

CONCEPTUAL DESIGN PLAN UPLOADED

TEAM 21

Design Scheme 1

“Bridging Generations · Water and Warmth”

Elderly–Youth Mutual Aid Network + Ergonomic Water Dispenser Cradle

I. Project Positioning and Core Objectives

This project aims to strengthen intergenerational bonds by addressing a practical challenge faced by elderly residents: the difficulty of lifting and manipulating heavy water bottles.

Through a dedicated WeChat community — one of the most widely used platforms in China — the system creates a local mutual aid network linking young volunteers to elderly people in the same neighborhood. Young participants deliver water bottles directly to seniors’ homes, while elderly residents express appreciation through small reciprocal gestures such as homemade food or vegetables from their gardens.

Inside the home, an ergonomic water-dispenser cradle ensures that seniors can pour water without lifting, tilting, or holding a heavy container.

The combined social + ergonomic intervention reduces physical strain and simultaneously fosters authentic emotional connection between generations.

II. Elderly-Friendly Facility Design

2.1 Social Interaction Platform – WeChat Community “Water & Warmth”

The platform creates a lightweight ecosystem of practical daily support between young volunteers and elderly residents, combining functional assistance, social interaction, and ultra-simplified digital tools.

System Structure

- A local WeChat group connects young volunteers (“Water Helpers”) with elderly residents in the same community.
- Volunteers register their availability, schedules, and coverage area.
- Seniors request help through a voice message, a single icon, or simple voice command (“Little Assistant, help me call a volunteer to deliver water”).

Interface & Usability Features (Elderly-Oriented)

- Large “One-Click Water Request” button to minimize cognitive load. Large icons, high contrast, clean layout, ideal for users with low digital literacy or vision difficulties.
- Simplified voice recognition (“Aiuto acqua, per favore”).
- Automatic geolocation sent directly to volunteers.

Enhanced Social Functions

- One-Minute Greeting: optional 1-minute micro-video call to strengthen emotional proximity.
- Light community activities: recipe sharing, garden photos wellness tips to strengthen trust and connection., neighborhood notices.
- “Light Social Interaction + Light Services” cycle: each water delivery generates small interactions, building trust.
- Monthly micro-exchange events: volunteers and seniors meet to exchange fruit, snacks, and small gestures.
- Non-monetary appreciation system: seniors express gratitude with handmade food, vegetables, or handwritten notes.

2.2 Ergonomic “Water Cradle” System (Updated with Vertical Placement Design)

WATER CRADLE LITE – Foldable & Tube-Assisted Edition

The updated Water Cradle Lite is an ultra-light, smart solution designed to help elderly users move and pour water from heavy bottles without lifting them. It is the most compact and minimal version of the system, created for simple, intuitive everyday use.

Foldable Base Structure

The base consists of a mini half-frame made of lightweight metal (such as aluminum), featuring:

Foldable joints

The two side legs fold inward:

- to occupy very little space
- to be stored in a corner or hung up
- to allow seniors to open it with a single, easy motion

Stability maintained when open

When opened, the two lateral elements form a stable base with:

- a triangular frame
- non-slip feet
- a wide shape that distributes the bottle’s weight evenly

Mini Frame with Side Handles – “Drag & Slide”

The core function of the product remains the same:

Two ergonomic side handles

They allow the user to drag the bottle across the floor with 40–50% less effort compared to lifting.

No arm strength is required → ideal for users with reduced mobility or a weak grip.

Non-slip base

The surface under the bottle provides light grip that prevents wobbling while still allowing smooth sliding.

Cap with Flexible Tube for Easy Pouring

The most functional innovation:

Cap with tube connector

A customized cap for the bottle features:

- a tight, leak-proof connector
- a flexible, curved tube
- a controlled-flow spout

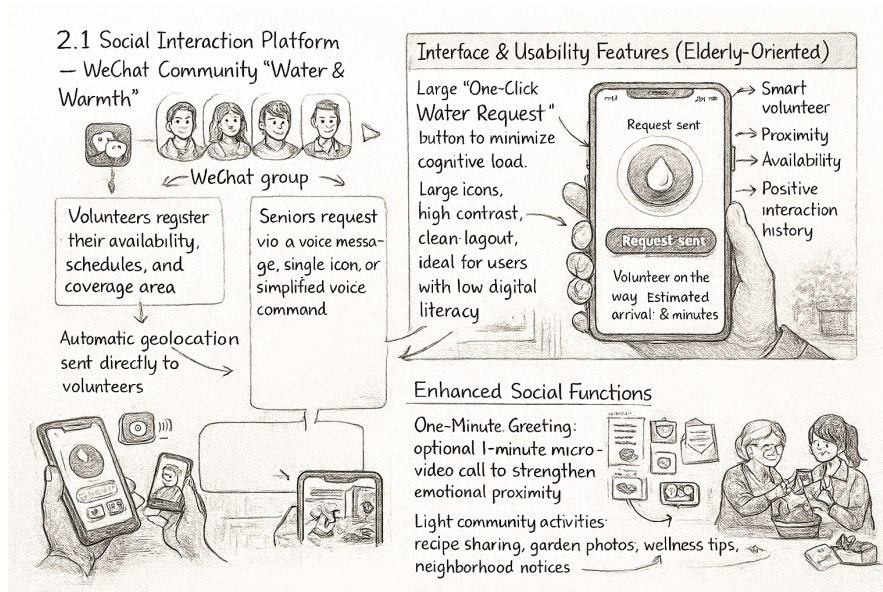
Pouring without lifting

The elderly user no longer has to lift or tilt the bottle:

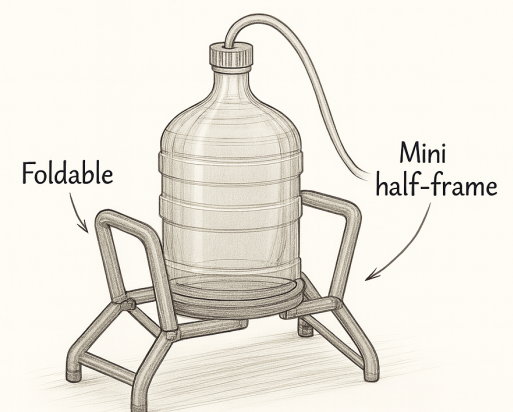
- they simply bring the tube's tip to a glass or pot
- water flows with slight pressure or by tilting just a few millimeters
- zero risk of spills or accidental drops

Long, soft tube

Allows the user to reach the sink or countertop comfortably even if the bottle remains on the floor.



Water Cradle Lite



A lightweight, stable frame with handles.
Elderly users can “drag/slide” it

Budget for the prototype: 110 euro/ 900,57 CNY