

## PARTICIPANT INFORMATION SHEET

### NOTES

This research is being undertaken by Harvey Fretwell as part of a project on the Sound Engineering and Production course in the School of Computing and Digital Technology at Birmingham City University. The project is being supervised by Samuel Smith [samuel.smith@bcu.ac.uk](mailto:samuel.smith@bcu.ac.uk) during the period September 2023 to 3<sup>rd</sup> May 2024. This research aims to comparatively analyse auto phase alignment techniques. The research will be written up and submitted for assessment in May 2024 and may be used for external publication for a further 12 months.

### QUESTIONS AND ANSWERS – ABOUT THIS RESEARCH

Please note that this information sheet provides the basic information about this research project. If you have any further questions, I will be happy to answer them before you decide whether to give your consent to participate in the research.

Question	Answer
1. What is the title of the project?	Comparative Analysis of Auto Phase Alignment Techniques: Traditional DSP Methods VS. Neural Network Approaches
2. What research is being conducted?	<p>This research project is investigating automatic phase alignment techniques and aims to compare the efficacy of a novel deep neural network approach in comparison to traditional techniques. The objectives of the project are to:</p> <ul style="list-style-type: none"><li>• Review traditional DSP techniques and contemporary neural network approaches for phase alignment.</li><li>• Implement conventional auto-phase alignment algorithms in Python, using DSP methods to conduct comparative analysis with the DNN model.</li><li>• Develop, train and fine-tune a DNN model using Python to create a real-time auto-phase alignment filter, taking a reference and a single input signal to align.</li><li>• Evaluate the performance of a novel DNN model approach against standard DSP algorithms.</li><li>• Make recommendations on the optimal approach for real-time auto-phase alignment, based on the findings of the literature review and the comparative analysis.</li></ul>
3. Why have I been invited to participate?	You have been invited to participate as a professionally competent and knowledgeable practitioner in the area.
4. What input do you require from me?	The research will require information from you about your subjective opinion on the audio quality and overall performance of the auto phase alignment technique.

5. How will I participate?	You will be asked to provide feedback on your subjective opinion through means of a listening test.
6. When I will need to participate and how long will it take?	You will be invited to participate once during September 2023 to 3 <sup>rd</sup> May 2024 for 15 minutes.
7. Who will have access to the data I provide?	Staff and I at Birmingham City University.
8. How will the data be used?	The data will be analysed and documented in a research report. It will not contain any personal details of participants or organisations involved in this work. The findings of the study may also be submitted for external publication in an academic journal or conference.
9. How long is the duration of the research project?	The research project starts in September 2023 and is due to finish in May 2024. Data will be retained for a maximum of two years to allow for the findings to be written up. Contact with participants will be short and intermittent so as not to disrupt you working arrangements.
10. Will my data be secure?	All information is stored electronically on the University's secure 'One Drive'; it will not be stored on personal devices. If it is necessary to capture data on a personal device, it will be transferred from the personal device to the University's One Drive within 24 hours and securely deleted from the personal device.
11. How long will data be stored?	All data collected will be destroyed within two years of the data being collected to allow time for findings to be analysed and written up. The findings of the study may also be submitted for external publication in an academic journal or conference.
12. What will happen to the data at the end of the research?	All data will be securely disposed of and only anonymised data will be used for publishing results. At no time will data be passed to a third party.
13. Can I have access to the research results?	Yes. The results will be made available to participants on request at the end of the project.
14. What if I do not wish to participate in this research?	You are not under any obligation to participate. You can choose not to participate without detriment. Participation is completely voluntary.
15. What if during the research I change my mind about participating in the project?	<p>You may withdraw from the research up until 14 days following your participation, after which time it may not be possible to remove your data from the aggregated research results.</p> <p>Please contact me via email <a href="mailto:harvey.fretwell@mail.bcu.ac.uk">harvey.fretwell@mail.bcu.ac.uk</a> and your data will be removed from the project.</p>

16. Who do I contact if I have any concerns about the research or if the study generates any adverse effects?	In the first instance, please contact my supervisor Samuel Smith via email <a href="mailto:samuel.smith@bcu.ac.uk">samuel.smith@bcu.ac.uk</a> who will refer the matter to the Faculty Academic Ethics Committee.
17. What do I do if I have questions about the project?	Please contact me via email <a href="mailto:harvey.fretwell@mail.bcu.ac.uk">harvey.fretwell@mail.bcu.ac.uk</a>