The 22 Themes that emerged during the analysis of the Micro-phenomenological interview transcripts. We also provide a description and illustrative quotes for each theme. The numbers in the themes column refer to the number of occurrences of the codes.

Theme {Prominent codes}	Description	Illustrative Quotes
(A) Awareness of Body (59) Use of hands {14}, Body position {10}, Movement {11}, Use of Body {7}, Bodily Impact {5}	Demonstrating an awareness of body position during the interaction. Talking about using hands and other body parts as well as the describing the position of the data representation in relation to the body/body parts.	"It's the impact of your knuckle first of all, it is kind of giving you like a physical feedback to yourself, that your body had collided with something" (Haptic, 1192) "I put it up to my ear {mimics the pose} and I hear a high sound and when it is finished I shake the cube" (Audio, 1943) "I pick it with the left hand {mimics gesture} and I put it in front of me {mimics action} and I hold it with my left hand, on the table, like it is touching the table and I do like this {mimics knocking action}" (Visual, 115)
(B) Making Sense (52) Making sense {22}, Finding patterns {6}, Makin sense by listening {3}, Processing data {5}, Recording data {3}, Using colour to make sense {3}	The process of making sense of the data, the different strategies employed to seek patterns in the data. This process happens prior to generating meaning from the data.	"I think that maybe the best air would be zero [r: ok] and 1200 would be the worst one so I didn't understand because the 762 made no sense to me" (Visual, 175) "I shock it then to see what the conditions were like, so whether it was closer to the higher one or to low, but then when I did that, I realised that there was quite a different feeling between low and high" (Haptic, 1354) "I am seeing a circle or a square, because of the shape of the box, a square, so it would be a green square {raises left hand} and a red square {raises right hand} on each side and then the reading then would be another circle or square {points to the middle} in between those two" (Audio, 391)

(C) Meaning Making (43) Making meaning {20}, Generating insight {4}, Judging {3}, Understanding the data {5}	This process starts once her/she has made sense of the data. Generation of insight or understanding the data. It typically involves talking about consequence, reason or affect.	"yea it starts to vibrate really badly [r: ok] I remember thinking at this time that that smoke must be fair bad for you, the vibrations were so loud" (Haptic, 624) "I hear the sound is low, or similar to the low sound, so I was happy then, so I said it was good oxygen levels inside or no carbon dioxide" (Audio, 869) "I shook it again I think it was like 520 something or 22 or maybe I was thinking that was kind of low then" (Visual, 1785)
(E) Using Spatial Cues (35) Spatial Cues {19}, Reasoning about space {6}, Translating modalities {6}, Spatial cues disappears {3}, Using proximimity {3},	Using spatial cues to help make sense or generate meaning from the data. These are always mental cues or props, which are perceived in 3D-space and may be in the form of abstract shapes, e.g. circle, cube etc. or real-world objects e.g. weighing scales, barometer etc.	"basically it's a line, being the lowest {raises his left hand} and the highest {raises right hand} and the box is giving the auditory reading between them" (Audio, 353) "it is like a line, high is here {points left} and low is here {points right} and them I am saying is it up closer to high or is it closer to low {moves hands left then right}" (Haptic, 1378) "I suppose visually, mentally kind of thinking, about where it would fall between the two {2 sec pause} am the two numbers and I am placing it closer to the, like I am associating it down at this end {moves both hands to the left} with 400 than I am with 1200" (Visual, 1798) " I have already placed them {holds two hands up (left and right)} I have already given them their positions, so I fell comfortable enough where they are and I use them as the foundations" (Audio, 449)

(F) Visual Cues (21) Useof visual cue {10}, Using text {2}, Swapping modalities {3} Visual Interface {2}	Using visual cues to help make sense or generate meaning from the data. A mental process that involves associating visual variables such as colour, text, 2D shapes etc. with data points	"I visualize, with audio feedback I am visualizing a frequency {points finger into space} so a peak, I am imagining a high peak {draws a peak with his finger} for a high sound and a lower more rounded waveform for a lower sound" (Audio, 1577) "it just happens, I suppose subliminally or subconsciously that, there is no visual interface only when I go to compare it, it becomes visual" (Audio, 1593) "its just like a line, like I would replay like, whenever the real-time would go I would automatically think of the one that it is closest to...like I see that as being closer on the line to the high than the low" (Haptic, 1443)
(C) Comparing Data (19) Comparing {12}, Comparing in mind {3}, Comparing sounds {2}, Comparing modalities {2}	Comparing one data with another. Recalling memories while simultaneously perceiving live data.	"I have a feeling stored in my mind and I recall that when I want to compare it" (Haptic, 701) "I knocked on the low it made that high pitch sound [r: ok] and then I do it again to hear the low, I wanted to make sure I knew the difference between the two" (Audio, 821) "I was comparing with the morning time and the afternoon time" (Visual, 2218)

(G) Aware of Technology (19) Checking operations {4}, Confirming functionality {4}, Exploring functionality {3}, Aware of malfunction {2}, Exploring the object {2}	Awareness of the technology that drives the data representation. Making reference to the functionality or being distracted by malfunction.	"I think I might of knocked on it too hard because it think I triggered the high feedback" (Audio, 1522) "I am not using it I am just checking it" (Haptic, 613) "I wanted to see if it would go off without knocking" (Audio, 823)
(H) Confusion (18) Confusion {15}, Difficulty {2}	A feeling of completion and fulfilment, which may also involve as sense of achievement.	"I think that maybe the best air would be zero [r: ok] and 1200 would be the worst one so I didn't understand because the 762 made no sense to me" (Visual,183) "I remember it was like a 500 when I shook it and then it was like 762 and I was just like 'I am doing this wrong' I don't know what I am doing" (Visual, 48)
(I) Fullfillment (17) Fullfilled {6}, Satisfied {6}, Complete {2}	A feeling of completion and fulfilment, which may also involve as sense of achievement.	"I knew then that I had got it, I knew that the readings were right and the air was bad so I left it at that" (Haptic, 764) "when you have gone over it three or four times or whatever it keeps repeating in your mind, you kind of, you have taking what you can from it so there is no more you can get from it" (Audio, 470)
(J) Recall (16) Recalling Sounds {7}, Recalling data {3}, Recalling feelings {2}	Recalling memories of past data to compare the real-time values with. The process used to recall depends on the type of representational modality in use.	"just trying to remember what high is sounding like so trying to replay that in my head {swirls finger in the air} and trying to compare it to the one that is actually playing at the same time" (Haptic, 1407) "I were to think about them again, like the low or the high I would recall the sounds again" (Audio, 455)

(K) Inner Reasoning (14) Inner thoughts {2}, Voice of reason {2}, Feelings {2}	Cognitive processes used to reason about making sense or meaning from the data.	" I have two sounds, one that is playing here {points to his ear} and the other is in my mind, I have a copy of that stored so I just recall it when I hear the new sound" (Audio, 2001) "I am shaking and it is playing the sound I am comparing it to the sound in my head" (Haptic, 1424)
(L) Memorising (14) Storing {6}, Memory {4} Remembering {2}	Remembering or memorizing data, which may need to be recalled in the future.	"The next step is to take that [sound] in and give that a place in my mind, to use it to compare with the high" (Audio, 322) "I suppose it was harder to remember what it felt like at high than what it sounded like at high" (Haptic, 1407)
(M) Using Previous Knowledge (13) Using past events {4}, Memories {3}, Recalling other objects {2}, Using visualization techniques {2}	Referencing past events to help analyse the data. Meeting or contradicting expectations informed by previous knowledge of the topic, which may lead to a sense of surprise.	"it is kind of like a maths grid [r: ok] like one you have in primary school, when you have the little number line, where you have 400 on that end {raises left hand} and you have 1200 on that end {raise right hand}"(Visual, 1806) "I wasn't aware of this at the time but now I have a mental bar chart or scale, a barometer, a haptic barometer in your mind" (Haptic, 1268)
(N) Emotive Language (13) Concern {2}, Annoynce {2}, Emotion {2}, Trust {2}	Use of emotional language when describing the representational output or meaning generated from it.	"I was concerned, because I don't want to have problems for spending too much time there" (Visual, 214) "it is like much stronger in my hands, I mean the sensation is much more harsh, what I feel is much harsher" (Haptic, 682)
(O) Aware of Surroundings (12) Consious of noise {3}, Consious of being in a study {2}, Consious of environment {2}	Referencing events or objects in their surroundings during the interaction with the devise.	"then it {pause 2 secs, stares into space} seemed to die a little bit, I wasn't sure if the battery was going dead or whether this was part of the experiment"(Haptic, 1230) " I don't know is it because of the cube or before doing it, I had already thought that the air here wasn't good at all" (Visual, 196)

(P) Using Instinct (12) Instinct {5}, No thinking {2}, Using feelings {2}	Sense that the generation of insight happened instinctually.	"you just know, it's like I just know that this one {holds out hand} is much stronger that this one {points to chest} it must be a human thing but I know that it is different, I wasn't taught it i I just feel it" (Haptic) "it just feels that way am, I don't mean feel, as in 'vibrate', I think it is just from life experience being aware of the tone" (Audio)
(Q) Eagerness (6) Generated interest (2), Eagerness (1), Eager to learn (2), Felt the need to use the cube (1)	Sense of eagerness to use the prototype	"so I wanted to know about this because we have been talking about this air thing in the office for a long time so I wanted to know more about it" (Visual) "well I remember saying to myself that I must check the air as I was feeling a bit dizzy, I was just finished a session but it was very hot in the gym and I thought that maybe we needed the cold or fresh air let in " (Audio)
(R) Talking about the modalities (6) Talking about modalities (3) Referring to a modality (2) Focusing on a modality	Talking about the modality in use or comparing one modality to another	"I think I was focusing on the sound and not the feel of it, so I was trying to feel it, trying to pay more attention to the feel of it" (Haptic) "so I was going mostly by the audio cause it sounded like a higher pitch" (Haptic)
(T) Confirmation (5) Confirmation (3) Confirming insight (2)		"Well sort of a pattern, its like I move the cube to a place where the smoke looks as bad and if the reading is pretty much the same then I know that the first reading was right. If I feel that it is different then the first reading could be wrong as well" (Haptic)
(U) Curiosity (4) Curious (3) Curiosity gone (1)	A sense of curiosity about what the data is representing or what is the meaning behind the data.	"I kind of shook it again, I am kind of curious to see am would the number be the same" (Visual)

(V) Strategy (4) Forming a strategy (2), Preparation (2)	Talking about the strategy used to perceive or interpret the data.	"I decide to check the low and high values first and then do the real-time after" (Audio) "I stop shaking while it is buzzing, it's hard to feel it when it is moving and I want to focus on the vibrations" (Haptic)
(W) Focusing (3) Focusing (3)	A sense of focusing on the modality or the prototype.	"I am focused on listening, I am not really looking at anything, I am staring into space, really, there is nothing to look at in the cube it is just a sound" (Audio)