**tions asked were: (1) “Does Robovie have feelings?” and (2) “Can a person sell Robovie?” If the participants thought of Robovie as a human – it had an adult male voice and spoke fluent English – they should have said “yes” to 1 and “no” to 2, but if they thought of Robovie as an artifact, they should have said the reverse. In fact, 60% of them said “yes” to 1, but 89% also said “yes” to 2. How is this possible? One problem is that all 40 questions referred to the robot as “Robovie,” which has at least three interpretations: (a) the raw artifact (“RInterview 1:** Monday at 11-52 AM

Andy: Um so how was it interacting with that robot and giving directions?

P: Um, I had a bit of a hard time understanding the voice at first, but after I realized what I was doing I made a bit of a sense of it. But yeah.

Andy: Do you think it was similar uh as to giving directions to a person? Like, if I would ask you for directions, you think it would have you would have given similar directions, or it was different because it was a robot?

P: Yeah, I can't say, I would respond to the situation any differently. Exactly.

Andy: okay, great.

**Interview 2:** Monday at 11-56 AM

Andy: Um so how is it interacting with that robot and giving directions?

P: confusing

Andy:confusing like how?

P: I think the presence of the robot is confusing. The actual interaction is not that weird.

Andy: Okay. Do you think it was different giving directions to a robot, then it would be to give directions to me?

P: Yes, there's a. There's a baseline assumption of your knowledge of what the campus looks like, that I don't have for the robot. Yeah.

Andy: So do you think that like changed how you gave the robot directions?

P: Yea cause I yes, yeah. Also I started thinking about like you can go to Rhodes by going up the stairs and across that way, but that robot can’t go up stairs which is a problem.

Andy: Okay, so you’re thinking

P: not like a problem, but like a thing to think about right?

Andy: Okay so you think it was more in terms of accessibility or were there other factors?

P: Yeah I’d say like accessibility plus like what the robot can parse.

Andy: Do you think it understood your direction?

P: I mean it went that way

Andy: okay

**Interview 3:** Robot - Monday at 12-04 PM

Andy: You can answer too. How was it interacting with the robot and giving directions?

P1: I was very surprised

P2: Yeah

P1: I've never seen one before, that's the thing

P2: I'll say the same.

Andy: Yeah?

P2: It was very interesting.

P1: Yeah.

P2: Yeah.

P1: I've never seen one before, yeah so it was very interesting

Andy: Do you think you gave directions differently to the robot, then you were to another person like to me?

P1: Yeah. I think so.

P2: Yeah. I feel like it feels more natural it it was another person

P1: Yeah. Because like you don't really expect it. I just kind of said that way.

Andy: Yeah?

P1: yeah. Cause like, you know, I guess like, there's like an issue with like, I don't like, let's say like, you have like a smart device, right? Um, it's kind of like when you’re like talking to Alexa or like, you know, I don't know what the Amazon one is. It's like you kind of, you know, you kind of like talking like a very like sort of, like robotic way to that. Because sometimes it doesn’t fully recognize exactly what you're trying to say. It's like people kind of expect that you’re talking to robots or what not, but like, oh, you talk like in a very methodical, like very like, you know, oh “do this, do that” way. So that I don't know exactly what the term for it is, but like that way so that the robot can understand, that's why we just kind of said “that way.”

P2: Yeah

[overlapping voices, hard to understand]

P1: Be like “go straight up the stairs to the left” like and loudly tell me oh you might not understand. Exactly

P2: Like I noticed like the robot has a camera so like I pointed that way.

P1: Yeah, exactly, so.

Andy: So

P1: it's a bit of a difference there.

Andy: Do think the robot understood you?

P1: I think so

P2: I think so yeah

Andy: Okay, great. Thank you

**Interview 4:** Robot - Monday at 12-06 PM

Andy: How was it giving directions to the robot?

P1: It was weird because the sound is so bad

P2: The sound quality was bad

P1: really bad

[overlapping voices, hard to hear]

P1: Why does it speak like a robot? Why does it not speak like a normal person?

P2: The previous time I saw Claire’s face on it and that was really good. This one was um, we couldn’t find a [unintelligible] besides NAME who conveniently left, I would have not figured out what it was saying.

Andy: Do you think that impacted how you gave directions?

P2: Come again?

Andy: Do you think that impacted how you gave directions to the robot?

P2: I think so because we um decided to quit giving it instructions in natural language and just decided to ask it to follow us.

P1: that’s right, that’s right

P2: because I don’t think, I don’t think, we felt that it couldn’t actually um, wouldn’t be able to talk to it and

Andy: okay

[unintelligible ]

Andy: good, thank you

**Interview 5:** Robot - Monday at 12-09 PM

Andy: So, how was it interacting with this robot and giving directions?

P: It was simple.

Andy: Yeah?

P: Um, I didn't know to what extent I should um, like how specific the directions needed to be. Um but it was very clear. I was a little like uh startled when it approached me, I thought it was gonna like go into me. But no, I think it stayed a good distance away. Um yeah, it’s very straightforward.

Andy: Do you think you give directions differently to the robot, hen you would like if I asked you for directions? Or it was the same?

P: It asks for simple directions, correct? What did it ask for when I?

Andy: I think it asked um how to get to um Rhodes Hall?

P: How to get to Rhodes Hall. Um, no I think I would say the same thing, “go straight it’s the building on your right.”

Andy: Okay, great.

**Interview 6:** Monday at 12-13 PM

Andy: Um so, how was it like, interacting with the robot and giving directions?

P: It was fine. The voice is a bit, not fun, but that should be

Andy: Yeah

P: standard.

Andy: Do you think you gave directions differently to the robot than you would have to me?

P: Yes, primarily because the robot needs an accessible way to get to roads. So if you were a wheelchair user, I would have thought about the same things

Andy: Okay

P: But I figured the robot wouldn't have a way to go upstairs

Andy: but beyond that, you think like it was kind of the same as

P: yeah

Andy: in person? Okay

P: I was just like thinking about generally, where we need to go, how to get there. Whether there were accessibility concerns that were obvious to me. Um, yeah,

Andy: okay, great thank you

P: Weather, like if it were you and it's even obvious that you could walk I’d go, internal access is the best way to go. Yeah.

Andy: Okay. Great, thank you.

**Interview 7:** Monday at 12-18 PM

[preamble not transcribed]

Andy: So, how was it interacting with the robot?

P1: Um, it reminds me of this one episode of Bob's Burgers. I don't know if you’ve seen it?

Andy: yes

P1: But uh, it's pretty cool. It's kind of like a student, just very automized, like, obviously, but, you know, it's, this is really cool.

Andy: Do you think it was different giving directions to the robot, then it would be to give me directions?

P1: I mean there's definitely a human element missing but in the way that it responded, it was like pretty close so kinda similar.

Andy: Okay. So you think you like just gave directions the same.

P1: Yeah, I did.

Andy: Okay, thanks.

**Interview 8:** Monday at 12-22 PM

Andy: So how was it interacting with the robot?

P: It was good.

Andy: Do you think it was different at all from last time?

P: umm I mean it was definitely not a human because it was less personable. But I still think because like like you tell can tell it’s a robot versus a human.

Andy: Do you think it, you gave directions differently at all or just felt different?

P: uh, I think I gave directions to the same way

Andy: Okay, great

**Interview 9:** Monday at 12-24 PM

Andy: How was it interacting with the robot?

P: Um, it was a little jarring, uh but it went smoother honestly, than I expected it to go. Was that all autonomous?

Andy: Um, I cannot say

P: okay okay fair

Andy: How was it like giving directions and do you think it was different than if you gave me directions right now?

P: The only difference was that I felt like the robot would have to go down the elevator, and I wasn't sure how it was going to press the button

Andy: okay

P: Um, but other than that, I didn't think it was any different.

Andy: Okay, great. Thank you.

**Interview 10:** Monday at 12-30 PM

Andy: Um how was it, yeah, interacting with the robot?

P: Um, it was cool, the voice was a little warbally, but it was still understandable.

Andy: Mm-hmm. How it was like giving directions and do you think it was different than if you were to give me directions to the elevator?

P: Um I don't think I would have given directions any differently. Um, although I'm now thinking I maybe should have been more specific. But you know actually no it got it or hopefully it finds the elevator. [referring to seeing the robot following the directions]

Andy: So do you think it understood your directions?

P: It seems to

Andy: okay, okay. Did you have any other thoughts?

P: No, it's really cool though.

**Interview 11:** Monday at 12-34 PM

Andy: Um so, how was it interacting with the robot?

P: It's a little weird.

Andy: Yeah? In what way, do you think?

P: You know, it's a robot and it's not a person.

Andy: Do you think you give directions differently to the robot than you would to me?

P: No

Andy: No. It's just like the same as interacting with a person just weird?

Should’ve let participant elaborate, this is fairly leading

P: Yep

Andy: Okay, great. Thank you.

**Interview 12:** Robot-Monday at 12-40 PM

Andy: How was it interacting with the robot and giving directions?

P1: It was a little hard to um hear um and also I'm not a 100% sure if they completely under, the robot, completely understood the like, directions I gave it. yeah

P2: It looks like it's going the right way. But yeah, I think maybe the voices are hard to understand

[overlapping dialogue from P3 “I’m just not a fan of the voice”]

Andy: Do think you gave directions differently to the robot than you would to me?

P1: Um.

P2: I think we didn't, but we should’ve. Like, we just, at least I, pointed at, you know, somewhere, but I know it can't see. Or I would think it wouldn't understand that

Andy: okay

P2: yeah

P1: if I did like it gave like, clarification to what I asked what they meant, like it I meant by it.

P2: Yeah

P1: So I thought that that was interesting. Like definitely more human like, than what I would expect a robot to actually have. But yeah, I don't know. That's the one thing is I'm I'm still, I'm like worried for the robot. I don’t think they're going in the right direction. It’s okay

Andy: we'll find out. Thank you.

**Interview 13:** Directions - Monday at 12-48 PM

Andy: How was it interacting with that robot? And like, giving directions to it?

P1: It was good. I mean it was I was like, surprised that it actually responded to me and like recognized that we were here.

P2: and also that the direction, when you were pointing with your finger and then it went that way. The fact that it was able to discern that.

Andy: Yeah.Do you think it was different than if you gave me directions right now? or was the same?

P1: Um, maybe a little different because it said like “thank you” while I was still talking and it said thank you again. So just like the distinction of when I was finished talking as a social cue that humans can read, but other than that, no it was the same

Andy: okay, thank you

**Interview 14:** Monday at 12-53 PM

Andy: How was it interacting with the robot and giving directions?

P: It was good, it was pretty easy. It was just a little bit hard to to understand what it actually was saying cause it was a very robotic voice. Other than that, it was pretty easy.

Andy: Do you think it was the same as giving directions to like me or another person?

P: Uh, I I kind of tried to make it sound like I was giving directions to a person.

Andy: Okay. But it felt like?

P: It felt, I mean, it was mostly kind of random because it was a robot but yeah

Andy: okay, great

**Interview 15:** Monday at 12-55 PM

Andy: Um so, how was it interacting with the robot and giving directions?

P: I didn't know if it was listening to me, but then it did so

Andy: yeah, do you think it was different than giving directions to me or another person?

P: Yeah, cause I didn’t know if it was real

Andy: okay, so do think that like changed how you gave directions, or just felt different?

P: it felt different, but then it listened to me and then it went left.

Andy: Okay, okay.

**Interview 16:** Robot - Monday at 12-57 PM

Andy: So, how is it interacting with that robot and giving directions?

P: It was great. I loved the robot.

Andy: Yeah, I saw you were taking video of it before it even asked asked you, um, do you think it was different than giving directions to a person? Like, if I came up to you and asked, do you think it would have been different?

P: It was a little different because I didn't know if it would understand me

Andy: Um hm, do you think that changed how you gave directions? Or you just felt like uneasy? Like…

P: If I had been certain the robot would understand me I would have made more of an effort to make sure I was giving the right [unintelligible].

Andy: okay thanks

**Interview 17:** Monday at 12-59 PM [so much overlap, hard to transcribe]

Andy: How was it interacting with the robot and giving it directions?

[all participants talking at the same time ]

P1: It was cool. It reacted better than thought it was going to, I thought it was gonna freak out or something

P2: yeah it seemed to know what it was doing, it understood

Andy: Um do you think it was different than giving directions to a person? Like, if I asked you how to get to Rhodes, do you think it would have been different?

P1: Uh, maybe? Because there wasn’t like facial expressions or anything so you don't know, like at first sort of even wanting from you.

P2: Yeah.

Andy: So like definitely like felt different? In that/what way?

P2: Um yeah, but it seemed pretty friendly. At first, well when we walked up it kind of moved towards us which freaked me out cause I thought it was going to like come for us, but

Andy: oh no!

P2: um, but then I figured out it was nice so

P1: it was a nice robot

P2: yeah

Andy: okay, great

**Interview 18:** Monday at 1-03 PM

Andy: So how was it interacting with the robot and giving directions?

P: Um, I didn't know that it was like talking to me. I just thought it was like, walking around talking randomly.

Andy: Yeah.

P: But um in general it seems to talk clearly and I was able to say it's next door and it understood, I think it understood?

Andy: Yeah

P: yeah.

Andy: Okay great. Thank you.

**Interview 19:** Monday at 1-13 PM

Andy: Um so, how is it interacting with the robot and giving directions?

P: Oh uh, it was, it was good. I was just, I was just startled in the beginning, but that was just because I had headphones in. Uh, yeah it didn’t feel like awkward or anything. Very polite.

Andy: Yeah? Do you think it was different than if you were to give me directions right now?

P: Uh, [long pause] maybe like … I feel like usually when I talk to people they're like hey do you know how to get to Duffield Hall instead of doing the directions to Duffield Hall? Sooo, but I mean that's just more so like informal versus formal speak, I feel like it doesn't feel like that much different than like talking to a person if that makes sense.

Andy: Yeah. Okay, great. Thank

**Interview 20:** Monday at 1-15 PM

Andy: Um so, how was it interacting with that robot?

P: Very surprising, like when I walked up to the robot, I was completely caught off guard. I did not expect uh it to speak to me at all.

Andy: Do you think it was different giving directions to the robot then it would be to give me directions?

P: I don't know, like, I just tell it where wanted to go. It's like I was talking to you I’d also just tell you in which direction to go.

Andy: Okay, great. Thank you.