

ABSTRACT**Automatic Camera Tracking**

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The invention describes a monitoring or surveillance system for automatic camera tracking of moving objects based on a system of cameras. A fixed video camera is used to monitor the scene, and image processing techniques are used to detect and pinpoint the presence of certain pre-defined objects. Upon detection of such objects, another camera, capable of pan, tilt, and zoom functions (or PTZ cameras), is controlled to zoom in for a close up view, track and follow the objects. The system can be extended to multiple fixed video cameras to cover bigger or different scenes and multiple PTZ cameras to allow individual tracking of multiple objects. The invention finds application in a classroom environment, where the tracking camera could automatically track and follow the lecturer as he moves around the classroom. It can also be used for traffic monitoring, to zoom in, track and make a video recording of vehicles that had caused a speed or traffic red light violation.

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(Fig. 5)