

Participant Information Sheet

Study title: **Smart Wearable Device for Posture Correction**

Researcher Details: Lian Duan (student) and Lucas Ferrari Gerez (supervisor, lecturer)

You are being invited to take part in a research study. Before you decide to take part it is important for you to understand why the research is being done and what it will involve. Please read the following information carefully and discuss it with others if you wish. Ask the researcher/s if there is anything that is not clear or if you would like more information. Take some time to decide whether or not you wish to take part.

Thank you for reading this.

The purpose of this research is to develop and evaluate a wearable device that can track head posture in real time and provide corrective feedback. This project focuses on detecting Forward Head Posture using motion sensors and Bluetooth connectivity. The goal is to help users become more aware of their posture and prevent potential long-term health issues caused by prolonged poor posture.

This study will involve participants who will wear a prototype posture-tracking device designed to monitor head movement. The device, built using an Arduino Nano 33 IoT with motion sensors, will track head posture and send data to a connected application via Bluetooth.

Participants will be asked to perform a series of tasks, such as maintaining different postures while using their phones or computers, to evaluate the accuracy and responsiveness of the device. The tasks are, sitting, standing, leaning and walking. The data will be collected to assess posture tracking effectiveness and usability.

All participant data collected during the study will be kept strictly confidential and anonymized. No personally identifiable information will be recorded, and each participant will be assigned a unique code for data analysis purposes.

Data will be securely stored on a password-protected system and used solely for research purposes. Only authorized researchers will have access to the data. Any results published or shared will be presented in an aggregated form, ensuring that individual participants cannot be identified. Participants will also have the option to withdraw their data from the study at any time.

Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.

This project has been considered and approved by the College of Science & Engineering Ethics Committee.

To pursue any complaint about the conduct of the research: please contact the College of Science & Engineering Ethics Committee, email scieng-hoc-pa@glasgow.ac

Consent Form

1. **Duration:** The experiment will last approximately 60 minutes.
2. **Procedures:** Participants will be asked to:
 - Sit or stand in various postures, including intentionally maintaining bad posture (e.g., slouching or leaning and looking at your phone).
 - Follow instructions provided by the researcher to ensure consistent testing conditions.
3. **Risks and Discomforts:**
 - The risk involved in this study is minimal. You may experience mild discomfort from maintaining bad posture temporarily.
 - If at any point you feel significant discomfort or wish to stop, you may withdraw immediately without any consequences.
4. **Benefits:** This study contributes to the development of a device that promotes better posture awareness and may aid in long-term spinal health.

Voluntary Participation and Withdrawal

Participation in this study is completely voluntary. You may withdraw from the experiment at any time without providing a reason. There are no penalties for non-participation or withdrawal.

Confidentiality

Any data collected during this study will remain confidential and will only be used for research purposes. No identifying information will be disclosed in any reports or publications resulting from this study.

Consent Statement

By signing this form, I acknowledge that:

- I have read and understood the information provided above.
- I understand the purpose and procedures of this study.
- I am aware of the potential risks and benefits of participation.
- I understand that my participation is voluntary, and I can withdraw at any time without penalty.
- I am not under any obligation to participate and have had the opportunity to ask questions about the study.

Participant Name: _____

Signature: _____

Date: _____

Researcher Name: _____

Signature: _____

Date: _____

Contact Information: _____