Global action against dementia

Communication Robot for Persons with Dementia - Based on Field-based Innovation

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Communication Robots (ICT & Robot Exibition @ Sky Studio)

PARO (Daiwa House Industry)

Kabochan (Pip)

PaPeRo (NEC)

PALRO (FUJISOFT)

Pepper (SoftBank)

NAO (Aldebaran Robotics)

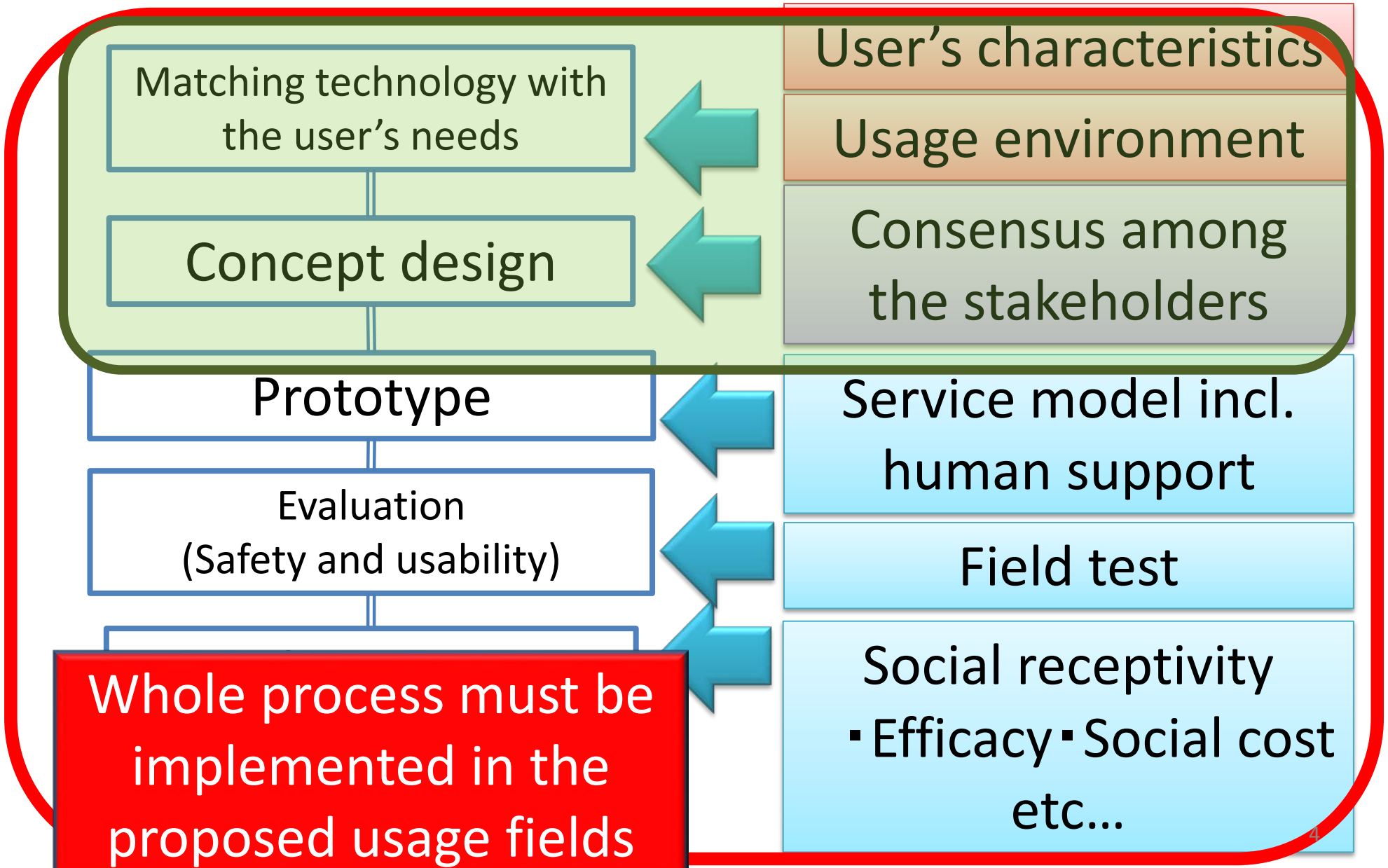
Communication Robots
(ICT & Robot Exibition : Sky Studio)

There is no answer on the desk
nor in the laboratory.

Answers must be in the use field.

Field-based innovation.

Field-based Innovation



Development of an information support robot for the elderly with cognitive disabilities

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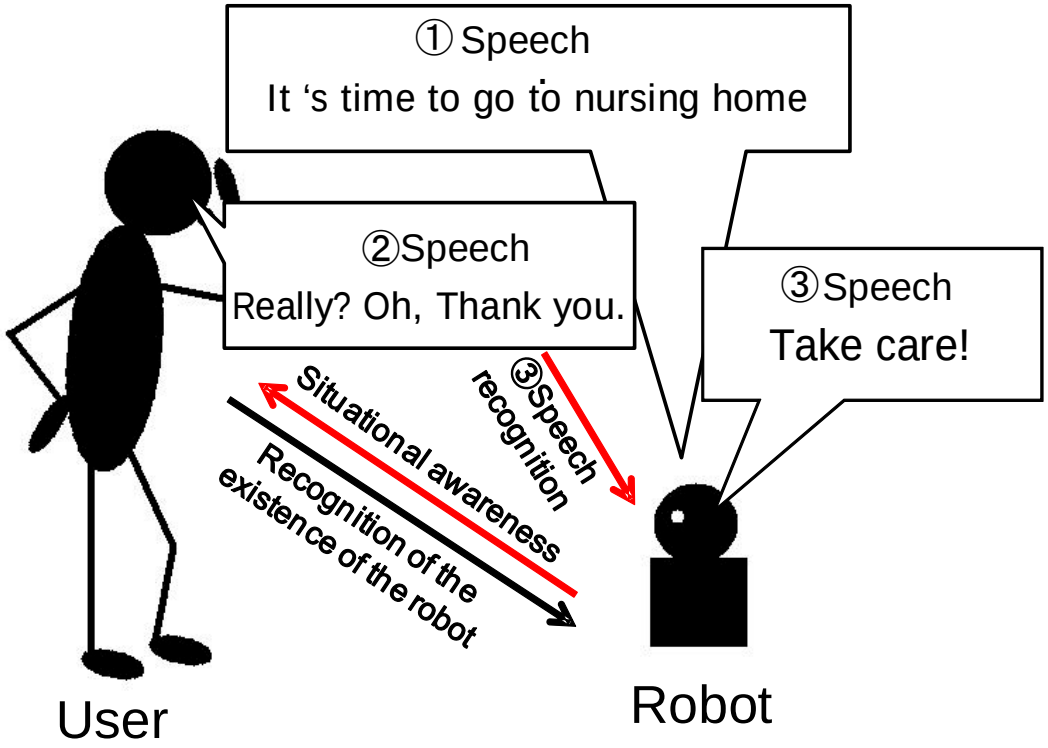
1:The National Rehabilitation Center for Persons with Disabilities, 2:NEC Corporation, 3:Seikatsu Kagaku Un-Ei Co., Ltd., 4:France Bed Co., Ltd., 5:The University of Tokyo, 6:National Institute of Advanced Industrial Science and Technology

How to develop useful technologies for the elderly ?



Information support robot for persons with dementia ???

Decision process of the system concept based on field-based innovation

①Matching technology to users at the living environment

Participant observation
Mock-up evaluation
User experiment

- Possibility of information support using the robot
- Suitable method according to the cognitive function of the elderly
- Information acquisition >90%
- Suitable environment
- Suitable synthesized speech
- Speech recognition 78.9%

②Making system concept in the community (Izu city)

Group interview
(124 older people)
(40 professionals)
Interview (9families)
Workshop (2families and related professionals)

- 172 needs from the elderly
- 36 support scenarios

③Business model

- Target users :
  >Home-bound elderly with forgetfulness; incl. MCI and Mild dementia
- Services :
  >Medication adherence
  >Schedule indication
- Provision form :
  >Rental provision
- Related professionals:
  >Home cares
  >Area comprehensive support center

System concept

System concept

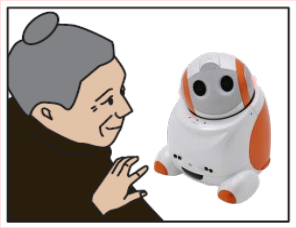
Input of the information

Share of the information

Information share system

Users and their families input the information and share them with professionals

Schedule・Medication



Memory

Important information for daily living; date, time, schedule and so on

Activity

Timely information about necessary activities

Service Model
(Human support)

Conversational information support protocol

Technology for transmitting information with certainty
Technology for recognizing meaning of the users' answer
Flexible interface for function of each user

Target users

- Elderly with forgetfulness
- MCI
- Mild dementia

Conclusions

Technologies

PARO (Daiwa House Industry)

Kabochan (Pip)

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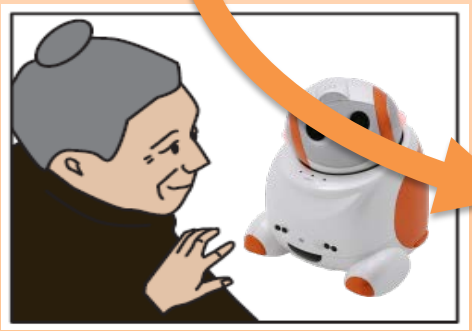
Families

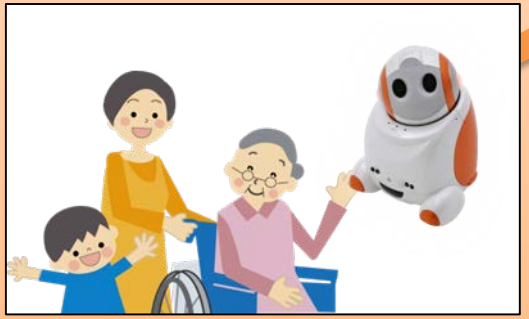
Consensus

Users

Stakeholders



Users' characteristics and environment



Service model

Community

Community and use field create innovation.

Acknowledgement

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Field-based Innovation Cycle with Many Kinds of Stakeholders

Care givers
Family

Users

User's association

Researchers

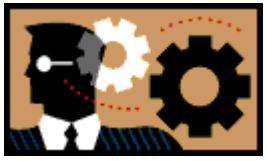
AD professionals
Medical professionals
Welfare professionals

Empowerment of all stakeholders in the community

Engineers

Providers

Commercialization



Manufacturers

Evaluator
Regulation organization