architectural design

PORTEOLIO

shubhangi khanal

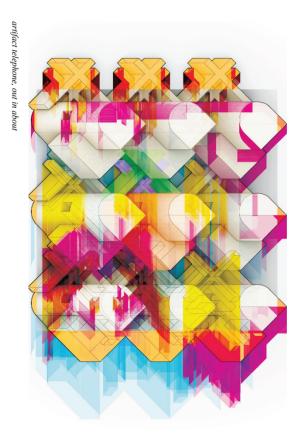
MYTHOLOGIES OF SYSTEMS

Exploring and Disrupting Systems of Exclusion

This project is rooted in the critical exploration of systems design as both a mechanism of power and a site of erasure. Through gamification, modeling, and narrative storytelling, the studio interrogated how rules, boundaries, and hierarchies are constructed to include some and exclude others. Each system: economic, social, political, or spatial carries a mythology: a logic that seems neutral until disrupted.

Over the semester, I constructed a speculative prison-military-media complex, tracing how architectural space, incarcerated labor, and media manipulation interact to sustain cycles of exploitation. By mapping, glitching, and reimagining this system, I exposed the subtle complicities that uphold it, privatized prison labor, restricted narratives, and hidden thresholds of control.

Using glitches, modular disruptions, and character-based storytelling, I reoriented this world through the lens of those excluded from it. The final intervention, a towering media house embodies both visibility and concealment, anchoring the system while revealing its inner fractures. Through iterative modeling, visual mapping, and narrative sequencing, the project critiques systemic erasure while imagining new thresholds of agency and disruption. Reframing Incarceration through Architecture & Media. This project investigates the architecture of power within a prison-industrial complex, tracing how incarceration is sustained and obscured through systems of labor, media, and corporate control. It unfolds across multiple scales, from the intimate space of a work gear room to the monumental presence of a media skyscraper, revealing the hidden thresholds where influence and resistance collide.



I. RULES: Present the System

Part A: Miniature Systems Mapping

Part B: Microcosm Analysis – The Alabama Prison System

II. GLITCH: Reframe the System

Part A:10 5x5 Modular Glitches
Part B: 5x5x5 Threshold Artefacts

III. INTERVENTION: Reorient the System

Part A: Cartography

Part B: Threshold Devices (S, M, L)

IV. REPRESENTATION: Represent the System

Part A: Postcards and Storyboards

Part B: Final Threshold

3 - 5

6 - 10

11 - 14

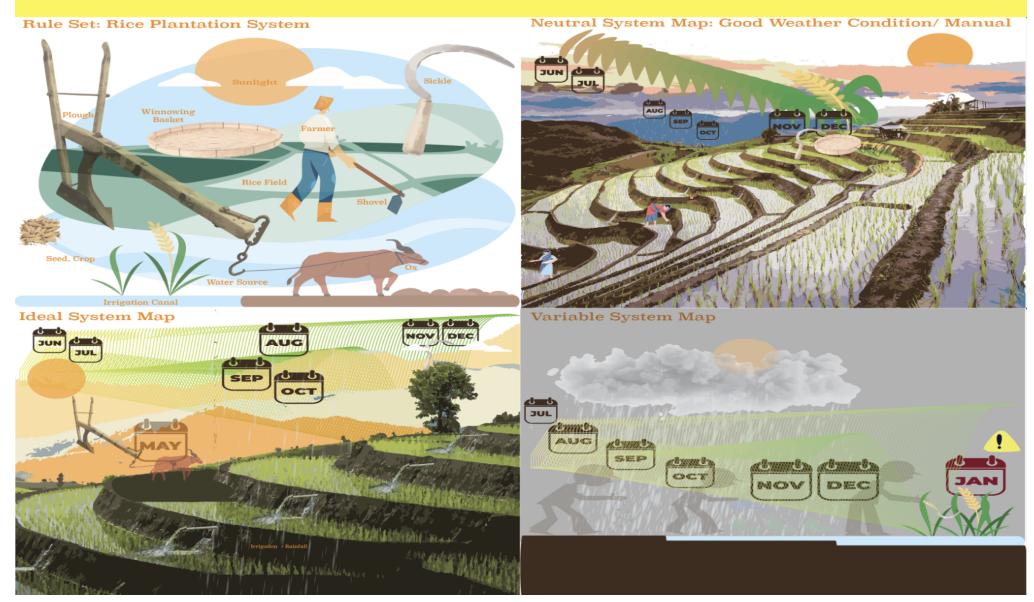
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Part I RULES

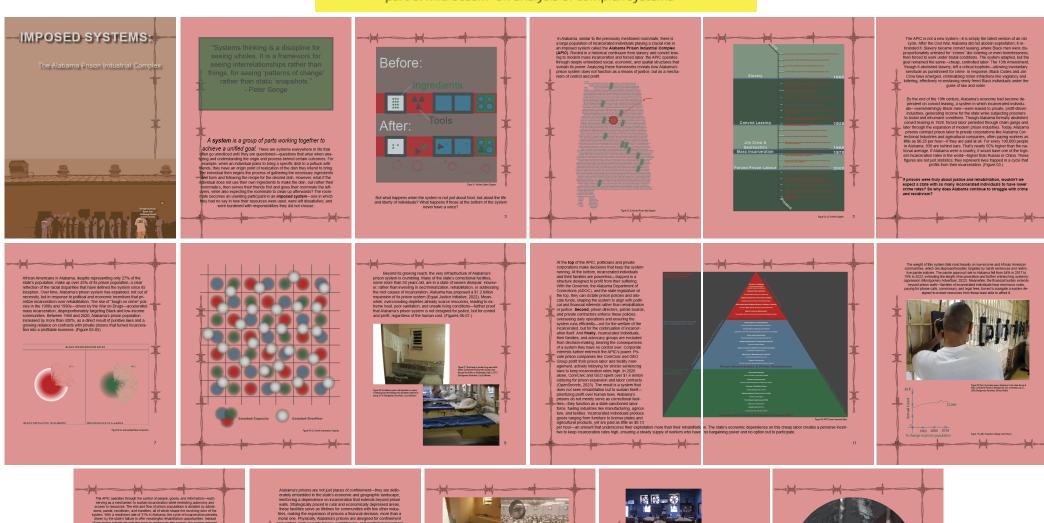
The project begins with a mini systems map of rice harvesting, a daily system of labor with embedded hierarchies and flows. This leads into a macro analysis of the Alabama prison system, mapping how incarcerated labor, prison officials, private corporations, advocacy groups, and parole-denied prisoners operate within a tightly regulated ecosystem. Through megadrawings and diagrams, I visualized how resources like commissary, transportation, and manufacturing circulate among players under explicit and implicit rules of control and exclusion.

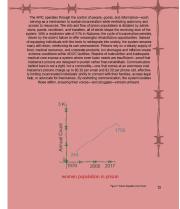
I- RULES

part a: mini systems map



I- RULES part b: microcosm- an analysis of complex systems

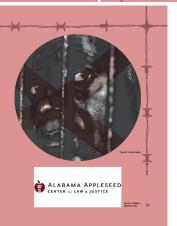


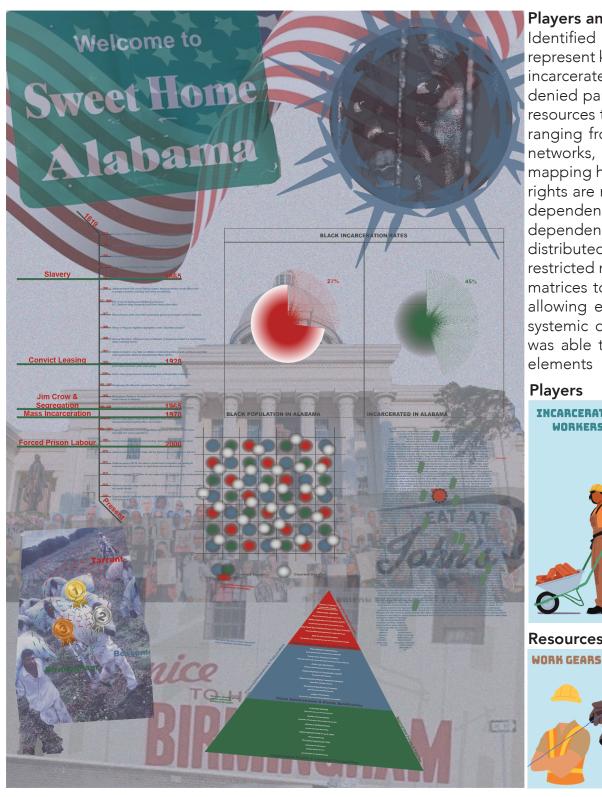


Alabama's prisons are not just places of confinement—they are delierably embedded in the states economic and geographic landscape,
restlicting a dependence on incarceation that othersits beyond prison
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and control the high-security flerors, workforchers, and extended movement
zones dictate daily life, ensuring those make remain invisible and untractions of the states of the states
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Players and Resources

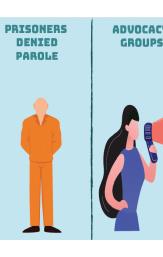
Identified from the Alabama prison system microcosm, the players represent key agents who sustain and are affected by carceral operations: incarcerated workers, prison officials, private corporations, prisoners denied parole, and advocacy groups. Each player interacts with specific resources that structure the system's flows of control, labor, and mobility ranging from work gear and incarceration infrastructure to commissary networks, manufacturing facilities, and transportation systems. This mapping highlights how labor is extracted, narratives are controlled, and rights are negotiated within a closed-loop of economic and institutional dependency. This revealation of the underlying power structures and dependencies within a closed institutional loop clarified how control is distributed and sustained through labor, surveillance, profit, and restricted mobility. It informed every phase of the project, from the glitch matrices to the design of threshold artefacts and narrative storyboards, allowing each spatial and representational move to be rooted in real systemic dynamics. By making these relationships explicit, the project was able to critically explore the role of architecture and architectural enabling exclusion. elements the systems

Players









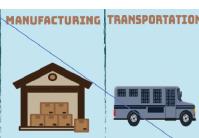
Resources







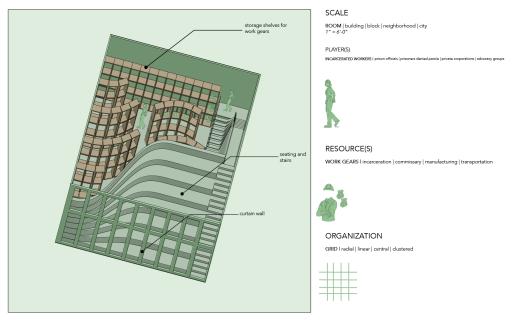


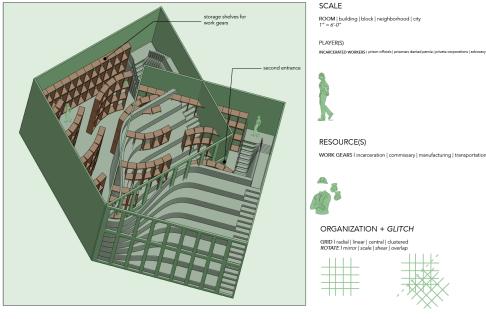


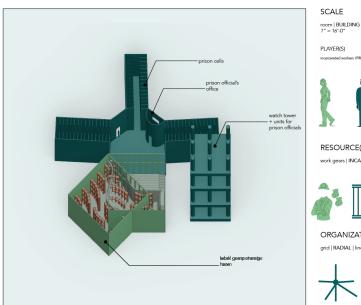
Part II GLITCH

Using a 5x5 matrix, I disrupted the spatial logics of incarceration across five scales. Players and resources from the prison system were reassembled into axonometric configurations, applying organizational strategies (grid, radial, linear, central, and clustured) and spatial glitches (mirror, rotate, overlap, shear, and scale). At the room scale, work gear storage became a threshold condition. at the building scale, a prison's internal structure was examined, and at the block scale, the system's entanglement with private corporations and commissary networks emerged.

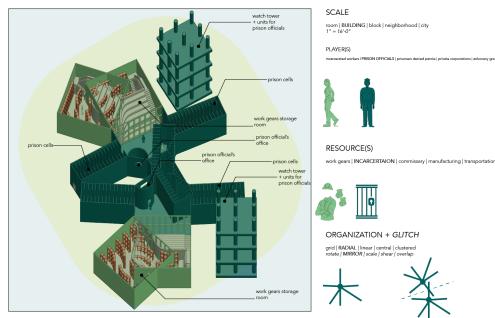
II- GLITCH part a: 5x5 : modular scaleable glitches

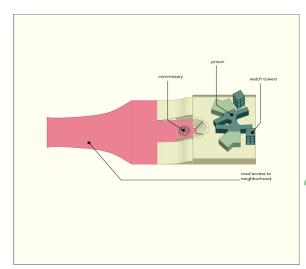












SCALE

room| building | BLOCK | neighborhood | city 1" = 64'-0"

PLAYER(S)





RESOURCE(S)

work gears I incarceration | COMMISSARY | manufacturing | transportation



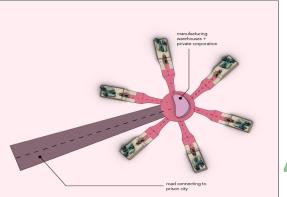




ORGANIZATION

grid | radial | LINEAR | central | clustered





SCALE

room | building | block | NEIGHBORHOOD | city 1" = 200'-0"

PLAYER(S)









RESOURCE(S)









ORGANIZATION

grid |radial | linear | CENTRAL | clustered





room | building | block | neighborhood | CITY 1" = 800'-0"

PLAYER(S)











RESOURCE(S)





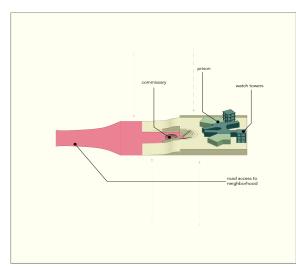






grid | radial | linear | central | CLUSTURED





SCALE

room | building | BLOCK | neighborhood | city 1" = 64'-0"

PLAYER(S)







RESOURCE(S)









grid | radial | LINEAR | central | clustered rotate | mirror | SCALE | shear | overlap





SCALE

room | building | block | NEIGHBORHOOD | city 1" = 200'-0"

PLAYER(S)









RESOURCE(S) work gears I incarceration | commissary | MANUFACTURING | transportation











ORGANIZATION + GLITCH

grid | radial | linear | CENTRAL | clustered rotate | mirror | scale | SHEAR | overlap





SCALE

room | building | block | neighborhood | CITY 1" = 800'-0"

PLAYER(S)











work gears | incarceration | commissary | manifacturing | TRANSPORTATION









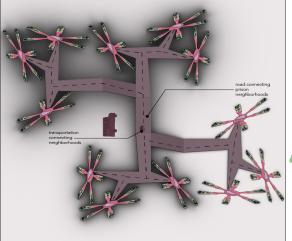








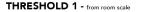


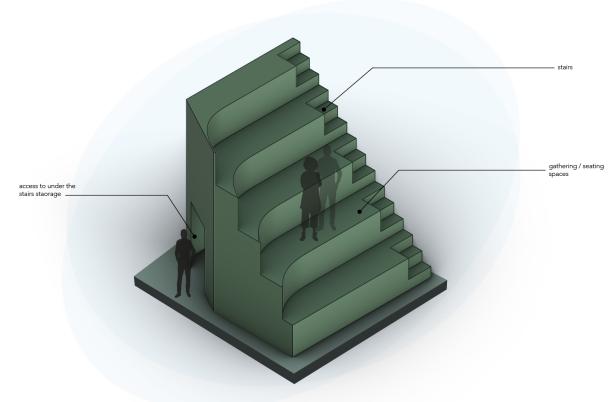


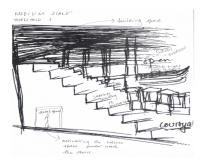
road connecting to prison city

Part IIb: 5x5x5 Threshold Artefacts

Three thresholds were extracted from different scales, each representing a zone of friction. The room-scale threshold (medium) explored the backstage infrastructure of a media house, where information is filtered. The building-scale threshold (small) depicted private corporate cubicles, illustrating compliance and bureaucracy, and digital oversight. The block-scale threshold (large) addressed the prison itself as an architectural mechanism of entrapment, labor, and surveillance. I explored the "thinking through making" with the thresholds and crafted a narrative for each of the three thresholds that tell a different story.







NARRATIVE TITLE: The Interplay of Visibility and Concealment Spaces for players who seek quiet in shared spaces and interactions in between monotone lives.

SCALE: Medium

CONNECTIONS: The vertical steps are also horizontal seats, which successfully creates a dual function. The hidden door below the steps represents hierarchy as well. Some players occupy the top while others maneuver below. The physical connections are asymmetrical as the person below is in a lower, concealed vertical position, while those above are in a higher, open vertical position.

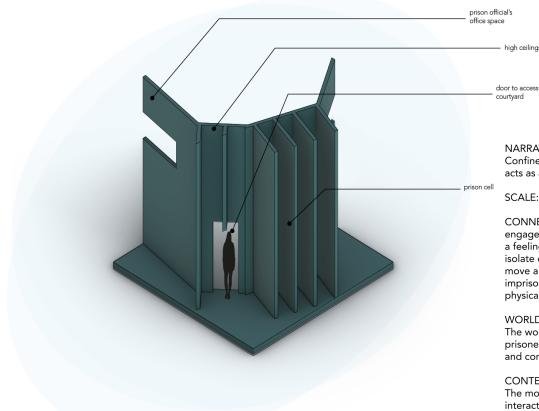
Horizontally, the person under the stair may be moving in a different direction, unseen, and detached from the communal stair function, creating a split in the spatial and social dynamics.

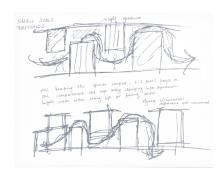
WORLD BUILDING: The storage space underneath the steps becomes a mystery, a backstage world. Regardless of the fucntion, the form holds secrets. The user here operates in the shadow of the more public stair.

CONTEXT: The stair is not just a transition between levels, but between access and privacy, labor and leisure, and activating spaces which otherwise would have been unused.



THRESHOLD 2 - from building scale





NARRATIVE TITLE: The Divide

Confined Space experienced very differently by each players: Prisoners and Prison Officials. It acts as a pivotal zone that determines power, movement, and control within a larger system.

SCALE: Small

CONNECTIONS: The high ceilings and elevated vantage point allows surveillance without engagement and exaggerates the prisoner's sense of confinement. The high ceilings exaggerate a feeling of powerlessness; the eye is drawn up to freedom it cannot reach. Thick partition walls isolate cells side-by-side, preventing inmate connection. Meanwhile, the prison official and visitor move along perpendicular axes, across and through the threshold, yet never intersecting with the imprisoned. The door connecting to the courtyard and the courtyard becomes the only shared physical zone.

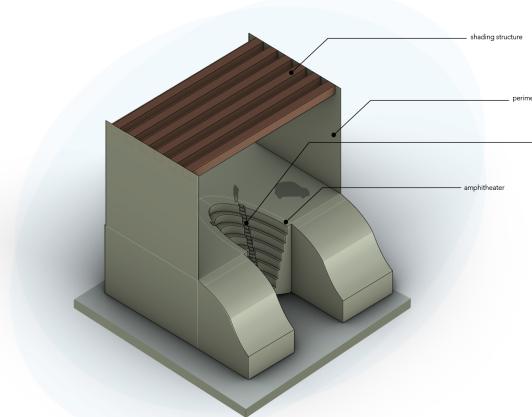
WORLD BUILDING:

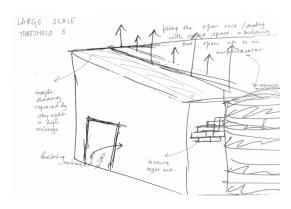
The world within this threshold is constructed around containment and observation. For the prisoner, it is a suspended state of stillness and invisibility. For the official, it is a space of control and constant encounter with silence and surveillance embedded in the architecture itself.

CONTEXT:

The mood is silent, heavy, and watchful. The environment is engineered to suppress noise and interaction by transforming this threshold into a space of enforcing discipline, limiting movement and controlling transition.







NARRATIVE TITLE: Collective Ground

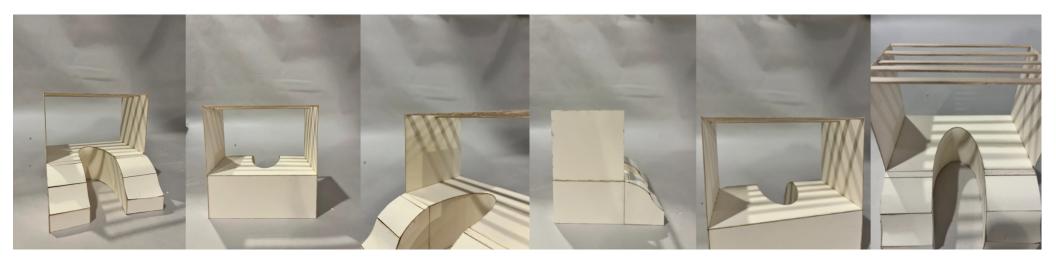
A civic threshold in its truest sense: it allows access, offers pause, and celebrates presence. It supports collective activity, movement, and gathering.

SCALE: Large

CONNECTIONS: The amphitheater steps descend below street level, creating a sunken gathering zone. This produces a natural stage and audience relationship, where vertical hierarchy temporarily defines focus and directionality. The perimeter walls create a semi-enclosed edge condition that delineates the space without fully restricting access or visibility. Circulation routes allow lateral movement across the site, while the stairs and shading structure draw users inward creating a more horizontal connection. The central space establishes spatial attention around a focal user, yet allows for dynamic shifts.

WORLD BUILDING: This threshold is situated within a dense urban block and serves as a multifunctional public infrastructure. It accommodates performances, small gatherings, and everyday occupation. The spatial configuration promotes flexibility. It is structured enough to support organized events, but open enough for informal use. The shading system moderates climate and signals a place of pause, while the amphitheater form encourages interaction and layered engagement.

CONTEXT: The amphitheater is partially shaded, providing thermal comfort throughout the day. Users include those moving through the block. The space operates as both a passage and a destination, an integrated urban threshold that activates underutilized block-scale voids.



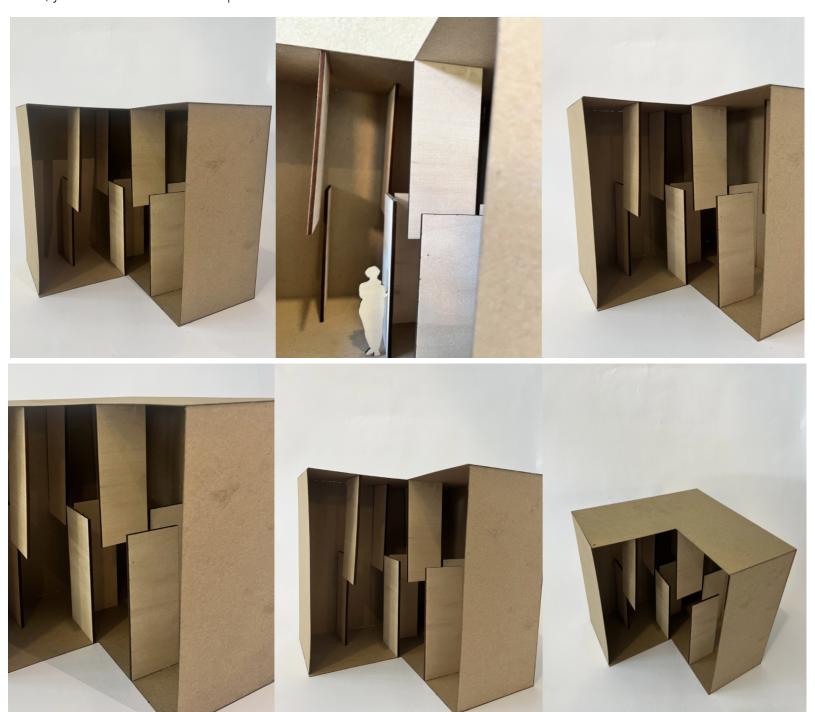
Part III: INTERVENTION

A large-scale 18 X 18 X 6 (in inches) cartographic model was developed to stitch these thresholds into a speculative prison city. The name of this microcosm is - Apex. This topography revealed how systems of control extend beyond walls into media narratives, transport routes, and urban fabric. Three expanded device models 9 X 9 X 9 (S, M, L) connected threshold conditions, articulating spatial hierarchies and constituent flows.



Small Scale: Corporate Cubicle

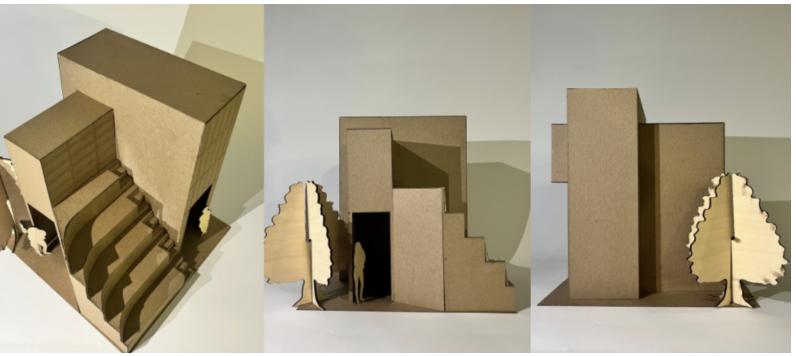
This threshold represents the private corporation's workspace—a compact, controlled environment where digital labor and compliance are enforced through spatial monotony and surveillance. The device explores how isolation, compartmentalization, and restricted vision contribute to systemic detachment from the effects of incarceration, yet remain essential to its operation.



Medium Scale: Media Infrasrtucture

Positioned within the media house, this threshold mediates the flow of information filtering what is seen and circulated. Architecturally, it manipulates the stories, transparency and layering to reflect editorial bias, manipulation of truth, and selective exposure. It becomes a spatial metaphor for complicity masked as neutrality.





Large Scale: Prison Complex

At the urban scale, this threshold expands into the prison itself an infrastructural and spatial instrument of long-term containment and labor extraction. Designed as a dense, interlocking system, the device reveals how movement is controlled, how work is extracted, and how architecture reinforces psychological confinement.



Part IV: REPRESENTATION

Through a series of postcards and storyboards, the system was brought to life via three characters:

- An incarcerated worker, stuck in an endless cycle of labor and denial.
- A former media official, who escaped the system and now seeks to expose its inner workings.
- A current media executive, complicit in maintaining and profiting from the narrative of control.
- Each vignette captured daily moments, showing how architecture conditions freedom and silence.













MEDIASPHERE

They edited the full truth out of the frame and called it "unbaised" and "transparent"

THEY CONTROLUS ALL AND THE STORIES WE TELL **OURSELUES AND EACHOTHER. THEY CONTROL** EVERYTHING!!!







Dear Viewers.

I watched a riot unfold today. Thirty inmates. Four guards injured. But what I wrote? "Cooperation Day at Sector 9 Brings Hope." Because that's what the people need hope, not horror. We are the architects of peace, the illusionists of progress. Without us, chaos reigns. With us, the truth bends gently like light through glass. Long live the lens. - Mira Kell, Senior Broadcast



To whoever still believes in truth, I reported from inside for ten years. I told stories that weren't mine. I silenced those who screamed too loud. We made prisoners into villains. We made corporations into saviors. We made ourselves gods. They paid me to polish cages. I quit when I saw my face in one. प्यार when I saw my face in one.

Media isn't just a tool, it's the ar-LI_ chitect. You think power sits in government? It sits in the editing room. If you find this card, know this: Not everything on screen is a but it is not the full truth. Ex-Anchor, Now

We like up for camera time. They call it "Progress Parade." We scrub floors with smiling faces. They call it "Vocational Triumph." We cry. They cut We scream. They dub. In here, out only mirror screen. But it's a window too- and we see you watching.

if anyone will read this. Maybe this just a prop. Maybe lam too.

Storyboard 1: A Week in the Life of a Media Executive

This storyboard follows a media executive who is deeply embedded in the system, benefitting from and upholding its architecture of control. Over the span of a week, we see their routine in the towering media skyscraper—overseeing content production, meeting with corporate partners, and manipulating narratives that maintain public ignorance. The sequences reveal a life of privilege, isolation, and subtle complicity, where power is exercised not through force, but through selective storytelling and omission.



Time: 8:00 AM, Day: Monday

Place: Prison Watch Tower

Media official in prison watch tower monday morning strategizing the story to broadcast this week before workers come in.



Time: 2:00 PM, Day: Tuesday

Place: Prison Watch Tower

Media official in prison watch tower tuesday evening closely observing the incarcerated workers behavior to fabricate a story later.



Time: 10:00 AM, Day: Wednesday

Place: Media House Meeting Room

Media official briefing the news / narrative strategy for this week's news broadcast to other media workers and their private corporation allies.



Time: 3:00 PM, Day: Thursday

Place: Media House Editing Room

Media personnel closely watching the live recordings from prison to find the short exerpts that they will use to compile and broadcast the news that best fits their narrative for the week to manipulate the public about prison labor system and prisoners.



Time: 7:00 PM, Day: Friday
Place: Media House Broadcast Room

Media personnel broadcasting the edited footages to the public on friday night as that is the only time the public gets access to the news. The edited clips are to push a certain narrative of glorofying private corporations and media.



Time: 9:00 PM, Day: Saturday

Place: Media Official watching Interviews
Media Official watching interviews of himself and private corporation allies portrayed as the savior of the city by keeping the problematic prisoners occupied and helpoing them "make their own living" by giving them jobs.

Storyboard 2: Six Months in the Life of an Escaped Media Official

Spanning six months, this storyboard traces the fragmented and unstable life of a former media worker who escaped the system. From initial disillusionment to quiet acts of resistance, we follow their journey through hidden networks, coded messages, and underground platforms as they attempt to expose the truth. The panels depict moments of fear, anonymity, and brief connection suggesting the emotional toll of defying a machine designed to silence dissent.



Time: 10:00 AM, December

Place: Media Personnel Office

One of the media workers found out about the unethical works of media personnel and private corporations and how they seamlessly hide their actual truth and decieve the city for their benefit.



Time: 02:00 PM, January

Place: Other side of the city

The worker could no longer work for the media house and escaped from his part of the city and is looking for a place in the other side of the city to go into hiding as he escaped the system and is a threat.



Time: 7:00 AM, February

Place: Ex-Media Personnel New Apartment

He finds a studio apartment to live in, and begins gathering as much information as he can from the internet about this system and it's dark history/ agenda.



Time: 6:00 PM, March

Place: Ex-Media Personnel New Apartment
He does not leave his apartment for days and starts figuring out
a game plan to expose the system, writes his research down to
make sense of all the information he found.



Time: 2:00 AM, April

Place: Ex-Media Personnel New Apartment
He starts writing postcards, articles, and a book that exposes
this flawed system.



Time: 1:00 PM, May

Place: Ex-Media Personnel New Apartment

He finds a way to hack into the broadcast system and is all set to release his podcast that announces his book, and exposes the media and corporations. He uses green screen to show different proofs he gathered through his months of research and writing.

Storyboard 3: A Day in the Life of an Incarcerated Prison Worker

This storyboard captures a single, repetitive day in the life of an incarcerated worker. From the early morning wake-up to forced labor in the manufacturing wing and restricted recreation hours, each panel emphasizes the monotonous, tightly controlled rhythm of prison life. Moments of exhaustion, dehumanization, and fleeting glimpses of hope underscore the invisible labor that powers the system. The storyboard positions this character not just as a subject of confinement, but as a foundational force sustaining institutional profit.



Time: 8:00 AM
Place: Prison Cell
Prison Workers alarm goes off at 8:00 am every morning.



Time: 9:30 AMPlace: Prison Lobby
Prison Workers are escorted to the changing and work gear storage room before their shifts.



Time: 10:00 AMPlace: Work Gear Stoarge / Changing Room

Prison Workers grab their respective gears and
get dressed for work.



Time: 10:30 AM - 6:30 PM
Place: Warehouse
Prison Workers work long hours at the amazon

warehouses.



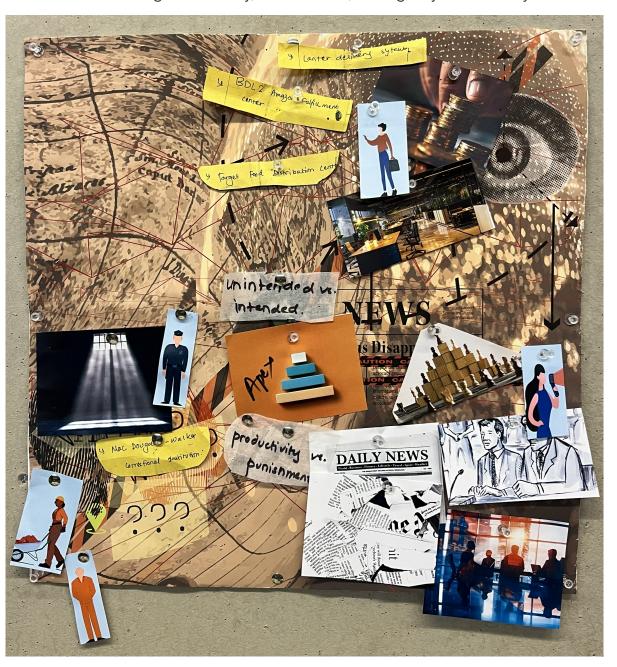
Time: 7:00 PM
Place: Cafeteria
Prison Worker gets the first meal of the day at 7:00 pm due to long work hours.



Time: 7:30 PMPrison Shared Courtyard
Prison Worker using some solitude and thinking about if they can ever skip the system.

Narrative Device

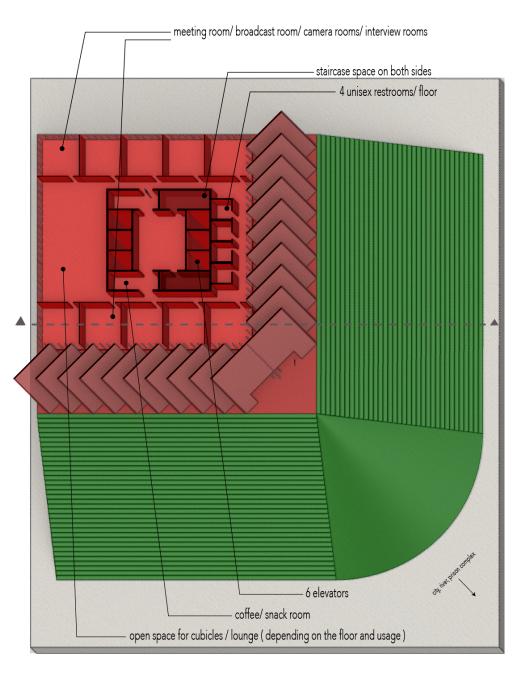
The narrative device in this project serves as a conceptual and spatial tool to thread together the fragmented experiences of individuals embedded within the prison-media-industrial system. Positioned in storytelling, it captures how space produces and conceals narratives of power, labor, and resistance. The device operates as both map and a fragment layering time, character, and architecture into a three-dimensional form. Its components reference the spatial environments of each protagonist: the control-driven media skyscraper, the anonymous in-between spaces of the escaped official, and the rigid corridors of the incarcerated worker. Through cutouts of characters/ players and resources and stragetic placement of these it reveals how each character navigates visibility, confinement, and agency within the system.

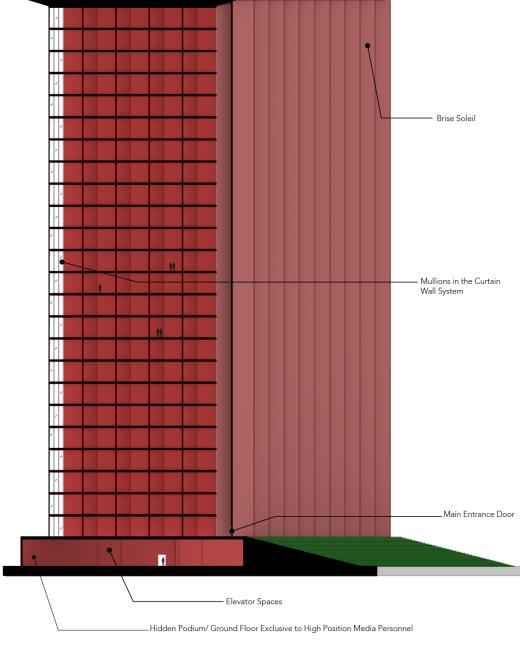


Final Threshold: The Media House

The project culminated in the design of a monumental media skyscraper, a threshold where control becomes architectural. This final model explores privacy, spectacle, and systemic opacity. As the central node in the prison-military-media nexus, it both reveals and conceals. Its spatial form embodies contradiction: an icon of truth-making built on selective access and institutional power.







Media Tower Plan Oblique

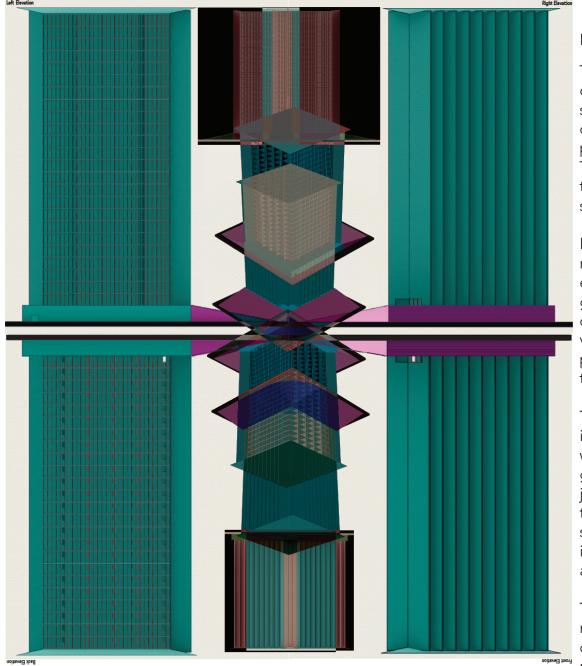
This plan oblique reveals the interior of a media skyscraper at the heart of a prison-corporate microcosm, where the media controls the narrative and workers operate under cold, hostile conditions. Broadcast rooms, interview pods, and tightly packed cubicles mimic the structure of confinement, blurring the line between inmate and employee. Despite amenities like coffee rooms and open-plan lounges, the envi ronment remains sterile and oppressive—designed for control, not comfort. The building embodies a system where storytelling is a tool of power, and labor is closely monitored within a facade of corporate normalcy. White the curtain wall allows light in, the mullions layout replicates the prison cell doors.



Media Tower Section Oblique This sectional view of the media tower reveals a tightly controlled vertical system where labor is compart-

Inis sectional view of the media tower reveals a tignity controlled vertical system where labor is comparity commentalized and circulation is efficient but impersonal. Broadcast rooms, interview pods, and repetitive cubicle floors stack one atop the other, echoing the regimented structure of a prison. Vertical core like eelevators function like arteries of control, moving workers within an environment designed more for output than well-being. Concealing the tower's city facing sides, a dense brise soleil system filters light while blocking views, asserting dominance from the inside out. For the select few, it offers privacy and power and for the rest, it enforces a visual disconnect from the world they shape but cannot access. Together, the spatial hierarchy and brise soleil form an architecture of surveillance, exclusion, and narrative control.





Media Tower Hybrid Drawing

This hybrid drawing presents four elevations of the media tower, each rendered with varying degrees of opacity, texture, and annotation to expose the layered power dynamics embedded in its façade. The elevations reveal not just the architectural skin, but the ideology it enforces hifting from sterile corporate minimalism to a more fortified, brise soleil cladding surface that blocks visibility and reinforces internal control. By juxtaposing different versions, one stripped down, one with contextual shadows, one fully detailed, and one diagrammatic, the drawing dissects how the building communicates authority to the outside while concealing its inner tensions. This multi-perspective elevation study becomes less about form and more about the facade as a tool of narrative control, where architecture serves as both mask and message.

Project Conclusion

This project began as a way to understand how systems operate not just in theory, but in real, everyday spaces. What started with mapping a rice harvesting cycle led me into the complexities of the Alabama prison system, where labor, punishment, media, and profit are deeply intertwined. Through this, I started to see how architecture isn't neu tral, it's complicit. It holds people in, pushes them out, hides stories, and sometimes, tells them and shapes them.

Breaking the system apart through drawings, glitches, models, and characters helped me understand how deeply embedded these structures are, and how easy it is for them to go unnoticed. Each phase, whether it was the glitch matrices or the threshold artefacts, was a way to make that invisibility visible. The expanded thresholds, especially the prison com plex, the corporate cubicle, and the media house, helped me test how architecture can uphold or question it.

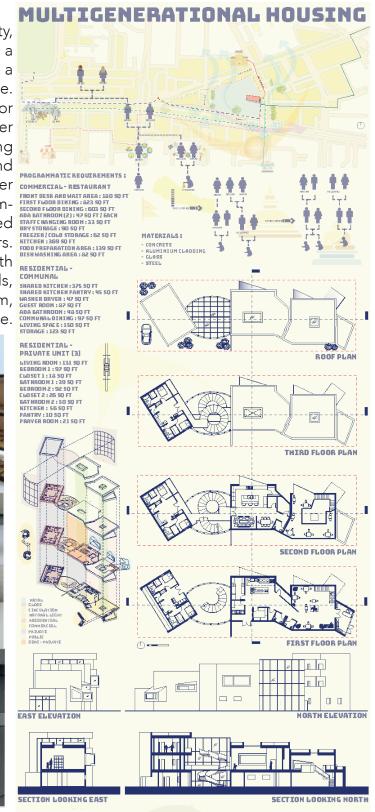
The narratives became a turning point in this project. Design ing from the perspective of someone stuck inside, someone who escaped, and someone who benefits from the system grounded everything. It reminded me that architecture isn't just about form or function, it's about people, and what they're allowed or not allowed to do in a space. The media skyscraper as a final threshold tried to capture that tension: it's powerful, towering, controlled, but also cracked open, asking what's being hidden and who gets to decide the story.

This project has changed how I see systems and space. It's made me more aware of the power dynamics that architecture often masks. More than anything, it's a reminder that design is never just design it is political, and it matters who and what we're designing for. I'm leaving this project with more ques tions than answers, but maybe that's the point: to stay curious.

Multigenerational Housing Project

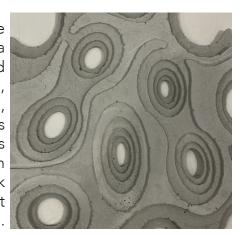
This project explores how architecture can support layered relationships, shared responsibility, and long-term rootedness through the design of a multigenerational housing complex. Set in a dense urban neighborhood in Albuquerque, the design responds to the evolving needs of a Nepali family living across three generations blending tradition, adaptability, and communal care. The building is organized to support both independence and interdependence. The ground floor houses a commercial restaurant that connects the community to the public realm, while the upper floors hold private residential units, shared kitchens, prayer rooms, and communal gathering spaces. Each program is carefully zoned to balance privacy and collectivity, structured around light-filled cores and intuitive circulation paths. Key design elements such as integrated prayer spaces, adaptable living units, and shared domestic areas honor cultural traditions while accommodating future needs. The project considers how life unfolds across time: spaces are designed not only for who lives there now, but who will grow into them over the next 15 to 30 years. With a material palette of concrete, glass, aluminum, and steel, the architecture expresses both permanence and openness. It creates a durable yet sensitive environment where stories, rituals, and daily routines can coexist. This project asks how architecture can move beyond individualism, and instead serve as a framework for generational continuity, support, and cultural resilience.

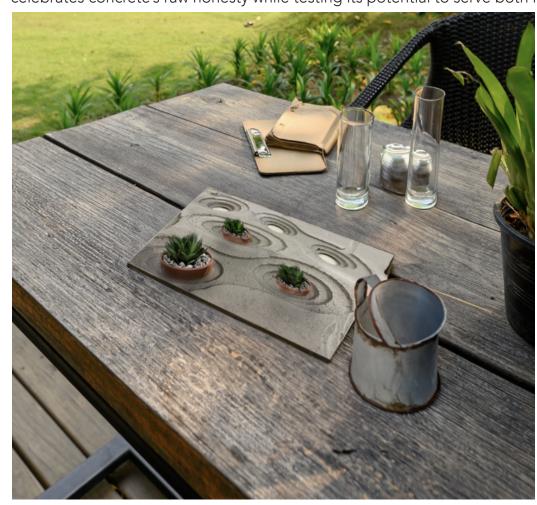




Rocket Slab: Dual-Scale Concrete Casting

This project explores the versatility of form and materiality through the casting of a rocket slab a sculptural concrete object designed to operate at two radically different scales. The process began with designing and fabricating a formwork for casting a unique slab, using geometry and texture to push the limits of concrete as both structural and aesthetic material. At the tiny scale, the slab functions as a succulent holder a tabletop object where the detailing, surface texture, and material imperfections are closely read. This scale emphasizes tactility, hand-held interaction, and the way light and shadow interact with micro-topographies of the form. At the large scale, the same form is reimagined as a hot spring landscape, rendered as an immersive public space carved into the earth. The slab's channels and pockets now become seating zones, thermal pools, and water flows highlighting how a single form can suggest vastly different spatial experiences depending on scale and context. The project challenged us to think across dimensions and uses, revealing how scale transforms not only perception, but also function and meaning. It celebrates concrete's raw honesty while testing its potential to serve both human touch and landscape immersion.







Pop-Up Cooling Station: Geodesic Dome

In response to Albuquerque's rising temperatures and increasing extreme heat events, this project proposes a temporary, scalable cooling station designed to support vulnerable communities during climate emergencies. Set in the La Mesa neighborhood, the design uses a geodesic dome structure for its strength, material efficiency, and ease of deployment. The dome is lightweight, inflatable, and designed for rapid installation in vacant lots or parking areas. The project integrates passive cooling strategies, such as high ventilation points, a single entrance oriented to reduce sun exposure, and a white, reflective exterior to minimize heat absorption. Inside, breathable insulating materials like closed-cell foam and recycled polyester with air channels ensure thermal comfort for 5 to 7 people. The goal was to create a low-tech, high-impact solution that prioritizes accessibility, resilience, and human dignity in the face of environmental stress. This intervention is not just about climate adaptation it's about building care infrastructure for communities most affected by systemic inequalities and the climate crisis.

POP - UP COOLING STATION: GEODISIC DOME

Toaddress Albuquerque's rising temperatures and promote community resilience, this pop-up cooling station explores how these temporary, adaptable stations serve as vital hubs of relief during extreme heat events, providing hydration, shade, and a safe environment. This pop-up cooling station integrates passive cooling design strategies, values community impact, and the collaborative efforts that make these stations a sustainable and lifes aving solution for all people in Albuquerque.







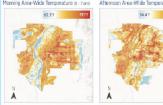
MESA VERDE COMMUNITY CENTER, 7900 MARQUETTE AVE. NE, ALBUQUERQUE, NM 87108

This center is located in the heart of La Mesa Neighborhood. The facility is equipped with a fitness room, arts and crafts room, game room, computer lab, gymnasium, and classrooms.

Monday to Thursday: 7:30 a.m. to 8 p.m. Friday: 7:30 a.m. to 6 p.m.

THE GROWING CHALLENGE OF EXTREME HEAT IN ALBUQUERQUE

- Increasing Heatwaves: More frequent and intense heat events due to Morning Area-Wide Temperature (2-7 and Artemoor Area-Wide
- Health Risks: Vulnerable populations face higher risks of heat exhaustion, dehydration, and heat stroke.
- Energy Demand: Rising temperatures contribute to higher energy consumption.
- Urban Heat Island Effect: Dense urban areas trap heat, intensifying temperatures in developed spaces.
- Urgent Need for Solutions: Addressing heat impacts is critical for



https://www.cabq.gov/sustainability/document

PRECEDENT STUDY / MATERIALS

· Closed Cell Foam for Interior Insulation

· Waterproof, lightweight, ultra-re-

flective fly fabric. The double-wall de-

sign reflects UV, visible and infrared,

and there are mesh inner walls for bugs

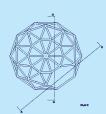
- From Heat Reflecting Pod Tent. https://gearjunkie.com/camping/heat-pod-tent

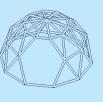
PROPOSED SPACE FOR METTER ATTER CANCEL THE MATERIAL ON THE EXTERIOR TO REFLECT SUN RAYS BACK TO REDUCE ABSORPTION THAT LEADS TO HEATING THE INSIDES PROPOSED SPACE FOR METTER ATTER CANCEL SHARE HOT ARE TO SECURE HE WAS SOME METTER THAT ALL AND A SHARE HOT ARE TO SECURE LIGHT DOESN'T ENTER THE SPACE NARROW MENTILATION SO EXCESSIVE LIGHT DOESN'T ENTER THE SPACE IN TERRATOR METH LIGHT COLUMNED THE METHER ATTER ATTER CANCEL SHARE LOSED CELL FORM, RECYCLED POLYESTER MITH ATTER CHARLES O DIME SHAPE FOR BETTER AIR CIRCULATION ESAILV INFLATABLE O ONLY ONE ENTRANCE FACINGETHER MONTH OR SOUTH FOR LOW SUM EXPOSURE

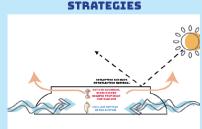
POP UP IN VACANT SPACES / PARKING LOTS

EASILY INFLATABLE USING AIRPUMPS

- STRENGTH OF TRIANGLES
 EFFICIENT LOAD DISTRIBUTION
- MATERIAL EFFICIENCY
- SPHERICAL SHAPE
- SELF-SUPPORTING STRUCTURE
- REDUNDANCY AND RESILIENCE











- Includes only one entrance, positioned either north or south, to minimize direct sun exposure.
- Scalable and easy to store, making it suitable for repeated use in various locations

This portfolio brings together the architectural projects and design explorations I completed over the final two years of my undergraduate journey. As an international student from Nepal, studying architecture in the U.S. has been both a challenge and a gift, a space where I've learned to merge the values I carry from home with the tools and perspectives I've gained here. My work is often grounded in systems thinking, storytelling, and care, whether I'm designing a multigenerational home, reimagining prison infrastructures, casting a concrete slab, or proposing public cooling stations in response to climate urgency. Personally I have found that my strength lies in concept formation and I throughly enjoy the design process from the research to creation. I have come to realzie the power of design and I levraged my adobe creative suite skills, design thinking, rhino, revit, and cad software skills to manifest my ideas into creation of the designs.

Each project in this portfolio is a reflection of how I've grown not just as a designer, but as a listener, a collaborator, and a thinker who cares deeply about how people live and what architecture can do to support, question, or transform the systems we live in.

Thank you for taking the time to engage with my work. Your attention means a great deal to me, and I hope these projects offer something back whether it's a moment of curiosity, reflection, or inspiration.

With gratitude, Shubhangi Khanal Undergraduate, Architecture.