

## Application of Information Technology in Sports

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### Abstract

**Background:** . The significant advancement in all types of technologies has dramatically changed the nature of sports competitions, including the equipment used by athletes and the devices available to judges to determine winners. Even the roles of coach and fitness trainer is refined, Some of the areas in which technology demonstrated a major role is broadcasting, movement analysis, judgment systems and coaching area.

**Technology Used:** Some popular Technology systems used in sports are Hawk Eye Technology, Goal Line Technology, Photo Finish Camera, Cyclops, Dive Cam, Contact Pads, Nutrition and Fitness Software and Universal Fan Fest Technology.

**Key Words:** Information Technology, Sports

### INTRODUCTION:

Sports have been increasingly organized and regulated from the time of Ancient Olympics up to the present century. The Modern Olympics are quite different than they were just a century ago with the application of information technology. The significant advancement in all types of technologies has dramatically changed the nature of sports competitions, including the equipment used by athletes and the devices available to judges to determine winners. Even the roles of coach and fitness trainer is being redefined to include awareness and use of computer software, data collection etc.

Information Technology helps games and sports in many ways. Some of the areas in which in which technology demonstrated a major role is broadcasting, movement analysis, judgment systems and coaching area.

- **Broadcasting:** Improvement in broadcasting technology has brought the sports from the stadiums into our homes. Virtual imaging, timing, and social media are changing the way how we watch the games.
- **Movement Analysis:** With the application of information technology, athlete's movements can be captured and analyzed to understand what they are doing and how can they improve themselves.
- **Judgements:** Technology helps referees, as they can use replay systems. In International Cricket, the third umpire has been used, one sitting off the ground with access to TV replays of certain situations such as disputed catches and boundaries.
- **Coaching Systems:** Information Technology has a great impact on coaching systems also. There is software for coaches to create practice schedules. Coaches can enter their team's information along with their opponent's information and the computer Programs will device a game plan, based on how each team matches up. It can help a coach to device a training schedule for their teams to maximize their team's abilities.

**Technology Used:** Some popular Technology systems used in sports are Hawk Eye Technology, Goal Line Technology, Photo Finish Camera, Cyclops, Dive Cam, Contact Pads, Nutrition and Fitness Software and Universal Fan Fest Technology.

- **Halk Eye Technology:** It is computer and camera system technology which traces ball's trajectory .it is being used in International Cricket and Tennis. **Hawk-eye** justified the umpire's decision. If the umpire was unsure of what decision to make, then he could call on the third umpire who has the benefit of being able to look at

hawk eye to make the decision. Hawk-eye can also be beneficial to batsmen. A record can be brought up of the deliveries they scored from.

- **Goal Line Technology:** For the tournament, Goal Control's system, called "4D," used 14 cameras -- seven aimed at each goal -- to measure with absolute precision if the ball crossed the goal line completely. With Goal Control's technology, when the ball crosses the goal line, the referees receive, in the form of a vibration and a message to a wristwatch, a notification of the goal.
- **Photo Finish Camera:** In 1900 Olympics, when American athlete Francis Jarvis was declared the winner of the 100 meter race, he was said to be "the winner by one foot from Walter who beat Australian Stan Rowley by inches. It was not even until 1932 Olympic Games in Los Angeles that officials began using stop watch and camera for results. But now the systems link a starting pistol with timer and photofinisher apparatus to record finish times, making it possible to record results down to the 1/100<sup>th</sup> of a second.
- **Cyclops:** It is a computer linked system which is activated by chair umpire before each serve in tennis to help determine whether a serve is IN or OUT.
- **Dive Cam:** It follows the divers as they make their somersaults and drop in through the surface of the water, and record their movements under water also.
- **Contact Pads:** Whenever you see swimmers finishing up the last lap, it all becomes a blur and spectators there and at home refer to the scoreboard to find out who has won. Each swimmer's best time is registered by the contact pads once 6.6 pounds of focused pressure is applied to the pad. This technology is so sensitive that the pads could register a time difference of 1/100<sup>th</sup> of a second.
- **Nutrition and Fitness Software:** Nutrition and Fitness are probably the most important features which can affect an athletes performance in sport. Technology is rapidly becoming involved in the monitoring and analysing of athletes nutrition and fitness levels with software programs such as BodyByte. BodyByte is a software program developed to organize and manage all the information associated with athletes nutrition, fitness and training. It provides a greater accuracy than manual analyse and has been used to aid a number of sports coaches and professionals, allowing to improve on their athletes diet and training routine.
- **Universal Fan Fest Technology:** Japan has pledge that if it is granted the right to host the 2022 World cup games, it will develop technology enabling it to provide, a live International telecast of the event in 3D, which would allow 400 stadiums in 208 countries to provide 360 million people, with real time 3D. It allows fans of different nations to converse with each other.

Apart from these there are many more technologies, like Instant replay, Point track technology, Hot spot technology, Mac cam etc. which have been proved very useful in the smooth functioning of various games. Current usage of information technology is minimal in sports as compared to other disciplines. However present trends indicate a substantial growth in the use of information technology. There exists a need for the development of more programs and devices which use the computer effectively in the physical education and sports.

**References**

- Eassom, Simon (1994). Critical reflections on Olympic ideology. Ontario: The centre for Olympic Studies pp.120 ISBN 0-7714-1697-0
- Davis, M, Ecshelman, Technology used in sports, Annual convention of technology in sports, New Orleans.
- Kulttuurivihkot (2009) "Gaining steam in sports Technology", Slice of MIT.
- Lan Schorr, "The role of computers in sports" <http://www.ehow.com>
- Sydow, James Armin (1974), "Computers in Physical Education." A Paper presented at national association of users of computer applications of learning