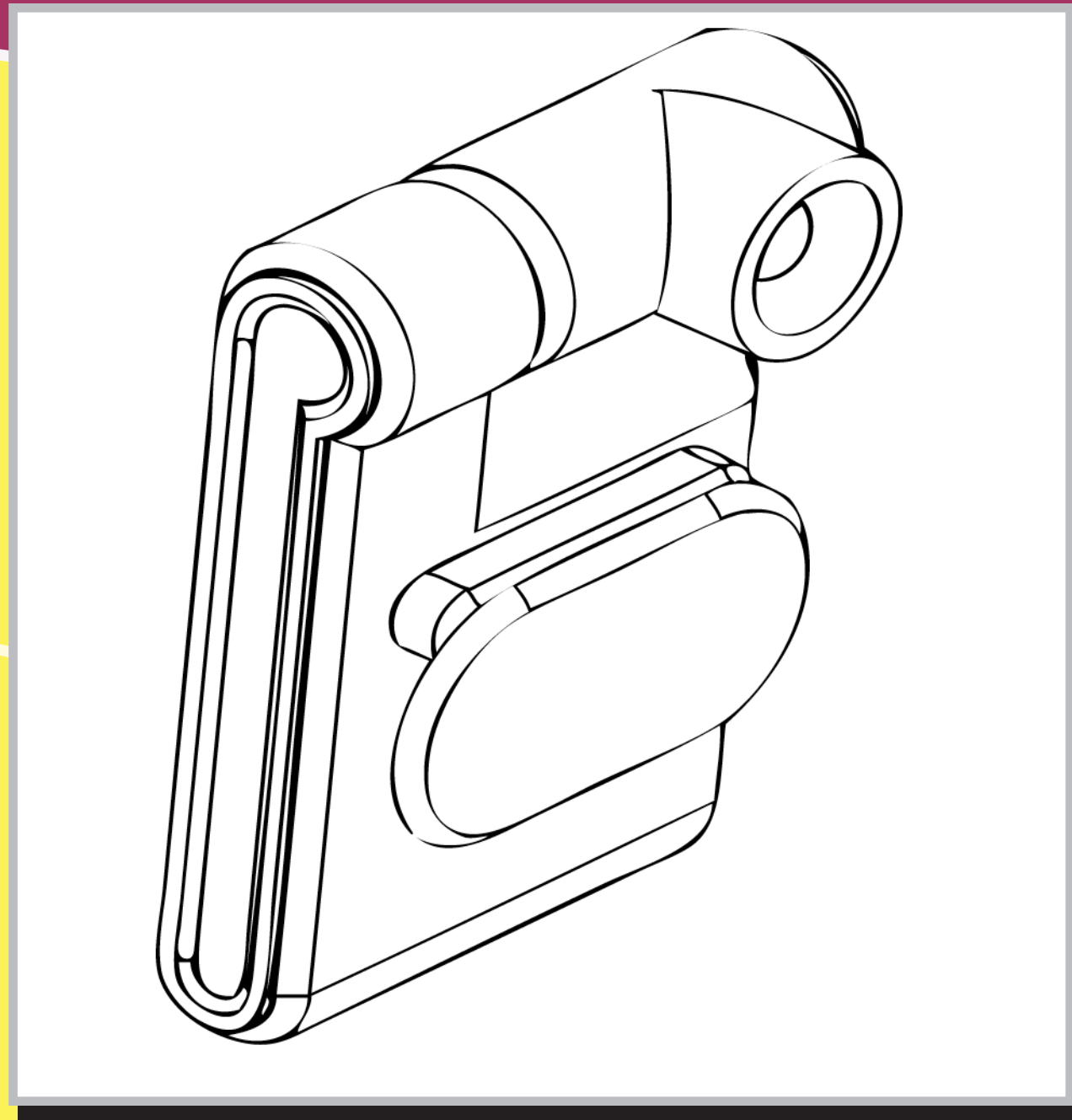


# OnTarget: An Electronic Archery Scoring System

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## Purpose:

The creation and use of an electronic scoring system provides spectators with instant feedback, enabling the audience to become more involved in competitions.

## Recognizing the Target:

Through the use of ellipse fitting, visual software detects the shape and layout of the target from the pictures taken by fixed cameras. Next, the software cleans up the image quality. Finally, the program runs an edge detection algorithm to identify the individual rings on the target.

## Detecting and Scoring an Arrow:

The visual software finds the location of the arrow on the image by transforming the image into a 2 dimensional matrix. The player's shot is then scored by determining the relationship between the rings of the target and the arrow.

## Graphical User Interface:

A user friendly design empowers users to calibrate cameras and instruct the software to score arrows. During play, the interface displays player order and current scores.