

Abstract

Photomosaic is an image composed of smaller images called tiles. When photomosaic viewed from a certain distance, it will show the real image formed from the little pictures. In recent years, there are various methods developed to create a photomosaic. Barriers in each photomosaic algorithm is the image search in large databases to find the most suitable image. This search is usually carried out sequentially and so the time required to perform this task quite a while.

One algorithm to anticipate the duration of processing the photomosaic is A Randomized Iterative Improvement Algorithm. A Randomized Iterative Improvement Algorithm which was originally proposed by Burke and McCollum Abdullah to solve the case of university scheduling problems. Then the algorithm was adapted by Harikrishna Narasimhan and Sanjeev Satheesh to create a photomosaic. With this algorithm then we can set the length of processing time is by way of set how many iterations are performed to produce a photomosaic.

To increase the usefulness of tile selection and speed of the photomosaic process in TA was added preprocessing dominant tile color classification. It aims to make searching faster and directional tiles. It also made improvements fitness function using Euclidean distance and Y'UV RGB. From the test results proved that the dominant color of tile classification preprocessing makes the process of making photomosaic faster. Also found also that the use of the fitness function of the Euclidean distance Y'UV produce photomosaic better than the original fitness function and fitness function of the Euclidean distance of RGB.

Keywords : *Photomosaic, A Randomized Iterative Improvement Algorithm, dominant color, tile, fitness function, RGB, Y'UV*