PHYSIOLOGICAL SIGNALS

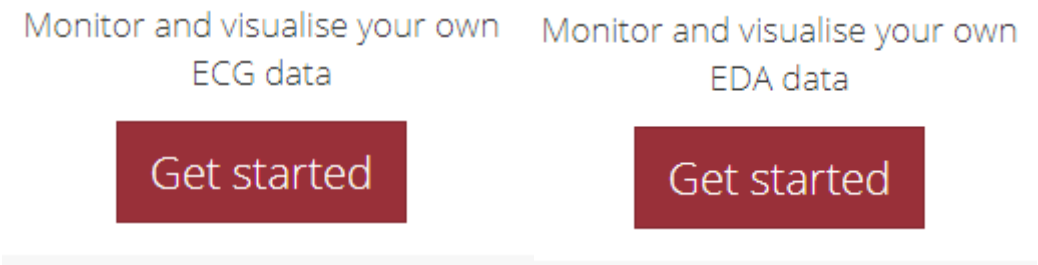
Physiological signals (or biometrics) are the physical responses to psychological and cognitive processes

On the HCC Workshop website, launch the **Electrodermal Activity and Electrocardiography** activities. Read each of these pages to learn more about these processes.

ACTIVITY

In this activity, you will be able to use an Empatica E4 on yourself in order to visualise your EDA and ECG activity.

Launch the activity instructions by clicking the 'Get Started' button on both the Electrodermal Activity and Electrocardiography pages of the HCC Workshop.



Take turns using the Empatica E4 and testing out the activities on the web pages.

In groups, discuss your experiences to help you find answers to the following questions. Take some notes on this worksheet. If you get stuck, talk to one of the ANU Instructors.

QUESTIONS

1. What is electrocardiography? What does it measure?
2. What is electrodermal activity? What does it measure?

3. Why are HCI researchers interested in measuring these signals?

4. What applications might they be useful for?

5. Think about the videos you watched or your breathing exercises. To what extent could you control these signals?

6. What problems could HCI researchers face if users are able to control their physiological signals?

7. What other external factors could affect a user's physiological signals, and why could they be a problem?

8. In this exercise, your signals were measured using a watch-like device. What is another potential way for collecting this type of data, and how could you integrate this into a computing workspace?

9. What other physiological signals produced by the body could you measure? What equipment would be necessary to do this?

10. Discuss the use of physiological signals in computing applications. Do you think they pose a privacy or security risk? Why or why not.

11. Can you find any other apps or devices that already measure physiological signals?

12. Calibration was not necessary for this device. Each group member was able to put the device straight on to view their data.
    Why do you think calibration was not necessary for these signals?