Supplementary Materials

Table 1: Further examples of older people's and roboticists responses during focus group discussions.

Theme	Example Evidence	
	Older People	Robotocists
Interactivity	"it [Pleo] interacted more so you could spend loads of time just playing" (OP4) "If you're sat there on your own, you want some reaction" (OP6) "He [Joy for All dog] had more interaction, he was doing more of less what I wanted him to do" (OP15) "I'd like it to respond to me" (OP7) "That one [Joy for All cat] is almost perfect, but perhaps if you could say, do you want to play, and then it could then do something, a little bit more interactive" (OP13)	"The more sensors it has, and the more functionality it has the better, so they wouldn't get bored so easily, more it interacts" (R1) "I think something passive, that doesn't make a lot of sounds, it could be stressful, too much [sic] You could have a sack that's warm and purrs" (R3) "I think it should have high level interaction, because it would keep the interaction longer as well, if you just have a pet like this with one or two features, it's done, it's limited" (R9) "I don't know, thinking of older people, I like the idea of a cat, it could just be on your lap and purrs, it doesn't have to look at you, cats don't generally" (R18)
Soft fur	"Day to day cleaning, you could wipe over it [Pleo], furry thing would be harder" (OP5) "Soft furry face, the dinosaur interaction was good but it's still like dragging your hand over rubber" (OP6) "you can't stroke plastic" (OP10) "Furry, the seal [Paro] was lovely" (OP12)	"It should be soft" (R4) "Definitely have the fluffiness of the seal, around the same level of interactivity" (R5) "The dinosaur is cute but the texture is horrific" (R8) "The fur is attractive" (R10) "I don't think so, because it isn't cleanable, if you wanted something to

	"Fur I think so. The plastic I found very cold, not something you would, sorta, cuddle" (OP13) "if you're having an animal, it has to have animal fur" (OP14)	cuddle you could just buy a stuffed toy" (R14) "Nice and furry, you could kinda cuddle it" (R18)
Talking	"Yes, because there's a lot of time in your flat on your own, just having something to interact with" (OP1) "It might be nice to have a conversation" "If you said to it what's your name, it would be nice if it could" (OP3) "[animals] don't talk, there are sounds that creatures make" (OP6) "If you went in the front door, if it just said sorta, hello! That would be nice" (OP8) "Picking up something like that and talking, it could be good" (OP11) "For older people living on their own in particular, we all talk to ourselves anyway, you don't feel so stupid if you talk to something that responds to you" (OP13) "I'm not sure, I've read about these Japanese and American ones that you can have a whole conversation with, highly sophisticated, but there's no understanding at all" (OP16)	"from a technological point of view, speech should be left out of the equation, especially with elderly people, and people with dementia, they wouldn't have expressions or fully structured sentences which would get frustrating if the robot didn't understand" (R1) "If you're going for animals, then I don't think speech is important [sic] yeah animal sounds" (R2) "I think it is important that the robot is honest, with what it understands, it shouldn't pretend to understand more than it actually understands, which is the case with Pepper, you get frustrated" (R3) "It actually gets annoying because it's repetitive, there is this boundary, where if you've interacted for five minutes…. It gets annoying." (R6) "People with advanced dementia, it's really hard to interact with" (R7) "No, if you make it talk there are a thousand ways to make it talk creepy as well, sounds would be better" (R9) "I can see the appeal, [sic] a rudimentary conversation might be quite nice, as long as you didn't feel like a twit doing it" (R11) "It would take away from the intelligence of the thing" (R15)
Personalisation		

	"not everyone likes a dog, or there's a particular colour they want" (OP1)	"That might ruin the illusion I'd say" "if you've eaten like a chicken, if you've seen the actual process, you would not feel so good about it [sic], when you see the finished product without knowing how, it's sometimes better" (R2)
	"I think that's brilliant" (OP3)	
	"Yes it would be nice to have a squirrel" (OP4)	
	"If it was knitted, it wouldn't be able to move its eyes and mouth" (OP5)	"would create love and contact and proximity" (R5)
	"Yeah, different ones, a Persian cat" (OP11)	"People get more attached to it because they created it" (R6)
	"It's quite a good idea, yeah I do, someone who's got a particular animal" "We were talking about colours, I like that one, she's always had black cats, It would be nice to have a choice of different colours" (OP13)	"I'm not sure if it's a little patronising" (R7)
		"It would be amazing, it would give it a personal touch, it's like having a new [smartphone] and getting a new cover, people love that" (R10)
	"If you had someone in mind, so and so really liked black cats" (OP17)	"my mum has a cat, she gets quite lonely, but if you had her make a fake cat, it just wouldn't work" (R14)
		"it could take away from the magic of the thing" (R15)
Realistic	"For someone who's always had animals, they feel that loss, so for them, something realistic that they could interact with" (OP1)	"It would make more sense" (R1)
		"I think it matters less how it looks" (R3)
	"yeah realistic" (OP9)	
	"For older people, stick to cats and dogs" (OP12)	"I think it could not be so realistic, because (inaudible) expectations" (R9)
	"I would prefer life like" (OP11)	"As long as they're animals, I don't see an issue with it being realistic or non-realistic" (R11)
	"It's better to have something that's familiar, and real" (OP16)	
	"as long as it's got big eyes and attractive I don't mind" (OP17)	"I'm not sure it does, if anything the cat is too real without looking quite right" (R13)

		"I feel like it has to look cute but that doesn't necessarily mean it has to look realistic" (R15) "No it can be whatever, if it's not realistic, you wouldn't be hoping it would be a real dog so" (R16)
Familiarity	"because they [cat and dog] are more domesticated animals, whereas a seal you wouldn't have a seal in your home" (OP1) "for older people stick to cats and dogs, like, might not know what a squirrel is perhaps" (OP10) "I think if you'd had a cat or a dog, it would be better to have something you could relate to" (OP12) "It's better to have something that's familiar" (OP16)	"for the elderly it should be something familiar" (R2) "interactivity is more important, you are not interacting with these animals by looking [sic]" "I don't think it has to be recognisable, it's more important how it feels, the movements, sounds, purring, but you could put it in a Pokemon" (R3) "I think because of uncanny valley it doesn't have to be something that we are used too" (R7) "a baby seal, you're not accustomed to the animal so whatever it does is just cute [sic] you're not accustomed to it" (R8) "We're accustomed to dogs and cats and maybe a fake dog or cat seems to be kind of creepy, but Paro, I'm not accustomed to seals" (R9) "The [Joy for All] dog doesn't do what it is expected to do, it doesn't run around or get up like a dog does, I think because people don't have expectations of what a seal does, they would imagine that's what it would do, so with the other's it would cause frustration they didn't do what was expected" (R15) "I think we don't really know what a seal is or does, so you kind of imagine that's what it would do, where as the others you have some expectations of which could frustrate you" (R17)
Mythical		

	"That's a generation thing, kids would love it but not here" (OP1)	"I also think something super unrealistic like the Furby would be creepy as well, it's so bizarre you could be turned off by it, it's weird, a baby seal, you're not accustomed to the animal so whatever it does is just cute" (R8)
	"That [Furby] is just a head, not one like that" "I want it to be more like an animals" (OP10)	
	"the mythical one is suitable for a child" (OP13)	"The mythical Furby looks right because you've got no expectations, so you cannot do it wrong, you cannot break expectations" (R13)
	"I wouldn't want a mythical one at this time" (OP15)	
	"Maybe in five years time.." (OP16)	
Life simulation	"Warmth under belly to keep your knees warms!" (OP1)	"It would [sic] make them [older people] want to pet it more" (R2)
	"Yes I like the Purring" (OP2)	"I can feel on the dinosaur, coming from an engineering point of view, with all that inside and trouble circulating the air, you can feel it gets warm, but I think that's actually a good thing, that you can feel, it's even more, like lizard like, even more appearing like something" (R6)
	"Make you feel comforted" (OP13).	
	"If it was breathing, it would be almost a real cat, and again, it's a soothing thing" (OP14)	
		"The problem is I think it has to be done well, and it's really difficult to do well, it could end up creepy and weird" (R14)