

EASE

Cognitively Accessible Walking Aid for People Living With Dementia

Ease is a walking aid **designed specifically for individuals with cognitive disabilities** or dementia, ensuring safer and more intuitive mobility. Traditional walking aids often **fail to accommodate the unique cognitive and sensory challenges** associated with dementia, inadvertently **increasing the risk of falls**. Ease addresses this gap by incorporating cognitive accessibility principles such as leveraging colors, shapes, and configurations that enhance ease of use. By doing so, Ease empowers individuals to navigate their environments more independently and confidently.





Design Problem & Opportunity

Walking aids are essential in elderly care, significantly reducing the risk of falls and preventing serious injuries. However, **for individuals with dementia and cognitive impairments, these aids can present unintended challenges.** Proper use of a walking aid requires learned behavior, correct posture, and gait, placing additional cognitive demands on users. As dementia progresses, these cognitive requirements become increasingly difficult to manage, **raising the risk of falls instead of mitigating it.**

Designing for cognitive disabilities requires addressing several factors:

Declining sensory function:

Visual impairments make it difficult to distinguish objects from their environment, and depth perception worsens.

Reduced attention span and memory:

Slower decision-making and impaired thought processes create additional obstacles to using standard walking aids.

Diminished motor function:

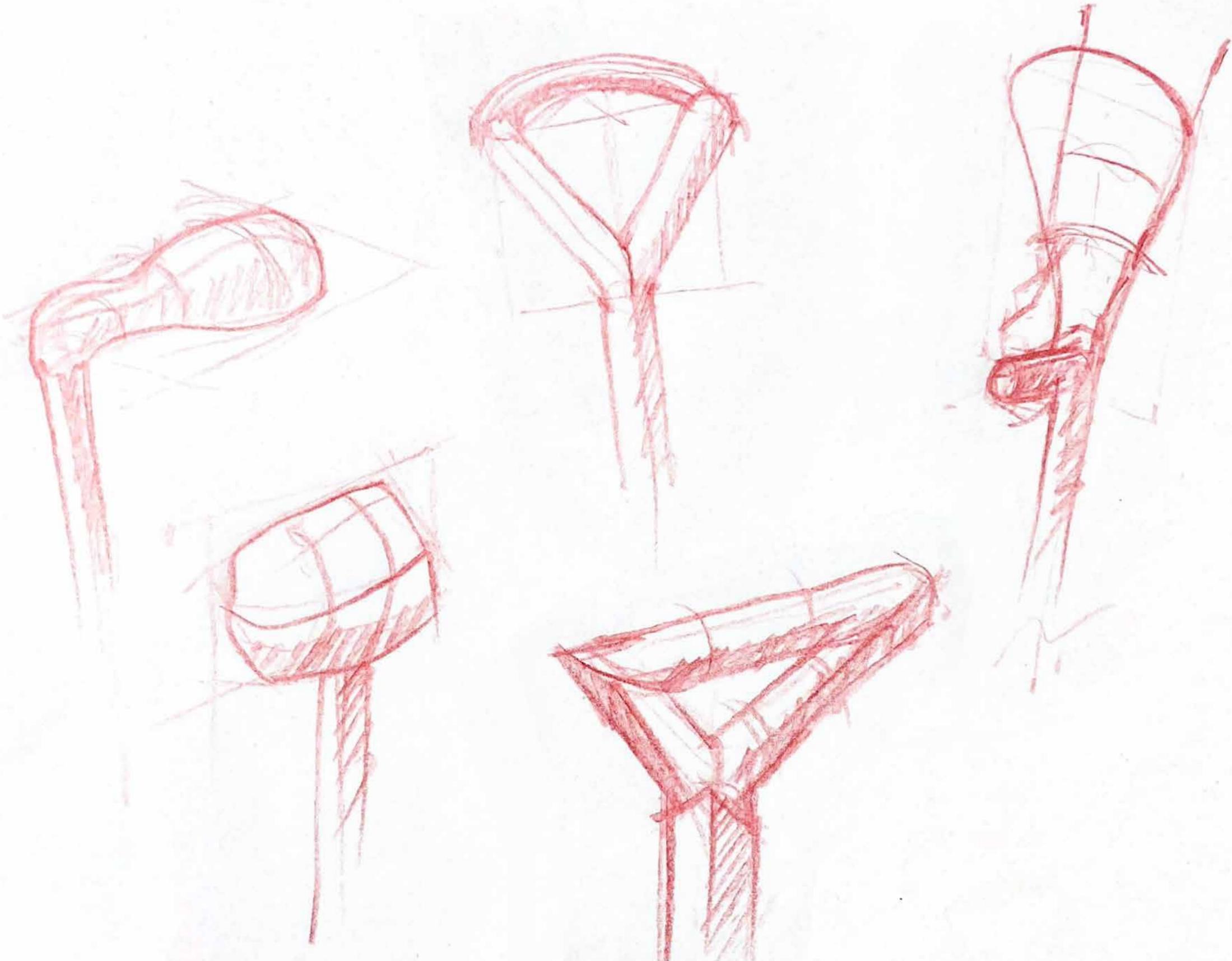
Individuals rely on walking aids for mobility, necessitating designs that support ease of use while maintaining stability.

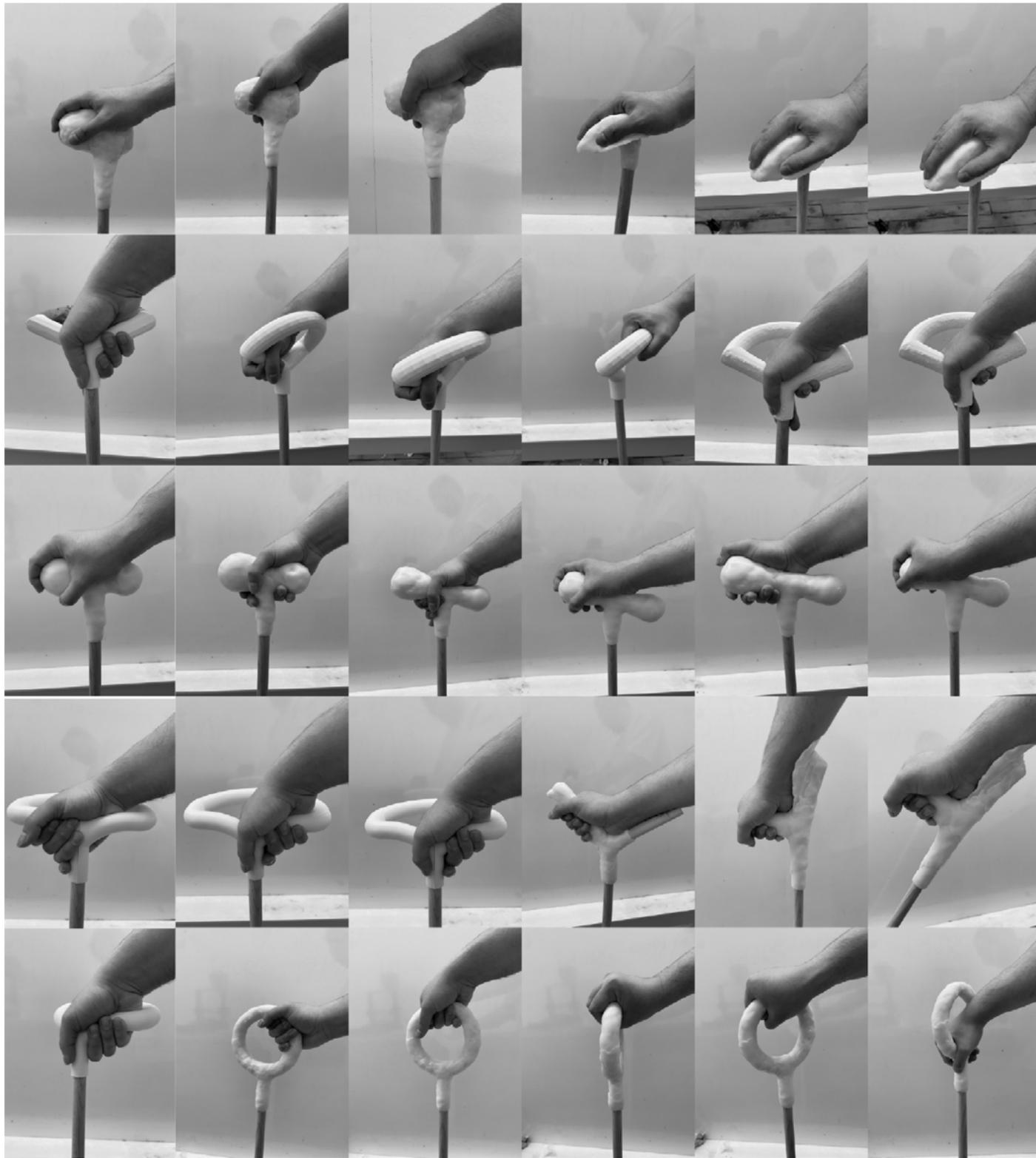
Current walking aids prioritize general ergonomics but **overlook these cognitive factors**, creating an unmet need. Ease is designed to bridge this gap, enhancing user well-being, independence, and self-reliance—key elements in slowing dementia progression.



Design Objective :

“To design a walking aid that makes its users experience less cognitive demand.”





Process & Research

The design process began with an in-depth review of research on cognitive impairments and mobility challenges. This research highlighted the increased risk of falls associated with conventional walking aids for individuals with dementia. A market analysis further validated this gap, revealing a lack of walking aids specifically designed for this demographic.



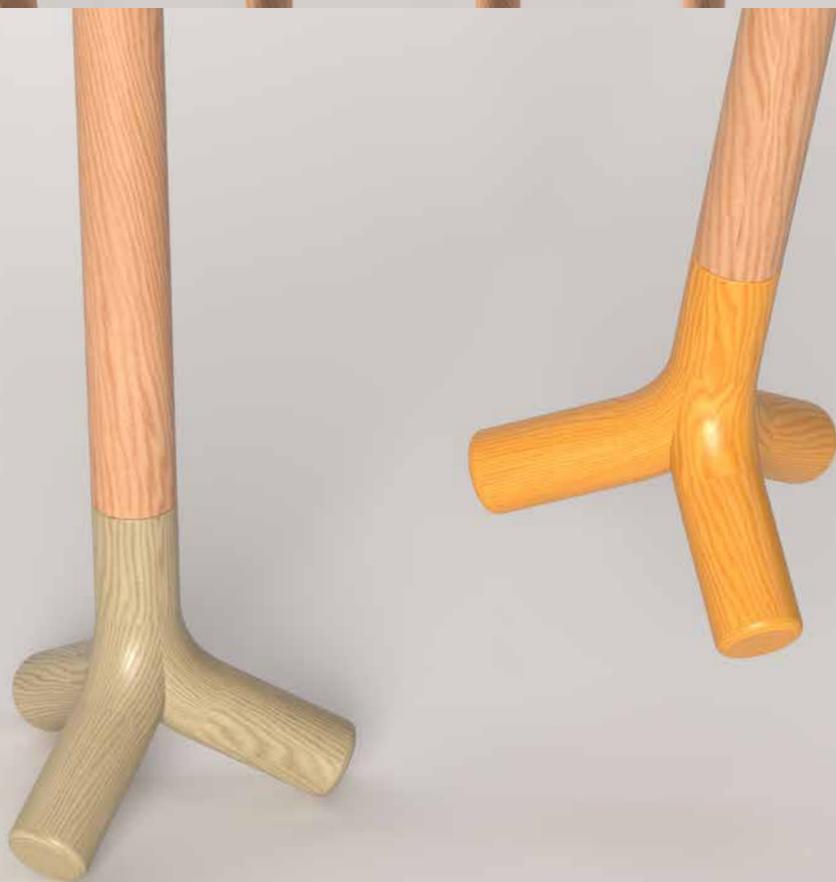
To develop a solution, multiple prototypes were created and tested to evaluate comfort, usability, and cognitive demand. User testing played a crucial role in refining the design, ensuring that Ease minimizes cognitive load while maximizing functionality and accessibility.



1.



2.



3.



4.

Design Solution

Ease integrates cognitive accessibility principles into its design, incorporating:

1. Stimulating Color – The cane’s color contrasts with its surroundings, making it easier for users to locate. The color also provides subtle cognitive stimulation without overstimulation.

2. Modular Design – Customizable attachments such as GPS tracking, LED lighting, a coin pocket, and a wallet allow users to tailor the walking aid to their needs. Adjustable height ensures ergonomic adaptability.

3. Standing Base – A stable base enables the cane to stand upright on its own, eliminating the need to lean it against surfaces. This feature makes it easier to retrieve, particularly for users with motor impairments, while also providing a more stable walking experience.

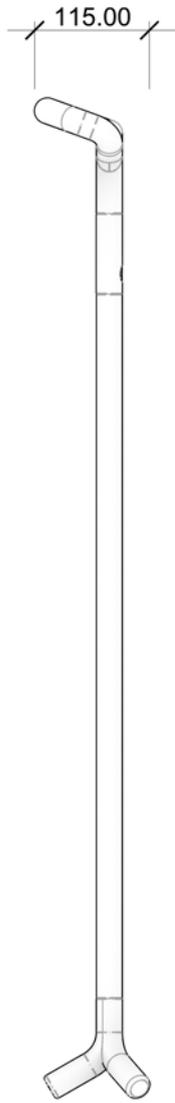
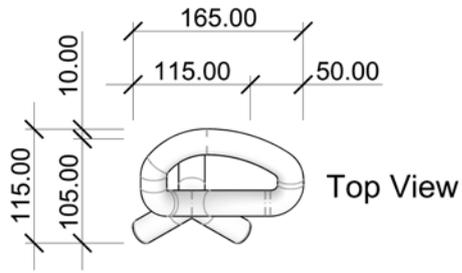
4. Ergonomic Grip & Loop Handle – A comfortable grip enhances usability, while a unique loop design prevents accidental drops. This allows users to focus their cognitive energy on navigating their surroundings rather than holding onto the cane.



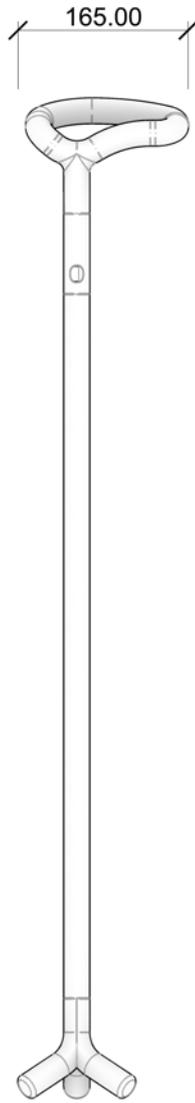
Why This Matters?

A key factor in cognitive decline is reduced sensory and mental stimulation. Ease is designed to lower cognitive demands, enabling individuals with dementia to move more freely and independently. **By enhancing mobility, Ease fosters greater engagement with daily life**, ultimately improving quality of life and delaying the progression of dementia.

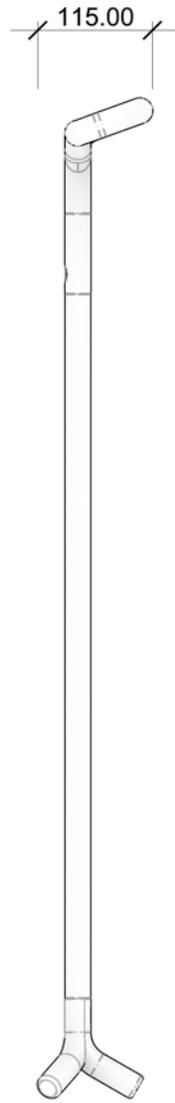
Beyond its practical benefits, Ease supports human dignity, health equity, and social inclusion—helping individuals reconnect with their communities and maintain **a sense of self-reliance for as long as possible.**



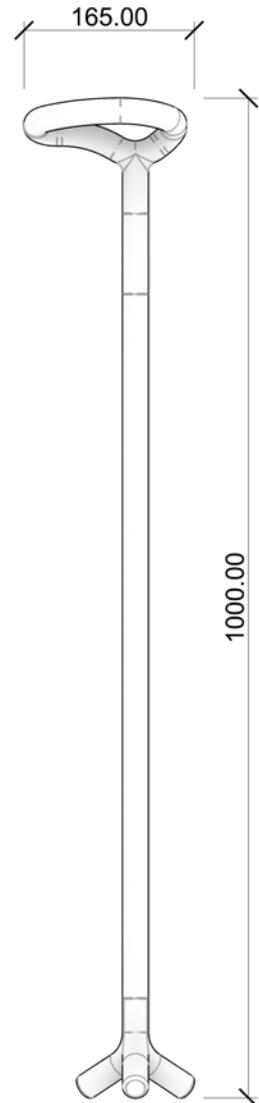
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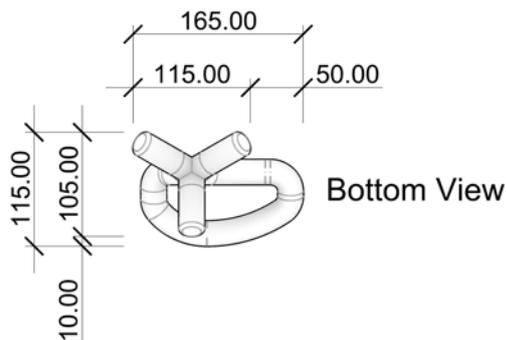
Front View



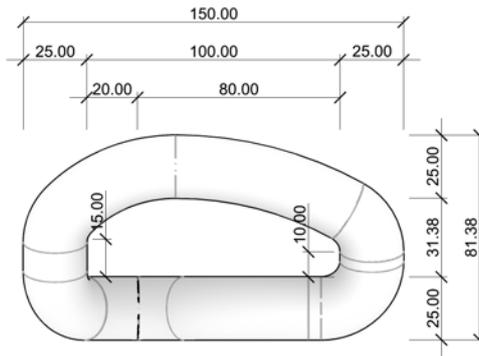
Right View



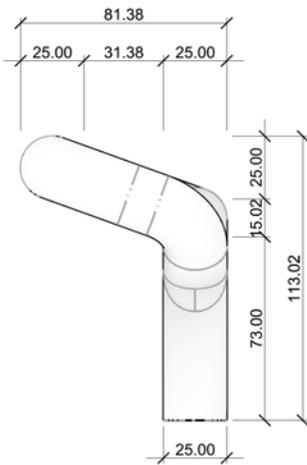
Back View



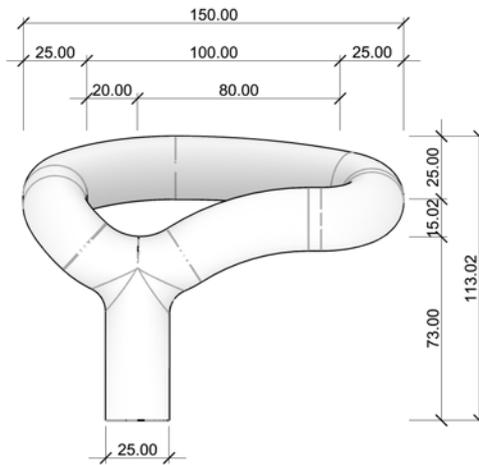
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	Drawn by : Thanat Somwong	Unit : Millimeters		Date Mar 9 2025



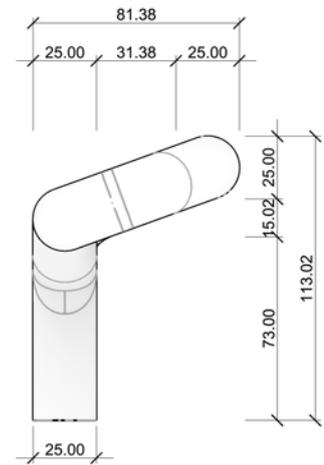
Top View



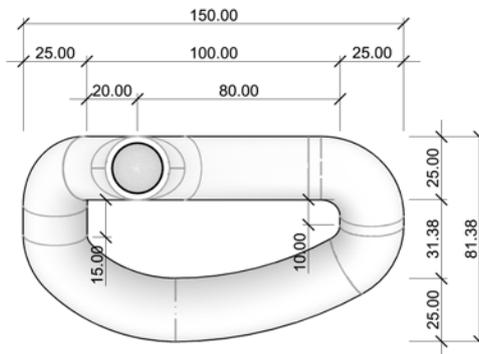
Left View



Front View



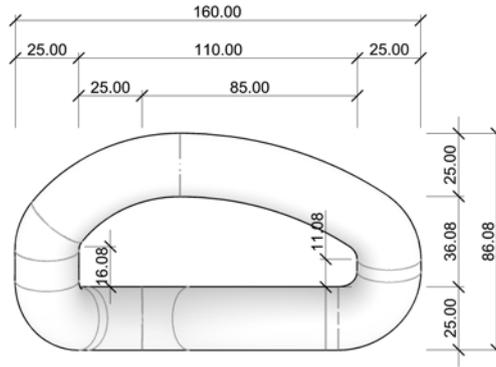
Right View



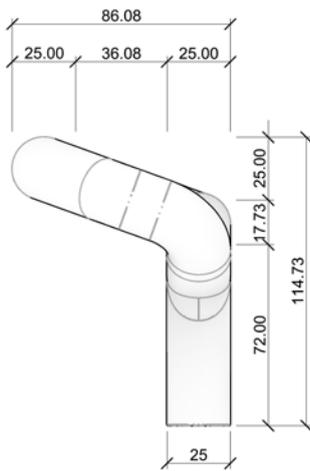
Bottom View

Handle
Small Size

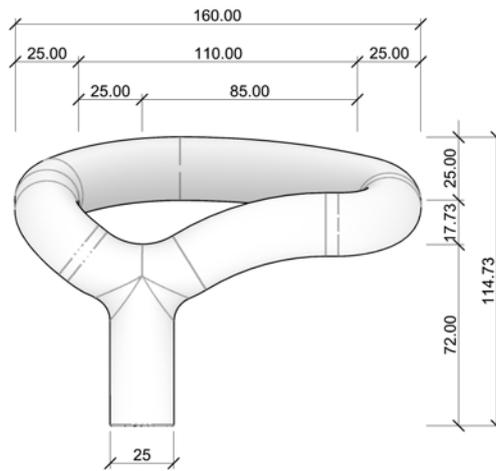
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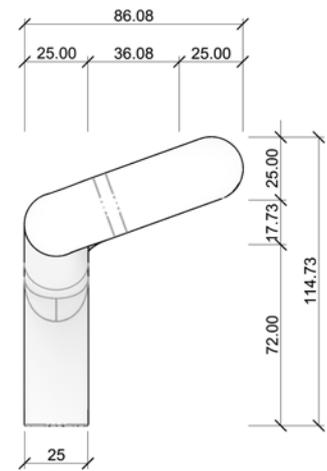
Top View



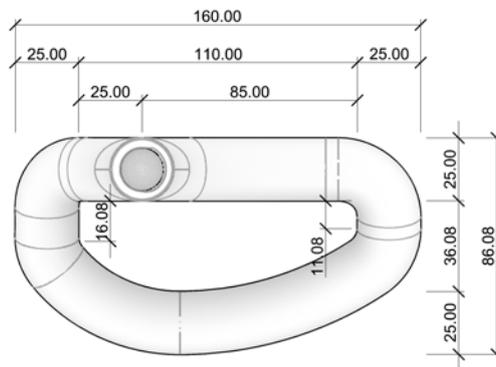
Left View



Front View



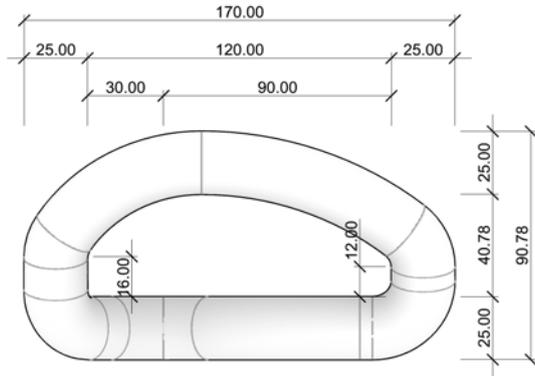
Right View



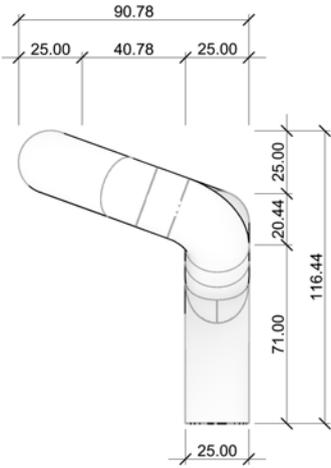
Bottom View

Handle
Medium Size

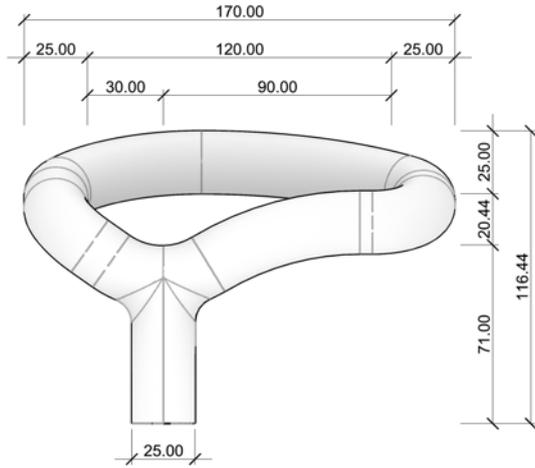
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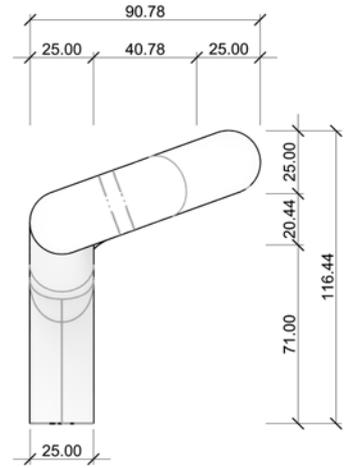
Top View



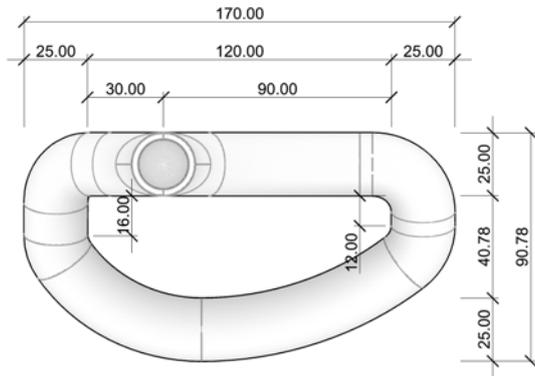
Left View



Front View



Right View



Bottom View

Handle
Large Size

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