# Stage 1 Digital Technologies

# Assessment Type 1: Project Skills

# Data Collection: Fitness Applications and Data

## Purpose

Fitness applications, such as Strava, MyFitnessPal, Nike Training Club, are common technologies among many athletes and people seeking to improve their personal health.

Collect data using one or more of these applications, through your own or a peer's activities, and investigate and compare the information provided by at least one other application/program.

Consider and outline the ethical implications of this data collection and its publication.

## Assessment Description

- Working collaboratively in groups of 3 to 5, conduct background research of two or more fitness applications, such as:
  - *Strava*
    https://www.strava.com/
  - *Nike Club Training*
    https://www.nike.com/au/ntc-app
  - *Garmin Connect*
    https://connect.garmin.com/signin/
  - *Map My Run*
    https://www.mapmyrun.com/
  - And any other relevant sources. See link below for a list of other relevant applications. (Ensure they are fitness trackers that collect sufficient data for use.)
    https://www.healthline.com/health/fitness-exercise/top-iphone-android-apps#map-my-run
- Download the app and investigate how it works. I.e., What data metrics it collects and how it is displayed.
- Collect sufficient data from activities or events within the program/application.
- Consider any ethical implications that arise from using the app, how this could affect people or organisations and how any ethical breaches can be prevented.
- You may include any peripheral devices that aid or integrate with the chosen program/application.

## Assessment Conditions

- As a group, present the findings of your investigation through a multimodal presentation (max 10 minutes).
- Keep an electronic record of evidence (notes, reflections, draft design annotations etc.) of your contributions, and others', to the collaborative project.
- Your presentation should include:
  - a brief introduction of the chosen application/program and how it compares to another application/program
  - how it is used and what information is available from the application/program
  - introduction of the data set produced/used
  - ethical considerations from usage of the application/program
  - critical analysis on the effectiveness of the application/program
- Each student will be required to submit an individual self-assessment and assessment of the group's performance throughout this activity, separately. (100 – 200 Words)

## Assessment Design Criteria

CT1 Application of computational thinking skills to explore problems and possible solutions.

DE3 Contribution to collaborative work.

RE1 Research into and discussion of ethical considerations in digital solutions and/or data use.



Stage 1 Digital Technologies (for teaching in 2018)
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| | Computational Thinking | Development and Evaluation | Research and Ethics |
|---|---|---|---|
| **A** | Insightful and sustained application of computational thinking skills to explore problems and possible solutions.<br>Focused development and strategic application of a wide range of programming skills to create a digital solution or prototype.<br>In-depth analysis of patterns and relationships in data sets and/or algorithms to draw insightful conclusions. | Purposeful and well-considered development and application of program-design skills to create digital solutions or a prototype that include innovative features.<br>Insightful evaluation of the effectiveness of a digital solution or prototype.<br>Insightful and proactive contribution to collaborative work. | In-depth research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **B** | Some insights in the application of computational thinking skills to explore problems and possible solutions.<br>Thorough development and well-considered application of a range of programming skills to create a digital solution or prototype.<br>Some depth in analysis of patterns and relationships in data sets and/or algorithms to draw well-informed conclusions. | Well-considered development and application of program-design skills to create digital solutions or a prototype that include one or more innovative features.<br>Well-considered evaluation of the effectiveness of a digital solution or prototype.<br>Mostly consistent and effective contribution to collaborative work. | Some depth in research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **C** | Application of computational thinking skills to explore problems and possible solutions.<br>Competent development and application of programming skills to create a digital solution or prototype.<br>Description, with some analysis of patterns and relationships in data sets and/or algorithms, to draw generally informed conclusions. | Development and application of program-design skills to create digital solutions or a prototype that may include one or more innovative features.<br>Description, with some evaluation of the effectiveness, of a digital solution or prototype.<br>Effective contribution to collaborative work. | Considered research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **D** | Some application of basic computational thinking skills to describe problems and possible solutions.<br>Basic development and some application of programming skills to create one or more partial solutions or prototypes.<br>Basic description of patterns and relationships in data sets and/or algorithms to draw one or more basic conclusions. | Some development and application of program-design skills to create one or more partial solutions or prototypes.<br>Basic description of a digital solution or prototype and one or more aspects of its effectiveness.<br>Some contribution to collaborative work. | Basic research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **E** | Attempted application of a limited number of simple computational thinking skills to describe a problem and/or possible solution.<br>Attempted development and/or application of basic programming skills.<br>Attempted description of one or more patterns and relationships in data sets and/or algorithms. | Attempted development and application of program-design skills.<br>Attempted description of a digital solution or prototype.<br>Limited contribution to collaborative work. | Attempted discussion of an ethical consideration in digital solutions and/or data use. |