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## MARKET

### TARGET MARKET

- Nursing homes
- Assisted living facilities
- Home care

### USER PROFILE

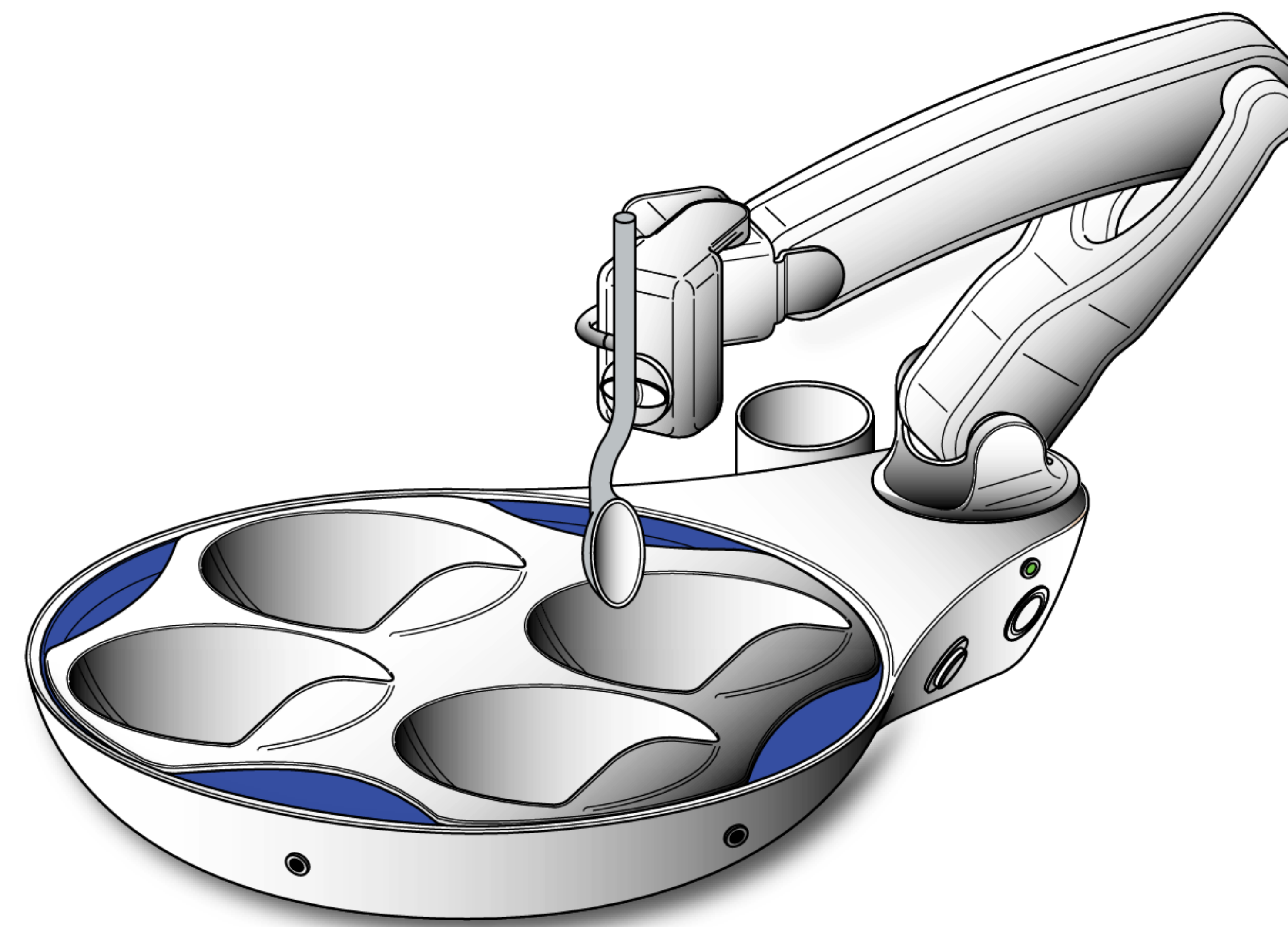
- Individuals with upper extremity disorders.
- Ability to chew and swallow
- Cognitive ability to operate a simple machine.

### US MARKET SIZE

- 1,500,000 + potential users

## TRANSFER ROBOT

- Six degrees of freedom for complete dexterity.
- Robot arm configuration designed to accommodate various tasks (scooping, collecting food).
- Arm links designed to encompass all four bowls.
- Dynamixel / Maxon motors for joint actuation.
  - High torque with small profile
  - PID control enabled
  - 12 bit encoder for accurate position control.
  - Velocity and acceleration control for smoother path profile.
- Hybrid path profiling using teach and play and inverse kinematics.
- Customizable point of delivery (POD).
- Dynamic trajectory generation through delivery sequence to POD.



**Patented.**

## VALUE

### USER BENEFITS

- Improved confidence, dignity and independence.
- Greater social interaction.
- Increased desire to eat and drink.
- Improved health through better nutrition.
- Ability to control food selection and pace of eating and drinking.

### CAREGIVER BENEFITS

- Upgrades job responsibilities.
- Improves productivity.
- Reduces time pressure and stress of feeding a resident.

### RESIDENCY BENEFITS

- Reduces malnutrition and dehydration lawsuits.
- Increases productivity and reduces labor costs.
- Improves monitoring of daily nutritional consumption.
- Improves preventive care.
- Reduces caregiver job turnover.
- Improves reputation

## DESIGN

- Inconspicuous & stylish.
- Intuitive & easy to use.
- Customizable by user.
- Similarity to conventional dining.
- Superior functionality .
- Custom Interfaces.

## FUTURE ENHANCEMENTS

- RFID for multiple user supervision.
- 3D sensing & load cells for monitoring nutritional consumption.
- 3D sensing to locate the user's face.
- 3D sensing to interpret user commands.
- 3D sensing for collision detection.
- 3D sensing for improved food capture and delivery.
- Dual utensils for sophisticated food capture.
- Additional utensil degrees of freedom.
- Dual Transfer Robot arms.

Supervisor



Table with IFD users



## PRODUCT FEATURES

Main Functions	Choose Food, Deliver Food, Drink
Operational Modes	Teach Mode, Run Mode
Body Size (in)	16.45 X 11.45 X 2.38
Weight (lbs)	3.8
Transfer Robot Motors (Degrees of Freedom)	6
Transfer Robot: Max lift height, from underside of device (in)	14.5
Drinking System	Removable Tubing
Food Types	All Foods
Food Compartments	4
Food Capacity (oz)	16
Utensil	Straw-Spork Combined Utensil
Removable (Washable or Disposable Items)	Plate, Plate Engager, Utensil, Drinking System
User Interface	Interchangeable Switches
User Interface Complexity	2 Switches
User Interface Forms	Variety of Existing Wired or Wireless Switches
User Interface Technologies	3.5mm Headphone, infra-red, blue tooth
Caregiver Interface	Power Switch, Mode Switch
User Interface / Caregiver Interface Feedback Indicator	Red/Green LED
Mounting Methods	Flat Surface, Suction Cups, Mounting Fixture
Internal Power Supply	Rechargeable 11.1 V DC Battery
Battery Life approximation (hrs)	3