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Virtual Reality for Baseball Batting

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ABSTRACT

Nowadays, researchers explore the applications of Virtual Reality in different aspects of people's lives. A few studies of Virtual Reality focus on applications in sports training. In this research area, one of the most important benefits is that athletes can focus on the training of one specific skill at one time. This SURF project focuses on the development of the virtual reality environment by designing targeted training for baseball batters, with the goal to achieve sufficient realism as judged by the Purdue baseball coaches. With the Virtual Reality training, baseball batters can practice and perfect a specific skill without a real pitcher or the limitation of the weather. Targeted training includes recognition speed, determination if the ball hits the strike zone, and judgement of baseball path realized by Unity as game engine. The project involves simulating different baseball paths, adding difficulty by changing the ball's color to fulfill the training need. Future work will collect data on Purdue baseball players and provide recommendations based on the comparison of accuracy and recognition time after a period of training. Ultimately, we will collect data on how Virtual Reality training impacts baseball team's performance during the subsequent game season.

KEYWORDS

Virtual reality, Virtual environment, Baseball training, recognition training, sports simulation.