

A photograph of gardening tools including a trowel, a fork, and a small shovel, all with light-colored wooden handles and grey metal heads, resting on a piece of coarse, light-brown burlap fabric. In the background, a dark, textured surface and a piece of light-colored paper are visible.

SOW

Gardening for an improved lifestyle

By Ayushi Shah
Spring 2021

SOW – Gardening for an improved lifestyle
By Ayushi Shah
Capstone Design Studio / Elderly IND-402-01
Pratt Institute Spring 2021
Professor Ignacio Urbina Polo

CONTENTS

1. Project Objective

2. Exploration

- a. What is Positive Aging?
- b. What lifestyle aspects are important for Positive Aging?
- c. Opportunities Identified

3. Topic Research

- a. Benefits of Gardening
- b. Interview Insights
- c. Precedents

4. Implementation

- a. Design Plan
- b. Ideation
- c. Product Development
- d. Final Proposal
- e. Uses and Context


5. Conclusion

6. Bibliography



Project Objective

The goal of this project was to explore the meaning of a good lifestyle. After observing the aging community around me, I noticed that a lot of their lives are still very fast paced. In this chaos, the aging community often neglects some important aspects of their lifestyle such as going outdoors, interacting with others in person, and having sensory experiences. These lifestyle changes can end up leading to early health issues such as dementia. Thus, through this project, I wanted to focus on incorporating good lifestyle practices into the daily lives of the aging community by bringing them more in touch with nature.



“Healthy Aging is not about how old you are, but how you live.” (Breeding)

What is Positive Aging

The first step of exploration was to understand what the term “Positive Aging” meant, and how it can be achieved.

Positive aging not only takes into account the absence of disease in an individual but also refers to “healthy aging” which is achievable by every older person if they work to make better choices in the near term to improve their lives in the longterm (Breeding).

Many aspects of aging and health are in fact in our control, and a lot of it depends on mindset as well. A positive outlook on aging can give one the control to continue doing what they love and continue making positive contributions to the world around them (Breeding).

Therefore, positive aging is focused on having a positive outlook on the aging process while also incorporating good lifestyle habits such as physical and mental activity, healthy eating, nurturing relationships, good sleep, and reduced stress.

What lifestyle aspects are important for Positive Aging?

The next step was to speak to some members in the nearby community to understand what Positive Aging meant to them. From the discussions, a set of themes were noticed in what the aging community considers as important for their positive aging experience.



OUTDOORS

For a lot of the elderly, especially those who have relocated to new parts of the world to be closer to their children, the outdoors offers a sense of familiarity and comfort. Moreover, as people age they were found to have more appreciation for nature.



CONNECTION

Elderly are seeking a sense of community and connection wherever they are. This sense of connection could be provided through family, but also through companions who share similar passions, hobbies, or interests.



ACTIVITY

Movement is important for the elderly to keep the mind and the body agile. The elderly spoke about the importance of staying active through walks, exercise, or even just daily chores. An important aspect of movement was also sensory activities which utilize all the senses to keep the mind and body calm but stimulated.

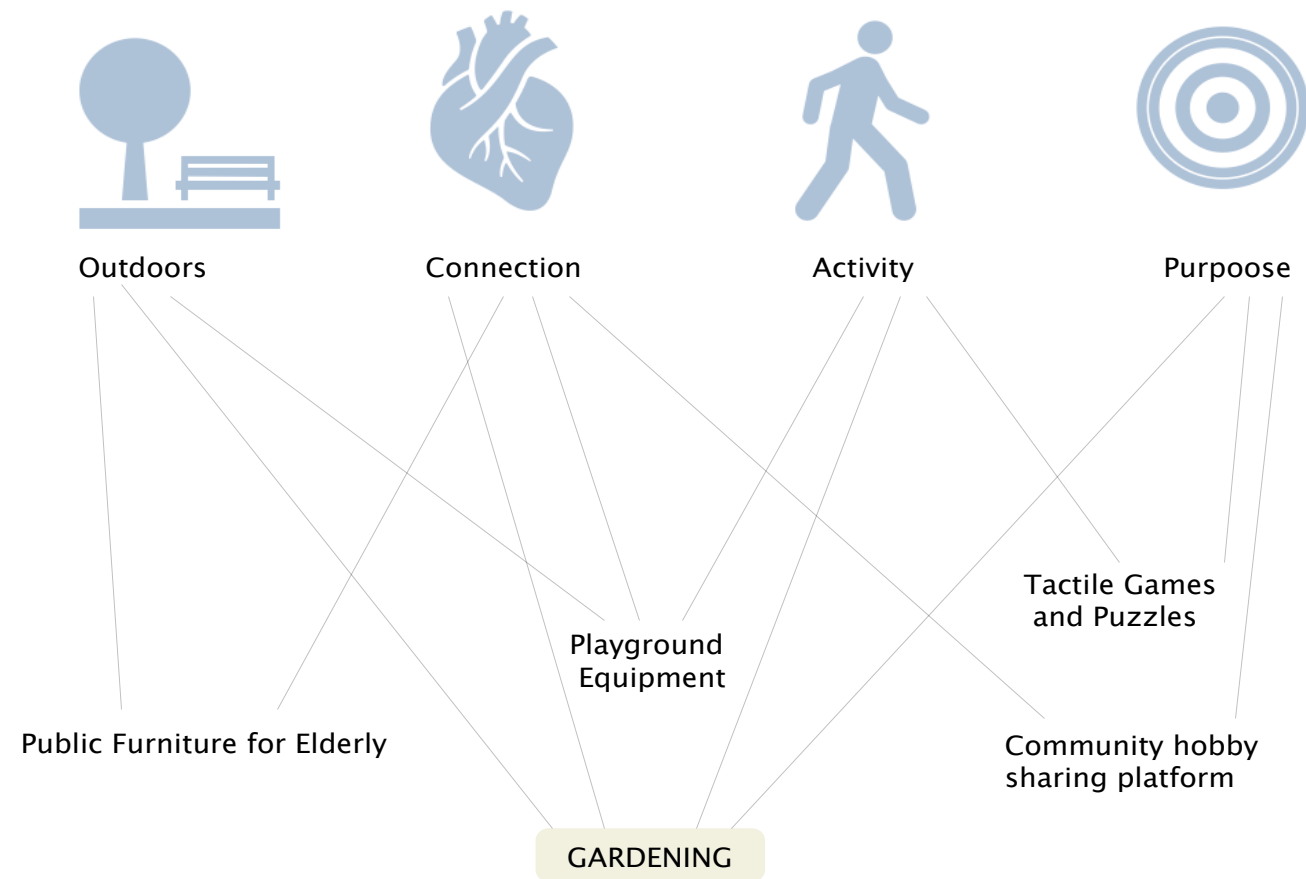


PURPOSE

For some elderly, a sense of purpose is important not only to stay independent but also necessary for them as they do not want to feel like a burden to their loved ones. Purpose and independence give the elderly a positive outlook on life, and also give them the self-confidence to achieve their goals.

Opportunities Identified

Based on the conversations with the aging community ideation was done to identify some opportunities to focus on for the remainder of the project.



It was found that with **gardening**, came the opportunity to combine all four of the themes. Therefore for the remaining part of the project, the focus was on how gardening can be used as a way to encourage a good lifestyle in the aging community.

Not only does gardening have numerous benefits, but it is also inexpensive, easily accessible and rewarding. With age however, certain issues can arise even with gardening. Firstly, the physical aspects of this activity tend to become more challenging with age. Bending, lifting, kneeling, squatting, weeding and pruning can get difficult with age (Fletcher). Also, dealing with the sun, heat and bugs—can be problematic for older gardeners (Fletcher).

An unavailability of senior friendly gardening spaces could subsequently also lead to a lack of social connection and a loss of sense of community, which discourages the elderly from taking part in the activity.

Thus, to encourage gardening in the aging community, it is important to not only take into consideration their physical needs while gardening, but it also becomes important to create a space where they can connect socially and emotionally with each other, and explore the various benefits that gardening has to offer.



Benefits of Gardening

Gardening is one of the healthiest hobbies, especially for the aging community. The benefits of gardens are also linked to the restorative properties of nature since simply being in or near nature has potential well-being benefits for older adults. The benefits of gardening include psychological, physical as well as social benefits (“SAGE Journals: Your Gateway to World-Class Research Journals”).



PSYCHOLOGICAL BENEFITS

Exposure to nature through gardening can enhance psychological well-being through emotion regulation and relief from stress. Being around gardening has also found to have a nostalgic effect which evokes a well-being effect in an individual. Gardening also provides the opportunity to care for and raise life which gives room for creativity, and other mental stimulation.



PHYSICAL BENEFITS

Since gardening requires continuous care, it also keeps the elderly constantly physically active. This can help prevent osteoporosis, reduce the risk of some cancers, Type 2 diabetes, and heart diseases. Moderate to heavy gardening activity is found to be associated with significantly reduced risk of morbidity and mortality rates in a sample of middle-aged and older men with cardiovascular disease.



SOCIAL BENEFITS

Gardening in groups can offer social support and help avoid feelings of loneliness and isolation amongst the elderly. By providing a physical location to garden in groups, a sense of cohesiveness and bonding can be created in communities.



Gardening may lower the risk of dementia by as much as 36% (Simons)

Interview Insights

While the benefits of gardening are numerous, they may not always be easily accessible. This was evident from the user interviews with aging community members who have previous experiences with gardening. From the discussions with them, the aim was to understand their experiences with gardening, the struggles they face, and also what they wish could be done to make their gardening experience more enjoyable. This is the data collected from one such interview with a user named Sophia.



Sophia

57 years old | Retired | Gardening Enthusiast

“ I have lived in the same apartment in Manhattan for 7 years, but I do not know any of my neighbors.”

“ My friend in Italy is great at gardening, and I love getting gardening tips from her. I like gardening with others because I always learn so much”

“ Sometimes my aloe vera plant grows too much, and I wish I could share it with some friends and neighbors.”

“ Every time I travel, my plants end up dying. If I was friendly with my community, we could help each other out with our plants.”

“ My building has strict rules about gardening in the balcony which makes it difficult to garden sometimes so it would be nice for the building to encourage gardening in common spaces.”

Precedents

An important aspect of the topic research was also to see what concepts are currently being implemented in relation to nature and gardening. Based on the research, the following 3 related precedents were found –



Gardening work tables are used to complete gardening tasks such as potting. They usually consist of a working surface and some storage for tools and gardening materials.



Community Gardens have several pros including the sustainability and health aspect. These community-driven spaces are more focused on the civil aspect of gardening and producing.



Nature integrated public furniture usually aims at increasing the greenery in a public setting. It is usually seen in urban settings where space might be less.

Another popular implementation of nature in design is **Biophilic Design**. Humans have an instinct to connect with nature, which is why it has been translated to be integrated into our built in environments. This type of design is called Biophilic Design and has been found to support cognitive function, physical health, and psychological well-being (McCain).

“As the human population grows and access to wilderness becomes limited, incorporating nature into the built environment becomes increasingly important so that the inherent connection between humans and nature is not lost.” (McCain)

Biophilic environments have shown to have a positive influence on environments, especially in office spaces. Some of the benefits include reduced stress, enhanced collaboration, and improved morale (Gray). The proximity to nature in offices has a positive psychological effect on the employees, which subsequently leads to a more productive work environment (Gray). **Wood** is also a critical part of biophilic interior environments as seeing the grain of wood reminds one of being of nature and thus, reduces stress (DeBaisio). It also has several other benefits which provide an overall occupant wellbeing.



Design Plan

Based on the exploration and the topic research, the design plan was to encourage a healthy lifestyle amongst the aging members living in cities by creating a space of socialization, sensory experiences, and gardening.

Below are some of the design objectives that were established to help with the design process.



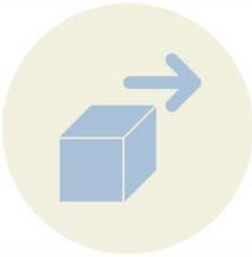
MODULAR

Since community spaces vary in size, the goal was to create a structure that can be scaled up or down based on the number of units.



ERGONOMIC

The product had to be suitable for the use of the elderly and had to take into account their physical and cognitive capabilities.



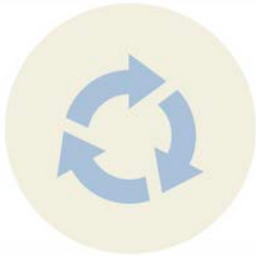
PORTABLE

Since the product is to be used in community spaces, portability offers the freedom to move the product based on the social needs of the community.



COST-EFFECTIVE

A cost-effective product will be more accessible and affordable for communities.

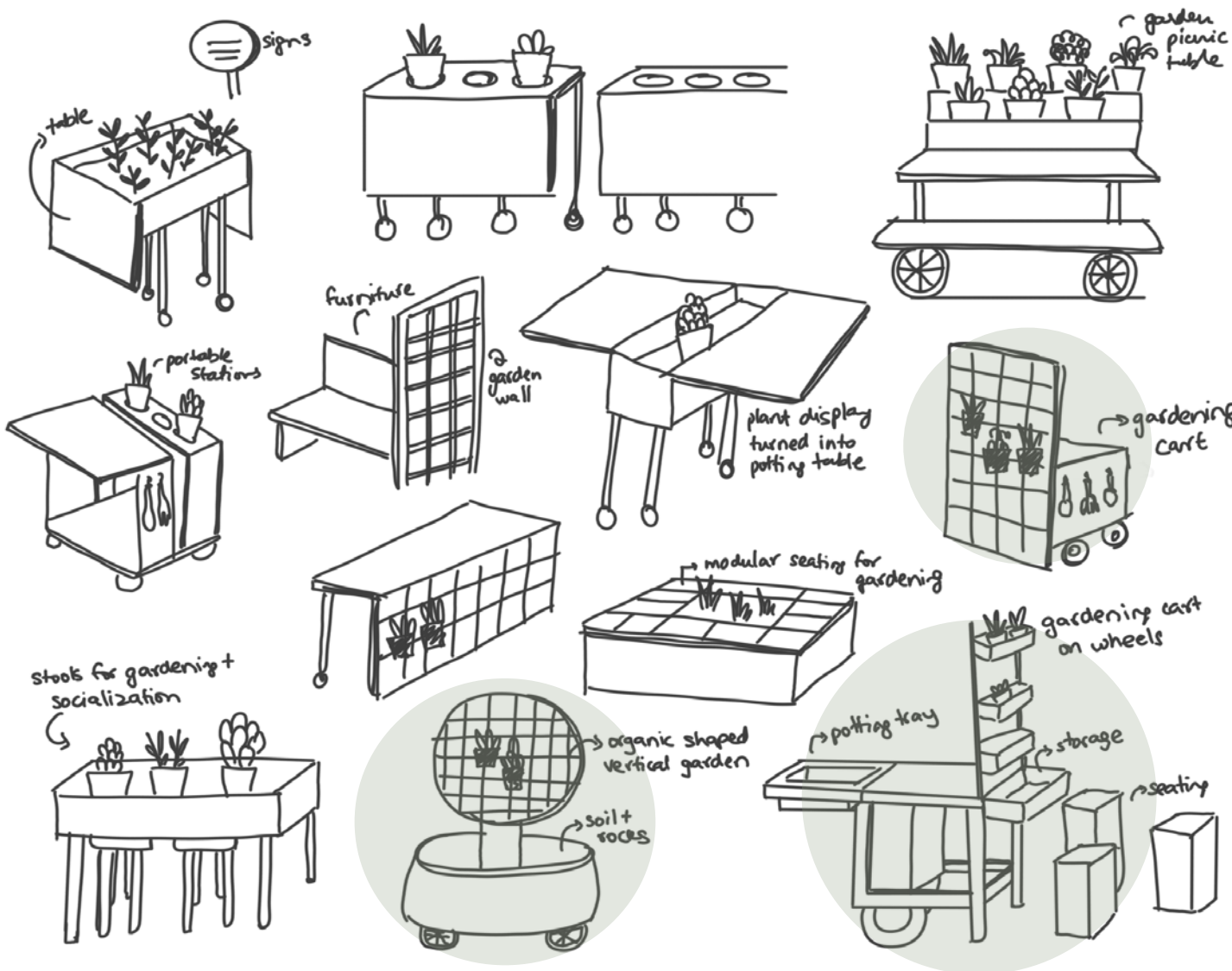


VERSATILE

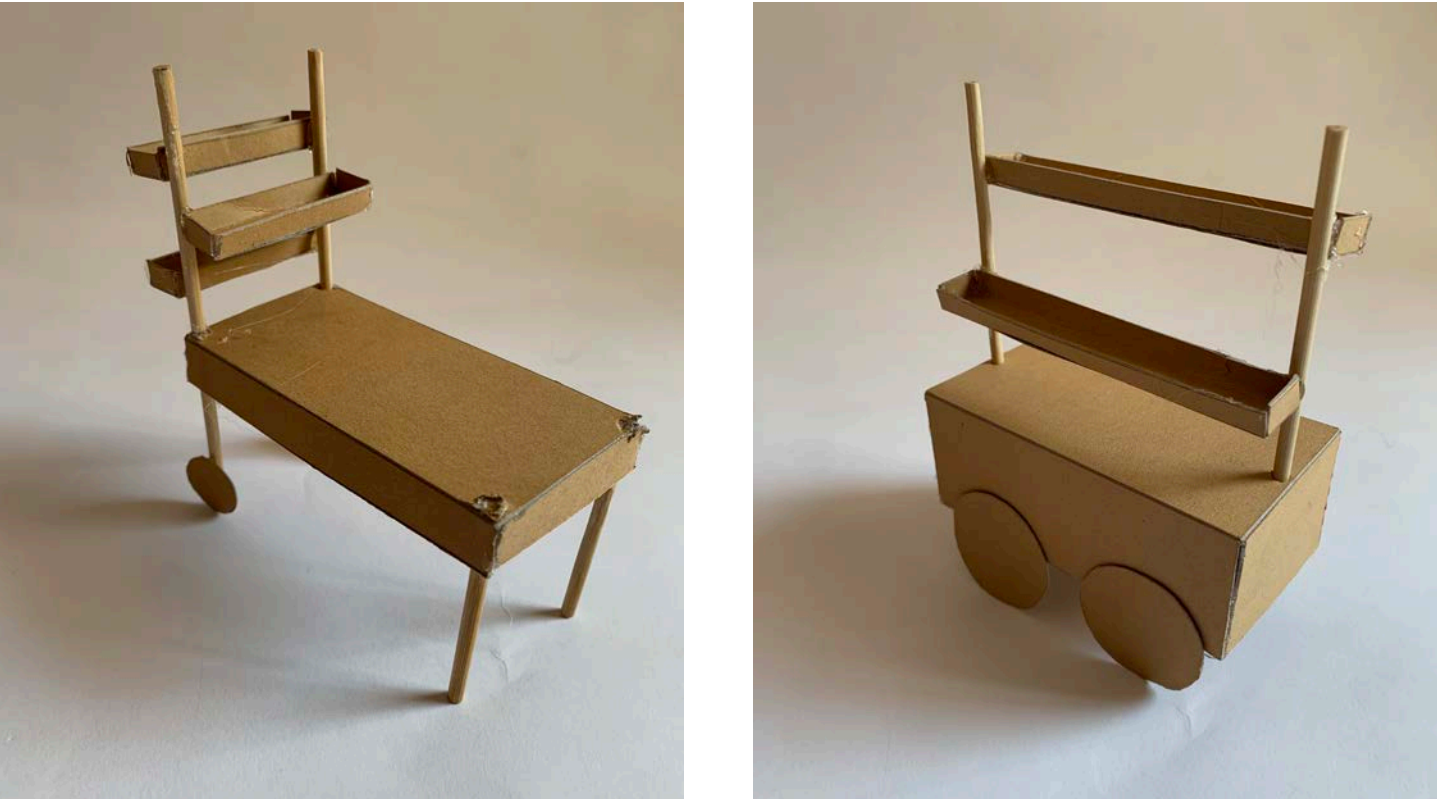
The product should also be versatile enough for communities to customize it based on their needs and preferences.

Ideation

The first round of ideation was focused on exploring the concept of a product that can create a compact gardening/garden space in the city. The final direction that emerged from these sketches was the concept of a gardening cart.



The ideation for the final direction were aimed to explored forms, functions and scale of the gardening cart.



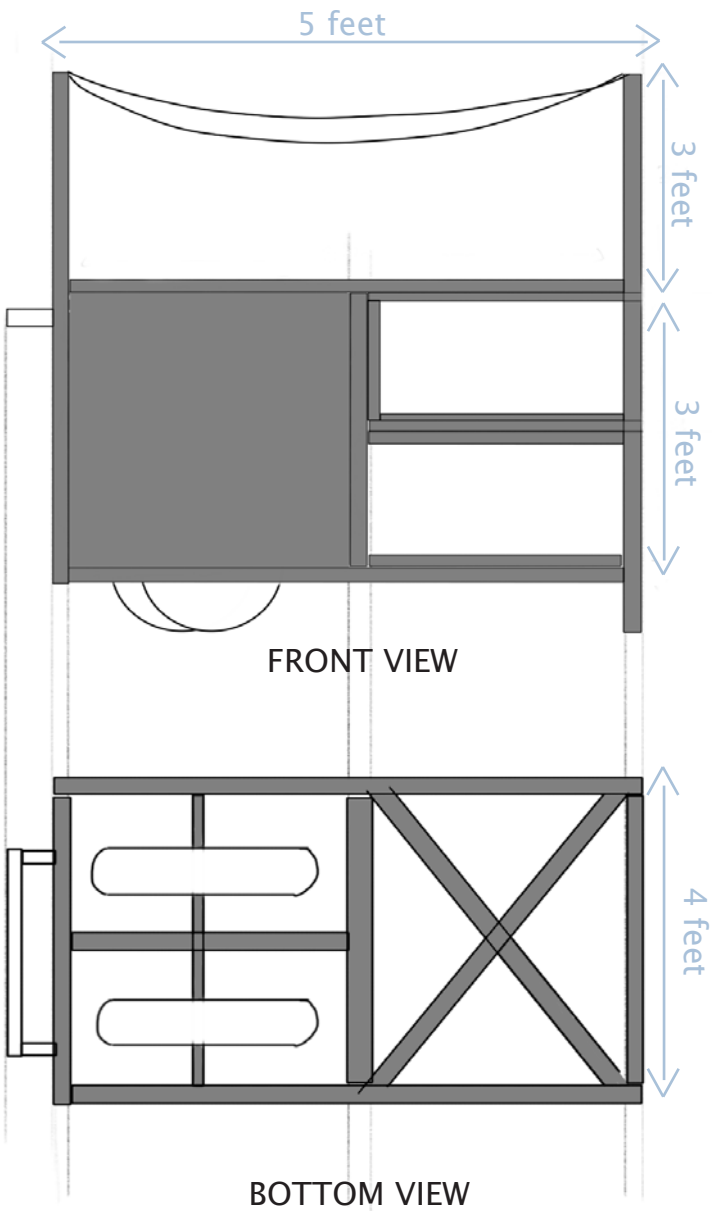
The sketch models were made to further test out form and functions.

Product Development

An important step for the product development was to understand the scale of the cart. For this, an orthographic view of the work table was made on the wall and a few users were asked to interact with the orthographic. These observations were then used to create the final dimensions for the cart.



Testing the scale of the cart



A 1:8 scale model of the final form was made for the product development. The model was made using wooden dowels and museum board. The final form of the cart was designed to be compact and minimal.



Final Proposal



SOW

Sow is a pop-up gardening cart for community common spaces in cities which provides users a way to collaborate, share, display and exchange knowledge within the community through gardening.

Where can Sow be placed?

Sow can be placed in any community space like rooftops, community gardens or even parking garages. It is a portable structure, so it can be moved occasionally based on the needs of the community.

Who is Sow for?

Sow was made keeping in mind the needs of the aging population. However, it is fairly inclusive and encourages collaboration and connection between different age groups.

How can Sow be used?

Sow can be used in several different ways based on the preferences of the community. However, some functions include – a work table for gardening, storage space for shared material, display space for plants, and a board for communication between neighbors.

Why Sow?

Sow offers a compact, portable and fun way for the aging community to practice gardening on a small scale. This routine exposure to nature and gardening can provide a lot of social, physical, and psychological benefits which can promote a healthier lifestyle.



Components of the cart

Implementation



Exploded view of the cart components

Implementation

SUNSHADE

The sunshade is made using high-density polyethylene that provides safety from exposure to harmful UV rays. It allows cooling breezes and light to pass through for a better airy and comfortable space. The sunshade is attached to the cart using 4 stainless steel hooks.

FRAME

The frame of the cart is made using birch plywood that has been sealed to ensure durability. It can be manufactured using a CNC machine which provides accuracy, while also minimizing wastage. The frame uses cross beaming to further strengthen the overall structure.

PEGBOARD

The pegboard is also made using sealed birch plywood. It is attached to the cart using screws. It comes with wooden dowels and modular shelves that can be placed anywhere on the pegboard.

WHEELS

The cart uses pneumatic wheels mainly due to its durability and ability to absorb unevenness in the terrain. They also have thicker threads that offer traction to ensure sturdiness.

SHELF

The shelf at the bottom of the cart is removable to ensure ease in cleaning and general use.

CUPBOARD

The cupboard can be used to store bigger items that may be dangerous to keep outside. It comes with a locking mechanism to ensure safety for young children. The cupboard has a D-shaped metal handle to ensure ease of use for the elderly.

DRAWER

The drawer can be used for items that are meant to be displayed. It also comes with a D-shaped metal handle to ensure ease of use for the elderly.

RUBBER LEG CAPS

The rubber leg caps ensure the stability of the structure when it is stationary.

Uses and Context

The cart can be used in numerous ways, depending on the preferences of the community. However, below are some possible ways in which the cart can be used.



Gardening with neighbors

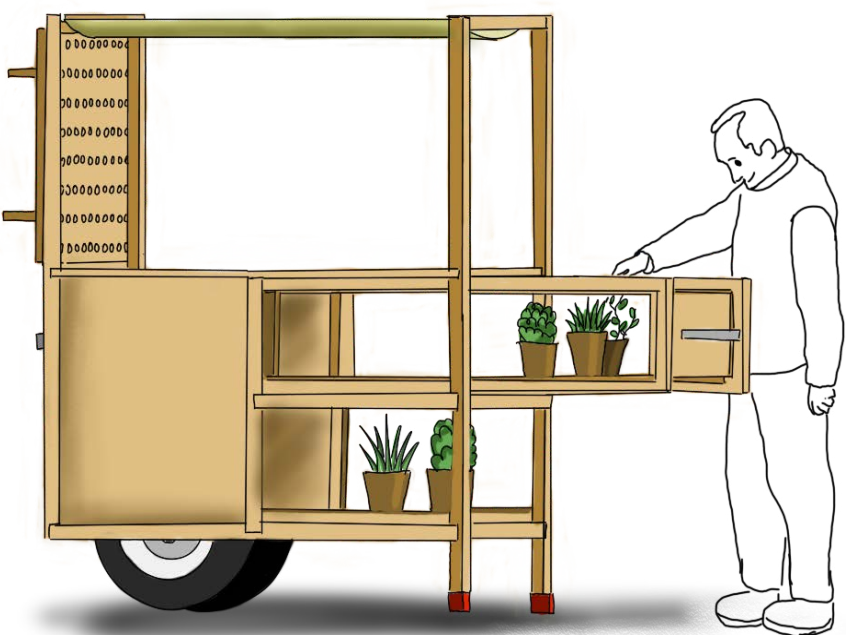
Collaborative workshops with younger members of the community

Tutorials and classes for beginners in gardening



Sharing tools/supplies with neighbors

Communicating with neighbors, writing encouraging notes for others



Displaying/Sharing plants within the community

Helping each other maintain the plants

Learning about gardening from others



A Context Rendering of Sow

Conclusion

The goal of Sow is to provide a space for the aging community to enjoy the several benefits of gardening as a community. It offers an easy and fun way for people to get a daily exposure to nature during their busy schedules. Some next steps to further develop Sow could be to focus on accessibility. This would mean looking into how the gardening experience can be made easier for differently abled persons. Another next step could be to see how the range can be expanded to include more versatile structures or also to create a more holistic range which could comprise of seating, gardening beds, etc.

Bibliography

Breeding, Brad. “Positive Aging: Changing Your Mindset About Growing Older.” MyLifeSite, 18 Apr. 2021, mylifesite.net/blog/post/positive-aging-changing-mindset-growing-old-er/#:%7E:text=The%20concept%20of%20%E2%80%9Cpositive%20aging,healthy%2C%20nor-mal%20part%20of%20life.

“SAGE Journals: Your Gateway to World-Class Research Journals.” SAGE Journals, 2020, journals.sagepub.com/action/cookieAbsent.

Simons, Leon. “Lifestyle Factors and Risk of Dementia: Dubbo Study of the Elderly.” PubMed, 16 Jan. 2006, pubmed.ncbi.nlm.nih.gov/16411871.

Fitzgerald, Miranda. “Florian Wegenast Designs Furniture That Creates ‘Temporary Gardens’ in Small Spaces.” Dezeen, 20 Dec. 2017, www.dezeen.com/2017/12/20/florian-wege-nast-creates-open-garden-furniture-small-living-spaces.

Gray, Tonia. “Are Biophilic-Designed Site Office Buildings Linked to Health Benefits and High Performing Occupants?” MDPI, 2014, www.mdpi.com/1660-4601/11/12/12204/htm.

DeBaisio, Joe. “Wood as a Biophilic Design Element.” Centennial Woods, 23 Nov. 2020, cen-tennialwoods.com/blog/wood-as-a-biophilic-design-element.

McCain, Maria. “Bringing the Outdoors In: The Benefits of Biophilia.” NRDC, 2020, www.nrdc.org/experts/maria-mccain/bringing-outdoors-benefits-biophilia.

Fletcher, June. “The Ins and Outs of Gardening for Seniors.” © 2007–2021 AgingCare All Rights Reserved., 6 Apr. 2021, www.agingcare.com/articles/growing-connections-garden-ing-with-seniors-147111.htm.

<https://www.nytimes.com/2016/08/07/realestate/new-york-buildings-with-communal-gardens.html>

Frishberg, Hannah. “What Is a Garden Apartment, Anyway? The Answer May Surprise You.” Brownstoner, 13 July 2016, www.brownstoner.com/real-estate-market/garden-apart-ment-nyc-brooklyn-queens-definition-features.

“7 Ways To Help Seniors Find A Sense Of Purpose.” SeniorsMatter.Com, 11 Mar. 2020, www.seniorsmatter.com/7-ways-to-help-seniors-find-a-sense-of-purpose/2491844.

Schier, Mary Lahr. “Day 3: Pots vs. Raised Beds vs. Traditional Beds.” Minnesota State Horti-cultural Society, 21 June 2017, northerngardener.org/day-3-pots-vs-raised-beds-vs-tradi-tional-beds.

“The Poundshop Cart: A Portable Pop-up Shop! (Pound Shop) (Canceled).” Kickstarter, 2017, www.kickstarter.com/projects/20143248/the-poundshop-cart-a-portable-pop-up-shop.

A top-down photograph of three gardening tools with light-colored wooden handles and silver metal heads, laid out on a piece of coarse, tan-colored burlap fabric. The tools include a three-pronged fork at the top, a larger shovel in the middle, and a smaller trowel at the bottom. Dark brown soil is scattered across the burlap, particularly around the tools. On the left side, the green leaves of a plant in a terracotta pot are visible, partially obscuring the view. The overall scene suggests a gardening or planting activity.

THANK YOU