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Abstract

This dissertation aims to review and analyse the data that is recorded and saved through wearable athlete devices in tandem with functional recordings to give an electronic full-body analysis of all participating athletes. This analysis will be completed by in-person analyses and recordings originating directly from the athletes. In addition, this dissertation includes a set of interviews with some of the industry's leading experts in this field of study.

The overall objective is to combine various methods of athlete profiling with a view to better data integration to best sculpt training regimes and prevent injury. This method has not previously been fully and comprehensively analysed in an accurate and readable format.

Data taken from elite athletes will be electronically analysed within two large Irish athlete development sporting bodies. In addition, athletes will be examined as to their functional movements and abilities, and any changes monitored. This information will be incorporated with the individual monitoring data for an overall evaluation of the athletes' abilities. The objective is to prove that the data taken from athletes throughout their exercise programmes contains information that can be utilised in training regime creation, long-term behavioural tracking and injury prevention.

To prove the effectiveness of this approach, current data held by those participating institutions will be reviewed and compared to specific athlete injuries or ailments. There will be a mix of athletes taking part in basic, weight, functional, injury recovery and prevention training. The data collected will identify the benefits of a "digital training regime" to athletes and their stakeholders.

Data will be recorded through wearable devices. Data recorded will produce a comprehensive and tailor-made training programme for each individual athlete.

The final result of the dissertation will be the proposal for an electronic record of an athlete which can be used for the future career of the athlete for training, recovery from injury, tracking of past injuries and long term analysis.