Investigation on the acceleration of wrist and waist during a golf swing towards the ball trajectory

Kusan Reveendran^a, Mohd Nadzeri Omar^a, Nasrul Hadi Johari^a, Mohd Hasnun Arif Hassan^a & Azizul Aziz^b ^a Faculty of Mechanical and Automotive Engineering Technology, Universiti Malaysia Pahang, Pahang, Pekan, 26600, Malaysia ^b Royal Pekan Golf Club, Pahang, Pekan,, 26600, Malaysia

ABSTRACT

The golf swing involves the movement of numerous body parts and can be viewed in several phases. Understanding how each phase behaves is critical to improving the game. The improvement is commonly quantified in terms of accuracy, which can be determined from the trajectory of the ball. The relationship between golf swings and ball trajectories is normally obtained in a laboratory setting, which is both limited in access and expensive. Golf swings were studied in this study using a wearable device called MetaMotionS (MMS) from MbientLab. The MMS measures the acceleration of a golfer's wrist and waist during a swing. According to the findings, the ball trajectory was influenced by the wrist and waist acceleration. Consequently, the golfer may apply the findings to improve his game.

KEYWORDS

Ball trajectory; Golf swing; Waist motion; Wrist motion; Wrist-waist coordination

ACKNOWLEDGEMENTS

Authors are grateful to Universiti Malaysia Pahang for laboratory facilities and the financial support under Product Development Research grant PDU223202.