***Faculty of Science and Technology Research Ethics Committee (FSTREC)***

***Lancaster University***

***Application for Ethical Approval for Research***

**This form should be used for all projects by staff and research students, whether funded or not, which have not been reviewed by any external research ethics committee.** If your project is or has been reviewed by another committee (e.g. from another University), please contact the [FST research ethics officer](mailto:fst-ethics@lancaster.ac.uk) for further guidance.

In addition to the completed form, you need to submit **research materials** such as:

1. Participant information sheets
2. Consent forms
3. Debriefing sheets
4. Advertising materials (posters, e-mails)
5. Letters/emails of invitation to participate
6. Questionnaires, surveys, demographic sheets that are non-standard
7. Interview schedules, interview question guides, focus group scripts

Please note that **you DO NOT need to submit pre-existing questionnaires or standardized tests** that support your work, but which cannot be amended following ethical review. These should simply be referred to in your application form.

**Please submit this form and any relevant materials by email as** a **SINGLE attachment** to [*fst-ethics@lancaster.ac.uk*](mailto:fst-ethics@lancaster.ac.uk)

**Section One**

***Applicant and Project Information***

# Name of Researcher: Muhammad Umair, Nathaniel Vanderpuye

***Project Title: Synch with me: A mobile app to achieve breathing synchrony***

# Level: Bachelors, PhD

# Supervisor (if applicable): Dr. Corina Sas

# Researcher’s Email address: m.umair7@lancaster.ac.uk, n.vanderpuye@lancaster.ac.uk

# Telephone: 07448610088, 07759856757

# Address: School of Computing and Communications

# Names and appointments/position of all further members of the research team:

# Is this research externally funded? If yes,

# ACP ID number: AffecTech ITN

# Funding source: EC

# Grant code:

# Does your research project involve any of the following?

Human participants (including all types of interviews, questionnaires, focus groups, records relating to humans, use of internet or other secondary data, observation etc.)

Animals - the term animals shall be taken to include any non-human vertebrates or cephalopods.

Risk to members of the research team e.g. lone working, travel to areas where researchers may be at risk, risk of emotional distress

Human cells or tissues other than those established in laboratory cultures

Risk to the environment

Conflict of interest

Research or a funding source that could be considered controversial

Social media and/or data from internet sources that could be considered private

Any other ethical considerations

**Yes – complete the rest of this form**

**No – your project does not require ethical review or submission of this form**

**Section Two**

***Type of study***

Includes *direct* involvement by human subjects. ***Complete all sections apart from Section 3.***

Involves *existing documents/data only*, or the evaluation of an existing project with no direct contact with human participants*.* ***Complete all sections apart from Section 4.***

**If your research involves data from chat rooms and similar online spaces where privacy and anonymity are contentious, please complete all sections**

# Project Details

**1. Anticipated project dates (month and year)**

**Start date:**  October 2018  **End date:** September 2019

**2. Please briefly describe the background to the research (no more than 150 words, in lay-person’s language):**

This project dives into the idea of achieving breathing synchrony between two romantic partners, synchrony will only be achieved if both partners successfully breath in the same pattern. As a way to aid this we intend on producing and providing a biofeedback application for each partner to use, and by doing this we can use the collected data to explore the feasibility of a bio-feedback app to support synchrony in romantic relationships.

**3. Please state the aims and objectives of the project (no more than 150 words, in lay-person’s language):**

This project aims to study and document the effects of achieving breathing synchrony in romantic relationships.

**4. Methodology and Analysis:**

The study will consist of a user study in a real-world setting where users will be given two breathing sensors and access to the biofeedback mobile app, this study will require users and their partners to wear the provided breathing sensors while completing the activity on the app.

The couples will be asked to complete the 10-minute activity at a maximum of twice each weekday while they’re apart from one another, this will last over the course of 3 days.

The application will collect and use breathing data from both users to alter its display and track progress through the activity.

After this stage has concluded, interviews will be held with each couple to gather feedback on their involvement. The interviews will be audio recorded and then transcribed for later research.

Once the study is complete the data collected from the user studies will be

analysed to find any correlations between the completion of the application activity and a gradual sync of the breathing of the participants. The results of the analysis will then be evaluated and a conclusion on whether a biofeedback application can be a viable method to achieve synchrony between couples, a discussion on the larger scale potential of the study’s results will also be drawn.

**Section Three**

***Secondary Data Analysis***

**Complete this section if your project involves *existing documents/data* *only*, or the evaluation of an existing project with no direct contact with human participants**

1. Please describe briefly the data or records to be studied, or the evaluation to be undertaken.

2. How will any data or records be obtained?

3. Confidentiality and Anonymity: If your study involves re-analysis and potential publication of existing data but which was gathered as part of a previous project involving direct contact with human beings, how will you ensure that your re-analysis of this data maintains confidentiality and anonymity as guaranteed in the original study?

4. What plan is in place for the storage of data (electronic, digital, paper, etc)? Please ensure that your plans comply with the Data Protection Act 1998.

5. What are the plans for dissemination of findings from the research?

6a. Is the secondary data you will be using in the public domain? YES/NO

6b. If NO, please indicate the original purpose for which the data was collected, and comment on whether consent was gathered for additional later use of the data.

7. What other ethical considerations (if any), not previously noted on this application, do you think there are in the proposed study? How will these issues be addressed?

8a. Will you be gathering data from discussion forums, on-line ‘chat-rooms’ and similar online spaces where privacy and anonymity are contentious? YES/NO

If yes, your project requires full ethics review. Please complete all sections.

**Section Four**

# Participant Information

**Complete this section if your project** **includes *direct* involvement by human subjects.**

1. Please describe briefly the **intended human participants** (including number, age, gender, and any other relevant characteristics):

* Number of Participants: 10
* Age: 20-50 Years
* Gender: Males, Females (Mixed)

2. How will participants be **recruited** and from where?

* University mailing list (Graduate and Undergrads) in SCC, other departments in FST and acquaintances.

3. Briefly describe your **data collection methods**, drawing particular attention to any potential ethical issues.

* Interviews and the mobile application.
* Ethical Issues: Some possible ethical issues are that participants will have data about their breathing recorded by the application when they participate, and audio recordings will be collected during the interviews.

**4. Consent**

4a. Will you take all necessary steps to **obtain the voluntary and informed consent** of the prospective participant(s) or, in the case of individual(s) not capable of giving informed consent, the permission of a legally authorised representative in accordance with applicable law? **YES**

If yes, please go to question 4b. If no, please go to question 4c.

4b. Please explain the procedure you will use for **obtaining consent**? If applicable, please explain the procedures you intend to use to gain permission on behalf of participants who are unable to give informed consent.

* All participants will be given participant information sheet with details about the study and its procedure. If participants agree with the details provided, they will sign the given consent form.

4c. If it will be necessary for participants to take part in the study **without their knowledge and consent at the time**, please explain why (for example covert observations may be necessary in some settings; some experiments require use of deception or partial deception – not telling participants everything about the experiment).

* N.A

5. Could participation cause **discomfort** (physical and psychological e.g. distressing, sensitive or embarrassing topics), **inconvenience or danger beyond the risks encountered in normal life**? Please indicate plans to address these potential risks. State the timescales within which participants may withdraw from the study, noting your reasons.

* N.A

6. How will you protect participants’ **confidentiality and/or anonymity** in data collection (e.g. interviews), data storage, data analysis, presentation of findings and publications?

* Audio and breathing data collected from participants will be anonymized and will be saved securely on university secure hard-drives.

7. Do you anticipate any ethical constraints relating to **power imbalances or dependent relationships**, either with participants or with or within the research team? If yes, please explain how you intend to address these?

* N.A

8. What potential **risks may exist for the researcher** and/or research team? Please indicate plans to address such risks (for example, noting the support available to you/the researcher; counselling considerations arising from the sensitive or distressing nature of the research/topic; details of the lone worker plan you or any researchers will follow, in particular when working abroad.

* N.A

9. Whilst there may not be any significant direct **benefits to participants** as a result of this research, please state here any that may result from participation in the study.

* The study has the potential to help the participating couple feel more connected by providing feedback on their breathing and joint efforts to complete the group activity.

10. Please explain the **rationale for any incentives/payments** (including out-of-pocket expenses) made to participants:

* As participants will be taking part in the activity over 3 days, there will have to be an incentive to encourage continuous participation. Participants will be given £15 for their contribution to the study.

11. What are your plans for the **storage of data** (electronic, digital, paper, etc.)? Please ensure that your plans comply with the Data Protection Act 1998.

* All textual data will be saved for 10 years and then destroyed.
* Any recorded audio will be saved until the project concludes, transcribed and then destroyed.
* Textual and Audio data will be encrypted and saved on University secure hard drives.

12. Please answer the following question *only* if you have not completed a Data Management Plan for an external funder.

12.a How will you make your data available under open access requirements?

* All participants data collected during the study will be anonymised, analysed, evaluated and made available for research purposes.

12b. Are there any restrictions on sharing your data for open access purposes?

* Any recordings will be used solely by the projects participants and will not be made available to external parties.

13. Will **audio or video recording** take place?  no  audio  video

13a. Please confirm that portable devices (laptop, USB drive etc.) will be **encrypted** where they are used for identifiable data. If it is not possible to encrypt your portable devices, please comment on the steps you will take to protect the data.

* Any portable devices used to collect identifiable data will be encrypted.

13b. What arrangements have been made for **audio/video data storage**? At what point in the research will tapes/digital recordings/files be destroyed?

* All the audio recordings will be encrypted and saved on secure Lancaster University hard drives.
* The audio recordings will only be accessed by the projects researchers and will be destroyed once the project concludes.
* All textual data gathered from the sensors and audio transcriptions will be kept for 7 years on secure Lancaster University servers.

13c. If your study includes video recordings, what are the implications for participants’ anonymity? Can anonymity be guaranteed and if so, how? If participants are identifiable on the recordings, how will you explain to them what you will do with the recordings? How will you seek consent from them?

* N.A

14. What are the plans for dissemination of findings from the research? If you are a student, mention here your thesis. Please also include any impact activities and potential ethical issues these may raise.

* Study findings will be used for a Bachelors (Nathan’s) final year project report and is intended to be published in a Conference/Journal.

15. What particular ethical considerations, not previously noted on this application, do you think there are in the proposed study? Are there any matters about which you wish to seek guidance from the FSTREC?

* N.A

**Section Five**

***Additional information required by the university insurers***

If the research involves either the nuclear industry or an aircraft or the aircraft industry (other than for transport), please provide details below:

**Section Six**

***Declaration and Signatures***

I understand that as Principal Investigator/researcher/PhD candidate I have overall responsibility for the ethical management of the project and confirm the following:

* I have read the Code of Practice, [Research Ethics at Lancaster: a code of practice](http://www.lancaster.ac.uk/depts/research/documents/New%20ethics%20docs/Ethics-code-of-practice%20Senate.pdf) and I am willing to abide by it in relation to the current proposal.
* I will manage the project in an ethically appropriate manner according to: (a) the subject matter involved and (b) the Code of Practice and Procedures of the University.
* On behalf of the University I accept responsibility for the project in relation to promoting good research practice and the prevention of misconduct (including plagiarism and fabrication or misrepresentation of results).
* On behalf of the University I accept responsibility for the project in relation to the observance of the rules for the exploitation of intellectual property.
* If applicable, I will give all staff and students involved in the project guidance on the good practice and ethical standards expected in the project in accordance with the University Code of Practice. (Online Research Integrity training is available for staff and students [here](https://modules.lancs.ac.uk/course/view.php?id=7687).)
* If applicable, I will take steps to ensure that no students or staff involved in the project will be exposed to inappropriate situations.
* I confirm that I have completed all risk assessments and other Health and Safety requirements as advised by my departmental Safety Officer.

Confirmed

**Please note:** If you are not able to confirm the statement above please contact the FST Research Ethics Committee and provide an explanation.

**Student applicants:**

Please tick to confirm that you have discussed this application with your supervisor, and that they agree to the application being submitted for ethical review

***Students must submit this application from your Lancaster University email address, and copy your supervisor in to the email in which you submit this application***

**All Staff and Research Students must complete this declaration:**

**I confirm that I have sent a copy of this application to my Head of Department** (or their delegated representative). **Tick here to confirm**   
**Name of Head of Department** *(or their delegated representative)*  Dr. Adrian Friday

**Applicant electronic signature**: Muhammad Umair; Nathaniel Vanderpuye Date 3/12/2018

**Interview Guide**

What do you think about designing systems that are sensitive to your emotions and provide feedback mirroring them accordingly?

How did you feel at the start of the study when you were asked to participate in a diary study?

Did you feel like you were given enough feedback on what was going on by the application?

How comfortable were you with the idea of a sensor being used to collect your data?

Did you experience any outcomes during your participation that you didn’t initially expect?

Do you feel like you learned anything from participating?

Was using an application like this for relaxation more beneficial than a traditional approach? Or did you find it to be more of a detriment?

What are some words you would use to describe this experience?

Would you be open to the idea of using applications in the future to build meaningful connections with people?

If any, what types of additions do you think could be included in the app to make it better?

School of Computing and Communications

**Participant information sheet**

We are Undergraduate and PhD students at Lancaster University and we would like to invite you to take part in a research study that looks at how viable biofeedback can be to achieve synchrony between couples.

Please take time to read the following information carefully before you decide whether or not you wish to take part.

**What is the study about?**

This study looks at the topic of synchrony between two people and its applications in real world scenarios when supported by feedback.

**Why have I been invited?**

We require participants for the research study in order to track data on the effectiveness of a biofeedback app to help users achieve synchrony.

We would be very grateful if you would agree to take part in this study.

**What will I be asked to do if I take part?**

If you were to take part in the study, you’ll be asked to wear a breathing sensor while you complete an on an application with a partner over the course of 3 days. After this stage of the project is complete, interviews will be held with yourself and your partner to gather feedback.

Over the course of the study, textual data by the sensors, the feedback you provide during interviews along with audio recordings of the interviews will be used for educational purposes.

**What are the possible benefits from taking part?**

Participating will allow you to have a dedicated period of relaxation with your partner and possibly improve your bond with them.

**Do I have to take part?**

The study is not compulsory, and you are free to ask to be removed as a participant at any time.

**What if I change my mind?**

During the study you’ll be free to withdraw whenever you wish, if you do choose to withdraw any identifiable data about you will be destroyed.

**What are the possible disadvantages and risks of taking part?**

There should be no risks to participating for this study.

**Will my data be identifiable?**

Any data we collect about you will only be accessible to the researchers of this project, your data will be anonymised shortly after being received and will not be made available to any other members of the public until your anonymity has been guaranteed.

**How will my data be stored?**

The data we collect will be stored on the secure workstations of the researchers and our supervisor, confidential data will be anonymised shortly after we receive it and copies of everything we record will be stored on university secure devices.

In accordance with University guidelines, we will keep the textual data secure for a minimum of ten years and any audio will be deleted once the project is over.

**How will we use the information you have shared with us and what will happen to the results of the research study?**

The data collected from participants will solely be used for Undergraduate/PhD academic Projects and may be used in research publications.

**Who has reviewed the project?**

This study has been reviewed and approved by the Faculty of Science and Technology Research Ethics Committee.

**What if I have a question or concern?**

If you have any queries or if you are unhappy with anything that happens concerning your participation in the study, please contact:

1. Name: Muhammad Umair  
   Address: School of Computing and Communications, Lancaster University, LA1 4YW, United Kingdom  
   Telephone: 0744 8610088  
   Email: m.umair7@lancaster.ac.uk
2. Name: Nathaniel Vanderpuye  
   Address: School of Computing and Communications, Lancaster University, LA1 4YW, United Kingdom  
   Telephone: 0775 9856757  
   Email:n.vanderpuye@lanacaster.ac.uk

If you have any concerns or complaints about the study, you can also contact:

Name: Prof. Adrian Friday

Address: InfoLab21, Lancaster University, LA1 4WA, United Kingdom

Telephone: 1524 510326

Email: a.friday@lancaster.ac.uk

Name: Prof. Corina Sas

Address: InfoLab21, Lancaster University, LA1 4WA, United Kingdom

Telephone: 01524 510318

Email: c.sas@lancaster.ac.uk

**Thank you for considering your participation in this project.**

**CONSENT FORM**

**Project Title: *Synch with me: A mobile app to achieve breathing synchrony***

Name of Researchers: Muhammad Umair, Nathaniel Vanderpuye

Email: m.umair7@lancaster.ac.uk, n.vanderpuye@lancaster.ac.uk

1**Please tick each box**

1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily
2. 1I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.
3. I understand that any information given by me may be used in future reports, academic articles, publications or presentations by the researcher/s, but my personal information will not be included and I will not be identifiable.

1

1. I understand that my name/my organisation’s name will not appear in any reports, articles or presentation without my consent.
2. I understand that my biological signals heart rate and interview feedback will be recorded and used for research purposes, my data will be protected on encrypted devices and kept secure.



1. I understand that data will be kept according to University guidelines for a minimum of 10 years after the end of the study.
2. I agree to take part in the above study.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_          \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_             \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Name of Participant                      Date                                Signature

**I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.**

**Signature of Researcher /person taking the consent\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_**Day/month/year

**One copy of this form will be given to the participant and the original kept in the files of the researcher at Lancaster University**

If you have any queries or if you are unhappy with anything that happens concerning your participation in the study, please contact:

1. Name: Muhammad Umair  
   Address: School of Computing and Communications, Lancaster University, LA1 4YW, United Kingdom  
   Telephone: 0744 8610088  
   Email: m.umair7@lancaster.ac.uk
2. Name: Nathaniel Vanderpuye  
   Address: School of Computing and Communications, Lancaster University, LA1 4YW, United Kingdom  
   Telephone: 0775 9856757  
   Email: n.vanderpuye@lancaster.ac.uk

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**Thank you for considering your participation in this project**