

Maria Munir

Designer and Researcher currently studying Architecture at the University of Waterloo.

I don't shy away from complexity – my work experience has taken me from Masters Plans of my hometown to working on hospitals in Nova Scotia to the future design of Toronto's Pearson Airport Terminal 3.

Currently seeking UX roles for January 2021.

Research and Design Projects



Self-Build Housing Solution For Canadian Immigrant Communities

ARCH 393 - University of Waterloo



Human - Centred Affordable Housing Solution For Downtown Toronto

ARCH 392 - University of Waterloo



Child-First Design For Portable School Classrooms

Buildings Workshop - University of Waterloo

Self-Build Housing Solution For Canadian Immigrant Communities

ARCH 393 - University of Waterloo

Human - Centred Affordable Housing Solution For Downtown Toronto

ARCH 392 - University of Waterloo

Child-First Design For Portable School Classrooms

Buildings Workshop - University of Waterloo

Professional Experience



Strategic Master Planning, Cancer Centre Design, And Hospital Design

Parkin Architects - Toronto



Conceptual Design Pearson Airport Terminal 3 Extensive Renovation

HOK Architects - Toronto



School And Office Building Design

WalterFedy - Kitchener

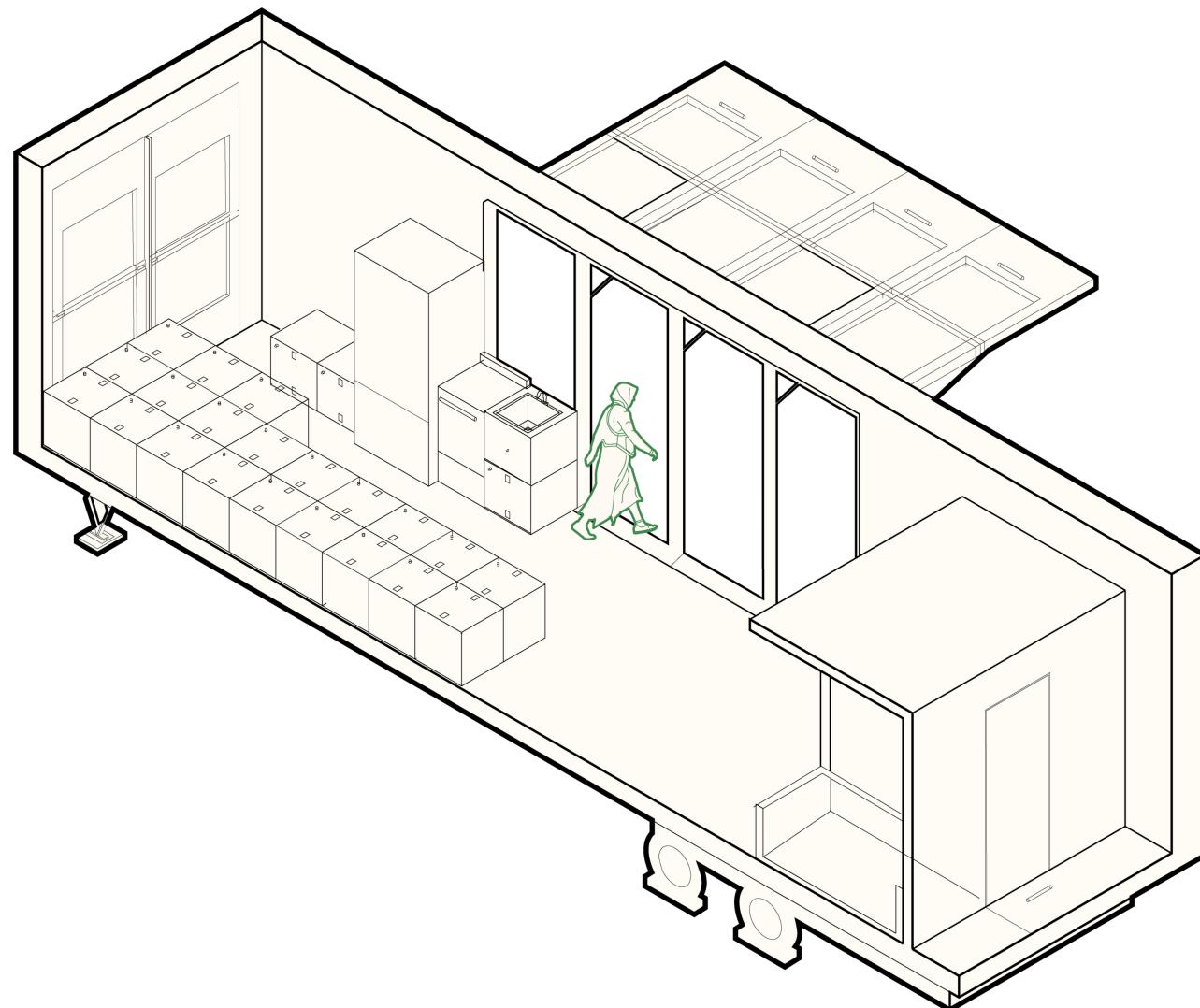
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The Welcome Wagon

For my third year Design Studio, I was tasked with creating a housing system that is designed for adaption and construction by its users. This project involved secondary research and iterative designing. Our system consists of a mobile smart core which contains a kit of parts for a self-build house.



Timeline: 3 Months

Partner: Hiba Zubairi

Instructor: Jonathan Enns (ARCH 393)

About Me

Hi! I'm Maria, a designer and researcher currently studying architecture at the University of Waterloo. Studying architecture has taught me how to look at problems through a variety of lenses, and sharpened my knowledge in technologies, visual communication, presentation, and human-centred design.

I've had 3 internships working on architectural projects across a variety of industries. Recently, I've been working on Master Plans for Ontario hospitals with Parkin Architects. Before that I was working on Toronto's Pearson Airport with HOK and schools and offices at WalterFedy.



About Me

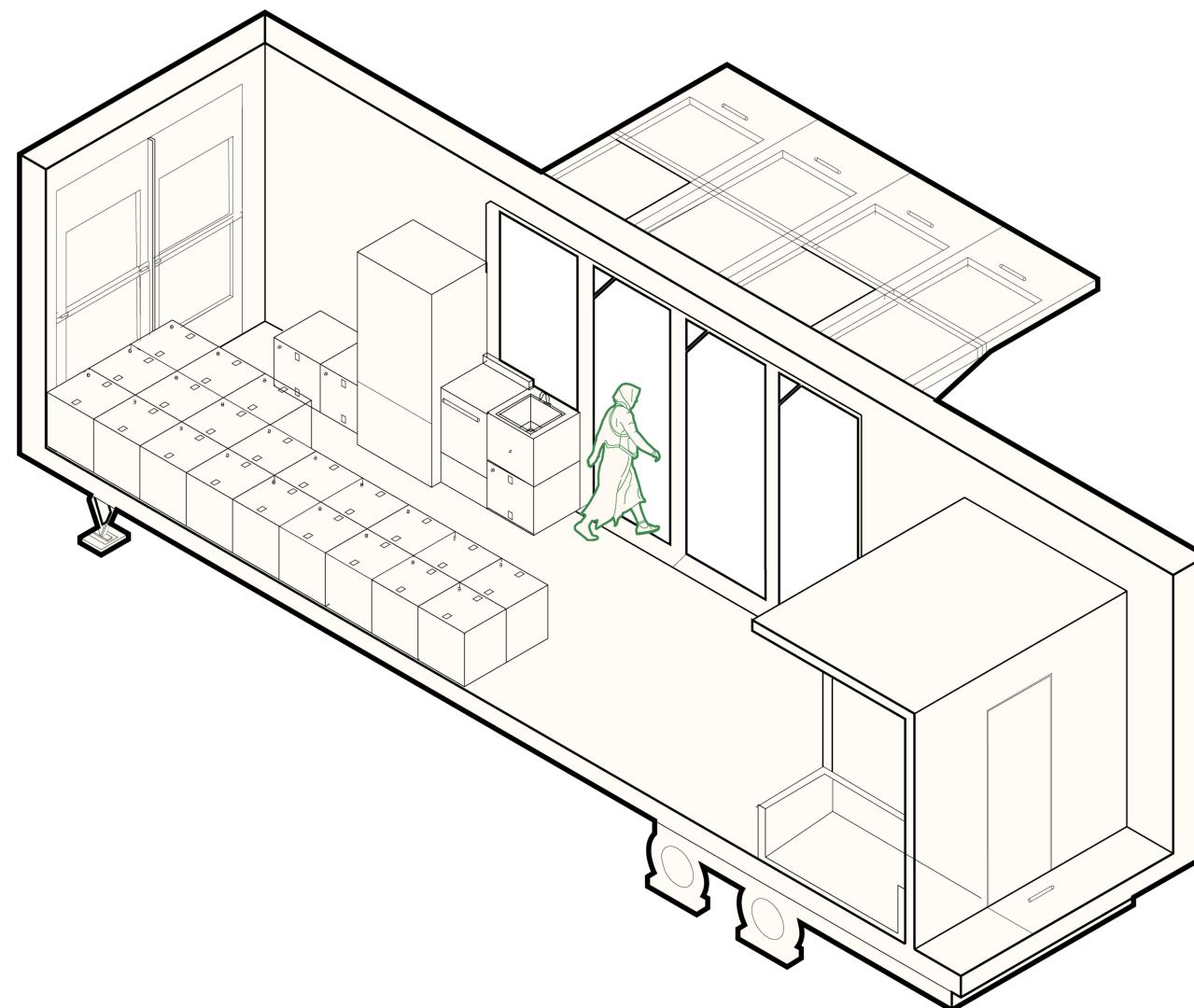
Hi! I'm Maria, a designer and researcher currently studying architecture at the University of Waterloo. Studying architecture has taught me how to look at problems through a variety of lenses, and sharpened my knowledge in technologies, visual communication, presentation, and human-centred design.

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Pearson Airport Terminal 3 Extensive Renovation

During my work term at HOK architects, I spent the majority of my time working on Toronto's Pearson Airport Terminal 3 Extensive Renovation. This work was involved



Duration: 4 Months

Team: 8 others at HOK architects

My Role: Owner of the 3D model, designer, site and code analysis/research, wayfinding, visual production

Timeline: 3 Months

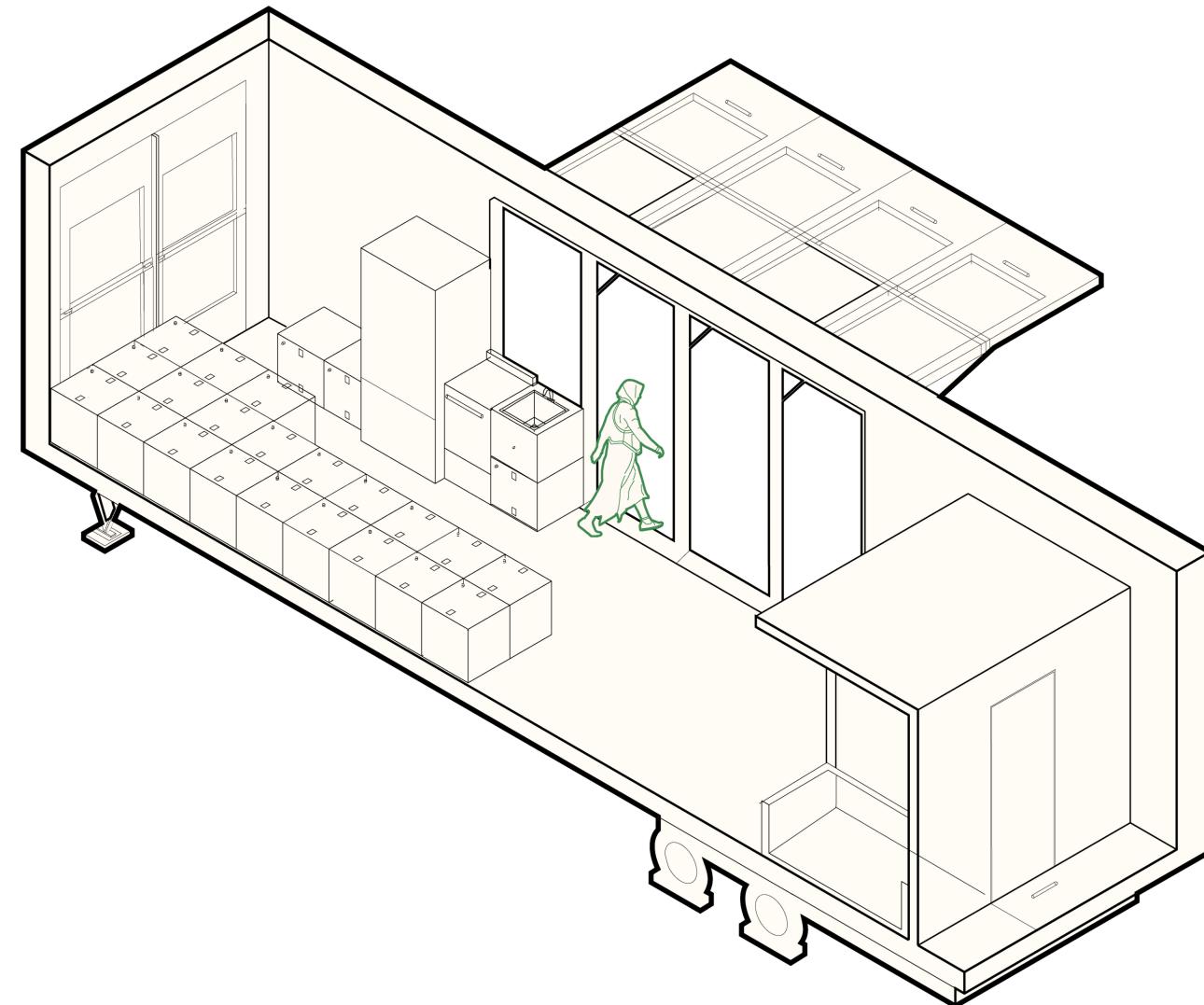
Partner: Hiba Zubairi

Instructor: Jonathan Enns (ARCH 393)

Results:

Our team reviewed positive feedback in our final design review, and we were commended for our rigour in understanding the users of our system and in our approach to reframe mobile housing. This project was featured on the Waterloo Architecture Instagram page.

Background



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Team: 8 others at HOK architects

My Role: Owner of the 3D model, designer, site and code analysis/research, wayfinding, visual production

Left: (1) Trailer Park Homes, Leah Nash, 2009 (2) Nest We Grow, Kengo Kuma, 2014, (3) Ecolab, Office of Mobile Design, 1998, (4) Portable House APH80, Abaton Arquitectura, 2014, (5) An Australian Tiny Home, CABN 2017, Residence Huga, Grandio, 2019, (5) Ibtasem Playground, Catalytic Action, 2015

Right: (1) Expandable House, Urban Rural Systems, 2018, (2) Beirut Blast, Rami Rizk, 2020, (3) PH - Paroissien Home, Ottone-Victorica Arquitectos 2020, (4) Protohomes, 1969-70s, (5) Chicago Architecture Biennial, Tatiana Bilbao, 2015, (6) Road Runner, Office of Mobile Design, 2006, (7) Mosque-Cathedral of Cordoba, 785-1575, (8) Versailles Apartment, Catseye Bay Design, 2016

In both cases, citations are listed left to right, and top to bottom (in that order).

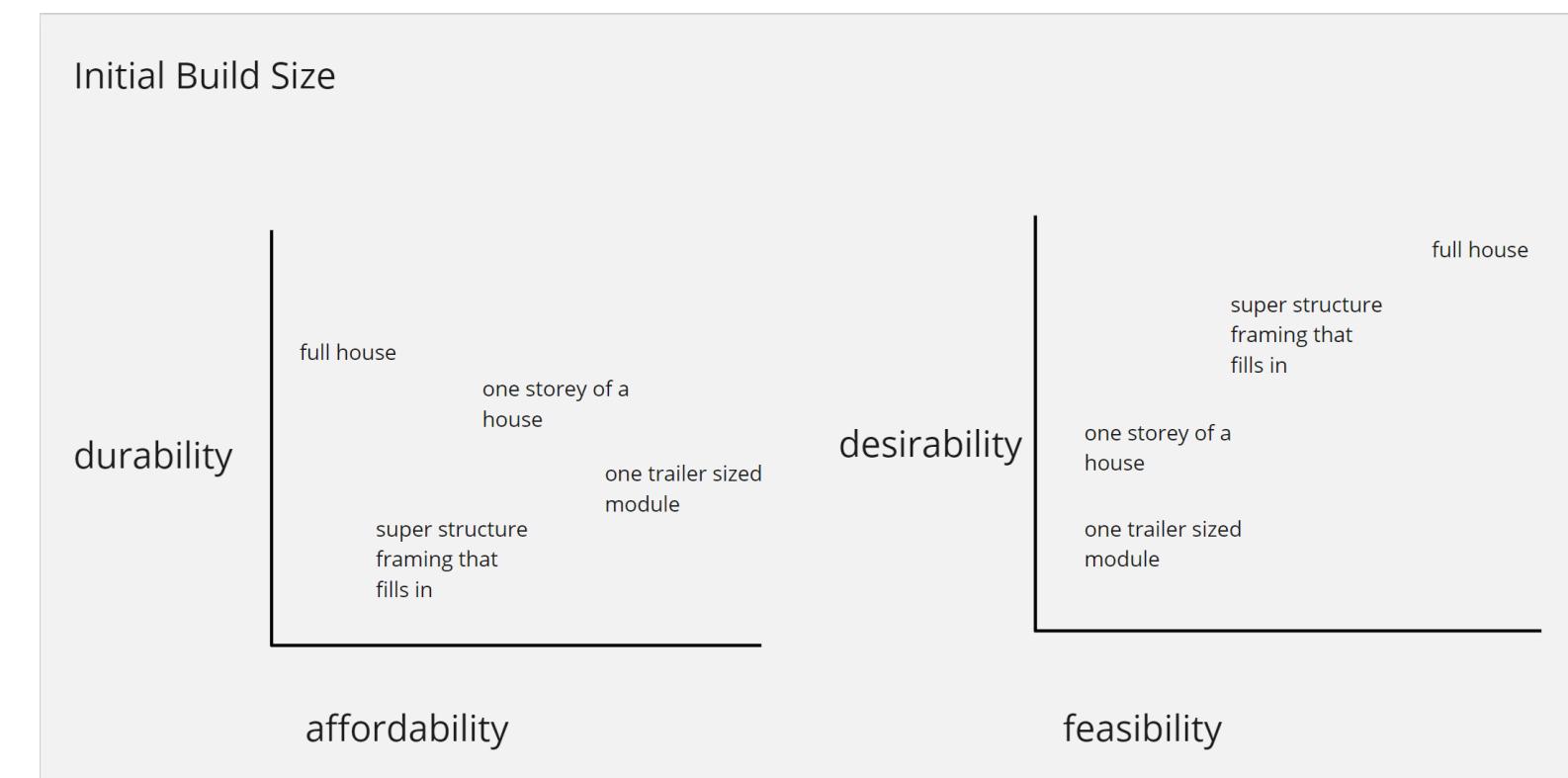
The initial research for the project consisted of a wide evaluation of architectural systems which have adaptable both over time, and through use. We strived to find solutions which were either self build or hackable to understand how users can engage with architecture.

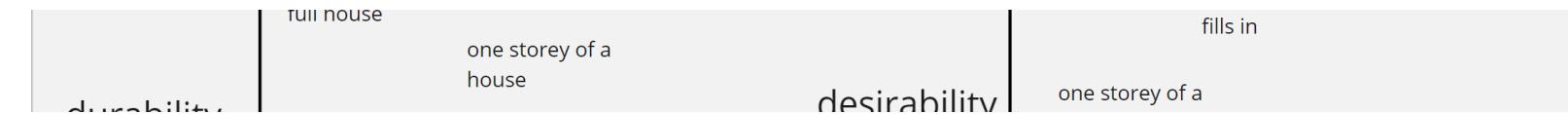
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Project Context

People from all over the world can be found in Canada, practicing their own cultural traditions and proudly honing their identities while successfully operating within Canadian society. However, certain factors in our built environment and wealth distribution patterns forces Canadian immigrants to remain in less than satisfactory, expensive and undignified housing. From small one bedroom apartments housing five member families to basements being occupied by seven to eight young people, the plethora of cultural exposure, strength of community and available resources are significantly stunted for immigrants who cannot afford housing in a growingly steep market. The Welcome Wagon, beta tested in Almonte, Ontario, is a community settlement scheme which seeks to provide immigrant families the ability to maintain their strong cultural networks while also increasing their likelihood of employment, self-run businesses, home ownership and class mobility. For this reason, the program is specifically geared towards new immigrants who are having trouble finding jobs and providing a sustainable income for their dependents. .

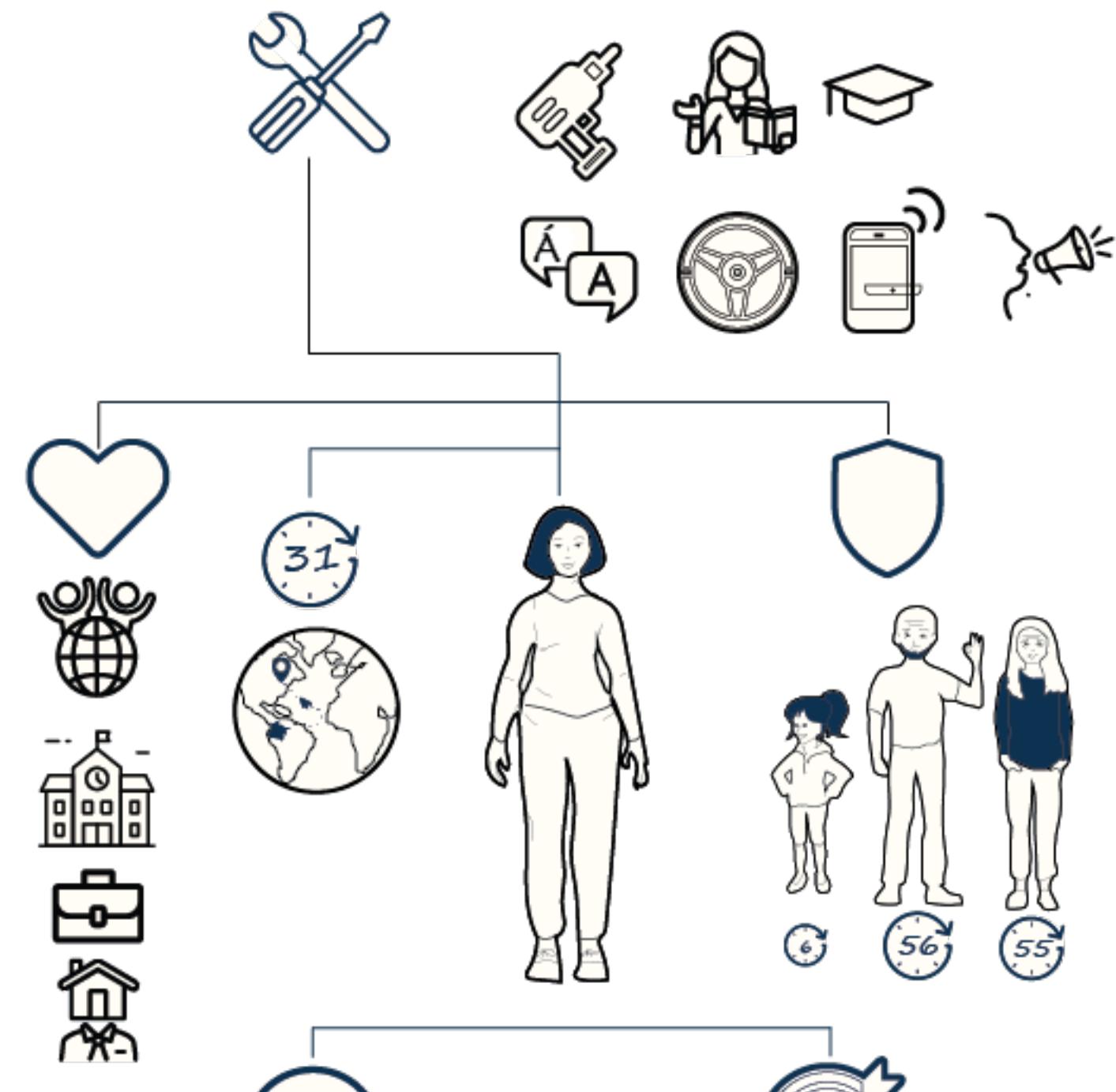
Frameworks

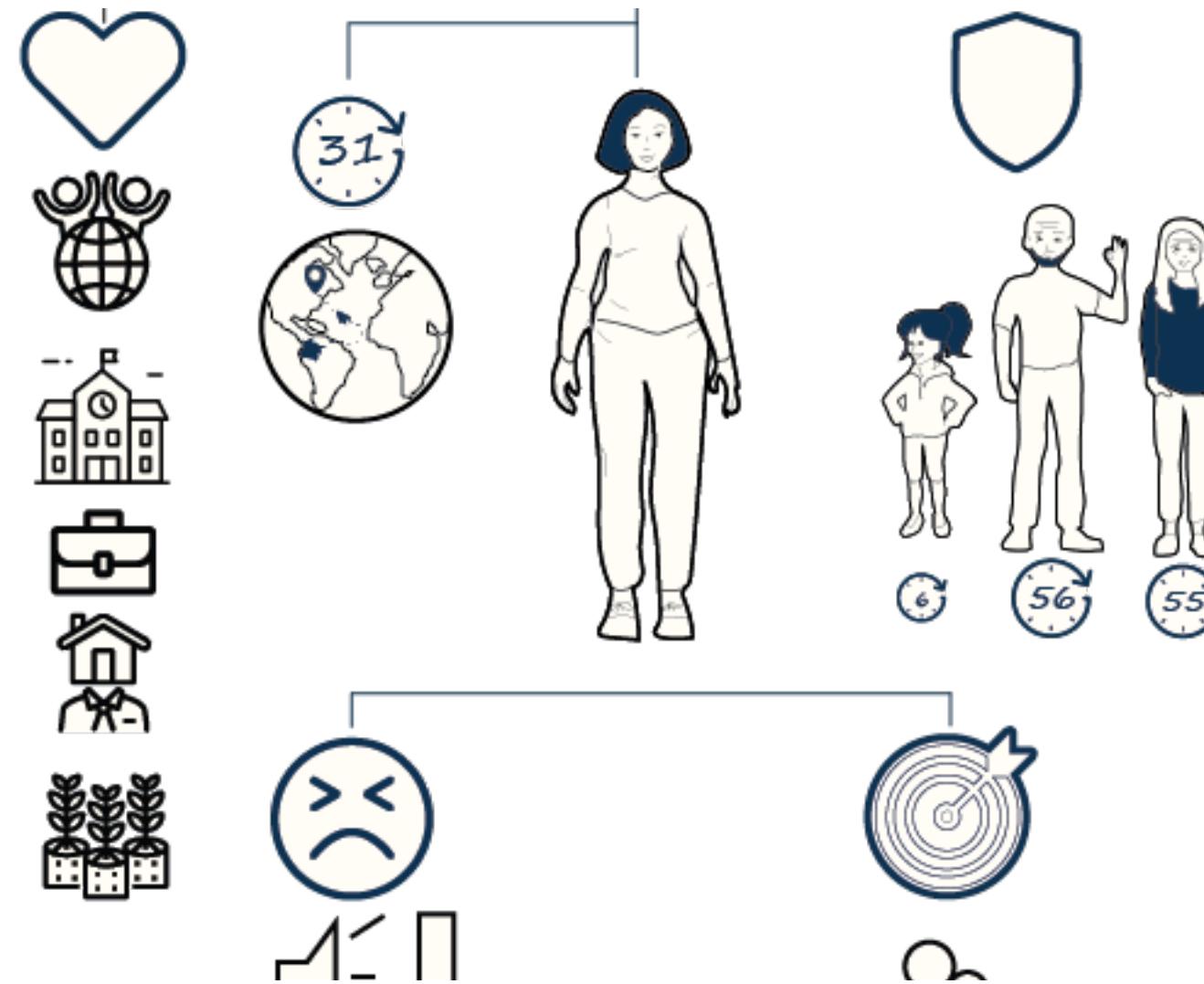




Based on the housing types and descriptions found through our research, my partner and I sketched out base frameworks to help us understand the direction to move forward in based on our constraints and users.

Persona

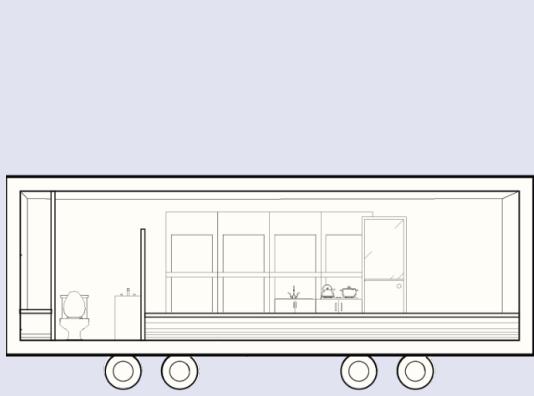




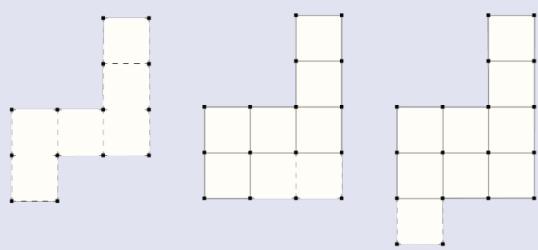
Based on our research I created an illustration for the persona of Valentina Acuna. She is a 31 year old Columbia born immigrant who, along with her six year old daughter, and two middle-aged parents.

Her primary goals are finding a safe neighbourhood for her daughter and a community where her whole family feels like they belong and can contribute. Her current pains include lack of job stability, difficulty finding affordable options in the city, and an inhospitable landlord in her basement apartment. Her needs and desires include finding a place where she is able to make changes for her family as they grow and easily accessible greenspace for her parents to garden or homestead. She was a prior languages teacher so she is skilled in communication and translation. In Columbia, her father was a mason so she is familiar with power tools and unafraid of building, however she isn't familiar with wood construction.

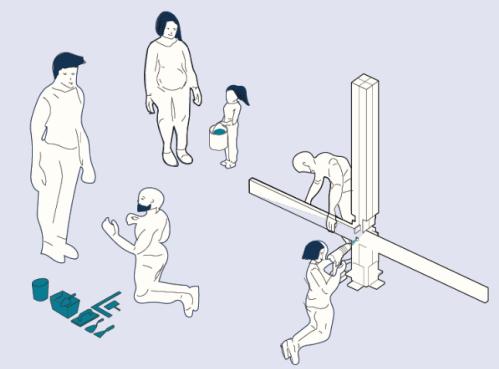
5 Principles of Design



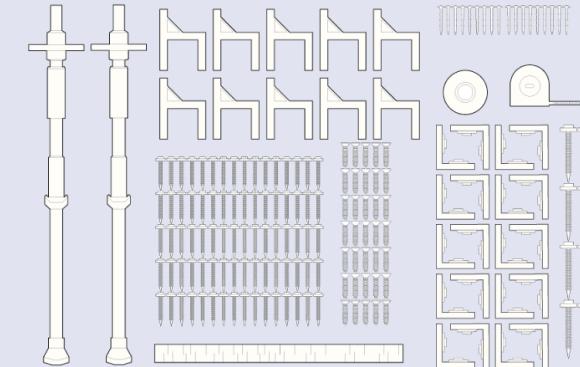
1. Mobile Smart Core



2. Flexible Grid



3. Community Build



4. Open Source



5. Variable Affordability

These principles guided us through the design of the wagon, and represent the priorities of the project.

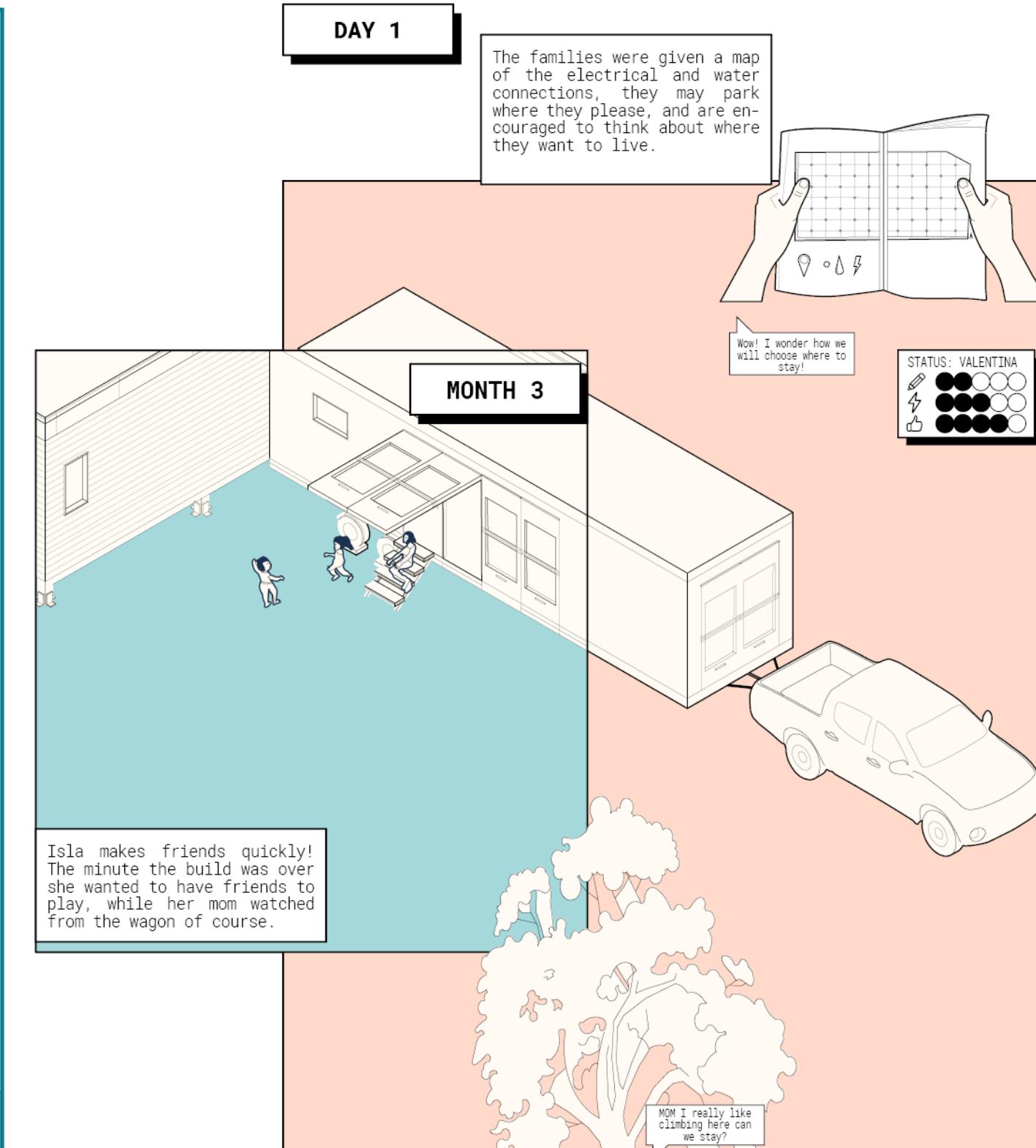
Kit of Parts

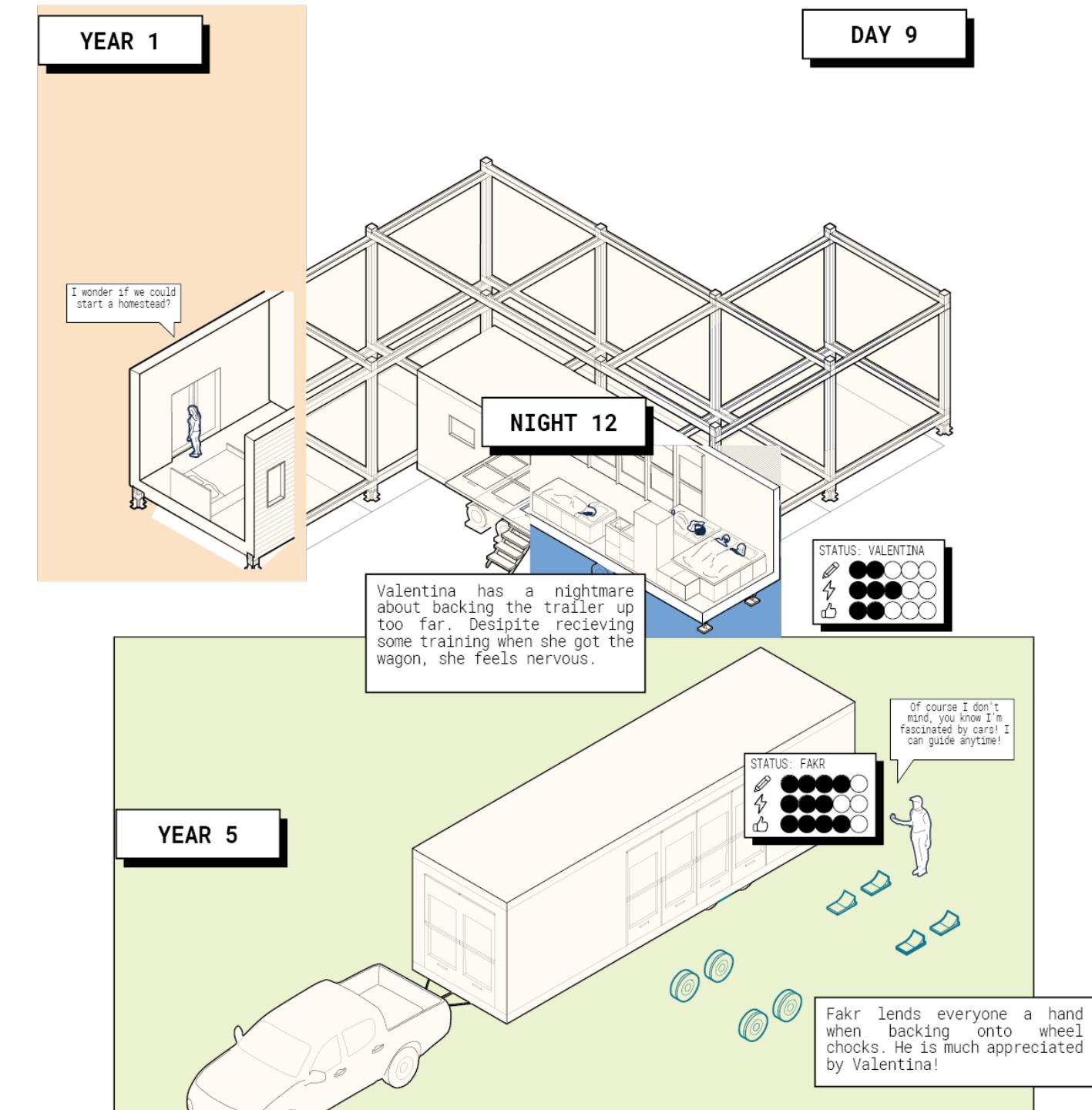
Kit of Parts

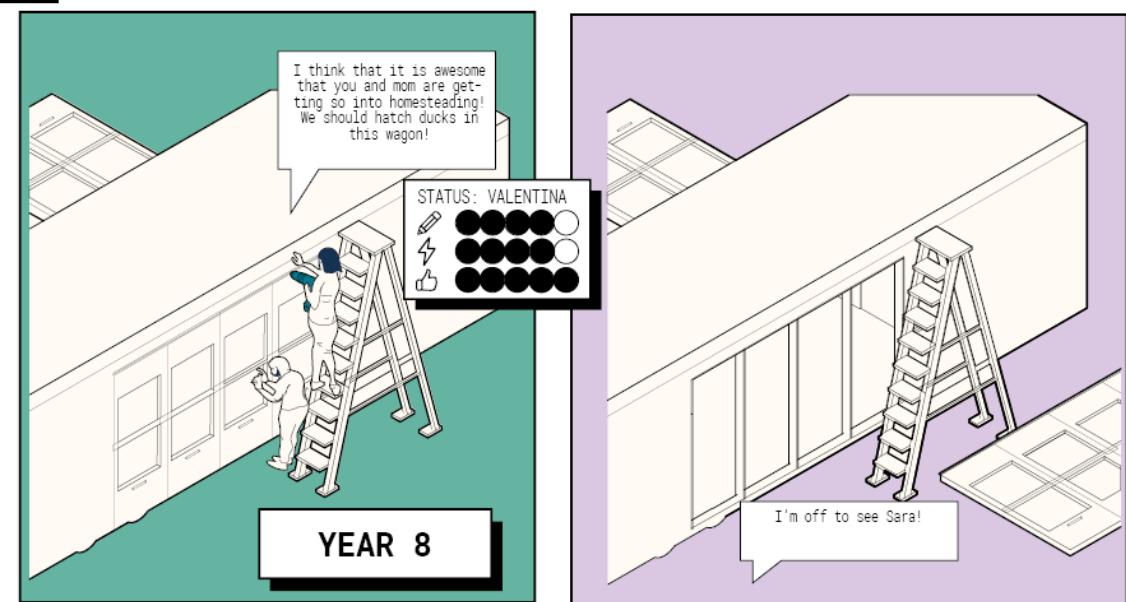
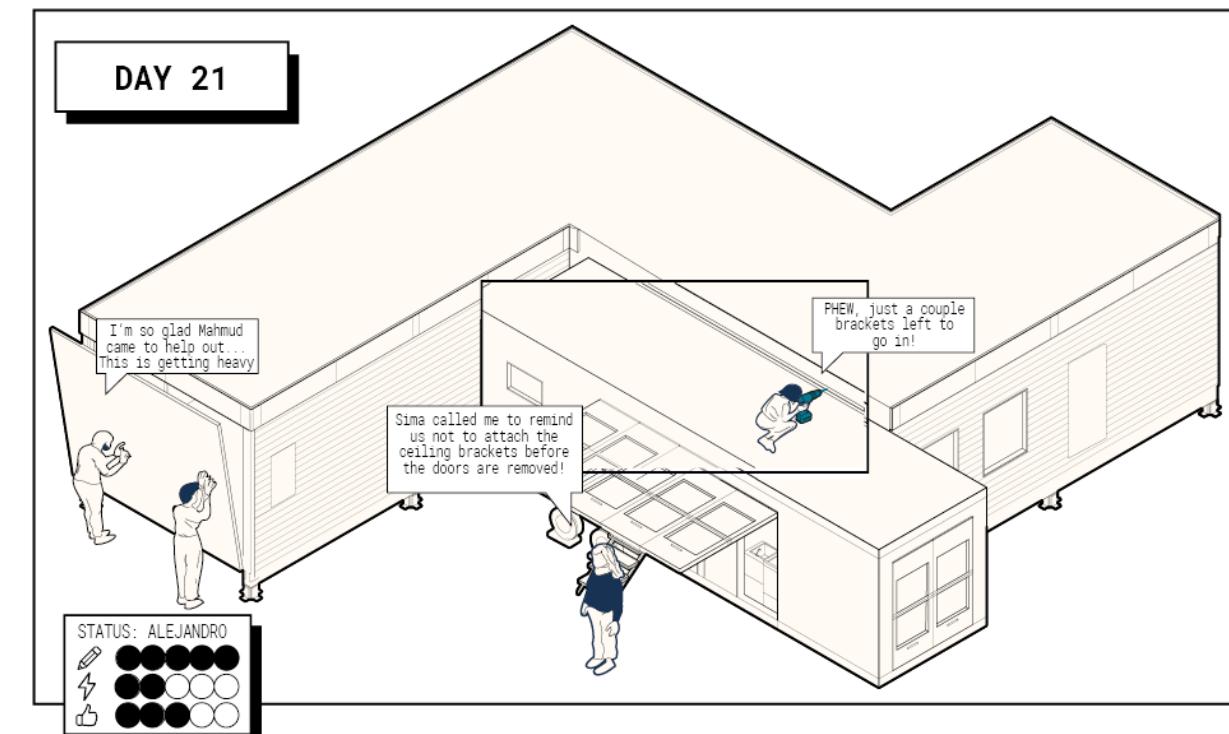
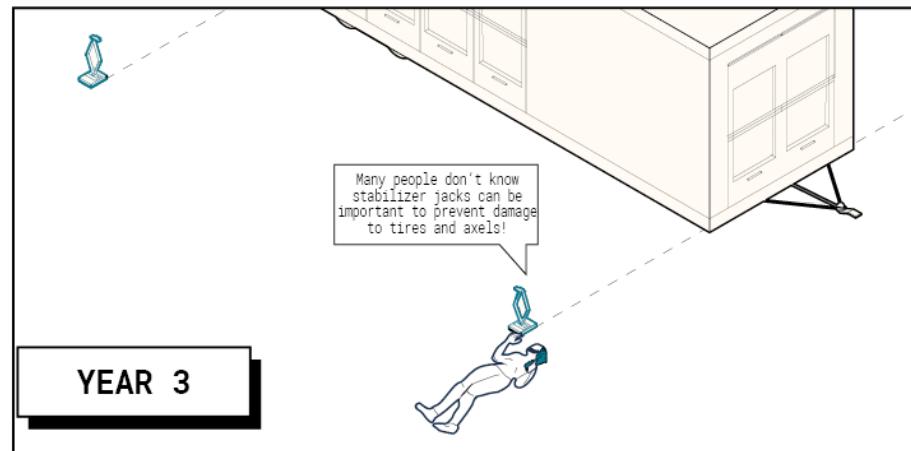
I created the Kit of Parts diagram to show the elements of the system and the breakdown between elements included in the initial smart core, and the open source elements which are included in a build guide given to residents

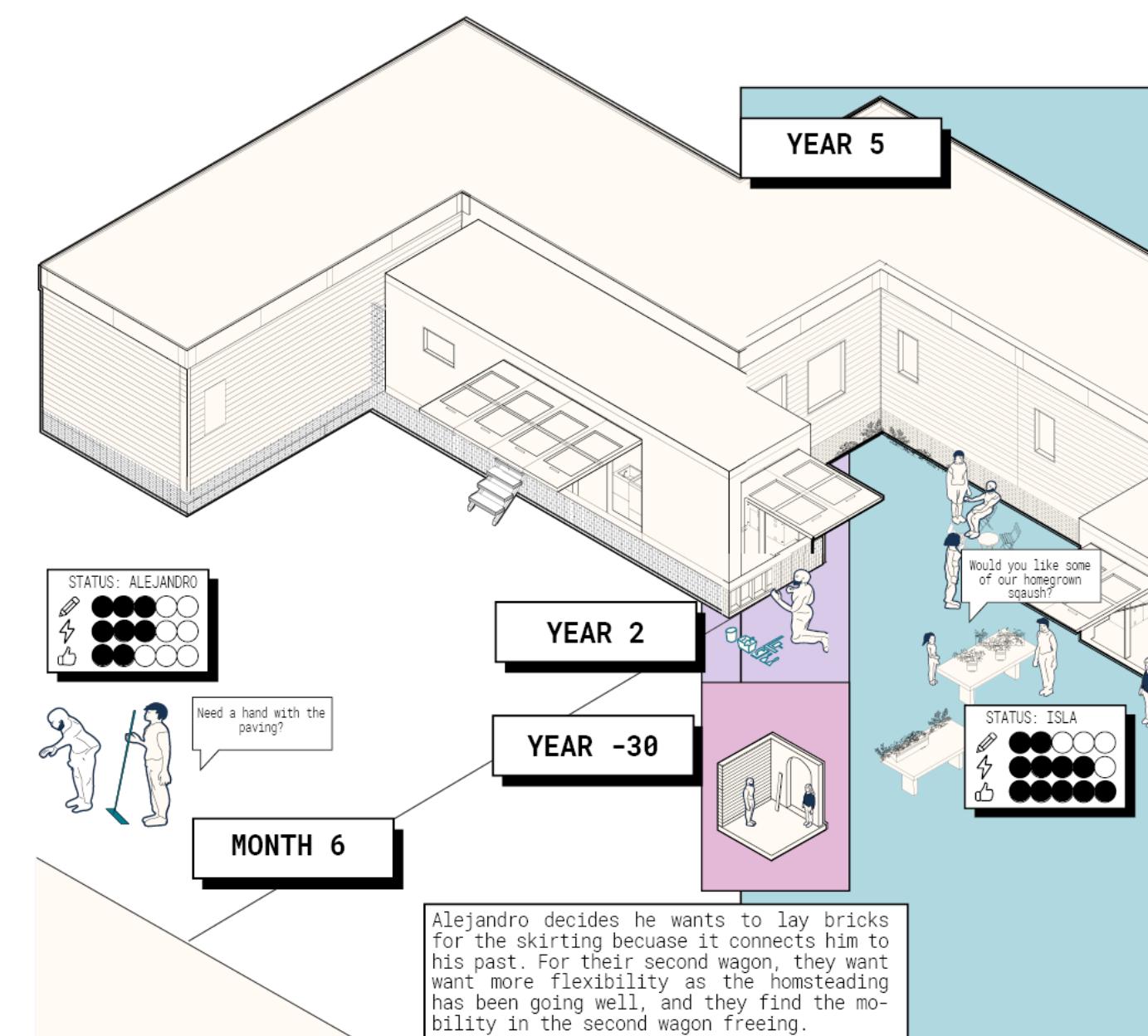
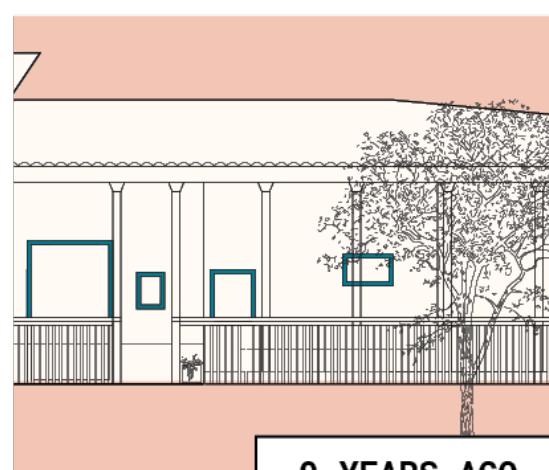
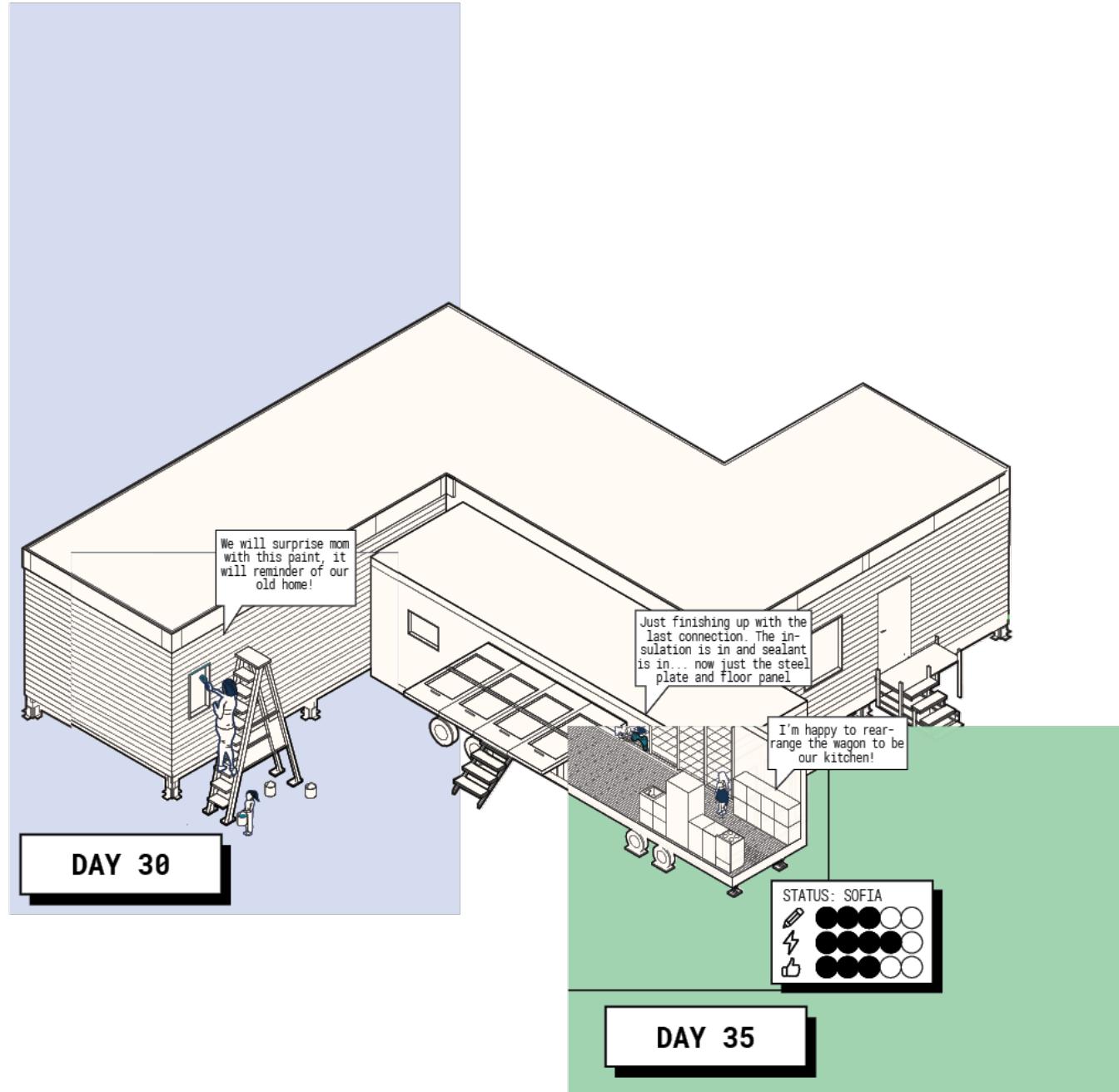
Self build User Narrative

I created the following narrative, in collaboration with my partner in formating and developing the visual style, to represent the build journey of the persona Valentina Acuna.









Next Steps and Evaluation

If we were to move forward with this project, we would beta test this with users using VR and further develop the 3D model we created as we were designing this system. Based on this feedback the system could be further refined and we would be able to verify some of the assumptions we had to make early on since primary research, such as user interviews, was not in the scope of this course.

I would love to talk more about this project! If you have any questions, or would like to hear more contact me [here>>](#).