

[0241] (4) The dimensions and size of the marker are irrelevant in the present invention. A marker of various sizes may be adopted in consideration of the size of the controller to be employed. Moreover, the shape and form of the marker are not limited to an aggregate of dotted bodies, and may be of a pole shape. In the case of such pole shape, a processing execution unit for specifying the position of both ends thereof will further become necessary. In other words, the pole shape (continuity) is recognized from the picture image, and the position data (address within image memory) may be specified by detecting both sides thereof.

[0242] In addition, particularly, the dimension data of the respective dotted light sources (LEDs) of the marker is not considered. In other words, if the luminescent spot distance data of the picture image (or the interval data of the LEDs when the CCD camera 213 is at a reference position) with the CCD camera 6 when the controller 10 is at a reference position is previously stored as reference data, computation processing will be enabled in the subsequent measurements with the comparison with the reference data. Minute fluorescent tubes may be employed as the pole shaped body, and various objects may be adopted in the case of a reflector. Further, the mode may use both a dotted body and a pole shaped body. With respect to the marker (or an L frame), a marker (or L frame) may be formed by taking two pole shaped bodies each with a prescribed dimension, preferably the same dimension, and making the mutual ends thereof coincide or adjacent and disposing them to be in an intersecting direction, and disposing at least one dotted body as an extension of the other end of such one pole shaped body a prescribed distance apart. With the foregoing case, in a mode where two pole shaped bodies are disposed such that the mutual one ends are made to be adjacent; that is, apart from each other in a prescribed distance, the dotted body is not necessarily required. The recognizable position of the pole shaped body is the end and flexion thereof, and is extracted from the picture image imaged with the CCD camera 6 (or CCD camera 213). Moreover, when a color CCD is used as the CCD camera 6 (or CCD camera 213) in a case where two pole shaped bodies are disposed such that the mutual one ends thereof are made to coincide, if a pole shaped body which emits a different color in the middle as the pole shaped body of one of the axes is connected and adopted, the four points of the two ends, the flexion and the portion having differing luminescent colors may be recognized, which is effective as the marker (L frame).

[0243] (5) The marker (or L frame) shown in the foregoing embodiments is not influenced by the shape or size of the game screen or display screen, and versatility is high since there is only one analyzing method.

[0244] (6) In each of the foregoing embodiments, although an LED was employed as the illuminator as the light source, a reflector capable of reflecting the incident light from the front may be adopted instead. This structure offers a mode in which the likes of an illuminator (mounted at a prescribed position or on the controller 10 and screen 212, respectively) reflects the light from the front of the controller 10 (or the screen 2121) to which a reflector is provided, and the light reflected (emitted) from the reflector is received with the imaging means. Thereby, since it is no longer necessary to directly mount an illuminator to the controller 10 (or the screen 2121), the structure becomes simple and the versatility high. Preferably, the shape of the reflector is of a

semicircle or the like capable of generating reflected light at a desired width. When employing this in a controller, the movable range of the controller is not restricted needlessly, and the operability of the controller may be improved thereby. The structure may also extend the reflection range by generating a diffused reflection with the surface processing with respect to the reflective surface.

[0245] (7) The light source (illuminator, reflector) is not limited to an infrared light, and light of a desired color may be employed. For example, the color may be R (red), G (green) or B (blue), and may also be of another color. When using three markers, in addition to using markers with different colors, when a color CCD capable of receiving light of the respective colors is used as the CCD camera, the disposition of the respective markers may be recognized. As a result, individual light-up control as described in the present embodiment will no longer be necessary, and there is an advantage in that the light may always be turned on. Needless to say, it is not necessary to simultaneously use three colors worth, and markers of desired colors may be adopted in accordance with the use thereof.

[0246] (8) Further, although various shapes for markers may be considered, those basically containing the element of dotted light source is included in the concept of dotted light source.

[0247] (9) Moreover, in each of the foregoing embodiments, although the facilitation of computation was sought by intersecting the vertical and horizontal axes (one axis and other axis), this is not limited such intersection, and a desired intersecting angle may be set in accordance with the type of controller 10 (or screen 2121).

[0248] (10) With the shooting video game machine pertaining to each of the foregoing embodiments, although two player detection sensors were provided to the left and right, one each or three or more may also be provided. Upon advancing to the next stage after clearing the respective stages, when a player is to select one route among a plurality of routes (having different settings of the dinosaur or background) set in advance, the selection may be input with these player detection sensors.

[0249] (11) Further, regarding the avoidance movement with the player detection sensor, in addition to the movement to the left and right, the movement may be to duck below, or the lower right oblique direction or lower left oblique direction. This is because the player will not be able to avoid the attack by moving left and right when the attack of the enemy character is of a movement where the arm or tail is whipped in the lateral direction. For example, if the player detection sensor on the left outer side is turned on, the movement may be automatically switched in accordance with the scene such that the attack is avoided by ducking below.

[0250] (12) When the screen of the shooting video game machine of each of the foregoing embodiments is extended to the upper part of the player on the play area and disposed so as to cover the player, the player will be of a posture of looking up at the image when viewing the image on the upper part, and this will yield a further feeling of tension. In addition to the curvature portion, a straight line portion may be included in the screen.

[0251] (13) Moreover, although the inclination angle of the acrylic plate of the shooting video game machine of each