The Development of Meal-Assistance Robot “My Spoon”
-Selectable Operation Interfaces-

Purpose
Eating is a basic motion for humans. We are developing a meal-assistance robot “My Spoon” to assist the physically handicapped person to eat by themselves.

Concept
The basic concept is to eat a meal freely choosing one’s own favorite foods in the desired order and at one’s own pace.

Features
- Allows eating with only minimal help from a caregiver.
- Usable with almost all types of everyday foods. No special food packets required.
- Flexibly tailored for specific types of disabilities with interchangeable controllers.

Anticipated Users
Those who cannot move their hands freely and need help when eating.

Examples
Spinal Cord Injury, Muscular Dystrophy

Caution
My Spoon cannot be used if any of the following conditions are met:
- Problems with chewing and/or swallowing.
- Motor control problems such as moving their head towards the spoon, operating a joystick or pressing a button.
- Problems maintaining upright posture (more than 60 degrees from horizontal) for an extended amount of time, even with the use of a belt or other mechanism to help maintain posture.
- Problems seeing the My Spoon arm.
- Problems understanding how to operate My Spoon.

Contact Us
http://www.seicm.co.jp/my_spoon/index_e.html
E-mail: my spoon@seicm.co.jp

Overview
- Manipulator Arm with 6-DOF
- End-effector (spoon & fork) with 1-DOF
- Dedicated Meal tray sectioned into four compartments
- Operating interface adjustable to user condition

Main Specifications
Dimensions: 260(W) x 370(D) x 250(H) [mm]
Weight: 8 kg (Base Unit Only)
Power Supply: AC100V/50/60Hz

Basic Operation
Only two basic command sets required for a meal:
1) Section Selection
   - Select the Section by pushing joystick.
2) Position Adjustment
   - Move the manipulator to the desired direction, and to descend and grasp the food.

Future Tasks
- Prevent an empty spoon to return to the user.
- Enhance the accuracy in food grasping.

Image Processing Technology
- Change the Predefined Sequence

Automatic Mode
- Only one simple operation to start robot motion.
- Manipulator moves to a section in a predetermined sequence.

Semi-Automatic Mode
- One operation to select section
- The method is the same as basic operation

Position Adjustment
- The method is the same as semi-automatic mode.

Price List
- Marked in Japan in May 2002
- For use in Japan only
- Price of standard set is below

Purchase
Price: 380,000 yen (US$3,200)
- Standard Set:
  - My Spoon
  - Standard Joystick
  - Fixing Bracket (for Standard Joystick)
  - Cup Stand
  - Meal Tray (two set)
  - Spoon & Fork (two larger size)
  - Straw Holder

Rental
- For Organization
  - Monthly Fee: 60,000 yen (US$500)
- For Person
  - Contract Period:
    - 5 years: 300,000 yen (US$2,500)
    - 1 year: 200,000 yen (US$1,700)

Demonstration
Exhibition
April 23 (Wed) ~ April 24 (Thu), 2003
Room D, Booth No 5

Demo Session
Date: April 24 (Thu), 2003
Time: 11:30 ~ 12:15
Place: Room D

Demonstration with a My Spoon User