

# Social service Robots for the elderly

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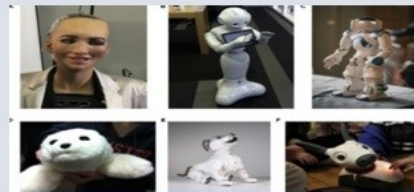
### Introduction

The success of a new technology service depends on the value it creates for the user and on the value it creates or destroys for the network that this user is integrated into. (Martina Čaić and Gaby Odekerken-Schröder) A social servicing robot is a robot that operates partly or fully autonomously to provide useful services for the well-being of people and equipment, excluding construction work. The effectiveness of social auxiliary robots in the quality of life of older people is important not only for older people, but also for health policymakers, nurses and elderly family members. Health care and educational support offers an ideal environment for exploring the role of new technologies and services they offer, particularly high technologies (e.g. healthcare robot, Tele-health), but are experiencing resistance (Broadbent et al., 2009) because it includes complex interactions between multiple actors, technology and ambiguous institutional rules (Black and Gallan, 2015). A social service robot is a robot that operates partially or completely autonomously to provide useful services for the well-being of people and equipment, excluding construction work (Magnenat-Thalmann & Zhang, 2013; W. Moyle et al, 2013).

### The desired effects of introducing social auxiliary robots

When developing a robot aimed at supporting dependents, different goals must be taken into account:  
 the robot to be able to develop an immediate treatment for the elderly person with physical problems, for assistance or rehabilitation purposes.  
 or do it indirectly, oriented to companionship or mental help, through activities such as games and conversations, which may contain psychological therapies.

### Categorization of the Auxiliary robots for the elder 1



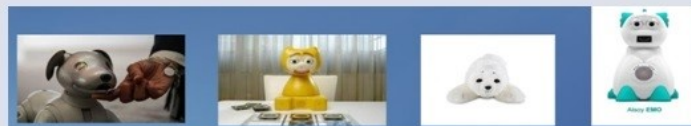
### Effective interaction

It is important to develop an effective interaction of older people with the robot, but also to avoid rejection, using attractive robot models for them anthropomorphism can be created with stimuli such as softness in texture, but human knowledge is fully integrated into the social framework, so social robots must be equally integrated into the framework (Caporael, 2006). Therefore, it is important to study the framework in which the device is going to work in order to achieve the intended goals.



### Robot appearance

For this reason, as far as physical appearance is concerned, two types of robots are distinguished for social interaction: zoophoric robots, which have an animal appearance such as, Aibo from Sony, ICAT from Philips, Paro or Aisoy, as shown Figure (from left to right).



### Table of Robot that support the elderly Services

NAME - TYPE	SERVICES	BIBLIOGRAPHY
Pepper	Research, education and entertainment, service robots	Pepper (2012)
NAO	Research, education and entertainment, service robots	NAO (2012), Conti, Nuovo, Buono, and Nuovo (2017), Moerman, van der Heide and Teerink (2019)
Keepoo	Research, education and entertainment, service robots	Bejoemp, Kennedy, Ramachandran, Scassellati and Tanaka (2018)
Rombo	Research, education, entertainment, service robots	Shick (2013)
Bandit	Social and human interaction	Tapus, Mataric and Scassellati (2007)
Probo	Social and human interaction	Saldien, Goris, Vanderborght, Vanderfaesle, and Lefebvre (2010), Simut, Vanderfaesle, Peca, Perre and Vanderborght (2016), Probo (2021)
Sam	Service robot	Sam (2021)
Buddytherobot	Home helper/ service robot, security, social interaction	Buddy (2021)
Jibo	Social interaction, service robot	Jibo (2021)
ROBEAR	Health care, entertainment, robot service	ROBEAR (2023)
ARI	Service robot, social interaction, entertainment	ARI (2021)
TIAGo	Household helper/ service robot, social interaction	TIAGo (2021)
iCub	Service robot, social interaction entertainment	iCub (2021)
Enon	Home helper/ security service robot	Enon (2021)

### Results Conclusions-Whats next?

Within the Mobiserv project (2009), a smart home environment has been developed to support elderly in their daily lives through a social interaction, smart clothing and smart sensors at home. The Mobiserv project involves European scientists, as well as the Institute of Intelligence and Information Analysis from the Aristotle University of Greece. The goal of Mobiserv is to develop and use new technologies to support in an intelligent and easy way independent living of elderly as long as possible, both in their own home and in different health care institutions. This support is focused on daily activities in home, mainly nutrition, healthcare, mobility and safety. The robot support of the French company Robosoft all its functions, cooperate with other electronic systems that have developed businesses and institutions participating in Mobiserv.

