

## ABSTRACT

### ROBOT'S MOVEMENT MONITORING AND IMAGE EXTRACTION SYSTEM

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Nowadays, the robot movement monitoring system is very useful. This Particular monitoring system can be found in many fields, such as the security field where people need to monitor the bomb defusing robot from afar to minimize the colateral damage. In this project the robot that been made to carry the camera, and controlled by the user to monitor the movement. The monitoring system has the ability to extract the image. The extraction is to separated the colour with the other colour. The problem is how to make the software that can control the robot using the video streaming, capture the image and separated the image.

The solution is of the problem is first to make the software that can control the robot and view the robot's movement. User will control the robot by using the streaming video, and using the transmitter and receiver for the communication. By pressing the assigned button will sent the data logic from the computer with the transmitter and received by the receiver and the data will processed to control the robot. The featured extraction use the image that captured by the camera and choode the pixel to separated the colour with the other color using two methodes, first is the thresholding method, the second is using the region growing method. By checking the pixel from the image if the pixel colour has the same criteria will shown, and the other is cover with white. The image will get clearly after doing the region growing, by checking the pixel one by one with the original image and compare with the pixel that have same criteria and when the pixel have the same criteria it will be added to the region growing image. The robot that can be control far from the user work as a tool to carry the camera.

By using the robot, the robot can be controlled in three meter range maximum, the object can be capture and sent to the computer and it will be processed by the software. The image that chosen clearly is the pixel of the image have different criteria colour with the other colour, and if the chosen pixel have a little different criteria, the other colour that unwanted will be added to the image. For the next development the robot can be automated and do the recognition, extraction by itself.

References : 12 (2003 - 2011).

