

C
001.642
PRA

OBJECTS INDEXING AND CUT-OUT IN A SEQUENCE OF FRAMES

THE PROJECT REPORT PRESENTED BY

SRITHARAN ARAVINTHAN

To the Board of Study of Statistics and Computer Science of the
POST GRADUATE INSTITUTE OF SCIENCE

*A project report submitted In partial fulfilment of the requirement
For the award of the finishing degree of*

MASTER OF COMPUTER SCIENCE

of the

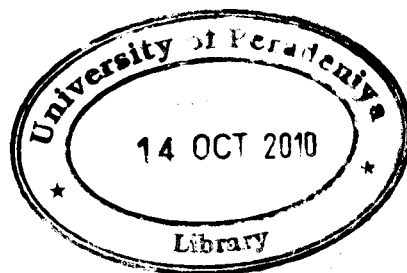
UNIVERSITY OF PERADENIYA

PERADENIYA.

SRILANKA

2009

635207



OBJECTS INDEXING AND CUT-OUT IN A SEQUENCE OF FRAMES

A.S.Aravinthan
Computer point (PVT) Ltd
309-3/1, Galle Road
Colombo – 06
Sri lanka

The research project will be concentrating to display about cutout the moving objects with indexing them in a sequence of frames which is getting from a video clip. So the project needs two important techniques to identify and track the objects which are changing their positions in image frames. Commonly these techniques are well known as detecting and tracking using several features in computer vision. To detect the objects from the background, this system is going to use a model. This model is used to extract or subtract the moving objects from the background. So this model is called as background subtraction model. If the image frames involve the moving objects with occlusion and illuminations change and small noisy pixels, then detecting process becomes difficult. To eliminate this problem, the system wants to use a filter which is known as Gaussian low pass filter specialized for these types of problem than other filters. The detected object in image frames may have separated parts by same intensity of pixel between objects and background. So the major level application needs to connect and complete them as a single object. This application has mainly four filters in order with better results than any other single filter. This filter process known as morphological filter in digital image processing.

For single object, tracking process is very easy. But multiple objects make the problem as harder and complex to track them. To track them, the system uses RGB color value at the centre of the moving objects as a matrix with a particular order and the area of the moving object. After the tracking process the system indexes the moving object to differentiate them and cutout the moving objects. To easy detection, each image frame in sequence will be used in this system in grayscale mode. The indexing algorithm and background subtraction model will be done up to five people in order and random motion. The results of indexing for multiple people in same direction and order are perfectly right. Two moving people in any direction have also no problem. But indexing for multiple objects in random motion is difficult. The cutout objects are also having some problem such that unclear boundary, shadow effects and intensity between objects and background.