

**School of Computing Science Ethics Committee
University of Glasgow**

Request for Ethical Approval

This form is to be used by 3rd year, 4th year, MSci, MRes, and taught MSc students in the Department of Computing Science whose projects entail human participation and which do not conform to any one of the criteria on the project ethics checklist form (<http://www.dcs.gla.ac.uk/ethics/projects-form.pdf>). Students enrolled for an MSc by Research or a PhD, and members of academic or research staff should submit their request for ethics approval to the Faculty Ethics Committee (see <http://ethics.ims.gla.ac.uk/>)

The form should be completed and returned by email to Prof Stephen Brewster (stephen@dcg.gla.ac.uk) to whom all enquires or requests for advice should be directed.

All sections of this form must be completed.

Before completing this form, please read the British Psychological Society's Code of Conduct (available on <http://www.dcs.gla.ac.uk/ethics/>). The relevant sections of the code are noted against questions in this form.

Copies of the participant information form and consent form should be submitted together with this form (BPS § 3&6).

Student's name: Ryan Williamson

Registration/Matriculation Number: 2306841w

Email address: 2306841w@student.gla.ac.uk

Year level (3rd, 4th, MSci, MRes, MSc): 4th

Supervisor: Dr Jeremy Singer

Project title: Keep Your Distance! Real-time Social Distancing Using ESP32

1. Describe the basic purposes of the proposed research:
To determine the effectiveness and accuracy of the social distancing system built on the esp32 devices.
2. Describe the design of your experiment (e.g. conditions, number of participants, procedure, equipment) (BPS §2&8):
No of participants: 2
Equipment: 2 Android devices, 2 ESP32 microcontrollers (non-standard devices), 2 micro usb cables, 2 portable power banks, 2 clothes pegs.
Conditions: Location description, distance measures, device readings
Procedure:
The participants will wear the device as shown in the tutorial sheet that will be provided, I've included this image at the end of this section to demonstrate how it will be worn. It has been designed to prevent strangulation and tripping. It will be powered via micro usb cable from a portable power bank, worn in the participant's pocket. The device will be attached to their t-shirt, shirt, etc using a clothes peg.
At each chosen area one participant will move towards the other participant at a steady pace. They will stop and record the distance between each other when the device alerts them or if the device does not alert them but continuing further would cause them to collide with the other participant. They will then move back until the device stops alerting them and record this distance. They should do this 5 times in total for each area.
At the end of the experiment, they will be asked to fill in a survey and submit the collected data along with this.



3. Describe how the procedures affect the participants
The procedures will not affect the participants, the experiment will be conducted only within their own house and with consenting members of their own household, so no extra danger from COVID will be involved.
4. State what in your opinion are the ethical issues involved in the proposal (BPS all sections)
The ESP32 devices involved in the experiment are non-standard hardware.
5. Specify whether the research will involve children, or those with a physical or mental disability (BPS §3):
No

If so, explain the steps taken to obtain permission from LEAs, head teachers, parents etc:
N/A

6. State if payment will be made to subjects:
No
7. Describe procedures for obtaining consent from participants (BPS §3):
I have created a consent form and an information sheet; these include contact details if they have further questions or want to contact me after the experiment.
8. State whether the proposal is in accord with the BPS code of conduct:
It is.
9. Describe how the participants' anonymity and confidentiality will be maintained (BPS §7):
The personal information from participants will not be stored, so the data is anonymised.
10. Date on which the project will begin:
2020-12-18
11. Location at which the project will be carried out:
Within the participants own homes.
12. Describe how participants will be debriefed at the end of the experiment. This must include the opportunity to contact the experimenter (or supervisor) for feedback on the general outcome of the experiment. (BPS §5&10) (To be sent as an email after the experiment)
The main aim of this experiment was to investigate the suitability of the esp32 devices for use as real-time social distancing sensors, and about how far they would realistically keep people apart. I was particularly looking at how close you get in terms of real distances vs how far the devices thought you were.
Do you have any comments or questions about the experiment? Please take a note of my email address let me know if you have any further questions about this experiment – 2306841w@student.gla.ac.uk.
Thanks a lot for your help, I greatly appreciate it.

Student's Name Ryan Williamson

Student's Signature RYAN J WILLIAMSON

Date 2020-12-07

Supervisor's Name Dr Jeremy Singer

Supervisor's Signature JEREMY SINGER

Date 2020-12-07

SOCS Ethics Committee Signature Prof. Matthew Chalmers

Date 8th Dec 2020