Questionnaire Response:

Questionnaire Items:

Item Type	Question No.	Item	Rating Type
Likert	1	*My performance experiences in the virtual acoustic performance space were consistent with my performance experiences in real performance space*	*Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5).*
	2	*The virtual acoustic performance space was acoustically responsive to sounds I initiated and/or performed.*	
	3	*My musical interactions with the acoustic environment in the virtual acoustic performance space seemed natural.*	
	4	*My musical interactions with other musicians in the virtual acoustic performance space seemed natural.*	
	5	*I experienced delay between my actions and expected outcomes.*	
	6	*I feel included in the acoustical scene presented in the virtual acoustic performance space.*	
Absolute rating	7	*How would you rate the performance conditions during your virtual acoustic performance experience?*	*Completely unlike live acoustic performance (1), not acceptably close to live acoustic performance (2), acceptably close to live acoustic performance (3), equivalent to live acoustic performance conditions (4).*
	8	*How would you rate the latency experienced during your virtual acoustic performance experience?*	*Unmanageable latency (1), Acceptable Latency (2), Manageable Latency (3), No Latency (4).*
Yes/No	9	*Have you enjoyed using the system?*	*Yes/No*
	10	*Would you use the system again? If yes, in what situation would you use the system?*	*Yes/No. Additional comment prompt.*

Free Comment:

(*statement) indicates the statement is the interpretation of the comment clarified by the participant.

Item	Room	ID	Comment
1	A	As	*Wearing headphones is a little uncomfortable, it could become uncomfortable after some time.*
		Ac	*touch grainy (*high noise floor)*
		Bc	*maybe consistent with practice room experience*
		Cc	*This felt more like just singing in a room (*than rooms B or C), but would have liked more reverb for comfort haha*
		Dc	*We had a small delay that make it difficult to follow the correct rhythm. On the other hand, the other participant had some tune problems, and this made it a bit more challenging. (*this professional level singer recognises that difference in singer experience can make performance challenging).*
	B	As	*Reverb doesn't seem consistent with closeness of the voice*
		Bc	*I don't have much experience in ensemble singing, although i used to play other instruments in different acoustics (including similar to room b) and the experience was comparable*
		Cc	*Best room yet (*compared to rooms C and A), good balance of atmosphere and separation*
		Ds	*This space felt much more effected than any space I have performed in (*acoustic simulation was obviously digital)*
	C	As	*Very reverberant.*
		Cc	*Bit reverby but that's to be expected (*from room simulation systems)!*
2	A	Cc	*Felt like natural voices in a room*
		Ds	*It responded it felt like its quite a "dead" room*
	B	Cc	*Felt clear, tight and with natural room atmosphere*
	C	Cc	*Felt really good*
3	A	Bs	*Seemed slightly muffled*
		Cc	*Felt very natural*
		Ds	*It felt natural but also a little odd as the room sound had changed (*from the physical room the performer was in)*
	B	Cc	*Felt very responsive and natural*
		Ds	*it felt like there was a lot more processing to the sound than room A*
	C	As	*Certainly more natural the B (*C is more natural)*
		Cc	*Felt very natural*
		Ec	*That much reverb felt unnatural compared to my surroundings, but musically it felt natural.*
4	A	As	*I felt no real problems but real time visual contact could have helped.*
		Bs	*Quite faint in comparison to the others. (*low loudness from co-performer).*
		Bc	*Yes, i think the ensemble singing experience was more precise (*than Room B or C), pitch and time misalignment was more clear*
		Cc	*Almost too clean!*
		Ec	*It felt more natural (*than room B or C) with this dry acoustic*
	B	As	*Found it difficult to sync up at times*
		Cc	*Easy to feel the other singer to keep in time and tune into each other*
		Ds	*I felt like there was some lag between us at points but unsure it was just down to timing*
		Ec	*Breathing together helped!*
	C	As	*Very reverberant and a little difficult to follow*
		Cc	*No problem at all, felt natural*
5	A	As	*No noticeable delay*
		Cc	*Felt tight*

	B	Bc	*not clearly noticeable*
		Cc	*Felt tight*
	C	Cc	*Just the reverb, no unnatural delay*
6	A	As	*Acoustic environment feels a little close for a performance space*
		Bs	*Again, a wee bit faint.*
		Cc	*Felt a bit more separation of voices but very dry which can be good for some things*
	B	Cc	*Best separation, felt apart but close*
		Ec	*It was remarkable how familiar the musical setting felt, once I'd got over the initial strangeness of the situation*
	C	As	*The experience with headphones does make it a little uncomfortable*
		Cc	*Felt like we were in the room together, didn't feel much separation but that was ok*
7	A	Bs	*Just didn't seem as clear and amplified.*
		Cc	*Felt a little vibeless but good for precision*
		Dc	*On the head listening (especially of myself) was not close to real performance.*
	B	Cc	*Felt great and sounded great*
		Ec	*we were as together as I would've expected a real performance to be*
	C	Cc	*Good enough for headphones*
8	A	Cc	*Felt tight*
	B	Cc	*Felt very tight*
	C	Cc	*Felt great*
9	A	Bc	*But less than the reverberant rooms, although this one would be better for practice*
	B	Ec	*It was extremely enjoyable to sing with someone else, after a gap of 6 months!*
	C	Bc	*Slightly more than room B, I think the acoustics had more clarity, less LF reverberation*
		Ec	*Yeah, that was less enjoyable as I felt further from the other singer. But still very satisfying.*
10	A	As	*It could be very useful for high quality podcast audio or natural speech*
		Ac	*Any remote recording scenario*
		Bs	*Likely to choose previous rooms initially. (*preference in favour of Room B or C over A).*
		Cc	*Singing practice!*
		Ds	*Would be happy to use this system to practise with other singers. It would be interesting to try with instruments*
		Ec	*More likely to be playing drums + bass with friends / singing happy birthday for family on this one! (*than in room B or C)*
	B	As	*It' a little unnatural to me, perhaps I expect a more dry voice over IP.*
		Ac	*For recording hymns (*hall recordings of choral church music)*
		Bs	*For recording vocals in the future*
		Bc	*Only if it was much more easy to configure... I could take singing lessons online!*
		Cc	*Amazing that you could do harmonies over the internet!*
		Ds	*Less inclined to use this room as I experienced some lag and it as too reverby for most playing I would do*
		Ec	*I would love to try this out with a four-part choral ensemble*
	C	As	*Can't think of an application but wouldn't rule it out*
		Ac	*When recording a choir remotely*
		Bs	*I would use again for vocal recordings.*
		Cc	*If I was practicing vocals with people*

		Ds	*I would very happy to use this with a few people and with instruments*
		Ec	*With a group of four singers.*

Item Ratings:

Item 3

Item 5

Item 7