

ABSTRACT

The present invention provides a system for visualizing the congestion degree of an entire facility using a monitoring camera. The system detects a crowd from a monitoring camera video and derives the magnitude (number of people) of the crowd from the edge amount thereof, and thereby estimates a congestion state in a range of camera video. The system also calculates a human flow (amount of movement of people) on the basis of a number of passing people counter and the magnitude and movement speed of the crowd, etc., and estimates the number of people in an area other than the range of camera video on the basis of a modeled crowd behavior pattern. The model is constructed by selecting a distribution function and a parameter thereof by a statistical model selection technique such as a Bayesian Information Criteria (BIC). The congestion state is plotted on a map, allowing the congestion state of an area of interest to be grasped at once.