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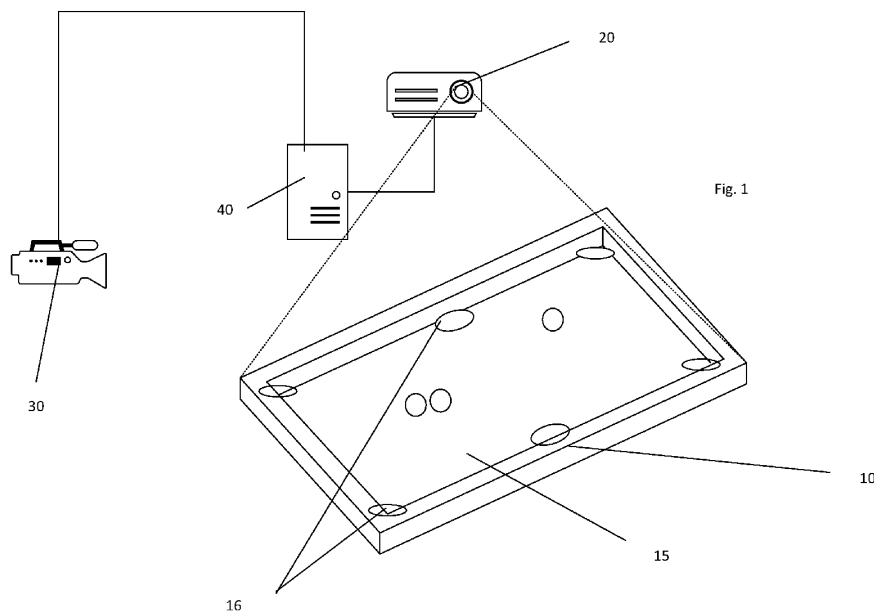
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(54) Title: CUE SPORTS GAME SYSTEM AND METHOD



(57) Abstract: A cue sports game system and method are disclosed. The cue sports game system comprises a table having a playing surface and a plurality of pockets, a projector, a camera system and a data processing system, the camera system being positioned to have a field of view of the playing surface and of play activity of a cue sports game with a plurality of game balls on the playing surface and the projector being positioned overhead of the playing surface to project imagery onto the playing surface, the plurality of game balls including a cue ball and a plurality of objective balls, and the camera system is configured to capture a video data stream of play activity at the table and communicate the video data stream to the data processing system. The data processing system being configured to identify, from the video data stream, identity and positioning of each of the game balls on the playing surface over time, determine available shots from the identity and positioning of the game balls, an available shot comprising the cue ball hitting one of the

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objective balls and causing the respective objective ball to enter one of the pockets, and for each available shot, determine a plurality of geometrical measurements on relative position of the cue ball, the respective objective ball and the pocket and calculate a difficulty score from the geometrical measurements. In at least one or more predetermined phases of the game, the game system selects, in dependence on the respective difficulty score, one or more of the available shots to be penalized or incentivized and cause the projector to project a penalty or incentive virtual play object onto the playing surface in a path of the cue ball or the objective ball and determines, after a shot, from the video data stream, identity and positioning of the game balls, a score for the shot in dependence on the position of the game balls and in dependence on the cue ball or an objective ball passing over or into a virtual play object during the shot.