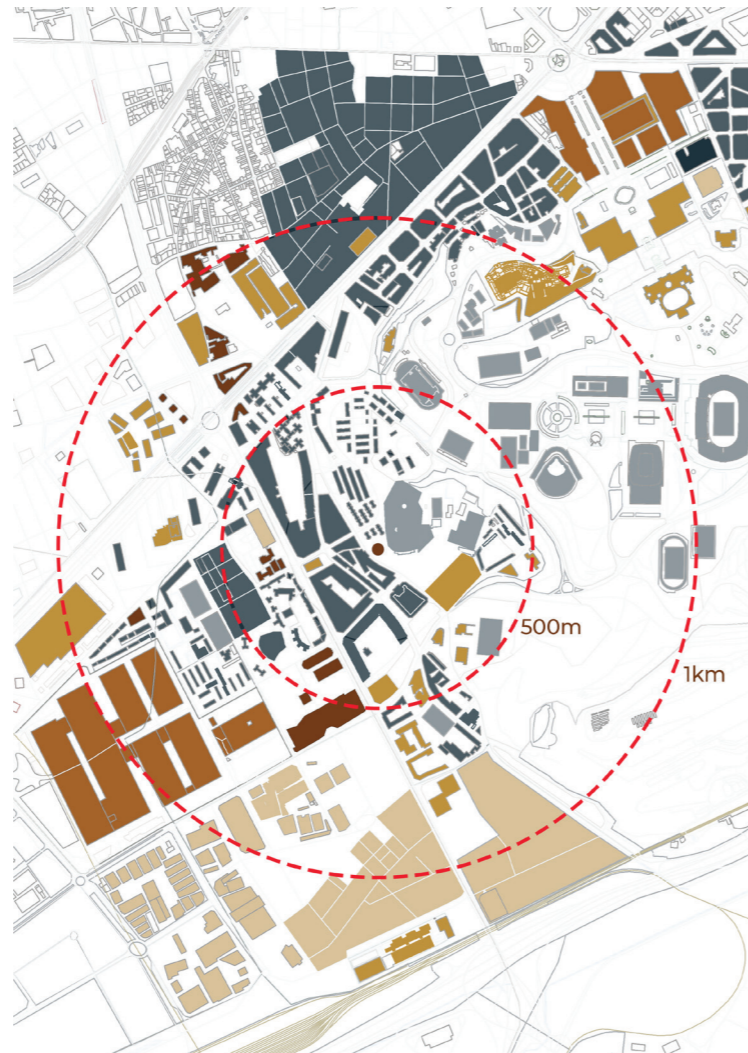
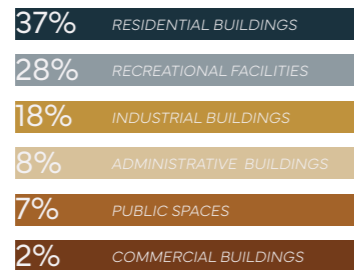


District: **Sants-Montjuïc**
 Neighborhood: **La Marina de Port**
 Population: 182,315 habitants
 Size: 21.35 sq.km
 Density: 8539.34 ppl/ha

- approach paths
- barriers
- arterial road
- collector road
- metro L105 line
- 125 bus path
- metro L105 station
- 125 bus stations
- site station 125, V5
- bici stations

SITE ANALYSIS:

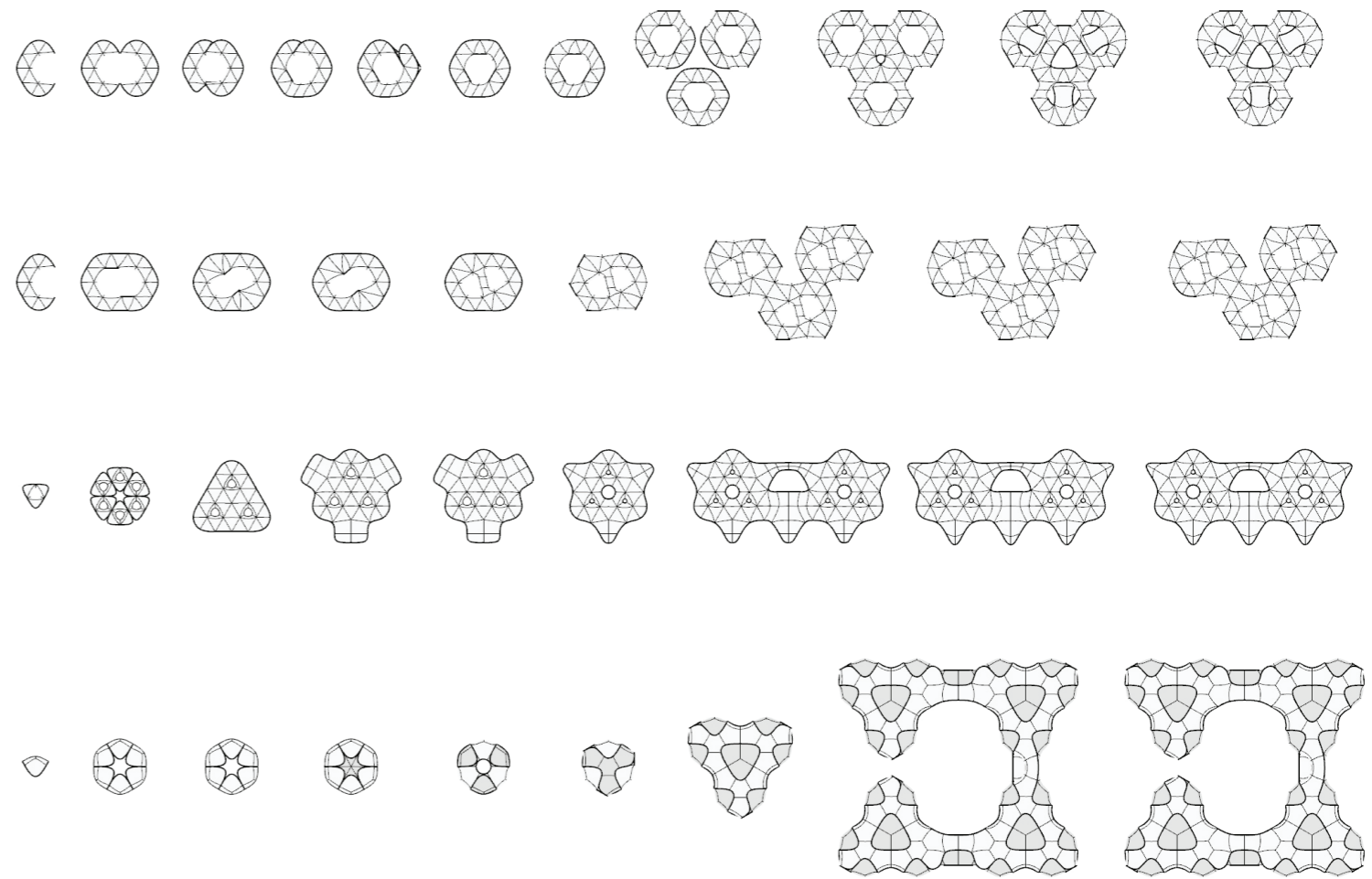
Understanding the geographical context and existing patterns informs design, ensuring integration with surroundings and meeting community needs. This alignment optimizes resources, enhances accessibility, and supports sustainable growth.



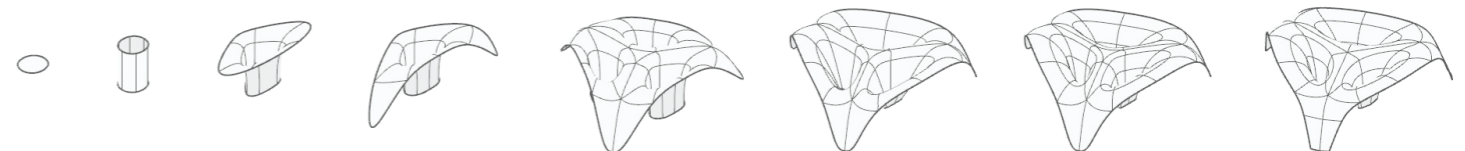
FORM FINDING:

Form finding with subd surfaces involves refining a mesh to create smooth, organic shapes. This method allows exploration of complex geometries, offering visually appealing and structurally efficient designs. Subd surfaces provide precise control over curvature and continuity, resulting in harmonious and functional architectural elements

AGGREGATION CATALOGUE :

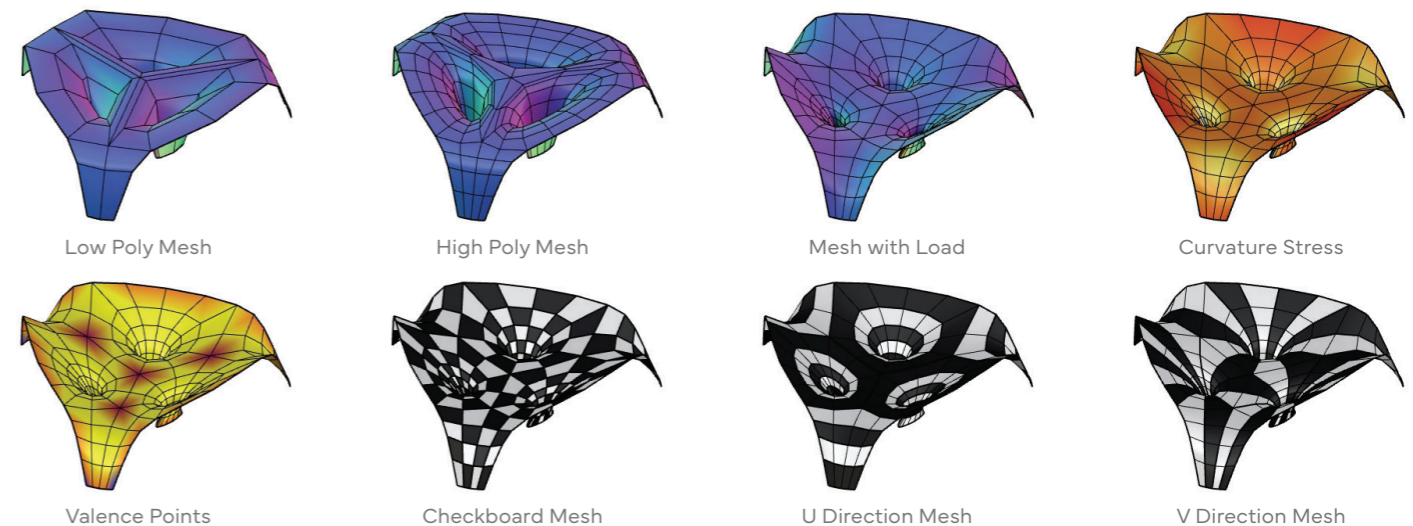


FINAL MODULE :



TESTING:

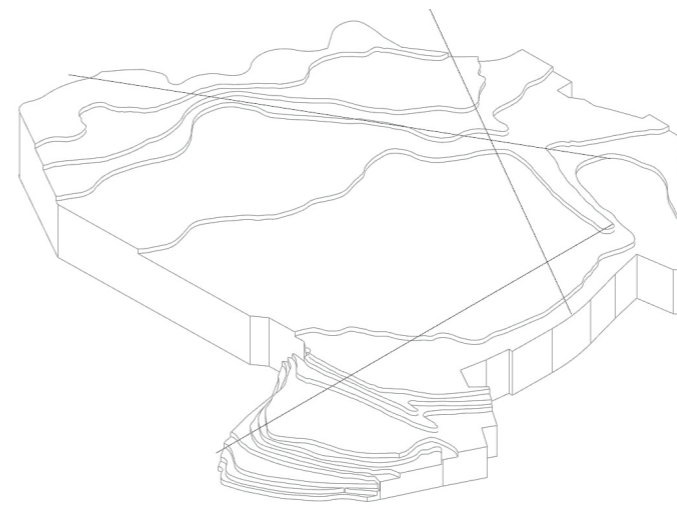
Testing the curvature, valence, and mesh strip morphology ensures ease of fabrication and better structural stability. This process allows precise control over shape and continuity, facilitating efficient construction. By optimizing these factors, the design achieves enhanced durability and seamless integration into the built environment.



MODULE VARIATION / FUNCTION:

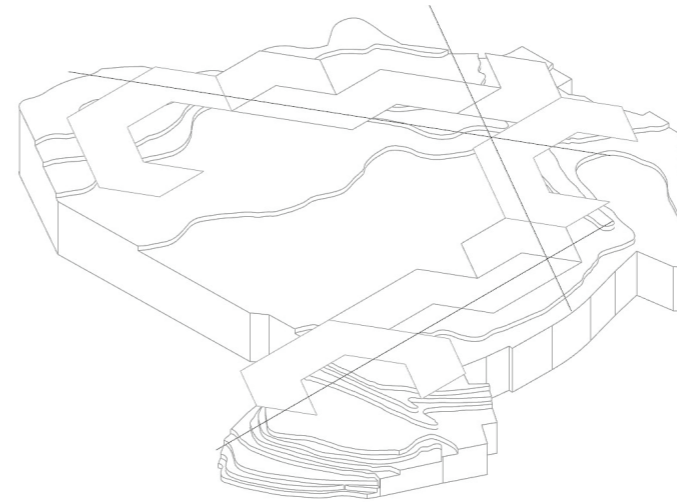


MODULE ASSEMBLY (SPACE CREATION):



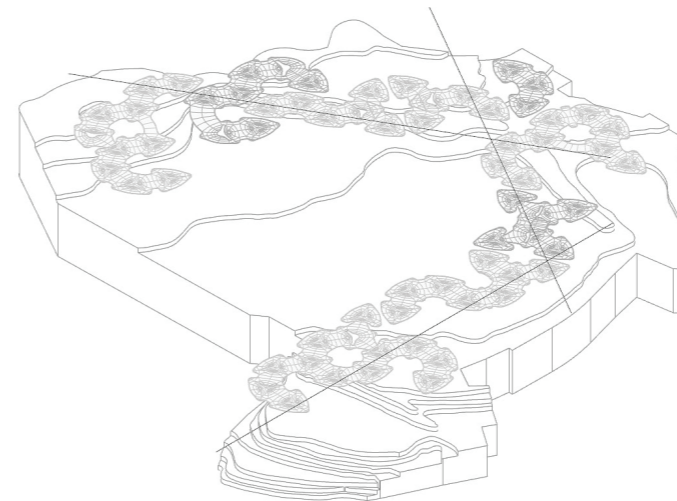
Setting the Mobility Path

The movement path, designed based on sun radiation studies, maximizes sunlight exposure and connects the site's lowest and highest points. This ensures well-lit areas, enhancing gardening and outdoor activities.



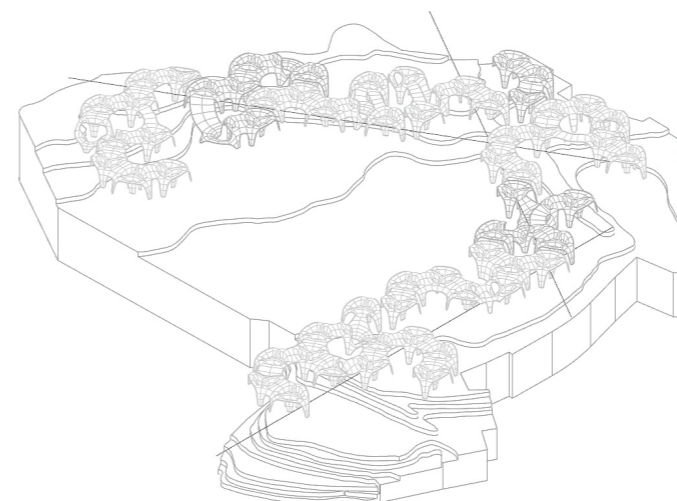
Low Poly Aggregation

The movement path strategically aggregates spaces by function and form, ensuring seamless transitions and optimal use. This design enhances usability and aesthetic appeal, promoting efficient and enjoyable circulation throughout the site.



High Poly Aggregation

The movement path strategically aggregates spaces by function and form, ensuring seamless transitions and optimal use. This design enhances usability and aesthetic appeal, promoting efficient and enjoyable circulation throughout the site.



Simulating Structural Stability for Contoured Terrain

Simulating structural stability over contoured terrain optimizes strength and resilience. This approach adapts to slopes and elevations, enhancing overall durability and integrity.



Internal View
 The movement path strategically navigates the contoured surface, utilizing height differences and creating interconnected spaces while maintaining visibility throughout.

Internal View
 The openings bring in abundant light, while columns diffuse it, creating forest-like dappled patterns and enhancing the natural ambiance and creating an immersive experience.

