

AN OBJECT TRACKING AUTOMETIC CAMERA

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By

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Abstract

Today object tracking uses in many fields. Modern security systems use object tracking and computer vision technologies to track anomalies movements or track specific object. Security systems specialists implement object tracking concepts on the security camera systems in crowded places as train stations, stadiums to identify a movements and behavior of a specific person among the crowd. Object tracking technologies give greater contribution for construction of semi-automated vehicles. The concept is use to track the lane which the vehicle should go and track the obstacles. Going beyond of the scope, modern systems are developed to monitor the behavior and the movements of child or patient from remote location.

Those systems use very advance technologies, and they are much expensive, much complex and harder to operate without specialist knowledge. This proposed Object Tracking Automatic Camera will replace above advanced and costly systems with cost effective user friendly system.

Mainly this proposed system has two parts, hardware part and software part. Hardware part contain two micro servo motors attach together to make pan tilt movements, and high quality camera is attach to the pan tilt mechanism. So this camera can rotate along X and Y axis from 0 degrees to 180 degrees, based on the movements of the servo motors. The output of the camera connects to a PC via USB. The servo motors attach to an Arduino Duemilanove board, which is programmed to control the servo motors based on the signals coming from the PC, and attaches to the PC via USB.

Desktop application in the PC processes the video from the camera and generates control outputs. When user clicks on an object he/she want to track, the system identify the color of the object and calculate the current position of the object. When object moves system passes signals to the microcontroller to rotate servo motors to track the position of the object. So the system will track objects which are run away from normal still camera's video boundary, and keep the tracked object in the center of the display screen all the time by moving the camera towards the object.