

Technology Used to Recognize Activities of Daily Living in Community-Dwelling Older Adults

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Supplementary Table S1) Details of each systems included within this review. The reference values shown here are referred to throughout the manuscript and relate to the corresponding value in the reference list.

Reference	Year	System / Sensor Name	Recognised ADL	Type of Sensor/s included	Outcome Measure
Commercial ADL recognition systems <u>not</u> used in research					
[44]	/	MiMonitor	Feeding, Grooming, Mobility, Social interaction	Door contact	Door usage
				Motion	Room movement
				Video Camera	
[45]	2004	Just Checking	Grooming, Mobility, Social interaction	Door contact	Door usage
				Motion	Room movement
[46]	2013	Canary Care	Grooming, Mobility, Social interaction	Door contact	Door usage
				Motion	Room movement
				Light	Room usage
				Temperature	
[47]	2015	Memo-Hub	Feeding, Grooming, Mobility, Social interaction, TV watching	Door	Door usage
				Motion	Room movement
				Power consumption	Electrical appliance use
[48]	2017	Tec-Angel	Grooming, Mobility, Social interaction	Door contact	Door usage
				Motion	Room movement
[49]	2018	Text Care	Feeding, Grooming, Mobility, Social interaction	Door contact	Door usage
				Light	Room usage
				Sound	
				Temperature	
[50]	2019	Howz		Motion	Room movement
				Door contact	Door usage

			Feeding, Grooming, Mobility, Social interaction, TV usage	Motion	Room movement
				Power consumption	Electrical appliance use
Commercial ADL recognition systems <u>also</u> used in research					
				Door contact	Door usage
				Motion	Room movement
[19]	2019	Canary Care (2013) / /	Feeding, Grooming, Sleep, Social interaction, Toileting	Light	Room usage
				Temperature	
				Grid-eye	Object interaction
				Power consumption	Electrical appliance use
[41]	2019	LivOn	Feeding, Grooming, Mobility, Sleep, Social interaction, Toileting	Door contact	Door usage
				Motion	Room movement
Named sensors used in research (but not as commercially available systems for the purpose of ADL recognition)					
[51]	2011	WPC15.4	Feeding, Grooming, Household, Toileting	Power consumption	Electrical appliance use
[24]	2012	Eventlogger	Bed usage, Dressing, Feeding, Grooming, Household, Recreation, Toileting, TV Usage	RFID Tag	Object interaction
[52]	2013	Flexiforce sensor / /	Bed usage, Feeding, Grooming, Recreation, Toileting, TV watching	Force/pressure sensor	Applied force
				Power consumption	Electrical appliance use
[53]	2014	Kinect	Feeding, Mobility, TV usage	Depth Camera	Room movement
[54]	2015		Feeding, Household, Mobility, Recreation		Object interaction

		SHT21P		Humidity	
[20]	2014	DS18B20	Bed usage, Feeding, Grooming, Recreation, Sleep, Toileting, TV usage	Temperature	Room usage
[40]	2015	AMS302		Light	
		EKMB1101111		Motion	Room movement
		ADXL345		Accelerometer	Bed/chair movement Toilet flush movement
[42]	2015	MSP430CPU	Feeding, Grooming, Household, Mobility, Recreation, Sleep, Stair use, TV usage	Accelerometer	Wrist orientation /movement
		Gadgeteer FEZ Cerberus		Altimeter	
				Temperature	
				Barometer	
				Gyroscope	
[28]	2016	/	Grooming, Household, Mobility, Toileting	Hydro	Water pressure
		MS 16A		Motion	Room movement
[23]	2016	ADNS-3060	Bed usage, Feeding, Grooming, Recreation, Sleep, Social interaction, Toileting, TV usage	Video Camera	Video Footage
[43]	2018	DS90	Mobility, Sleep, Social interaction, Toilet use	Door contact	Door usage
		MS13E		Motion	Room movement
[69]	2019	Pandlets	Feeding	Accelerometer	Wrist orientation/movement
				Gyroscope	
[67]	2020	Everspring HSP02		Motion	Room Movement

		Everspring HSM02 Aeotec ZW078 & ZW096	Feeding, Grooming, Recreation, Sleep, Social interaction	Door Contact Power Consumption	Door Usage Electrical Appliance Use
		Panasonic EKMB1101112		Motion	Room Movement
[68]	2020	Omron 2JCIR-BL	Feeding, Grooming, Sleep, Social interaction	Humidity Light Barometer Sound Temperature	Room Usage
		Rohm STM250J		Door Sensor	Door Use
Unnamed sensors used in research (but not as commercially available systems for the purpose of ADL recognition)					
[55]	2008	/	Bed usage, Dressing, Feeding, Grooming, Toileting, Transferring	Motion	Room movement
[56]	2008	/	Feeding, Grooming, Recreation, Sleep, Toileting	Motion	Room movement
[57]	2010	/	Feeding, Grooming, Recreation, Sleep, Social interaction, TV usage	Motion	Room Activity
[26]	2011	/	Bed usage, Feeding, Grooming, Medicine, Recreation, Sleeping, Social interaction, Transferring	Accelerometer Door contact Humidity Light	Bed movement Door use Room usage
[39]	2012	/	Dressing, Feeding, Mobility, Recreation, Sleep, Toileting	Motion Wearable Accelerometer	Room movement Postural changes

[37]	2012	/	Feeding, Grooming, Sleeping, Tv usage	Motion	Room movement
				Power consumption	Electrical appliance use
[25]	2014	/	Dressing, Feeding, Grooming	Door contact	Door usage
				Motion	Room movement
				Power consumption	Electrical appliance use
				Temperature	Room usage
[58]	2014	/	Grooming, Toileting	Motion	Room movement
[59]	2014	/	Feeding, Grooming, Recreation, Sleeping, Toileting	Force/Pressure	Sitting/lying
				Motion	Room movement
				Power consumption	Electric appliance use
				Temperature	Room usage
[60]	2014	/	Dressing, Feeding, Grooming, Mobility, Transferring	Accelerometer	Bed/chair movement
				Sound	Water usage
				Humidity	Room usage
				Temperature	Room usage
				Motion	Room movement
				Power consumption	Electrical appliance use
				Door contact	Door use
[61]	2015	/	Bed usage, Feeding, Grooming, Household, Medicine, Recreation, Sleep, Social interaction, Transferring	Door contact	Door use
[62]	2015	/	Bed usage, Dressing, Feeding, Grooming, Mobility, Sleep	Accelerometer	Bed movement
				Motion	Room movement
				Power consumption	Electrical appliance use
				Door contact	Door usage
				Temperature	Room usage

				Humidity	
				Door contact	Door usage
[63]	2016	/	Feeding, Grooming, Recreation, Sleep, Social interaction, Transferring	Motion	Room activity
				Light	Room usage
				Temperature	
[64]	2017	/	Feeding, Recreation, Sleep, Social interaction	Door	Door usage
				Motion	Room movement
[10]	2018	/	Feeding, Grooming, Mobility, Recreation, Sleep, Social interaction, Toileting	Motion	Room movement
				Force/Pressure	Sitting/Lying
[65]	2018	/	Feeding, Grooming, Recreation, Sleep, Toileting, TV watching	Motion	Room activity
				Power consumption	Electrical appliance use
				Temperature	Room usage
[66]	2019	/	Feeding, Grooming, Household, Recreation, Sleep, Social interaction	Motion	Room movement
				Power consumption	Electrical appliance use