A

Seminar report

On

Hawk-Eye Technology

Submitted in partial fulfillment of the requirement for the award of degree
Of ECE

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Acknowledgement

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Last but clearly not the least, I would thank The Almighty for giving me strength to complete my report on time.

Preface

I have made this report file on the topic **Hawk-Eye Technology**; I have tried my best to elucidate all the relevant detail to the topic to be included in the report. While in the beginning I have tried to give a general view about this topic.

My efforts and wholehearted co-corporation of each and everyone has ended on a successful note. I express my sincere gratitude to ……..who assisting me throughout the preparation of this topic. I thank him for providing me the reinforcement, confidence and most importantly the track for the topic whenever I needed it.

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Abstract

- Hawk-Eye is a computer system used in cricket, tennis, snookers and other sports to visually track the path of the ball and display a record of its most statistically likely path as a moving image
- Hawk-Eye as the most innovative technology provider in sports broadcasting and is a development that will reinforce the group's presence and influence.
- It is primarily used by the majority of television networks to track the trajectory of balls in flight.

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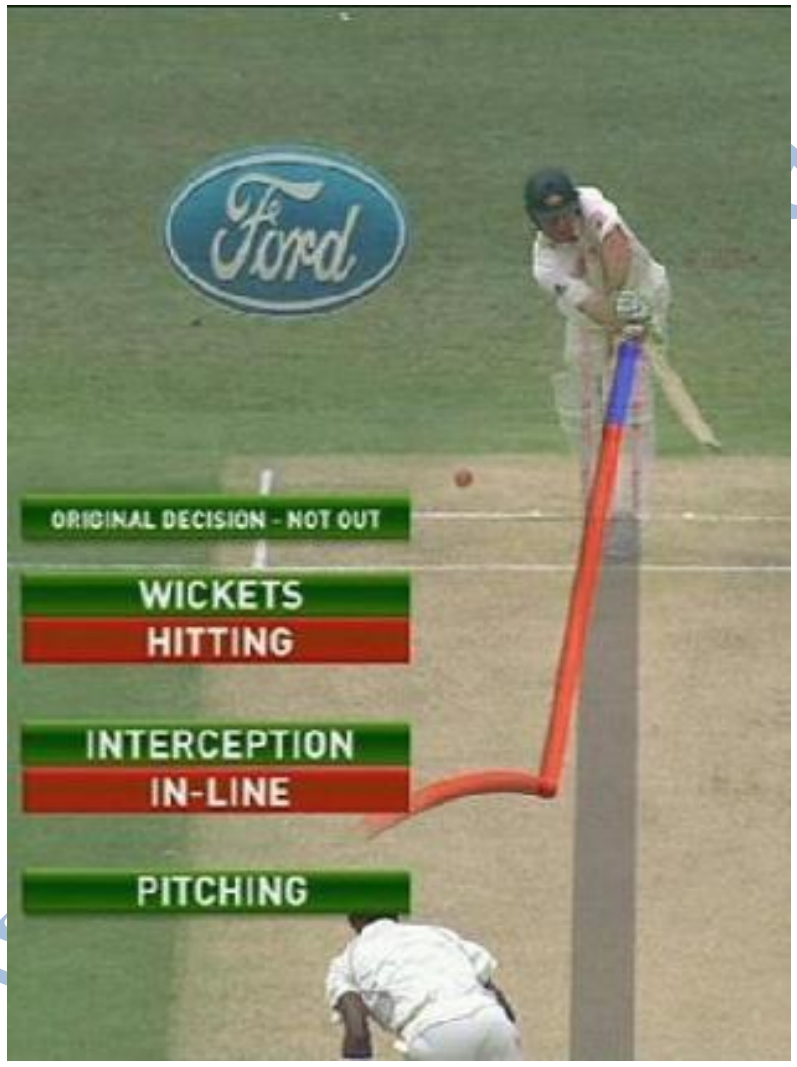
- It was developed by engineers at Roke Manor Research Limited of UK in 2001
- A patent was submitted by Dr Paul Hawkins and David Sherry.

Abilities

- *Hawk-eye* can track any type of bounce, spin, swing and seam movement of the ball.



- Give a prediction as accurate as 99.99 percent
- Hawk-Eye was used for referring decisions to the third umpire in LBW.

Principle of Hawk-Eye

- A Hawk-Eye system is based on the principle of ”Triangulation”
- Triangulation is the process of determining the location of a point by measuring *angles* to it from known points at either end of a fixed baseline
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Technology

- Hawk-Eye takes 2 inputs
    1. Video provided by 6 different cameras placed at 6 different places.
    2. The speed of the ball.

- The system rapidly processes the video feeds by a high speed video processor.
- Hawk Eye incorporates both image analysis and radar technology.
- The six fixed JAI monochrome cameras, with a 120 MHz frame rate, are placed around the playing field
- They track the ball's entire trajectory, right from the point where it is released from the bowler's hand to the point the ball is considered dead.

Applications

Its applications are mainly in sports

- Cricket
- Tennis
- Snookers and
- In some games

Cricket

- Used in the third umpire decision(Referral system)
- At the end of an over, all six deliveries are shown simultaneously to show a bowler's variations such as bounce, speed variations and ball deviation.

To view the deviation of the ball from actual track

Tennis

- Hawk-Eye was first used in tennis in the year 2004(US open tennis).
- In tennis Hawk-Eye generates the impact of the ball whether the ball is “IN” or “OUT”

Advantages

- ACCURACY
- BENEFICIAL
- REDUCES HUMAN EFFORTS

Disadvantages

- VERY EXPENSIVE
- CHALLENGES UMPIRE’S DECISIONS
- NOT HIGHLY PRECISE

Conclusion

- This technology has met the high reality and accuracy features.
- Hawk-Eye is currently developing a system for Football
- This technology helps to have correct decisions in any kind of game

REFERENCES

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